Dry Lake Campground & Trailhead Reconstruction
Statement of Work and Request for Proposals
Medicine Bow-Routt National Forests and Thunder Basin National Grassland

Background and Statement of Work:
In 2021 the U.S. Forest Service began implementing the Great American Outdoors Act (GAOA). A variety of projects proposed by the Medicine Bow-Routt National Forests and Thunder Basin National Grassland (MBRTB) have been prioritized through the U.S. Department of Agriculture’s list of deferred maintenance projects for GAOA funding. GAOA projects will focus on reducing deferred maintenance and improving infrastructure and thereby will improve the conditions and resiliency of our nation’s forests for present and future generations.

As part of this effort, the National Forest Foundation (NFF) and the MBRTB National Forest are joining forces to reconstruct the Dry Lake Campground and Trailhead. Dry Lake Campground and Trailhead are two developed sites that sit within a quarter mile of each other northeast of Steamboat Springs on the Buffalo Pass corridor on the Hahns Peak/Bears Ears Ranger District of the MBRTB National Forest. Both sites allow access to a heavily utilized recreation area for the winter and summer months. Snowmobiling and hybrid skiing opportunities, fairly unique to the Forest, exist in the area, and the trailhead parking lot is overflowing in the winter. In the summer, existing trails are heavily utilized for mountain biking activities. Most infrastructure is overdue for new site amenities and infrastructure. This project will lead to improved accessibility, health and safety, and visitor experiences.

Information Requested
If interested in this project, please submit a proposal by providing the following items: Contractor Qualifications (see page 13), including information on the team (resumes), equipment, references, past experience, project approach, overall schedule. Please also submit a completed Pricing Schedule (pgs 6-12).

This is a request for proposals only and bids furnished are not offers. This request does not commit the National Forest Foundation to pay any costs incurred in the preparation or submission of the proposal or to contract for supplies or services.

General Specifications
A. Description of Work – This Request for Proposals is for construction services related to the reconstruction of the Dry Lake Campground and Trailhead areas, including the following:

1. Mobilization – Includes the following:
   I. All preparatory work and operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for all other work and operations that must be performed or that cause costs to be incurred prior to
beginning work on the various items on the project site. This includes the bid bond required.

2. **Construction Survey and Staking** – Includes the following:
   I. Under the direction of a Registered Professional Engineer or Land Surveyor, perform site survey and construction staking as indicated in design drawings.
   II. Items to be surveyed and staked include, but are not limited to roadways, spurs, camp units, toilets, dumpster pads and other related site work shown on the drawings from coordinates and control points provided in the drawings.

3. **Trailhead Demolition** – Includes the following:
   I. Demolition work associated with the trailhead, new road, parking lot expansion, lower trailer parking area, outfitter parking, and forest portal pull off, as shown on the drawings and described in the specifications.
   II. Work also includes salvaging existing site components as shown on the drawings and described in the specifications.
   III. Work does not include any demolition at the existing kiosk into the campground or any demolition inside the existing campground.
   IV. Disposal to an approved landfill is included in this pay item.

4. **Selective Campground Demolition** – Includes the following:
   I. Demolition work associated with the campground as shown in the drawings and described in the specifications.
   II. Work also includes salvaging existing site components as shown on the drawings and described in the specifications.
   III. Work does not include any demolition, clearing, or salvaging of components associated with the existing pull through site #6, the existing kiosk and fee tube at the campground entrance, or removal of any picnic tables or fire rings in the existing campground sites with the exception of existing sites 3 and 4.
   IV. Disposal to an approved landfill is included in this pay item.

5. **Trailhead Site Work** – Includes the following:
   I. All materials, personnel, equipment and supplies to construct all site work at the trailhead, trailhead parking area, trailhead upper parking access road, lower trailer parking area, outfitter parking, and the forest portal pull-off as shown on the drawings. This includes all grading, slope stabilization, aggregate, preparatory work to move the CXT toilet, and all earthwork and grading of areas.
   II. Note that a replacement CXT toilet and relocation is listed as an Optional Item.

6. **Trailhead Site Furnishings** – Includes the following:
   I. All materials, personnel, equipment and supplies to install and construct all trailhead site furnishings including kiosks, bollards, all signs outside of the campground.
   II. Work includes all earthwork and grading of areas.

7. **Campground Access Road** – Includes the following:
   I. All materials, personnel, equipment and supplies to construct the new campground access road from the primary road to the existing campground kiosk and fee tube area.
   II. Work includes all earthwork, grading and aggregate needed for areas.
III. Work also includes furnishing, constructing, and installing a gate at the start of the existing campground entrance road (adjacent to the turn-about) as shown on the drawings.

8. **Campground Sign** – Includes the following:
   I. All materials, personnel, equipment and supplies to install and construct a new campground entrance sign as shown on the drawings.
   II. Work includes associated earthwork and grading of area in the direct vicinity of the new sign.

9. **New Campground Loop Road** – Includes the following:
   I. All materials, personnel, equipment and supplies to construct a new campground loop road to expand the existing campground. This includes all grading, slope stabilization, aggregate, and earthwork of areas.
   II. Work does not include construction of any spurs, paths, pull offs, CXT toilets, or any other amenities shown in the drawings for the new campground loop. This item consists solely of the items required for the construction of the loop road.

10. **Site Work and Furnishings for Campground Kiosk and Pull-Off Area** – Includes the following:
    I. All materials, personnel, equipment and supplies to construct all site work at the existing campground kiosk and pull-off area as shown on the drawings.
    II. This includes demolition of the existing kiosk and fee tube, and all earthwork, grading, and aggregate needed to construct the pull-off area as shown on the drawings.
    III. Work also includes furnishing, constructing and installing a new kiosk, fee tube, and campground entrance gate.

11. **Site Work and Furnishings for Existing Campground Rehabilitation** – Includes the following:
    I. All materials, personnel, equipment and supplies to complete all site work to construct and refurbish existing sites and create a new host site within the campground/ along the campground entrance road as shown in the drawings.
    II. This item also consists of all grading, slope stabilization, aggregate and earthwork of areas associated with the campground rehabilitation.
    III. Work also includes all materials, personnel, equipment and supplies to construct a sewer hookup, associated sewer piping (including trenching and backfill), and provide and install a holding tank as shown on the drawings for the host site.
    IV. This item also includes excavating, stockpiling and reinstalling 100 barrier boulders that can be found and/or excavated onsite within the limits of construction at locations as dictated by the NFF Representative. Additional barrier boulders are addressed in items 18 and 19 below. Work includes all earthwork, grading, and revegetation of disturbed areas created from excavating boulders.
    V. Note that materials, personnel, equipment and supplies to complete all work to install picnic tables, bear boxes and site markers are listed as Optional items.

12. **Site Work for Crusher Fines Path and CXT Toilet Areas in New Campground Loop** – Includes the following:
    I. All materials, personnel, equipment and supplies to construct a crusher fines path.
    II. Site preparation for CXT toilet including excavation, bedding, backfill, final site grading, seeding, and mulching as shown on the drawings.
    III. Note that the CXT toilets and placement are listed as an Optional Item.
13. **Site Work for Pull Off in New Campground Loop** - Includes the following:
   I. All materials, personnel, equipment and supplies to construct a pull off between new sites 9 and 10 including excavation, bedding, backfill, final site grading, as shown on the drawings.
   II. All site preparation for Double Vault Toilet in Pull Off Area.
   III. Note that the CXT toilets and placement is listed as an Optional Item.

14. **Dumpster Area in New Campground Loop** - Includes the following:
   I. All materials, personnel, equipment and supplies to construct all site work at the new dumpster area in the new campground loop as shown on the drawings. This includes all grading, slope stabilization, aggregate and earthwork, as shown on the drawings.

15. **Site Work and Furnishings for Typical Buddy Site in New Campground Loop** - Includes the following:
   I. All materials, personnel, equipment and supplies to complete all site work to install and construct two typical buddy sites in the new campground loop.
   II. All materials, personnel, equipment and supplies to complete all site work to complete rough grading of campsite living spaces.
   III. All materials, personnel, equipment and supplies to complete all site work to complete final grading and install living spaces and tent pads associated with each campsite.
   IV. Note that materials, personnel, equipment and supplies to complete all work to install, picnic tables, bear boxes and site markers are listed as Optional items.
   V. This item does not include any barrier boulders, which are included in Items 18 and 19.

16. **Site Work and Furnishings for Typical Pull-Thru Site in New Campground Loop** - Includes the following:
   I. All materials, personnel, equipment and supplies to complete all site work to complete rough grading of campsite living spaces.
   II. All materials, personnel, equipment and supplies to complete all site work to complete final grading and install living spaces and tent pads associated with each campsite.
   III. Note that materials, personnel, equipment and supplies to complete site work to install picnic tables, bear boxes and site markers are listed as Optional items.
   IV. This item does not include any barrier boulders, which are included in Items 18 and 19.

17. **Site Work and Furnishings for Typical Back-In Site in New Campground Loop** - Includes the following:
   I. All materials, personnel, equipment and supplies to complete all site work to install and construct ten typical back-in sites in the new campground loop.
   II. All materials, personnel, equipment and supplies to complete all site work to complete rough grading of campsite living spaces.
   III. All materials, personnel, equipment and supplies to complete all site work to complete final grading and install living spaces and tent pads associated with each campsite.
   IV. Note that materials, personnel, equipment and supplies to complete all work to install picnic tables, bear boxes and site posts are listed as Optional items.
   V. This item does not include any barrier boulders, which are included in Items 18 and 19.
18. **Barrier Boulders Provided by Government** - Includes installing barrier boulders provided by the Government in locations dictated by the NFF Representative and as shown on the drawings. Work includes transporting the provided boulders to the site from a location not to exceed 25 miles from the site. Grading of all disturbed areas associated with this work is included in this optional item.

19. **Barrier Boulders Provided by Contractor** - Includes furnishing and installing barrier boulders in locations dictated by the NFF Representative and as shown on the drawings. Grading of all disturbed areas associated with this work is included in this optional item.

The Contractor shall identify which they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work described. The Contractor shall perform all work in a safe and conscientious manner.

B. **Project Location** - Dry Lake Campground is located 8 miles northeast of Steamboat Springs on the Buffalo Pass Road. Directions from Steamboat Springs: Travel 4 miles north of Steamboat Springs on Routt County Road #36 (Strawberry Park Rd), then 3.6 miles east on Routt County Road #38 (Buffalo Pass Rd). The campground is located to the north of the road.

C. **Work Schedule** - Contractors may propose a timeline beginning in 2023 and going through October 1, 2024. The earliest work may commence in the summer season is typically June 15, due to elevation and snow cover, but may vary. Please note that the main road and access must remain open to the public to pass through the area during construction. Brief closures of the road may be facilitated with adequate traffic control. Upon selection of a contractor, a work plan including approach and detailed timeline will need to be submitted for approval prior to mobilization including a project initiation meeting and pre-construction meeting. Schedule must include weekly on-site progress meetings with the contractor, NFF and USFS team to review and discuss progress to date and critical path items for budget and schedule.

**Pricing Schedule**
Contractor shall price work according to the schedule below. Prevailing wages or Davis-Bacon wage rates are required per conditions of funding sources.

**Unit:** LS (Lump Sum), EA (Each), LF (Linear Feet), SY (Square Yard); CY (Cubic Yard)

**BASE ITEMS**
Note that these are estimates only, and the contractor must verify that all quantities are correct. Note that award of any base items is contingent on overall budget availability. Also note that a local partner is donating ~200 tons of gravel, which will be stockpiled for contractor use on this project.
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**TRAILHEAD FURNISHINGS TOTAL**

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### Campground Kiosk and Pull-Off Area

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**Notes**

- A: General site grading (For accessibility)
- B: Finish Grading
- C: Aggregate 4" deep
- D: Metal Gate (22' wide)
- E: Two Panel Kiosk
- F: Fee tube

### Site Work - Existing Campground Rehab

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**Notes**

- A: Site Work (Includes all grading, earthwork and aggregate)
- B: Fire Rings (6 EA)
- C: Use Pad Timber Ties (1725 LF)
- D: Tent Pad Timber Ties (400 LF)
- E: Host Use Pad Timber Ties (88 LF)
- F: Signs (3 EA)
- G: Barrier Boulders (Includes bedding) (100 EA)
- H: Trenching and Backfilling - Sewer (10 LF)
- I: Septic Hookup (1 EA)
- J: 4" PVC sewer piping (10 LF)
- K: Cleanouts along piping (1 EA)
- L: Wastewater holding tank (1 LS)

### Site Work Crusher Fines Path and CXT Toilet - New Campground Loop

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**Notes**

- A: Site Work (Includes all earthwork, grading, etc.)
- B: Crusher Fines (15 CY)
- C: Timber Ties (Path to CXT Toilet) (350 LF)
- D: Site Prep for CXT Toilet (1 LS)

### Site Work Path and CXT Toilet New Campground Loop Total

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### Notes

- **A**: General site grading
  - For accessibility
- **B**: Finish Grading
- **C**: Aggregate 4" deep
- **D**: Metal Gate (22' wide)
- **E**: Two Panel Kiosk
- **F**: Fee tube

### Site Work - Existing Campground Rehab

<table>
<thead>
<tr>
<th>Qty</th>
<th>Unit</th>
<th>Price</th>
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<tbody>
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</table>

**Notes**

- **A**: Site Work (Includes all grading, earthwork and aggregate)
- **B**: Fire Rings (6 EA)
- **C**: Use Pad Timber Ties (1725 LF)
- **D**: Tent Pad Timber Ties (400 LF)
- **E**: Host Use Pad Timber Ties (88 LF)
- **F**: Signs (3 EA)
- **G**: Barrier Boulders (Includes bedding) (100 EA)
- **H**: Trenching and Backfilling - Sewer (10 LF)
- **I**: Septic Hookup (1 EA)
- **J**: 4" PVC sewer piping (10 LF)
- **K**: Cleanouts along piping (1 EA)
- **L**: Wastewater holding tank (1 LS)

### Existing Campground Rehabilitation Total

<table>
<thead>
<tr>
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<th>Unit</th>
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<tbody>
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### Site Work Crusher Fines Path and CXT Toilet - New Campground Loop

<table>
<thead>
<tr>
<th>Qty</th>
<th>Unit</th>
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</thead>
<tbody>
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**Notes**

- **A**: Site Work (Includes all earthwork, grading, etc.)
- **B**: Crusher Fines (15 CY)
- **C**: Timber Ties (Path to CXT Toilet) (350 LF)
- **D**: Site Prep for CXT Toilet (1 LS)
<table>
<thead>
<tr>
<th>13</th>
<th>Site Work Pull Off – New Campground Loop</th>
<th>Notes</th>
<th>Qty</th>
<th>Unit</th>
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<td>D</td>
<td>Site Prep for CXT Toilet</td>
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SITE WORK PULL OFF AND CXT TOILET TOTAL

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<th>14</th>
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DUMPSTER AREA TOTAL

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<tr>
<td>D</td>
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<td>E</td>
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<td>F</td>
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<td>G</td>
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<td>Signs</td>
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BUDDY SITE - NEW CAMPGROUND LOOP TOTAL

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<th>16</th>
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<tr>
<td>H</td>
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**TYPICAL PULL THRU SITE - NEW CAMPGROUND LOOP TOTAL**

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<tbody>
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<td>17</td>
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**TYPICAL BACK-IN SITE - NEW CAMPGROUND LOOP TOTAL**

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**BOULDER BARRIERS (GOVT PROVIDED) TOTAL**

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<th>Notes</th>
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<tr>
<td>19</td>
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<td>Boulders provided by Contractor</td>
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**BOULDER BARRIERS (CONTRACTOR PROVIDED) TOTAL**

**TOTAL BASE ITEMS**

**OPTIONAL ITEMS**

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<th>Optional Item</th>
<th>Description</th>
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<th>Total Price</th>
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**TRAILHEAD SITE FURNISHINGS OPTIONAL TOTAL**

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<tr>
<td>B</td>
<td>Site Markers</td>
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**EXISTING CAMPGROUND REHAB - FURNISHINGS TOTAL**

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</thead>
<tbody>
<tr>
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**CXT TOILETS - NEW CAMPGROUND LOOP TOTAL**

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<tbody>
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<td>Unit</td>
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</tr>
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**FURNISHINGS BUDDY SITE TOTAL**

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**FURNISHINGS PULL THRU SITE TOTAL**

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<td>Unit</td>
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**FURNISHINGS BACK IN SITE TOTAL**

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</table>

**OPTIONAL ITEMS TOTAL**
The Pricing Schedule is a general listing of Scope of Work items and may not be fully inclusive of the specified Scope of Work. It is the Contractor’s responsibility to separately enumerate any and all Scope of Work items that are excluded from their Proposal. All work items, including optional items, will be awarded at the discretion of the NFF, as budgetary obligations allow.

UNIT COSTS

If additional quantities and work are needed to complete the scope of work per the drawings and specs, please provide unit price costs on the following materials, which will be used in the contract to cover any quantity overages.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Qty</th>
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<th>Unit Cost</th>
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<tr>
<td>1</td>
<td>Finish Grading</td>
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<td>3</td>
<td>Aggregate</td>
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<td>4</td>
<td>Haul off Excess Fill</td>
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<td>CY</td>
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</table>
Other Project Requirements and Specifications

(a) Utilities – There is no water available on site. There is no cell phone coverage in this direct area and there is no land-line phone at the site. Vault toilets will not be available for contractor use at the site during the project. Electrical service is not available at this site. The Contractor shall make its own arrangements for temporary facilities if needed. No utilities are known to exist at the site; however, the Contractor shall be responsible for hiring a locating service to locate all utility lines including but not limited to electrical, water and phone.

(b) Pre-Construction Preparatory Meeting – Upon successful award of the contract and prior to commencing any work on the reconstruction, the Contractor, including all field personnel to be involved in construction, shall meet with the NFF to review the construction drawings and specifications, work plans, and submittals. Reconstruction may commence upon approval of the work plan and procedures.

(c) Weekly Construction Progress Meeting – A weekly site walk to review progress to date and upcoming work items with the Contractor team, NFF representatives, and USFS representatives must be included as part of the schedule.

(d) Specifications – Project work shall be accomplished in accordance with the following:
   - Construction Drawings
   - USFS/NFF Project Specifications

The above drawings and specifications are attached at the end of this RFP.

Contractor Qualifications

(a) Resumes – Please provide resumes for key personnel that will be assigned to this project, including the Project Manager, Operations Manager, and Superintendent. Please also provide brief descriptions for the key heavy equipment operators and Foreman, including information on time of service at the company, overall experience, and note projects of similar scope for each position. Please note that any significant personnel change during the project will require approval from the NFF.

(b) Equipment – Please provide a list of equipment that is planned for the project, including company owned or rented equipment.

(c) References – Please provide three references.

(d) Past Experience – Please provide a brief explanation of previous work experience constructing roads, parking lots, trailheads or campgrounds. Previous experience working with land management agencies is desired but not required.

(e) Schedule – Please submit a realistic overall schedule to complete all work as specified on the plan. Please provide the general phasing of construction areas in the overall schedule (Campground, Trailhead, etc.). Please note that the NFF and USFS team place relative priority on campground completion, in order to limit overall closure duration for the campground area, as possible. Phasing of the trailhead construction is negotiable with USFS, with a preference for Spring construction of the trailhead given lower use of trails and impact of area closure at that time.
Insurance Requirements

Upon selection of the winning bid, the Contractor agrees that it has and shall maintain the following insurance coverage indicated below. The effective date of all coverage shall precede the start of any work.

a. State minimum workers’ compensation insurance coverage for its employees, if any.

b. Broad form general liability, property damage, and automotive liability insurance in the minimum amount of $1,000,000 for bodily injury, death, or damage to property of any person and $2,000,000 for bodily injury, death, or damage to property of more than one person. The Contractor shall name NFF an Additional Named Insured and provide NFF with a certificate of insurance evidencing such coverages, prior to the initiation of the Scope of Services.

c. Contractor shall provide professional errors and omissions liability insurance if its Scope of Services includes professional services. Professional services for purposes of this section include, but are not limited to performing: architecture, engineering, landscape architecture, land surveying or planning, geological investigation, interior design/space planning, preparation and signing or stamping of drawings, maps, surveys or construction specifications, consulting, or design and development of computer software, programs or websites by the Contractor or by subcontractors on behalf of the Contractor. The minimum coverage limits required are $1,000,000 for each claim and $1,000,000 annual aggregate.

Payment/Performance Security

Contractor shall post cash, a letter of credit, bond, or other financial security that is easily convertible into cash in a form acceptable to the NFF, in its sole determination, to assure completion of the work required under any subsequent agreement and payment of all amounts lawfully due to all persons supplying or furnishing to the Contractor or Contractor's subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. Contractor may incorporate required associated costs into mobilization costs or other approved expenses.

a. Work that is classified as construction in accordance with the Miller Act or Little Miller Act or if required per conditions of the funding source, payment and performance bonding will be required in the full amount of any Agreement. For the purposes of this Request for Proposal, construction is defined as “any contract greater than $100,000 for the construction, alteration, or repair of any public building or public work where the federal government is the owner”, or

b. If Contractor is not self-performing at least 85% of the work or if the cost of materials is in excess the larger of $100,000 or 50% of the agreement, payment and performance bonding will be required in the full amount of the agreement, or

c. If the value of the agreement is in excess of $250,000, Contractor will be required to post financial security in a form acceptable to the NFF in the amount of 5% of the total agreement value up to $250,000 in total financial security.

American Made Products. The work associated with this RFP is subject to Build America, Buy America Act. P.L. 117-58, Secs 70911-70917, and as such, domestic content procurement preference requires all iron and steel, manufactured products and construction materials used within the scope of this Agreement, be produced in the United States.

Federal Exclusion Verification
The selected Contractor will be required to affirm that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Pre-Bid On-Site Meeting
Thursday, September 7, 2023, 1 pm - To attend, please RSVP by Monday September 5 via email. (jpritchard@nationalforests.org)

Please submit any questions about the project via email to jpritchard@nationalforests.org by Friday, September 8, 2023, at 4 pm.

Bid Submission
Submit bids via email to jpritchard@nationalforests.org by Friday, September 15, 2023, at 4 pm.

Contractor Selection Process
The NFF will use the Evaluation Factors below to review each submitted bid. Based on the outcomes of that selection process, the NFF will notify successful and unsuccessful bidders by October 1, 2023, and will prepare a separate contract document.

Point of Contact
For questions about the details of producing the bid, please contact:

   Jack Pritchard  
   National Forest Foundation  
   720.281.4755  
   jpritchard@nationalforests.org

Evaluation Factors and Relative Importance

The following criteria will be used in the evaluation of submitted proposals, ordered from highest weighting (level 3) to lowest weighting (level 1).

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<td>• Past performance, references</td>
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Equal Opportunity Provider

In accordance with Federal law and U.S. Department of Agriculture policy, the National Forest Foundation is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs, or disability.
## SECTION 001500

**DRY LAKE CAMPGROUND REHABILITATION**  
**HAHN’S PEAK / BEARS EARS RANGER DISTRICT**  
**MEDICINE BOW – ROUTT NATIONAL FORESTS**  
**USFS & NATIONAL FOREST FOUNDATION (NFF)**  
**LIST OF DRAWINGS AND SPECIFICATIONS**

### PART 1 – GENERAL

#### 1.1 DESCRIPTION

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C6.5 CONSTRUCTION SIGN DETAILS
C7.1 HOST WASTEWATER HOLDING TANK DETAILS

31 Total Plan Sheets in this Contract

B. List of Contract Specifications

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   Section 016440 Government Furnished Materials

DIVISION 2: EXISTING CONDITIONS
   Section 024119 Selective Demolition

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DIVISION 12: FURNISHINGS
   Section 129300 Miscellaneous Site Furnishings

DIVISION 13: SPECIAL CONSTRUCTION
   Section 133128 Prefabricated Building Modules

DIVISION 31: EARTHWORK
   Section 311100 Clearing and Grubbing
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   Section 312317 Trenching, Bedding and Backfill for Utilities
   Section 312500 Temporary Erosion and Sedimentation Control
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DIVISION 32: EXTERIOR IMPROVEMENTS
   Section 321123 Aggregate
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   Section 323001 Campground Spurs
   Section 323002 Use Pads, Tent Pads, and Paths
   Section 323913 Bollards
   Section 329219 Seeding

DIVISION 33: UTILITIES
   Section 333110 Sanitary Sewerage

END OF SECTION 001500
PART 1 – SUMMARY OF WORK

1.1 DESCRIPTION

A. The intent of this section is to provide a general outline of the work required under this contract and identify special project conditions and/or requirements. It is not intended to provide detailed specifications for materials, labor, and workmanship. These are covered in other sections of these specifications.

B. Dry Lake Campground and Trailhead are two developed sites that sit within a quarter mile of each other on the Buffalo Pass corridor on the HPBE District. Both sites allow access to a heavily utilized recreation area for the winter and summer months. Hybrid skiing opportunities, fairly unique to the Forest, exist in the area and the trailhead parking lot is overflowing in the winter. In the summer, existing trails are heavily utilized for mountain biking activities.

C. The campground is in need of new site amenities (i.e. picnic tables, fire rings, and bear boxes). A redesign of the campground is needed to provide additional loops/sites large enough to accommodate larger campers that are popular in the area. The additional loops will require vault toilets and site amenities. The host site at the main loop is also in need of refurbishment for wastewater collection and site amenities. It is anticipated that use will only increase in the coming years projects in the surrounding area.

D. The flow of traffic at the trailhead needs to be improved and additional parking needs to be added along the street to accommodate the large volume of vehicles visiting the area in the winter. A new kiosk, vault toilet and rest area are also needed at the trailhead.

1.2 LOCATION

A. Dry Lake Campground is located 8 miles northeast of Steamboat Springs on the Buffalo Pass Road.

1.3 SPECIFICATIONS

A. The specifications establish the construction procedures and materials to be employed throughout.

1.4 GENERAL SITE CONDITIONS AND WEATHER

A. The elevation of the site is approximately 6,900 feet above mean sea level. The site generally experiences heavy snowfalls beginning in October and November and ending in March or April. The average annual temperatures are 83° F in July and 29° F in January. The site is generally accessible May through September.
1.5 SITE ACCESS

A. Directions from Steamboat Springs: Travel 4 miles north of Steamboat Springs on Routt County Road #36 (Strawberry Park Rd), then 3.6 miles east on Routt County Road #38 (Buffalo Pass Rd). The campground is located to the north of the road.

1.6 USE OF FACILITIES AND UTILITIES

A. Water is not available on site.
B. There is no cell phone coverage in this area and there is no land-line phone at the site.
C. Vault toilets will not be available for contractor use at the site during the project.
D. Electrical service is not available at this site.

1.7 STAGING AREA

A. An area at or near the project site will be made available for use as a staging area. Staging areas shall be approved by the NFF Representative prior to use. No camping will be allowed at the site. Security and clean-up of this area shall be the responsibility of the Contractor.

1.8 WORK RESTRICTIONS

A. Nonsmoking Buildings: Smoking is not permitted within buildings or within 25 feet (8 m) of entrances.

1.9 SCHEDULE

A. The Contractor shall submit, at the pre-work conference, a construction schedule showing the proposed scheduling of all work items. The contractor may plan on working 5 days per week during daylight hours.

1.10 PROTECTION OF PUBLIC

A. Install and maintain suitable barriers to ensure the protection of the public, employees, and facilities.
1. Fence, barricade, or otherwise block off the immediate work area to prevent unauthorized entry to the work area.
2. Erect and maintain barricades and warning signs in accordance with ANSI D6.1.
3. Material may be new or used, but shall be suitable for intended purpose.
4. Fences and barriers shall be structurally adequate and neat in appearance.

1.11 CONTRACTOR’S RESPONSIBILITIES

A. Confine storage of materials to areas as approved by the NFF Representative.
B. Provide adequate signing and barricades and take necessary safety measures to protect the public during all construction operations. Minimize disturbance of all undisturbed areas.

C. The Contractor at the Contractor’s expense shall repair Existing Forest Service roads and parking areas disturbed by construction activities. Repair includes any work needed to return the roads and parking areas to their existing condition before construction began, and shall include replacing road aggregate if necessary.

D. All areas where the existing grass vegetation is removed or damaged, or destroyed due to construction activities, shall be leveled and seeded. Contractor shall furnish and apply all seed in accordance with specifications.

E. The Contractor shall be responsible for all damage that results from the Contractor's action during completion of the project work. Any damage that occurs due to action of the Contractor shall be repaired at the Contractor’s expense.

F. Protect trees and vegetation within project area from damage.

1.12 UTILITY LOCATIONS

A. No utilities are known to exist at the site; however, the Contractor shall be responsible for hiring a locating service to locate all utility lines including but not limited to electrical, water, and phone. This includes the Forest Service lines.

1.13 CONSTRUCTION WASTE DISPOSAL FACILITIES

A. Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste.

1.14 SITE CLEANUP AND DISPOSAL AREA

A. The Contractor shall cleanup construction debris at the completion of each day’s work. Disposal of construction debris shall be at an established Sanitary Landfill, with all permits and related costs of disposal being the responsibility of the Contractor. The Contractor and the NFF Representative shall mutually agree to the frequency of disposal. The Contractor shall not use existing on-site trash receptacles for disposal or interim storage of construction debris. Burning of construction debris shall not be allowed on lands administered by the Forest Service.

1.15 FIELD VERIFICATION

A. Field verify all new and existing dimensions affecting the work of this contract before ordering products.

1.16 PERMITS

A. Obtain permits required by County, State, or Federal laws or regulations.
PART 2 – DEFINITION OF ITEMS AND PAYMENT

2.1 DESCRIPTION

A. This section explains what is and what is not included in each pay item; the limits or cut-off points where one item ends and another begins; and basis of payment for work items listed in the Schedule of Items, including Base Bid and Optional Bid Items.

B. Payment: For each individual item listed here and in the Schedule of Items, payment shall be full compensation for all work related to the particular item in accordance with these specifications, and as shown on the drawings.

2.2 SCHEDULE OF ITEMS

A. Schedule of Items: The project Schedule of Items includes several sections to organize the work into Base Items and Optional Items.

1. Provide pricing for all items listed in the Schedule of Items.
2. Contract award will be made for Base Items and Optional Items, as budget allows.

B. Determination of Quantities:

1. The contractor shall perform, or cause to be performed, all measurement of quantities of materials incorporated into the work processes that are to be measured under the provisions of the contract.
2. Quantity Measurements:
   a. The Contractor shall make all measurements for computation of quantities for all work items except those specified for payment by Actual Quantity (AQ), Designed Quantity (DQ) or Lump Sum Quantity (LSQ).
   b. The contractor shall compute the quantities for periodic progress payments; the NFF Representative shall compute the quantities for the final payment based on measurements taken by the Contractor.
   c. All Contractor measurements are subject to verification.
   d. The Contractor shall submit all field notes, calculation sheets, and other data used to determine quantities.
   e. The Contractor shall certify in writing as to the accuracy of the measurements and computations submitted.

C. Units of Measurement:

1. Payment shall be by units defined and determined according to U.S. Standard measure and by the following:
   a. Actual Quantities (AQ): Estimated quantities which are determined from actual measurements of completed work.
   b. Linear Feet (LF): Linear feet measured horizontally.
   c. Lump Sum Quantities (LSQ): These quantities denote one complete unit of work as required by or described in the contract, including necessary materials, equipment, and labor to complete the job. They shall not be measured.
d. **Each:** One complete unit, which may consist of one or more parts.

e. **Cubic Yard:** A measurement computed by one of the following methods:
   
   1. **Excavation, Embankment, or Borrow.** The measurement computed by the average end area method from measurements made longitudinally along a centerline or reference line.
   
   2. **Material in Place or Stockpile.** The measurement computed using the dimensions of the in-place material.
   
   3. **Material in the Delivery Vehicle.** The measurement computed using measurements of material in the hauling vehicles at the point of delivery. Vehicles shall be loaded to at least their water level capacity. Leveling of the loads may be required when vehicles arrive at the delivery point.

f. **Square Foot:** 144 square inches; 1/9 square yard. Longitudinal and transverse measurements for area computations will be made horizontally.

g. **Square Yard:** 9 square feet. Longitudinal and transverse measurements for area computations will be made horizontally. Do not make deductions from the area computation for individual fixtures having an area of 9 square feet or less.

Where tolerances are shown in the contract, they are intended to define reasonably close conformity. Adjustments of horizontal or vertical alignment, within the tolerances specified in this contract, or shifts of balance points up to 100 feet shall be made by the contractor as necessary to produce the designed roadway sections and to balance earthwork. Such adjustments shall not be considered as “Changes.”

D. **Base and Optional Item Description**

1. **Base Item No. 1 – Mobilization**
   
   a. This base item consists of all preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site, and for all other work and operations that must be performed or that cause costs to be incurred prior to beginning work on the various items on the project site. This base item applies to work included in the base items only.
   
   b. Payment shall be made at the contract lump-sum price.

2. **Base Item No. 2 – Construction Survey**
   
   a. This bid item consists of all survey work and construction staking necessary to adequately control the work and set horizontal and vertical alignments. Contractor shall establish control points and perform all surveying and staking necessary to locate roads, spurs, or pull-thrus, campsites, structure locations and fencing as shown on the drawings and described in the specifications. The NFF Representative shall approve all alignments and layout before construction begins.
   
   b. Payment shall be made at the contract lump-sum price.

3. **Base Item No. 3 – Trailhead Demolition**
   
   a. This base item consists of demolition work associated with the trailhead, new road, parking lot expansion, lower trailer parking area, outfitter parking, and forest portal pull off as shown on the drawings and described in the
specifications. Work also includes salvaging existing site components as shown on the drawings and described in the specifications. Work does not include any demolition at the existing kiosk into the campground or any demolition inside the existing campground. Disposal to an approved landfill is included in this pay item.

b. Estimated Quantity for Payment:
   1. General Cleaning - Lump Sum Price
   2. Decommissioning Sites and Roads – 400 SY

4. Base Item No 4. – Selective Campground Demolition
   a. This item consists of demolition work associated with the campground as shown on the drawings and described in the specifications. Work also includes salvaging existing site components as shown on the drawings and described in the specifications. Work does not include any demolition, clearing, or salvaging of components associated with the existing pull through site #6, the existing kiosk and fee tube at the campground entrance, or removal of any picnic tables or fire rings in the existing campground sites with the exception of existing sites 3 and 4. Disposal to an approved landfill is included in this pay item.

   b. Estimated Quantity for Payment:
      1. Remove and dispose of fire rings – 2 each
      2. Remove and dispose of wood timbers – 120 LF
      3. Remove and dispose of wood bollards – 10 EA
      4. Decommission Sites and Roads – 115 SY

5. Base Item No 5. – Trailhead Site Work
   a. This item consists of all materials, personnel, equipment and supplies to construct all site work at the trailhead, trailhead parking area, trailhead upper parking access road, lower trailer parking area, outfitter parking, and the forest portal pull-off as shown on the drawings. This includes all grading, slope stabilization, aggregate, preparatory work to relocate the CXT toilet, and all earthwork, and grading of of areas.

   b. Note that CXT replacement toilet and relocation is listed as an Optional Item.

   c. Estimated Quantity for Payment:
      1. General site grading for accessibility – Lump Sum
      2. Erosion Blanket – 1050 SY
      3. Silt Fence – 2400 LF
      4. Finish Grading – 6055 SY
      5. Compaction – 2600 CY
      6. Earthwork – 2600 CY
      7. Aggregate 4” deep – 2600 SY
      8. Aggregate 6” deep – 3530 SY
      9. Haul off excess fill – 1160 CY

6. Base Item No 6 – Trailhead Site Furnishings
   a. This item consists of all materials, personnel, equipment and supplies to install and construct all trailhead site furnishings including kiosks, bollards,
all signs outside of the campground. Work includes all earthwork and grading of areas.

b. Estimated Quantity for Payment:
   1. General Earthwork – lump sum
   2. Timber Ties – 100 LF
   3. Signs – 18 EA
   4. Metal Gate – 1 EA
   5. Bollards – 2 EA
   6. Three Panel Kiosk – 1 EA
   7. Single Panel Kiosk – 2 EA

7. Base Item No 7. – Campground Access Road
   a. This item consists of all materials, personnel, equipment and supplies to construct the new campground access road from the primary road to the existing campground kiosk and fee tube area. Work includes all earthwork, grading, and aggregate of areas. Work also includes furnishing, constructing, and installing a gate at the start of the existing campground entrance road (adjacent to the turn-about) as shown on the drawings.
   b. Estimated Quantity for Payment:
      1. General site grading for accessibility – lump sum
      2. Finish Grading – 330 SY
      3. Compaction – 285 CY
      4. Earthwork – 285 CY
      5. Aggregate 6” deep – 330 SY
      6. Haul off excess fill – 965 SY
      7. Metal Gate – 1 EA

8. Base Item No 8 – Campground Sign
   a. This item consists of all materials, personnel, equipment and supplies to install and construct a new campground entrance sign as shown on the drawings. Work includes associated earthwork and grading of area in the direct vicinity of the new sign.
   b. Payment shall be made at the contract lump sum price.

9. Base Item No 9. – New Campground Loop Road
   a. This item consists of all materials, personnel, equipment and supplies to construct a new campground loop road to expand the existing campground. This includes all grading, slope stabilization, aggregate, and earthwork of areas. Work does not include construction of any spurs, paths, pull offs, CXT toilets, or any other amenities shown on the drawings for the new campground loop. This item consists solely of the construction of the loop road.
   b. Estimated Quantity for Payment:
      1. General site grading for accessibility – lump sum price
      2. Finish Grading – 8940 SY
      3. Aggregate 6” deep – 8940 SY
10. Base Item No. 10 – Campground Kiosk and Pull Off Area
   a. This item consists of all materials, personnel, equipment and supplies to
      construct all site work at the existing campground kiosk and pull-off area as
      shown on the drawings. This includes demolition of the existing kiosk and fee
      tube, and all earthwork, grading, and aggregate of areas to construct the pull-
      off area as shown on the drawings. Work also includes furnishing, constructing
      and installing a new kiosk, fee tube, and campground entrance gate.
   b. Estimated Quantity:
      1. General Site Grading – lump sum price
      2. Finish Grading – 280 SY
      3. Aggregate 4” deep – 280 SY
      4. Metal Gate - 1 EA
      5. Two Panel Kiosk – 1 EA
      6. Fee Tube – 1 EA

11. Base Item No. 11. – Site Work and Furnishings for Existing Campground
    Rehabilitation
   a. This item consists of all materials, personnel, equipment and supplies to
      complete all site work to construct and refurbish existing sites and create a new
      host site within the campground or along the campground entrance road as
      show in the drawings. This item also consists of all grading, slope stabilization,
      aggregate, and earthwork of areas associated with the campground
      rehabilitation. Work also includes all materials, personnel, equipment and
      supplies to construct a sewer hookup, associated sewer piping (including
      trenching and backfill), and provide and install a holding tank as shown on the
      drawings for the host site. This item also includes excavating, stockpiling and
      reinstalling 100 barrier boulders that can be found and/or excavated onsite
      within the limits of construction at locations as dictated by the NFF
      Representative. Additional barrier boulders are addressed in the optional items
      below. Work includes all earthwork, grading of areas created from excavating
      boulders. Work also includes furnishing, constructing and installing timber
      ties, signs, and fire rings.
   b. Materials, personnel, equipment and supplies to complete all work to install
      picnic tables, bear boxes, and site markers are listed as Optional Items.
   c. Estimated Quantity for Payment:
      1. Site Work– lump sum
      2. Fire Rings – 6 EA
      3. Use Pad Timber Ties – 1725 LF
      4. Tent Pad Timber Ties – 400 LF
      5. Host Use Pad Timber Ties – 88 LF
      6. Signs – 3 EA
      7. Barrier Boulders – 100 EA
      8. Trenching and Backfilling – Sewer – 10 LF
      9. Septic Hookup – 1 EA
      10. 4” PVC Sewer Piping – 10 LF
      11. Cleanouts along piping – 1 EA
      12. Wastewater Holding Tank – lump sum price
12. Base Item No. 12 – Site Work for Crusher Fines Path and CXT Toilet in New Campground Loop
   a. This item consists of all materials, personnel, equipment and supplies to construct a crusher fines path and site preparation for a CXT toilet including excavation, bedding, backfill, final site grading, as shown on the drawings.
   b. Note that CXT toilets and placement is listed as an Optional Item.
   c. Estimated Quantity for Payment:
      1. Site Work – lump sum price
      2. Crusher Fines – 15 CY
      3. Timber Ties – 350 LF
      4. Site Prep for CXT Toilet – lump sum price

13. Base Item No. 13 – Site Work for Pull Off - New Campground Loop
   a. This item consists of all materials, personnel, equipment and supplies to construct a pull off between new sites 9 and 10 including excavation, bedding, backfill, final site grading, site prep for CXT toilet, seeding, and mulching as shown on the drawings.
   b. Note that CXT toilets and placement is listed as an Optional Item.
   c. Estimated Quantity for Payment:
      1. General site grading – lump sum price
      2. Finish grading – 225 SY
      3. Aggregate 6” Deep – 225 SY
      4. Site Prep for CXT Toilet – lump sum price

   a. This item consists of all materials, personnel, equipment and supplies to construct all site work at the new dumpster area in the new campground loop as shown on the drawings. This includes all grading, slope stabilization, aggregate, and earthwork of areas.
   b. Estimated Quantity for Payment:
      1. General site grading - lump sum price
      2. Finish grading – 35 SY
      3. Aggregate 6” deep – 35 SY

15. Base Item No. 15. – Typical Buddy Site in New Campground Loop
   a. This item consists of all materials, personnel, equipment and supplies to complete all site work to install and construct two typical buddy sites in the new campground loop.
   b. All materials, personnel, equipment and supplies to complete all site work to complete rough grading of campsite living spaces.
   c. All materials, personnel, equipment and supplies to complete all site work to complete final grading and install living spaces and tent pads associated with each campsite.
   d. Note that all materials, personnel, equipment and supplies to complete all work to install, picnic tables, bear boxes and site markers are listed as Optional items.
e. Note that this item does not include any barrier boulders, which are included in Items 18 and 19.

f. Estimated Quantity for Payment:
   1. General site grading – lump sum price
   2. Finish grading – 715 SY
   3. Aggregate 6” deep – 715 SY
   4. Crusher fines – 20 CY
   5. Timber Ties – Use Pad Trails – 1100 LF
   6. Timber Ties – Buddy Site – 220 LF
   7. Timber Ties – Tent Pads – 320 LF
   8. Fire Rings – 2 EA
   9. Signs – 1 EA

16. Bid Item No. 16. – Site Work and Furnishings for Typical Pull-Thru Site in New Campground Loop
   a. This item consists of all materials, personnel, equipment and supplies to complete all site work to complete rough grading of campsite living spaces.
   b. All materials, personnel, equipment and supplies to complete all site work to complete final grading and install living spaces and tent pads associated with each campsite.
   c. Materials, personnel, equipment and supplies to complete site work to install picnic tables, bear boxes and site markers are listed as Optional items.
   d. This item does not include any barrier boulders, which are included in Items 18 and 19.
   e. Estimated Quantity for Payment:
      1. General site grading – lump sum price
      2. Finish grading – 1335 SY
      3. Aggregate 6” deep – 1335 SY
      4. Crusher fines – 20 CY
      5. Timber Ties – Use Pad Trails – 200 LF
      6. Timber Ties – Tent Pads – 400 LF
      7. Signs – 2 EA
      8. Fire Rings – 5 EA

17. Bid Item No. 17 – Typical Back-In Site in New Campground Loop
   a. This item consists of all materials, personnel, equipment and supplies to complete all site work to install and construct ten typical back-in sites in the new campground loop.
   b. All materials, personnel, equipment and supplies to complete all site work to complete rough grading of campsite living spaces.
   c. All materials, personnel, equipment and supplies to complete all site work to complete final grading and install living spaces and tent pads associated with each campsite.
   d. Materials, personnel, equipment and supplies to complete all work to install picnic tables, bear boxes and site posts are listed as Optional items.
   e. This item does not include any barrier boulders, which are included in Items 18 and 19.
f. Estimated Quantity for Payment:
   1. Site Work – lump sum price
   2. Crusher fines – 40 CY
   3. Timber Ties – Use Pad Trails – 400 LF
   4. Timber Ties – Tent Pads – 800 LF
   5. Signs – 4 EA
   6. Fire Rings – 10 EA

18. Bid Item No. 18 – Barrier Boulders Provided by Government
   a. This item includes installing barrier boulders provided by the Government in locations dictated by the NFF Representative and as shown on the drawings. Work includes transporting the provided boulders to the site from a location not to exceed 25 miles from the site. Grading of all disturbed areas associated with this work is included in this optional item.
   b. Payment shall be made per each boulder installed, estimated quantity is 50 EA.

19. Bid Item No 19. – Barrier Boulders Provided by Contractor
   a. This item includes furnishing and installing barrier boulders in locations dictated by the NFF Representative and as shown on the drawings. Grading of all disturbed areas associated with this work is included in this optional item.
   b. Payment shall be made per each boulder provided and installed, estimated quantity is 50 EA.

Optional Items
1. Optional Item No.1 – Trailhead Site Work
   a. This item consists of a replacement CXT toilet and all costs associated with relocating and installing the toilet in the trailhead area.
   b. Payment shall be made as a lump sum.

2. Optional Item No. 2 – Existing Campground Rehabilitation – Furnishings
   a. This item consists of materials, personnel, equipment and supplies to complete all work to install, picnic tables, bear boxes and site markers.
   b. Estimated Payment Quantity:
      1. Picnic Table – 6 EA
      2. Site markers – 6 EA
      3. Bear Box – 6 EA

3. Optional Item No. 3 – CXT Toilets – New Campground Loop
   a. This item consists of two double vault CXT toilets and placement and install in the New Campground Loop as shown in the drawings.
   b. Payment shall be made per toilet and associated installation (EA)

4. Optional Item No. 4 – Furnishings Buddy Campsites
   a. This item consists of materials, personnel, equipment and supplies to complete all work to install, picnic tables, bear boxes and site markers
   b. Estimated Payment Quantity:
      1. Picnic Table – 4 EA
2. Bear Box – 4 EA  
3. Site Markers – 2 EA  

5. Optional Item No. 5 – Furnishings – Pull Thru Campsites  
a. This item consists of materials, personnel, equipment and supplies to complete all work to install, picnic tables, bear boxes and site markers  
b. Estimated Payment Quantity:  
   1. Picnic Table – 5 EA  
   2. Bear Box – 5 EA  
   3. Site Markers – 5 EA  

6. Optional Item No. 6 – Furnishings – Back-In Campsites  
a. This item consists of materials, personnel, equipment and supplies to complete all work to install, picnic tables, bear boxes and site markers  
b. Estimated Payment Quantity:  
   4. Picnic Table – 10 EA  
   5. Bear Box – 10 EA  
   6. Site Markers – 10 EA  

PART 3 – ACCIDENT PREVENTION  
3.1 DESCRIPTION  
A. This section consists of establishing an effective accident prevention plan and providing a safe environment for personnel and visitors.  

3.2 SUBMITTALS  
A. Accident Prevention Plan: Before on-site work begins, submit a company approved accident prevention plan. This plan will be posted in the contract file. Design the plan to address Federal, State, and Local Occupational Safety and Health requirements that apply to this project. No progress payments will be processed until the plan is received. As a minimum the plan shall include:  

1. Name, position title and contact information of company executive responsible for approving the Accident Prevention Plan.  
2. Name and contact information of supervisor responsible to carry out the plan.  
3. Outline of each phase of the work, the hazards associated with each major phase, and the methods proposed to ensure property protection and safety of the public, government personnel, and the Contractor's employees. Identify the work included under each phase by reference to specification section or division numbers.  
4. Contingency plans for emergency situations such as medical, fire, hazard material spills and other contract assessed hazard prevention and abatement requirement needs that apply to this project.  

B. Certificates: Provide certificates from a mechanic that all mechanical equipment has been inspected and meets OSHA requirements.
C. Submit a copy of test reports, as required by OSHA, for personnel working with hazardous materials.

D. Submit a brief report of safety meetings and of inspections.

E. Upon request, submit proof of employees' qualifications to perform assigned duties in a safe manner.

3.3 QUALITY ASSURANCE

A.Clauses entitled "Accident Prevention" and "Permits and Responsibilities" of the General Provisions: In case of conflicts between Federal, state, and local safety and health requirements, the most stringent shall apply. Equipment or tools not meeting OSHA requirements will not be allowed on the project sites. Failure to comply with the requirements of this section and related sections may result in suspension of work.

B. Qualifications of Employees: Ensure employees are physically qualified to perform assigned duties in a safe manner.

3.4 ACCIDENT REPORTING

A. Reportable Accidents: A reportable accident is defined as death, occupational disease, traumatic injury to employees or the public, property damage by accident in excess of $100, and fires. Within 7 calendar days of a reportable accident, fill out and forward to the NFF Representative a CA-1 form.

B. All Other Accidents: Report all other accidents to the NFF Rep as soon as possible and assist the NFF Rep and other officials as required in the investigation of the accident.

3.5 FIRST AID FACILITIES

A. Provide adequate facilities for the number of employees and the type of construction at the site.

3.6 PERSONNEL PROTECTIVE EQUIPMENT

A. Meet requirements of NIOSH and MSHA, where applicable, as well as ANSI.

B. Inspect personal protective equipment daily and maintain in a serviceable condition. Clean, sanitize, and repair, as appropriate, personal items before issuing them to another individual.

C. Inspect and maintain other protective equipment and devices before use and on a periodic basis to ensure safe operation.

3.7 EMERGENCY INSTRUCTIONS

A. Post telephone numbers and reporting instructions for ambulance, physician, hospital, fire department, and police in conspicuous locations at the work site.
3.8 SAFETY MEETINGS

A. As a minimum, conduct weekly 15-minute "toolbox" safety meetings. These meetings shall be conducted by a foreman and attended by all construction personnel at the worksite.

3.9 HARD HATS AND PROTECTIVE EQUIPMENT AREAS

A. The NFF Representative will designate a hard hat area. Post the hard hat area in a manner satisfactory to the NFF Representative.

B. It is the Contractor's responsibility to require all those working on or visiting the site to wear hard hats and other necessary protective equipment at all times. As a minimum, provide two hard hats for use by visitors. Change liners before reissuing hats.

3.10 TRAINING

A. First Aid: Provide adequate training to ensure prompt and efficient first aid.

B. Hazardous Material: Train and instruct each employee exposed to hazardous material in safe and approved methods of handling and storage. Hazardous materials are defined as explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful substances that could cause death or injury.

PART 4 – SUBMITTAL PROCEDURES

4.1 DESCRIPTION

A. This section includes administrative and procedural requirements for submittals.

B. Submittals may be rejected for not complying with requirements.

4.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires NFF Representative’s responsive action.

B. Informational Submittals: Written information that does not require NFF Representative approval.

4.3 PROCEDURES

A. Submittal Register: Contractor shall provide submittal register which identifies all required submittals listed in specifications for review by NFF prior to submission of any other submittals.

B. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on NFF’s receipt of submittal.

1. Initial Review: Allow 10 working days for initial review of each submittal. Allow
additional time if processing must be delayed to permit coordination with subsequent
submittals. NFF will advise Contractor when a submittal being processed must be
delayed for coordination.
2. If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Allow 10 working days for processing each re-submittal.
4. No extension of the Contract Time will be authorized because of failure to transmit
submittals enough in advance of the Work to permit processing.

C. Identification: Place a permanent label or title block on each submittal for identification.
   1. Indicate name of firm or entity that prepared each submittal on label or title block.
   2. Provide a space approximately 2 by 3 inches on label or beside title block to record
      Contractor's review and approval markings and action taken by NFF
      Representative.
   3. Include the following information on label for processing and recording action taken:
      a. Project name.
      b. Date.
      c. Name and address of Contractor.
      d. Name of manufacturer.
      e. Unique identifier, including revision number.
      f. Number and title of appropriate Specification Section.
      g. Drawing number and detail references, as appropriate.
      h. Other necessary identification.

D. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract
   Documents on submittals.

E. Additional Copies: Unless additional copies are required for final submittal, and unless
   NFF Representative observes noncompliance with provisions of the Contract Documents,
   initial submittal may serve as final submittal.

F. Use for Construction: Use only final submittals with mark indicating action taken by NFF
   Representative in connection with construction.

G. Review each submittal and check for compliance with the Contract Documents. Note
   corrections and field dimensions. Mark with approval stamp before submitting to NFF
   Representative.

H. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project
   name and location, submittal number, Specification Section title and number, name of
   reviewer, date of Contractor's approval, and statement certifying that submittal has been
   reviewed, checked, and approved for compliance with the Contract Documents.

I. NFF Representative will not review submittals that do not bear Contractor's approval stamp
   and will return them without action.

J. Submittals not required by the Contract Documents will not be reviewed and may be
discarded.

4.4 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.
   1. Number of Copies: Submit four copies of each submittal, unless otherwise indicated. NFF Representative will return two copies. Mark up and retain one returned copy as a Project Record Document.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a. Manufacturer's written recommendations.
      b. Manufacturer's product specifications.
      c. Manufacturer's installation instructions.
      d. Manufacturer's catalog cuts.
      e. Wiring diagrams showing factory-installed wiring.
      f. Compliance with recognized trade association standards.
      g. Compliance with recognized testing agency standards.

4.5 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.
   1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. NFF Representative will not return copies.
   2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

B. Contractor's Construction Schedule: Provide a construction schedule that incorporates the full contract period.

C. Cost Breakdown: Following award provide a cost breakdown schedule listing main types of work with associated costs for each bid item in CSI format.

PART 5 – EXECUTION REQUIREMENTS

5.1 DESCRIPTION
A. This section consists of general procedural requirements governing execution of the Work including, but not limited to, the following:

1. General installation of products.
2. Progress cleaning.
3. Protection of installed construction.

5.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly.


5.3 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated. Make vertical work plumb and make horizontal work level.

B. Comply with manufacturer's written instructions and recommendations for installing products.

C. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

5.4 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.

2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

D. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

5.5 PROTECTION OF INSTALLED CONSTRUCTION
A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

5.6 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

PART 6 – CLOSEOUT PROCEDURES

6.1 DESCRIPTION

A. This section consists of administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Project Record Documents.
3. Final cleaning.

6.2 SUBSTANTIAL COMPLETION

A. Definition of Substantial Completion: The Date certified by the NFF Representative when construction is sufficiently complete, in accordance with the Contract Documents, so the Government can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents.

B. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise NFF Representative of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, final certifications, and similar documents.
4. Obtain and submit releases permitting Government unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs and photographic negatives, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Government. Label with manufacturer's name and model number where applicable.
7. Complete startup testing of systems.
8. Submit changeover information related to Government occupancy, use, operation, and maintenance.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

C. Inspection: Submit a written request for inspection for Substantial Completion at least 24 hours before inspection is needed. On receipt of request, NFF Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. NFF Representative will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by NFF Representative, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

6.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit certified copy of NFF’s Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by NFF Representative. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
2. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
3. Instruct Government personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance at least 24 hours before inspection is needed. On receipt of request, NFF Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. NFF Representative will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

6.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

6.5 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project
B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.

1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
   a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
   b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.

3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.

4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

6.6 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

C. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
2. Remove tools, construction equipment, machinery, and surplus material from Project site.
3. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Government property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and
dispose of lawfully.

END OF SECTION 010150
SECTION 016440
GOVERNMENT FURNISHED MATERIALS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section applies to materials that shall be provided by the Government, coordinated through the NFF Representative, and installed by the Contractor. Contractor shall be responsible for labor, equipment, and incidentals necessary to acquire these materials and for placement in accordance with the plans and specifications.

1.2 INSPECTION

A. The Contractor shall notify the NFF Representative at least 5 calendar days prior to picking up or returning Government-furnished materials.

B. The Contractor and the NFF Representative shall jointly inspect all materials during the loading operation at the storage area, and at the project site.

1.3 LIABILITY

A. The Contractor's liability for Government-furnished material shall start at the time he accepts the materials at the storage area, and shall terminate upon completion and final acceptance of the work.

1.  It shall be implied that the Contractor has accepted Government-furnished materials prior to the materials being loaded and ready for transportation from the storage area to the worksite.

2. The Contractor shall provide all labor, equipment, and incidentals necessary to load, unload, and transport Government furnished materials between the worksite and the specified storage area.

1.4 REPLACEMENT AND/OR SUPPLEMENTAL MATERIALS

A. Any defective materials discovered prior to the Contractor's acceptance of the materials will be replaced by the Government.

B. If the quantity of Government-furnished material accepted by the Contractor is insufficient to complete the specified work, supplemental materials complying with these specifications shall be provided by the Government at no expense to the Contractor.

C. The Government shall not replace any materials that, in the opinion of the NFF Representative, are damaged or lost due to the Contractor's negligence after the Contractor accepts the materials. Such materials shall be replaced at the Contractor's
expense.

1.5  SURPLUS MATERIAL

A. After completion and final acceptance of the work, surplus Government-furnished materials shall be returned to the specified storage area in the same mechanical and physical condition as originally accepted.

B. Damaged surplus materials shall be replaced at the Contractor's expense.

C. The Contractor's liability for surplus materials shall terminate upon unloading at the storage area.

PART 2 – PRODUCTS

2.1  GOVERNMENT-FURNISHED MATERIALS

A. Government-furnished materials may include:

1. Two double CXT* comfort station buildings and vaults, or comparable product that meets associated specifications. CXT is responsible for delivery to the site and setting the units in place. Contractor shall coordinate with the supplier for exact delivery dates and scheduling. Contractor is responsible for all excavation, aggregate base, backfilling, finish grading and concrete entrances.

2. Forest Service locks and keys for gates.

3. Barrier boulders as available.

*CXT Incorporated
Pre cast Concrete Products
3808 N. Sullivan Road, Bldg. #7
Spokane, WA 99216
Phone: (509) 921-8766  FAX: (509) 928-8270  Website:  www.cxtinc.com

4. High pressure laminate sign panels for kiosks.

PART 3 - EXECUTION

3.1  GENERAL

A. Installation and testing of Government-furnished materials shall comply with the applicable contract specifications covering work requiring the use of such materials.

END OF SECTION
SECTION 024119
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Removal and disposal of site furnishings as shown on the drawings.
2. Removal and salvaging of site furnishings as shown on the drawings.
3. Decommissioning roads and spurs as shown on the drawings.

1.2 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Government's property.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the Government's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Government's designated storage area.

C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.

D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the NFF Representative, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

E. Abandon: Remove items indicated that are visible above ground. Below ground utility lines may remain in place. Utility lines that interfere with construction shall be removed to the limit required for new construction or as indicated on the drawings. Beyond those limits items are to be abandoned in place. Existing water lines crossing trenches shall be cut flush with the excavated trench wall.

1.3 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Government's property, demolished materials shall become the Contractor's property and shall be removed from the site and disposed of in accordance with Section 010510 or Section 024119 Part 3.7.

1.4 PROJECT CONDITIONS
A. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work. If any materials suspected of containing hazardous materials are encountered, do not disturb the materials. Immediately notify the NFF Representative.

PART 2 – PRODUCTS – (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL

A. Excavation and backfill shall be as specified in Section 312250.

B. Excessive settlement or other evidence of improper backfill shall be corrected by reopening the excavation to the depth required for proper refilling and compaction.

3.2 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the NFF Representative.

3.3 UTILITY SERVICES

A. No utilities are known to exist at the site. If utilities are identified, promptly notify the NFF Representative.

3.4 ITEMS TO BE REMOVED

A. As shown on drawings.

3.5 ITEMS TO BE SALVAGED

A. As shown on drawings.

3.6 ITEMS TO BE REMOVED AND REINSTALLED

A. As shown on drawings.

3.7 DISPOSAL

A. General: Promptly dispose of demolished materials. Do not allow demolished
materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal of debris shall comply with Section 010150.

END OF SECTION
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PART 1 - GENERAL

1.1 DESCRIPTION

A. This section applies to preparation and painting of surfaces, with the exception of prime coats and painting of certain mechanical equipment indicated in other sections of these specifications.

1. Pre-finished materials will not require further finish except for touch-up of marred or damaged areas.

1.2 DEFINITIONS

A. The term painting as used herein means any coating specified for application to the designated interior or exterior surface.

1.3 SUBMITTALS

A. The Contractor shall submit paint manufacturer's technical data or a signed certificate by the manufacturer or distributor verifying compliance with these specifications.

1.4 PRODUCT DELIVERY

A. Products shall be delivered to project site in the manufacturer's unopened containers with grade seals unbroken and labels intact and readable.

1.5 JOB CONDITIONS AND PROTECTION

A. Surfaces shall be above 50°F. when paint is applied and kept from freezing until dry.

B. Interior surfaces shall be protected from dust, dirt, and drafts during painting and until paint is dry.

C. Exterior surfaces shall not be painted during adverse weather conditions and shall be protected from direct sun, dust, wind, and rain until the paint is dry.

D. Hardware accessories, plates, and similar items shall be removed prior to painting, or protected from contact with the paint. The items shall be replaced after paint is dry.

E. Materials shall be stored out of the weather and protected from freezing.

F. The Contractor shall take precautions to prevent fires.

1. Materials shall be stored in closed metal containers.

2. Rags, waste, and similar materials shall be stored in closed metal containers.
PART 2 - PRODUCTS

2.1 DESCRIPTION

A. Materials shall be products of well-known manufacturers. If products other than those specified are proposed, the Contractor shall submit the specifications for the proposed product to the NFF Representative for approval.

B. The preferred Stain for Timber and Wood surfaces is color “Yankee Barn” by Sherwin-Williams or an equal.

C. The preferred Paint color is “Forest Service” Brown unless specified differently in individual Sections or an equal.

PART 3 - EXECUTION

3.1 GENERAL

A. All materials, unless otherwise specified herein, shall be used in accordance with the manufacturer's recommendations.

3.2 SURFACE PREPARATION

A. Before starting any work, the surfaces to be covered shall be in acceptable condition to receive each coat of paint or stain in order to produce best grade finish. Any necessary preparation shall be accomplished by methods common to good practice for the particular surface being prepared. Contaminants to the paint coatings from cleaning or other operations shall be removed prior to painting. The surfaces shall be free from oil, grease, dirt, dust, loose paint, loose scale, rust, or other foreign matter. The surfaces shall be thoroughly dry and shall be kept clean until the final coat is dry. All joints and cracks shall be filled and tight.

1. Woodwork: Raised grain and surface imperfections shall be smoothed by sanding. Knots and pitch streaks shall be washed with mineral spirits and coated with shellac before painting. Nail holes, cracks and similar blemishes shall be filled with putty to be flush with adjacent surfaces, and sanded smooth after priming or staining and before finish coats are applied. Putty shall be colored to match stained work. Surfaces shall be sanded lightly before applying following coats.

2. Ferrous Metal Surfaces: Weld spatter, burrs or other objectionable surface irregularities shall be removed before cleaning. Oil, grease and dirt shall be removed by the use of clean solvent, mineral spirits, or xylene.

3. Zinc-coated Metal: Contaminants and grease shall be removed with lacquer thinner or Xylol.

3.3 APPLICATION
A. Application shall be by skilled painters to produce a quality finish, evenly covered, without runs or thin spots.

B. Mixing and Colors: Paints shall be mixed thoroughly to uniform color and consistency immediately before being applied. First coats or primer paints shall be approximately the same color as the finish coats, except where such paints have characteristic color, e.g., red lead or zinc dust-zinc oxide primers. Paint and enamel shall be kept free from skins or lumps and well stirred during use.

C. Method of Application: All exterior paint and stain shall be applied by brush. Paint on interior woodwork and trim shall be applied by brush or roller. Paint on exterior surface of doors shall be applied by roller.

D. Adjacent Surfaces: Adjacent surfaces shall be protected from spatters, stains, or soiling.

E. Painting: Paint shall be applied at the rate recommended by the manufacturer for the surface being painted. Each coat of primer or paint shall be applied evenly without skips, runs, sags, and clogging and allowed to dry before next coat is applied. Finish painted surfaces shall be free of clouding due to non-coverage of ground coats or surfaces to which applied. Edges adjoining other materials or colors shall be true without overlapping.

F. The Contractor shall notify the NFF Representative a minimum of 24 hours prior to starting the painting operation.

END OF SECTION
PART 1 – GENERAL

1.1 STORAGE AND HANDLING

A. Storage: Store products in a protected, dry area.
B. Handling: Protect product’s finish from damage during handling and installation.

1.2 COORDINATION

A. Coordinate with site work and other appropriate sections of the specifications to maintain proper provisions of the work specified.
B. All site furnishings shall be laid out in the field and approved prior to installation.

PART 2 – PRODUCTS

2.1 FEE TUBE

A. Product Data - Submit manufacturer's technical product data for fee tube.
B. Concrete and reinforcing shall be in accordance with Section 321313.
C. 6” x 6” Rock Ranger Fee Collection Station with Removable, Lockable Fee Deposit Box Model 03-560 with 12” brochure box (03-550-6), fee box request (03-365), protected lock (03-317), and 7” envelope box (03-567-6) or equal.
D. Color: Forest Service Brown (rust texture).
E. Fee box to be self-contained unit that can be locked separately using Government provided padlock.
F. All steel construction
G. Powder coated.
H. U-shaped rebar extensions welded to bottom of unit.
I. US Forest Service logo installed on fee tube.

2.2 PICNIC TABLE

J. Product Data - Submit manufacturer's technical product data for picnic table.
K. Concrete and reinforcing shall be in accordance with Section 321313.

L. 8’ Brown ADA Symmetrical Step Over (386BR) Table or equal.

M. Manufacturer: Plastic Recycling of Iowa Falls, Inc. 641-648-5073 ext 104 or equal.

N. Material: angle iron under-structure hot-dipped galvanized – preattached to the boards. Top is plastic lumber.

O. Color: Forest Brown.

2.3 FIRE RING

A. Double Walled Multilevel ABA Accessible Fire Ring: The raised fire ring shall be Pilor Rock "Model LDW-36/18/TB” Model FS/DW-30/18 TB” as shown on the drawings or equal.

B. 1/8” (10 ga.) outer ring with 1” formed top flange; 3/16” (7 ga.) inner ring; 17-3/8” tall fire barrier.

C. Three formed steel angles welded between rings form a 2” wide air space. Both rings to include a series of 1” dia. (nom.) drain/draft holes. 3/16” thick steel panels to support the cooking grate in four locations and help shield grate handles from heat.

D. 300 sq. in. cooking grate welded 1/2” dia. steel bars supported by 5/8” dia. handle bars. 1/8” x 1/2” coiled flat steel bar handle grips. All grate bars welded on both sides.

E. Two tip back anchor pins to secure ring in place but allow ring to tip up for clean out.

F. The complete fixture shall be finished with a high-temperature, flat black paint, such as exhaust manifold paint, rather than the typical factory finish of aluminum paint.

G. Concrete shall be in accordance with Section 321313.

H. Product Data - Submit manufacturer's technical product data for fire rings.

2.4 BEAR PROOF STORAGE LOCKER

A. Storage locker, legs and bolts shall be BearSaver Model FS24-UP or equal.

B. Housing shall be 24 cubic feet, assembled height 40”, assembled width 48”, assembled length 29”.

C. All hinges, handles, striker plates and hardware to be zinc coated for corrosion resistance. Housing and doors shall be corrosion resistant steel and finished using a textured powder coat process. Finish shall be resistant to humidity, salt spray, fog, ultraviolet rays, abrasion and chemicals.
D. Standard powder coat color Forest Brown.

E. Product Data - Submit manufacturer's technical product data for bear proof storage lockers.

F. Concrete and reinforcing shall be in accordance with Section 321313.

2.5 KIOSK

A. Structural Timber and Lumber
   1. Treated timber shall be rough sawn Lodgepole Pine #2 Grade or Ponderosa Pine #2 Grade as graded by WWPA, size as SHOWN ON THE DRAWINGS.

B. Hardware and Structural Steel
   1. Machine and carriage bolts, drift pins, and dowels shall meet the requirements of ASTM A 307. All hardware shall be galvanized in accordance with AASHTO M 232.
   2. All structural steel shapes, rods and plates shall be structural steel meeting the requirements of AASHTO M 183. Galvanizing shall be in accordance with AASHTO M 111.
   3. Bolts shall have square or hexagonal heads and nuts. Nails shall be cut or round nails of standard form. Spikes shall be cut, round, or boat, as SHOWN ON THE DRAWINGS.
   4. Plain or cut washers shall be American Standard Plain Washers.

C. Preservative Treatments
   1. All timber for timber structures shall be pressure treated with CCA with a retention of 0.4 pounds per cubic foot or to refusal in accordance with AWPA C2. Lumber shall be kiln dried after treatment to moisture content of 19 percent or less. All treated timber shall be completely and accurately fabricated before treatment. All surfaces greater than 2 inches in width shall be incised before treatment.
   2. All lumber shall also be treated with 'Sunwood' as manufactured by Osmose, or approved equal. No 'green colored' treated lumber shall be used on this project.

D. Handling Precautions
   1. Wear protection such as dust masks, goggles, and gloves when sawing treated lumber.
   2. Retentions of preservatives in all lumber and timbers, including laminates treated before gluing, shall be determined by the assay method.

2.6 GATE

A. Product Data - Submit manufacturer's technical product data for gate pipe and all markers.
B. Concrete and reinforcing shall be in accordance with Section 321313.

C. Pipe to be Schedule 80 Galvanized Steel Pipe as shown on drawings.

D. Prime and paint gate in accordance with Section 099120. Final color to be determined by NFF Representative.

PART 3 – EXECUTION

3.1 FEE TUBE INSTALLATION

A. Install as shown on the drawings or adjusted in the field as approved by the NFF Representative and in accordance with manufacturer recommendations.

3.2 PICNIC TABLE INSTALLATION

A. Install as shown on the drawings or adjusted in the field as approved by the NFF Representative and in accordance with manufacturer recommendations.

3.3 INSTALLATION OF FIRE RINGS

A. Forming shall not be necessary if the walls of the hole are firm and will receive the concrete without sloughing and provided the excavation may be either round or square.

B. Use bracing as necessary to ensure that fire ring remains plumb during concrete placement and curing.

C. After the installation is completed, the area around the footing shall be backfilled to the established grade and compacted to the density of the surrounding natural ground.

3.4 BEAR PROOF STORAGE LOCKER INSTALLATION

A. Install as shown on the drawings or adjusted in the field as approved by the NFF Representative and in accordance with manufacturer recommendations.

3.5 KIOSK CONSTRUCTION

A. Construct to required lines and levels, closely fitted, and accurately set and secured in place AS SHOWN ON THE DRAWINGS.

B. Install weather proof display case as shown on the drawings and in accordance with manufacturer’s recommendations.

3.6 GATE CONSTRUCTION

A. The gates, receiving sockets, and posts shall be fabricated in accordance with the dimensions and details as SHOWN ON THE DRAWINGS. Ends of pipe members
shall be coped to approximately fit and welded, using a continuous fillet weld. All exposed pipe ends shall be ground smooth.

B. Neat excavation shall be made to receive the concrete base and socket or post. In boulder formation, individual rocks may intrude into the neat excavation, but they shall be firmly embedded.

C. The gate shall rotate freely for full swing, and be plumb, level and in line.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. This section includes all materials and labor required in the placement of Government supplied pre-engineered concrete vault comfort stations and in the relocation of an existing vault comfort station. The work includes moving, excavation, placement of aggregate base, backfill, and final site grading. Work also includes coordination with the NFF Representative for delivery times and schedules.

1.2 LOCATIONS

A. Install the comfort stations at the locations shown on the drawings and as approved by the NFF Representative.

1.3 CODE AND COMPLIANCE STANDARDS

A. All work and materials shall comply with the latest industry building codes and regulations, including but not limited to the following:

1. Uniform Building Code
2. National Electrical Code
3. Uniform Plumbing Code

1.4 DELIVERY AND STORAGE

A. Pre-engineered units, accessories and other manufactured items shall be delivered to the site. Materials shall be handled, transported, and erected to prevent damage and/or deformation of materials.

B. Contractor supplied material stored at the project site shall be protected from weather.

C. Delivery to the site shall be made on normal highway trucks and trailers. Ensure that delivery conditions and access at the site is not hazardous or unsuitable for truck and equipment due to weather, physical constraints, roadway width or grade to provide a safe and quality installation.

1.5 BUILDING DESCRIPTION

A. Double Unit Vault Toilets: Double Unit Cascadian as produced by CXT Incorporated, Precast Concrete Products, Spokane, WA (800) 696-5766, or equal.

PART 2 – PRODUCTS
2.1 EXCAVATION, BEDDING MATERIALS AND BACKFILL

A. See Section 312250 and 312317 for excavation, bedding and backfill materials.

PART 3 - EXECUTION

3.1 GENERAL

A. Coordinate with the NFF Representative for exact delivery times and schedules.

B. The CXT or equal supplier will use a crane to set the building on prepared aggregate base.

C. Obtain manufacturers supplied materials necessary to complete construction as listed in the installation manuals and as modified in these specifications.

D. Excavate hole for building to accommodate the fill for the base large enough to be workable and allow the floor of the building to fit on the fill for the base when placed.

E. Compact the bottom of the area for the building after it has been excavated to a minimum bearing of 1,500 psf.

F. Construct building aggregate base in accordance with manufacturer’s recommendations.

G. Complete adjacent site work as detailed on the drawings. Grade site to obtain positive drainage away from structure.

H. Thoroughly clean all surfaces, interior and exterior, making facilities ready for use.

3.2 RELOCATING EXISTING VAULT TOILET

A. Prepare new location for the vault toilet in accordance with CXT’s, or equal, recommendations and in accordance with Section 133128 Part 3.1.

B. Pump vault prior to relocation using qualified vendor as approved by NFF Representative.

C. Utilize crane to load vault toilet onto flatbed vehicle and move to location as shown on drawings.

D. All crane attachments and loading requirements shall be in compliance with vault toilet manufacturer.

E. Backfill, grade, scarify and reseed area that the vault toilet came from after removal in accordance with Sections 312250, 312500, and 329219.

END OF SECTION
SECTION 311100
CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 SUMMARY

A. This work consists of clearing, grubbing, trimming, removing, and disposing of, or treatment of, live and dead timber, construction slash, and debris within the areas shown on the drawings or designated on the ground. Areas may include but are not limited to: roads, spurs, trails, parking areas, camp unit use pad spaces, tent pads and other areas to be graded. This work shall include the removal and disposal of designated trees outside the clearing limits. Also included is the protection from injury or defacement of vegetation and other objects designated to remain and treatment or removal of damaged trees.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 CLEARING

A. Clearing Limits:

1. Spurs, Paths, Roads, and Parking Areas: as shown on the drawings.
2. Areas to be graded: 2 feet past the intersection of the existing ground with the cut slope and to the toe of fill as applicable.

B. Remove all trees, down timber, snags, underbrush, rubbish, and other objectionable materials within the clearing limits.

C. Individual marked trees, within the clearing limits, shall be left standing and uninjured.

D. Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking, or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line.

E. Provide temporary guards to protect trees and vegetation to be left standing.

F. Where any trees are damaged, or where limbs are required to be trimmed or removed because of operations under this contract, or because of interference with new construction, any cutting or removal of limbs or branches shall be done only with prior approval of NFF Representative.
G. Solvents, oils, and other material which may be harmful to plant life shall be disposed of in containers and removed from the site. At the completion of the work, any contaminated soil shall be removed and replaced with topsoil.

H. Trees shall be felled into the area being cleared when ground conditions, tree lean, and shape of clearing permit. Controlled felling shall be used that will ensure the direction of fall to prevent damage to property, structures, trees designated to remain, or traffic.

I. Sound logs that exceed 8 feet in length and 4 inches in diameter at the small end, that are capable of being skidded by chokers or tongs, shall be decked at the location designated by the NFF Representative.

J. Material smaller than described above shall be treated as slash and disposed of according to 3.4.

K. Felling, cutting, and trimming methods shall not cause bark damage to standing timber. Trees with major roots exposed by construction that are rendered unstable shall be felled and disposed of in accordance with the above paragraphs.

3.2 GRUBBING

A. All debris, stumps, roots and other protruding vegetative material within the clearing limits, not designated to remain, shall be grubbed, removed and disposed of, except the following:
   1. Trails: On all trails, stumps within the trailbed shall be removed. Stumps located between the edge of the trailbed and the edge of the trailway that cannot be cut flush with the finished slope, or are not tightly rooted, shall be removed.
   2. Roads and Parking Areas: Undisturbed stumps outside the roadway or in embankment areas, provided they can be cut flush above the original ground (measured from the uphill side) nor closer than 2 feet to the finished subgrade or 1 foot to any slope surface or as otherwise shown on the drawings and they do not interfere with the placement or compaction of embankments.
   3. All roots over 3 inches in diameter within the roadbed area shall be grubbed to a minimum depth of 6 inches below subgrade. Roots over 1 inches in diameter protruding from the excavated slope shall be cut flush with the excavated slope surface.
   4. Fire-dangerous dead trees or unstable live trees, designated by the NFF Representative within 200 feet slope distance of the centerline of roads and capable of falling and reaching the roadway shall be cut off not more than 12 inches above the uphill ground line and treated in accordance with Subsections 3.1 and 3.3.
   5. Branches on remaining trees or shrubs shall be trimmed to give a clear height of 14 feet above the roadbed unless otherwise shown on the drawings. Tree limbs shall be trimmed as near flush with the trunk as practicable.
   6. When grubbing for structures, buildings, and areas to be landscape graded; grub and remove all stumps inside the clearing limits. Grub and remove all roots to a depth of at least 6 inches below the natural ground when fill is required for site
grading. When excavation is required for site grading, grub and remove all roots to a depth of at least 6 inches below finished grade.

7. Stumps, roots, and material developed in grubbing operations shall be removed from National Forest lands.

3.3 UTILIZATION OF TIMBER

A. Logging methods and utilization shall conform to the following:

1. Felling and Bucking. Felling shall be done to minimize damage to remaining trees outside of clearing limits. Felling shall be done with saws or shears unless otherwise agreed to by the NFF Representative.

2. Utilization and Removal of Timber. Trees that equal or exceed the diameters and minimum lengths listed in 3.1 and contain one minimum piece shall be removed or disposed of by one of the following methods.
   a. Logs meeting utilization standards shall be limbed and decked at locations shown on the drawings or at locations approved by the NFF Representative. Decking shall be done in such a manner that logs are piled parallel one to the other, can reasonably be removed by standard log loading equipment, will not damage standing trees, and will not roll. Decks shall be free of brush and soil.

3.4 SLASH TREATMENT

A. Treatment of construction slash shall be accomplished by one or more of the following methods:

1. Chipping
2. Removal

B. All Methods. No construction slash shall be deposited in lakes, meadows, streams, or streambeds. Construction slash that interferes with drainage structures shall be removed immediately.

C. Specific Methods

1. Chipping. Construction slash up to at least 4 inches in diameter shall be processed through a chipping machine. Chips shall be deposited on embankment slopes or outside the roadway to a loose depth not exceeding 6 inches. Minor amounts of chips may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer.

2. Removal. Construction slash shall be hauled to locations designated on the ground or removed from National Forest Lands at an approved landfill.

END OF SECTION
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PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Preparing subgrades for slabs-on-grade, walks, pavements, and plantings.
   2. Excavating and backfilling for buildings and structures.
   3. Excavating and backfilling trenches.

1.2 DEFINITIONS

A. Backfill: Soil materials used to fill an excavation.
   1. Initial Backfill: Backfill placed below, beside and over pipe in a trench, including haunches to support sides of pipe.
   2. Subsequent Backfill: Backfill placed over initial backfill to fill a trench.

B. Aggregate Base Course: Layer placed between the subgrade and concrete slab, concrete walk, or structure.

C. Borrow: Satisfactory soil imported from off-site for fill or backfill.

D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
   1. Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by NFF Representative. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
   2. Bulk Excavation: Excavations more than 10 feet (3m) in width and pits more than 30 feet (9m) in either length or width.
   3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction of the NFF Representative. Unauthorized excavation, as well as remedial work directed by NFF Representative, shall be without additional compensation.
   4. Unclassified Excavation: Excavation to subgrade elevation and to lines and dimensions indicated regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.
   5. Rock Excavation: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 2.5 cubic yards that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting when permitted:
a. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 30-inch- (1065-mm-) wide, short-tip-radius rock bucket; rated at not less than 120-hp (89-kW) flywheel power with bucket-curling force of not less than 25,000 lbf (111 kN) and stick-crowd force of not less than 18,700 lbf (83 kN); measured according to SAE J-1179.

b. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp (157-kW) flywheel power and developing a minimum of 45,000-lbf (200-kN) breakout force; measured according to SAE J-732.

E. Fill: Soil materials used to raise existing grades.

F. Structures: Buildings, slabs, tanks, vaults, or other man-made stationary features constructed above or below the ground surface.

G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, aggregate base, drainage fill, initial or subsequent backfill materials.

H. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within building.

1.3 SUBMITTALS

A. Contractor shall submit to the NFF Representative for approval source of aggregate base and backfill materials and certified sieve analysis.

1.4 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Government or others unless permitted in writing by NFF Representative and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify NFF not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without NFF Representative’s written permission.

PART 2 - PRODUCTS

2.1 BACKFILL MATERIALS, GENERAL

A. Excavated material may be processed and used for backfill if the Contractor can show compliance with the material specified herein to the satisfaction of the NFF Representative. If excavated material is not sufficient to meet requirements, Contractor shall import needed material.

B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM, or a combination of these group symbols; free of rock or gravel larger
than 6 inches in any dimension, debris, waste frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT, or a combination of these group symbols.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Backfill and Fill: Satisfactory soil materials.

2.2 INITIAL BACKFILL

A. Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1 inch sieve and not more than 8 percent passing a No. 200 sieve. Excavated material may be used if approved by the NFF Representative.

2.3 SUBSEQUENT BACKFILL

A. Subsequent backfill shall be excavated material or borrow material, free from rock larger than 6 inches in the greatest dimension, frozen material, clods, debris, or organic material. Borrow material used as subsequent backfill shall have a gradation and character suitable to achieve the compaction specified in this Section.

2.4 AGGREGATE BASE

A. As specified in Section 321123.

2.5 WARNING TAPE AND TRACER WIRE

A. As specified in Section 312317.

2.6 SHEETING AND SHORING

A. Timber or metal members used by the Contractor shall provide adequate support of the soils during his work. The Contractor shall be responsible for selection of proper material to maintain adequate support.

PART 3 - EXECUTION

3.1 LOCATION, ALIGNMENT AND GRADE

A. The location of all pipelines and structures shall be staked out and grades established by the Contractor. Locations shall be approved by the NFF Representative with USFS guidance before excavation is started.

3.2 PREPARATION
A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.

C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

   1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
   2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

3.4 EXPLOSIVES

A. Do not use explosives.

3.5 EXCAVATION, GENERAL

A. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

B. Maintain the excavations to guard against and prevent injury to employees and the public. Provide adequate shoring and bracing as required by OSHA and other local governing regulations.

C. Excavations left open at the end of the working day shall be fenced to protect the public.

3.6 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within tolerance of plus or minus 1 inch. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

2. Excavation for Underground Tanks and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended for bearing surface.

3.7 EXCAVATION FOR TRAILS, PAVEMENTS AND CONCRETE WALKS
   A. Excavate surfaces under trails and pavements to indicated cross sections, elevations, and grades.

3.8 EXCAVATION FOR UTILITY TRENCHES
   A. As specified in Section 312317.

3.9 APPROVAL OF SUBGRADE
   A. Notify NFF Representative when excavations have reached required subgrade.
   B. If NFF Representative determines that unsatisfactory soil is present, continue excavation and replace with initial backfill material as directed.
   C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by NFF Representative.

3.10 UNAUTHORIZED EXCAVATION
   A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill may be used when approved by NFF Representative, with USFS guidance.

   1. Fill unauthorized excavations under other construction or utility pipe as directed by CO.

3.11 STORAGE OF SOIL MATERIALS
   A. Stockpile, borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

   1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.12 STRUCTURE BACKFILL
A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, damp proofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for record documents.
3. Inspecting and testing underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.

B. Place and compact subsequent backfill adjacent to structures in such a manner as to prevent wedging action or eccentric lodging upon or against the structures.

C. Do not place backfill against any concrete footings or structure without prior permission of the NFF Representative and in no case less than 7 days after placement of concrete.

D. Heavy equipment shall not be operated within four feet of any structure.

E. Provide for anticipated settlement and shrinkage of the backfill and for the finished grades required.

3.13 UTILITY TRENCH BACKFILL

A. As specified in Section 312317.

3.14 FILL

A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.

B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

C. Place and compact subsequent backfill material in layers to required elevations.

3.15 MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.16 COMPACTION OF BACKFILLS AND FILLS
A. The minimum degree of compaction required shall be a percent of the maximum laboratory density obtained by the standard proctor test AASHTO T-99 or ASTM D698. The in-place field density shall be determined by AASHTO T238 or ASTM D2922. The minimum compaction requirements are:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material at 95 percent.
2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 92 percent.
3. Under unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 85 percent.
4. In utility trenches, including each layer of backfill up to 1 ft. above the pipe, compact each layer of backfill material at 90 percent. Backfill material shall at a minimum reach the same compaction as the adjacent soil as determined by the NFF Representative, with USFS guidance.

3.17 GRADING

A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

C. Finishing Slopes: Finished slopes shall conform reasonably to the lines staked on the ground or shown on the drawings. The finished slope shall be left in a roughened condition to facilitate the establishment of vegetative growth. The finish associated with template and stringline or hand-raking methods will not be allowed.

3.18 AGGREGATE BASE COURSE

A. As specified in Section 321123.

3.19 FIELD QUALITY CONTROL

A. Testing Agency: Contractor shall engage a qualified independent geotechnical engineering testing agency to perform field quality control testing.
B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work complies with requirements.

C. Testing agency will test compaction of soils in place according to ASTM D 2922. Tests will be performed at the following locations and frequencies:

   1. Treatment Building: One test for the Treatment Building foundation.
   2. Trench Backfill: At each compacted layer (initial and subsequent backfill), at least one test for every 500 feet of trench length.
   3. Backfill around structures: At subgrade and at each compacted backfill layer, at least one test per each 100 cubic yards or 2 feet of depth, but in no case fewer than two tests.

D. When testing agency reports that subgrades, fills or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

E. Excessive settlement or other evidence of improper backfill shall be corrected by reopening the trench or excavation to the depth required for proper compaction and then shall be refilled and satisfactorily compacted.

F. The correction and retesting of unacceptable work shall be paid by the Contractor at no expense to the Government.

G. The NFF Representative, with USFS guidance, may reduce the testing frequency contingent upon the uniformity of material at the project site, compactive effort put forward by the Contractor, and previous test results for similar materials and compactive effort.

3.20 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specify tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

   1. Scarify or remove and replace soil material to depth as directed by NFF Representative, reshape and reclamp.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

   1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.
3.21 SURFACE FINISH

A. In unpaved areas, surface finish shall be subsequent backfill to elevations shown on drawings.

B. In paved areas, apply surface treatment as specified and shown on the drawings.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Government’s property.

END OF SECTION
SECTION 312317
TRENCHING, BEDDING AND BACKFILL FOR UTILITIES

PART 1 - GENERAL

1.1 SUMMARY

A. The work in this Section includes excavation, dewatering, preparation of the trench bottom, supply and installation of bedding and backfill materials; and disposal of waste material for the installation of utilities and related appurtenances.

1.2 QUALITY ASSURANCE

A. Conduct compaction tests as necessary to monitor the installation procedure and assure the quality of the work.

B. Perform all trench excavation in accordance with minimum requirements of OSHA Regulations. Provide shoring, bracing and tight sheeting to prevent caving and to protect workers in accordance with OSHA requirements and to protect adjacent property and structures.

C. Direct dewatering operations to natural drainages or storm sewers as appropriate. Perform discharge from dewatering operations in accordance with rules and regulations established by the Nebraska Department of Environmental Quality.

1.3 SUBMITTALS

A. As specified in Division 1 Section, “Submittal Procedures.”

1. Submit the source of bedding and backfill materials and certified sieve analysis.

2. Product Data: Provide manufacturer’s literature for the following:

   a. Warning tape.
   b. Tracer wire system.

1.4 PROJECT CONDITIONS

A. The type, size and location of known underground utilities have been shown on the drawings; however, no guarantee is made as to the true location of such utilities.

B. Verify the existence and location of all underground utilities at the project site. Notify ‘South Dakota One-Call’ at 811 at least three business days prior to any excavation work so local utility companies can locate their lines.

1.5 DEFINITIONS

A. Bedding: Layer placed over the excavated subgrade in a trench before laying pipe.
B. Backfill: Soil materials used to fill an excavation.
   1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
   2. Subsequent Backfill: Backfill placed over initial backfill to fill a trench.

C. Borrow: Satisfactory soil imported off-site for fill or backfill.

D. Unclassified excavation: Excavation and disposal of all material encountered in the work, including excavation obtained from borrow source.

E. Rock excavation: Removal and disposal of igneous, metamorphic, and sedimentary rock which cannot be excavated without blasting or using rippers, and all boulders or other detached stones each having a volume of one-half cubic yard or more.

F. Muck excavation: Removal and disposal of saturated organic mixtures of soils or organic matter which requires additional work or equipment which would not normally be required for unclassified excavation.

PART 2 - PRODUCTS

2.1 BEDDING
   A. Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, ASTM D 2940, except with 100 percent passing a ½-inch sieve and not more than 8 percent passing a No. 200 sieve. On site materials may be used.

2.2 BACKFILL AND FILL
   A. Excavated material may be processed and used for backfill if compliance with the material specified herein can be documented. Provide documentation to the NFF Representative for review. Import material if excavated material is not sufficient to meet requirements.
   B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM, or a combination of these group symbols, free of rock or gravel larger than 3 inches in any dimension, debris, waste frozen materials, vegetation, and other deleterious matter.
   C. Initial Backfill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, ASTM D 2940, except with 100 percent passing a ½-inch sieve and not more than 8 percent passing a No. 200 sieve. On site materials may be used.
   D. Subsequent Backfill: Excavated material or borrow material, free from rock larger than 6 inches in the greatest dimension, frozen material, clods, debris, or organic
material. Borrow material used as subsequent backfill shall have a gradation and character suitable to achieve the compaction specified in this Section.

2.3 WARNING TAPE

A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 3 inches wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep, colored as follows:

2. Blue: Water systems.
3. Green: Wastewater systems.

2.4 TRACER WIRE SYSTEM

A. Tracer Wire: #12 AWG copper clad steel with minimum 450 lb. break load, 30 mil HDPE insulation intended for direct bury. Color coat insulation per APWA standard for the specific utility being marked.

B. Connectors: Direct bury, dielectric silicon filled or split bolt, lock type wire connectors manufactured for use in underground tracer wire installation.

C. Terminations and Test Stations: Grade level, in ground, access box with lockable, cast iron or encapsulated magnet type, anti-corrosion lid. Provide light duty, adjustable type boxes for non-roadway applications and roadway boxes for boxes in roads and shoulders.

D. Ground Rod: Magnesium anode, drive-in type, 1.0 lb. minimum, rod with factory installed insulated, copper clad steel tracer wire and connector.

PART 3 - EXECUTION

3.1 ALIGNMENT AND GRADE

A. Stake out and establish grades for the location of pipelines and utility structures. Obtain NFF Representative approval before starting excavation.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 SHEETING AND SHORING

A. Provide adequate shoring and bracing as required by OSHA and other local governing regulations.

B. Support excavations and sides of trenches with adequate materials as necessary for the safety of personnel and protection of the utility before backfilling.

C. Install and remove all sheeting, shoring, piling, and bracing to maintain the required trench or excavated section, and to maintain the undisturbed state of the soils at and below the bottom of the excavation.

D. Withdraw sheet piling and timbers in trench excavations in such a manner as to prevent subsequent settlement of the pipe or additional backfill loadings which might overload the pipe.

E. Remove all sheeting and shoring when safe to do so.

3.4 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
   1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
   2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

3.5 EXPLOSIVES

A. Do not use explosives.

3.6 ASPHALT CROSSING

A. Wherever new utility trenches cross an asphalt surface, saw cut the surface prior to removal. Once the surface has been removed and the area has been excavated, place all utilities that lie directly under asphalt in schedule 80 PVC sleeves, backfill and compact and replace with new asphalt.
3.7 EXCAVATION, GENERAL

A. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

B. Remove topsoil from the area to be excavated and from the area where excavated material will be piled prior to excavation. Store topsoil as specified below.

C. Maintain the excavations to guard against and prevent injury to employees and the public. Provide adequate shoring and bracing as required by OSHA and other local governing regulations.

D. Fence excavations left open at the end of the working day to protect the public.

E. Notify the NFF Representative when excavation is completed. Do not place pipe, bedding or backfill until the excavation is approved by the NFF Representative. Do not cover pipe until placement has been approved by the NFF Representative.

3.8 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

B. Neatly saw cut pavement to the limits indicated where trenches are cut across existing pavement

C. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.

1. Clearance (General): 6 inches on each side of pipe or conduit.
2. Clearance from other utilities: 12 inches on each side of pipe or conduit.

D. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. Pipes and conduit less than 6 inches in nominal diameter: Hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. Pipes and conduit 6 inches or larger in nominal diameter: Shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped initial bedding course.
3. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for initial bedding course.
3.9 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified independent geotechnical engineering testing agency to perform field quality control testing including inspection and testing subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work complies with requirements.

B. Test compaction of soils in place according to ASTM D 2922. Perform tests at the following locations and frequencies:

1. Trench Backfill: At each compacted layer (bedding and backfill), at least one test for every 75 feet or less of trench length, but in no case fewer than two tests.

C. When testing agency reports that fills or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

D. Correct excessive settlement or other evidence of improper backfill by reopening the trench or excavation to the depth required for proper compaction. Refill, compact, and retest.

E. Pay for the correction and retesting of unacceptable work at no expense to the Government.

3.10 STORAGE OF SOIL MATERIALS

A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

B. Keep topsoil separate from trench-excavated material by stockpiling. Reuse topsoil after backfilling.

3.11 UTILITY TRENCH BACKFILL

A. Place bedding material on trench bottoms by hand and tamp to the density specified. Install bedding to the full width of the trench bottom to a minimum depth of 6 inches. Shape initial bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Carefully compact bedding under pipe haunches.

B. After individual pipe is jointed, place initial backfill material by hand along each side of the pipe to offset conditions that might tend to move the pipe off line and grade. Place backfill to prevent pipe movement under pressure tests. Tamp backfill to the density specified. Compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Keep all joints, valves, etc., uncovered for inspection purposes during testing.
C. Do not complete backfill until pressure and leakage tests have been performed and the pipeline installation is approved by the NFF Representative. Place and compact initial backfill to a height of 12 inches over the utility pipe or conduit. Place initial backfill and bedding in layers not to exceed 4 inches in loose depth.

D. Place and compact subsequent backfill to final subgrade in layers not to exceed twelve inches in loose depth. Compact each layer as specified in this section. Do not place large rock remaining in the backfill material and approved by the NFF Representative within three feet of the pipe.

E. Fill voids with backfill materials while shoring and bracing, and as sheeting is removed.

F. Install warning tape directly above utilities, between 4 and 8 inches below finished grade.

G. Place 6 inches of topsoil as final backfill in trench areas where this material had been previously stripped and stockpiled. Compact topsoil layer to remain in place but remain loose enough to allow plant growth.

3.12 TRACER WIRE INSTALLATION

A. Install tracer wire system in trenches where water lines are the only utility located in the trench.

B. Install tracer wire no further than 6 inches from the pipe and where possible directly above the pipe.

C. Install tracer wire system as a continuous wire with no looping or coiling. Use manufacturer recommended connectors where connections are required. Interconnect tracer wire at tees and crosses using 3-way or 4-way connectors. Wrap connectors and exposed wire with electrical tape.

D. Provide access boxes on service laterals and stubs and at 500 foot intervals on lines without service laterals or stubs.

1. Locate access box directly above the utility.
2. Terminate tracer wire in box and provide a minimum of 2 feet of excess wire after setting access box at final grade.

E. Grounding: Ground tracer wire at deadends, stubs, valves, or curb stops. Trim wire to appropriate length before connecting wire. Connect ground rod to the tracer wire using manufacturer recommended connectors. Where anode wire is connected to tracer wire access box, provide a minimum of 2 feet of slack after meeting final elevation.

F. Install warning tape 12-inches above the pipe.
G. Testing: Notify NFF Representative at least 48 hours before testing. Perform tests in the presence of the NFF Representative. Prepare report for each test, signed by Installer, General Contractor, and NFF Representative.

1. Perform testing upon completion of rough grading and again prior to acceptance.
2. Locate tracer wire installation using low frequency, 512 Hz, line testing equipment.

3.13 MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.14 COMPACTION OF BACKFILLS AND FILLS

A. The minimum degree of compaction required shall be a percent of the maximum laboratory density obtained by the standard proctor test AASHTO T-99 or ASTM D698. The in-place field density shall be determined by AASHTO T238 or ASTM D2922.

3.15 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Government property.

END OF SECTION 312317
SECTION 312500
TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Work Included. Furnish, install, maintain, and remove temporary erosion and sedimentation controls specified herein, or as required to complete the work.

B. Related Sections include the following:
   1. Division 31 Section “Earthwork” for soil materials, site excavating, filling and grading.

B. Permits and Fees: Obtain and pay for all permits and fees required for the work of this section, including erosion and sediment control and water quality permits required by the authority having jurisdiction and the Colorado Department of Public Health and Environment, Water Quality Control Division.

C. Erosion Control: Provide erosion control on all exposed surfaces created by construction activities.

1.2 SUBMITTALS

A. Storm Water Management Plan:
   1. The Contractor is to provide a Storm Water Management Plan (SWMP) and report addressing erosion and sediment control measures for all sites with over one acre of disturbed ground. The Engineer may assist in preparation of the General Permit application.
   2. The Contractor is responsible for obtaining all required permits including a General Permit application for Storm Water Discharges associated with construction activities at least ten (10) days prior to start of construction. Permits are to be filed with the Colorado Department of Public Health and Environment, Water Quality Control Division.
   3. Contractor shall have the Storm Water Management Plan (SWMP) and report available on-site at all times.

1.3 QUALITY ASSURANCE:

A. Regulatory Requirements: Comply with applicable local, State and Federal ordinances, rules and regulations concerning sedimentation control and storm water runoff.
B. In case of conflict between the above codes, regulations, references and standards and these specifications, the more stringent requirements shall govern.

C. Preconstruction Conference: Conduct conference at Project site as directed by NFF Representative prior to start of construction.

1.4 PROJECT/SITE CONDITIONS

A. Existing Conditions: Verify all existing conditions affecting the work of this section prior to submitting bids or proposals. Additional compensation will not be allowed for revisions or modification of work resulting from failure to verify existing conditions.

1.5 WARRANTY

A. Temporary Erosion and Sediment Control measures shall be maintained until permanent measures are in place. All damaged, disturbed or devices filled with sediment, which may occur within the specified project warranty period, shall be corrected at no cost to the Government. Any devices damaged by erosion or sediment shall be restored to their original condition by the Contractor; at no cost to the Government.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Erosion and Sedimentation Control Materials: Provide one or more of the following materials, as shown on the drawings or as applicable for site conditions:

1. Sand bags. 
2. Clean, seed-free, certified, cereal hay or grain straw bales.
4. Rock riprap.
5. Temporary seeding.
6. Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh.
7. Biodegradable twisted jute or spun-coir mesh, 0.92 lb/sy minimum, with 50 to 65 percent open area.
8. Drainage geotextile.
9. Impervious fill.
10. Other materials proposed for use on-site.

PART 3 - EXECUTION
3.1 PREPARATION

A. General:

1. Determine the existing ground elevations, drainage patterns, and changes to such patterns during excavation in order to satisfactorily plan and provide materials for adequate erosion and sediment control devices.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and rights-of-way according to requirements of authorities having jurisdiction.

B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

D. Secure grading permit from agency that has jurisdiction prior to commencing grading operations.

3.3 EXAMINATION

A. Verification of Conditions: Examine areas and conditions under which the work of this section will be performed. Do not proceed with the work until unsatisfactory conditions have been corrected. Commencement of work implies acceptance of all areas and conditions.

3.4 INSTALLATION

A. Erosion and Sedimentation Control Devices. Erosion and sedimentation control measures to be taken during construction include, but are not necessarily limited to the following:

1. Apply soil stabilization within 14 days to all disturbed areas that are to be dormant for a period longer than 30 calendar days after reaching grade. Stabilize soil with mulch anchored per criteria of authorities having jurisdiction. Temporarily revegetate areas that will remain in an interim condition for more than three months.

2. Roads and parking areas indicated to be paved may be covered with an appropriate aggregate base course in lieu of mulch. Temporary mulching or
aggregate base course is not required if final pavement construction will take place within 30 days after grading to final contours.

3. Soils that will be stockpiled for more than 30 days must be mulched and seeded within 14 days after stockpile construction.

4. Prevent sediment from leaving the project site by installing a silt fence or other BMPs as indicated on the plans. Protect existing storm inlets adjacent to the site by an approved gravel filter.

5. Haybales may be used at specific locations to provide temporary filtration of sediment from runoff.

6. Provide temporary erosion controls consisting of berms at the top of slopes and interceptor ditches at ends of berms and at those locations which will eliminate or minimize erosion during construction, along with temporary seeding, temporary diversion, chutes, and down pipes and lining of water courses.

7. Temporary sedimentation controls shall consist of silt dams, traps, silt fence, barriers, and appurtenances at the top of spoil and borrow area slopes and where runoff water exits the site.

8. Maintain the available silt holding capacity of silt dams, fence traps and barriers until no longer needed. The sediment capacity of sediment retainage areas shall be at a minimum, the capacity shown on the plans in conformance with Urban Drainage Criteria Manual, Volume 3. Prior to removal, obtain concurrence of the NFF Representative and USFS Engineer.

9. Remove accumulated sediment and debris from a BMP when the sediment level reaches one-half the height of the BMP, or at any time the sediment or debris adversely impacts the functioning of the BMP.

10. Remove hay bales which have deteriorated and filter stone or cloth which has become dislodged. Place new hay bales and new filter and fence.

11. The erosion/sediment control plan shows the minimum required for the project. If it becomes apparent that additional controls are necessary, the Contractor shall install additional controls.

B. Chemicals and Pollutants:

1. Store construction materials and chemicals that could contribute pollutants to the runoff within an enclosure, container, or dike located around the perimeter of the storage area, to prevent discharge of these materials into runoff from the construction site.

2. Locate areas used for collection and temporary storage of solid and liquid waste away from the storm drainage system. Provide covering or fencing as required to prevent windblown materials; construct perimeter dike to contain liquid runoff. These measures may not be necessary if materials are immediately placed in covered waste containers.

3. Perform equipment maintenance in designated areas using measures such as drip pans to control petroleum products spillage.

4. Immediately clean up and properly dispose of spills of construction related materials such as paints, solvents, or other chemicals.
C. Final Stabilization and Long-Term Management:

1. Final stabilization shall be achieved through permanent vegetation and landscaping after construction of all buildings and paved surfaces.
2. With approval of NFF Representative temporary erosion and sediment control measures may be removed within 30 days after final site stabilization is achieved or after temporary measures are no longer needed.

A. Inspection and Maintenance: Inspect erosion and sediment control measures weekly during construction. In addition, inspect all facilities immediately after any significant runoff or snowmelt which results in runoff. Repair or otherwise mitigate any damage to the erosion and sediment control facilities at no additional cost to the Government.

3.5 CLEANING

A. Removal of Controls: Remove controls upon completion of that portion of the work for which controls were furnished. Leave the site and work area in a clean condition.

END OF SECTION
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SECTION 312523
BARRIER BOULDERS

PART 1 – GENERAL

1.1 SUMMARY

A. This work consists of the installation of barrier boulders and includes furnishing all labor, materials, equipment, and tools, necessary for completion of this work.

1.2 RELATED SECTIONS

A. The following items of associated work are included in other sections of these specifications:
   1. Section 311000 Clearing and Grubbing
   2. Section 312250 Earthwork

PART 2 – PRODUCTS

2.1 BOULDERS

A. Barrier boulders shall be at least 30 inches long by 30 inches high by 30 inches thick.

B. Boulders meeting the minimum dimension requirements that are found on site at locations approved by the NFF Representative may be used for barrier boulders.

C. If boulders are not available onsite meeting the minimum dimension requirements, the Contractor shall furnish and install barrier boulders as shown on drawings.

D. Boulders shall be approved by NFF Representative prior to placement.

2.2 BACKFILL MATERIAL

A. Native soil from excavations shall be used as backfill material around the installed barrier boulders.

PART 3 – EXECUTION

3.1 LOCATION

A. Asphalt shall be sawcut prior to placement of boulders.

B. The Contractor shall place barrier boulders as shown on drawings and as approved by NFF Representative. Locations of all boulders shall be staked in the field and approved by NFF prior to installation.
3.2 INSTALLATION

A. The boulders shall be placed as shown on the drawings.

B. The boulder shall be placed in the excavation in a stable condition. Fractured, jagged or pointed sides of the boulder should be buried. The weathered side of the boulder should be placed upward where possible. Boulders shall be positioned so that the long axis of each is parallel with the adjacent edge of road. Backfill shall be native material moistened and compacted to the surrounding undisturbed soil density.

C. Asphalt patch shall be installed around boulders as shown on drawings. Depth of asphalt shall match depth of existing asphalt surface.

D. All damage that results to vegetation from excavating, loading, transporting, and placing barrier boulders shall be repaired and the borrow and work areas cleaned and graded by the Contractor in accordance with Section 311100 at no additional cost to the Government.

3.3 SURPLUS EXCAVATION MATERIAL

A. Surplus excavation material shall be spread on the ground adjacent to or near the boulders not to exceed two inches in depth and raked to provide a neat appearance.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. The work of this section consists of furnishing and placing aggregate, crusher fines, and filler if required, on a prepared subgrade.

1.2 SUBMITTALS

A. As specified in Division 1 Section “Submittals”.

B. Two copies of certified weight tickets for each load of aggregate and crusher fines delivered to project site.

C. If materials are obtained from a commercial source, submit certification from the supplier certifying that aggregate base course and crusher fines meet the requirements of this section.

D. Submit all Material and Compaction Test results directly to NFF Representative from testing services, with copy to Contractor.

1.3 QUALITY ASSURANCE

A. Material Test and Compaction Test to be the responsibility of the Contractor. Compaction Test, Paragraph 3.03 and Material Test, listed in 2.01 shall be performed at the rate of one test for each 1,000 tons of aggregate and crusher fines delivered or fraction thereof with a minimum of one test per day of operation.

PART 2 - PRODUCTS

2.1 AGGREGATE

A. Clean, hard, durable fragments or particles of crushed stone, crushed slag, or crushed or natural gravel. Materials that break up due to freeze-thaw or wet-dry cycling shall not be used.

B. Coarse Aggregate: AASHTO T96-77, percentage of wear of not more than 50.

C. Fraction passing No. 40 sieve shall have a liquid limit not to exceed 25 and a plasticity index of not more than three, as determined by AASHTO T89-81 and T90-81, respectively.

D. Material, inclusive of filler, shall meet the requirements shown in the table below:
E. Mineral filler or binder shall be added, to meet quality and/or gradation requirements. Mineral filler or binder shall be uniformly blended during crushing when a crusher operation is used.

2.2 CRUSHER FINES

A. Clean, hard, durable fragments or particles of crushed stone, crushed slag, or crushed or natural gravel. Materials that break up due to freeze-thaw or wet-dry cycling shall not be used.

B. Material, inclusive of filler, shall meet the requirements shown in the table below or approved equal:

<table>
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<th>SIEVE DESIGNATION</th>
<th>PERCENT PASSING</th>
</tr>
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<tr>
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<td>100</td>
</tr>
<tr>
<td>No. 8</td>
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</tr>
<tr>
<td>No. 16</td>
<td>33-53</td>
</tr>
<tr>
<td>No. 40</td>
<td>20-40</td>
</tr>
</tbody>
</table>

C. Mineral filler or binder shall be added, to meet quality and/or gradation requirements. Mineral filler or binder shall be uniformly blended during crushing when a crusher operation is used.

D. Installed crusher fines surfacing shall be ABA compliant.

PART 3 – EXECUTION

3.1 PLACING

A. If the required compacted depth of the aggregate base course or crusher fines exceeds six inches, place course in two or more layers of approximately equal thickness. The maximum compacted thickness of any one layer will not exceed six inches.

3.2 MIXING

A. Mix the aggregate or crusher fines by any one of the three following methods:
1. Stationary Plant Method: Mix aggregate base course or crusher fines and appropriate amount of water for compaction in an approved mixer. After mixing, transport aggregate to the job site while it contains the proper moisture content and place on the roadbed with an approved aggregate or crusher fines spreader. Before compaction, remove excess moisture.

2. Travel Plant Method: After the material for each layer has been placed through an aggregate or crusher fines spreader or windrow-sizing device, it shall be uniformly mixed by a traveling mixing plant.

3. Road Mix Method: After placing each layer, mix materials at optimum moisture content using motor graders or other approved equipment until the moisture is uniform throughout.

3.3 COMPACTION

A. Compact each layer to a density of not less than 95 percent of the maximum density, as determined by AASHTO T180-74, Method D. Test density in-place, in accordance with AASHTO T191-61, T205-64, or other recognized method. Density tests to be performed at the rate of one test per lift per 2,500 square feet. Testing can be conducted by contractor, if they have an employee with required certification(s) for the compaction testing method utilized.

3.4 SURFACE FINISHING

A. Use a smooth steel wheel roller for the final rolling of top surface base course or final surface. Water surface and evenly spread loose stones before final rolling. Make minimum of two complete passes over area to embed stones. Correct soft spots developed during rolling.

B. Compacted base course surface shall be smooth and free from waves and other irregularities. Unsatisfactory portions of base course shall be torn up, reworked, relaid, and rerolled, at no additional expense to Government.

3.5 MATERIAL ACCEPTANCE REQUIREMENTS

A. Acceptance will be based on periodic samples and tests taken following mixing and before laying. Acceptance will be based on compaction testing and finished surface smoothness.

3.6 TOLERANCES

A. Surface: Contractor will test finished surface of the base course with a 10-foot straightedge or other device. The variation between any two contacts with the surface shall not exceed one inch. Any areas not complying with these tolerances shall be reworked to obtain conformity.

B. Width: Plan dimension, plus or minus two inches.

C. Thickness: Plan dimension, plus or minus one inch.
3.7 MAINTENANCE

A. Maintain base course in a satisfactory condition until surfaced or until final acceptance.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY
A. This specification is intended for minor structures such as bollard and gate post foundations, and other small areas of concrete.

1.2 SUBMITTALS
A. Product Data: For each manufactured material and product indicated.
B. Design Mixes: For each concrete mix indicated.
C. Shop Drawings: Include details of steel reinforcement placement including material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports.

PART 2 – PRODUCTS

2.1 PREPACKAGED CONCRETE MIX
A. Prepackaged concrete mix shall not be used where the hardened concrete will be exposed to freeze-thaw conditions unless surface deterioration can be tolerated, as determined by the NFF Representative. It shall not be used where any single placement will be more than one cubic yard.
B. Material shall be identified as conforming to ASTM C387, Normal Strength Concrete; Normal Weight Concrete.

2.2 COMMERCIAL PLANT CONCRETE
A. 3000 psig minimum compressive strength, meeting as a minimum the requirements of JOB-BATCHED CONCRETE.

2.3 JOB-BATCHED CONCRETE
A. Aggregates shall be clean, washed materials supplied by a firm regularly engaged in the production of concrete aggregates. Separate stockpiles shall be maintained of sand passing a 3/8-inch sieve and coarse aggregate of 3/4 inch to No. 4 nominal size.
B. Cement:
   1. ASTM C150, type II or I.

C. Proportion dry ingredients by volume in the following ratio:
   1. Cement: 3 parts.
   2. Sand: 5 parts.
   3. Coarse aggregate: 7 parts.

D. Add water to obtain a slump of 3-6 inches. Based on the ratio of dry ingredients of 3-5-7, the water will be approximately two parts.

E. The relative proportions of sand and coarse aggregate may be adjusted, upon approval of the NFF Representative with USFS guidance, if necessary to obtain better workability.

2.4 FORMS

A. Steel, Wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects.

B. Coat forms with a non-staining form release agent that will not discolor or deface surface of concrete.

2.5 REINFORCING BARS

A. Deformed steel bars: ASTM A 615, Grade 40.

PART 3 – EXECUTION

3.1 SURFACE PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 FORM CONSTRUCTION

A. Set forms to require grades and lines, rigidly braced and secured.

B. Install sufficient quantity of forms to allow continuous progress of work so that forms can remain in place at least 24 hours after concrete placement.

C. Clean forms after each use, and coat with form release agent as often as required to ensure separation from concrete without damage.

3.3 PLACING REINFORCEMENT
A. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials, which reduce or destroy bond with concrete.

B. Place reinforcement to obtain at least minimum coverage’s for concrete protection.
   1. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations.
   2. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

C. Install welded wire fabric in as long lengths as practicable.
   1. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

3.4 MIXING OF JOB-BATCHED CONCRETE

A. Thoroughly mix ingredients.

B. Use mechanical mixer if total quantity to be placed is over 8 cubic feet.

3.5 CONCRETE PLACEMENT

A. Thoroughly dampen compacted subgrade before placement.

B. Forms shall be free of debris, and surfaces shall be clean, free of frost, ice, mud, and water.

C. Place in layers to avoid segregation and begin placing at corners of structure.

D. Consolidate with mechanical vibrators or hand tampers.

E. Thoroughly work the external surface to bring mortar against the forms to produce a smooth finish, substantially free of air or water pockets or honeycomb.

3.6 COLD WEATHER

A. Heat or protect concrete, if necessary, to maintain a temperature of more than 35 degrees F for at least 24 hours after placing.

3.7 CURING

A. Keep surfaces moist a minimum of 2 days. Acceptable methods include ponding, wet burlap, wet straw or hay, curing paper, plastic sheets, and membrane curing compound. The NFF Representative must approve other methods.

3.8 CONCRETE FINISHING

A. After striking-off and consolidating concrete, smooth surface with screeding and floating. Use hand methods only where mechanical floating is not possible.
B. After completion of floating and troweling when excess moisture or surface sheen has disappeared, complete surface finishing, as follows:
   1. Broom finish, by drawing a fine-hair broom across concrete surface, perpendicular to line of traffic. Repeat operation if required to provide a fine line texture acceptable to the NFF Representative.

C. Do not remove forms for 24 hours after concrete has been placed.

D. After form removal, clean ends of joints and point-up any minor honeycombed areas.

E. Remove and replace areas or sections with major defects.

3.9 REPAIRS AND PROTECTIONS

A. Repair or replace broken or defective concrete.

B. Protect concrete from damage until acceptance of work.
   1. Exclude traffic from pavement for at least 14 calendar days after placement.
   2. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
   3. Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

END OF SECTION 321313
SECTION 323000
SIGNS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This work shall consist of furnishing and installing delineators, signs, sign supports, panels, and posts or removing and disposing of existing signs, posts and hardware.

1.2 TRAFFIC CONTROL SIGN DETAILS

A. Traffic control sign details not SHOWN ON THE DRAWINGS shall meet the requirements of the MUTCD. The Contractor shall be responsible for furnishing and installing all necessary Traffic Control signs during the construction operations.

PART 2 - PRODUCTS

2.1 REQUIREMENTS

A. All concrete and reinforcing steel shall meet the requirements of Section 321313.

2.2 SIGN PANELS

A. Plywood Panels. The panels shall be exterior Type B-B, high-density overlay, 60/60 with black overlay on both sides, 3/4-inch 7 ply or 1/2-inch 5 ply thick, Douglas fir plywood or better, meeting the requirements of National Bureau of Standards PS 1, current edition or AS SHOWN ON THE DRAWINGS. Other overlay colors may be used provided the back of the panel is printed with two heavy coats of black paint.

B. Aluminum Panels. All sheets and plates shall meet the requirements of ASTM B 209, alloy 6061-T6, or 5052-H38 and shall be of the thickness shown below unless otherwise SHOWN ON THE DRAWINGS.

<table>
<thead>
<tr>
<th>Sign Width (Inches)</th>
<th>Sheet Aluminum Thickness (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 8</td>
<td>0.022</td>
</tr>
<tr>
<td>8-12</td>
<td>0.040</td>
</tr>
<tr>
<td>13-19</td>
<td>0.063</td>
</tr>
<tr>
<td>20-30</td>
<td>0.080</td>
</tr>
<tr>
<td>31-48</td>
<td>0.100</td>
</tr>
<tr>
<td>Over 48</td>
<td>0.125</td>
</tr>
</tbody>
</table>
2.3 SITE IDENTIFICATION PANELS FOR CAMPGROUND ENTRANCE SIGN

A. All signs shall be furnished and installed by the Contractor. Contractor shall be responsible for all timber material and attachment hardware. Contact: Wood Products Signs, Inc., 4890 County Road 76, Parlin, Colorado 81239. Phone: (1) 970-641-1675 or FAX: (1) 970-641-8107. Email: woodproductsigns@yahoo.com or catalog www.woodproductsigns.com Call for quote or order. Retro reflective required – routed wood not acceptable.

B. Product Data:
   1. ¾” thick routed recycled HDPE Plastic brown-yellow and cream-brown color to match U.S. Forest Service standards and guidelines. Yellow-cream color for routed letters #23695 required.
   3. Re-cycled plastic shall be Ultra-Violet radiation stabilized for durability and to inhibit color change over time. Signs shall not be painted.

2.4 POSTS

A. Posts shall be wood, aluminum, steel, or other material as specified.

B. Wood Posts. Wood posts shall meet the dimensional requirements SHOWN ON THE DRAWINGS and meet the grading, species, and treatment requirements of Section 323000 Section 2.4 and Section 2.5.

C. Steel Posts. Steel posts shall meet the requirements of ASTM A 499, galvanized in accordance with AASHTO M 111.

D. The posts shall have 7/16-inch holes drilled or punched, before galvanizing, along the centerline of the web. The punching or drilling should begin 1 inch from the top of the post, at 2-inch centers for the upper 5 feet of the post.

E. Aluminum Posts. Aluminum posts shall be standard shapes as SHOWN ON THE DRAWINGS and shall be aluminum alloy 6061-T6 or 6351-T5 meeting the requirements of ASTM B 221.

2.5 STRUCTURAL TIMBER & LUMBER

A. Treated timber shall be rough sawn Lodgepole Pine #2 Grade or Ponderosa Pine #2 Grade as graded by WWPA, SIZE AS SHOWN ON THE DRAWINGS.

2.6 PRESERVATIVE TREATMENTS

A. All timber for timber structures shall be pressure treated with CCA with a retention of 0.4 pounds per cubic foot or to refusal in accordance with AWPA C2. Lumber shall be kiln dried after treatment to moisture content of 19 percent or less. All treated
timber shall be completely and accurately fabricated before treatment. All surfaces greater than 2 inches in width shall be incised before treatment.

B. All lumber shall also be treated with 'Sunwood' as manufactured by Osmose, or approved equal. No 'green colored' treated lumber shall be used on this project.

2.7 FITTINGS

A. Lag screws, washers, clip angles, wood screws, shear plates, U-bolts, clamps, bolts, nuts, and other fasteners shall be galvanized steel, cadmium-plated steel, aluminum alloy, or as SHOWN ON THE DRAWINGS.

B. Galvanizing of steel hardware shall be in accordance with AASHTO M 232. High-strength steel bolts, nuts, and washers shall meet the requirements of ASTM A 325, except as SHOWN ON THE DRAWINGS.

PART 3 - EXECUTION

3.1 SIGN ERECTION

A. Sign supports shall be erected plumb and in accordance with the details SHOWN ON THE DRAWINGS.

B. The sign panels shall be securely fastened to the posts as SHOWN ON THE DRAWINGS.

C. To reduce specular glare, sign panel face shall be erected in accordance with MUTCD.

3.2 SIGN REMOVAL

A. Sign assemblies to be removed shall be SHOWN ON THE DRAWINGS. Where signs are to be replaced, signs shall be removed just before the installation of replacement signs. All sign material removed shall become the property of the Government. Posts shall be removed to a minimum of 3 inches below natural ground line. Postholes remaining shall be backfilled with suitable material and compacted.

END OF SECTION
SECTION 323001
CAMPGROUND SPURS

PART 1 - GENERAL

1.1 SUMMARY

A. This item shall consist of constructing campground spurs. It includes excavation, backfilling, and placement of surface material in accordance with these specifications and details shown on the drawings.

PART 2 - PRODUCTS

2.1 SURFACING

A. See Specification Section 321123.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Refer to Section 312250 Earthwork.

B. The campground spurs shall be constructed as shown on the drawings.

C. Uniformly prepare the subgrade, (taking care not to damage adjacent vegetation or trees to be saved), to a level, smooth, compacted surface, free from irregular surface changes. Adjustments shall be made in the shape of the spurs to accommodate large rocks or trees at the periphery of the spurs. Subgrade material shall be moistened or dried to a uniform moisture content suitable for compaction and compact with a minimum of two passes with a mechanical tamper or until visible deformation ceases.

D. After the subgrade is complete, place compacted surface material as shown on the drawings. Moisten or dry surface material to a uniform moisture content suitable for compaction and compact with a minimum of two passes with a mechanical tamper or until visible deformation ceases.

E. After the surface material construction is complete, the area around each campground spur shall be backfilled with subsequent backfill or borrow material and graded to blend with the surrounding topography, taking care not to damage existing vegetation.

F. Upon final grading and completion of the campground spur, the area shall be cleaned by removing and disposing of all debris and material not utilized.

END OF SECTION
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SECTION 323002
USE PADS, TENT PADS AND PATHS

PART 1 - GENERAL

1.1 SUMMARY

A. This item shall consist of constructing use pads, tent pads, and paths. It includes excavation, backfilling, and placement, treated timbers when required by site conditions as shown on the drawings, and placement of surface material in accordance with these specifications and details shown on the drawings.

PART 2 - PRODUCTS

2.1 SURFACING

A. See Section 321123.

2.2 TREATED TIMBERS:

A. Treated timbers for walls, steps, border, and edger shall be rough sawn #2 grade or better Ponderosa Pine or equal, landscape timbers shall be brown and not green in color, uniform in size, straight, and free from sweep and crook. The timbers shall be treated with ACQ (Alkaline Copper Quaternary) or CBA (Copper Boron Azol) to a net retention of 0.4 lbs. per cu. ft. or approved equal. Sizes as shown on drawings.

B. All field cuts or abrasions and holes made in fabricated timbers after treatment shall be given 3 brush coats 2% copper Napthanate.

C. Handling Precautions: Wear protection such as dust masks, goggles, and gloves when sawing treated lumber.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The use pads, tent pads, and paths shall be constructed as shown on the drawings.

B. Unless otherwise noted on the drawings, use pads shall be constructed of 4” depth crusher fines as solid solidifier over 2” compacted backfill.

C. Unless otherwise noted on the drawings, tent pads shall be constructed of 4” depth aggregate surface over weed control fabric and 2” compacted subgrade.

D. Unless otherwise noted on the drawings, paths shall be constructed of 4” depth crusher fines as solid solidifier over 2” compacted backfill.
E. Uniformly prepare the subgrades, (taking care not to damage adjacent vegetation or trees to be saved), to a level, smooth, compacted surface, free from irregular surface changes. Adjustments shall be made in the shape of the use pad, tent pad, and path to accommodate large rocks or trees at the periphery of the use pad, tent pad, and path. Subgrade material shall be moistened or dried to a uniform moisture content suitable for compaction and compact with a minimum of two passes with a mechanical tamper or until visible deformation ceases.

F. After the subgrade is complete, place surface material as shown on the drawings. Moisten or dry the surface material to a uniform moisture content suitable for compaction and compact with a minimum of two passes with a mechanical tamper or until visible deformation ceases.

G. After the surface material construction is complete, the area around each use pad, tent pad, and path shall be backfilled with subsequent backfill or borrow material and graded to blend with the surrounding topography, taking care not to damage existing vegetation.

H. Upon final grading and completion of the use pad, tent pad, and path, the area shall be cleaned by removing and disposing of all debris and material not utilized.

END OF SECTION
SECTION 323913
BOLLARDS

PART 1 - GENERAL

1.1 SUBMITTALS
A. Product Data: Provide type of bollard, component, and finish.

PART 2 - PRODUCTS

2.1 BOLLARDS
A. Provide galvanized, standard weight steel pipe as specified in ASTM A53 and as shown on Drawings. Embed or anchor posts in concrete.
B. Concrete Footings: In accordance with Section 321313.
C. Concrete footings shall be not less than 18 inches in diameter, cast not less than 48 inches deep into solid ground as shown on drawings.
D. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout.
E. Color: as shown on drawings.

PART 3 - EXECUTION

3.1 INSTALLATION
A. Install bollards in accordance with the drawings. Anchor After posts have been inserted into holes, fill annular space between post and the cavity wall with nonshrink, nonmetallic grout.

END OF SECTION 323913
SECTION 329219
SEEDING

PART 1 - GENERAL

1.1 SUMMARY

A. This work shall consist of supplying and spreading commercial topsoil or stockpiled on site topsoil, seed and mulch at all disturbed areas. The placement of the topsoil, seed and straw mulch shall be on all disturbed areas including staging sites as directed by the NFF Representative. All abandoned, scarified roads or spurs and all disturbed areas shall be seeded.

PART 2 - PRODUCTS

2.1 ON-SITE AND COMMERCIAL MATERIAL

A. Topsoil stripped from all on-site disturbed areas shall be stockpiled and replaced on areas to be restored.

B. Topsoil shall consist of loose, friable, free draining, vegetative matter free of clods, stumps, logs, brush, weeds, non-native plants or other material that would be detrimental to the development of native vegetative growth. No rocks greater than 4” shall be in the topsoil and rocks must compose less than 5% of the topsoil material.

2.2 SEED

A. The kinds of grass, legume, and cover crop seed furnished shall be those stipulated in the section 3.6. Seed shall be "certified" or "blue tag".

B. Seed shall be furnished separately or in mixture in standard containers with (1) seed name; (2) lot number; (3) net weight; (4) percentages of purity and of germination; and (5) percentage of maximum weed seed content clearly marked for each kind of seed. The contractor shall furnish the NFF Representative duplicate signed copies of a statement by the vendor, certifying that each lot of seed has been tested by a recognized laboratory for seed testing within 6 months of date of delivery. This statement shall include (1) name and address of laboratory, (2) date of test, (3) lot number for each kind of seed, and (4) results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnish, and, in case of a mixture, the proportions of each kind of seed.

C. All seed shall be certified noxious weed free and labels submitted to the NFF Representative for a record of what products were supplied and placed on the project by the contractor.

2.3 STRAW MULCH
A. Wheat or barley straw to be hand crimped in areas where seed is broadcast.
B. Free of mold or other evidence of decomposition.
C. Certified free from weed seed by Colorado Department of Agriculture.

PART 3 – EXECUTION

3.1 TOPSOIL LOCATIONS
   A. All disturbed areas shall receive topsoil and then be seeded.

3.2 STRIPPING
   A. Complete clearing and grubbing as applicable.
   B. Strip topsoil to 4-inch depth in a manner to prevent intermingling with underlying subsoil or other objectionable material.
   C. Remove large roots, stones (over 4” in diameter) and other debris.

3.3 TOPSOIL STOCKPILING
   A. The Contractor may stockpile provided the location and method of stockpiling are as shown on the drawings approved by the NFF Representative. Stockpiling shall employ such protective measures as the NFF Representative deems feasible to hold segregation, intermixing and waste to a practical minimum. Stockpiles shall be constructed to freely drain surface water. Upon completion of topsoil placement, the stockpile area shall be cleaned and restored to original condition. Excess topsoil shall be wasted upon site in locations approved by the NFF Representative.

3.4 PLACEMENT OF TOPSOIL
   A. Surfaces where topsoil is to be placed shall be at the elevation that will accommodate specified topsoil depth so that the finished surface is at the correct elevation.
   B. Disturbed surfaces to receive topsoil shall be ripped and scarified to depth of 6” to 12”. Fill surfaces shall not be compacted on the top 6”.
   C. Topsoil shall be deposited and spread to the top 6” of the existing surface and raked smooth. Topsoil depth shall be 6”.
   D. Topsoil shall not be compacted and shall be graded to blend with the adjacent ground. Rocks larger than 4” in diameter or other organic material brought to the surface shall be buried.
   E. Topsoil shall not be spread when the ground or topsoil is frozen, excessively wet or in a condition detrimental to the work.
F. The roadbed surfacing shall be kept clean during hauling operations. Topsoil or other soil deposited upon the surfacing shall be removed before it becomes compacted by traffic.

3.5 SEEDING SEASONS

A. Seeding season shall consist of all the months of the year (fall preferred) except June, July and August, whenever the ground is free of snow, not frozen or muddy as determined by the NFF Representative. Seeding materials shall not be applied if wind velocity exceeds 5 MPH or when the ground is excessively wet or frozen. Work shall be performed during each specified seeding season on all completed and previously untreated sections.

3.6 APPLICATION METHODS FOR SEED

A. Material may be placed by the following methods:

1. Drilled Method. Mechanical seed drills or other approved mechanical seeding equipment shall be used to apply the seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.

B. Seed shall be applied at the rate of 20 pounds per acre. The seed mix, per 50 pound bag, shall be applied according to the percentages as follows:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>% OF MIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Wheatgrass (<em>Pascopyrus smithii</em>)</td>
<td>10</td>
</tr>
<tr>
<td>Intermediate Wheatgrass (<em>Thinopyrum intermedium</em>)</td>
<td>20</td>
</tr>
<tr>
<td>Russian Wildrye (<em>Psathyrostachys juncea</em>)</td>
<td>20</td>
</tr>
<tr>
<td>Slender Wheatgrass (<em>Elymus trachycaulus</em>)</td>
<td>40</td>
</tr>
<tr>
<td>Green Needlegrass (<em>Nassella viridula</em>)</td>
<td>10</td>
</tr>
</tbody>
</table>

3.7 STRAW MULCH

A. Straw will be hand crimped.
   1. Rate: 2 tons per acre uniformly spread
   2. Anchor with threader (i.e., tracked vehicle).
   3. Operate crosswise to slope.
   4. Depth: 3 to 4 inches.
   5. Interval: 6 to 12 inches across slope.

3.8 CARE DURING CONSTRUCTION
A. The Contractor shall be responsible for protecting and caring for seeded areas until final acceptance of the work. The Contractor shall repair all damage to seeded areas caused by his construction operations without additional compensation.

END OF SECTION
PART 1- GENERAL

1.1 SUMMARY

A. This Section includes sanitary sewerage from host trailer pad to new holding tank.

B. The location of the holding tank system is shown on the plans, but exact locations shall be field staked by the Contractor and approved by the NFF Representative with USFS guidance prior to commencement of work.

1.2 PERFORMANCE REQUIREMENTS

A. Gravity-Flow, Nonpressure-Piping Pressure Ratings: At least equal to system test pressure.

1.3 QUALITY ASSURANCE

A. Construction of the sewage system shall comply with the applicable portions of the Uniform Plumbing Code.

B. All parts of the sewage system shall comply with the more stringent of the following: Contract requirements as specified here, or the Colorado State Board of Health’s current edition of ‘Guidelines on Individual Sewage Disposal Systems.’

1.4 SUBMITTALS

A. Product Data: For the following:
   1. Piping and appurtenances,
   2. Cleanouts.
   3. Manhole frame and cover.
   4. Concrete manhole adapters.
   5. Holding tank.

B. Shop Drawings: Include plans, elevations, details, and attachments for the following:
   1. Clean Outs
   2. Precast Holding Tank

C. Coordination Profile Drawings: Show system piping in elevation. Draw profiles at horizontal scale of not less than 1 inch equals 50 feet (1:500) and vertical scale of not less than 1 inch equals 5 feet (1:50). Indicate underground structures and pipe. Show types, sizes, materials, and elevations of other utilities crossing system piping.

D. Field test reports: Indicate and interpret test results for compliance with performance requirements.
1.5 DELIVERY, STORAGE, AND HANDLING
   A. Do not store plastic structures, pipe, and fittings in direct sunlight.
   B. Protect pipe, pipe fittings, and seals from dirt and damage.

1.6 PROJECT CONDITIONS
   A. Site Information: Perform site survey, research public utility records, and verify existing utility locations.
   B. Location and elevation of invert of pipe inverts shall be approved by the NFF Representative prior to installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
   A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
      1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.

2.2 PIPING MATERIALS
   A. Refer to Part 3 "Piping Applications" Paragraph for applications of pipe and fitting materials.

2.3 PIPES AND FITTINGS
   A. PVC Sewer Pipe and Fittings: According to the following:
      1. 4 in. through 15 in. diameter, shall conform to the requirements of ASTM D-3034, Type PSM, SDR-35 (PS 46) minimum. PVC pipe shall be manufactured in a continuous extrusion process employing a prime grade of un-plasticized PVC plastic material that meets the requirements for this product as specified in ASTM D-1784.
         a. PVC Sewer Pipe shall have a flexible elastomeric seal (O-ring or rubber sealing elastomeric gasket joint), and conform to the latest revisions of ASTM D3212. Solvent cement joints will not be allowed for sewer pipe and fittings.
         b. Nominal laying lengths shall not be less than 12.5 feet, except shorter lengths may be used adjacent to manholes. Each length of pipe shall be marked, as a minimum, with size, SDR, "Sewer Pipe" and ASTM number.

2.4 CLEANOUTS
A. PVC Cleanouts: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.5 DETECTION MARKING TAPE

A. Refer to Section 312317.

2.6 RV HOOKUP

A. Concrete: Refer to Section 321313.

B. Mastic Joint Sealant: RAM-NEK by Henry Sealant Division of Henry Companies, Houston, TX, (800) 231-4549 or approved equal.

C. Chain: Short link end-welded utility chain, brass plated 5/64” sash chain with 0.50” link size. Part no. 8951T18 by McMaster-Carr Supply Company, Chicago, IL, (630) 833-0300 or approved equal.

D. Eye Bolt: Stainless steel eyebolt with shoulder to fit in PVC sewer plug and secure chain to concrete base. Stainless steel nuts to secure eyebolt in sewer plug. Type 304 stainless steel eyebolt by McMaster-Carr Supply Company, Chicago, IL, (630) 833-0300 or approved equal.

2.7 PRECAST CONCRETE HOLDING TANK

A. Holding tank shall be constructed to ensure water-tightness and shall meet the general requirements as shown on the drawings.

B. Monolithic tank shall meet ASTM C913.

C. Holding tank shall be 2000-gallon concrete tank as manufactured by Vaughn Construction, 12650 Tucson Street, Henderson, Colorado 80640, (303) 659-3747, or equal.

D. Pipe gaskets shall be used for all tank openings. These synthetic rubber ring gaskets are available in various sizes and shall be manufactured by Fernco, Inc., Sparks, Nevada, 1-800-232-3092, or equal.

E. Precast Grade Rings

1. Maximum height of individual rings shall be 6 inches. Diameter of rings shall accommodate opening in tank and diameter of frame and cover.

F. Manhole Frame and Cover

1. Aluminum, light duty, minimum clear opening 22”, full bearing restrained ring, gasketed and bolt down lid cast with “SEWER” and retractable lifting handle.
Handle and hardware shall be stainless steel. Model MH-150-24-AL as manufactured by Castings, Inc., Grand Junction, CO, (970) 243-2032 or approved equal.

G. Nonshrink, nonmetallic grout, Masterflow 713, by Master Builders, Cleveland, Ohio, (800) 628-9999 or equal.

2.8 AGGREGATE BASE

A. Crushed aggregate base as specified in Section 321123.

2.9 SPECIAL PIPE COUPLINGS AND FITTINGS

A. Sleeve-Type Pipe Couplings: ASTM C 1173, rubber or elastomeric sleeve and band assembly fabricated to mate with OD of pipes to be joined, for nonpressure joints.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION

A. Excavating, trenching, and backfilling are specified in Section 312317 Trenching, Bedding and Backfill for Utilities and in Section 312250 Earthwork.

B. Identification: Materials and their installation are specified in Section 312317 Trenching, Bedding and Backfill for Utilities. Arrange for installing green warning tapes directly over piping and at outside edges of underground structures.
   1. Use warning tape or detectable warning tape over ferrous piping.
   2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

C. Piping Applications: Include watertight joints.
   1. NPS 4 and NPS 6 (DN 100 and DN 150): PVC sewer pipe and fittings, gaskets, and gasketed joints.

D. Sleeve-Type Pipe Couplings: Use where required to join piping and no other appropriate method is specified. Do not use instead of specified joining methods.

E. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewerage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical.
F. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements. Maintain swab or drag in line, and pull past each joint as it is completed.

G. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

H. Install gravity-flow piping and connect to hook-ups of sizes and in locations indicated. Terminate piping as indicated.
   1. Install piping pitched down in direction of flow, at minimum slope of 2 percent, unless otherwise indicated.
   2. Install piping with 48-inch minimum cover.

I. Extend sanitary sewerage piping and connect to hook-ups of sizes and in locations indicated. Terminate piping as indicated.

J. Pipe Joint Construction and Installation: Join and install pipe and fittings according to installations indicated.
   1. PVC Sewer Pipe and Fittings: As follows:
      a. Join pipe and gasketed fittings with elastomeric gaskets according to ASTM D 2321.
      b. Install according to ASTM D 2321.
   2. Join piping made of different materials or dimensions with couplings made for this application. Use couplings that are compatible with and that fit both systems' materials and dimensions.

K. Install backwater valves in piping where indicated.

L. Make connections to existing piping and underground structures so finished Work complies as nearly as practical with requirements specified for new Work.

M. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch (150-mm) overlap, with not less than 6 inches (150 mm) of concrete with 28-day compressive strength of 3000 psi (20.7 MPa).

N. Protect existing piping and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.2 HOLDING TANK INSTALLATION
A. General: Install holding tank complete with appurtenances and accessories indicated on the drawings.

B. Set manhole frame with mastic joint sealant. Center frame over opening in grade ring. Grout frame to septic tank with non-shrink grout. Strike off grout and tool joint to smooth, dense surface.

C. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 1 inches above finished surface elsewhere, unless otherwise indicated.

D. Set grade rings using mastic joint sealant between tank and grade ring and between grade rings. Center grade rings over opening. Grade rings shall be selected so as to locate the manhole cover within 1 inch above specified elevation.

E. Connect pipe to structures with specified pipe gasket.

F. All pipes in or out of structure shall have a gasketed joint within 5 feet of septic tank or distribution box.

3.3 CONCRETE PLACEMENT

A. As specified in Section 321313.

3.4 HOST SEWER CONNECTION

A. Install cleanouts and riser extension from sewer pipe to cleanout at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

B. Set cleanout frames and covers in earth in cast-in-place concrete block, 18 by 18 by 12 inches (450 by 450 by 300 mm) deep. Set with tops 1 inch (25 mm) above surrounding grade.

3.5 FIELD QUALITY CONTROL

A. Clear interior of piping and structures of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed.

1. Place plug in end of incomplete piping at end of day and when work stops.
2. Flush piping between manholes and other structures to remove collected debris, if required by authorities having jurisdiction.

B. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches (600 mm) of backfill is in place, and again at completion of Project.
1. Defects requiring correction include the following:
   a. Alignment: Less than full diameter of inside of pipe is visible between structures.
   b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
   c. Crushed, broken, cracked, or otherwise damaged piping.
   d. Infiltration: Water leakage into piping.
   e. Exfiltration: Water leakage from or around piping.

2. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
3. Reinspect and repeat procedure until results are satisfactory.

3.6 TESTING PIPING

A. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate reports for each test.
5. If authorities having jurisdiction do not have published procedures, perform tests as follows:

      1) Allowable leakage is maximum of 4 gal. per 100 feet of pipe, during 24-hour period.
      2) Close openings in system and fill with water, fill to rim of host sewer connection.
      3) Purge air and refill with water.
      4) Disconnect water supply.
      5) All water to sit for 24 hours period.
      6) Inspect joints for leaks.
      7) After 24 hours, refill pipe to rim of host sewer connection. Measure make up water volume. Volume shall not exceed specified allowable line loss.

   b. Sanitary Sewerage: Perform air test according to Uni-Bell Specification Uni-B-6-90 or latest, Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe.

6. Leaks and loss in test pressure constitute defects that must be repaired.
7. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.
3.7 TESTING HOLDING TANK

A. After installation but before backfilling, fill tank with water to outlet invert and let stand a minimum of 12 hours to check for leakage. If leaks occur, mark the areas, drain the tank, and allow to dry thoroughly. Grind these areas down and repair with bonding agent and grout. Repeat water test. Tank shall be watertight before backfilling. If tank fails to be leak proof after second repair, replace with new tank at no additional cost to the Government.

END OF SECTION 333110
UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ROCKY MOUNTAIN REGION

MEDICINE BOW - ROUTT NATIONAL FORESTS

HAHN'S PEAK / BEARS EARS RANGER DISTRICT
ROUVT COUNTY,
COLORADO

DRY LAKE CAMPGROUND
REHABILITATION

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TRAVEL DIRECTIONS
TRAVEL NORTH ON 8TH STREET OUT OF DOWNTOWN STEAMBOAT SPRINGS. TURN LEFT ONTO NORTH PARK ROAD AND FOLLOW CONTINUED. STRAWBERRY PARK ROAD TO SRC 36 (3.4 MILES). CONTINUE NORTH ON 400S, TURN RIGHT 0.9 MILE. TURN LEFT AT TRAILHEAD PARKING (0.3 MILES).
1. Field verify existing site conditions prior to construction.
2. Coordinate with contracting officer (C.O.) for minor shifts of road and campsite spur alignments to avoid major vegetation or interference from unknown site conditions.
DEMOLITION PLAN - CAMPGROUND

DEMOLITION NOTES

1. FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
2. STAY WITHIN DEFINED LIMITS, NO CONSTRUCTION ACTIVITY TO OCCUR IN WATER INFLUENCE ZONE EXCEPT AS NOTED IN DEMOLITION NOTE 3.
3. DEMO TIMBER EDGE PATH TO CAPPED WELL LOCATION, SCARIFY AREA. PROTECT CAPPED WELL AND CONCRETE PAD DURING CONSTRUCTION.
4. SALVAGE EXISTING FIRE RINGS AND RETURN TO GOVERNMENT.
5. REMOVE ALL EXISTING WOOD BARRIER BOLLARDS.
6. REMOVE ALL EXISTING PICNIC TABLES.
7. PROTECT TREES 4" IN DIAMETER AND LARGER. CONTRACTOR MAY SHIFT ALIGNMENTS TO RESOLVE TREE DEMOLITION. CONTRACTING OFFICER TO APPROVE TREE REMOVAL DURING CONSTRUCTION.
DEMOLITION PLAN - TRAILHEAD PARKING

DEMOLITION NOTES

1. FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION TO STAY WITHIN DEFINED LIMITS, MINIMIZE CONSTRUCTION ACTIVITY IN LYNX HABITAT AREAS.
3. COORDINATE WITH CONTRACTING OFFICER ON REMOVAL OF EXISTING TRAFFIC SIGNS NO LONGER RELEVANT, OR REINSTALLING TO NEW LOCATIONS.
4. PROTECT TREES 4" IN DIAMETER AND LARGER, COORDINATE WITH CONTRACTING OFFICER PRIOR TO TREE REMOVAL DURING CONSTRUCTION.
5. EXISTING VAULT TOILET TO BE REMOVED AND RELOCATED TO NEW LOCATION AS SHOWN ON SITE PLAN, SEE SHEET C1.2. RESTORE AREA TO ORIGINAL CONDITIONS SIMILAR TO SURROUNDINGS.

EXISTING SITE CONDITIONS:

EXISTING TRAFFIC SIGNAGE, TYP.
EXISTING LOG BENCH, PROTECT DURING CONSTRUCTION
EXISTING TRAFFIC SIGNAGE, TYP
EXISTING CAMPGROUND ENTRANCE SIGN
EXISTING TRAIL
EXISTING STUCKEY BYPASS DITCH, PROTECT DURING CONSTRUCTION
EXISTING CAMPGROUND ENTRANCE ROAD, PROTECT DURING CONSTRUCTION
EXISTING LOG BENCH, PROTECT DURING CONSTRUCTION
TRAILHEAD VAULT TOILET

KEY

CONSTRUCTION BOUNDARY
LYNX HABITAT, COORDINATE WITH CONTRACTING OFFICER PRIOR TO DISTURBANCE.
EXISTING CAMPGROUND ENTRANCE ROAD, PROTECT DURING CONSTRUCTION
EXISTING ROAD DEMOLITION
APPROXIMATE CLEARING AREA FOR NEW CONSTRUCTION
EXISTING OBJECT TO BE REMOVED

EXISTING ROAD DEMOLITION
EXISTING TRAFFIC SIGNAGE, TYP
EXISTING LOG BENCH, PROTECT DURING CONSTRUCTION
EXISTING CAMPGROUND ENTRANCE SIGN
EXISTING CAMPGROUND ENTRANCE ROAD, PROTECT DURING CONSTRUCTION
TRAILHEAD VAULT TOILET
1. Field verify existing site conditions and any existing utilities prior to construction.

2. Coordinate with contracting officer (C.O.) for minor shifts to campground spur layouts.

3. All construction to stay within defined limits, no construction activity to occur in water influence zone.

4. All new campground sites and existing rehabilitated sites are to meet accessibility requirements.

5. Double vault toilets to be installed by others, contractor to prepare area for toilet installation.

6. Protect trees 4" in diameter and larger, coordinate with contracting officer prior to tree removal during construction.
GENERAL NOTES

1. FIELD VERIFY EXISTING SITE CONDITIONS AND ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. COORDINATE WITH CONTRACTING OFFICER (C.O.) FOR MINOR SHIFTS TO TRAIL HEAD LAYOUTS.
3. ALL CONSTRUCTION TO STAY WITHIN DEFINED LIMITS.
4. SEE SIGN PLAN FOR LAYOUT OF NEW TRAFFIC SIGNS IN THIS AREA, SHEET C4.2.
5. SCARIFY PARKING LOT 3:1 CUT SLOPE AND RESEED SLOPE. INSTALL EROSION BLANKET AS SHOWN ON SHEET C5.6.
6. PROTECT TREES 4" IN DIAMETER AND LARGER. COORDINATE WITH CONTRACTING OFFICER PRIOR TO TREE REMOVAL DURING CONSTRUCTION.

KEY

- CONSTRUCTION BOUNDARY
- LINEN MANUFS COORDINATE WITH CONTRACTING OFFICER PRIOR TO ANY DISTURBANCE
- 6" OF COMPACTED AGGREGATE SURFACE
- EXISTING TRAILHEAD ROAD/PARKING AREA
- EXISTING CAMPGROUND ROAD WITH 4" COMPACTED AGGREGATE OVERLAY
- 3:1 SLOPE STABILIZATION AREA

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

R2
ROCKY MOUNTAIN REGION

DRY LAKE CAMPGROUND REHABILITATION

MEDEICINE BOW - ROUTT NATIONAL FORESTS
THUNDER BASIN NATIONAL GRASSLAND
HAINS PEAK / BEARS EARS RANGER DISTRICT

OVERALL SITE DEVELOPMENT PLAN - TRAILHEAD -
1. Clearing limits shall be individually marked trees. Limbing shall be used where possible to avoid tree removal.

2. Cut slopes shall be 3:1 nominal and 2:1 maximum as staked in the field prior to construction, unless noted otherwise.

3. Fill slopes shall be 3:1 nominal and as staked in the field.

4. Excess excavation materials shall be used in spur and roadbed construction.

5. Unsuitable excavation material shall be disposed on site as directed by the C.O. The site shall be the borrow pit.

6. All thicknesses shown refer to compacted thickness.

7. All disturbed areas shall be seeded with mulch and fertilizer by machine methods per specifications.

8. All aggregate surface compaction shall be to 95 percent of AASHO T-99 density.

9. All new cut slopes shall have the catch point rounded.

10. Aggregate for roads and spurs shall be crushed material meeting Colorado Department of Transportation (CDOT) standard specifications for road and bridge construction, Class 6 - 3/4" minus.

11. Construction tolerance per specifications. Embankment placement method controlled compaction per specifications shall be used.

NOTE: Existing campground road to be bladed and resurfaced with 4" additional Class 6 minus aggregate course, unless otherwise noted.
GENERAL NOTES

1. FIELD VERIFY EXISTING SITE CONDITIONS AND ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION.

2. COORDINATE WITH CONTRACTING OFFICER (C.O.) FOR MINOR SHIFTS TO CAMPGROUND SPUR LAYOUTS.

3. NO CONSTRUCTION ACTIVITY TO OCCUR IN WATER INFLUENCE ZONE.

4. ALL NEW CAMPGROUND SITES AND EXISTING REHABILITATED SITES ARE TO MEET ACCESSIBILITY REQUIREMENTS.
**NEW UPPER TRAILHEAD PARKING ACCESS ROAD PROFILE**

- **HIGH PT STA:** 3+15.76
- **HIGH PT ELEV:** 8278.85
- **PV ELEV:** 8278.85
- **K:** 3.15
- **LVC:** 20.00
- **PVC STA:** 3+15.76
  - **EL:** 8278.85
- **PVT STA:** 0+35.00
  - **EL:** 8281.45
- **HIGH PT STA:** 0+15.00
  - **HIGH PT ELEV:** 8282.40
  - **PVI STA:** 0+25.00
  - **PVI ELEV:** 8282.20
  - **K:** 3.64
  - **LVC:** 20.00
- **PVC STA:** 0+15.00
  - **EL:** 8282.40
- **PVT STA:** 0+35.00
  - **EL:** 8281.45

**EXISTING GRADE**

- **LOW PT STA:** 0+00.00
- **LOW PT ELEV:** 8252.5
- **STA:** 0+00.00
- **ELEV:** 8252.5

**NEW CAMPGROUND ENTRANCE ROAD PROFILE**

- **HIGH PT STA:** 0+15.00
- **HIGH PT ELEV:** 8282.40
- **PV ELEV:** 8282.20
- **K:** 6.59
- **LVC:** 40.00
- **PVC STA:** 0+78.94
  - **EL:** 8278.15
- **PVC STA:** 1+18.94
  - **EL:** 8276.37
- **HIGH PT STA:** 0+15.00
  - **HIGH PT ELEV:** 8282.40
  - **PVI STA:** 0+25.00
  - **PVI ELEV:** 8282.20
  - **K:** 3.64
  - **LVC:** 20.00
- **PVC STA:** 0+15.00
  - **EL:** 8282.40
- **PVT STA:** 0+35.00
  - **EL:** 8281.45

**EXISTING GRADE**

- **LOW PT STA:** 1+40.58
- **LOW PT ELEV:** 8276.1
- **STA:** 1+40.58
- **ELEV:** 8276.1
GENERAL NOTES

1. FIELD VERIFY EXISTING SITE CONDITIONS AND ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. COORDINATE WITH CONTRACTING OFFICER (C.O.) FOR MINOR SHIFTS TO TRAIL HEAD LAYOUTS.
3. ALL CONSTRUCTION TO STAY WITHIN DEFINED LIMITS.
4. ALL NEW ROADS CONSTRUCTED WITH 6" COMPACTED 3:1" MINUS AGGREGATE SURFACE OVER COMPACTED SUBGRADE. EXISTING ROAD TO BE CONSTRUCTED WITH 4" COMPACTED 3:1" MINUS AGGREGATE OVER EXISTING SURFACE.
5. ANY EXCESS FILL CAN BE SPREAD AND GRADED IN THIS AREA AT THE DIRECTION OF THE CONTRACTING OFFICER TO ACCOMMODATE WINTER OUTFITTER USAGE.
GENERAL RV CAMPGROUND SPUR NOTES

1. CAMPGROUND SPUR SITES CAN SHIFT TO AVOID EXISTING OR UNFORESEEN SITE CONDITIONS. APPROVAL BY CONTRACTING OFFICER IS REQUIRED.

2. ALL BACK-IN SPURS, PULL-THRU SITES, AND HOST SITE TRAVEL SURFACE IS 4" THICK COMPACTED 3% MINUS AGGREGATE MATERIAL OVER COMPACTED SUBGRADE.

3. ALL SPUR SITES MUST MEET ABA / FSORG ACCESSIBILITY REQUIREMENTS.

4. ACTUAL LENGTH AND BEARING OF SPUR MAY VARY FROM WHAT IS SHOWN ON LAYOUT DRAWINGS. CONTRACTOR TO STAKE OUT CENTERLINE OF ALL SPUR ALIGNMENTS AND BE APPROVED BY CONTRACTING OFFICER.

5. ALL DISTURBED AREAS ARE TO BE SCARIFIED AND SEEDED PER SPECIFICATIONS.
DO NOT INSTALL TIMBER EDGE WHERE USE PAD IS ADJACENT TO SPUR.

BEGINNING OF SPUR ALIGNMENT

END OF SPUR

BEGINNING OF SPUR ALIGNMENT

TIẾT INTO NEW CAMPGROUND ROAD, MATCH ELEVATION OF AGGREGATE ROAD SURFACE

LEVELING PAD - VARIES

RAMP - VARIES

45'-0" MIN.

20'-0" TYP.

5'-0" TYP.

40'-0" TYP.

1% SLOPE MAX.

LEVELING PAD

COMPACTED AGGREGATE SURFACE

TIẾT INTO NEW CAMPGROUND ROAD, MATCH ELEVATION OF AGGREGATE ROAD SURFACE

LEVEL AREA, 1% SLOPE MAX. TO LOWER GRADE

BARRIER ROCKS AT BACK OF DUMPSTER SITE

EDGEOF ROAD

EDGEOF ROAD

BARRIER ROCKS AT BACK OF DUMPSTER SITE

LEVEL AREA, 1% SLOPE MAX. TO LOWER GRADE

BARRIER ROCKS AT BACK OF DUMPSTER SITE

LEVEL AREA, 1% SLOPE MAX. TO LOWER GRADE

GENERAL RV CAMPGROUND SPUR NOTES

1. CAMPGROUND SPUR SITES CAN SHIFT TO AVOID EXISTING OR UNFORESEEN SITE CONDITIONS. APPROVAL BY CONTRACTING OFFICER IS REQUIRED.

2. BACK-IN SPURS, PULLTHRU SITES, TOILET PULLOFFS, DUMPSTER SITES, AND HOST SITE TRAVEL SURFACE IS 4" THICK COMPACTED AGGREGATE MATERIAL OVER COMPACTED SUBGRADE.

3. ALL SPUR SITES MUST MEET ABA / FSORG ACCESSIBILITY REQUIREMENTS.

4. ACTUAL LENGTH AND BEARING OF SPUR MAY VARY FROM WHAT IS SHOWN ON LAYOUT DRAWINGS. CONTRACTOR TO STAKE OUT CENTERLINE OF ALL SPUR ALIGNMENTS AND BE APPROVED BY CONTRACTING OFFICER.

5. ALL DISTURBED AREAS ARE TO BE SCARIFIED AND SEEDED PER SPECIFICATIONS.

J. KEHM

K. KAUFMAN

C4.2

Buddy Site, Pull-Off, and Dumpster Site Layouts

Dry Lake Campground Rehabilitation

Medicine Bow - Routt National Forests

Thunder Basin National Grassland

Hahn's Peak / Bears Ears Ranger District

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

R2 ROCKY MOUNTAIN REGION

09/2019

DRY LAKE CAMPGROUND REHABILITATION

MEDICINE BOW - ROUTT NATIONAL FORESTS

THUNDER BASIN NATIONAL GRASSLAND

HANNS PEAK / BEARS EARS RANGER DISTRICT

Buddy Site, Pull-Off, and Dumpster Site Layouts

GENERAL RV CAMPGROUND SPUR NOTES

1. CAMPGROUND SPUR SITES CAN SHIFT TO AVOID EXISTING OR UNFORESEEN SITE CONDITIONS. APPROVAL BY CONTRACTING OFFICER IS REQUIRED.

2. BACK-IN SPURS, PULLTHRU SITES, TOILET PULLOFFS, DUMPSTER SITES, AND HOST SITE TRAVEL SURFACE IS 4" THICK COMPACTED AGGREGATE MATERIAL OVER COMPACTED SUBGRADE.

3. ALL SPUR SITES MUST MEET ABA / FSORG ACCESSIBILITY REQUIREMENTS.

4. ACTUAL LENGTH AND BEARING OF SPUR MAY VARY FROM WHAT IS SHOWN ON LAYOUT DRAWINGS. CONTRACTOR TO STAKE OUT CENTERLINE OF ALL SPUR ALIGNMENTS AND BE APPROVED BY CONTRACTING OFFICER.

5. ALL DISTURBED AREAS ARE TO BE SCARIFIED AND SEEDED PER SPECIFICATIONS.

J. KEHM

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Buddy Site, Pull-Off, and Dumpster Site Layouts

Dry Lake Campground Rehabilitation

Medicine Bow - Routt National Forests

Thunder Basin National Grassland

Hahn's Peak / Bears Ears Ranger District
GENERAL RV CAMPGROUND SPUR NOTES

1. CAMPGROUND SPUR SITES CAN SHIFT TO AVOID EXISTING OR UNFORESEEN SITE CONDITIONS. APPROVAL BY CONTRACTING OFFICER IS REQUIRED.

2. INSTALL BARRIER BOULDERS AT END OF ALL BACK-IN SPURS, DUMPSTER SITES, AND THE HOST SITE. COORDINATE WITH CONTRACTING OFFICER TO PLACEMENT PRIOR TO INSTALLATION.

3. ALL SPUR SITES MUST MEET ADA / FSORG ACCESSIBILITY REQUIREMENTS.

4. ALL DISTURBED AREAS ARE TO BE SCARIFIED AND SEEDED PER SPECIFICATIONS.
USE AND TENT PAD CONSTRUCTION NOTES

1. CONSTRUCT USE PADS AT TENT SITE LOCATIONS SHOWN ON SHEETS.

2. USE PAD LOCATIONS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR (WITH FOUR CORNER STAKES), AND APPROVED BY THE CONTRACTING OFFICER (C.O.) PRIOR TO CONSTRUCTION.

3. FIRE RING AND TABLE LOCATIONS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR FOR EACH USE PAD, AND APPROVED BY THE C.O. PRIOR TO CONSTRUCTION. STAKING REQUIRED SHALL BE AS FOLLOWS:
   - FIRE RING = 1 CENTER STAKE
   - TABLE(S) = 1 AT TIE DOWN ANCHOR LOCATION FOR SINGLE USE PAD
   - 2 AT TIE DOWN ANCHOR LOCATIONS FOR DOUBLE USE PAD

4. SOME USE PAD FURNISHINGS (BEAR BOXES) SHALL BE CONSTRUCTED AS A MIRROR IMAGE OF WHAT IS SHOWN ON THIS SHEET AS APPROVED BY THE C.O.

5. MINIMUM 4'-0" TRAVEL CLEARANCES BETWEEN FURNISHINGS TO ALLOW FOR ACCESSIBILITY.

6. FOR USE PAD FURNISHINGS, SEE SHEET 5.2 FOR TYPICAL INSTALLATION.

7. INSTALL EXTRA 6"x6" TIMBER STRIP TO ACCOMMODATE BEAR BOX INSTALLATION. SEE SHEET C5.2 FOR FURTHER CLARITY.
**Timber Pinning Install Detail**

- Use Pad Width & Length Varies. See Use Pad Details This Sheet.
- Typical Cut Slope:
  - 3'
- Distance = D
  - 2'-0" D/2
  - 2'-0" D/2
  - 2'-0" D/2
  - 2'-0" D/2
  - 6" D/2
- End Lap, TYP.
- Typical Fill Slope:
  - 3'

---

**Timber End Lap**

- Use Pad Details:
  - 6"x6" Pressure Treated Timber Border
  - Fasten Corners with 3 (QTY.) Galvanized 6" Helix Spiral Spikes

---

**Timber Butt Splice**

- Use Pad Details:
  - 6"x6" Pressure Treated Timber Border
  - 2"x4"x3' Timber Splice Set with Six Galvanized 6" Spikes on Inside of Use Pad

---

**Timber Notch Detail**

- Use Pad Details:
  - 6"x6" Pressure Treated Timber Border
  - Notch Timber for Access Path One Half Depth of Timber and 1' in Length.

---

**Use and Tent Pad Construction Notes**

1. Construct use pads at tent site locations shown on sheets.
2. Use Pad Locations shall be staked in the field by the contractor (with four corner stakes), and approved by the Contracting Officer (C.O.) prior to construction.
GENERAL CAMPGROUND PATH NOTES

1. CAMPGROUND PATH CAN SHIFT TO AVOID EXISTING OR UNFORESEEN SITE CONDITIONS. APPROVAL BY CONTRACTING OFFICER IS REQUIRED.

2. ENTIRE PATH SURFACE MUST MEET ABA ACCESSIBILITY REQUIREMENTS.

3. PROVIDE 2'4" KICKER LANDING FOR EVERY 50 FEET OF HORIZONTAL DISTANCE WHERE THE SLOPE OF THE PATH EXCEEDS 8%.

4. ALL TREES 6" IN DIAMETER SHALL BE CUT IF THEY ARE WITHIN 3 FEET OF PATH CENTERLINE, BOTH SIDES OF PATH TYPICAL.

5. BRUSH EXTENDING INTO CLEARING LIMITS THAT IS OVER 12" IN HEIGHT AND 3" IN DIAMETER SHALL BE CUT FLUSH WITH THE MAIN STEM AT THE BRANCH FORK OR AT GROUND LIVE IF FORKED MAIN STEM IS NON-EXISTENT.

6. CONTRACTOR TO INSTALL DRAINAGE DIP AS REQUIRED BY SITE DRAINAGE CONDITIONS OR AS DIRECTED BY CONTRACTING OFFICER.

PATH DETAILS

DRY LAKE CAMPGROUND REHABILITATION
MEDICINE BOW - ROUTT NATIONAL FORESTS
THUNDER BASIN NATIONAL GRASSLAND

R2 ROCKY MOUNTAIN REGION

J. KEHM K. KAUFMAN

PATH DRAINAGE GAP

A TYPICAL PATH SECTION

B TYPICAL PATH CLEARING LIMITS

C PATH DRAINAGE DIP DETAIL

EXISTING GROUND

5'-0"

1% SLOPE MAX.

CROSS-SLOPE TO LOWER GRADE

3:1 MAXIMUM CUT SLOPE

6x6 ROUGH SAWN TREATED TIMBER

4" THICK COMPACTED CRUSHER FINES WITH SOIL STABILIZER

COMPACTED SUBGRADE

SAW BRANCHES LEAVING 1" STUB, DO NOT CUT BRANCH FLUSH WITH TREE

10'-0" CLEARING LIMIT

UPHILL

6'-0"

6'-0"

DOWNHILL

2'-0"

2'-0"

10'-0" CLEARING LIMIT

CUT

6'X6" TREATED TIMBER EDGE, TYP.

DRAINAGE DIP AS REQUIRED OR STAKE ON GROUND

4" COMPACTED CRUSHER FINES

2'-0" GAP

2'-0" GAP

PATH DRAINAGE DIP DETAIL

NO SCALE

NO SCALE

NO SCALE
GENERAL BOULDER BARRIER NOTES

ALL BOULDERS ShOWN ON SITE PLANS ARE CONCEPTUAL IN NATURE. EXACT LOCATION TO BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER PRIOR TO PLACEMENT.

PLACE ROCKS IRREGULARLY AND NOT IN A STRAIGHT LINE

USE NATURAL CONTROLS AS MUCH AS POSSIBLE. EXISTING TREES, SHRUBS, ROCK OUTCROPPINGS, STEEP SLOPES AND CREEK CROSSINGS.

PLACE ROCKS IRREGULARLY AND NOT IN A STRAIGHT LINE

EXISTING TREES AND SHRUBS

TYPICAL ROCK GROUPING
1-3 ROCKS, WEATHERED SIDE UP

NOTE: BARRIER ROCK LOCATIONS WILL BE STAKED BY THE C.O.R. BARRIER ROCK SOURCE SHALL BE FROM RELOCATED/STOCKPILED ROCKS ON SITE.

SET ROCK BARRIER 1/3 TO 1/2 BELOW FINISHED GRADE, WEATHERED SIDE UP.

FINISHED GRADE

1'-0" (MIN.)

SECTION VIEW

BARRIER BOULDER INSTALLATION

NO SCALE

PLAN VIEW

(1) COAT OF PRIMER
(2) COATS OF HIGH VISIBILITY YELLOW ENAMEL

(2) #4 REBAR AROUND PIPE, WITH 12" OVERLAP

(2) TYPE 2 OBJECT MARKER 6"X12" YELLOW REFLECTORIZE ON EACH BOLLARD FACE OBJECT MARKERS TOWARDS VEHICLE TRAVEL

SLOPE CONCRETE TO DRAIN

6" DEPTH CLASS 6 CRUSHED AGGREGATE BASE

6" DIA, 3/4" THICK PIPE FILLED WITH CONCRETE

MOUND CONCRETE

NOTE: BARRIER ROCK LOCATIONS WILL BE STAKED BY THE C.O.R. BARRIER ROCK SOURCE SHALL BE FROM RELOCATED/STOCKPILED ROCKS ON SITE.

EXISTING TREES AND SHRUBS

PLACE ROCKS IRREGULARLY AND NOT IN A STRAIGHT LINE

FINISHED GRADE

SET ROCK BARRIER 1/3 TO 1/2 BELOW FINISHED GRADE, WEATHERED SIDE UP.
**GENERAL NOTES**

1. ACCESSIBLE FIRE RINGS (MODEL M-3217/PA/S), AVAILABLE FROM R.J. THOMAS MFG COMPANY INC., CHEROKEE, IOWA, PHONE NUMBER: 1-800-782-5002 OR AN APPROVED EQUAL.

2. INSTALL PICNIC TABLE ANCHOR IN USE PAD AT A LOCATION THAT MAINTAINS ACCESSIBILITY CLEARANCES AROUND PICNIC TABLE AS SHOWN IN DETAILS ON SHEET C4.4.

3. PROVIDE CHAIN OR STEEL CABLE, GOVERNMENT TO PROVIDE LOCKS.

4. ACCESSIBLE BEAR BOX (MODEL F24-UP, COLOR: FOREST BROWN), AVAILABLE FROM BEAR SAVER, ONTARIO, CALIFORNIA, PHONE NUMBER: 1-909-605-1697 OR EQUAL.
NOTES
1. ALL 2x4's AND 4x6's SHALL BE ROUGH SAWN PRESSURE TREATED TIMBERS.
2. ALL BOLTS, NUTS, WASHERS FOR CONNECTION OF 4x6 TIMBERS TO BE STEEL BLACK POWDER COATED. COUNTERSINK INTO TIMBERS 1" BOTH BOLT HEAD AND WASHER AND NUT END.
3. FASTEN PLYWOOD BACKING TO 2x4 FRAME USING BRASS COATED DECK SCREWS.
4. INSTALL 1x6 TONGUE AND GROOVE (T&G) WOOD PANELS VERTICALLY OVER PLYWOOD BACKING. NAIL T&G TO PLYWOOD IN TONGUE AREA OF WOOD PANEL SO NOT TO SHOW NAILS.

FOR THREE PANEL KIOSK; ADD ADDITIONAL SECTION AND NOTE DIMENSION CHANGES

1. TONGUE AND GROOVE WOOD PANELS INSTALLED VERTICALLY, ATTACH WITH NAILS TO PLYWOOD BACKING. NAIL EACH BOARD ON TONGUE AREA TO SHOW NO EXPOSED NAILS.

3" AC EXTERIOR PLYWOOD, FASTEN TO 2x4 WITH DECK SCREWS EVERY 6" O.C. COVER SCREWS WITH 1/2" TRIM

1/2" PRESSURE TREATED TRIM AROUND PERIMETER OF PLYWOOD BACKING TO COVER DECK SCREW CONNECTION OF PLYWOOD TO 2x4 FRAME

(k) 1/2 STEEL THR-U-BOLTS WITH WASHER AND NUT, COUNTERSINK BOLT HEAD AND NUT

2.0" CHAMFER ALL SIDES ON TOP OF POSTS, TYP.

40"X48" INFORMATION AREA, 1x6 TONGUE AND GROOVE WOOD PANELS TYPICAL EACH PANEL

4"X6" ROUGH SAWN PRESSURE TREATED TIMBER

3" AC EXTERIOR PLYWOOD BACKING MOUNT TO 2x4 FRAME WITH DECK SCREWS EVERY 6" O.C.

2x4" FRAME TYP.

1" CHAMFER ALL SIDES ON TOP OF POSTS, TYP.

COMPACTED SUBGRADE

2" CHAMFER ALL SIDES ON TOP OF POSTS, TYP.

2x4" FRAME TYP.

SLOPE CONCRETE AWAY FROM POST

CONCRETE FOOTER, TYP.

2x4" FRAME TYP.

1x6 TONGUE AND GROOVE WOOD PANELS INSTALLED VERTICALLY

COMPACTED SUBGRADE

DRY LAKE CAMPGROUND REHABILITATION
MEDICINE BOW - ROUTT NATIONAL FORESTS
THUNDER BASIN NATIONAL GRASSLAND
HAHN'S PEAK / BEARS EARS RANGER DISTRICT

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ROCKY MOUNTAIN REGION

C5.3
STRAW BALES PLACED PERPENDICULAR TO SLOPE GRADIENT. KEY BALES INTO GRADE PLACE SIDE BALES IN FRONT OF CENTER BALE LEAVING 1-1/2' BETWEEN FRONT BALES.

END POINTS 'A' MUST BE HIGHER THAN FLOW LINE POINT 'B'.

STAKED AND ENTRANCED STRAW BALES

STRAW BALES PLACED PERPENDICULAR TO SLOPE GRADIENT. KEY BALES INTO GRADE PLACE SIDE BALES IN FRONT OF CENTER BALE LEAVING 1-1/2' BETWEEN BALES.

NOTE: STRAW BALES PROVIDED FOR EROSION CONTROL STRUCTURES SHALL BE CERTIFIED WEED FREE.

STRAW BALES PLACED PERPENDICULAR TO SLOPE GRADIENT. KEY BALES INTO GRADE PLACE SIDE BALES IN FRONT OF CENTER BALE LEAVING 1-1/2' BETWEEN BALES.

END POINTS 'A' MUST BE HIGHER THAN FLOW LINE POINT 'B'.

(2) 2"x2" WOOD STAKE PER HAY BALE, TYP.

END OF FABRIC FENCE

BEGINNING OF FABRIC FENCE

INSTALL BRACE WIRES AS NEEDED FOR STABILITY TO SUPPORT FENCE.

STAKED AND ENTRANCED STRAW BALES

COMPACTED BACKFILL

FILTERED SEEPAGE

SEDIMENT LADEN RUNOFF

COMPACT SOIL TO PREVENT PIPING

FILTERED SEEPAGE

FLAT LAKE CAMPGROUND REHABILITATION

DRY LAKE CAMPGROUND REHABILITATION

MEDICINE BOW - ROUTT NATIONAL FORESTS

THUNDER BASIN NATIONAL GRASSLAND

HAHN'S PEAK / BEARS EARS RANGER DISTRICT

EROSION CONTROL DETAILS

E0440000000100374C5.5K.KAUFMAN020190920R2ROCKY MOUNTAIN REGION

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

PROJECT NAME

DRAWING TITLE

CHECKED

ARCHIVE NO.

SUB SHEET NO.

DATE

NO.

REVISON / ISSUE

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

CDI

K.KAUFMAN

C5.5

09/2019

DESIGNED

WHO

PLOTTER

SUB SHEET NO.

DATE

24

31

31
GENERAL NOTES

1. SCARIFY FINISH GRADE AND RESEED SLOPE BEFORE INSTALLING EROSION BLANKET.
2. INSTALL 6"-8" LONG HEAVY DUTY LANDSCAPE PINS EVERY 24" O.C. OVERLAY EROSION BLANKET AS REQUIRED BY MANUFACTURERS DIRECTIONS.
3. THOROUGHLY WATER SLOPE AFTER BLANKET IS INSTALLED.

STEP 1

SECURE BLANKET AT TOP OF SLOPE WITH LANDSCAPE PINS SPACED 12" APART.

TYPICAL CHECK SLOT AT MID POINT OF EROSION BLANKET. INSTALL LANDSCAPE PINS EVERY 4" ACROSS WIDTH OF EROSION BLANKET. INSTALL A SECOND ROW 4" APART IN A STAGGERED PATTERN.

OVERLAP EROSION BLANKETS 4" MIN. OR PER MANUFACTURERS RECOMMENDATIONS. PIN EVERY 3 FEET.

STEP 2

STAPLES TO BE PLACED 1" O.C. ENTIRE LENGTH OF TRENCH.

STAPLES TO BE PLACED 1" O.C. ENTIRE LENGTH OF TRENCH.

OVERLAP EROSION BLANKETS 4" MIN. OR PER MANUFACTURERS RECOMMENDATIONS. PIN EVERY 3 FEET.

STEP 1

TOP OF SLOPE INSTALLATION

STEP 2

BOTTOM OF SLOPE INSTALLATION

STAPLES TO BE PLACED 1" O.C. ENTIRE LENGTH OF TRENCH.

TYPICAL CHECK SLOT AT MID POINT OF EROSION BLANKET. INSTALL LANDSCAPE PINS EVERY 4" ACROSS WIDTH OF EROSION BLANKET. INSTALL A SECOND ROW 4" APART IN A STAGGERED PATTERN.

GRADED SLOPE

STAPLES TO BE PLACED 1" O.C. ENTIRE LENGTH OF TRENCH.

COMPACTED BACKFILL

EROSION CONTROL MATTING

EROSION CONTROL MATTING

EROSION CONTROL MATTING

COMPACTED BACKFILL

STAPLES TO BE PLACED 1" O.C. ENTIRE LENGTH OF TRENCH.
DIRECTIONAL SIGNS

<table>
<thead>
<tr>
<th>KEY</th>
<th>WORDING / TYPE</th>
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</thead>
<tbody>
<tr>
<td>ONE WAY</td>
<td>(FR6-1R-24) (1-REQ.)</td>
</tr>
<tr>
<td>STOP</td>
<td>(R1-1-24)</td>
</tr>
<tr>
<td>CAMPGROUND HOST</td>
<td>(FRD-2-3) (1 Req./ 2&quot; Letters)</td>
</tr>
<tr>
<td>CAMPGROUND HOST</td>
<td>(FRD-1-3) (1 Req./ 3&quot; Letters)</td>
</tr>
<tr>
<td>DO NOT ENTER</td>
<td>(RS-1)</td>
</tr>
<tr>
<td>U.S. FEE AREA</td>
<td>(SHIELD)</td>
</tr>
<tr>
<td>U.S. FEE AREA</td>
<td>(SHIELD)</td>
</tr>
<tr>
<td>SPEED LIMIT 10</td>
<td>(RS-1) 10 MPH</td>
</tr>
<tr>
<td>CAMPGROUND EXIT</td>
<td>(FRD-2-3) (1 Req./ 2&quot; Letters)</td>
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</tbody>
</table>

DIRECTIONAL SIGNS

<table>
<thead>
<tr>
<th>KEY</th>
<th>WORDING / TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE PANEL KIOSK</td>
<td>SCHEMATIC PARKING LAYOUT AND SITE AREA INFORMATION TO BE PROVIDED BY GOVERNMENT</td>
</tr>
<tr>
<td>THIS AREA</td>
<td>VEHICLE PARKING ONLY</td>
</tr>
<tr>
<td>NO TRAILERS</td>
<td>NO TRAILERS</td>
</tr>
<tr>
<td>(SIZE: 12&quot;x18&quot;)</td>
<td>(SIZE: 12&quot;x18&quot;)</td>
</tr>
<tr>
<td>FS CAMPGROUND SIGN</td>
<td>(R-1)</td>
</tr>
<tr>
<td>OPTICAL USE ONLY</td>
<td>NO THROUGH TRAFFIC</td>
</tr>
<tr>
<td>(SIZE: 12&quot;x18&quot;)</td>
<td>(SIZE: 12&quot;x18&quot;)</td>
</tr>
<tr>
<td>RESERVED FOR ADMINISTRATIVE USE</td>
<td>RESERVED FOR ADMINISTRATIVE USE</td>
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<td>(SIZE: 12&quot;x18&quot;)</td>
<td>(SIZE: 12&quot;x18&quot;)</td>
</tr>
</tbody>
</table>

GENERAL NOTES

1. CONTRACTOR TO STAKE IN FIELD ALL SIGN LOCATIONS AND BE APPROVED BY CONTRACTING OFFICER.
2. ALL SIGNS TO BE FURNISHED IN ACCORDANCE WITH STANDARDS FOR FOREST SERVICE SIGNS AND MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. SINGLE PANEL KIOSK FOR PARKING AND SITE INFORMATION. SEE SHEET C6.3 FOR KIOSK DETAILS. SEE DETAIL A ON THIS SHEET FOR EXAMPLE.
NOTES:

1. CUT POST TOPS WITH 1" CHAMFER
2. DRILL 3/8" HOLES IN POSTS.
3. BACK-TO-BACK SIGN INSTALLATION ARE PROHIBITED.
4. POSTS SHALL BE TREATED ACO (ALKALINE COPPER QUATERNARY), OR CBA (COPPER BORON AZOL) TO A OR CBA COPPER BORON AZOL) TO A NET RETENTION OF 0.40 LBS. PER CU. FT. OR EQUAL.
5. ALL FIELD CUTS OR ABRASIONS AND HOLES MADE IN FABRICATED POSTS AFTER TREATMENT SHALL BE GIVEN 3 BRUSH COATS 2% COPPER NAPHTHALENE.
6. STAIN TREATED TIMBER WITH "SUPERDECK" STAIN AS APPROVED BY THE CONTRACTING OFFICER.
7. LOCATE POSTS SO THAT UNIT NUMBERS FACE ONCOMING TRAFFIC.
NOTES

1. ALL BOLTS, NUTS, AND WASHERS SHALL BE ZINC OR CADMIUM COATED UNLESS OTHERWISE NOTED.
   COUNTER SINK ALL BOLT HEADS, NUTS AND WASHER CONNECTIONS 1" INTO TIMBER.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REQUIRED SITE EXCAVATION AND GRADING WORK THAT IS INCIDENTAL TO THIS CONSTRUCTION.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH GRADING AROUND THE STRUCTURE.

4. CONTRACTOR SUPPLIED:
   i) TWO RETRO-REFLECTORIZED RECREATION SITE SIGN, RS-1 (DRY LAKE CAMPGROUND, ROUTT NATIONAL FOREST)
   ii) TWO 10" FOREST SERVICE SHIELDS, S-10
   iii) TWO U.S.D.A. PLAQUES, P-37

5. FINAL LOCATION TO BE APPROVED ON THE GROUND BY THE CONTRACTING OFFICER.

6. CONTRACTOR TO FURNISH ALL MATERIALS AND HARDWARE TO CONSTRUCT THE SIGN AS SHOWN.

7. CONTRACTOR TO FURNISH ALL MATERIALS AND HARDWARE TO CONSTRUCT THE SIGN AS SHOWN.

8. ALL FIELD CUTS OR ABRASIONS AND HOLES MADE IN FABRICATED POSTS AFTER TREATMENT SHALL BE GIVEN 3 BRUSH COATS 2% COPPER NAPHTHATE.

9. STAIN TREAT TIMBER POSTS WITH 2 COATS OF EXTERIOR PAINT/STAIN SUPERDECK "FOREST SERVICE BROWN" OR EQUAL.

FRONT

- 6" TREATED TIMBER, NO CHAMFER
- 2"x6" TREATED TIMBER, NO CHAMFER
- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER
- 6" TREATED TIMBER, NO CHAMFER
- 2"x6" TREATED TIMBER

NOTE

BACKFILL DENSITY SHALL EXCEED THE DENSITY OF THE SURROUNDING EMBANKMENT.

SIDE

- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER
- 2"x6" TREATED TIMBER

U.S.D.A. PLAQUE DETAIL

- U.S.D.A. PLAQUE (P-37) BOTH SIDES OF SIGN (CONTRACTOR FURNISHED.)
- 3"  LETTERING
- 4" LETTERING

RECREATION SITE IDENTIFICATION SIGN (RS-1) BOTH SIDES OF SIGN (CONTRACTOR FURNISHED.)

- 48 9-1/4

- 3" CHAMFER, TYP.
- 3" CHAMFER ON TOP OF TIMBER, TYP.
- 2" CHAMFER, TYP.

LOGO - 4" LETTERING

- 4" LETTERING, TYP.
- 4" LETTERING, TYP.

[602x418]2'-6" - 6"
[603x286]2'-6"
[297x163]FRONT
[2x2]1/4" WIDE BORDER
[834x182]2'-8"
[754x134]U.S. DEPARTMENT OF AGRICULTURE
[637x184]SIDE
[2x2]70°
CONSTRUCTION SIGNAGE FOR PROJECT TRAFFIC CONTROL

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS APPLICABLE TO THE PROJECT AND THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES MILLENNIUM EDITION' PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

2. WORK ON THE PROJECT SHALL NOT BE STARTED UNTIL ALL REQUIRED SIGNS ARE IN PLACE AND APPROVED BY THE CO.

3. ALL SIGNS SHALL BE RETRO-REFLECTORIZED UNLESS OTHERWISE SPECIFIED ON THE PLANS. SIGNS SHALL HAVE A SCREEN PROCESSED BLACK LEGEND AND BORDER ON ORANGE FLEXIBLE REFLECTIVE SHEETING, NON-EXPOSED LENS BACKGROUND.

4. SIGN PANELS FURNISHED BY THE CONTRACTOR FOR USE ONLY DURING CONSTRUCTION MAY BE FABRICATED FROM PLYWOOD, ALUMINUM, STEEL OR OTHER SUITABLE MATERIAL, BUT SHALL BE STABLE AND DURABLE ENOUGH TO MEET OTHER REQUIREMENTS OF THIS STANDARD.

5. ALL MATERIAL SHALL BE SOUND AND DURABLE. BARRICADES, SIGNS, SYMBOLS AND LETTERING SHALL BE OF GOOD WORKMANSHIP. UNEVEN LETTERING WILL NOT BE ACCEPTABLE. REFLECTIVE SHEETING SHALL BE OF THE SMOOTH SURFACE TYPE.

6. ALTERNATE METHODS OF PROCESSING SIGNS OR THE SUBSTITUTION OF MATERIALS, SYMBOLS OR OTHER REFLECTING ELEMENTS FOR PAINTED SYMBOLS WILL BE PERMITTED ONLY AFTER APPROVAL OF SUCH METHODS OR MATERIALS BY THE CO IN WRITING.

7. SIGNS SHALL BE MOUNTED ON POSTS OR PORTABLE STANDS APPROVED BY THE CO.