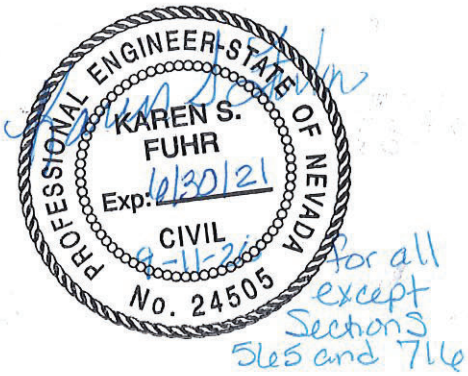
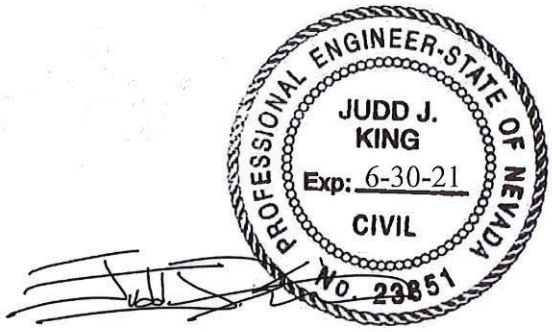
SPECIAL CONTRACT REQUIREMENTS

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.





For SCR Sections
565 and 716

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

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

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
ºF	—	degrees Fahrenheit	temperature
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 **in^2**	—	square inches	area
sq. ft., **sf**, **ft^2** or **SQFT**	—	square feet	area
sq. yd., **sy**, **yd^2** 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 add 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 ($N \cdot m$)	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.

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).

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

104.03 Specifications and Drawings. Add the following to Subsection (b) (2)**:**

(o) Soldier pile retaining wall details, layout, and installation and testing procedures

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.

Add the following:

Certify, according to Subsection 107.10 (d)(2), that sources of rock, sand, gravel, earth, subsoil, or other natural material imported into the project construction limits are noxious weed free.

105.04 Storing and Handling Material. 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:

The Contractor may use the potential areas shown on the site map for staging areas with the approval of the CO. Areas shown as potential staging areas are to be brought back to before construction conditions by the contractor at no cost to the Government.

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.

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. 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	-----
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	-----

Section	Description	Material	Material Property Or Specification	Frequency	
				Certification	Sample
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	-----
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	-----

Section	Description	Material	Material Property Or Specification	Frequency	
				Certification	Sample
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:

Section 401 and 404 of the Clean Water Act.

Comply with the terms and conditions of any permits that are issued for the performance of work within the waters of the U.S., including Section 404 permits, Section 401 water quality certifications, and Nevada Working in Waterways permit. Section 401 and 404 permits are attached in the appendices.

National Pollutant Discharge Elimination System (NPDES) for Nevada

Comply with the requirements of the Nevada General Storm Water Permit NVR100000 for erosion and sediment control due to storm water runoff. A copy of the permit is located at:

https://ndep.nv.gov/water/water-pollution-control/permitting/stormwater-discharge-permits/construction-sites-greater-than-1-acre

This permit will expire on 01/04/ 2020. Amend the SWPPP and site plan when the new permit goes into effect to meet new permit conditions.

(a) General. Designate a qualified Erosion Control Supervisor according to Subsection 157.03.

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 the Storm Water Pollution Prevention Plan (SWPPP). The Government has prepared a preliminary SWPPP. Update the preliminary SWPPP for the project or develop a new SWPPP and provide to the CO for review. When the SWPPP is accepted by the CO and signed by both the CO and the Contractor, it will be the document in force on the project. Implement the SWPPP as required throughout the construction period.

Modify the erosion control details and layout sheets included in the plans, as necessary, to accommodate project site conditions and proposed construction operations and include them in the SWPPP.

(c) Notice of Intent (NOI). The Government will file the NOI as the owner and with the Contractor as the operator. Submit the NOI no later than 14 days prior to the start of the permitted activity. Do not perform any ground disturbing activities including clearing, grubbing, or earthwork until an acknowledgement letter from the Nevada Division of Environmental Protection, Bureau of Water Pollution Control.

Post all project authorization numbers near the entrance to the site and on the bulletin board.

(d) Inspections and Revisions to the SWPPP. Conduct inspections of the erosion, sediment, and other pollutant controls in compliance with the General Permit. Document inspections and retain records in the SWPPP.

Revisions to the SWPPP 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. Implement approved changes according to the General Permit.

(e) Notice of Termination (NOT). The Government will file a NOT.

At the completion of the project, provide the CO with the complete SWPPP, including inspection forms, logs, and all other required documentation added during the project.

107.02 Protection and Restoration of Property and Landscape

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	Status 1, 2, 3, or 4
1	Nevada State Parks	Water	Tim Hunt	775-684-2772	2

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.

Additional details and special requirements for each utility are as follows:

Nevada State Parks Waterline: A 3" PVC waterline, with isolated locations of 2" waterline, is located within the roadway prism of Union Canyon and Fossil House Roads. Location of waterline shown on plans is approximate. Verify location prior to ground disturbing activities.

Relocate waterline to accommodate proposed improvements. Submit waterline relocation plan, including alignment, isolation valve locations, and fittings to CO for approval at least 2 weeks prior to beginning work.

Use NSF/ANSI-61 certified water pipe and fitting, primers, and solvents as compatible with drinking water. Install water line with not less than 42-inches of cover. Complete the following disinfection, bacterial testing, and hydro-static pressure testing elements prior to bringing water line into service.

Disinfect all water system components in situ and sample in accordance with AWWA C651. Fill water main with water and chlorine and hold chlorinated water in the system for twenty-four hours. After retention period, test water to ensure acceptable residual chlorine content of not less than 25 mg/l and not more than 100 mg/l. Complete testing in the presence of the CO. Following testing, thoroughly flush line to remove heavily chlorinated water.

Prior to hydro-static pressure testing, complete bacterial testing of the finished water line by collecting and testing samples in accordance with Standard Methods for the Examination of Water and Wastewater to demonstrate the absence of coliform organisms and the presence of a chlorine residual. The water main, or portion thereof as represented by the test sample, shall not be accepted if there are any bacteria present.

Perform hydro-static pressure testing in accordance with AWWA C600 and C605. Complete testing in the presence of the CO. Filed test all water line pipe to a minimum of 150 psi at all points in the water line for a two (2) hour duration. Test pressure shall not drop more than 5 psi for the duration of the test, allowable leakage for each section of pipe between line valves shall not exceed the leakage rate determined by the following formula:

$$L = \frac{SD(P)^{1/2}}{148{,}000}$$

where: L = the maximum allowable leakage in gallons per hour
S = the length of pipe tested in feet
D = the nominal pipe diameter in inches
P = the average gage pressure, in pounds per square inch, applied to the line being tested

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.

107.10 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.

(b) Oil and hazardous substances. 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:

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

(c) Dirt, plant, and foreign material. Add the following:
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. Allow the CO to inspect each piece of equipment before entering the project. Provide the cleaning and inspection records to the CO. Equipment found operating on the project that has not been inspected, or has oil leaks will be shut down and subject to citation.

(d) Clearances for Contractor-selected, noncommercial areas. Add the following to the end of the first paragraph:

Do not import into the project limits rock, sand, gravel, earth, subsoil, or other natural materials from a Contractor-selected non-commercial materials source, that have not been certified free of noxious weeds. Materials imported into the project limits which do not include a noxious weed free certification may be rejected and ordered by the CO to be removed from the project limits. The CO has the discretion of requesting inspection of

certified materials by a third party, and rejecting the use of the source if noxious weeds or seeds thereof are found to be present.

Add the following:

(5) Any required Certifications.

Add the following after (d):

(e) Paleontological and Cultural Resources.

Known paleontological and cultural resources are located along Fossil House and West Union Canyon roads and in the parking lot and graded area behind Fossil House. The Government will provide a qualified paleontological monitor that will be on-site for ground-disturbing activities along Fossil House Road and near the Fossil House and will provide a qualified archaeological monitor that will be on-site for ground-disturbing activities along West Union Canyon Road. Notify CO a minimum of 2 weeks prior to work activities requiring a monitor and coordinate communication and scheduling of the monitors with the CO.

If fossils or archeological artifacts are discovered at any location within the project area during construction, all construction activities shall stop a minimum of 30 feet around the discovery, at the discretion of the monitor. FHWA-CFLHD will implement measures in the Cultural Resources Monitoring and Unanticipated Discovery Plan and Paleontological Resources Monitoring and Mitigation Plan, as appropriate. Do not begin construction activities in the area until approved by the CO.

(f) Nesting Birds and Bats.

Tree and vegetation removal is scheduled between February 1st and September 15th. The Government will provide a qualified biologist to conduct pre-construction surveys for active migratory bird and bat nests. Breeding and nesting behaviors will be recorded, and nest locations will be documented using a GPS. Trees with cavities will be removed before April; however, if active roosting colonies are found, the trees will not be removed until after the maternal roosting season ends (typically in July). If tree and vegetation removal occurs between September 16th and January 31st, these measures are not required.

If active nests are identified during the nesting season (February 1st through September 15th), a no-disturbance buffer shall be established around the nests. The extent of the no-disturbance buffers shall be determined by a wildlife biologist and shall depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographic or artificial barriers. The purpose of the buffer is to avoid disturbance or destruction of the nest until after the breeding season, or until a wildlife biologist determines that the young have fledged (usually late-June to mid-July). Within this buffer, construction activities shall be avoided while the nest is considered active or sensitive to disturbance. However, construction activities can

proceed if the biological monitor determines that the individual is not likely to abandon the nest during construction.

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

Prior to construction, all workers will receive an orientation session (Worker Environmental Awareness Training) to be conducted by the Government. Notify the CO at least two weeks before starting work so an orientation session can be coordinated. All workers that have completed the training shall sign a form stating that they attended the orientation session and understand all the conservation and protection measures. It will be the responsibility of the Contractor to allow for all workers to attend the session.

The Forest Service fire prevention plan involving emergency curtailment of operations is included in the Appendix and is in effect on this project. The CO will order the suspension of burning and other operations when directed to do so by the Forest Service. No adjustment in the contract completion date will be made for partial or total suspensions of burning operations.

Section 108. — PROSECUTION AND PROGRESS

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

Limit operations as follows:

(a) Do not begin work on retaining wall until pre-construction condition survey on the Fossil House structure is completed by Government. Notify CO a minimum of 2 weeks prior to work activities to coordinate scheduling of survey.

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 am Tuesday	-
Independence Day	12:00 Noon July 3 to 6:00 am 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 am Tuesday	-

Thanksgiving	12:00 Noon Wednesday to 6:00 am Monday	-
Christmas / New Year's	12:00 Noon December 23 to 6:00 am 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. No ground disturbance is allowed until March 8, 2021. The contract completion date is November 13, 2021.

Add the following:

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:

https://highways.dot.gov/federal-lands/estimates/forms

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 the 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

Construction Requirements

152.04 General. Add the following to the second paragraph:

The Government will establish basic survey control points for vertical and horizontal control of the project.

The Government will furnish the following:

(1) Computer listings containing: horizontal alignment, vertical alignment, and earthwork quantities. Staking details showing superelevation template data and slope information provided through the limits of the soldier pile wall only.

152.04 General. Add the following to the second paragraph:

The Government will furnish the following:

(1) Horizontal and vertical alignment staking information. (Vertical STA 11+04.00 to STA 16+00.00 only)

(2) Digital terrain model of existing ground.

(3) Digital terrain model of proposed design through the limits of the soldier pile wall (STA 11+30.00 to STA 14+93.67) only.

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.

(d) Slope and reference stakes. Delete paragraph (1) AMG method.

(f) Grade-finishing stakes. Delete paragraph (1) AMG method.

(g) Culverts. Delete the text 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 the 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.

Add the following:

(m) Low Water Crossings. Verify stationing shown in the plans by measuring along the existing centerline with a method approved by the CO. Calibrate all measuring devices and furnish calibration data to CO before use. Use landmarks (e.g., culverts, turnouts, approach roads) to verify that the ground stationing matches the stationing shown on the plans. Use white spray paint to mark each centerline station. Add station equations to adjust field

stationing to match the plans. Notify the CO on any readjustment or change to stationing or establishment of additional centerline points.

In addition to the specific points called out on the plans, measure the existing surface width at 100 foot (30 meters) stationing intervals on tangent and at 50 foot (15 meter) intervals on curves. At each location, each side of the roadway and outside the construction limits, place an offset stake of adequate dimensions to place all required information. Label each stake with the following information corresponding to each respective lane:

(1) Station;

(2) Offset from centerline of low water crossing, roadway, or other location;

(3) Offset from the proposed edge of low water crossing or roadway;

(4) Existing low water crossing or roadway cross-slope. If cross-slope is to be changed, provide proposed change;

(5) Offset to existing/proposed paved ditch, including ditch cross-slope, if different from mainline, and ditch width; and

Measure stations to the nearest foot (meter), offsets to the nearest 2 inches (50 millimeters). Record the above information and provide one printed copy to the CO.

Use this recorded information to control the proposed roadway width.

Add the following:

(n) Roadway Cross Sections. Verify stationing shown in the plans by measuring along the existing centerline with a method approved by the CO. Calibrate all measuring devices and furnish calibration data to CO before use. Use landmarks (e.g., culverts, turnouts, approach roads) to verify that the ground station matches the stationing shown on the plans. Use white spray paint to mark each centerline station. Add station equations to adjust field stationing to match the plans. Notify the CO on any readjustment or change to stationing or establishment of additional centerline points.

Take roadway cross-sections normal to centerline. Take cross-sections at a maximum centerline spacing of 50 feet. Take additional cross-sections at significant breaks in topography and at changes in the typical section. Along each cross-section, measure and record points at breaks in topography, but no further apart than 20 feet and establish best fit profile grade. Measure and record points past the anticipated slope stake and reference locations. Reduce all cross-section distances to horizontal distances from centerline.

Submit one printed copy of tabular data and plotted cross sections with proposed roadway work for review by the CO. Show stations, offset and elevation locations from centerline for existing hinge point and grade breaks. Provide offset from centerline and elevations for proposed edge of aggregate, shoulder hinge point, profile grade, and toe of slope for each

cross section. Label proposed fill slope and proposed roadway cross slope. Adjust as required to best fit existing terrain.

Deliver all data to the CO after completing the roadway cross-section survey and drainage layout. Submit data to CO at least 7 days prior to anticipated construction. Do not order materials or begin embankment construction on the proposed sites until the proposed grading plan has been approved.

Set slope stakes according to Subsection 152.03(c) for all cross-section stations identified in the plans or as established in this section.

Re-cross section the roadway after final grading is completed for final pay quantities. Submit one printed copy of tabular data and plotted cross sections with completed work for review by the CO.

Add the following:

(n) Parking Area. Prior to aggregate reconditioning, measure existing pavement grades and confirm conformance with plan ADA and drainage requirements. Provide a record of measurements and corresponding slopes to CO for approval prior to beginning surfacing operations. Make additional measurements, at no additional cost to the Government, when requested by the CO.

Measurement

152.07 Delete the third paragraph and substitute the following:

Do not measure miscellaneous survey and staking.

152.07 Add the following to the fourth 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 Add the following:

Measure centerline verification and 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 subsection

(a)(2) Part-time, on-site QCM. Delete the paragraph and substitute the following:

Furnish a QCM who has at least two years of experience in highway construction, inspection, quality control, material testing, and (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. 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.

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.

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. 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

156.05 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.

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 16 feet (4.9 meters).

(i) Delete the text and substitute the following:

Union Canyon Road and Fossil House Road will be closed to the public during construction. Closure of Union Canyon Road will be just past the mill site near the park entrance. Notify motorists of closure using portable changeable message sign at intersection of SH 361 and SH 844 near the town of Gabbs. Maintain access for State Parks and US Forest Service staff at all times.

Add the following:

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

156.08 Nighttime Operations. Delete the second paragraph and replace with the following:

No nighttime operations are permitted.

Section 157. — SOIL EROSION AND SEDIMENT CONTROL

157.04 General. Add the following:

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

Section 203. — REMOVAL OF STRUCTURES AND OBSTRUCTIONS

203.03 Salvaging Of Material.

Add the following:

Salvage removed gate on Fossil House Road. Gate will become property of Nevada State Parks contact Jeff Morris Park Supervisor (775)964-2440 to coordinate.

Construction Requirements

203.05 Disposing Of Material.

(b) Burn. Delete the subsection.

(c) Bury. Delete the subsection.

Section 204. — EXCAVATION AND EMBANKMENT

Materials

204.03. Add the following:

Crushed aggregate	703.06
Geotextile	714.01(a)
Asphalt concrete	403, Type II

Construction Requirements

204.05 Conserved Topsoil. Delete the first sentence and substitute the following:

Conserve topsoil from the roadway excavation and from embankment foundation areas to the extent and depth determined by the CO.

204.06 Roadway Excavation.

(a) Rock cuts. Add the following:

When blasting rock, use controlled blasting methods according to Subsection 205.08(b).

204.07 Subexcavation. Delete the subsection and substitute the following:

204.07 Subexcavation.

Use separation-stabilization geotextile, class 1, type E.

Notify the CO of type and source of backfill material anticipated for subexcavation work at the preparatory phase meeting according to Subsection 153.04(a). Excavate unsuitable materials to the limits designated in the plans, or as directed by the CO. Notify the CO of any additional locations requiring subexcavation, or which require a change in surface dimension or depth. Advise the CO of any adverse conditions such as active subsurface water or unstable soil conditions prior to backfilling. Dispose of unsuitable material according to Subsection 204.14. Do not subexcavate during periods of inclement weather.

Submit a neat line drawing of the excavated volume for each subexcavation prior to backfilling. Place geotextile according to Section 207 prior to placing soil or aggregate backfill materials in the subexcavation. Place and compact soil or aggregate backfill according to Section 204.11, or Section 403 for hot asphalt concrete backfill until the subgrade elevation is achieved. Prevent backfill materials from becoming contaminated with unsuitable materials. Replace the excavated structural section with the structural section shown in the typical section of the plans. Adjust the subgrade elevation to accommodate the replacement structural section.

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

Secure environmental clearances according to Subsection 107.10(d).

204.15. Add the following:

Geotextile will be evaluated under Section 207.

Asphalt concrete will be evaluated under Section 403.

Measurement

204.16

(c) Embankment construction. Delete the text and substitute the following:

Measure embankment construction in its final position. Do not make deductions from the embankment construction quantity for the volume of minor structures.

(1) Include the following volumes in embankment construction:

(a) Roadway embankments;

(b) Material used to backfill holes, pits, and other depressions; and

(c) Material used for dikes, ramps, mounds, and berms.

.

(2) Do not include the following volumes in embankment construction:

(a) Preparing foundations for embankment construction;

(b) Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed;

(c) Material used to round fill slopes;

(d) Material used to backfill subexcavated areas; and

(e) Material used to restore obliterated roadbeds to original contours.

(g) Subexcavation. Delete the text and substitute the following:

When a subexcavation pay item is shown in the bid schedule:

(1) Measure subexcavation by the cubic yard of excavation measured in its original position

(2) Do not measure backfill material and geotextile for payment.

Section 207. – EARTHWORK GEOSYNTHETICS

Measurement

207.09 Delete the second sentence.

Section 209. – STRUCTURE EXCAVATION AND BACKFILL

209.12 Add the following:

Do not measure structure excavation for riprap for payment.

Section 253. - GABIONS AND REVET MATTRESSES

Material

253.02 Add the following**:**

Select granular backfill	704.08

Construction Requirements

253.03 General. Delete the first sentence and substitute the following:

Survey according to Section 152 and verify the limits of the structure.

253.05 Structure Erection. Add the following to the first paragraph:

For gabion structures, grade the foundation for a width equal to the width of the gabion plus 2 feet (0.6 meters). Where gabions are set on rocky foundations, place 6 inches (150 mm) of select granular backfill under the baskets.

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 501. — MINOR CONCRETE PAVEMENT

501.07 Placing Concrete. Add the following:

(h) Detailed jointing layout for each low water crossing location showing dimensions and skews.

Section 565. — DRILLED SHAFTS

565.01 Delete the first sentence and replace with the following: This work consists of drilling holes and installing steel soldier H piles in the holes.

Materials

565.02 Add the following:

Paint	563, 719
Lean Concrete Backfill	614
Steel H-Piles	715.06

Construction Requirements

565.03 Qualifications. Delete the first paragraph and substitute the following:

Provide on-site supervisors and installation personnel with experience installing and testing drilled shafts. Submit the following for approval at least 30 days before starting work.

565.04 Construction Plan.

(e) Delete the subsection and substitute the following:

(e) Details of soldier pile H-beam placement including bracing, centering, centralizers, and lifting and support methods.

565.05 Trial Drilled Shafts. Delete Subsection.

565.06 Shaft Drilling.

(a) Drilling. Delete first paragraph and substitute the following:

(a) Drilling. Drill holes according to the approved installation plan. Drill holes for steel soldier H-piles to the specified bottom of hole elevation according to the plans. Drilled holes must be accurately located, straight, and true.

Do not allow the orientation of the H-pile flanges to vary by more than 10 degrees.

565.07 Reinforcing Steel and Crosshole Sonic Logging (CSL) Access Tubes Placement. Delete the subsection and substitute the following:

565.07 Painting and Placement of H-piles. Paint steel H-piles using AMS-STD-595 Color 10266 per the project plans prior to placing into hole. Entire pile shall be painted prior to placing into drilled shaft. Protect paint during placement and construction. Repaint all damage or defects of paint after steel H-pile has been placed.

Plumb and align soldier piles before placing concrete backfill and lean concrete backfill. The pile must be at least 3 inches clear of the sides of the hole for the full length and 6 inches above the bottom of the hole to be filled with concrete backfill and lean concrete backfill. Ream or enlarge holes that do not provide the clearance around steel piles.

Maintain alignment of the pile in the hole while placing backfill material.

565.08 Concrete for Drilled Shafts.

Delete second and third paragraph and substitute the following:

Backfill the top portion of the drilled shaft/soldier pile above the top of concrete elevation noted on plans with lean concrete backfill at least 1 day after placing structural concrete. Place lean concrete backfill from top of concrete elevation indicated on plans to existing grade at the top of the drilled shaft.

Place concrete immediately after excavation is complete and the soldier pile beam is in place and secured.

565.09 Integrity Testing. Delete subsection.

565.10 Acceptance.

(a) (3) Delete sentence and substitute the following:

(3) Steel H-piles will be evaluated under Subsections 106.02, 106.03 and 715.06.

Add the following:

(4) Lean Concrete Backfill will be evaluated under Subsections 106.02 and 106.03.

(5) Painting of Steel H-Piles will be evaluated under Subsections 106.02, 106.03, and 563 and as required on the project plans.

(b) Delete subsection and substitute the following:

(b) Construction of soldier piles will be evaluated under Subsections 106.02, 106.03, and as follows:

(1) Soldier piles shall be installed at locations identified on the plans. Remove and replace rejected shafts or propose alternatives according to Subsection 106.01. Submit design modifications to drilled shafts or load transfer mechanisms, foundation elements, and drawings according to Subsection 104.03(b)(2). Do not begin remedial work until drawings have been approved by the CO.

Measurement

565.11 Delete third sentence.

Delete fourth sentence and substitute the following:

Do not measure concrete or lean concrete backfill.

Payment

Delete subsection and substitute the following:

565.12 The accepted quantities will be paid at the contract price per unit of measurement for the Section 565 pay items listed in the bid schedule, except the drilled shaft contract price will be adjusted according to Subsection 106.05. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment for drilled shafts will be made at a price determined by multiplying the contract price by the structural concrete compressive strength pay factor.

Section 601. — MINOR CONCRETE STRUCTURES

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.

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	Yes	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 617. — GUARDRAIL

Construction Requirements

Use tangent terminals meeting MASH Test Level 2 or flared terminals meeting NCHRP Report 350 as designated in plans. When flared or tangent terminals are required, submit the installation manual from the manufacturer for the terminal, including inspection checklists.

617.04 Post Installation. Delete the fifth and sixth paragraphs and substitute the following:

Layout post locations prior to installing drainage facilities such as pipe culverts and drop inlets. Adjust location of drainage facilities to avoid conflicts with drainage structures as directed by the CO.

When a post cannot be placed at its normal location due to an impenetrable object an additional blockout may be added. If the post cannot be offset, follow the post in rock detail, the long span detail, or omit a post as shown in the plans.

Use the post length as shown in the plans. Do not change the post length or spacing in terminal sections.

617.11 Acceptance. Add the following**:**

Painting will be evaluated under Section 563.

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.

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 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 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. 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.

Measurement

635.24

Delete the second paragraph and substitute the following:

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

Section 701. — CEMENT

701.01 Hydraulic Cement.

(a) Portland Cement. Add the following:

~~Use Type V cement for all concrete on this project.~~
Use Type II/V cement for all concrete on this project.

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.

703.06 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.

Section 705. — ROCK

705.01 Gabion and Revet Mattress Rock. Delete the Subsection and substitute the following:

705.01 Gabion and Revet Mattress Rock. Furnish angular stone from a rock quarry or cut that is hard, durable, free of organic and spoil material, and resistant to weathering and water action. Do not use crushed river rock or rock with rounded surfaces. Conform to the following:

(a) Density of a filled basket	100 lb/ft^3 (1600 kg/m^3) min.

(b) Gradation. Furnish rock with breadth and thickness at least one-third its length.

(1) Baskets greater than 1 foot (300 millimeters) in the vertical dimension.

(a) Maximum dimension	8 in (200 mm)
(b) Minimum dimension	4 in (100 mm)

(2) Baskets 1 foot (300 millimeters) or less in the vertical dimension.

(a) Maximum dimension	6 in (150 mm)
(b) Minimum dimension	3 in (75 mm)
(c) Los Angeles abrasion, AASHTO T 96	50 percent max.

Section 710. — FENCE AND GUARDRAIL

710.06 Rail Elements.

(a) Metal beam rail. Delete the first sentence and substitute the following:

Furnish guardrail posts conforming to the Task Force 13 *Guide to Standardized Roadside Safety Hardware.*

(b) Box beam rail. Delete the first sentence and substitute the following:

Furnish guardrail posts conforming to the Task Force 13 *Guide to Standardized Roadside Safety Hardware.*

710.07 Guardrail Posts. Delete the first sentence and substitute the following:

Furnish guardrail posts conforming to the Task Force 13 *Guide to Standardized Roadside Safety Hardware*.

Section 713. — ROADSIDE IMPROVEMENT MATERIAL

713.04 Seed. Add the following:

Use the following seed mix:

- Sandberg bluegrass 3 lbs. PLS/acre
- Indian rice grass 3 lbs. PLS/acre
- Sand drop seed 1 lbs. PLS/acre
- Desert globemallow 1 lbs. PLS/acre
- Yellow spider plant (Cleome lutea) 1 lbs. PLS/acre
- Annual sunflower 1 lbs. PLS/acre

Quality:

- Submit seed lot certifications for viability and purity to USFS Plant Material Expert for review and approval.
- Seed lots will be purchased unmixed and contractor will mix prior to application.

Section 716. — MATERIAL FOR TIMBER STRUCTURES

716.03 Treated Structural Timber and Lumber.

Delete the first paragraph and substitute the following:

Furnish wood according to Subsection 716.01. Make dimensional cuts, holes, and incise wood before pressure treatment. Treat the wood according to AWPA Standard U1, *Use*

Specification for Treated Wood and T1 *Processing and Treatment Standard*. Treatment shall be per Use Category UC4B –Heavy Duty Ground Contact with Ammoniacal copper zinc arsenate (ACZA). Cuts and holes on timber shall be treated with three coats of 1% solution of Copper Naphthenate following cutting or drilling of timber.

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 719. — PAINT

719.04 Paint for Steel Structures. Add the following before the first sentence:

Paint steel H-piles using AMS-STD-595 Color 10266.

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

Add the following:

725.19 Weathering agent. Furnish a weathering agent that colors rock, cementitious, and galvanized surfaces to a brownish earth tone, and contains no pigments. Furnish a material that contains chemical components that have no adverse reactions or effects on soils, plants, or animals. The material cannot contain corrosive by-products once the product has been applied.

Permeon™ and Natina® Rock are acceptable products for coloring rock surfaces; Permeon™ and Natina® Concrete are acceptable products for coloring cementitious surfaces; and Natina® Steel is an acceptable product for coloring galvanized surfaces. Identification by brand name is intended to be descriptive, not restrictive, and is intended to indicate the quality and

characteristics of products that will be satisfactory. Submit "or equal" products meeting the following salient characteristics to the CO for approval.

(a) A soluble solution that contains organic acids and natural oxidizers.

(b) All coloring developed through a reactionary process that etches surfaces, producing a finish that's resistant to fading from exposure to sunlight, with an expected performance life exceeding 10 years in nonaggressive climates.

(c) A product that causes negligible zinc coating losses when applied to galvanized surfaces.

Acceptable products include:

Permeon™
manufactured by Soil-Tech
6420 South Cameron, Suite 207
Las Vegas, NV 89118
702-873-2023
www.soil-tech.com

Natina® Rock; Natina® Concrete; Natina® Steel
manufactured by Natina Products, LLC
1577 First Street
Coachella, CA 92236
877-762-8462
www.natinaproducts.com