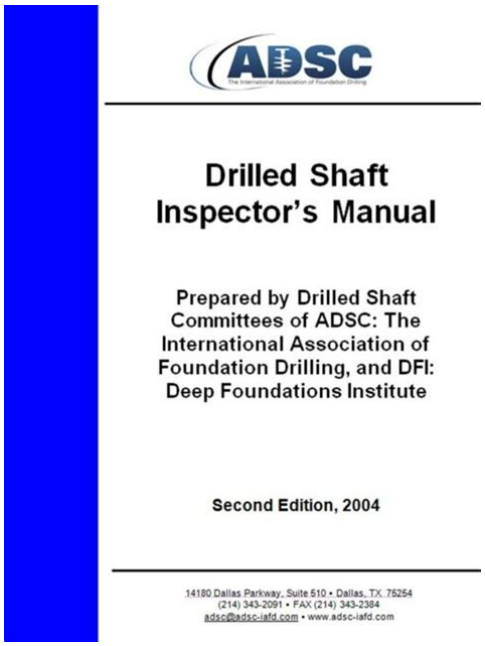
Drilled Shaft Inspector S Manual



File Name: Drilled Shaft Inspector S Manual.pdf
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Book Descriptions:

Drilled Shaft Inspector S Manual

Avoiding and Resolving Disputes in Underground Construction Successful Practices and Guidelines. Prepared by the Technical Committee on Contracting Practices of the Underground Technology Research Council, this book proposes specific methods for avoiding or resolving the disputes which often lead to litigation. Past Committee reports have recommended improved contracting practices through the use of many model specification clauses and innovative contractual provisions. The additional provisions in this book include the use of the Geotechnical Design Summary Report, Escrow Bid Documents, and a Disputes Review Board. The report presents the goals or objectives of each provision, followed by a description, discussion, and commentary on experience to date. Case histories of projects on which the proposed concepts have been incorporated successfully are provided. With a total length of 80 km, the Bolmen is the longest single tunnel in Sweden. Construction of the tunnel began in 1975; permanent use of the tunnel began in 1987. The project offered a unique opportunity to study groundwater problems in hard rock tunnelling, and the relationship between expected conditions based on preinvestigations and the underground conditions actually encountered. This final report summarizes the projects findings in 10 chapters, including chapters on the investigations along the tunnel; geological and hydrological conditions in the tunnel; the parameters of the research project; rock stress measurements; hydraulic properties of the rock mass; water leakage and groundwater chemistry; relationship between predictions and conditions encountered in the tunnel; and conclusions and recommendations. References and an appendix are also included. Copies of the report may be ordered from Swedish Rock Engineering Research Foundation, Storgatan 19, Box 5501, S114 85 Stockholm, Sweden.http://www.buyanycarnow.co.uk/uploadedfiles/cq-dfx683n-manual.xml

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It is a stepbystep treatment of all phases of the inspection process, which includes everything from inspector qualifications through equipment, methods of observation, and materials and procedures monitoring. The manual is expected to become a referenceofrecord for drilled shaft foundation project planning, engineering, construction, and quality assurance personnel. The book is divided into six principal sections general; preconstruction preparation; observation of drilling operations; observation of concrete placement; reports; and an appendix. Thirtyfive pages of illustrative material, tables and sample forms are included.The book covers material Procedures and De.sign Methods. properties of grouts, using charts Lymon C. Reese and Michael W. and graphs to supplement the ONeill. 1989. International written text. The book discusses Association of Foundation Drilling. The book a very practical approach to drilled includes a glossary. Exploring the shaft design. Topics addressed in latest research approaches and the chapters on construction include results, Chemical Grouting is intended for use by civil, chemical, methods of excavation, casings and and mechanical engineers; building liners, drilling slurry, rebar cages, contractors; chemical and grouting and design and placement of equipment manufacturers; and concrete. Pergamon Press plc Learn how we and our ad partner Google, collect and use data. Inspectors will gain an understanding of their responsibility to verify compliance with project requirements as well as mandates set forth by ODOT or the federal government, or both. Required Tools Scientific Calculator Oregon Standard Specifications book, current edition Pen and paper for taking notes and performing inclass exercises Course Manuals It has known security flaws and may not display all

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Home About Us Course Description Class Schedule Exam Only Schedule Student Registration Our Instructors Bulletin Board Contact Us Three Days, including course and exams. course objective DRILLED SHAFT INSPECTION Written Exam Required and Proficiency Exam Required. Open Book Exam. Allowed up to 2.5 Hours to Complete the Written Exam. Fees course subject matter exam requirements Course duration ctqp qualifications To prepare the inspector to monitor and document drilled shaft operations resulting in safe foundation installation per the Contract Documents. Will familiarize the inspector with the terminology, equipment and process details pertaining to drilled shaft installation Will provide the inspector with the knowledge and understanding of Foundation Plans, Standard Specifications Section 455, related Specifications, and related details of the Construction Project Administration Manual The course describes the inspectors role from step one of the Drilled Shaft Installation Plan to the final step of shaft installation and acceptance The course includes a review of the equipment used for all drilled shaft installation including miscellaneous shafts, methods of installation dry, wet, temporary casing, and permanent casing; pilot holes and test holes; slurry and slurry testing; shaft bottom inspection; reinforcing steel and its placement; concrete placement tremies and pumps; load tests; tolerance; QC guidelines; acceptance; and pay quantities homework and problems are included. At least five 5 of the drilled shafts inspected shall be on shafts constructed using the wet method. The CTQP qualified DSI shall include a note in the first page of the Drilled Shaft Excavation log as evidence for the required experience, indicating the name of the trainee and stating the trainee has inspected the full installation of the shaft.

Trainees must confirm work experience when taking the CTQP Drilled Shaft Inspector Exam or report work experience through the CTQP website IA Requalification Program. Some features of WorldCat will not be available.By continuing to use the site, you are agreeing to OCLC’s placement of cookies on your device. Find out more here. Numerous and frequentlyupdated resource results are available from this WorldCat.org search. OCLC’s WebJunction has pulled together information and resources to assist library staff as they consider how to handle coronavirus issues in their communities.However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied. Please enter recipient email addresses. Please reenter recipient email addresses. Please enter your name. Please enter the subject. Please enter the message. Please select Ok if you would like to proceed with this request anyway. All rights reserved. You can easily create a free account. Please try again.Please try again.Please try again. Then you can start reading Kindle books on your smartphone, tablet, or computer no Kindle device required. Register a free business account To calculate the overall star rating and percentage breakdown by star, we don’t use a simple average. Instead, our system considers things like how recent a review is and if the reviewer bought the item on Amazon. It also analyzes reviews to verify trustworthiness. Nonmembers can purchase and download documents from The guide covers applications, terminology, advantages and limitations, geotechnical and structural design methods, corrosion protection, load testing, quality control and assurance, and references. This document is intended to be used by engineers and designers with appropriate background knowledge of theoretical soil mechanics and foundation design methods.

http://www.bosport.be/newsletter/dyson-dc25-all-floors-manual-0

More detailed design resources are cited.The Guidelines provide an overview of the state of practice of Deep Mixing Methods DMM in North America as well as a guide specification for deep mixing work. This document focuses on constructability and feasibility considerations for deep mixing and addresses the following applications Earth retention; Liquefaction mitigation; Groundwater seepage control and containment isolation; Bearing capacity improvement; Deep foundations; Mass

stabilization and contamination containment; Embankment, levee and dam strengthening, and stabilization; and Casing replacement. It is intended that this document provide a basic introduction to wet and dry DMM to enhance its adoption and application in North America. Purchase of this publication includes a PDF of the full guide and an editable Word Document of the Guide Specification. The Guideline Specification and Commentary content have been updated to address current trends in ACIP Pile installation and quality control, the use of increased ACIP pile diameters and lengths to provide significantly higher load carrying capacities, and the challenges associated with the use of grout and reinforcement necessary to sustain such higher loading. The order of the Guideline Specification has been revised to more closely match the format typically utilized in project specifications.Typical helical pile foundation applications include new foundation construction, foundation repair and existing foundation augmentation. Model performance specification language is provided for the design, construction and testing of helical anchorages for tension applications.The Engineer should review it carefully and make the necessary adjustments to account for the size, complexity, conditions and specific requirements of the project.

This work consists of furnishing all necessary labor, equipment, and materials to install prefabricated vertical wick drains in the ground in accordance with the Plans and as specified herein.Every NDT method has specific associated capabilities and limitations, and ACIP and DD piles have unique properties that must be considered when using a specific NDT method for a project. For successful interpretation, it is essential that the test results not be utilized alone, but in conjunction with all the available information on pile installation, as well as consideration of the subsurface conditions, past experiences and sound engineering judgment. This guideline supplements DFI’s two primary publications on ACIP piles Augered CastinPlace Pile Manual 2016 and the Inspector’s Guide for Augered CastinPlace Piles 2010. This guideline was developed to provide 1 more detailed explanations of the various test methods available, 2 guidance on interpretation of the results, and 3 some typical examples of the data and interpretation.Several different analytical methods are available for the analysis and the resulting design can result in significantly different responses which can create confusion. This is especially true for analyzing and designing piles in potentially liquefiable soils with lateral spread issues under seismic conditions. This document discusses the background of different analytical and testing procedures and presents the recommended methods for analysis, design and testing of piles for lateral loads.The manual, updated from the original version published in 1994, summarizes the requirements expected of all parties concerned in the successful installation of these piles and now includes information on Automated Monitoring Equipment AME and NonDestructive Testing NDT. Step by step installation procedures, construction equipment and inspection tools are discussed along with the common potential problems. Sample inspection forms are also provided.

The manual provides guidelines for observing and documenting the installation of ACIP piles constructed using a hollow stem continuous flight auger and may also serve as a guide for the training of inspection personnel. This document is not intended to cover all project related issues; however, the intent is to outline the expectations for personnel involved in ACIP Pile installation and monitoring. These expectations along with a thorough subsurface exploration program, a quality specification, an experienced contractor and knowledgeable inspector can lead to a successful ACIP Pile project.The model spec encompasses all designs, materials, products, accessories, installation techniques and testing procedures required for the installation of soil nail excavation support or earth retention systems. Its purpose is to assist in the development of project specifications for soil nail earth excavation support and earth retention systems and is based on generally accepted industry standards but may require modification by the specification writer to accommodate unusual or unforeseen site and subsurface conditions and the particular circumstances of the project. In this regard, the Committee hopes that the Guide will be of use where other design and construction

guidelines do not exist or in the development of building code provisions for Soil Nailing in the various Building Codes nationwide. It is intended for use by owners, design engineers, inspectors and contractors involved with drilled shaft construction. Students of foundation engineering will also find it a useful primer for the business. They were included since many load tests are performed on production drilled shafts in an effort to complete the comprehensive coverage of evaluation of drilled shafts in this manual.

The six main sections are Introduction; Application of NonDestructive Testing to Drilled Shafts; Inspection and Observation Methods; Integrity Testing Methods; Load Testing Methods; and Corroboration and Remediation OptionsThis guide is intended to provide information for the design and construction of structural slurry walls in the United States and highlights the major considerations in selecting structural slurry walls for temporary and permanent use in foundation construction. Included in the manual are Nomenclature used in slurry wall construction; Related terms and construction methods; Definition of a slurry wall and other standard teminology; A history of slurry wall construction; Industry practice standards; DFI practice guidelines; 20page list of slurry wall projects constructed in North America.This guide is intended for use by Engineers for writing project specific specifications. The document was prepared by the Deep Foundations Institute DFI Micropile Committee from 1996 to 2001 and endorsed by the ADSCIAFD Micropile Committee in October 2001. When purchasing the PDF version a companion word document will be provided to allow the purchaser to easily utilize text from the guide into their specifications.Also included are codes and standards, English to International System SI Conversion Factors, List of Suppliers, and DFI Pile Driving Contractors. Available with CDRom of MS Word for Windows files.All measurements are listed in both English and International System SI Units. Available with CDRom of MS Word for Windows files.A companion piece to A Pile Inspectors Guide to Hammers. Completely rewritten and updated version of the 1979 Manual. Provides Information on soil investigation, the various pile types, pile driving by impact methods, pile tests, dynamic pile testing and analysis, static load testing, pile hammers and pile driving machinery and ancillary equipment along with some suggested inspection forms.

The manual is written from the perspective of the pile inspector and presents advice as to the inspectors role and responsibilities in the pile installation and quality assurance processes. Invaluable in the training of inexperienced Inspectors and useful as a reference guide to the experienced inspector or crew member.This reference work provides discussions on the pile hammer as a measuring tool, the transfer and utilization of hammer energy, pile driving inspection criteria, the inspectors responsibilities, and basic descriptions for the operating cycles of the various types of hammers including newer hydraulic impact hammers in common use. Check lists to confirm proper operation in the field and a glossary of related terms are also included.These papers cover the details of design, construction and performance, with particular reference to a number of case histories. Titles include Insitu Ground Reinforcement Techniques by Peter J. Nicholson; American Developments in the Use of Small Diameter Inserts as Piles and Insitu Reinforcement by Dr. Donald A. Bruce; Soil Nailing a Nashville Fault Zone by John R. Wolosick P.E.; Advanced Soil Nailing DesignImproved Reliability and Predictability of Wall Performance by Reinhard Gnilsen, F. David Shiver and Wolfgang Unterberger; NailedSoil Retaining Structures Design and Practice by Ilan Juran; Soil Nailing Innovative Applications by Schnabel Foundation Company; and Soil Nailing in Varied Geological Formations by David E. Ferworn.The influence of soil setup and residual loads is discussed, methods of settlement analysis are presented and views are presented on allowable load factors of safety. Several examples are included.The specs were produced with the intent of reducing the incidence of disputed claims and litigation in the piling contracts.

The specs address generally applicable aspects, such as how to specify hammers and hammer performance, equipment adequacy of equipment details, obstructions, inspection, use of the Pile

Driving Analyzer, and performance of static load tests, as well as aspects pertaining to the particular pile types, pipe piles, Hpiles, concrete piles, and others.The results are load deflection characteristics which provide input data for wave equation analysis of pile driving.This design guide has been developed to provide the practicing engineer with a detailed overview of pile cap design, detailing and analysis methodologies that represent the current state of practice in the industry. The guide contains comprehensive technical content and practical design examples utilizing approximately 30 different, yet commonly used, pile cap configurations. DFI provided funding to the project through the DFI Committee Project Fund. Members of the DFI Driven Pile and Micropile Committees reviewed and contributed to the study. Click here to order from the CRSI webstore. Anne Lemnitzers keynote lecture paper on DFI funded research project on shear amplification at soilrock interface in rock socketed drilled shafts. Suggested participants would include contractor and agency personnel who have responsibility for the installation and inspection of drilled shaft foundations. Required course and examination for continued certification as a Drilled Shaft Foundation Inspector. The course will include a review of important topics and instruction on changes in the industry, equipment, specifications and test procedures. Select a course and register online or forward the Registration Form and check to NETTCP. It should also be helpful to train beginning geotechnical engineers with limited first hand experience or for geotechnical engineers who are training inspectors.

It is expected that the general guidelines and procedures described here will be supplemented by local geotechnical engineers working in a particular region based on local practice and experience. Since drilled shaft construction procedures vary widely based on local geology and size of project, an allinclusive manual is not considered practical. This manual focuses on traditional topside inspection for routine drilled shaft construction. Other inspection and evaluation methods that rely on electronic equipment are available, but these methods require extensive training and experience in the interpretation of results. These more sophisticated methods of drilled shaft inspection and evaluation are common in construction, but they are usually provided by specialty subconsultants. The subconsultant will typically submit a report for each shaft, which will be reviewed by the geotechnical engineer. Other manuals are available to describe the electronic methods of drilled shaft inspection. Our Web sites have many links to other organizations, Please note While links to Web sites In addition, DOT cannot attest to the accuracy, relevancy, Linking to a Web site does notFor more information, please viewTo get back to. Even with the dry construction method, inspectors have been reluctant to inspect the bottom visually due to safety concerns.Typically, a minimum of 50 percent of the base of each shaft should have less than 0.5 inch of sediment at the time of concrete placement, and the maximum depth of sediment or any debris at any place on the base of the shaft is not allowed to exceed 1.5 inches. Conscientious cleaning of the bottom of drilled shafts has been proven by loads tests to be necessary for suitable load transfer in end bearing.It is more definitive than using a weighted tape, but much less cumbersome and costly than other inspection devices. Click on Register to enroll in a course or in an exam.

Charter a class, and we will bring the class to you, and give you our special price. Contact us for more details on this and other offers. Enrollment stands at more than 1,000 undergraduate students and about 150 graduate students, including over 80 doctoral students. For the full website experience, please update your browser to one of theIt could be because it is not supported, or that JavaScript is intentionally disabled. Some of the features on CT.gov will not function properly with out javascript enabled. Below is a listing of inspection checklists that are meant to be used as guides while. Keywords Bored piles, Drilled shafts, Quality control, Quality assurance technological developments, Test standards Considering the differences in the market forces between North America and Europe, it is to be expected that the advent of a new technology differs between these markets. For the purposes of the ensuing discussion, the following distinctions are used QM is considered a cooperative programme involving all parties throughout the site exploration, design,

construction, testing and acceptance processes. Ideally, it also includes the architect and the structural engineer, where applicable, to ensure that all parties understand the design intent, the site conditions and the factors affecting the construction of the selected foundation type. QA is referred to as documented procedures for ensuring quality in both the design and the construction processes, with the purpose of eliminating flaws and defects. QA is typically the responsibility of the contractor, and is generally performed by the contractors own personnel, both in Europe and in the US, although the contractor may also use an inspection firm, especially for more advanced QA techniques. Practices for engaging the QC firm vary, but relevant survey responses indicated that for both public and private projects in Europe, the QC firm is typically engaged by the contractor.

In North America, QC for public state or municipal projects is typically performed by the owner's personnel, or a third party engaged by the owner. For private projects, the owner usually engages a thirdparty QC firm, but occasionally the contractor engages them. Most of the commonly practised methods are recognised in regional or national standards, as noted in the following paragraphs. However, the choice of methods and the way in which they are applied varies considerably. In North America, private projects are typically governed by the practices recommended in the International Building Code, or the American Concrete Institute ACI Manual of Concrete Practice. Publicly funded projects run by federal, state or municipal agencies are usually governed by specifications based on documents published by the American Association of State Highway and Transportation Officials AASHTO or the Federal Highway Administration FHWA. European practices are similar in that there are various European Standards designated by the letters EN, such as the Eurocode 7 EN 1997, which covers the design and construction of foundations incl.Since not all testing methods are covered by a European Standard at this time, various local standards are still used. Other European respondents mentioned that standards by the American Society of the International Association for Testing and Materials and guidelines by the ACI were often used in the absence of a specific local or national code. The use of these standards will come to an end as soon as a European Standard will have been released. In its simplest form, QA during shaft construction is provided through verification of positioning and the implementation of vertical survey tools. While GPSbased positioning has previously been used in other branches of the construction industry, GPSbased horizontal positioning systems directly attached to the drill rig are relatively new to the foundation industry.

Examples of currently employed positioning systems are depicted in Figs. 1 and 2. Figure 1 shows an Automatic Positioning System integrated into Soilmec's Drilling Mate System and an Assistant Positioning System BAPS, integrated into Bauer BTronic. The drill rig operator utilised the system to position the drill mast and ultimately the drilling tool into the predesignated location. While European contractors appear to have adopted the automated positioning systems provided by the equipment manufacturers more frequently, there seems to be limited implementation in North America. The frontend person will also use a 4ft level placed directly on the Kelly bar or casing at two locations at 90 degrees apart to verify the verticality of the mast. On the basis of the percentage bottom shaft visible to the inspector, the verticality of the shaft can be verified and either approved or rejected. If this method does not provide sufficient accuracy to validate the verticality, methodologies used for shafts with slurry should be used. In ultrasonic methods, the travel time of a sound wave travelling from shaft top to a sensor located at the shaft bottom is measured. Ultrasonic equipment currently employed includes the Koden, the Sonicaliper. Both devices provide indirect measurements and require interpretation and judgement by the testing agency. The hole geometry is interpreted from measurements of the time it takes for the signals to travel back to the sensor as the signals are reflected off the excavation sides. In the case of larger deviations from plumb, more accurate results on verticality and actual diameter can be obtained by postprocessing the data using circle fitting procedures. Beyond immediate analogue printouts, digital data are recorded for longterm retention or further analysis of the results.

Beyond these functions, correlations to the cleanliness of the slurry have been developed by evaluating the interruption or loss of signal during testing of a particular zone. Figure 6 also presents a comparison of the usage with the US as well as between the US and Europe see bottom of Figure. Both regions, i.e. US and EU, estimated similarly frequent implementation of this device namely about 25% Fig. 6 . For clarification, the reader is reminded that the incidence of respondents indicating either their use of or their observation of the use of these devices is about 25%. If a shaft is designed for endbearing, a more stringent visual inspection may be required. The conventional practice involves sounding the excavation bottom with a heavy weighted tape. In some cases, the SID or Miniature Drilled Shaft Inspection Device MiniSID, see Fig. 9 or a downhole camera can be used to provide a video of the bottom conditions. The contract specifications typically provide criteria such as the maximum amount of sediment allowed over a particular area along with an average depth. A comparison of Figs. 8 and 10 suggests that the downhole camera usage is not as widely employed. Figure 11 compares the use of visual inspection, downhole camera and the SID or MiniSID. Visual Inspection is, by far, the most widely used method for ensuring shaft cleanliness. The SID is essentially unknown in Europe. Generally, we find that those types of inspections are much less popular in Europe than throughout North America. Display full size 10 Reported usage of downhole camera throughout North America. Display full size 11 Ratio between responses stating the usage of visual inspection, downhole camera and shaft inspection to total responses per region. In order to evaluate the quality of the finished concrete pile, preconcrete placement inspections such as rebar and spacing inspections, as well as coplacement inspection i.e. verification of concrete placement procedures, slumps tests, etc.