SPECIAL CONTRACT REQUIREMENTS

The following Special Contract Requirements amend and supplement the *Standard Specifications for Construction of Roads and Bridges, on Federal Highway Projects (FP-14),* U.S. Department of Transportation, Federal Highway Administration.

Section 101. – TERMS, FORMAT, AND DEFINITIONS

101.03 Abbreviations.

(a) Acronyms. Add the following:

EEBACS — Engineer's Estimating, Bidding, Award, and Construction System
GSA – General Services Administration
NPS – National Park Service
YNP – Yosemite National Park

(b) US Customary abbreviations and symbols. Delete the text and substitute the following:

ºF	—	degrees Fahrenheit	temperature
A	—	ampere	electric current
ac.	—	acre	area
BTU	—	British Thermal Unit	energy
cu. in. or **in^3**	—	cubic inches	volume
cu. ft., **cf**, **ft^3** or **CUFT**	—	cubic feet	volume
cu. yd., **cy**, **yd^3** or **CUYD**	—	cubic yards	volume
D	—	day	time
deg. or **º**	—	degree	plane angle
Fc	—	foot-candles	luminous intensity
fl. oz.	—	fluid ounces	volume
ft. or **'**	—	foot or feet	length
gal. or **GAL**	—	gallon	volume
H	—	Henry	inductance
hr. or **HR**	—	hour	time
Hz	—	hertz (s^{-1})	frequency
in. or **"**		inch or inches	length
K	—	kelvin	temperature
lb or **LB, lbs**	—	pound, pounds	mass
Lbf	—	pound-force	force
lnft or **LNFT**		linear foot	length
mi.	—	miles	length
min. or **m**	—	minute	time
min. or **'**	—	minute	plane angle
oz.	—	ounces	mass
Psi	—	pounds/square inch	pressure
Q	—	cubic feet/second	flow rate
sec. or **s**	—	second	time

sec. or **"**	—	second	plane angle
sq. in. or **in²**	—	square inches	area
sq. ft., **sf**, **ft²** or **SQFT**	—	square feet	area
sq. yd., **sy**, **yd²** or **SQYD**	—	square yards	area
T	—	short ton (2000 lbs)	mass
V	—	volt (W/A)	electric potential
W	—	watt (J/s)	power
YD	—	yard or yards	length
Ω	—	ohm V/A	electric resistance

(c) Metric unit abbreviations and symbols. Delete the text and substitute the following:

A	—	ampere	electric current
Cd	—	candella	luminous intensity
ºC	—	degree Celsius	temperature
D	—	day	time
deg. or **º**	—	degree	plane angle
g or **gram**	—	gram	mass
H	—	Henry	inductance
Ha	—	hectare	area
hr. or **HR**	—	hour	time
Hz	—	hertz (s^{-1})	frequency
J	—	Joule (N·m)	energy
K	—	kelvin	temperature
Kg	—	kilogram	mass
L	—	liter	volume
Lx	—	lux	illuminance
M	—	meter	length
mm	—	millimeter	length
m^2	—	meter squared	area
m^3	—	cubic meter	volume
min. or **m**	—	minute	time
min. or **'**	—	minute	plane angle
N	—	Newton ($kg \cdot m/s^2$)	force
Pa	—	Pascal (N/m^2)	pressure
sec. or **s**	—	second	time
sec. or **"**	—	second	plane angle
Sta.	—	station	Length
T	—	metric ton	Mass
V	—	volt (W/A)	electric potential
W	—	watt (J/s)	Power

Ω	—	ohm V/A	electric resistance

101.04 Definitions. Amend as follows:

Add the following:

EEBACS — Engineer's Estimating, Bidding, Award, and Construction System. A web-based system used by the Government, Construction Contractors, and Subcontractors on this Government contract to prepare "*Inspector's Daily Record of Construction Operations"* (*Contractors Daily Reports)* and measurement notes (pay notes and field measurement documentation).

Park – Yosemite National Park

Roadway Prism Delete the text and substitute the following:

Roadway Prism – The volume defined by the area between the original terrain cross-section and the final design cross-section multiplied by the horizontal distance between the centroids (geometric center) of the area.

Subcontractor Delete the text and substitute the following:

Subcontractor – An individual or legal entity with which the Contractor sublets part of the work. This includes subcontractors and material suppliers at any tier.

Section 104. – CONTROL OF WORK

104.05 Load Restrictions. Add the following:

All roads into the Park have hauling restrictions.

Highway 140 (El Portal Road) has tight curves and a tunnel (in-bound) and the highway between El Portal and Mariposa is restricted to one lane and includes two 1-lane bridge crossings due to a rock slide. Highway 120 (Tioga Pass Road and Big Oak Flat Road) and Highway 41 (Wawona Road) all have tight curves, with Big Oak Flat and Wawona Roads including tunnels.

During the winter season there are numerous times when chain restrictions are in place, therefore it is a requirement that during the winter season all vehicles that enter the Park carry chains for use on their vehicle, including any and all trucks.

Restrictions include:

(a) Highway 140 (El Portal Road, Inside the Park Boundary) – Comply with all of the following size restrictions for all vehicles on Highway 140 between the Highway 120/140 intersection and the Park boundary:

Width: not to exceed 8 feet
Height: not to exceed 13 feet 4 inches
Length: Single vehicle not to exceed 45 feet
Trailer length not to exceed 35 feet (measured from the kingpin to the rearmost part of the trailer). Combination vehicles not to exceed 60 feet in length.

(b) Highway 140 (El Portal Road, Outside Park Boundary) –Highway 140 between the Park boundary and Mariposa has experienced a major hillside rockslide, resulting in a portion of Highway 140 being completely buried. Caltrans has constructed a temporary detour around the slide site, with traffic restricted to one-way travel across two temporary bridges over the Merced River. With these temporary facilities in place, vehicle lengths are limited as follows:

No vehicles, single or in combination, can exceed 45 feet in total length.

(c) Highway 120 (Big Oak Flat Road) Tunnel Clearances.

Long tunnel vertical clearance is 13 feet 8 inches at the curb, eastbound and 10 feet 3 inches at the curb westbound. Short tunnel vertical clearance is 10 feet 4 inches at the curb eastbound and 13 feet 10 inches at the curb westbound.

(d) Highway 41 (Wawona Road) Tunnel Clearance.

The vertical clearance is 10 feet 2 inches at the curb northbound.

Provide a pilot vehicle for any vehicles exceeding the above restrictions. Provide a sign on the pilot vehicle in front indicating "Oversized Load Follows". Operate both the pilot vehicle and the oversize load with headlights and emergency flashers on (in addition, a roof-mounted rotating or flashing yellow beacon is recommended, but not required). The speed limit for oversized loads is 25 miles per hour. Oversized load escorts may occur only during the following hours:

April 1 – September 30:	11:00 p.m. to 7:00 a.m. daily
October 1 to March 31:	11:00 p.m. to 7:00 a.m. on weekends and holidays; anytime on non-holidays or weekdays.

Coordinate any planned use of a pilot vehicle within Park boundaries with the CO a minimum of 7 days in advance.

Section 105. — CONTROL OF MATERIAL

105.01 Source of Supply and Quality Requirements. Add the following:

Materials containing petroleum-based solvents such as cutback asphalts and traffic paints may be restricted from use by local laws or ordinances in certain geographic areas. Upon presenting proof of such restrictions, alternate materials considered acceptable to the CO may be substituted for the materials specified in the contract.

All imported material from Contractor-located sources must be certified by Yosemite National Park to be free from noxious weeds or invasive plant materials and other deleterious material before entering the park at the start of any contract with ground disturbing activities and/or construction season. The presence of the following particularly noxious weed species are grounds for rejection of the source: spotted knapweed, yellow star-thistle, perennial pepperweed, broom species, and other species on the California State List of Noxious Weeds. The site and/or quarry must be available for review between the months of May and August, as that is the primary time when weeds are presentable and recognizable.

Before delivery of rock, sand, aggregate, gravel, soil or other natural material to the project from a material source outside the project area, either:

(a) Obtain clearance from the Park that materials are free from exotic plants: All imported material from Contractor-located sources must be certified by Yosemite National Park to be free from noxious weeds or invasive plant materials and other deleterious material before entering the park at the start of any contract with ground disturbing activities and/or construction season. The site and/or quarry must be available for review between the months of May and August, as that is the primary time when weeds are presentable and recognizable.

(b) Eradicate exotic plants by:

(1) Contractor may be required to strip the top 12 inches of source material and only import sub-surface material and/or sterilize the material, at the CO's discretion.

(2) If spraying is required, provide a licensed operator to spray according to applicable state regulations. Do not spray any herbicides until approved in writing by the CO.

(3) To sterilize the material, heat all materials to 300 degrees Fahrenheit to ensure sterilization of noxious weed seed. Do not stockpile the heated material outside of Yosemite National Park boundaries prior to delivery.

The CO, in consultation with the Park, will inspect sources of materials that pose a risk, either by their end use or storage requirements, of allowing invasive non-native plants (noxious weeds) to establish in the Park. Materials may be rejected if non-native invasive plants are present at the source and seeds could be present in the material. An inspection report will be furnished within

21-days after a Yosemite National Park inspection listing the status of the source and any mitigation measures that would need to be accomplished prior to use.

Ship import material directly from the source to Yosemite National Park without intermediary storage or staging. Cover (tarp) loaded trucks when directed by the CO for safety or environmental concerns. No direct compensation will be made to the Contractor for covering truck loads. Materials must also be transported and stored such that they will not acquire invasive non-native plant seeds from adjacent vegetation.

Store equipment and materials away from all waterways.

Do not import topsoil.

105.02 Material Sources.

(a) Government-provided sources. Add the following:

Construction water is available through the Park Service. The primary water source is a fire hydrant located in the Yosemite Valley area, adjacent to the Yosemite Lodge Hotel.

A secondary source that the contractor may use is a recently drilled well at the Bridalveil parking lot site. The well is only a steel casing/shaft with no pump or power supply, but the well has been tested and does provide water. Use would be under the discretion of the Utility Office, similar in all Park provided options.

Provide all necessary appurtenances for connecting to the Park water system as required in Subsection 107.02, including all connection fittings and Park required backflow prevention devices. Contractor is responsible for all costs for water. Contact the Park Utilities office (209) 379-1077 for rate information.

For all water sources drawn from within the Park comply with 107.10(g).

Borrow material is available for contractor use at the following Park stockpile locations:

- El Portal Sand Pit (37°40'3.42"N, 119°48'21.39"W): Approximately 1,370 cubic yards of A-1-b material
- Foresta Wood Lot on Foresta Road (37°42'13.95"N, 119°44'10.38"W): Approximately 890 cubic yards of A-1-b and A-2-4 material.
- Wawona Maintenance Yard: Up to 2,200 cubic yards of 6-inch minus rock excavation material.

(c) Contractor-located sources. Amend as follows:

Add the following to the end of the first paragraph:

For Contractor-located, non-commercial sources, secure environmental clearances according to Subsection 107.10.

Add the following:

Since stone color and texture are subjective properties, sources must be approved for physical properties, color and texture by the CO prior to delivery to the project site. For source approval, provide three granite samples from each proposed source showing the full color and texture range of the granite from the source. Samples should have at least one face with a surface area greater than one square foot, with the smallest dimension being at least 10 inches. Coordinate submittal of quarry source and representative granite samples with: FHWA Project Engineer: (720) 480-9283

Contractor is advised that there are several large boulders within the project limits that can be used for rockery and granite resources. Use nearby rock sources that appear similar to adjacent rock features in the Park for visual items. These items include, but are not limited to riprap and boulders within and adjacent to the Bridalveil parking lot and along the construction portion of the improved Bridalveil trail.

(d) National Park resources available for rent. (Added Subsection).

Approved, lockable bear proof dumpsters and food storage containers are required when working in the Park. Yosemite National Park may have dumpsters and/or containers available for rent. Coordinate rental of containers with CO if available. No direct payment will be made to the Contractor for use of required containers.

105.04 Storing and Handling Material. Amend as follows:

Add the following after the third sentence of the second paragraph:

For Contractor-located, non-commercial staging, storing, and material handling areas, secure environmental clearances according to Subsection 107.10.

Add the following:

Use all products according to the manufacturer's recommendations for handling, storage, and disposal. Follow the requirements of FAR Clause 52.236-10 Operations and Storage Areas and FAR Clause 52.236-12 Cleaning Up. Maintain the staging and storage areas in a clean, neat, and orderly condition satisfactory to the CO.

Store construction materials within the limits indicated on the contract drawings. Properly store materials according to the applicable permit and the requirements in Section 107, 157, 203, 204, 624, and 625. Check the storage areas weekly and according to the applicable permit.

Store construction, building and waste materials, and containers in designated areas indoors or protect with a suitable covering.

Submit a site map showing the material storage and stockpile locations at least 14 calendar days prior to the start of construction activities.

Keep the manufacturer's MSDS, an inventory of the material, and emergency numbers near the storage area. Take appropriate measures to ensure that incompatible chemicals are not stored next to each other.

The Contractor will have access to construction staging and material storage areas within Yosemite National Park, however it will be limited to specific existing turnouts, pullouts, and parking areas within the limits of work, unless specifically restricted for staging in the project plans. All specific staging area turnouts will be coordinated with the CO in consultation with the Yosemite National Park Project Manager. In addition, the following areas have been identified for contractor staging:

(1) Pohono Pit. The pit located north of the turnout at Station 397+50 along El Portal Road, will be available for use to store materials and as a staging area. No materials may be disposed of at this site. Upon project completion, return the site to its original condition.

(2) Bridalveil Parking Lot. The existing Bridalveil parking area will be closed during construction and can be used for staging. Protect all existing trees from damage. The limits of the staging area are defined by the existing surfacing.

The above staging areas are available for the Contractor to use for storing/stockpiling of materials for placement on the project. No mixing or processing of materials is allowed within the Park.

Secure all staging areas by enclosing each site with a 6-ft tall, lockable chain link fence including screening. The location for the fence will be evaluated and agreed upon during a joint field review between the Contractor and CO prior to fence installation. The fence will also define the limits of disturbance for each site. There is no measurement or direct payment for this effort.

Consolidate construction equipment and materials in staging areas when not in use and at the end of each work day.

Section 106. — ACCEPTANCE OF WORK

106.01 Conformity with Contract Requirements. Delete (a) and (b) and substitute the following:

(a) Disputing Government test results. If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are

taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

(1) Sampling method

(2) Number of samples

(3) Sample transport

(4) Test procedures

(5) Testing laboratories

(6) Reporting

(7) Estimated time and costs

(8) Validation process

(b) Alternatives to removing and replacing non-conforming work. As an alternative to removal and replacement, the Contractor may submit a written request to:

(1) Have the work accepted at a reduced price; or

(2) Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

Add the following after (b):

The number of significant figures used in the calculations will be according to ASTM E 29, absolute method.

Where sample/testing procedures make reference to AASHTO, ASTM, or other standards (designated as FLH T), the procedure as modified in the Materials Manual shall govern. Where the specifications make reference to AASHTO Test T11, "Procedure B - Washing Using a Wetting Agent" shall be the procedure followed.

Where the specifications make reference to AASHTO Test T310, "Direct Transmission Method of In-Place Nuclear Density and Moisture Content" shall be the procedure followed.

106.02 Visual Inspection. Delete the Subsection and substitute the following:

106.02 Visual Inspection. Acceptance is based on visual inspection of the work for compliance with the contract requirements. In the absence of specific contract requirements or tolerances, use prevailing industry standards.

106.03 Certification. Amend as follows:

Add the following after the second paragraph:

See Table 106-3 for schedule for full or partial acceptance by material certification. Submit certification and sample of material for testing as required.

Delete the third paragraph and substitute the following:

Check certifications before incorporating the material into the work to ensure that the requirements of the contract have been met. Mark the certifications with the following information:

- Project number and name;
- Pay item number and description;
- Contractor signed certification stating "to the best of our knowledge the materials certified by the attached certification represent the materials incorporated into the work of this contract"; and
- Date.

Table 106-3 Schedule for Full or Partial Acceptance by Materials Certification. Add Table 106-3 following Table 106-2.

Table 106-3
Schedule for Full or Partial Acceptance by Materials Certification

Section	Description	Material	Material Property Or Specification	Frequency	
				Certification	Sample
302	Minor Crushed Aggregate	Crushed Aggregate	Source, Quality and Gradation	1 per source	1 per source
312	Dust Palliative	Calcium Chloride Magnesium Chloride, Lignosulfonate,	As specified	1 per shipment	First shipment
403	Asphalt Concrete	Aggregate Asphalt Mix	Source quality, Gradation, Stability, and Grade	1 per mix	1 per source
634 and 635	Permanent Pavement Markings, Temporary Traffic Control	634.02 as applicable, 635 as applicable	As specified	1 per source	-----

Section	Description	Material	Material Property Or Specification	Frequency	
				Certification	Sample
701	Hydraulic Cement	Portland Cement, Blended Hydraulic Cement, Masonry and Mortar Cement	AASHTO M 85, M 240, ASTM C 91 and ASTM C1392 as applicable	1 per shipment	1 per 100 tons
702.01	Asphalt Material	Asphalt Cement	AASHTO M 226 or M 320, as applicable	1 per shipment	1 per shipment
702.02	Asphalt Material	Emulsified Asphalt	AASHTO M 140 or M 208 as applicable	1 per shipment	1 per shipment
702.03	Asphalt Material	Asphalt Materials used for Damproofing and Waterproofing Concrete and Masonry Surfaces	As specified for each type of asphalt material	1 per shipment	-----
702.05	Antistrip	As specified	As applicable	1 per shipment	-----
706	Concrete and Plastic Pipe	As specified	As applicable	1 per shipment	-----
707	Metal Pipe	As specified	As applicable	1 per shipment	-----
708	Plastic Pipe	As specified	As applicable	1 per shipment	-----
709	Reinforcing and Prestressing Steel	As specified	As applicable	1 per shipment	For 709.01 submit 3, 1-yard (1-meter) bars of each size and grade of bar furnished. 709.02 submit 1 6-foot (2-meter) length for each size furnished
710	Fence and Guardrail	As specified	As applicable	1 per shipment	-----
711	Concrete Curing Material and Admixtures	As specified	As applicable	1 per material source per material type	-----
712	Joint Material (all)	As specified	As applicable	1 per shipment	-----
713	Roadside Improvement Materials (all)	As specified	As applicable	1 per shipment	-----
714	Geosynthetic Material (all)	As specified	As applicable	1 per shipment	1 per project per type
715	Piling	As specified	As applicable	1 per shipment	-----

Section	Description	Material	Material Property Or Specification	Frequency	
				Certification	Sample
716	Material for Timber Structures	Timber and Hardware	As applicable	1 per shipment	-----
717	Structural Metal	As specified	As applicable	1 per shipment	717.01(e) minimum 6 per shipment for each size used. 717.10 1 per project
718	Traffic Signing and Marking Material (all)	As specified	As applicable	1 per shipment	-----
719	Paint	As specified	As applicable	1 per batch\lot	1 sample for quantities > 25 gallons (100L)
720	Structural Wall and Stabilized Embankment Material (all)	As specified	As applicable	1 per shipment per material type	-----
721	Electrical and Illumination Material (all)	As specified	As applicable	1 per shipment per material type	-----
722	Anchor Material	As specified	As applicable	1 per shipment per material type	-----
725	Miscellaneous materials	As specified	As applicable	1 per shipment per material type	-----

Section 107. - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01 Laws to be Observed. Add the following:

National Pollutant Discharge Elimination System (NPDES) in California

Comply with the requirements of the California Construction General Permit (CGP) Order No. 2009-0009-DWQ as amended 07/17/2012. A copy of the permit is located at:

http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml

This permit expired on 09/02/2014, but has been administratively extended until a new permit is issued. Amend the Storm Water Pollution Prevention Plan (SWPPP) and site plan when the new permit goes into effect to meet new permit conditions.

(a) General. Designate and submit qualifications of the Stormwater Team members who will be responsible for implementing the SWPPP according to qualifications requirements below and in 157.03. Team Members include:

(1) Erosion Control Supervisor that will be on-site during working hours.

(2) Qualified SWPPP Developer (QSD), certified by the State of California, to update and certify amendments and revisions to SWPPP during construction.

(3) Qualified SWPPP Practitioner (QSP), certified by the State of California, to conduct Rain Event Action Plans development and to review on-site inspections if using trained personnel that are not certified for routine inspections.

(4) Stormwater inspector if not included in personnel above.

Register at least one person on the project with the Stormwater Multiple Application and Report Tracking System (SMARTS). Provide the registered person's username information to the CO for designation as a data submitter for the project in the SMARTS system. Additional data submitters, such as laboratories, may also be provided to the CO. Submit the required Ad Hoc reports in SMARTS during construction at least once per month when there have been rain events. Enter data into the Annual Reports and submit to the CO for certification by August 15 of each year and at final acceptance of the project.

Obtain a separate NPDES permit associated with industrial activity for any mobile asphalt and concrete plants that provide material for the project. Provide a copy of the permit and acknowledgement letter to the CO for their records.

(b) Preparation of SWPPP. The Government has prepared a preliminary SWPPP for the project and determined the project is Risk Level 2. Project QSD to update the preliminary SWPPP for the project or develop a new SWPPP and provide to the CO for review. When the SWPPP is approved and signed by the CO, QSD, and Contractor, it will be the document in force on the project. Provide an electronic copy of the approved SWPPP to the CO for inclusion in permit registration documents. Implement the SWPPP as required throughout the construction period.

Retain the QSD for the duration of the project to write and approve amendments to the SWPPP. The QSD may modify the erosion and sediment control details and layout sheets included in the plans, as necessary, to address project site conditions and proposed construction operations. Submit changes to CO for approval and include the changes in the SWPPP.

(c) Permit Registration Documents. The Government will file these documents upon receipt of the approved SWPPP. Allow 14 calendar days for submittal and approval by the State Water Board. Post a copy of the NOI acknowledgement at the construction site bulletin board for the duration of the project. Do not perform any ground disturbing activities including clearing, grubbing, or earthwork until an acknowledgement letter is received from the State Water Board and the SWPPP has been approved and implemented.

(d) Inspections and Revisions to the SWPPP. Conduct inspections according to the CGP. Document the inspections on forms provided in the SWPPP. Retain inspection forms onsite in the SWPPP notebook throughout the construction period. Submit monitoring reports in the SMARTS system when required by the CGP.

Revisions to the SWPPP by a QSD may be necessary during construction to make improvements or to respond to unforeseen conditions noted during construction or site inspections. For that purpose, specify in the SWPPP the mechanism whereby revisions may be proposed by the Contractor or the CO and incorporated into the plan, including review and approval of minor changes. Jointly approve and sign each revision to the SWPPP before implementation. Begin implementation of approved modifications within 72 hours following the inspection when deficiencies or necessary corrections were first noted.

Place the SWPPP and all updates in a three-ring binder so that completed inspection forms and other records may be inserted. Maintain a current copy of the SWPPP, including a copy of the permit, NOI, Waste Discharge Identification (WDID), and all associated records and forms at the job site throughout the duration of the project. Make the SWPPP available for public inspection and for use by the CO.

At the completion of the project, provide the CO with the complete SWPPP, including inspection forms, logs, monitoring reports, and any other information added during the project.

Spill Prevention and Response Plan (SPRP) in California

Comply with the requirements of the California Regional Water Quality Control Board Cleanup and Abatement Order and Time Schedule Order issued to YNP. To comply with this order, complete and provide a copy of the Contractor's SPRP to the California Regional Water Quality Control Board a minimum of 10 days prior to removal of the existing comfort station and connections to the existing sanitary sewer system.

Provide a plan containing the following:

(a) Spill prevention measures to prevent sewage spills, respond to any sewage spills, notify the CO and YNP utility personnel in the event of a spill, clean-up of any spill, and follow-up documentation;

(b) Site specific plans for work in each area involving trenching or any work with the possibility of accessing the existing sewer system;

(c) Evaluation of the existing sewer system and proposed tie-in;

(d) Containment plan during construction work and for the bypass pumping; and

(e) Training of all employees in accordance with the SPRP.

107.02 Protection and Restoration of Property and Landscape. Amend as follows:

Add the following after the third paragraph:

Notify the CO at least two weeks prior to any excavation to allow Yosemite National Park resource staff to complete preconstruction activities such as performing Native American and cultural site clearances, as well as monitoring the site during construction. This advance notification is necessary prior to each individual excavation exercise within this area until the entire area is cleared by the Park staff.

Add the following at the end of the fourth paragraph:

Stop construction upon the discovery of any cultural or archeological resources within the construction limits and immediately inform the CO of such discovery.

Add the following at the end of this Subsection:

The locations of the utilities shown in the plans have been certified to a Quality Level C, with spot locations certified to a Quality Level C according to the CFLHD Utility Data Quality Certification requirements:

http://flh.fhwa.dot.gov/resources/row/cfl/documents/UtilityDataQualityLevelCertification.doc

Table 107-1
Status of Utilities

	Company	Utility Type	Contact Name	Phone Number/ Email Address	Status 1, 2, 3, or 4
1	AT&T	Telephone	Chris Houser	209-372-4401	4
2	Yosemite NP	Power	Josiah Brown	209-379-1236 josiah_brown@nps.gov	2
3	Yosemite NP	Water	Shawn Zumbrunnen	209-372-0560 shawn_zumbrunnen@nps.gov	2
4	Yosemite NP	Sewer	Shawn Zumbrunnen	209-372-0560 shawn_zumbrunnen@nps.gov	2

	Yosemite NP	Utility Branch Chief	Josh Keyes	209-379-1077 joshua_keyes@nps.gov	

Status 1: The utilities are in conflict with the project and REQUIRE relocation by OTHERS DURING construction.

Status 2: The utilities are in conflict with the project and REQUIRE relocation by the Contractor DURING construction.

Status 3: The utilities are in conflict with the project and REQUIRE relocation BEFORE construction.

Status 4: The utilities are located within the project rights of way but require NO relocation.

AT&T. There is an existing phone booth within the Bridalveil Parking Lot. The phone is powered by a buried communication line from the booth to Wawona Road, and then continuing west where it connects with another communication line that parallels Wawona Road to the Tunnel Overlook Area.

The buried communication line was not found during pre-design and survey efforts. It feeds the existing phone booth from the north. As this facility is not being maintained, it is suggested the line be cut to the booth, the end wrapped and protected, and the line buried left buried in place north of the parking lot improvements. Call for a locate prior to construction work and protect the existing line in-place.

Park Utilities. All other utilities are owned and maintained by the Park. The majority of the anticipated connections occur within the limits of the Northside Drive, north of the Pohono Bridge. While there are no direct conflicts with these facilities, adjustments to the manholes, valve boxes, junction boxes, and pull boxes are anticipated and are part of the work.

Coordination of these improvements will be completed in coordination with Brad Lewis, YNP, Project Manager, (209) 379-1006, and the CO.

Using visual observation, previous as-constructed plans and previous utility locate markings, the government has attempted to locate the approximate location of major utilities including: telephone lines, electrical utilities, and sewer lines. All of these utilities are not shown on the plans. The Contractor is responsible for reviewing all utility information listed herein. In addition, coordinate all location efforts with Josh Keyes at (209) 379-1077.

Comply with all applicable provisions of California State Law when planning or performing excavations at utility test hole sites. Compliance actions include, but are not limited to: notify owners or operators of underground utility facilities at least two (2) business days prior (not including the day of actual notice) to making or beginning excavations in the vicinity of such facilities; call USA Locate (One-Call Utility Locate Service) for the marking of member utilities; contact non-member utilities directly; coordinate with utility owner representatives as required for inspection or other on-site assistance.

Immediately cease excavation work and report any resultant utility line damage to the owner, should damage occur.

Coordinate with the utility company representatives. At the preconstruction conference, designate a contact that will be responsible for coordinating all utility work with the utility companies. Do not designate the Superintendent as the utility contact person. Complete and supervise all temporary and permanent utility work with experienced and qualified personnel within the field of that particular utility being worked on. Submit for review and approval documentation and certification to verify that the personnel working on the particular utility are qualified to work on that specific utility. Notify all utility companies, the CO, and YNP a minimum of ten (10) business days prior to work in the vicinity of utilities. The notification should be in a letter form and include a station to station listing of construction work. Prepare a utility service interruption contingency plan and provide to the CO and YNP at the preconstruction conference.

When locating and potholing utilities, use minimally intrusive excavation techniques that ensure the safety of the excavation, the integrity of the utility line to be measured, and that of other lines which may be encountered during excavation. Consider excavating by using air- or water-assisted vacuum excavation equipment manufactured specifically for this purpose. Complete utility potholing and other locating services as specified in Section 645.

General Requirements for Contractor's Temporary Utilities. In developing utility sources to complete the project work, comply with all requirements of the YNP Utilities Division in the installation, maintenance and removal of temporary utilities. Contact Facility Management Division, Utilities Branch (209) 379-1055 or 1077 to confirm requirements.

Temporary Electricity and Lighting. Provide source for construction power and lighting. Arrange and pay for temporary electrical service to the project site, including the cost of connection and removal. Contractor may contact Utilities Branch at (209) 379-1055 or 1077 to make arrangements for temporary electrical service. Contractor is responsible for the all temporary electrical costs including making these power arrangements. There is no electrical service available throughout most of the project site

Temporary Telephone Service. Notify the CO at the preconstruction conference if telephone land lines are required given the scope and nature of the project. Mobile telephone service is available in some areas of the project for some cellular providers. However, if land lines are determined to be necessary to support the work, pay all costs associated with the service and arrange with the service provider AT&T to install service. Contact AT&T at (800) 310-2355 for service.

Water Service. Potable water is available in limited supply, however contact the utility branch for specific locations and availability to a potential connection by calling (209) 379-1055 or 1077. The contractor shall provide all costs for water. Contact the Park Utilities office (209) 379-1077 for water rate information. All connections to potable park water supplies requires the Contractor to provide an approved AWWA back flow prevention system and meter with review

and approval by the Park's Utilities Branch representative prior to connecting any Park supply to contractor water trucks or tenders. All water trucks need to be inspected by the Park prior to use.

107.05 Responsibility for Damage Claims. Delete the first sentence of the third paragraph and substitute the following:

Before work begins, submit "*certificates of insurance*" certifying that the policies will not be changed or canceled until 30 days written notice has been given to the Government.

107.08 Sanitation, Health, and Safety. Add the following:

Separate construction waste into recyclable materials, green waste, and other debris and place in refuse containers daily and dispose of weekly. Maintain odor control and cleanliness at all times. Use recycled, toxic-free, and environmentally sensitive materials, equipment, and products whenever possible.

Keep work areas in an orderly condition, dispose of all refuse properly, and obtain permits for the construction and maintenance of all construction camps, warehouses, latrines, and other structures in accordance with applicable requirements. Store construction debris in unlidded dumpsters or construction debris truck/trailers and remove on a regular basis. Provide lids for all normally open top waste bins or dumpsters and clearly mark "No Food or Trash". Do not store any food, toiletries, scented items (i.e. bug spray), or trash in a location accessible to scavengers. Use only lockable bear proof dumpsters for food related garbage disposal. Verify lids are secure at the close of each work day. Store all food in lockable bear proof food storage containers. Designate an individual to monitor the worksite daily for proper disposal of waste, wrappers, and food packaging. Do not store food or items that may attract bears in unattended vehicles. Check all vehicles daily to ensure that no items that may attract bears remain inside an unattended vehicle. Do not leave canned food, drinks, soap, cosmetics, toiletries, domestic trash, recyclable food containers, ice chests, grocery bags, and unwashed items used for preparing or eating meals in vehicles. Clearly mark all large open top waste bins or dumpsters "No Food or Trash".

Instruct all Contractor personnel on proper food storage and disposal of food related items upon entry onto the construction site. All personnel are to read a brochure entitled "The Bears are not to Blame" provided by the YNP staff.

Call the Save-a-Bear hotline ay (209) 372-0322 to report overflowing trash containers, improperly stored food, or bear sightings.

Provide a ramp or inclined slope into all excavation pits to allow for human and wildlife escape. Each morning prior to commencing work activities, inspect construction site for trapped wildlife in excavation pits and carefully remove. If necessary, contact the CO for assistance.

Contractor is hereby advised that there are numerous steel snow poles that have been installed in the shoulders over the years to identify the edge of the roadway during the winter snow periods.

Many poles have been cut off either at or near the existing ground. During field reviews, several of these stubs were observed, either just at or below grade. Contractor should execute care when working, especially with pulverizing equipment, near the shoulders as these poles could become a hazard both to workers and those traveling by the work zone.

107.10 Environmental Protection.

(a) Federal Water Pollution Control Act (Clean Water Act) 33 USC 1251 et seq. Add the following:

(4) Do not ford running streams with construction equipment. Obtain approval from the CO to use temporary bridges or other structures whenever crossings are necessary.

(5) Immediately clear ephemeral drainages, intermittent and perennial streams, lakes and reservoirs of all work items, debris or other obstructions placed by or resulting from construction operations.

(6) Locate machinery servicing and refueling areas away from streambeds and washes to reduce the possibility and minimize the impacts of accidental spills or discharges.

(7) Separate work areas, including material sources, by the use of a dike or other suitable barrier that prevents sediment, petroleum products, chemicals, or other liquid or solid material from entering the waters of the U.S. Use care in constructing and removing the barriers to avoid any discharge of material into, or the siltation of, the water. Remove and properly dispose of the sediment or other material collected by the barrier.

(b) Oil and hazardous substances. Amend as follows:

Delete the first sentence and substitute the following:

Submit a "*Spill Prevention, Control, and Countermeasure (SPCC) Plan*" at least 2 days before beginning work.

Add the following to the end of the third paragraph:

Sand or soils are not approved absorbent materials.

Add the following to the end of the fourth paragraph:

Properly clean up, mitigate, and remedy, if necessary, all spills of petroleum products, hazardous materials, or other chemical or biological products released from construction, fleet, or other support vehicles, or stationary sources. Immediately report to the CO any spill of petroleum products or a hazardous material.

Report the spill to the appropriate federal, state, and local authorities as required by the SPCC plan or hazardous spill plan.

Add the following:

(e) Vehicles and equipment. All vehicles and equipment entering the project area must be clean of noxious weeds and free from oil leaks and are subject to inspection. Wash all construction equipment to thoroughly remove all dirt, plant, and other foreign material prior to entering the project. Particular attention must be shown to the under carriage and any surface where soil containing exotic seeds may exist. Make arrangements for the CO to inspect each piece of equipment at the El Portal Maintenance Facility before entering the project. Vehicles that are unable to drive or be transported to El Portal due to size or load restrictions will be inspected at a mutually agreed upon site by the CO. The CO will maintain records of inspections. Equipment found operating on the project that has not been inspected, or has oil leaks will be shut down and subject to citation.

Drain and flush all pumps, tanks, live wells, buckets and other containers that might carry water contaminated with exotic plants and animals, such as the zebra mussel, prior to bringing equipment into the park. Thoroughly wash all hauling tanks and equipment using a hard spray from a garden hose. If equipment was used in infested waters, use the following steps to clean the equipment:

(1) Wash with hot water (140 F or 40 C) or a high pressure washer (250 pounds per square inch);

(**2)** Remove all aquatic weeds;

(3) Disinfect nets and equipment with benzalkonium chloride at typical treatment rates (10 milligrams per liter for 24 hours, 100 milligrams per liter for 3 hours, or 250 milligrams per liter for 15 minutes). Do not use calcium hypochlorite and iodine disinfectants; and
(4) Dry pumps, nets, and other equipment in the sun for four days after cleaning.

In general, when gasoline, diesel fuel, antifreeze, hydraulic fluid or any other chemical contained within the vehicle is released to the pavement or ground, proper corrective, clean-up, and safety actions must be immediately implemented. All vehicles with load rating of 2 tons or greater should carry, at minimum, enough absorbent materials to effectively immobilize the total volume of fluids contained within the vehicle.

Repair oil leaks immediately on discovery. Do not use equipment that is leaking. Have oil pans and absorbent material in place prior to beginning repair work. Have the “on scene” capability of catching and absorbing leaks or spillages of petroleum products including antifreeze from breakdowns or repair actions with approved absorbent materials. Keep a supply of acceptable absorbent materials at the job site in the event of spills. Sand or soil are not approved absorbent materials.

Use oil pans and absorbent materials to prevent leaks, spills and draining petroleum fluids from falling onto bare ground and paved surfaces during servicing of equipment. Dig up

soils contaminated with such fluids, place in appropriate safety containers, and dispose of according to state and/or federal regulations.

Provide names and phone numbers of appropriate personnel to be contacted at any time regarding an accidental release of hazardous substances to air, soil, or water to the CO. Display the list of Contractor personnel and contact information at each work area and include the contact information of the CO and YNP personnel who are to be notified upon any accidental release of hazardous substances.

Do not leave construction vehicles or equipment running while standing by for work.

Cover and/or seal truck beds to minimize blowing dust or loss of debris.

(f) "Good Housekeeping" Practices and Requirements.

Locate machinery servicing and refueling areas away from streambeds and washes to reduce the possibility and minimize the impacts of accidental spills or discharges.

Where the Contractor's working area encroaches on a running or intermittent stream, construct and maintain adequate barriers to prevent the discharge of any contaminants into the stream.

Fording of running streams with construction equipment will not be permitted. Obtain approval from the CO to use temporary bridges or other structures whenever crossings are necessary.

Immediately clear ephemeral drainages, intermittent and perennial streams, lakes and reservoirs of all work items, debris or other obstructions resulting from construction operations.

(g) Sterilizing for invasive aquatic organisms:

Use newly purchased equipment used to extract or draft water from natural water bodies (springs, streams, lakes, wetlands, or others), or sterilized sufficiently to prevent introduction and spread of invasive aquatic organisms. If not newly purchased, apply the following sterilization and decontamination procedures (generally under supervision and approval of the CO).

Before entering Yosemite National Park, sufficiently sterilize water drafting and spraying equipment including water tanks, pumps, hoses, booms, etc. to prevent introduction, transport and spread of invasive aquatic organisms, unless the equipment has only been used in Yosemite National Park since it was last decontaminated. Comply sterilization and decontamination procedures with the following:

(1) Provide 7 days' notice so that the decontaminating process can be monitored by the CO.

(2) Clean the exterior surface of all equipment transporting or coming in contact with water by pressure washing with a minimum of 2,900 psi at 122º F.

(3) Pressure wash with hot water the interior of all tanks, hoses and equipment to eliminate dirt, debris and organic matter, as mud, slime and plant material, etc. that would reduce the effectiveness of chlorine.

(4) After pressure washing is complete, perform disinfection process with a chlorine/water solution of 200 parts per million (ppm) chlorine and allow to stand in the tank a minimum of 12 hours. Use water for the disinfection process from a potable municipal source. Notify the CO of the water source for pre-approval. Use either powder (calcium) or liquid (sodium) hypochlorite as follows:

   a. 0.51 ounces of household bleach (sodium hypochlorite) per gallon of water produces a 200 ppm solution;

      i. Example:

      For a 4,000 gallon truck, (4,000 gallons x 0.51 ounces = 2040 ounces) = approximately 16 gallons of bleach required.

         1. 0.0026 pounds of 65 percent available powder calcium hypochlorite per gallon of water also produces a 200 ppm solution. Calcium hypochlorite is commonly used as swimming pool chlorine;

      ii. Example:

      For a 4,000 gallon truck, (4,000 gallons x 0.0026 pounds = 10.75 pounds) = 10.75 pounds. of powder required.

(5) Mix additional 200 ppm solution and fill pumps, hoses, etc. and allow to stand a minimum of 12 hours. Take a sample and test it to verify the 200 ppm requirement is met.

(6) Open the distribution bar of the truck to allow chlorinated water into all parts of the system. Take a sample and test it to verify the 200 ppm requirement is met.

(7) Also take a sample after allowing the tank to stand a minimum of 12 hours to verify a minimum of 150 ppm. CO will verify test results.

(8) Do not allow chlorinated water to enter any water body. Dispose chlorinated water outside of Yosemite National Park. Chlorinated water may be disposed of at a sewage treatment plant if permission is obtained from the plant operator. Discharge chlorinated

water in a manhole far enough upstream so that the organic matter depletes the chlorine before entering the plant. Allow CO to pre-approve the disposal site and witness disposal.

107.11 Protection of Forests, Parks, and Public Lands. Add the following:

(a) Protection of Historic Structures. Record the existing condition before commencing with repair work; document with preconstruction photos, sketches and field notes. Record repair work during construction with periodic construction photos and daily inspection reporting. Photo documentation is specified in Division 01 Section "Photo Documentation For Historic Preservation Projects".

Existing stone curbs, walls, as well as stone and wooden structures, including curb, headwalls, wingwalls, comfort stations, water fountains, and retaining walls, are considered to be historic. Protect all existing structures from damage and/or displacement during and/or resulting from construction operations. This includes protecting structures from coming into contact with asphalt, concrete, oil, and any other deleterious substances, as well as protecting them from overspray of asphalts, tacks, primers, and other materials that could stain these features. Protective measures include covering the existing features with protective plastic sheeting materials or other approved methods discussed and approved by the CO. Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation.

Salvage all stone from the existing headwalls when the headwalls are to be relocated or removed. Clean and repair stone to a functional condition for reuse where feasible. Replace this stone within the new/relocated headwalls of the inlet being installed at the same location in accordance with 620.03. Use as much of the salvaged material as possible for adding new/replaced stone. Place new stone in the lower courses.

For all headwalls where the existing pipe is not being replaced or extended, protect the existing stone headwalls.

Salvage any historic materials removed and not relocated. Do not dispose of items removed without written consent of the CO. Clean items and pack or crate items and identify contents of the container. Transport items to a storage area as directed by the CO. Protect from damage during transport and storage.

Conduct exterior cleaning and repair of historic structures in accordance with the following:

(1) Proceed with the work only when forecasted weather conditions are favorable.

(2) Do not attempt repairs during rainy or foggy weather. Do not apply primer, paint, putty, or epoxy when the relative humidity is above 80 percent. Do not remove exterior elements of structures when rain is forecast or in progress.

(3) Do not perform exterior wet work when the air temperature is below 40 deg. F (5 deg. C).

(4) Do not begin cleaning, patching, or repairing when there is any likelihood of frost or freezing.

(5) Do not begin cleaning when either the air or the surface temperature is below 45 deg. F (7 deg. C) unless approved means are provided for maintaining a 45 deg. F (7 deg. C) temperature of the air and materials during, and for 48 hours subsequent to, cleaning.

Clean and safely transport and store materials that need to be removed for construction and reinstalled as directed by CO. Store materials in a weather-tight enclosure, secure from theft, and identify removed items with an inconspicuous mark so they can be reinstalled in their original location.

Any construction damage to the existing Park sites or facilities due to construction related activities during the project will be repaired by the contractor at no cost to the Government.

(b) Protection against Noxious Weeds. Power wash all vehicles and equipment coming into Yosemite National Park. Power wash hauling vehicles prior to entering the Park for the first time; subsequent entries do not require cleaning unless otherwise requested by the CO.

Do not bring any straw bales into the Park.

(c) Protection of Rare Plants and Vegetation. Notify the CO 14 days prior to any clearing and grubbing. The Park staff will determine if rare plants exist and need to be protected by a construction fence until the Park can remove the plants.

The Park will be responsible for removing and transplanting rare plants. The Park will have up to 14 days to remove the plants once identified for protection.

(d) Fire Prevention Plan. The following Fire Prevention Plan involving emergency curtailment of operations is in effect on this project. The CO will order the suspension of burning and other operations when directed to do so by the National Park Service. No adjustment in the contract completion date will be made for partial or total suspensions of burning operations.

Responsible Person: Place a capable and qualified person in charge of fire protection. The responsibilities shall include locating and maintaining fire protective equipment and establishing and maintaining safe torch cutting and welding procedures.

Hazard Control: Take all necessary precautions to prevent fire during construction. Do not store flammable or combustible liquids in any existing structure. Provide adequate ventilation

during use of volatile or noxious substances. Obtain CO approval prior to operations involving the use of open-flame or welding equipment or heat generating equipment. Comply with the following:

(1) As far as practical, use heat-generating equipment in shop areas or outside the building.

(2) Before work with heat-generating equipment commences, furnish personnel to serve as a fire watch (or watches) for location(s) where work is to be performed.

(3) Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.

(4) Remove and keep the area free of combustibles, including, rubbish, paper, waste, etc., within area of operations.

(5) If combustible material cannot be removed, provide fireproof blankets to cover such materials.

(6) Where possible, furnish and use baffles of metal or gypsum board to prevent the spraying of sparks or hot slag into surrounding combustible material.

(7) Prevent the extension of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.

(8) Inspect each location of the day's work not sooner than 30 minutes after completion of operations to detect hidden or smoldering fires and to ensure that proper housekeeping is maintained.

Spark Arresters:

(1) Written determinations of periods and areas of potential fire hazard will be issued by the CO.

(2) Equip all gasoline or diesel-powered equipment used during periods of potential fire hazards or in potential forest and grass fire locations with spark arresters approved by the Park Service.

Service and Refueling Areas: Locate areas a minimum of 50 feet from buildings. Shut down equipment before refueling.

Smoking: Smoking within buildings or temporary storage sheds is prohibited.

Welding: Perform cutting by torch or welding only when adequate fire protection is provided.

Fire Extinguishers: Provide fire extinguishers with a minimum UL rating of 2 A:10 B:C.

Protection Equipment Required:

Buildings:

(1) Furnish a minimum of one extinguisher for each 1,500 square feet of area or major fraction thereof.

(2) Do not exceed a 75-foot travel distance from any work station to the nearest extinguisher.

Vehicles and Equipment: Provide one extinguisher on each vehicle or piece of equipment.

Welding Operations: Provide one extinguisher within 10 feet of all welding operations.

(e) Work in Forest-Covered, Brush-Covered, or Grass-Covered Land. During any time of the year when burning permits are required in an area as described below, do not use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tar pots, or grinding devices from which a spark, fire or flame may originate. This applies for work on or near any forest-covered land, brush-covered land, or grass-covered land. The Park Fire Prevention authorities require that both of the following be done:

(1) First clear away all flammable material, including snags from the area around such operation for a distance of 10 feet.

(2) Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

This subsection does not apply to portable power tools and other portable tools powered by a gasoline-fueled internal combustion engine.

(f) Environmental Protection Briefing. Supervisory personnel shall attend an Environmental Protection briefing provided by the Park prior to working on the site. This briefing is designed to familiarize workers with the statutory and contractual environmental requirements and the recognition of and projection measures for archeological sites, sensitive habitats, water resources, wildlife habitats, and American Indian traditional cultural resources.

(g) Comprehensive Waste Management Measures. Comply with these comprehensive waste management measures and with all applicable Federal, State and local regulations and address all aspects related to the transportation, labeling, storage, handling and disposal of all construction-related hazardous and non-hazardous liquid and solid wastes.

(h) Natural Resource Protection. Access to work sites requiring travel through undeveloped areas outside the work limits must be approved by the CO. Except in areas

indicated on the drawings or specified to be cleared, do not remove, cut, deface, injure, or destroy resources including trees, shrubs, vines, grasses, topsoil, and landforms without approval. Do not fasten or attach ropes, cables, or guys to any trees for anchorage unless specifically authorized. Do not trench, grade, pave, or stage equipment or material within the drip line of valley oaks (*Quercus lobata)* and black oaks (*Quercus Keloggii*) unless directed by the CO.

Notify the CO 14 days prior to any clearing and grubbing to allow Park staff to salvage any plants that will be destroyed in construction activities. Park staff will have 14 days to remove plants.

Notify the CO 7 days prior to accessing culvert ends with equipment, describe path and approach for accessing the site while minimizing disturbances to existing vegetation and avoiding removal of any trees not designated on the plans for removal. No access is granted until the approach is approved by the CO.

Provide temporary barriers (e.g. orange construction fence) to protect existing trees, plants and critical root zones that are designated to remain, but are:

(1) within the construction limits;

(2) on or just outside the construction limits;

(3) within the clearing limits (i.e., the zone extending 5 feet beyond the staked construction limits); or

(**4)** on, or just outside the clearing limit line.

Mitigate damage to tree roots due to excavation when excavation must take place within the dripline of oak trees of any diameter or within the drip line of trees other than oaks, for all trees 12 inches or larger in diameter. Mitigate damage by the following:

(1) Excavate carefully where tree roots might be encountered. Where roots 2 inches and larger are encountered, hand excavate as required to prevent damage to roots. Tunnel under roots to be saved, hand excavating as necessary;

(2) Do not cut roots over 2-inch-in-diameter without approval of CO;

(3) Cleanly saw-cut roots between 1-inch and 2-inch-in-diameter where they interfere with work; do not cut roots except as necessary. Cleanly saw-cut roots between 1-inch and 2-inch-in-diameter which must be cut near the edge of trench closest to the tree to prevent roots from being dislodged from soil by equipment;

(4) Avoid soil compaction within plant root zones with heavy equipment and vehicles within the project work limits;

(5) Do not cut wheels or make sharp turns with wheeled or tracked equipment in root zones;

(6) Do not pile excavated soil against tree trunks;

(7) Do not mechanically compact soils in undeveloped areas except to meet minimum compaction requirements as approved by the CO; and

(8) Maintain original soil topography in plant root zones whenever possible.

If the Contractor destroys or injures trees and vegetation designated for protection or outside the work limits, the Contractor will be assessed damages prior to final progress payment. Replacement costs for damaged vegetation will be computed according to the method described in the International Society of Arborculture's 1992 Guide for Plant Appraisal. This method is based on the cost of the largest commonly available tree or shrub, with modifications based on species value, condition, and location. A trained arborist or professional plant appraiser from the California region will be hired by the Park to make the damage appraisal. The arborist's fees will be included in the damage assessment.

When working within a 30-foot radius of any Sequoia tree, use air knife technologies to locate roots non-destructively and protect the root from damage.

(i) Protection of Culturally Sensitive Areas. Areas that have been determined to contain, or have potential to contain, Native American traditional resources and archeological sites are delineated on the Construction Drawings with Construction Fencing. A Government-provided Archeological Monitor and Native American representative will observe ground-disturbing work in these locations, including construction of temporary facilities at all culturally sensitive areas, from a safe location mutually agreed upon by Contractor, CO, and Monitors. Provide two weeks' notice prior to working in areas delineated with Construction Fencing. Provide a daily work schedule with dates of ground-disturbing construction, locations of temporary facilities in the area, types of construction, methods and equipment planned for construction, and plan for relocating work in the event of a temporary work stoppage in the area.

Do not excavate, remove, damage, alter, or deface any archeological specimens or remains. In the event of a discovery, immediately notify the CO of such discovery. Cease all activities in the discovery area and continue in other areas. The CO will notify the Contractor when construction operations may resume at the discovery site.

In the event the discovery represents human remains or any objects subject to the Native American Graves Protection and Repatriation Act (NAGPRA), the Park will follow procedures outlined in NAGPRA regulations. This will likely require a stoppage of work in the immediate area of work for a minimum of 30 calendar days.

(j) Protection of bats and birds. Vegetation clearing is not allowed between October 15 to April 15.

When clearing occurs between April 16 to August 15), conduct biological surveys 2 weeks prior to clearing operations to ensure that active nests are avoided. Provide a qualified biologist to conduct the surveys at no additional cost to the government. Do not begin clearing operations without prior approval of the CO. If active nests are located, the CO and biologist will determine a buffer space around the nest in which clearing cannot be completed prior to August 31 or as approved by the CO.

(k) Noise limitations. Submit a work plan detailing how construction related noise will be minimized in noise sensitive areas. Comply with the following:

(1) Ensure that all construction equipment has functional exhaust muffler systems.

(2) Use hydraulically or electrically powered construction equipment, when feasible.

(3) Locate stationary noise sources as far from sensitive receptors as possible.

(4) Limit the idling of motors except as necessary (e.g., concrete mixing trucks).

(5) Develop a construction schedule that minimizes impacts to adjacent noise-sensitive activities.

(6) Do not use engine braking ("jake" brakes) in lodging, camping, or residential areas. Muffle engine brakes that are used.

(7) Continuous noise abatement is required to prevent disturbance and nuisance to Park visitors and workers and to the occupants of adjacent premises and surrounding areas.

(8) If the CO determines excessive noise is emanating from the construction site, the Contractor may be required to provide sound barriers to deflect noise transmission from visitor areas or other areas impacted by noise.

(9) Minimize construction noise through use of best available noise control techniques wherever feasible. Do not exceed 85 dB for equipment and machinery when measured at 100 linear feet distance. Use sound attenuated compressors and generators that comply with the most recent California Department of Transportation standards.

(10) Repetitive and/or intermittent, high-level noise permitted only during Daytime.

(11) Do not exceed the following dB(A) limitations at 50 feet:

Sound Level in dB(A)	Time Duration of Impact Noise
70	More than 12 minutes in any hour
80	More than 3 minutes in any hour

(12) Maximum permissible construction equipment noise levels at 50 feet:

Earthmoving	dB(A)	Materials Handling	dB(A)
Front Loaders	75	Concrete Mixers	75
Backhoes	75	Concrete Pumps	75
Dozers	75	Cranes	75
Tractors	75	Derricks Impact	75
Scrapers	80	Pile Drivers	95
Graders	75	Jack Hammers	75
Trucks	75	Rock Drills	80
Pavers, Stationary	80	Pneumatic Tools	80
Pumps	75	Saws	75
Generators	75	Vibrators 75	
Compressors	75		

(13) Ambient Noise:

Maximum noise levels (dB) for receiving noise area at property line:

- Residential receiving area; Daytime: 65 dB; Nighttime: 45 dB
- Commercial/Industrial receiving area: Daytime: 67 dB; Nighttime: 65 dB

In the event the existing local ambient noise level exceeds the maximum allowable receiving noise level (dB), adjust the receiving noise level maximum for construction operations as follows:

- Residential receiving area: Maximum 3 additional dB above the local ambient as measured at property line.
- Commercial/Industrial receiving area: Maximum 5 additional dB above the local ambient as measured at the property line.

(14) Assess potential effects of construction noise on adjacent neighbors or facility occupants in accordance with ASTM E1686 and as follows:

- Ambient noise measurement: Measure at the property line at a height of at least four (4) feet above the immediate surrounding surface. Average the ambient noise level over a period of at least 15 minutes.
- Ambient noise measurement at urban sites: Conduct during morning peak traffic hour between 7 A.M. and 9 A.M. and afternoon peak traffic hour between 4 P.M. and 6 P.M. In addition, conduct a 24-hour measurement at the proposed project site to document the noise pattern throughout the day. Adjust and weight for seasonal and climatic variations.

(15) Monitor noise produced from construction operations in accordance with ASTM E1780.

Section 108. — PROSECUTION AND PROGRESS

108.01 Commencement, Prosecution, and Completion of Work. Add the following:

Limit operations according to Subsection 107.10(e) and Section 156.

Limit operations as follows:

(a) Construction caused delays to Public Traffic according to Section 156.

(b) Ensure all contractor supervisory personnel attend an Environmental Protection briefing provided by the Park prior to working on site. Familiarize all workers with statutory and contractual environmental requirements and recognition of and protection measures for archeological sites, sensitive habitats, water resources, and wildlife habitats. Park personnel will provide orientation sessions for all workers to inform them which elements and species are to be avoided or identified to the CO and Park staff.

(c) Coordination will be required with multiple construction projects in the Park, including but not limited to:

(1) Bridalveil Trail Improvements

(2) Bridalveil Water Service / Tank Improvements

(3) On-going improvements between the Bridalveil falls and the parking lot are being performed by the Park Trails Crew. Coordination with gates, fencing, and access will be required.

(4) The work included by the Park managed crew includes installation of new trail facilities through the parking lot / visitor interface along the eastern limits of the parking lot that will require coordination and sharing of the construction site.

(d) Employee camping is not allowed within the Park.

Perform no work except to maintain traffic control devices, erosion control devices, the roadway driving surface, and to control dust during the listed Federal holidays and surrounding days as shown in Table 108-2.

Table 108-2
Federal Holidays and Surrounding Days

Federal Holiday	Time	Remarks
Memorial Day	12:00 Noon Friday to 6:00 a.m. Tuesday	-
Independence Day	12:00 Noon July 3 to 6:00 a.m. July 5	If July 4 falls on a weekend, Friday, or Monday, do not work the weekend.
Labor Day	12:00 Noon Friday to 6:00 a.m. Tuesday	-
Thanksgiving	12:00 Noon Wednesday to 6:00 a.m. Monday	-
Christmas / New Year's	12:00 Noon December 23 to 6:00 a.m. January 2	If December 23 or January 1 falls on a Monday, do not work the adjacent weekend and do not work on December 23. If January 1 falls on a Friday, do not work the weekend.

Schedule at least 2 non-work days out of every 14 calendar days. The selected non-work days do not need to be consecutive, but they must be scheduled. Provide at least 2 weeks' notice before changing the scheduled days off.

Exemptions to scheduled days off may be granted by written approval from the CO for specific project operations and/or for periods of limited duration.

Add the following:

A Notice to Proceed must be issued before commencement of any work.

The contract completion date is September 15, 2021. No additional time will be added for Option X.

Use the Government's web-based system, *Engineer's Estimating, Bidding, Award, and Construction System (EEBACS),* to prepare all "*Inspector's Daily Record of Construction Operations"* (*Contractors Daily Reports)* and measurement notes (pay notes and field measurement documentation).

Attend a training session on the use of EEBACS. The training session will require up to 4 hours. No more than 3 Contractor staff may attend the training unless approved by the CO. The Contractor shall be responsible for training additional staff.

Complete and electronically submit *"EEBACS User Account Form"* (Form EEBACS-001) for each individual requiring EEBACS access. Submit forms to the CO at the preconstruction conference or at least 10 days prior to the start of any contract work or EEBACS training. As needed, request additional system access using Form EEBACS-001 and allow 7 days for system access.

Maintain active EEBACS accounts for all contractor staff who use EEBACS and ensure that the CO is notified within 24 hours after an account holder is reassigned or no longer employed by the Contractor. Within 24 hours after an account holder is reassigned or no longer employed by the Contractor, submit an EEBACS-001 form requesting that the account be disabled.

The electronic version of EEBACS-001 is available at:

http://flh.fhwa.dot.gov/resources/pse/estimate/accounts.htm

108.02 Subcontracting. Delete the third paragraph and substitute the following:

Within 14 days of subcontract award, submit a completed SF 1413 and 1413S. Complete Part I for each Subcontractor, and include Part II when the Subcontractor performs on-site work. Complete other forms that may be required by the Government to show the work subcontracted and the total dollar amount of the subcontract. Submit the above required information for each Subcontractor at lower tiers.

Section 109. — MEASUREMENT AND PAYMENT

109.01 Measurement of Work. Add the following after the sixth paragraph:

Prepare, sign, and submit electronic measurement notes (pay notes and supporting field documentation) using EEBACS. Measurement notes will be reviewed by the CO. Unacceptable measurement notes will be electronically rejected and returned. Correct rejected measurement notes and resubmit electronically.

109.02 Measurement Terms and Definitions.

(o) Square foot and Square yard (Square meter). Add the following: Do not measure overlaps.

109.08 Progress Payments.

(a) General. Delete the last sentence and substitute the following:

The CO may withhold partial progress payment according to Subsection 109.08 (g) for failure to make satisfactory progress until a construction schedule or schedule update is approved by the CO.

(b) Closing date and invoice submittal date. Delete the text and substitute the following:

Submit invoices to the designated billing office by the 7th day after the closing date. Invoices received by the designated billing office after the 16th day following the closing date will not be accepted for payment processing that month. Include late, unprocessed invoice submittals in the following months invoice.

(d) Government's receiving report. Delete the first sentence and substitute the following:

The Government's receiving report will be developed using the measurements and quantities from Pay Notes received by the CO in EEBACS and determined acceptable.

(e) Processing progress payment requests.

(1) Proper invoices. Delete the title and text and substitute the following:

(1) Invoices received by the 7th day following the closing date.

(a) Proper invoices. If the invoice meets the requirements of Subsection 109.08(c), and the quantities and unit prices shown on the Contractor's invoice agree with the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be paid.

(b) Defective invoices. If the invoice does not meet the requirements of Subsection 109.08(c), or if any of the quantities or unit prices shown on the Contractor's invoice exceed the corresponding quantities and unit prices shown on the Government's receiving report, the invoice will be deemed defective and the Contractor so notified according to FAR Clause 52.232-27(a)(2). Defective invoices will not be corrected by the Government and will be returned to the Contractor within 7 days after the Government's designated billing office receives the invoice.

Revise and resubmit returned invoices by the 18th day following the closing date. The CO will evaluate the revised invoice. If the invoice still does not meet the requirements of Subsection 109.08(c), the Contractor will be so notified according to FAR Clause 52.232-27(a)(2), and no progress payment will be made that month. Correct the deficiencies and resubmit the invoice the following month.

If the revised invoice meets the requirements of Subsection 109.08(c), but still had quantities or unit prices exceeding the corresponding quantities and unit prices shown on the Government's receiving report, the Government's data for that item or work will be used. The Contractor's invoice, as revised by the Government's receiving report, will be forwarded for processing by the 23rd day following the closing date. The Contractor will be notified by the 23rd day following the closing date of the reasons for any changes to the invoice.

(2) Defective invoices. Delete the title and text and substitute the following:

(2) Invoices received between the 8th and 16th day following the closing date.

(a) Proper invoices. If the invoice meets the requirements of Subsection 109.08(c), and the quantities and unit prices shown on the Contractor's invoice agree with the corresponding quantities and unit prices shown on the CO's receiving report, the invoice will be deemed proper and forwarded for processing within 7 days of receipt.

(b) Defective invoices. If the invoice does not meet the requirements of Subsection 109.08(c), the invoice will be deemed defective, the Contractor so notified according to FAR Clause 52.232-27(a)(2), and no progress payment will be made that month. Correct the deficiencies and resubmit the invoice the following month.

If the invoice meets the requirements of Subsection 109.08(c), but has quantities or unit prices exceeding the corresponding quantities and unit prices shown on the Government's receiving report, the Government's data for that item of work will be used. The Contractor's invoice, as revised by the Government's receiving report, will be forwarded for processing within 7 days of the Government's receipt of the invoice. The Contractor will be notified of the reasons for any changes to the invoice.

(f) Partial payments. Delete this Subsection and substitute the following:

(f) Partial payments. Progress payments may include partial payment for material to be incorporated in the work according to FAR Clause 52.232-5(b)(2), provided the material meets the requirements of the contract and is delivered on, or in the vicinity of, the project site or stored in acceptable storage places.

Partial payments for stockpiled manufactured material (aggregates) will be based on Contractor process control test results. If test results show the material to be out-of-specification, or in “reject” where statistical evaluation procedures are used, no payment for stockpiled materials will be made.

Partial payment for material does not constitute acceptance of such material for use in completing items of work. Partial payments will not be made for living or perishable material until incorporated into the project.

Individual and cumulative partial payments for preparatory work and material will not exceed the lesser of:

(1) 80 percent of the contract bid price for the item; or

(2) 100 percent of amount supported by copies of invoices submitted.

The quantity paid will not exceed the corresponding quantity estimated in the contract. The CO may adjust partial payments as necessary to protect the Government.

Section 152. — CONSTRUCTION SURVEY AND STAKING

Description

152.01 Add the following:

Survey and control information are included on the Survey Control Sheet in the Plans.

Pedestrian paths, sidewalks and trails, and parking areas are described in the Plans. Stake these facilities in the field for review by the CO prior to any ground disturbing activities to ensure they best align with the topography, drainage, and the desires of the Park.

Construction Requirements

152.04 General. Add the following to the second paragraph:

The Government established basic survey control points for vertical and horizontal control of the 4R portions of the project.

For improvements on Wawona Road and Southside Drive, where the improvements are governed by roadway centerlines, profiles, and superelevation diagrams, the Government will furnish the following:

(1) 3D coordinates and offset distance from centerline for subgrade and surface course finishing stakes at 50-foot (20-meter) intervals and miscellaneous intermediate stations.

(2) Slope stake data containing centerline grade and slope staking information at 50-foot (20-meter) station intervals and miscellaneous intermediate stations.

(3) Computer listings containing: horizontal alignment, vertical alignment, earthwork quantities, and staking details showing superelevation template data and slope information.

For improvements detailed within the plans on the D-series sheets, such as parking lots, trails, pedestrian plazas, 3D coordinates for the finished grade elements are provided in the staking sheets included in the plans. No separate staking information is provided for the subgrade or surface course information.

Delete the last sentence of the fourth paragraph from the bottom of the Subsection and substitute the following:

Reestablish missing control points and stakes before slope staking begins.

152.05 Survey and Staking Requirements.

(b) Centerline establishment. Add the following:

Reestablishment of centerline may be ordered by the CO and paid for under Section 623 for purposes other than to control the work.

(c) Original ground topographic verification. Amend as follows:

Delete the second paragraph and substitute the following:

When existing ground topography is not provided generate cross-section data at slope stake locations between centerline and 10 feet (3 meters) beyond the actual point of intersection of the design slope with the natural ground line.

Add the following:

Submit ground topographic verification data to CO 21 days prior to anticipated construction. Do not begin embankment construction or excavation operations until the design profile has been verified. If differences in terrain are found, the CO may modify the profile to match the new terrain. Modified design data will be provided at locations where the design profile has been modified. Data consists of revised earthwork quantities, revised plan & profile sheets, cross-section sheets, and staking reports for modified locations, and an updated grading summary.

Submit one printed copy and one electronic file of the cross-sectional data in ASCII text format: station, offset, elevation, north coordinate, east coordinate, p-code text format. Include a file header that defines the data type of the column. (Contact the CO for more information on the format.) Include one observation per line in the submitted files showing the following data:

Station (nominal), offset from centerline, elevation, north coordinate, east coordinate, p-code (Feature code: RH for reference hub, CL for centerline).

(g) Culverts. Delete the first paragraph and substitute the following:

Verify and set culvert locations at the inlet, outlet, and inlet basin points according to the plans. Plot the centerline of the proposed culvert at a 1:20 scale. Show the natural ground, the flow line, the roadway section, and the culvert including end treatments and other appurtenances. Provide the elevations, grade, culvert length, degree of elbow, catch points, and hinge points on the plot.

Perform the following if the culvert design shown in the plans does not fit field conditions, when the CO requires adjustment to a culvert location, or when a culvert design isn't provided for a new culvert, culvert replacement, or culvert extension:

(1) Recommend a revised culvert location and alignment if needed.

(2) Survey and record the ground profile along the culvert centerline;

(3) Determine the slope catch points at the inlet and outlet;

(4) Set reference points and record information necessary to determine culvert length and end treatments;

(5) Plot to scale the profile along the culvert centerline. Show the natural ground, the flow line, the roadway section, and the culvert including end treatments and other appurtenances. Show elevations, grade, culvert length, and degree of elbow.

(a) For single skewed culverts, submit a plotted field-design cross-section normal to roadway centerline and at each end section. Plot the offset and elevation of natural ground at the end section and at proposed template break points between centerline and the end section. Ensure the template design embankment slope is not exceeded;

(b) For multiple skewed culverts, submit a plotted field design cross-section normal to roadway centerline and at the end sections (left and right) nearest to the shoulder. Plot the offset and elevation of natural ground at the end section and at proposed template break points between centerline and the end section. Ensure the template design embankment slope is not exceeded;

(c) Submit the plotted field-design cross-section for approval of final culvert length and alignment. Plot at a clear and readable scale;

(d) Set inlet, outlet, and reference stakes when the field design has been approved. Stake inlet and outlet ditches to make sure the culvert and end treatments (such as drop inlets) are functional; and

(e) Adjust slope, reference, and clearing stakes as necessary to provide for culvert inlet treatments in cut slopes. Readjust slope, reference, and clearing stakes as necessary when culvert inlets are moved from their plan locations. Review slope adjustments with the CO and obtain approval.

(i) Retaining walls and reinforced soil slopes. Delete this Subsection and substitute the following:

(i) Retaining walls. Survey and record profile measurements along the face of the proposed wall at 5 feet (1.5 meters), 10 feet (3 meters), and in front of the wall face. Take cross-sections every 25 feet (8 meters) along the length of the wall and at major breaks in terrain within the limits designated by the CO. Measure and record points every 25 feet (8 meters) and at major breaks in terrain for each cross-section. Set additional references and control points to perform the work.

Measurement

152.07 Add the following to the third paragraph:

Reestablishing missing control points and stakes will be measured under Special labor, Hired survey services when it is paid by the hour.

152.07 Amend as follows:

Delete the fourth paragraph and substitute the following:

Do not measure miscellaneous survey and staking.

Add the following:

Measure template control staking only one time per project.

Section 153. — CONTRACTOR QUALITY CONTROL

Description

153.01 Add the following:

This work also consists of using EEBACS to prepare electronic "*Inspector's Daily Record of Construction Operations"* (*Contractors Daily Reports)* and measurement notes (pay notes), including entering labor, equipment, subcontractors, and inspection records into the system.

Construction Requirements

153.02 Qualifications.

(a)(1) Full-time, on-site QCM. Delete Subsections *(a)* and *(b)* and substitute the following:

(a) Four years of experience managing quality control on highway construction projects of similar type and scope, and

(b) National Institute for Certification in Engineering Technologies (NICET) Level III certification, or equivalent, in highway construction or highway material.

153.03 Quality Control Plan (QCP).

(b) Quality control procedures

(2) Add the following: List the material to be tested by pay item, tests to be conducted, the location of sampling, and the frequency of testing.

Add the following:

(d) Subcontractors and suppliers. Include the work of all subcontractors. If a subcontractor is to perform work under this Section, explain how the subcontractor's inspection plan will interface with the Prime Contractor first tier subcontractors and lower tier subcontractors and

organizations, and the CO. Include the work of major suppliers and suppliers of structural and geotechnical services and materials.

Add the following:

Modifications or additions may be required to any part of the plan that is not adequately covered. Acceptance of the quality control plan will be based on the inclusion of the required information. Acceptance does not imply any warranty by the Government that the plan will result in consistent contract compliance. It remains the responsibility of the Contractor to demonstrate such compliance.

153.04 Prosecution of Work. Delete the sentence and substitute the following:

Address each of the subjects shown for each phase of construction:

(a) Preparatory phase.

(1) Delete the paragraph and substitute the following:

In a preparatory phase meeting, review the contract requirements for the work; the process for constructing the work; and the plan for inspecting, testing, measuring, and reporting the work. Include the project superintendent, the quality control supervisor (QCS), the foreman for the work to be performed, and the CO in the meeting. Schedule and conduct a preparatory meeting for each type of work to be performed at least one week prior to beginning the work.

(b) Start-up phase.

(1) Delete the paragraph and substitute the following:

(1) In a start-up phase meeting, review the contract requirements and the processes for constructing the work with the personnel who will be performing the work. Invite the CO, project superintendent, QCS, testers, and inspectors of the work being performed, and the personnel directly supervising and performing the work. Review the planned testing, inspection, and reporting requirements with the quality control personnel responsible for the testing and inspection. Explain the reporting procedures to be used when defective work is identified. Conduct a start-up meeting for each type of work to be performed upon beginning the work.

(c) Production phase. Add the following:

(4) Provide feedback on processes and deficiencies. Identify root causes of deficiencies, and make timely and effective changes to work processes to prevent repeated deficiencies.

153.05 Sampling and Testing. Delete the text and substitute the following:

153.05 Sampling and Testing.

Perform sampling and testing required by the accepted QCP. As a minimum perform process control testing according to the Sampling, Testing and Acceptance Requirements tables at the end of each Section where applicable. Where no minimums are specified, submit proposed tests to be performed and the proposed sampling and testing frequencies.

(a) Sample Splitting. Schedules and times or locations for obtaining on-site split samples for Government use will be provided by the CO using a procedure for random sampling. Sample any material that appears defective or inconsistent with similar material being produced, unless such material is voluntarily removed and replaced or otherwise corrected according to Subsection 106.01

(b) Testing. If the Government-furnished field laboratory bid option is not exercised by the CO, furnish a laboratory equipped with all test equipment necessary to satisfy the requirements of the contract. Ensure test equipment has been checked, calibrated, standardized and/or otherwise verified in accordance with AASHTO and ASTM standards by an individual qualified to perform the work. Perform an equipment inspection after the laboratory has been moved to its permanent location on the project site, and anytime it is moved thereafter. Inspect equipment within 45 days of actual use for project testing, and at least once a year thereafter. Do not use equipment that has not been inspected or is found to be deficient. Mark deficient equipment and take it out-of-service until repaired or replaced and shown by subsequent inspection to perform as required. Maintain records documenting laboratory equipment inspections. Provide certification(s) stating the equipment conforms to testing requirements and provide evidence of current inspection. Keep laboratory facilities clean and maintain equipment in proper working condition. Allow the CO unrestricted access to the laboratory for inspection and review.

The CO may require a demonstration of proficiency in sampling and testing capabilities. One or more proficiency samples may be provided by the Government to verify basic qualifications. Provide the results of the proficiency samples to the CO within 48 hours of receipt of the material.

153.06 Certifications. Delete the text and substitute the following:

For materials or work accepted by certification according to Subsection 106.03, review all certifications to insure compliance with the requirements of the contract prior to incorporating materials into the work and provide a signed copy of the reviewed certification(s) to the CO. According to FAR Subpart 46.407, materials or work without proper certification will be rejected in writing, and payment for such material or work will be withheld until proper certification has been provided to the CO.

153.07 Records and Control Charts. Delete the first sentence and substitute the following:

Maintain complete testing and inspection records by pay item number and make them accessible to the CO.

(a) Quality control and construction operations reports. Delete the text and substitute the following:

For each day of the contract, prepare an "*Inspector's Daily Record of Construction Operations"* (*Contractors Daily Reports (CDR))* using EEBACS. Enter initial data for Labor/Equipment and Subcontractors prior beginning any work. Maintain and update the Labor/Equipment and Subcontractors data to reflect ongoing changes as they occur. Report operations or items of work separately, with manpower and equipment assigned to each operation separately. Detail inspection results, including deficiencies observed and corrective actions taken. Complete a CDR for each contractor and subcontractor working that day.

When submitting test results on material being incorporated into the work, report test results within the reporting times indicated in the sampling and testing requirements at the end of each section or as specified in the contract.

Enter the following data into EEBACS:

(1) Subcontractors data.

(2) Labor/Equipment.

(a) All manpower and equipment, including contractor and subcontractors. Complete all data fields.

(b) Labor: Type/classification, move-in date, move-out date, hourly rate, the contractor or subcontractor, and name.

(c) Equipment: Type/classification, move-in date, move-out date, make, model, and year of equipment manufacture.

Certify all CDR's using the following statement:

"I certify that the information contained in this record is accurate and that work documented herein complies with the contract. Exceptions to this certification are documented as a part of this record."

Submit certified CDR's that have been signed by a person who has both responsibility for the inspection system and signature authority.

Submit the record and certification within 24 hours of the work being performed. If the CDR is incomplete, in error, or otherwise misleading, the CDR will be rejected and returned within EEBACS with corrections noted. Correct rejected CDRs and resubmit the revised CDR

within 24 hours. When chronic errors or omissions occur, correct the procedures by which the records are produced.

153.08 Acceptance. Add the following:

Performance of the work may be stopped according to Subsection 108.05, either in whole or in part, for failure to comply with the requirements of this Section. The Government may charge to the Contractor the cost of any additional inspections required when the work being inspected is found not to comply with contract requirements during the initial inspection. Work stop orders, due to recurring deficiencies of work required by this Section, will be rescinded after the Contractor demonstrates to the CO that changes were made to the quality control plan and system which resulted in the correction of those deficiencies. There will be no adjustment in the contract time, or payments to the Contractor for any impacts, delays or other costs due to any periods of work stoppage resulting from failure to comply with the requirements of this Section.

EEBACS electronic documentation will be evaluated under Subsection 106.02.

153.09 Measurement and Payment. Delete the text and substitute the following:

Measurement

153.09 Measure contractor quality control according to Subsection 109.02.

Do not measure EEBACS electronic documentation for payment.

Payment

153.10 The accepted quantities will be paid at the contract price per unit of measurement for the Section 153 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Progress payments for Contractor quality control will be paid as follows:

(1) 25 percent of the item amount, not to exceed 0.5 percent of the original contract amount, will be paid after the contractor quality control plan is accepted; all testing facilities are in place; qualified quality control supervisor, inspection, and sampling and testing personnel are in position to provide quality control activities; and the work being inspected or tested has started.

(2) 65 percent of the total lump sum will be prorated for payment based on the completed portion of the total work not including the original 25 percent completed under **(1)** above.

(3) Payment of the remaining 10 percent of the lump sum will be paid when all inspections, test results, submittals, and reports are complete and accepted.

Section 154. — CONTRACTOR SAMPLING AND TESTING

Construction Requirements

154.03 Sampling. Add the following:

Perform the initial curing of all concrete test cylinders. Provide for transporting the government verification cylinders to the FHWA-Central Federal Lands Highway's Laboratory unless other testing facilities are authorized by the CO.

Label each concrete mold with the name and number of the Project, the cylinder number, date molded, location of the sample, and the test age (i.e. – 7, 14, or 28 days). Label the mold after casting and the cylinder after stripping to ensure the sample can be identified throughout the entire curing process.

Provide the required cylinder molds.

154.04 Testing Add the following:

Where Process Control Sampling and Testing frequencies are identical to the Sampling, Testing, and Acceptance Tables at the end of each Section for all applicable work, the Process Control Samples may be used for acceptance.

Add the following Subsections:

154.04B Field Laboratory (Contractor-Furnished). Furnish a laboratory equipped with all test equipment necessary to satisfy the requirements of the contract.

The sampling and testing services of a commercial laboratory meeting or exceeding the requirements described herein may be used if all contract sampling and testing requirements are satisfied by the use of the commercial facility.

Ensure test equipment has been checked, calibrated, standardized and/or otherwise verified in accordance with AASHTO and ASTM standards by an individual qualified to do this work. Ensure mobile laboratories receive an equipment inspection after the laboratory has been moved to its permanent location on the project site and anytime it is moved thereafter. Inspect equipment within 45 days of actual use in project testing and at least once a year thereafter. Do not use equipment that has not been inspected or is found to be deficient. Mark deficient equipment and it take out-of-service until it is repaired or replaced and shown by subsequent inspection to perform as required. Maintain records documenting these inspections in the laboratory. Provide certification(s) stating the equipment conforms to testing requirements and provide evidence of current inspection.

The CO may require the Contractor to perform testing to demonstrate acceptable equipment and an acceptable level of technician competence. The CO may also check equipment and inspection records to verify condition. Repair or replace equipment not meeting applicable requirements. Keep laboratory facilities clean and maintain equipment in proper working condition. Provide the CO unrestricted access to the laboratory for inspection and review.

Section 155. — SCHEDULES FOR CONSTRUCTION CONTRACTS

Construction Requirements

155.04 Preliminary Construction Schedule.

Add the following:

(j) A list of the permits required for the contract. See Section 107.

155.05 Initial and Baseline Construction Schedule. Amend as follows:

Delete (a) (1) *(c)* and substitute the following:

> *(c)* Show activities in the order the work will be performed, including submittals, submittal reviews, permit applications, permit reviews, fabrication, and delivery.

Delete the second sentence of (b) (2) *(g)* and substitute the following:

> Non-construction activities include mobilization, drawing and sample submittals by pay item number, permit applications, and the fabrication and delivery of key material.

Add the following to the end of (b) (2) *(g)*:

> Refer to the permitting agencies to determine an appropriate duration for permit application review, permit approval, and distribution of permits.

(f) Submission and approval. Add the following to the end of the second paragraph:

No progress payments will be made until an initial construction schedule is approved by the CO.

155.06 Baseline Schedule Updates. Amend as follows:

Delete the second paragraph and substitute the following:

Unless previously approved by the CO, changes to the construction schedule for the work that is still to be completed, can only be changed with a Time Impact Analysis according to Subsection

108.03, and a Baseline Construction Schedule revision according to Subsection 155.07. Receipt of a baseline construction schedule update with negative float does not constitute agreement by the Government of the revised completion date.

Add the following:

(f) Working Schedule. At each construction progress meeting, provide the CO with a written summary detailing the work completed in the previous week and the proposed work activities for the following two weeks. Provide detail of proposed operations that will affect traffic flow, residents and businesses adjacent to the project. Provide the CO with a schedule revision if the written summary significantly differs from the baseline construction schedule or the latest construction schedule revision.

155.07 Baseline Schedule Revision. Delete the first paragraph and substitute the following:

Submit a time impact analysis when requesting approval of a baseline schedule revision. Submitting a proposed baseline schedule revision is not considered a notification of delay or of other basis for change. Continue to submit monthly schedule updates according to Subsection 155.06 until a baseline construction schedule revision is approved.

Section 156. — PUBLIC TRAFFIC

Construction Requirements

156.04 Accommodating Traffic During Work. Add the following:

Submit situation-specific traffic control implementation drawings and alternate traffic control proposals according to Subsection 104.03 for acceptance at least 21 days before intended use.

Submit a construction schedule at least 7 days prior to the beginning of the next workweek indicating:

(1) Proposed work;

(2) Road closures and traffic diversions; and

(3) Effective date and duration of work and closures.

In addition, provide routine weekly public information updates to the CO and the Park for incorporation into public information flyers and press releases developed by the Park staff. Provide information concerning any major changes in construction operations or traffic control changes at least 72 hours in advance before these changes occur to allow adequate time for the Park to advise the Park officials, vendors, and guests.

156.05 Maintaining Roadways During Work.

(a) Add the following:

Do not construct diversions outside of the clearing limits or use alternate route detours without the approval of the CO.

(c) Add the following:

Once work stops due to adverse weather or seasonal shutdowns, open all paved Wawona roadway surfaces, including the turnouts and parking areas, for snow plowing operations.

During snow seasons, schedule work as not to require or use steel plates to cover open pits or excavations within the traveled roadway surface. Steel plates are not allowed in paved areas that are cleared by snow plow operations, when snow plowing is likely to occur.

156.07 Limitations on Construction Operations.

(c) Delete the first sentence and substitute the following:

For alternate one-way traffic control, provide a minimum lane width of 10 feet (3 meters). For two-way traffic, provide a minimum roadway width of 22 feet (6.7 meters).

(i) Delete the text and substitute the following:

Provide a written back-up plan to open up at least one lane of any closed sections of road to Public Traffic during potential emergencies within the Park. Emergencies within the Park may include major traffic accidents, landslides, flooding, fires, or other events that shutdown Public Access along a road within the Park or impede emergency or Ranger vehicles. Address materials and equipment to be kept on-site including steel plates to bridge over trenches, roadway aggregate to fill in open trenches and holes, temporary traffic signs and barricades, and loaders or other construction equipment.

Minimize construction caused delays. See table below for allowable single lane closures and maximum delays, to be used in areas outside of full-width closures. With the heavy day-time traffic that exists within Yosemite National Park, Contractor is advised to consider night-time operations where allowed in Subsection 156.08 to improve construction efficiency.

Closure Limitation Table

Season*	Allowable Closures	Maximum Delay (per passage through project)
Peak & off-Peak	*Weekends:* No closures allowed: Friday 4:30pm through Sunday 10:00pm *(Except in full-width closure areas during off-Peak Season)*	No delays
Holiday Season	*November 23, 2020 to January 4, 2021* No impacts or delays to traffic are allowed during this holiday peak season.	No delays
Peak	*Daytime:* No lanes closures allowed on two-way segments. One lane closures are allowed on one-way segments Monday through Friday, 8:00am-4:30 pm.	No delays
	Nighttime: Sunday night through Friday morning: 10:00pm – 6:00am	30 min
Off-Peak	*Daytime:* Monday through Friday, 6:00am – 8:00am & 4:30pr 8:00pm Monday through Friday, 8:00am-4:30pm	No delays 30 min
	Nighttime: Sunday through Monday morning, 10:00pm – 6:00am Monday through Friday morning, 8:00pm – 6:00am	30 min 30 min

Notes:

* Peak Season is defined as the first day of work past the Memorial Day weekend holiday break through the last full day of work before the Labor Day weekend holiday break of each year. (See Subsection 108.01 for the definition of holiday breaks.) Off-Peak Season is defined as the portion of the calendar year that is not included in the Peak Season as described above.

1. Maximum delays are for passage through the entire project. The total delay to any given vehicle shall not exceed the delay shown above even if the vehicle must pass through multiple work locations.

2. To the best extent possible, during long routine delays (i.e. night work), release traffic on the hour and/or half-hour to allow both visitors and staff to plan for traffic shifts appropriately.

Add the following:

(k) Limit the length of area affected as approved by the CO. See Subsection 108.01 for limitations on work.

(l) Coordinate traffic control measures with other construction projects in the area.

(m) It is the Contractor's responsibility to facilitate the delivery of all construction material, equipment and personnel to and from the project in a safe manner around the queue of public traffic waiting for passage into the Park and through the project. No direct compensation will be made for this purpose (e.g. no flagger or pilot car hours will be measured). Include details of the proposed method to accomplish said deliveries in the Traffic Control Plan submittal to the CO.

(n) Provide full public and YNP access for all operating Park facilities (hotels, campgrounds, bike paths, trails, stores, restaurants, museums, restrooms, etc.), unless the work includes closing, rehabilitating or reconstructing those facilities.

(o) Closures. Bridalveil Parking Lot: This facility will be closed to the public during construction. While no public traffic will be using the facility, construction traffic for Park staff working on other adjacent trails and emergency operations need to be maintained. Coordinate delays through the CO with the adjacent contractor for delay periods.

156.08 Nighttime Operations. Add the following:

Nighttime operations are allowed.

156.09 Traffic Control Supervisor.

(a) Delete the text and substitute the following:

Develop and implement the traffic control plan. Provide a traffic control plan that describes in plan (exhibit) and narrative form how vehicular, pedestrian, and Park emergency staff/operational movements within and adjacent to the work zone will be safely and efficiently protected during construction. Comply with MUTCD (latest edition) and California Department of Transportation Standard Specifications, Section 12 (latest edition). Include the following with the plan:

(1) Describe the phasing and sequencing of signage to route vehicular, bicyclist, and pedestrian movements around construction areas.

(2) Describe how vehicular and pedestrian passage is provided through the use of signs, flaggers, and pilot cars.

(3) Describe barriers that will be used to protect and prevent vehicular, bicyclist, and pedestrian traffic from entering active construction areas.

(4) Describe barriers that will be used to keep pedestrian traffic within designated public pathways.

(5) Describe measures that will be implemented to prevent exposure of noxious materials or contaminants.

(6) Address access for emergency vehicles, police, rangers, fire, and disaster units.

(7) Plans showing how any detour routes and street closures will be signed and controlled.

(8) Submit plan for CO and Park review and approval 14 days prior to any construction activities impacting public traffic.

Add the following:

(l) Provide and maintain programmable 2-way radios at the site at all times. Coordinate radio bands with the Yosemite National Park Telecommunications Supervisor: Mr. David Thorpe at 209-379-1090. At least one radio is to be on-site at each individual construction area. The Traffic and Safety Supervisor is to have a radio at all times.

(m) Test drive all detours with the CO prior to opening to public traffic and revise traffic control devices as directed by the CO.

Section 157. — SOIL EROSION AND SEDIMENT CONTROL

157.04 General. Add the following:

Do not designate the project superintendent as the Erosion Control Supervisor.

157.06 Filter Barriers.

Add the following:

157.06A Stabilized Construction Exit. Before placing the geotextile fabric, clear the area of all trash and debris, grading and compacting the ground to a uniform plane. Overlap adjacent ends of geotextile fabric a minimum of 12 inches.

Maintain stabilized construction entrances to minimize tracking of soil and sediment onto existing public roads. Replenish or replace aggregate material as the aggregate becomes clogged with sediment.

Section 158. – WATERING FOR DUST CONTROL

Construction Requirements

158.03 General. Add the following:

Construction water is available through the Park Service. Water source and pumping requirements to use Park water resources are identified in Subsection 105.02a. Contractor is responsible for the charge from the Park for water used for construction, all equipment and materials to pump, load, deliver and distribute the water including but not limited to pumps, tanks, stand pipes, backflow prevention devices and meters. Contact the Park Utilities office, Josh Keyes, at (209) 379-1077 for rate information.

Measurement

158.05 Delete the second paragraph.

Section 201. – CLEARING AND GRUBBING

Description

201.01 Delete the paragraph and substitute the following:

This work consists of clearing and grubbing within the limits specified in Subsection 152.01. It also includes scalloping clearing lines, clearing vistas, thinning vegetation, removing trees and stumps immediately adjacent to the roadway and removing trees and stumps adjacent to drainage inlets/outlets.

Notify the CO 14 days prior to any clearing and grubbing. The Park staff will work with the CO to determine areas not to be cleared and grubbed. The Park will notify the CO if rare plants need to be protected by a construction fence until the Park can remove the plants.

Trees have been removed by others from some areas of clearing and grubbing.

14 days prior to any tree trimming, consult with the Park Forester for guidance on how trees are to be trimmed within the Park.

Construction Requirements

201.03 General: Add the following:

Prior to any ground disturbance, stake the clearing limits for the CO to review and assess if existing trees within these limits will remain in place. The intent is to keep as many trees as possible provided the trees will not be at risk due to grading and other adjacent surface disturbances. Following CO review and approval, clear trees from within the established limits except those identified by the CO for exclusion from clearing.

201.04 Clearing. Delete subsection **(c)** and substitute the following:

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to ground level.

201.05 Grubbing. Delete subsection **(b)** and substitute the following:

(b) Grub embankment areas. Remove all stumps within grubbing limits.

201.06 Disposal. Add the following:

Tree disposal consists of removing both the tree and associated stumps within the clearing limits and any specifically addressed for removal within the plans adjacent to the roadway.

Measurement

201.08 Add the following:

Do not measure trees individually for removal, regardless of size, within the Clearing and Grubbing limits.

Section 203. - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Construction Requirements

203.03 Salvaging Material. Add the following:

Signs and snow poles. Salvage all existing roadway informational and interpretive signs located within the project limits. Salvage all snow poles. Deliver the signs and associated hardware and the snow poles to the Park maintenance yard located in El Portal, CA.

Telephone booth. Disconnect the telephone service line, remove the sections of line impacted by construction, protect the exposed end, and mark the location. Salvage and store the existing telephone booth. Document how the booth was founded and secured prior to disturbance,

providing a copy of the information to the CO. Upon completion of the Bridalveil parking lot improvements, return the phone booth the parking lot site, and locate the booth outside of the pavement limits, near where it was salvaged. Relocate the booth on a similar foundation pad, and reconnect to the telephone service line.

Following removal and prior to delivery of salvaged materials as noted above, coordinate through the CO, for the Park representative to review the salvaged materials. Dispose outside of the Park all materials determined by the Park to be unsalvageable.

203.04 Removing Material.

(c) Concrete removal in repair areas. Amend as follows:

Add the following to the second paragraph:

Use hand tools (hammers and chisels) to remove final particles of concrete or to achieve the required depth.

Delete the third paragraph and substitute the following:

Sandblast all exposed structural steel, reinforcing steel, and concrete surfaces that will be in contact with repair material. Remove all rust and foreign material. Clean the sound concrete surface by flushing with a high-pressure water jet or oil-free compressed air.

Add the following:

Remove drop inlets and concrete headwalls buried and partially buried in the roadway prior to milling and/or pulverizing. If resetting drop inlets and headwalls, reset prior to paving.

Vault toilet restroom. Remove the existing vault toilet restroom facility at the Bridalveil Parking Area. Removal includes pumping and cleaning out the underground vault, removal of all the concrete pad, adjacent sidewalk, structure, and buried vaults. Backfill and compact cavities left by structure removal with backfill material to the lines and grades of the finished ground. Backfill the void according to Subsection 209.09. Compact backfill according to 209.10. Remove and dispose of all removed elements according to Subsection 203.05.

Remove asphalt paved waterways and paved ditch by one of the following methods:

- Excavate by digging and/or ripping
- Pulverize into small fragments as approved by the CO

203.05 Disposing of Material.

(a) Remove from project. Add the following:

Secure environmental clearances according to Subsection 107.10.

(b) Burn. Delete the Subsection.

(c) Bury. Delete the Subsection.

Section 204. — EXCAVATION AND EMBANKMENT

Description

204.02 Definitions. Add the following:

(e) Backfill, Curb. Stockpile excess materials generated by shoulder and ditch reconditioning and permeable subgrade locations and use these materials for constructing the backfill behind the raised curb sections. Construct the backfill in accordance with 204.10. Use salvaged topsoil on larger areas as much as possible.

Materials

204.03. Add the following:

Crushed aggregate	703.06
Geotextile	714.01(a)
Asphalt concrete	403, Type II
Select Borrow (Utility Trench Imported Backfill)	704.03

Construction Requirements

204.14 Disposal of Unsuitable or Excess Material. Add the following:

Secure environmental clearances according to Subsection 107.10(d).

Measurement

204.16

(a) Roadway Excavation.

(1) Include the following volumes in roadway excavation:

(e) Delete the text and substitute the following:

Conserved topsoil stripped from cuts.

(h) Delete the text and substitute the following:

Conserved material taken from stockpiles and used in Section 204 work except topsoil measured under Section 624. Only materials required to be conserved by the CO are eligible for measurement under this item.

(2) Do not include the following in roadway excavation: Add the following:

(n) Conserved topsoil stripped from fills.

(b) Unclassified borrow, select borrow, and topping. Add the following:

Measurement for Select Borrow (Utility Trench Imported Backfill) only includes utility trench backfill material imported from outside the Park.

Payment

204.17 Add the following:

Payment for Item 20401 is limited to ten percent of the plan quantity of excavation in the cut until the slope rounding in that cut is completed.

Section 251. – RIPRAP

Construction Requirements

251.04 Placed Riprap. Add the following:

Remove the top 6 inches of native soil from the surface of areas to be prepared for new culvert end sections and placed riprap. Stockpile the native material within the limits of construction and protect from erosion. Spread stockpiled native soil evenly over the placed riprap.

All riprap placed must match the natural colors of adjacent rocks at the placement location. Provide samples of the riprap proposed to the CO for approval prior to any hauling or placement.

Section 302. — MINOR CRUSHED AGGREGATE

302.06 Acceptance. Add the following to the second paragraph:

Sample material from the windrow or roadbed after processing but prior to compaction at the frequency shown in Table 302-1. Submit samples to the CO for verification. Materials that do not meet the approved certification will be considered unacceptable.

Delete Table 302-1 and substitute the following:

Table 302-1
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	Remarks
Production								
Crushed aggregate[1]	Measured and tested for conformance (106.04)	Moisture-Density	AASHTO T 180, Method D [3]	1 per aggregate supplied	Production output or stockpile	No	Before using in work	–
		Gradation[2]	AASHTO T11 and T27	1 per 500 tons (450 metric tons)	From the windrow or roadbed after processing.		Before placing next layer	
		Density	AASHTO T310 or other approved procedures	1 per 500 tons (450 metric tons)	In-place after compaction	"	Before placing next layer	For Method 2 compaction only
Crushed aggregate	Process control (153.03)	Moisture content (in-place)	"	"	"	"	"	–
Finished Product								
Crushed aggregate	Measured and tested for conformance (106.04)	Surface tolerance & grade	Subsection 301.06	Determined by the CO	Surface of final course	No	Before placement of next layer or as requested	–

[1] Sampling and testing required for roadway aggregate.
[2] Use only sieves indicated for the specified gradation.
[3] Minimum of 5 points per proctor.

Section 403. — ASPHALT CONCRETE

Description

403.01 Add the following:

Use an Asphalt binder that would be specified for the project location and is designated according to AASHTO M 320.

Construction Requirements

403.02 Composition of Mix (Job-Mix Formula). Add the following:

The CO may perform mix design-verification testing to confirm the mix meets the contract requirements. If verification testing is required, submit a loose mix sample to the CO 14 days prior to placement.

403.09 Compacting. Add the following:

For HMA, do not roll the mix after the surface cools below 175 ºF (80°C).

Along forms, curbs, headers, walls, and other places not accessible to the rollers, compact the mix with alternate equipment to obtain the required compaction.

403.12 Acceptance. Add the following:

During production placement of the mix, sample loose mix and compacted cores according to Table 403-2 and submit to the CO for acceptance. Materials that do not meet the approved job-mix formula are considered unacceptable.

Delete Table 403-2 and substitute the following:

Table 403-2
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	Remarks
Mix Design								
Asphalt concrete mixture Type I (403.02(a))	Measured and tested for conformance (106.04)	Job-mix formula	Subsection 403.02(a)	When requested by the CO.	Flowing mix stream (bin or belt discharge) or behind the paver before compaction.	Yes	Before approval of job-mix formula	Tested by the CO
Production								
Asphalt concrete, Type I (403.02(a))	Measured and tested for conformance (106.04)	Job-mix formula	Subsection 403.02	1 per 700 tons (650 metric tons)	Behind the paver before compaction.	Yes		Deliver cores to CO for testing
		Density [1]	AASHTO T 166	"	In-place after Compacting	Yes		"
		Maximum specific gravity	AASHTO T 209 [2]	"	Behind the paver before compaction	Yes		"
		Surface Tolerance	Straightedge measurement, Subsection 403.11	Continuously, after compaction	Finished pavement surface	No		–
		Placement temperature	–	First load and as determined by CO thereafter	Hauling vehicle before dumping, or windrow before pickup	No	Upon completion of measurement	–

Table 403-2 (continued)
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	Remarks
Production								
	Process control (153.03)	Gradation at the plant	AASHTO T 27 & T 11	Contractor determined	Cold feed or hot bins as applicable	No	24 hours	–
		Moisture content of aggregates	AASHTO T 255	"	Stockpile	No	"	–
		Density	ASTM D2950	1 per 500 feet (150 meters)	In-place after compacting	No	"	–
Asphalt concrete, Type II (403.02(b))	Measured and tested for conformance (106.04)	"	"	3 per 700 tons (650 metric tons)	In-place after compacting	No	"	–

(1) Dry cores to constant mass at 125±5°F (52±3 °C) or vacuum dry, ASTM D7227 before testing. For asphalt concrete Type I, cut two 6-inch (150-millimeter) diameter side by side cores. Remove them with a core retriever and fill and compact the core holes with asphalt concrete mixture. Label the cores and protect them from damage due to handling and temperature. Submit one core for verification testing. Dry the other core to constant mass at 125±5 °F (52±3 °C) or vacuum dry it according to ASTM D7227 before performing the core density and measuring the thickness. Use 62.245 pounds per cubic foot (997.1 kilograms per cubic meter) to convert specific gravity to density. Use AASHTO T 166 regardless of the volume of water absorbed. Use the average maximum specific gravity value (AASHTO T 209) of the first three samples to determine the percent compaction of each Lot.

(2) Do not use the dry back method (Section 11 of AASHTO T 209).

Section 409. — MICRO SURFACING

Delete the text of this Section and substitute the following:

Description

409.01 This work consists of applying a polymer-modified micro surfacing mix on an existing

pavement surface.

Material

409.02 Conform to the following Subsections:

Micro surfacing aggregate	703.10(b)
Mineral filler	725.05
Polymer-modified emulsified asphalt for micro-surfacing	702.02(b)
Water	725.01(a)

Construction Requirements

409.03 Qualifications. Provide a superintendent and foreman with experience in placing micro surfacing. Submit the following for approval at least 14 days before starting micro surfacing work:

(a) Names of personnel; and

(b) A résumé for each individual describing their experience on at least five micro surfacing projects of similar complexity.

409.04 Composition of Mix (JMF). Submit a written JMF for micro surfacing which conforms to ISSA A143, *Recommended Performance Guideline for Micro Surfacing* for approval at least 14 days before production. Include the following:

(a) Aggregate gradation values. Percent passing for each sieve size for the aggregate blend;

(b) Emulsified asphalt content. Residual asphalt content, as a percent by mass of dry aggregate; and

(c) Polymer-modifier. Type and quantity of polymer-modifier solids based on the residual asphalt content.

409.05 Equipment.

(a) Mixing equipment. Conform to ISSA A143.

(b) Spreading equipment. Conform to ISSA A143.

(c) Sweeper. Furnish a vacuum sweeper with the following capabilities:

(1) Self-propelled;

(2) Equipped with a built-in water spray system to reduce the dust generated during the sweeping process;

(3) Capable of vertical broom pressure control; and

(4) Picking up and removing excess aggregate by vacuum capability.

(d) Pneumatic-tire rollers.

(1) Self-propelled;

(2) 10-ton (9-metric ton) gross mass with a tire pressure of 50 pounds per square inch (350 kilopascals). A smaller pneumatic tire roller with additional coverages may be approved for use by the CO where site limitations prohibit the use of 10-ton roller; and

(3) Water-spray system.

(e) Auxiliary equipment. Furnish hand squeegees, shovels, and other equipment necessary to perform the work. Provide power brooms, air compressors, water flushing equipment, and hand brooms to clean the pavement surface.

Other equipment of proven performance may be used in addition to or instead of this equipment when approved by the CO.

409.06 Surface Preparation. Clean the existing surface of all loose material, dirt and other deleterious material. Clean all vegetation, roots and dirt to a depth of 2 inches from all joints and other spaces between the asphalt surface adjacent curb or gutter. Dispose of material according to Subsection 203.05(a) and (d). Remove or protect raised pavement markers, pavement markings, reflectorized tape, and other material that interferes with the work. Protect service entrances (such as manholes, valve boxes and drop inlets). Protect all concrete work, rock walls, stone curbs, wood curbs, historic features, rumble strips, wheel stops, vegetation to remain, and all other objects adjacent to the work from the micro surfacing with a method approved by the CO.

409.07 Weather Limitations. Apply only when the following apply:

(a) Ambient air temperature is above 45 °F (7 °C);

(b) Surface temperature in the shade is above 45 °F (7 °C);

(c) Weather is not foggy, rainy, or overcast; and

(d) Temperatures below 32 °F (0 °C) are not anticipated for at least 24 hours after application.

409.08 Calibration. Calibrate mixing equipment according to ISSA A143.

409.09 Production Start-Up Procedures. Conduct a pre-surfacing preparatory phase meeting according to Subsection 153.04(a).

On the first day of placement, construct one 300-foot (100-meter) long control strip, one lane wide. Coordinate location of the control strip with the CO. Construct the control strip using material, lay-down, and rolling procedures intended for the entire project.

Cease production after construction of the control strip until the material and the control strip are evaluated and accepted by the CO. Repeat the control strip process until an acceptable control strip is produced.

Acceptable control strips may remain in place and will be accepted as a part of the completed surface treatment. Correct unacceptable control strips.

Use these start-up procedures when changing construction procedures, when resuming production after a termination of production due to unsatisfactory quality according to Subsection 106.04, or the beginning of a new construction season.

409.10 Application. Provide a micro surfacing mixture of the proper consistency at all times so as to provide the application rate required by the surface condition. Place with an application rate conforming to Table 409-1.

Table 409-1
Application Rate for Micro Surfacing

Aggregate Type(1)	Application Rate (lb/yd^2)
Type II	17 - 22
Type III	25 - 30

(1) See Table 703-8 for aggregate gradations.

Application rates are based upon the weight of dry aggregate in the mixture. Application rates are affected by the unit weight and gradation of the aggregate and the demand of the surface to which the micro surfacing is being applied.

Fog the surface with water in front of the spreader.

Provide the CO with a split certified shipping ticket for each separate emulsified asphalt shipment load prior to mixing and application.

Prior to starting application of micro surfacing, calibrate each mixing unit to be used on the project in accordance with ISSA A143 and in the presence of the CO or designated representative. Clean the spreader box prior to start of each work shift.

Blend the additives with the aggregate. Pre-wet the aggregate in the pugmill before mixing with the polymer-modified emulsified asphalt.

Mix the surfacing material a maximum of 4 minutes. Ensure the mix is of uniform consistency as it leaves the mixer and conforms to the approved JMF. Adjust mineral filler and polymer-modified emulsified asphalt content during construction when approved by the CO to adjust for variations in field conditions.

Carry sufficient mix in the spreader to completely cover the surface. Spread the mix with a spreader box. In areas not accessible to the spreader use hand squeegees to work the mix.

Maintain quality control documentation and make available to the CO upon request and at completion of daily work. At a minimum of 4 times daily calculate the percent emulsion content, aggregate spread rate, and yield of the mixture from the equipment computer display readings and report to the CO. Maintain a daily report and log sheet containing the following information:

- Micro surfacing emulsion used, tons;
- Aggregate used, tons;
- Water used in the mixture, gallons;
- Mineral filler used, lbs;
- Set control agent used, gallons;
- Other additives used, lbs;
- Surface area application rate (dry lbs per square yard); and
- Percent of emulsion (by dry aggregate weight)

Provide copies of the daily log to the CO before the start of the next day's production, or as directed by the CO.

Provide straight lines along curbs and shoulders and do not allow runoff onto these areas. Provide straight and neat starting and ending joints by masking surfaces at the start, end, and other locations as directed by the CO.

For transverse joints, use a butt joint. Use building paper placed over previously placed micro surfacing or other suitable method to avoid double placement of micro surfacing. Remove ridges or bumps in the finished surface.

For longitudinal joints, place joints on lane lines. Use half passes and odd-width passes only in turnouts and parking areas. Do not use half passes for the last pass in paved areas. Overlap longitudinal joints no more than 3 inches (75 millimeters). Limit the elevation difference at joints to less than ¼ inch (6 millimeters).

Begin rolling after the mixture has cured to the point where it will not pick up on the roller tires. Roll parking areas and turnouts with at least two full-coverage passes with the roller. Rolling the mainline roadway is not required.

Allow treated areas to cure completely before opening to traffic. Cure is complete when clear water can be pressed out of the placed mix with a piece of paper without discoloring the paper.

Remove streaks and transverse ripples as defined by ISSA A143 from the finished surface. Ensure the finished micro surfacing has a uniform texture free of scratches, tear, and other surface irregularities. Repair areas with surface irregularities or where the micro surfacing does not conform to the job-mix-formula at the direction of the CO.

Remove and dispose of material spills and associated debris at the end of each shift according to Subsection 203.05(a) and (d).

Perform an initial vacuum sweep of the micro surfacing one to two days after the micro surfacing application. Remove loose or shedding material from the treated surface areas. Dispose of swept material according to Subsection 203.05(a).

Two weeks to one month after completion of micro surfacing application, before second application of paint, sweep the entire treated surface. Dispose of swept material according to Subsection 203.05(a).

409.11 Acceptance. See Table 409-2 for sampling, testing, and acceptance requirements.

Polymer-modified emulsified asphalt will be evaluated under Subsections 106.03 and 106.04. Furnish a production certification with each load of polymer-modified emulsified asphalt.

Micro surfacing aggregate will be evaluated under Subsections 106.02 and 106.04.

Mineral filler will be evaluated under Subsections 106.02 and 106.03.
Construction of the micro surfacing will be evaluated under Subsections 106.02 and 106.04.

Measurement

409.12 Measure the Section 409 pay items listed in the bid schedule according to Subsection 109.02 for each day's production.

Payment

409.13 The accepted quantities will be paid at the contract price per unit of measurement for the Section 409 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Table 409-2
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	Remarks
Source								
Micro surfacing aggregate for surface mixture (1)	Measured and tested for conformance (106.04 & 105)	Quality	Subsection 703.10	1 per material type	Source of material	Yes	Before producing	–
	Process control (153.03)	Gradation	AASHTO T 27 & T 11	2 per day per stockpile	Crusher belt (during production)	No	24 hours	Not required for pre-crushed commercial source
Polymer modified emulsified asphalt (2)	Measured and tested for conformance (106.04)	Quality	Subsection 702.02	1 per material type	Point of shipment or delivery	Yes, two 1-quart samples	Before incorporating into work	–
Production								
Micro surfacing aggregate for surface mixture (1)	Measured and tested for conformance (106.04)	Gradation (See Table 703-8 for applicable sieves)	AASHTO T 27 & T 11	1 per 50,000 yd^2	Stockpile	Yes	24 hours	–
Polymer modified emulsified asphalt (2)	Measured and tested for conformance (106.04)	Quality	Subsection 702.02(b)	1 per day	Point of shipment or delivery	Yes, two 1-quart samples	–	Tested by government
	Process control (153.03)	Placement temperature	–	1 per distributor truck	Distributor truck	No	Before incorporating into work	–

(1) Applies to each aggregate grade furnished.
(2) Applies to each asphalt material furnished.

Section 501. – MINOR CONCRETE PAVEMENT

Description

501.01 Add the following: This work also consists of constructing new 5-inch reinforced colored concrete pavement for sidewalk in heavy congested areas, and new 8-inch reinforced concrete pavement for bus parking platforms, each on a prepared surface. This Section applies to concrete pavement construction for parking lot sidewalks, pedestrian plaza sidewalks, bus stop pads, and bus stalls.

Material

501.02 Add the following:

Concrete color	601

For the 5-inch reinforced concrete used for sidewalks, color the concrete and finish per Section 615.

Do not color the 8-inch reinforced concrete for the bus parking.

Construction Requirements

501.03 Composition of Mix (Concrete Mix Design). Add the following:

See Subsection 601.03 for the sidewalks.

Section 601. — MINOR CONCRETE STRUCTURES

Construction Requirements

601.03 Composition (Concrete Mix Design).

(i) Add the following:

Integrally color the concrete by adding a coloring agent. Provide coloring agents that are black iron oxide pigments, light fast, lime proof, stable and inert when used in concrete or mortar. Coloring agents containing carbon black are not acceptable.

Add coloring agents mixed with water at the time the cement is added to the mix during batching. Determine coloring agent batch amounts by weight, not volume. Use additional mixing time required as recommended by the manufacturer. The amount of coloring agent

will be determined by the CO based on test section results and shall not exceed 5.3 percent of the weight of cement.

601.03 Composition (Concrete Mix Design). Add the following:

(j) Include reinforcing fibers in all concrete mix designs

601.04 General. Add the following:

Integrally color the following concrete items: curb, curb and gutter, drainage inlet structures (inlets, downdrain basins, trench drains, concrete core wall cap [cap only, not the core wall] and drainage scuppers), and sidewalks by adding a coloring agent. Do not color concrete when repairing sections of concrete and the surrounding existing concrete is not colored. Color concrete per 601.3(i) above.

At least five weeks prior to placing concrete, cast and cure three test sections. Provide three separate concrete pads as test sections, with each pad requiring 1 cubic yard of sample material. Construct the test sections at a location as determined by the CO. In the event that the Park does not want the test panels to remain in place, remove and dispose of the test panels at no additional cost to the Government. Make each test section, and demonstrate concrete color and surface finish. Provide test sections with 3 lb, 4 lbs, and 5 lbs of color admixture per 94 lbs of cement, in accordance with the requirements of the color specifications.

Submit colored expansion joint fillers for approval, for expansion joints or prime joints. Ensure the CO approves the color of joint fillers in test sections prior to use in the Park. After the test sections have cured for at least seven days, fourteen days for evaluation and approval. Use the same amount of cement per cubic yard and the same proportions of aggregates and admixtures in the test sections as will be used in the final mixes. Contractor is responsible for stripping the forms and backfilling around the concrete test pads to make the area useable. The joint sealant shade selected will be used for all the concrete items listed above.

601.07 Acceptance. Add the following:

The concrete mixture's density, air content, slump, temperature, and compressive strength will be evaluated under Subsections 106.02 and 106.04.

Measurement

601.08 Add the following:

Do not measure test sections or color samples for payment.

Table 601-2
Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time	Remarks
Source								
Aggregate (703.01 & 703.02)	Measured and tested for conformance (106.04 & 105)	Quality	Subsection 703.01 & 703.02	1 per material type	Source of material	Yes	Before producing	–
Mix Design								
Concrete Composition (601.03)	"	All	Subsection 601.03	1 per mix design	"	If requested	"	–
Production								
Concrete[1]	Measured and tested for conformance (106.04)	Density	AASHTO T 121	1 set per 30 yd^3 (25 m^3), but not less than 1 per day	Discharge stream at point of placing	No	Upon completing tests	–
		Air content	AASHTO T 152 or AASHTO T 196	"	"	No	"	–
		Slump	AASHTO T 119	"	"	No	"	–
		Temperature	ASTM C1064	"	"	No	"	–
		Compressive strength[2][3] (28-day)	AASHTO T 23 & T 22	1 set per 30 yd^3 (25 m^3), but not less than 1 per day	Discharge stream at point of placing	No	28 days	Deliver cylinders to the CO or designated laboratory for scheduled testing

(1) Sample according to AASHTO R 60, except composite samples are not required.
(2) Cast at least four compressive strength test cylinders for 6- by 12-inch (150- by 300-millimeter) specimens or six compressive strength cylinders for 4- by 8-inch (100- by 200-millimeter) and carefully transport the cylinders to the job site curing facility.
(3) A single compressive strength test result is the average result from two 6- by 12-inch (150- by 300-millimeter) or three 4- by 8-inch (100- by 200-millimeter) cylinders cast from the same load.
(4) If the point of placement is different from the point of discharge, correlate the discharge tests with the placement tests to document the changes.

Section 602. - CULVERTS AND DRAINS

Construction Requirements

602.03 General. Amend as follows:

Delete the last sentence of the first paragraph.

Add the following:

Use polymer coated (polymeric coated) pipe for all new metal pipe culverts, pipe extensions, replaced pipe sections, and new pipe end sections.

If an existing pipe is not requiring any repair or removal, but exterior of the pipe is exposed galvanized material, then cover the outside of the exposed culvert sections with bituminous coating and the inside of the culverts for a distance of 6 feet.

Measurement

602.09 Add the following:

Do not measure the bituminous coating of existing exposed metal pipes and pipe end section surfaces for payment.

Section 604. – MANHOLES, INLETS, AND CATCH BASINS

Description

604.01 Add the following:

Except for manhole bases, all other items under this Section may be precast or cast in place at the Contractor's option.

Construction Requirements

604.03 General. Add the following:

Color all concrete for inlets, scuppers, and trench drains according to Section 601.

Provide a bituminous coating in accordance with Subsection 707.04 on all grates and all exposed metal surfaces on the inside and outside of the inlet structures.

Measurement

604.10 Add the following:

Measure all items as single items, complete, including all labor, materials, and equipment to locate the structure and complete the installation as shown on the project plans. These items include but not be limited to all necessary survey, excavation, backfill, concrete, reinforcing steel, structural steel, dowels, epoxy, grout, grates, rings, covers, and disposal of debris or materials to complete the installation.

Items incidental to the inlet structures include the concrete approach aprons adjacent to the inlet grates.

Section 607. — CLEANING, RELAYING, AND REPAIRING EXISTING DRAINAGE STRUCTURES

Description

607.01 Delete this Subsection and substitute the following:

This work consists of cleaning and repairing existing pipe culverts and appurtenant structures, and regrading of existing inlet and outlet swales or channels at culverts.

Construction Requirements

607.02 Cleaning Drainage Structures in Place. Add the following Subsection:

607.02A Cleaning Culverts in Place.

Remove and dispose of all vegetation and earthen/rock material blocking or impeding the ends of the culverts to provide unobstructed flow as identified on the plans. This includes removal of trees and shrubs within 10 feet of the inlet or outlet. Obtain approval from the CO prior to removing any trees outside the clearing limits that are larger than 6 inches cutoff diameter. Remove any trees that have fallen within 10 feet of the inlet or outlet, regardless of size.

Dispose of removed material according to Subsection 203.05.

Regrade inlet and outlet channels at culverts where noted on the plans to provide positive drainage and make the culvert functional. Reshape inlet grading to direct flow into the culvert entrance. Remove all rock, leaves, and other debris. Regrade outlet channels for 10 feet past the end of the culvert, then transition the grading to match the existing channel. Spread excess soil evenly adjacent to the channel.

607.04 Repairing Drainage Structures. Add the following:

Repair stone masonry headwalls according to Section 620.

Measurement

607.06 Add the following:

Cleaning Culverts in Place includes all cleaning/clearing requirements inclusive of the inlets, pipe, and outlet. Do not measure the regrading of inlet and outlet channels for payment.

Do not measure minor tree and shrub removal associated with the inlet/outlet regrading. Measure removal of live, standing trees greater than 6 inch cutoff diameter, according to Section 202.

Section 609. – CURB AND GUTTER

Construction Requirements

609.03 General. Add the following:

Color all concrete curb, curb cuts, gutter, and curb and gutter according to Section 601.

609.04 Stone and Precast Concrete Curb. Amend as follows:

Delete the second paragraph and substitute the following:

For Curb, Stone, Type 1, 18-Inch Depth, construct a 25-foot long sample, showing color range, texture, bond pattern, and joints. Approved section shall become the standard of comparison and remain in place until completion of curb work.

Accepted samples may be incorporated into completed work.

Add the following:

Provide Sierra White granite to match the adjacent on-site granite for the stone curbing. Stones are to be sound, hard and as shaped in the drawings. Submit representative samples from the source for approval.

Install / lay the stone as follows:

(a) Roughly shape stone with a hammer to approximate fit. Knock off weak portions. Knob corners and returns square.

(b) Remove or bury all plug and feather marks (drill holes) and sawcuts.

(c) Protect stone faces from staining. When work is not in progress, keep tops of curbs and walls covered with approved nonstaining waterproof coverings. When work resumes, clean loose mortar from stone. Where new masonry joins partially or totally set masonry, remove loose mortar and dampen stone before laying new course.

(d) Lay even-colored, sound, quarry seam faces to weather on face of curb. Lay face stones in random bond with maximum 1-inch-wide joints. Fit small stones into irregular spaces to give appearance of random sizes and shapes.

(e) Slope tops of curbs to shed water.

Build curb straight and plumb on both faces, building in anchors, dowels, and work of other trades. Set each stone level in a full bed of mortar; tap to an even bearing. Fill joints with mortar leaving no voids. Keep faces of stone free of mortar. Rake face stone joints 1/2 inch to 3/4 inch in depth sloped to drain. Point joints and rub with a stiff broom or brush to remove trowel sheen.

Add the following Subsection:

609.05A Curb Cuts. Construct curb cuts similar to curb, continuing the foundation portion below the pavement similar to the adjacent concrete curb. The portion above the finished grade (top 6 inches), is removed to allow passage of pedestrians/vehicles. Taper the 6 inch height transitions from full curb to the curb cut in 3 ft**.**

Section 611. — WATER SYSTEMS

Description

611.01 Add the following: This work also consists of installing HDPE waterlines, valve boxes for tracer wire access, and adjusting valve boxes, and the following:

Sewer Force Main Air Release Valves. This work includes all equipment, excavation, equipment vault and lid, backfill, valves, fittings, riser bollard and footing, ancillary straps and elements and pipe connections to install air release risers on the force main sewer. All other connections, appurtenances, and structures included are shown on Sheet U21 of the Plans.

Additional specifications for water and sewer features are provided in Appendix A.

Section 612. — SANITARY SEWER SYSTEMS

Description

612.01 Add the following: This work also consists of installing the following:

Sanitary Sewer Lift Station. This work includes all equipment, structures, pipes, fittings, pumps, valves, manholes, access vaults/structures, access lids/covers, crane, foundations and supporting appurtenances to install a complete and functioning sewage lift station, incorporating all elements described and detailed on Sheets U15 through U21, and U26 through U29 of the Plans.

Gravity Sewer Lines. This work includes all equipment, excavation, pipes, connections, backfill, and ancillary elements to install a complete and functioning sewer line, shown on Sheets U6 and U11 of the Plans.

Gravity Sewer Manholes. This work includes all equipment, excavation, manhole base, riser, adjustment rings and lid, backfill, ancillary elements and pipe connections to install manholes on the gravity sewer. Two manholes are in Northside Drive connecting to the existing gravity sewer, and one is required outside of the new comfort station within the Bridalveil Parking Lot. All other connections and structures are associated with other bid items.

Additional specifications for sewer features are provided in Appendix A.

Measurement

612.04 Add the following:

Elements of the Sewer System (Lift Station, Vaults and Wells) include furnishing and installing all structural elements of the system including the vaults, covers, hatches, foundations, wet and dry wells, pipe and fittings, and all elements associated with the installation of these items. These elements are all included with the work under Schedule A.

Elements of the Sewer System (Lift Station, Pumps and Equipment) includes furnishing and installing the operational equipment such as the pumps, floats, gauges, operation panels, actuated values and any operating equipment associated with the operation of the lift station that routinely require either power or maintenance. These elements are all included with the work under Option X.

Section 620. - STONE MASONRY

Description

620.01 Add the following:

This work also consists of constructing a composite reinforced concrete wall with stone masonry faces and cap stone, used as the Bus Terminal Stone Wall.

Construction Requirements

620.03 General. Add the following:

All stone faced masonry walls (Reinforced Seating Wall) work is designated as Class A masonry.

All masonry headwall work is designated as Class B masonry.

Construct the concrete retaining wall for the core of the Bus Terminal Reinforced Seating Wall in accordance with Section 601. Provide stone facing as shown on the Plans.

Ensure the stone masonry work is performed by a licensed stone contractor experienced in this type of work. Submit for review by the CO substantiating evidence that the Contractor or Subcontractor(s) is (are) qualified by previous experience in construction of stone masonry. Include the following:

(a) A list of representative projects the Contractor or Subcontractor has completed using the various procedures required to accomplish this type of work, i.e., furnishing, selecting, and placing the stone.

(b) The name and work history of the person(s) employed by the Contractor or Subcontractor(s) who will be in direct supervision of the stone masonry operations. Include a list of projects that such person(s) has been in a position of responsibility for and has successfully completed while in the employment of the Contractor or its Subcontractor(s).

Installation of the first masonry headwall will be a test sample of the Contractor's Masonry work. Complete the first masonry headwall in accordance with the Plans and this Section. Upon completion, notify the CO for review and approval by the Yosemite National Park. Approval of this initial test headwall section is required by the Yosemite National Park Project Manager prior to initiating work on any subsequent masonry walls or structures.

Photograph each existing stone headwall location impacted by construction. Include a clearly legible scale, measured in inches, in each photograph. Label the photographs by Station, and

maintain an office and a field notebook with the documentation. In some cases, more than one photograph may be required to document the entire headwall. Provide two 8 inch x 10 inch copies of each photograph to the CO prior to dismantling the existing headwall. Measure the depth and width of the existing headwall's mortar joints at a minimum of four locations and document the average depth and width.

620.05 Placing Stone. Add the following:

(a) Headwalls. Reconstruct headwalls in a masonry pattern similar to the existing headwalls (using the photographic documentation). If additional stone is required, gain approval from the CO and Yosemite National Park staff on the imported stone to be used prior to any stone placement (See Subsection 105.02). Vary the size of the various imported stones to match the initial stone placement. Select any required additional stones to match the size, texture, color, shape, and weathering of the adjacent original stones. Replicate the character of the mortar joints, including width, depth, color, and texture.

Reconstruction may include adjustments necessary to lower the headwall structure itself to be below the grade of the adjacent roadway. Reconstruction may also require the tooling, re-sizing, and finishing of existing stones to fit the newly finished site.

Measurement

620.12 Add the following:

Measure the stone-faced concrete seating wall by the square yard of the front face of finished wall section, from the top of the footing, to the top of the stone capstone. The single front face area measurement is complete for the entire reinforced seating wall, including the reinforced concrete wall, foundation, all stone facing on both sides of the wall, the stone cap and all other ancillary items to provide a complete seating wall per the project plans.

Section 623. — GENERAL LABOR

Delete the text of this Section and substitute the following:

Description

623.01 This work consists of furnishing workers and hand tools for construction work, survey crews, and furnishing qualified personnel to perform technical work ordered by the CO and not otherwise provided for under the contract.

Construction Requirements

623.02 Workers and Equipment. Furnish competent workers and appropriate hand tools for the work. Provide a crew of sufficient size and qualifications necessary to accomplish the required surveying services within acceptable tolerances.

Obtain approval of the length of a workday and workweek before beginning the work. Keep daily records of the number of hours worked. Submit the records along with certified copies of the payroll.

623.03 Surveying Services. Furnish personnel, equipment, and material that conform to the requirements of Subsection 152.01. Survey according to Section 152.

Survey and establish controls within the tolerances shown in Table 152-1, or within other tolerances as established by the CO.

Prepare field notes in an approved format. Furnish calculations. All field notes, supporting documentation, and calculations become the property of the Government upon completion of the work.

623.04 Technical Services. Furnish qualified engineering personnel experienced in highway construction and design, capable of performing in a timely and accurate manner. Provide personnel with a minimum of NICET Level II certification in highway design and construction, or State (SHA) or industry certification-related design and construction equivalent to their intended responsibilities. Personnel with 2 years or more of recent job experience in the type of highway design and construction provided for under the contract may be used in lieu of certifications. Provide the names and relevant experience of all personnel. Furnish supporting tools and equipment (e.g., calculator, computer, and software, and appropriate and commonly-used drafting tools for the assigned task).

All calculations, notes, and supporting documentation become the property of the government upon completion of the work.

623.05 Acceptance. General labor work will be evaluated under Subsection 106.02.

Additional surveying services will be evaluated under Section 152.

Hired technical services will be evaluated under Subsections 106.02 and 106.04.

Measurement

623.06 Measure the Section 623 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

Round portions of an hour up to the nearest half hour. Measure time in excess of 40 hours per week at the same rate as the first 40 hours.

Measure surveying service by the crew hour regardless of crew size. Do not measure time spent in making preparations, performing calculations, plotting cross-sections, processing computer or other data, and other efforts necessary to successfully accomplish the ordered survey services.

Do not measure time for worker's transportation to and from the project site.

Measure office technical services by the hour, as ordered by the CO, for performing calculations, plotting cross-sections, and processing computer or other data.

Payment

623.07 The accepted quantities will be paid at the contract price per unit of measurement for the Section 623 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this section. See Subsection 109.05.

Section 625. — TURF ESTABLISHMENT

625.07 Seeding.

(b) Hydraulic method. Delete the second sentence and substitute the following:

Add a tracer material consisting of wood fiber mulch. Application rate will be in the range of 12 to 20 pure live seed pounds per acre as directed by the CO.

Delete the last sentence and substitute the following:

Seed by hand areas inaccessible to seeding equipment. Do no perform hand seeding when wind speeds are 10 miles per hour or greater. Evenly disburse seed by hand or with a small mechanical seeder. Minimize seed separation in containers by using an inert carrier agent such as fine weed free sand or weed free rice hulls or frequently mix the seed. Lightly rake the seed making sure the seed is buried approximately ¼ inch throughout. Do not over bury the seed.

Add the following:

Apply mulching, hydraulic method, in a separate application as per Subsection 625.08(b).

625.08 Mulching.

(b) Hydraulic method. Delete the second paragraph and substitute the following:

Apply wood fiber mulch at a rate of 1500 pounds per acre. Apply plant based guar gum tackifier at a rate of 80 pounds per acre on slopes less than 1V:3H, and at a rate of 100 pounds per acre on

slopes 1V:3H or greater, according to the manufacturer's recommendations. Apply tackifier with a gentle spray so that the application does not initiate erosion.

Measurement

625.11 Delete the second sentence and substitute the following:

When measuring turf establishment and supplemental applications by the acre (hectare) or square yard (square meter), measure on the ground surface.

Add the following:

Do not measure mulching, hydraulic method separately for payment. This work is subsidiary to pay item 62510-2000, Seeding, Hydraulic Method.

Section 629. — ROLLED EROSION CONTROL PRODUCTS AND CELLULAR CONFINEMENT SYSTEMS

Construction Requirements

629.05 (a) Slope Installations. Delete the text and substitute the following:

(a) Slope Installations. At the top of the slope, anchor the RECP by using an anchor trench.

(1) Anchor trench. Construct a 6- by 6-inch (150- by 150-millimeter) trench. Extend the upslope terminal end of the RECP 36 inches (900 millimeters) past the trench. Use staples on 12-inch (300-millimeter) centers to fasten the RECP into the trench. Backfill the trench and compact the soil. Secure the terminal end with a single row of staples on 12-inch (300-millimeter) centers and cover the end with soil. Apply turf establishment to trench.

Securely fasten all RECP to the soil by installing staples according to the manufacturer's recommendations.

Section 633. — PERMANENT TRAFFIC CONTROL

Description

633.01 Add the following:

This work also consists of surveying existing snow pole locations, removing, salvaging, and replacing snow poles at the surveyed location on both sides of the roadway.

Construction Requirements

633.04 Sign Posts. Add the following:

Unless specified otherwise in the Plans, install wooden sign posts.

633.05 Sign Panels. Add the following:

For all permanent sign panels, uniformly apply a 2-inch (50 millimeters) wide protective overlay film to the upper edge(s) of the sign and wrap over the front and back of the sign panel equally. Apply the film using methods recommended by the manufacturer. Film must be manufactured expressly for use as a protective overlay film for outdoor traffic signs.

Film must be applied during manufacture of signs; field installation is not permitted.

Section 634. — PERMANENT PAVEMENT MARKINGS

Construction Requirements

634.03 General. Add the following to the ninth paragraph:

Apply glass beads to parking lot markings at the direction of the CO.

Measurement

634.12 Amend as follows:

Add the following after the first paragraph:

When two applications of paint are required, measure each application.

Delete the second paragraph and substitute the following:

When pavement markings are measured by the linear foot (meter), measure the length of line applied along the centerline of each line applied regardless of color or line width. Measure broken or dotted pavement lines from end to end of the line including gaps. Measure solid pavement lines from end to end of each continuous line. For wide lines (12 inches (300 millimeters) in width or greater), adjust the measured length of line in the ratio of the required width to 4 inches (100 millimeters).

Section 635. — TEMPORARY TRAFFIC CONTROL

Description

635.01 Delete the second paragraph and substitute the following:

Arrow board, portable changeable message sign, barricade, and warning light types are designated in the MUTCD.

Material

635.02 Delete the Subsection and substitute the following:

635.02 Conform to the MUTCD and the following Sections and Subsections:

Concrete barrier (temporary)	618
Delineator and object marker retroreflectors	718.08
Guardrail (temporary)	617
Retroreflective sheeting	718.01
Sign panels	718.03
Sign posts	718.04
Sign hardware	718.06
Temporary plastic fence	710.11
Temporary pavement markings	718.16

Construction Requirements

635.07 Construction Signs. Amend as follows:

Delete the first paragraph and substitute the following:

Fabricate and install sign panels according to Subsection 633.05. Use Type III, IV, VIII, IX, or XI prismatic retroreflective sheeting. Use fluorescent sheeting for orange signs. For roll-up signs, use fluorescent Type VI retroreflective sheeting.

Add the following:

Provide the same type of sheeting on all post-mounted construction signs that pertain to the project.

Use crashworthy posts within the traversable area adjacent to traffic.

635.09 Flaggers. Add the following:

Perform the work described under MUTCD Part 6. Use fluorescent retroreflective sheeting on the "SLOW" side of the flagger paddle.

635.13 Temporary Pavement Markings and Delineation. Add the following:

For seasonal suspensions, apply the permanent pavement marking pattern with temporary traffic paint.

(d) Delineation for Unmarked Pavements with Vehicle Positioning Guides. For unmarked pavements, install signing and vehicle positioning guides as indicated in the Plans. Use vehicle positioning guides that meet the requirements of Subsection 718.16(b), pavement markers.

Remove all vehicle positioning guides before placing additional pavement layers. Remove all vehicle positioning guides from the surface course before placing permanent pavement markings.

635.13 Temporary Pavement Markings and Delineation. Add the following to the last paragraph:

If permanent pavement markings are not placed within 14 days, provide, at no cost to the contract, additional temporary delineation equivalent to the permanent pavement marking pattern required by the contract.

Measurement

635.24 Amend as follows:

Add the following:

Measure flaggers, for each hour a person is actually performing the work. Do not measure time required to set up and take down required signage.

Delete the second paragraph and substitute the following:

When measuring temporary traffic control pay items, measure only one time even if relocated or replaced.

Delete the first four sentences in the sixth paragraph and substitute the following:

Measure temporary pavement markings by the linear foot along the centerline of the roadway. Measure temporary pavement markings as a single measurement, inclusive of all markings, from end to end regardless of color, material type, or number of lines. Do not deduct for standard gaps between stripes.

Add the following:

Measure vehicle positioning guides used at the option of the Contractor in lieu of temporary markings as equivalent temporary pavement markings When vehicle positioning guides exceed the period of use stated in the plans, provide additional temporary or permanent pavement markings at no cost to the Government. Measure vehicle positioning guides by linear foot along the centerline of the roadway. Measure as a single measurement, inclusive of all markings, from end to end regardless of material type, gaps or number of lines. Measure only one application of vehicle positioning guides per lift. "DO NOT PASS", "PASS WITH CARE", and "NO CENTER STRIPE" signs required to be used with vehicle positioning guides are subsidiary to the temporary pavement marking item. Do not measure these signs as construction signs.

Section 636. - SIGNAL, LIGHTING, AND ELECTRICAL SYSTEMS

Description

636.01 Add the following: This work also consists of the following:

Option X: System Installation, Electrical (Transformer / Switch Relocation). This work includes all electrical equipment not included with the sewer lift station, required to complete and make functional the sewage lift station, comfort station, and potable well site with respect to electrical power. While separate items are provided for conduit, vaults, and pull boxes, all other work and equipment necessary to convey power from the existing power vaults in Northside Drive to the Bridalveil Parking lot are considered included in this item, including but not limited to, conductors, transformers, switches, heat trace equipment and enclosures, heat trace tape, grounding rods fittings, and supporting appurtenances, incorporating all elements described and detailed on Sheets U1 through U14, U22 through U24, and U27 through U28 of the Plans.

Conduit, 3-Inch PVC (Joint Trench Force Main). This work includes all sewer force main (3-inch HDPE), electrical (4-inch PVC), communication (4-inch PVC), and heat trace (1½-inch PVC) conduit to create a working utility joint trench of facilities from the connections to existing electrical vaults in Northside Drive to the sewage lift station in the Bridalveil Parking Lot. While separate items are provided for vaults with covers, and pull boxes, all other work and equipment necessary to convey sewerage, communications, and power from the existing power vaults in Northside Drive to the Bridalveil Parking lot are considered included in this item, including but not limited to, insulated HDPE force main, mylar marking tape, bare copper trace

wires, pavement sawcut, pavement removal, trenching, backfill, red-dye stained concrete encasement, new roadway pavement section replacement, grading, and bridge attachments/supports as detailed on Sheets U1 through U14, and U22 through U26 of the Plans.

See Appendix A for additional specifications associated with the sewer lift station and the associated electrical joint trench.

Construction Requirements

636.03 Add the following before the first paragraph:

Construct all sewer portions of the Joint Trench Force Main including the 3-inch HDPE "conduit" used for the sewer force main in accordance with Section 612

Measurement

636.13 Add the following:

Measure the Conduit, 3-Inch PVC (Joint Trench Force Main) listed in the bid schedule by the lineal foot of combined trench, starting at the connection to the existing electrical system in Northside Drive, and ending at the comfort station in Bridalveil Parking Lot. Measure along the centerline of the main duct bank. Do not measure any separate connections to blow-off valves, vaults, or pullboxes, these quantities are included but not measured under this item.

Measure Utility Trench (Concrete Duct Bank, Earthen Areas) for all areas outside the existing roadway on Southside Drive and Wawona Road, including but not limited to the Bridalveil Falls Parking Lot and Water Tank Road.

Measure utility trench imported backfill under Section 204.

Add the following Section:

Section 645. – LOCATING UTILITIES

Description

645.01 This work consists of locating and marking existing utilities by excavating exploratory hole where there could be a physical conflict of an existing utility with the proposed construction.

Materials

645.02 Replace the materials excavated or with their equivalent of newly furnished materials to restore the exploratory hole area to its original condition, conforming to the applicable sections of this specification.

Construction Requirements

645.03 General. Identify locations of potential conflicts to ensure the work will not impact existing facilities. Submit proposed excavation locations to the CO at least 7 days in advance of excavation. Do not start excavations until locations are approved by the CO.

Exercise care and extreme caution in order to protect and avoid damage to any utility company facilities. Locate and ensure the safety of all existing utilities. Repair any damage resulting from Contractor's operations at no additional expense to the Government or the utility company.

Locate by minimally intrusive exploratory holes any utility that may be in conflict with the proposed work. If a conflict appears to exist, then notify the CO in writing immediately and provide information on the location and elevation of the utility so that the CO can adjust the proposed work.

645.04 Locating Utility. Use electromagnetic devices to establish alignment of utilities where applicable. When necessary, thread a metal rod through non-metallic utility pipes to locate them. Where neither method is feasible, locate the utility by perpendicular trench or exploratory holes.

645.05 Excavation. To excavate the exploratory hole, clear the hole area of surface debris. In paved areas, neatly cut and remove existing pavement. Limit the size of the pavement cut to 225 square inches unless otherwise approved by the CO. Excavate by air-vacuum methods or equivalent, keeping the area of disturbance to a minimum.

Excavate the exploratory hole. Limit the nominal diameter of the exploratory hole surface hole to 15 inches, unless otherwise approved. Excavate carefully so as not to disturb utility at its assumed depth. Expose the utility only to the extent required for identification and data collection purposes. Avoid damage to lines, wrappings, coatings, cathodic protection or other protective coverings and features. Hand-dig as needed to supplement mechanical excavation and to ensure safety. Repeat as necessary to positively expose the utility. Store excavated material for re-use or disposal, as appropriate.

645.06 Record. Measure and record the following information on a formatted exploratory hole data sheet that includes as a minimum: Elevation of top and/or bottom of the utility tied to the project datum, elevation of existing grade over utility at exploratory hole, horizontal location referenced to project coordinate datum, field sketch showing horizontal location referenced to a minimum of three (3) swing ties to physical structures existing in the field and shown on the project plans, approximate centerline bearing of utility line, outside diameter of pipe, width of duct

banks, and configuration of non-encased multi-conduit systems, utility structure material composition, when reasonably ascertainable, identification of benchmarks used to determine elevations, utility facility condition, pavement thickness and type when applicable, soil type and site conditions, identity of utility owner / operator, and other pertinent information as is reasonably ascertainable from the exploratory hole.

Submit a copy to the CO within 24 hours.

645.07 Marking. Mark the utility location by flags or paint. Maintain the markings, including repainting faded or damaged markings as ordered by the CO, for the duration of the project, or until the CO determines that the markings are no longer needed.

645.08 Restoration. Backfill with original material, thoroughly compacting the material with a mechanical tamper. Restore aggregate base courses and pavement using equivalent materials and thicknesses. For portland cement concrete pavements, use fast setting concrete. For asphalt concrete pavements, cold patch, resurfacing of pit will be permitted so long as, in the opinion of the CO, it is thoroughly compacted.

645.09 Acceptance. Locating utilities will be evaluated under Subsection 106.02.

Measurement

645.10 Measure the Section 645 items listed in the bid schedule according to Subsection 109.02.

Locating Utilities is measured by the excavated exploratory hole. Other related items, including, but not limited to coordination, survey, electromagnetic detection, recording, backfill, repair, or restoration efforts or materials associated with utility locating and potholing, will not be measured separately for payment.

Payment

645.11 The accepted quantities will be paid at the contract price per unit of measurement for the Section 645 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Section 702. — ASPHALT MATERIAL

702.01 Asphalt Binder. Delete the Subsection and add the following:

702.01 Asphalt Binder. Conform to M 320, Table 1.

In AASHTO M 320, Table 1 replace footnote *g* with the following:

[g] If the creep stiffness is below 300 MPa, the direct tension test is not required. If the creep stiffness is between 301 and 600 MPa, the creep stiffness value shall be used. The *m*-value requirement must be satisfied in both cases.

702.02 Emulsified Asphalt.

702.02 (b) Polymer-modified emulsified asphalt for micro-surfacing. Delete the paragraph and substitute the following:

Conform to ISSA A143, except use Section 7, *Emulsified Asphalt Residue by Evaporation* of AASHTO T 59 to determine percent residue.

Section 703. — AGGREGATE

703.01 Add the following:

703.01 Fine Aggregate for Concrete.

(c) Sand equivalent value, AASHTO T 176, Alternate Method No. 2	75 min.

703.05 Subbase, Base, and Surface Course Aggregate.

(c) Surface Course Aggregate. Add the following:

(4) Dust ratio:	$\frac{\%\text{ passing \#200}}{\%\text{ passing \#40}}$	2/3 max.

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, will consist of natural or crushed sand and fine mineral particles.

Delete Table 703-3 and substitute the following:

Table 703-3
Target Value Ranges for
Surface Course Gradation and Plasticity Index

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)
¾ inch (19 mm)	100 [(1)]
No. 4 (4.75 mm)	41-71 (6)
No. 40 (425 µm)	12-28 (4)
No. 200 (75 µm)	9-16 (3)
Plasticity Index (PI)	8 (4)

[(1)] Statistical procedures do not apply.
( ) Allowable deviations (+/-) from the target values.

703.06 Crushed Aggregate. Add the following to the end of the paragraph:

When aggregate is used as a surface course, furnish an aggregate with a Plasticity index (AASHTO T 90) conforming to Table 703-3a.

Table 703-3a
Surface Course Gradation and Plasticity Index

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)
¾ inch (19 mm)	100
No. 4 (4.75 mm)	41-71
No. 40 (425 µm)	12-28
No. 200 (75 µm)	5-20
Plasticity Index (PI)	4-12

Section 704. – SOIL

704.04 Structural Backfill. Delete line (c) and add the following:

(c) Plastic index, AASHTO R 58 and T 90 6 max.

(d) Liquid limit, AASHTO R 58 and T 89 30 max.

704.07 Select Borrow. Delete line (b) and add the following:

(b) Liquid limit, AASHTO R 58 and T 89 30 max.

(c) Plastic index, AASHTO R 58 and T 90 — 6 max.

704.08 Select Granular Backfill.

(a) Quality requirements. Delete lines (2) and (4) and substitute the following:

(2) Peak shear maximum angle of internal friction on the portion passing the No. 4 sieve, AASHTO T 236 — 34° min.

(4) Plastic index, AASHTO R 58 and T 90 — 6 max.

(a) Quality requirements. Add line (6):

(6) Liquid limit, AASHTO R 58 and T 89 — 30 max.

(b) Electrochemical requirements for MSE walls with metallic reinforcements. Delete the Note and substitute the following:

Note: Tests for sulfate and chloride content are not required when the pH is between 6.0 and 8.0 and resistivity is greater than 5000 ohm centimeters.

Section 705. — ROCK

705.06 Rock for Rockeries. Delete the following:

(d) Coarse durability index, AASHTO T 210 — 52 min.

Add the following:

705.08 Wall Facing Fill. Furnish hard, durable, angular rock that is free of organic or other unsuitable material. Angular rock is characterized by sharp, clean edges at the intersections of relatively flat surfaces. Do not use shale, rock with shale seams, or other fissile or fissured rock that may break into smaller pieces in the process of handling and placing. Conform to the following:

(a) Gradation. Furnish rock with breadth and thickness at least one-third its length with a 6 in (150 mm) maximum dimension. Ensure that 95 percent of wall facing fill particles minimum dimension exceeds welded wire facing opening with remaining 5 percent exceeding one-half welded wire facing opening.

(b) Soundness of aggregate using sodium sulfate, AASHTO T 104 (5 cycles) — 15 percent loss max.

(c) Los Angeles abrasion, AASHTO T 96 — 50 percent max.

Section 710. — FENCE AND GUARDRAIL

710.04A Split Rail Fence. (Added Subsection).

(a) Wood posts.

Use rough-squared No. 1 Grade Western Red cedar split rail fence posts of the dimensions shown on the Plans.

(b) Wood rails.

Use rough-squared No. 1 Grade Western Red cedar split rail fence rails of the dimensions shown on the Plans.

710.11 Temporary Plastic Fence.

(c) Delete the text and replace with the following:

Color Black

Section 713. – ROADSIDE IMPROVEMENT MATERIAL

713.04 Seed. Delete the Subsection and substitute the following:

The Government will supply all seed. Notify the CO 21 days before the seed is needed.

713.05 Mulch.

(b) Wood fiber. Delete the subsection and replace with the following:

Furnish mulch consisting of 100% Aspenwood fibers, with no dye, or dye chunks/pellets that are easily removed. Furnish mulch with a minimum of 50% of fibers equal or greater than 0.15 inch, 75% or greater will be retained on a 28 mesh screen. Also conforming to the following:

(1) Readily dispersible in water;

(2) Nontoxic to seed or other plant material;

(3) Free of growth or germination inhibiting substances;

(4) Free of weed seed;

(5) Air dried to a moisture content of 10±3 percent;

(6) Ash content (oven dried basis) 0.7± 0.2 percent

(7) Organic matter (oven dried basis)	99.3± 0.2 percent
(8) Water-holding capacity	1402% by mass
(9) pH	5.3 to 5.5

(10) Packaged in new labeled containers with the manufacturer's name; and

(11) Packaged in a condition appropriate for mixing in a homogeneous slurry suitable for application with power spray equipment.

713.12 Fiber Rolls and Socks.

(a) Excelsior fiber rolls. Delete the first sentence and substitute the following:

Provide excelsior (certified weed free) logs that consist of drainage filter made of curled aspen wood excelsior and rolled into a cylindrical shape with a consistent width of fibers evenly distributed throughout the cylinder. Provide logs a minimum of 6 inches and a maximum of 12 inches in diameter. They shall contain a minimum of 3 pounds of wood fiber per 12 inches encased in a 100% all natural jute/scrim or coir netting and not contain plastic or polymer photodegradable netting material. Certify that all material in the log is weed free. Submit a sample log for approval to the CO two weeks prior to the installation. The CO will approve the log in consultation with a National Park Service representative.

(b) Straw fiber rolls. Delete the first sentence and substitute the following:

Furnish erosion control wattles of a minimum of 6 inches and maximum of 12 inches in diameter. Provide 100% biodegradable, sediment control log/wattle of 100% Rocky Mountain Aspen excelsior wood fiber or 100% coir (coconut) fiber bound by a strong jute/scrim or coir twine outer netting with a functional longevity of up to 24 months. The netting shall have a strand thickness of .03 inch and a knot thickness of .055 inch and a weight of .35 ounce per foot (each +/- 10%) and shall be made from 85% high density polyethylene, 14% ethyl vinyl acetate and 1% color for UV inhibition. Provide fiber rolls a minimum of 6 inches (+/- one inch) and a maximum of 12 inches in diameter. Submit a sample for approval to the CO two weeks prior to the installation. The CO will approve the product in consultation with a National Park Service representative.

713.17 Temporary Rolled Erosion Control Products. Add the following to the first paragraph:

Provide excelsior (certified weed free) products that consist of filters made of curled aspen wood excelsior. Certify that all material in the filters are weed free. Submit a sample temporary rolled erosion control product for approval to the CO two weeks prior to the installation. The CO will approve the filters in consultation with a National Park Service representative.

Section 718. — TRAFFIC SIGNING AND MARKING MATERIAL

718.01 Retroreflective Sheeting. Add the following:

Furnish fluorescent type sheeting for all signs and all devices specifying an orange or a yellow background.

Section 725. — MISCELLANEOUS MATERIAL

725.04 Pozzolans. Delete line (a) and substitute the following:

(a) Fly ash. Conform to AASHTO M 295 Class C or Class F. When used to mitigate alkali-silica reactivity, also available alkalies as equivalent Na_2O	4.5 percent max