

(U-2803) Orange County

ROCK EXCAVATION BY NON-BLASTING METHOD

(SPECIAL)

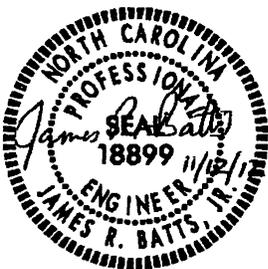
DESCRIPTION

Blasting will not be allowed on this project. Use a rock excavation method that does not use explosives for aiding in excavating, break up, removal of rock and constructing stable rock cut slopes. Rock excavation by non-blasting method is to minimize vibrations in nearby buildings and structures during removal of rock. Rock excavation by non-blasting method is anticipated to be needed from -L- Station 23 + 25 to -L- Station 24 + 35, -L- Station 33 + 10 to -L- Station 34 + 75, and -L- Station 40 + 75 to -L- Station 41 + 75. The actual locations where Rock Excavation by Non-Blasting Method is needed will be determined by the Engineer. Control of vibrations for aforementioned areas and any additional areas on this project, see Control of Vibration special provision.

Design and submit a detailed procedure for rock excavation by non-blasting method including items such as materials, equipment and procedure to the Engineer for review and acceptance. The Engineer will review the proposed method and respond within ten (10) calendar days from the time the submittal is received.

A preconstruction conference shall be scheduled before beginning rock excavation by non-blasting method. The conference shall be held between the Contractor, the Resident Engineer, the Area Roadway Construction Engineer, Geotechnical Operations Engineer to discuss construction and inspection of rock excavation by non-blasting method.

All costs associated with Rock Excavation by Non-Blasting Methods for the above listed areas and all submittals, materials and equipment required to perform the work shall be included in the bid price for lump sum "Grading". Removal of rock from areas where blasting will not be allowed, other than those listed above, will be compensated under Article 104-7.



CONTROL OF VIBRATION

(SPECIAL)

The Engineer will use an independent consultant prequalified by the NCDOT Contractual Services Unit for vibration and noise monitoring work (work code 3120) to monitor construction induced noise and vibration during the project.

Noise and vibration monitoring by the Engineer of construction induced vibration does not relieve the Contractor of responsibility for damage or liability. Attention is directed to Articles 107-12 and 107-15 of the Standard Specifications.

Control of vibration and noise is required during construction of the project. It is the responsibility of the Contractor to utilize construction methods and equipment to avoid damage to the adjacent buildings and structures. Hand-held low pressure tampers may be required for compaction of earth material, stone or asphalt pavement to avoid vibration induced damage.

The Engineer's Consultant will furnish and operate vibration and noise monitoring devices (engineering seismographs with geophones) for the duration of the project at the locations shown below and any additional locations deemed necessary by the Engineer.

Structures	Location
RAI Development Corp.	-L- Station 24 + 00 LT
Levi Green	-L- Station 35 + 00 LT
Onsight Corp., LLC	-L- Station 41 + 00 RT

These devices will have been calibrated within the twelve months prior to the start of construction and at 12 month intervals thereafter until completion of the project. These devices will be capable of recording vibrations in the three perpendicular axes: vertical, transverse, and longitudinal, and also be capable of recording the full vibration waveform. Peak particle velocity (PPV) is defined for this provision as the vector sum of particle velocities in each of the three individual perpendicular axes. The monitoring devices will also be capable of recording sound from all construction and traffic activities. Provide access and assistance to the Engineer's Consultant for placement of devices in locations mentioned above and any additional locations as directed by the Engineer before beginning any construction operations.

Continuous monitoring will be performed throughout the duration of the project's construction. Construction induced vibrations shall not exceed a peak particle velocity of 0.50 inches per second at buildings or structures off NCDOT Right of Way at any time. If construction vibrations recorded show a peak particle velocity exceeding 0.50 inches per second or any potential to damage adjacent buildings or structures, cease all work immediately and furnish the Engineer with an alternative method of construction. The Engineer will review the proposed alternative method of construction and respond to the Contractor within three (3) working days from the time the submittal is received. If construction vibration recorded exceeding a peak particle velocity of 0.5 inches per second has damaged any structures or buildings, the Contractor shall repair the damage or compensate the property owner for the damage at no additional cost to the North Carolina Department of Transportation.

No measurement or payment will be made for control of vibration. Any work or change in construction technique needed to conform to the requirements of this provision will be considered incidental to the overall project's cost. No contract time extension or additional compensation is granted to the contractor for delays due to noncompliance with this specification.