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August 19, 2009

10-Tuo-49-37.5/38.1
10-0J1504
ACHSSTP-P049(146)E

Addendum No. 3

Dear Contractor:

This addendum is being issued to the contract for CONSTRUCTION ON STATE HIGHWAY IN TUOLUMNE COUNTY NEAR TUTTLETOWN FROM 0.2 KM SOUTH OF FRAGUERO ROAD TO 0.1 KM SOUTH OF MORMON CREEK ROAD.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on Wednesday, August 26, 2009.

This addendum is being issued to revise the Notice to Bidders and Special Provisions and provide a copy of the Information Handout.

In the Special Provisions, Section 5-1.06, "SUPPLEMENTAL PROJECT INFORMATION," the following paragraph is added after the first paragraph:

"Supplemental project information included in the Information Handout are:

1. Geotechnical Design Report"

In the Special Provisions, Section 10-1.25, "EARTHWORK," subsection "CONTROLLED BLASTING," is added as attached.

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To Bid book holders:

Attached is a copy of the Information Handout.

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the Notice to Bidders section of the Notice to Bidders and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the Bid book.

Submit bids in the Bid book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This addendum and attachments are available for the Contractors' download on the Web site:

http://www.dot.ca.gov/hq/esc/oe/project_ads_addenda/10/10-0J1504

If you are not a Bid book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL
Chief, Office of Plans, Specifications & Estimates
Office Engineer
Division of Engineering Services

Attachments

CONTROLLED BLASTING

GENERAL

If you choose to use controlled blasting techniques to perform rock excavation, comply with the following specifications. Controlled blasting must be performed under full facility closures.

Comply with Cal-OSHA, Title 8, Chapter 4, Subchapter 7, Group 18, "Explosives and Pyrotechnics."

Comply with Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. Do not perform any drilling or blasting work before the Engineer approves all submittals and personnel assignments.

You are liable for damages resulting from blasting activities.

Definitions

controlled blasting: The use of explosives and blasting accessories in predetermined spaced and aligned drill holes to limit blast vibrations, noise (air blast overpressure) and flyrock.

near field blasting: Blasting within 30 feet of a critical structure.

Submittals

Blasting Safety Plan

Within 60 days after contract approval, submit 3 copies of a blasting safety plan to the Engineer for review. The blasting safety plan must include:

1. References to applicable federal, state, and county codes and regulations
2. Copies of permits required for blasting activities
3. Business name, contractor license number, address, and telephone number of the blasting subcontractor
3. Proof of current liability insurance and bonding
4. Name, address, telephone number, copies of applicable licenses, and resume of:

    4.1 Blaster-in-charge
    4.2 Personnel responsible for blast design, loading, and conducting the blasting operations??
    4.3 Controlled blasting plan designer
    4.4 Safety officer for blasting subcontractor safety officer
    4.5 Monitoring consultant

5. Name, address, and telephone number of the local fire station and law enforcement agencies
6. Detailed description of:

    6.1. Location where explosives will be stored
    6.2. Security measures to protect and limit access to the explosives
    6.3. Transportation means for explosives
    6.4. List of personnel permitted to handle the explosives

7. Exclusion zone and limited entry zone for nonblast related operations and personnel surrounding loading and blasting operations
8. Details of warning signals used to alert employees on the job site of an impending blast and indicate the blast is completed and the area is safe to enter
9. How blasting operations will be conducted
10. Measures to protect blasting operations and personnel from lightning
11. Emergency evacuation procedures for areas where explosives may be present
12. How misfires will be recognized, handled, and resolved including:

    12.1 Who will be notified
    12.2 How blast zone will be secured until misfire is resolved
    12.3 Identification of equipment that may be needed to resolve misfires

13. Details of signs to be used around blasting zones including:

    13.1. Timing of when signs will be posted relative to a specific blast
    13.2. Name and telephone number of person responsible for placing signs

14. Traffic control details for:

    14.1 Loading and blasting operations
    14.2 Misfire event or other blast related phenomenon that causes a transportation corridor to remain closed to the public

16. Description of possible noxious gas generation and details of safeguards to be used to protect employees, work zones adjacent to the shot, private property, and the public
17. Procedure to report and resolve complaints for blast related accidents
18. Copies of the Material Safety Data Sheets (MSDS) and manufacturer data sheets of explosives, caps, primers, initiators, and other compounds

The Engineer shall have 15 days to review each blasting safety plan submittal. If revisions are needed, the contractor shall revise and resubmit the plan. After the blasting safety plans have been approved the contractor shall submit 3 additional copies of the approved plan to the Engineer.

Controlled Blasting Plan

Submit 3 copies of a controlled blasting plan to the Engineer for review. The controlled blasting plan must include details on how each blast will be controlled and the following:

1. Blast identification by numerical and chronological sequence
2. Location, referenced to stationing, date, and time of blast
3. Blast plan depicting drill hole pattern, spacing, burden, and initiation sequence
4. Typical cross-sections through zone to be blasted
5. Groundwater level if present within the prism to be blasted
5. Initiation-sequence diagram depicting the actual firing time of each delay
6. Type of material to be blasted
7. Number of drill holes
8. Diameter, depth, and spacing of holes
9. Height or length of stemming
10. Types and characteristics of explosives used including explosive's density, relative strength, and date of manufacture
11. Type of caps and delay periods used and their date of manufacture
12. Total amount of explosives used
13. Maximum amount of explosives per delay period of 9 milliseconds or greater
14. Powder factor (pounds of explosive per cubic yard of material blasted)
15. Method of firing
16. Direction and distance to nearest building or structure
17. Type and method of instrumentation
18. Location and placement of instruments
19. Measures to limit air noise and flyrock
20. Measures to limit overbreak
21. Name of blasting subcontractor
22. Name and signature of blaster-in-charge
23. Site plan, spacing, and proximity of shot guards to blast location

Allow the Engineer 15 days to review the controlled blasting plan. The Engineer will approve the plan or notify you if revisions are needed. If revisions are needed, revise and resubmit it for review. After approval, submit 3 additional copies incorporating all revisions.

If changes to the controlled blasting plan are made to adjust for site conditions, these must be submitted to the Engineer for review before implementing.

Quality Control and Assurance

Blaster-In-Charge

Assign a blaster-in-charge responsible for supervising all blasting activities. The blaster-in-charge must have 10 years of experience in performing or supervising similar blasting activities and must be licensed.

Blast Monitoring Consultant

Assign a blast monitoring consultant to monitor blasting generated vibrations and noise near buildings and structures that may be subject to damage. The monitoring consultant will be responsible for collecting and interpreting vibration and noise data. The blast monitoring consultant must:

1. Not be employed by the blasting contractor or other subcontractor on this project
2. Have a minimum of a 2-year Associates Degree in science or engineering
3. Have at least 5 years of documented experience in collecting and interpreting ground vibration and noise data

Blasting Consultant

Assign a blasting consultant to oversee near field blasting activities. The blasting consultant must:

1. Be a licensed engineer or geologist
2. Have 10 years experience providing specialized blasting services in near field blasting
3. Not be employed by the blasting contractor, explosive manufacturer, or explosive distributor
4. Submit a resume of credentials and a list of projects worked

Pre-blast Surveys

A minimum of 15 days before of starting or resuming blasting activities, prepare a preblast survey of all buildings and structures within 330 feet of blasting activities and submit it to the Engineer with the Control Blasting Plan. The pre-blast survey must include a written report, sketches, and photos or videotape with date and time displayed on the image. The pre-blast survey must contain:

1. Name of the person making the inspection
2. Name of property owner and occupants
3. Property address
4. Date and time of the inspection
5. Description of the structure or other improvement including culverts and bridges
6. Detailed description of existing condition of walls, ceiling, and floor of each interior room including attic and basement
7. Detailed description of existing condition of foundations, exterior walls, roofs, doors, windows, and porches
8. Detailed description of existing condition of garages, outbuildings, sidewalks, driveways and swimming pools
9. Detailed listing of highway sign posts, light fixtures, and overhead power lines
10. Survey of wells or other private water supplies including total depth and existing water surface levels
11. Identification of sites conducting procedures, processes, or operations that may be sensitive to blasting activities
12. Scaled maps or aerial photos depicting the locations of structures and properties reviewed for the pre-blast survey and location of all proposed blasting sites

If blasting activities are suspended for a period of 45 days or more, you must perform another survey of buildings and structures and submit it to the Engineer before resuming blasting activities.

After blasting activities are completed, prepare and submit to the Engineer a post-blast survey of the same buildings and structures as in the pre-blast survey. The post-blast survey must include all items included in the pre-blast survey.

Vibration and Noise (Air Blast Overpressure) Monitoring

Vibration levels must be kept below peak particle velocity of 2 inches per second at the nearest building or structure.

Noise (air blast overpressure) levels must be kept below 128 Decibels (C-network or Linear network) at the nearest building

Ground vibrations and noise created from blasting shall be controlled by using properly designed delay sequencing and charge weights for shots.

Provide 3 seismographs to be available for deployment. The seismographs must be:

1. Appropriate for controlled blasting activities
2. Capable of:

    2.1. Recording particle velocities for 3 mutually perpendicular components of vibration and instantaneous resultant peak vector sum in the range generally found with controlled blasting
    2.2. Continuously measuring, recording, and reporting vibrations along 3 primary axes
    2.3. Measuring and recording vibration frequencies ranging from 2 to 300 Hz
    2.4. Providing a printed record of each event showing a plot of peak particle velocity versus vibration frequencies
    2.5. Measuring and recording air blast noise levels. The noise transducer must be detachable from main unit to allow placing at elevations with a clear line of sight between transducer and blast

Record each blast shot using approved seismographs. The data record must include:

1. Identification of instruments used
2. Name of monitoring consultant
3. Distance and direction of recording stations from blast area
4. Type of ground at recording station and material on which instrument sits
5. Maximum particle velocity in each component and resultant peak particle velocity of each shot
6. Copy of seismograph readings with date and signature of vibration monitoring consultant
7. Noise levels recorded in Decibels (C-network or Linear network) units

Video Recording of Blasts

Videotape each blast. The videotape must be taken from a safe location with a clear view of the blast area, activities, and progression. Identify each tape or section of tape with an index to properly identify each blast. Submit a copy of each videotape to the Engineer.

Blasting Complaints

Accurately document complaints. Notify the Engineer immediately of complaints received or at the start of the next day's work shift. Complaint documentation must include:

1. Name and address of complainant
2. Date, time, and nature of complaint
3. Dated photo or videotape of physical damage
4. Name of person receiving complaint
5. Record of complaint investigation conducted
6. Resolution of complain

Post-Blast Reports

Document each shot in a post-blast report. The post-blast report must include all data required in the controlled blasting plan for that shot and the following:

1. Description of site conditions, loading, and time of blast
2. Description of weather conditions at time of blast including wind direction and cloud cover
3. Drillers boring record
4. Copy of vibration and noise monitoring report
5. Copy of document complaints arising from blast

CONSTRUCTION

At least 7 days before starting or resuming blasting activities, notify in writing occupants of the local buildings within 330 feet of the blasting area. Also, verbally notify occupants of pending blasting activities on the day of blasting.

Do not perform blasts within 1200 feet of concrete that has been placed within 72 hours.

Before firing any blast, confirm that groundwater conditions are consistent with shot design and explosive type to be used.

Before firing any blast in areas where flying rock may result in personal injury or unacceptable damage to property, vehicles, or the work, cover the rock to be blasted with blasting mats, soil, or other equally serviceable material to prevent flyrock.

If flyrock leaves the construction site and lands on a traveled way or private property, suspend blasting activities. The blasting consultant must review the site to determine the cause of the flyrock problem and provide an amendment to blasting plan that prevents flyrock.

Clear traffic lanes of flyrock before opening the roadway to public traffic.

Do not use drill cuttings as stemming in controlled blasting operations.

MEASUREMENT AND PAYMENT

Full compensation for controlled blasting shall be considered as included in the contract price paid per cubic meter for roadway excavation and no additional compensation will be allowed therefore.