



General Construction Inspector Training Manual

2024-2025



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Dailies – Examples

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Welcome

Welcome to the 2024-2025 Certified General Construction Inspector Training



1

Housekeeping Items

- Restrooms
- We will take breaks often
- Lunch on your own
- Turn cell phone ringers off
- Contact ODOT Construction Training Team 503-508-4444



odotconstructiontraining@odot.oregon.gov



2

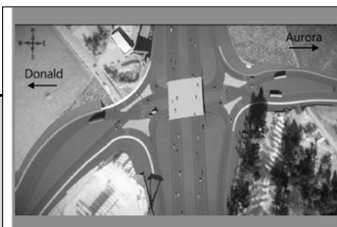
Health and Safety

- Stay home if you feel sick
- Wear appropriate masks (if you feel the need)
- Wash hands often or use sanitizer



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Training Manual



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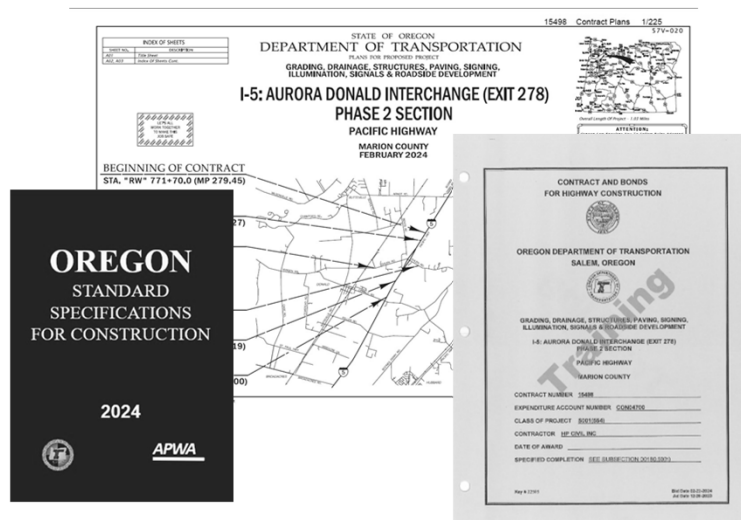
Resources Used during Training

- 2024 Standard Specifications (Student)
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- General Construction Inspector Training Manual (Student)
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- Resource Manual (Classroom)
 - Manual of Field Test Procedures (Select Sections)
 - January 2024 Nonfield-Tested Materials Guide
 - January 2024 Qualified Products List

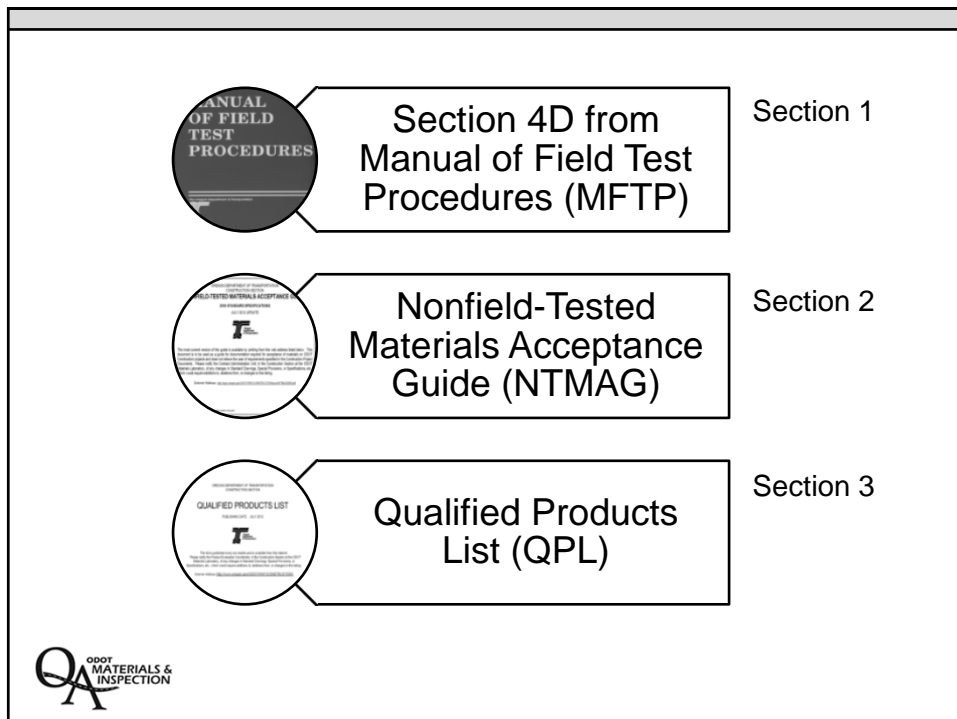
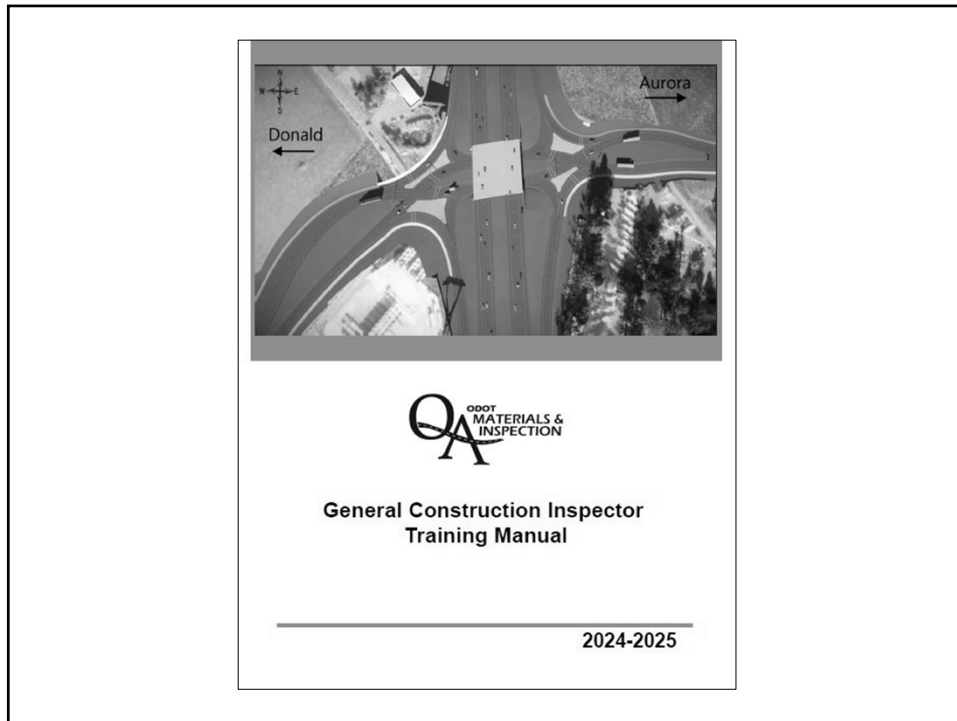


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Resources Used during Training



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Inspection Certification Program

Who is required to be certified?

- All inspectors
- Program makes allowances for non-certified personnel



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Inspection Certification Program

Certification Process

- Pass an examination
- Training available, but not required
- See ODOT Quality Assurance Program



<https://www.oregon.gov/ODOT/Construction/Pages/Inspector-Certification-Program.aspx>



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Certification Exam

- Exam on Friday
- Open book
- Maximum 4 hours
- 80% passing
Separate scoring for Plans and Specs
and General Resources sections
- Results in ~2 weeks
- Certification is good for 5 years



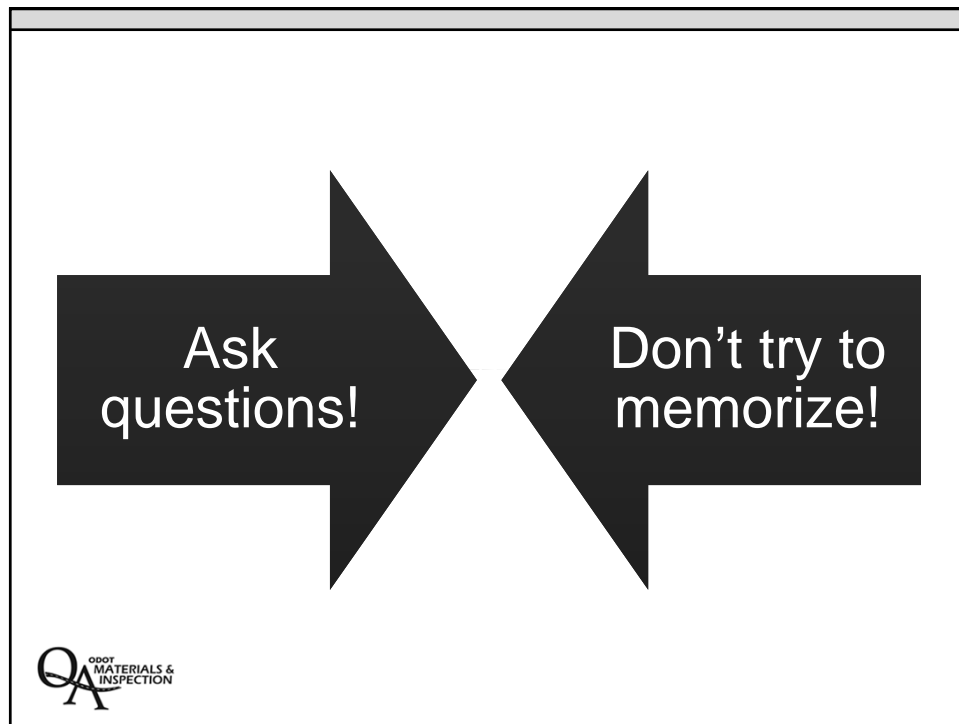
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Training Objectives

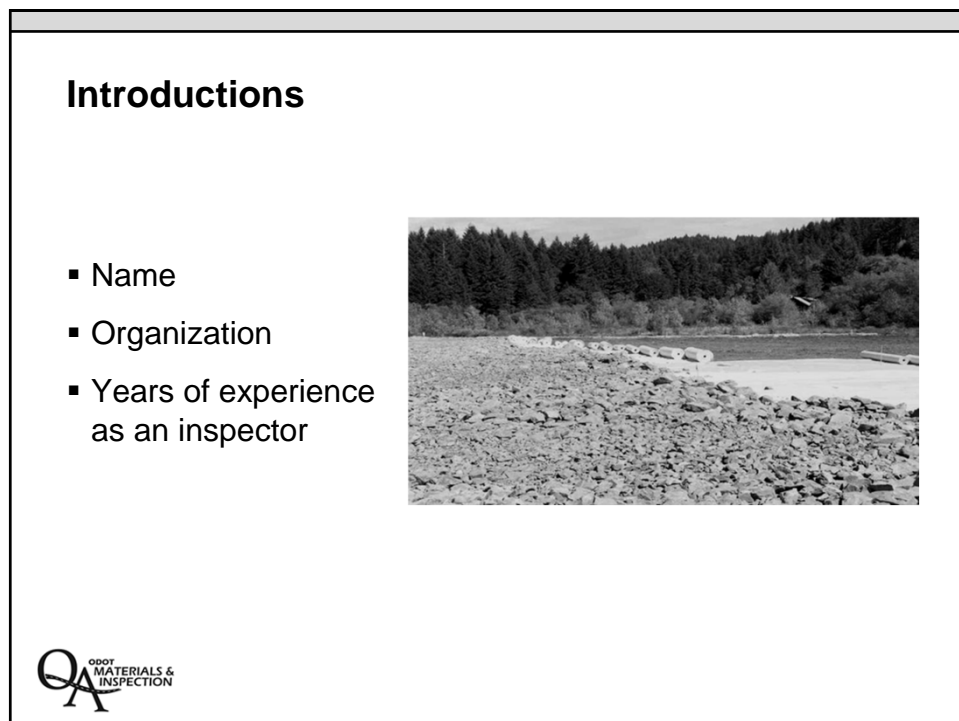
- Define inspectors' roles, responsibilities and authority.
- Identify contract documents and resources and how to use them.
- Explain project documentation requirements.
- Provide an overview of key inspection elements and materials.
- Provide individuals with the basic tools and knowledge to become productive and successful certified inspectors.



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AASHTOWare Project



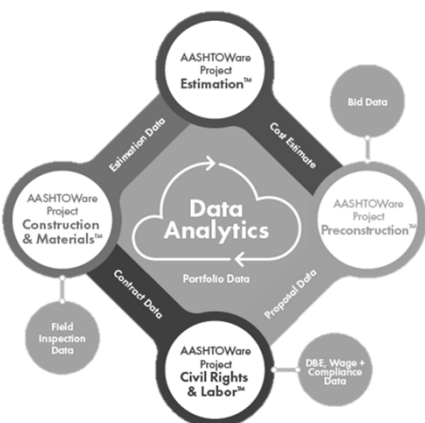

odoteconstruction@odot.oregon.gov
AWPAdmin@odot.oregon.gov



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One Source of Truth

- One data entry point, many uses “Collect once and use many times”
- A unified database to simplify and standardize reporting
- Data from Pre-construction to Final Acceptance
- Be ready to meet the data needs of ODOT now and in the future

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What does this mean?

- Work happens in AWP and Doc Express
- Contractors/Subcontractors/Technicians will add data to AWP
- ODOT manages Access, Roles, and Permission
- Certified Local agencies and Local Agency ODOT project work will occur in AWP
- No cost for Contractors or Consultants



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About Training

- When an ODOT contract is assigned to AWP, the RE Office staff, Consultants and Contractors (Primes, Subs and others) will be notified about training opportunities.
- AWP is role-based. You will be trained in the role(s) you need to complete your tasks.
- Training is conducted in-person and computer-based training (CBT) simulations. After training, the CBTs are available for review.
- Quick reference guides (QRGs) are also provided to walk you through specific process steps for each role.



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What type of data will Inspectors input?

Civil Rights & Labor

- Field Interviews
 - Employee Interviews

Construction & Materials

- Daily Work Report (DWR)
 - Formerly General Daily Progress Reports
 - Weigh memos attachments
- Pay notes generated from DWR
- Sample Tests



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What type of data will Externals input?

Civil Rights & Labor

- Certified Payrolls

Primes have ability to review data submitted by subs and technicians in AWP prior to ODOT's review.

Construction & Materials

- Subcontracts
- Daily Source Reports (DSR)
 - Updating production quantity
 - Identify how much material has been produced
- Submit mix designs
- Managing testing labs testers
- Sample Records - access to create records and enter test data
- View Sources and source material



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AASHTOWare Project



Visit the APOST Website:

<https://www.oregon.gov/odot/Construction/Pages/AW-Construction.aspx>

Subscribe to The APOST Times:

https://public.govdelivery.com/accounts/ORDOT/subscriber/new?topic_id=ORDOT_863



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Inspector Cert Program

ODOT Inspection Certification Program

Overview

The Inspection Certification Program is one component of ODOT's Inspection Quality Assurance (QA) Program. The Inspection Certification Program provides training and resources for Construction inspectors and ensures consistent administration of highway construction contracts. Inspection/monitoring of construction activities by certified inspectors promotes industry best practices and helps ensure quality materials and workmanship on ODOT construction projects.

The Inspection Certification Program:

- Improves contractor compliance with approved plans and specifications.
- Improves the level of knowledge among construction inspectors.
- Provides clear and consistent expectations of inspectors.
- Improves the consistency of construction inspection practices.
- Reduces the potential for construction claims and other contract disagreements.
- Improves construction quality in the State of Oregon.
- Complies with federal requirements prescribed in Title 23 of the Code of Federal Regulations (23 CFR 637.207).

Inspection Certification Program

The Inspection Certification Program requires all inspectors on ODOT construction projects to be certified by ODOT. It is required that all inspectors be certified in General Construction Inspection. Additional discipline-specific certifications are required when performing inspection duties in specific disciplines.

If an inspector is working on a paving project, he/she is required to possess Asphalt Concrete Pavement Inspector (ACP) certification but is not required to obtain the Certified Bridge Construction Inspector (CBCI) certification until such time that he/she is inspecting Bridge work.

The Project Manager is responsible for all inspection activities on a construction project and, at times, may need to supplement the inspection workforce with non-certified inspectors during periods of heavy construction activity. The program makes allowances for the use of non-certified inspectors.

Certified vs. Non-Certified Inspectors

Activities that are performed by certified inspectors include the following:

- Inspect the work to ensure it conforms with the plans, specifications and approved changes.
- Help ensure quality control testing is being performed as required.
- Inform quality assurance personnel of problems or potential problems with field-tested materials.
- Record progress and/or delays with the work.
- Ensure source documents allow proper payment to the contractor.
- Work with the Project Manager, contractor and others to troubleshoot problems with construction.
- Provide clear direction and guidance to non-certified inspectors who are assisting with inspection.

The Project Manager may assign specific tasks to a non-certified inspector. The Project Manager must ensure that non-certified inspectors have a thorough understanding of their assigned duties. Non-certified inspectors should review the applicable training and/or reference material before performing inspection activities.

Some example duties that could be performed by non-certified inspectors include the following:

- Collect weigh memos and record material receipts
- Work with a certified inspector to monitor specific aspects of a construction activity or process.

In addition, a non-certified inspector on a paving project could be assigned to monitor one or more of the following:

- ACP temperature
- Surface preparation
- Tack coat application
- Rolling patterns
- ACP contamination (e.g., diesel, debris)
- Clumps or crusted mix in the mat or on grade ahead of paver

The certified inspector would be on-site performing other various inspection duties and would be receiving regular project updates from the non-certified inspector.

ODOT Inspector Certifications

The Certified General Construction Inspector Certification is recommended as a pre-requisite, or foundation for all inspection staff.

Certified General Construction Inspector (CGCI): Focuses on Standard Specifications, Special Provisions, Contract Plans, Contract Administration, Roles and Responsibilities, Qualified Products List (QPL), Non-field tested Materials Acceptance Guide (NTMAG), documentation requirements and resources needed for effective inspection.

The following inspector certifications are discipline-specific certifications which expand on concepts learned during the General Construction Inspector training.

Certified ADA Curb Ramp Inspector and Contractor: Covers the use of ADA Ramp Inspection forms, when and where to submit forms, the use of tools and provides measurement guidance. Participants will also assess and demonstrate the inspection of various ramps using the ADA Curb Ramp Inspection forms.

Certified Asphalt Concrete Pavement Inspector (ACP): Provides each participant with information and tools to be an effective ACP inspector. Attention is focused on inspection critical to ACP performance and contract documentation requirements.

Certified Bridge Construction Inspector (CBCI): Informs inspectors of the various types and methods of bridge construction and proper inspection practice. Topics include bridge foundations, false work inspection, beam seat calculations, reinforcement inspection, post tensioning, deck pre-placement inspections, curing and finishing.

Certified Drilled Shaft Inspector (CDSI): Provides inspectors with the practical knowledge and standard industry practices for inspection of drilled shaft construction by providing an overview of the Standard Specification requirements. Submittal requirements, pre-placement inspection of rebar and integrity of the drilled shaft, concrete and slurry requirements, concrete volumes and inspectors check lists to ensure the drilled shaft conforms to contract documents. The drilled shaft inspector certification is not for signal nor sign support drilled shafts.

Certified Environmental Construction Inspector (CECI): Informs inspectors of general environmental contract requirements, NPDES permit requirements and Best Management Practices for Erosion and Sediment Control.

Certified Traffic Signal Inspector (CTSI): Provides the training and resources necessary to properly inspect traffic signals and associated electrical components.

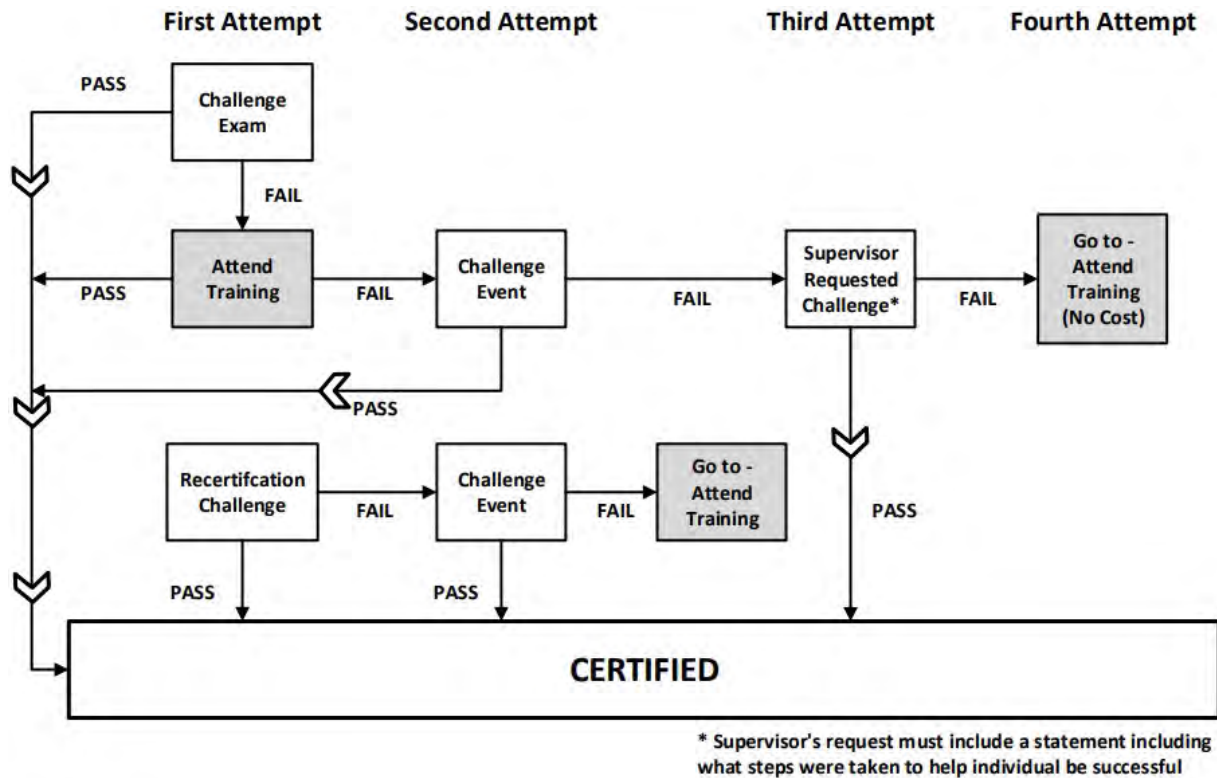
Optional/Recommended Training

Certified Traffic Control Technician / Supervisor: This program trains participants on the fundamental principles of setting up and taking down work zone traffic control. Participants will also learn to read and understand construction Traffic Control Plans.

Certification Process

Training may be delivered in-person, virtually led or digitally self-guided

To become certified, inspectors are required to demonstrate minimum competency of inspection processes by passing an examination. In-class training is available, but not required, for each of the inspector certifications. Experienced inspectors may choose to challenge the certification examination without attending in-class training. The following chart shows the certification process for all inspector exams:



The exam for the Certified General Construction Inspector course has two sections; one section focuses on contract plans/special provisions and one section on inspector resources. A passing score must be achieved on both sections to receive the certification. If only one section is passed, the section that was not passed may be taken individually without retaking the entire exam. The inspector will have 180 days after the initial single section of the failed exam date, to successfully pass the other section to become certified. If the inspector does not meet this requirement, the inspector will be required to retake both sections of the exam.

Training course materials are available for download or purchase¹ through the ODOT Construction Section internet site to allow inspectors who intend to challenge the exam an opportunity for self-study².

The schedule for training courses is set every fall for classes during November through June, although challenge exams can be scheduled year-round. The schedule and registration

requirements are available on ODOT's Inspection Certification Program website³. Training course participants will receive course materials the first day of training as part of the registration.

Training and certification are strongly recommended at the earliest opportunity for new inspectors and other non-certified individuals. Certification exams are readily available for non-certified individuals to challenge. Non-certified individuals who have demonstrated competence on the job are encouraged to challenge the applicable certification exam(s) and obtain proper certification. If the individual does not currently possess a certification for that specific discipline and fails examination events, then that individual must attend the formal training for that certification. If the individual currently possesses a certification for that specific discipline and fails any portion of the examination, then that individual may challenge the failed portion of the examination for that certification a second time. If the individual fails the challenged event a second time, then the individual's supervisor may request a third retest or individual can attend formal training for that specific discipline.

Inspector certifications are valid for a 2, 3 or 5⁴ year period depending on the type of certification. An inspector must complete an examination to retain his/her certification for an additional 3 to 5 years. The examination may be done through the challenge process or as part of a certification/re-certification class. If a certified inspector receives a failing score on any certification exam, his/her certification will be suspended until a passing score is achieved.

The Quality Assurance Unit will work with all of the training providers to ensure a consistent certification/re-certification process that will measure an inspector's skills and competency.

A certification extension may be provided upon written request to the ODOT State Quality Assurance Engineer. The request should contain the reason for the extension, desired certification and proof of future class attendance or challenge process through a registration of the training provider. The length and conditions of any extension will vary and are at the discretion of the State Quality Assurance Engineer.

Certification Examinations

To apply for a certification, the applicant may either register for one of the approved training classes, where the exam will be administered as part of the class or submit an application to challenge the exam⁵. Challenge exams will be scheduled at a time that is convenient for ODOT and the applicant.

Exams are:

- a. Open book
- b. Multiple choice and true/false questions about inspection procedures, specifications, plans, and other resource documents
- c. Written exams with times vary from 2-4 hours depending on the certification
- d. Required to have a passing score of 80% for all certifications

Documentation of Certification

Upon the successful completion of the current examination(s), the participant's results will be entered into the official certification registry database. The registry is maintained by the ODOT Construction Section and can be accessed on the internet at the following:

<https://highway.odot.state.or.us/cf/techcertdynamic/>. This webpage is considered the participant's official record of ODOT construction certifications.

Results will be emailed to the participant within two weeks of the exam date.

*Supervisor's request must include a statement indicating what steps were taken to help the participant (i.e., Allow time for study and/or coaching by experienced staff and an exam review. The participant can coordinate an exam review through the following email address: odotconstructiontraining@odot.oregon.gov

¹ To order an inspector Manual or Resource Materials: <https://www.oregon.gov/ODOT/Forms/20DOT/7345110.pdf>

² The requirements for each class are outlined at: <https://www.oregon.gov/ODOT/Construction/Pages/Inspector-Certification-Program.aspx>

³ The schedule and registration requirements are available on ODOT's Inspection Certification Program website <https://www.oregon.gov/odot/Construction/Documents/schedule.pdf>

⁴ Certified ADA Curb Ramp Inspector Certification is valid for 2 years and Certified Traffic Signal Inspector Certification is valid for 3 years from the date of issue. The remaining certifications are valid for 5 years.

⁵ To register for a Challenge Event: <https://forms.office.com/g/pUEFCK7TFH>

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General Guidance

General Construction Inspector General Guidance

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General Guidance

Role of Construction Inspector

The construction inspector has the toughest job in construction. The Inspector has the responsibility and authority to point out deviations from specifications, but has no corresponding authority to approve changes, even though they might be minor. The Inspector's function begins and ends with seeing that construction operations produce the results called for in the plans and specifications. If an Inspector has the quality of firmness coupled with patience, and judgment inherent with a desire to be correct but practical, then they will fulfill their intended function on the construction team.

Inspectors must work constantly to achieve a high standard of excellence in the administration and quality control of construction projects. Each Inspector has the responsibility to perform in such a manner that their personal goals and the owner/designer goals are in harmony. Since an Inspector is isolated from immediate supervisory resources and guidance much of the time, they must be able and comfortable in making many individual judgments throughout the workday affecting the quality of construction. The Inspector represents the owner at the site of work and is empowered to enforce the provision of the Contract. The Inspector is authorized to reject materials and workmanship not in conformance with contract requirements.

SS 00150.01 Inspector's Authority and Duties include the responsibility to orally reject defective materials...

The Inspector must be mature, confident, patient, meticulous in duties, and be a person of integrity who also possesses good judgment. There are innumerable attributes that make up a good Inspector. An unknown author once described an Inspector best by defining what they are not:

- An Inspector is NOT a designer, although they must be able to read plans and speak with designers.
- An Inspector is NOT a surveyor, although they must understand surveying principles.
- An Inspector is NOT a superintendent, although they must know construction and good planning.
- An Inspector is NOT a policeman, although they must secure compliance with the Contract.
- An Inspector is NOT a lawyer, although they must understand and enforce Contract Law.
- An Inspector is NOT a carpenter or other tradesman, although they must recognize qualified people.
- An Inspector is NOT an accountant, although they must be able to keep detailed records.

The ideal Inspector must have desire, reasonableness, firmness, good judgment, knowledge, and courtesy. Their interactions with construction crews must be friendly and firm without familiarity, and must be conducted with the skill of a diplomat. The fundamental requirements for a good Inspector are:

- Knowledge – It is of paramount importance that the Inspector has knowledge of the work inspected.
- Common Sense – The means to synchronize knowledge and specifications; apply one to the other.
- Observation – see with eyes as well as considered thought about the image observed.
- Courtesy – Valid criticism; how one says it can drastically effect how one receives it.
- Physical Tools – Measuring devices, testing equipment, notebook, pencil; and the ability to use them.

Documentation

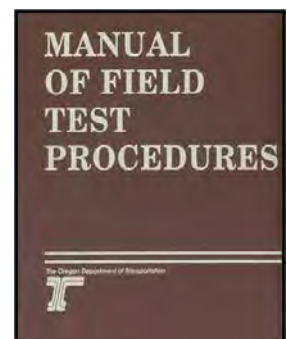
The importance of documentation on a construction project cannot be stressed enough. It is critical for recording quantities and quality of materials placed which allows the contractor to be paid and the Agency confirmation of quality. It is also critical to provide a history of how the project was built for future reference like for making adjustments in the contract time. In addition, it could be important for providing information for the Agency in resolving a dispute. The ODOT *Construction Manual* has a complete chapter on Project Records. To assist the Inspector, excerpts from the chapter are included in the *General Inspection Training Manual* under the documentation tab.

Inspector Resources

Inspectors have many resources available to help them perform their job duties effectively. The most important construction resources are the project plans, special provisions and Oregon Standard Specifications for Construction. These resources will be discussed in later sections.

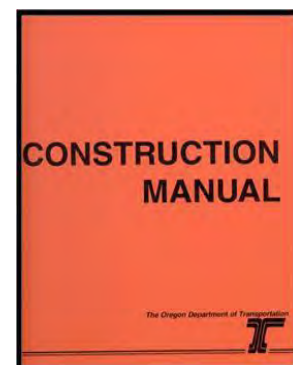
Other important resources that may be referred to in the plans or specifications include:

- **The *Manual of Field Test Procedures* (MFTP or Brown Book):** The Brown Book applies to testing done at the jobsite like compaction and/or materials sampled at the jobsite like aggregate or concrete. The manual provides several sections including a description of the ODOT Quality Assurance Program; testing requirements and test methods for various materials used; report forms and examples; and *The Field Tested Materials Acceptance Guide for Type D or E Projects Only*.



The Field Tested Materials Acceptance Guide for Type D or E Projects section is important for inspectors to understand as it details what tests are to be performed; who is to perform them and how frequently they must be performed. While the Quality Control Compliance Specialist (QCCS) is responsible for monitoring the testing, oftentimes it is the inspector's responsibility to notify the QCCS when testing will be needed. Also, it is important to be aware that the testing is occurring and that, where possible, test results are documented in the Inspector's Daily Report.

- **The Non-Field Tested Materials Acceptance Guide:** Non-field tested materials include items like sediment barrier, geotextile, steel piling and bolts. The Guide provides a table of the materials covered along with a list of the required acceptance (quality) documents. A flow chart with guidance on how to use the NFTMG is included in the NTMAG tab in the *General Construction Inspection Training Manual*. For more navigational tips, refer to the Review Section of this Supplement.
- **Qualified Products List:** The "QUALIFIED PRODUCTS LIST" (QPL) is a comprehensive list of all finished products which have been evaluated and/or used by the Oregon DOT. Because there are items that are used over and over on projects, it makes sense to maintain a list of products that have been used and don't need to be re-evaluated every time they are to be incorporated. If an item is required to be taken from the QPL, the Non-Field Tested Materials Guide will provide direction to the QPL. For more navigational tips, refer to the Review Section of this Supplement.
- **Construction Manual:** An additional useful publication is the *Construction Manual* which you will find online at <https://www.oregon.gov/odot/construction/pages/construction-manual.aspx>. The Manual provides background and procedural guidance for the Oregon Standard Specifications for Construction. Chapter 12, Project Records is of particular interest to an inspector as it provides guidance on preparing Daily Reports/Diaries and Quality Documentation, etc.

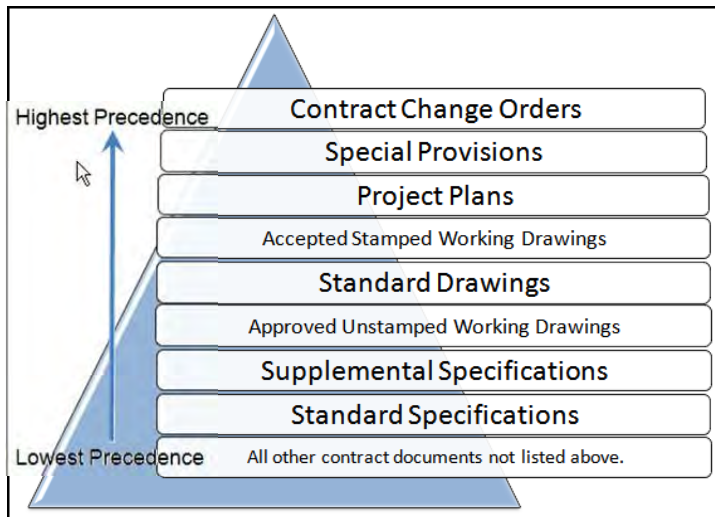


Order of Precedence

Many documents may be referenced for a project and sometimes conflicting information is included. For example, the project plans may call out for a given dimension and the special provisions have something different. To reconcile the differences, an order of

precedence has been established. The order of precedence is listed in the ODOT Standard Specifications for Construction, under 00150.10(a).

The order is presented in the pyramid to the left indicating that the most general project document which is also, in most cases the oldest, has the least precedence. As you



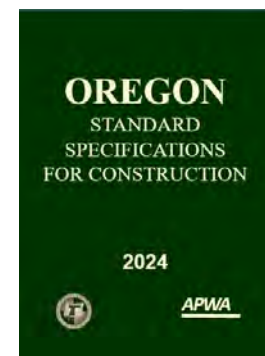
move up the pyramid, the documents become increasingly more project specific and more current with contract change orders taking precedence over all other documents. Note that an order of precedence for material specifications and test methods also is established and can be found in section 00165.20.

Specifications and Plans

As previously mentioned, the critical documents to have available when inspecting a project include the Special Provisions, Standard Specifications and Plans. The plans provide the requirements for constructing a project including the location and dimensions of all features that will be incorporated which make them unique for each project. To answer questions like how deep to install a feature or which side of the highway to place a pipe, the answers are going to be found in the plans. Answers to questions about the scope of the work, the construction limitations, and the necessary equipment are going to be found in the specifications.

Specifications

The Oregon Standard Specifications for Construction provide the basic guidelines for constructing a project. The Standard Specifications are printed about every three years so there are areas that require updates as technology changes or best practices are identified. To document the changes, ODOT posts boiler plate special provisions that include the recent changes for a given specification. When a project is developed, the standard specifications and/or boiler plate specifications are compiled and modified as needed and incorporated into the special provisions. From an inspector's perspective, the first check on a specification



should be to the special provisions which may or may not refer back to the standard specifications.

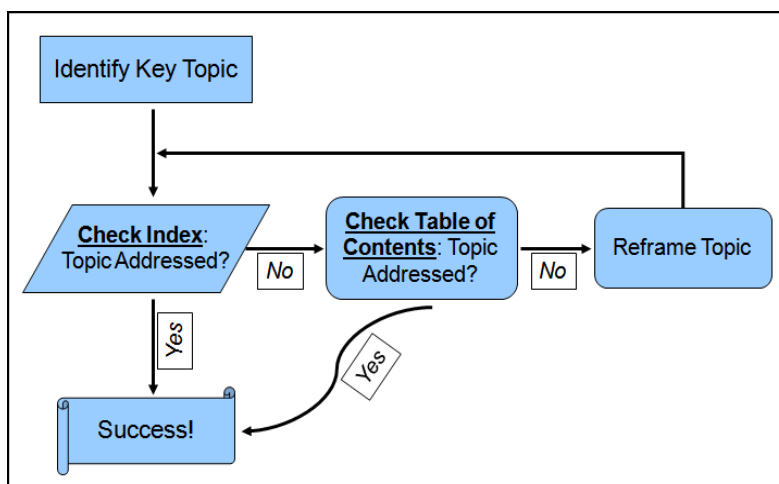
Navigating the Specifications

The Oregon Standard Specifications for Construction include two sections. Section 1 contains Part 00100 and covers the defined terms, the bidding process and contractual relationships. Essentially, it covers the rules of the contract between the Agency and the Contractor, all the legal part of the contract. The second section contains Parts 00200 through 03000 which describe the actual details of how a design feature is going to be constructed and what materials can be used.

Believe it or not, ODOT standard specifications and special provisions (Sections 00200 through 01999) subsections are organized in the same way. The figure to the right shows the general organization of the subsections. Each specification will have unique subsections like scope, labor, construction, etc. but the individual subsections will always be listed under X.00 for Scope; X.30 for Labor and X.40 for construction, etc. For example, if the question was, “*What type of labor is required for Video Pipe Inspection?*” it could be answered by looking under 00415.30 (Video Pipe Inspection, Personnel Qualifications). If the question was, “*How is Video Pipe Inspection measured?*” The answer could be found by referencing 00415.80 (Video Pipe Inspection, Measurement).

Scope	• X.00 to X.09
Material	• X.10 to X.19
Equipment	• X.20 to X.29
Labor	• X.30 to X.39
Construction	• X.40 to X.59
Maintenance	• X.60 to X.69
Finishing, Cleaning Up, and Warranties	• X.70 to X.79
Measurement	• X.80 to X.89
Payment	• X.90 to X.99

Specification Organization



Searching for a Specification

Sometimes, however, more effort is required. Navigating the specifications could be as easy as referring to the table of contents and/or index. The key to finding answers in the specifications is to not give up – **and be sure to read the entire subsection.** The flow chart is provided as a tool to assist in searching the specifications. For more navigational tips, refer to the Review Section of this Supplement.

Special Provisions and Schedule of Items

An alternate method to find a specification is to refer to the special provisions. If the question is specific to a construction project, there should be a related bid item. The special provisions include a *Schedule of Items* toward the end of the document, which lists all of the project bid items with a specification reference. Hence, if the bid item can be found then the specification can be found.

The *Schedule of Items* is arranged by sections which are logically sequenced from activities that take place at the beginning of construction to those that take place later in a project. In the class project, the *Schedule of Items* has ten sections including Section 0001: Temporary Features and Appurtenances, Section 0002: Roadwork, Section 0003: Drainage and Sewers, etc. By narrowing the area of construction, a bid item can be found. A snapshot of Section 0006 Roadwork is shown below:

SCHEDULE OF ITEMS					
OR569: BELTLINE HWY @ COBURG ROAD INTERCHANGE WILDISH CONSTRUCTION CO.					
ITEM NO	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)
SECTION 0006 WEARING SURFACES					
0560	0745 0301000M LEVEL 3, 3/4 INCH DENSE HMAC	TON	3,400.00	50.00	170,000.00
0570	0745 0302000M LEVEL 3, 1/2 INCH DENSE HMAC	TON	1,100.00	56.00	61,600.00
0580	0745 0311000M LEVEL 3, 3/4 INCH OPEN HMAC	TON	1,300.00	46.00	59,800.00
0590	0745 0640000M PG 70-22 ASPHALT IN HMAC	TON	330.00	50.00	16,500.00
0600	0748 0121000J 4 INCH ASPHALT CONCRETE PAVEMENT REPAIR	SQYD	60.00	100.00	6,000.00

Items number 560, 570, 580 and 590 reference 0745 which means that Special Provision Section 00745 Hot Mix Asphalt Concrete includes multiple pay items. Since hot mix asphalt concrete paving can include many materials, each material listed is required to be measured and paid for separately.

Navigating the Plans

ODOT plans include the specific locations, dimensions, drawings, and installation notes for constructing the features on the project. The plans have consistent layouts that make them easy to navigate. The table below provides a description of what information is provided in a plan set by sheet number.

Plan Set Organization

Page	Page Description	Information Included
A01	Title page	<ul style="list-style-type: none"> Project limits, location Work activities (below project name)
A02 & A03	<ul style="list-style-type: none"> Index of Sheets Index of Standard Drawings 	<ul style="list-style-type: none"> List of project specific drawings Standard drawings used specific to the project
BA's	Typical Sections (listed by line and station)	<ul style="list-style-type: none"> Roadway dimensions Widening dimensions Pavement thicknesses (aggregate base, HMAC base course, HMAC wearing course) HMAC mix type
BB's	Details used specific to the project (modified standard drawings)	<ul style="list-style-type: none"> Construction information that could be needed at various locations. HMAC pavement repairs Subgrade stabilization Miscellaneous
BC's	Ramp Details	<ul style="list-style-type: none"> ADA compliant Ramp Construction
BD's	Pipe Data Sheets	<ul style="list-style-type: none"> Size and length of pipe Pipe Use Pipe material List of standard drawings related to pipe installation
C0's and D0's	General Construction (shown by line and station)	<ul style="list-style-type: none"> General construction alignment General construction profile including excavation and fill estimates Drainage and utilities
E's	Traffic Control Plans	<ul style="list-style-type: none"> Details of sign placements Detour Traffic control plans (including cross sections)
F's	Erosion Control	<ul style="list-style-type: none"> General Notes Temporary Erosion and Sediment Control
G's	Geotechnical	<ul style="list-style-type: none"> Geo Details Wall and Pile Plans Geotechnical Data
H's	Hydraulic	<ul style="list-style-type: none"> Stormwater Plan Details Temporary Water Management Plan
J's	Bridge	<ul style="list-style-type: none"> Plan and Elevations General Notes, Geo Data, Staging and Sequencing Construction Plans and Details (Footing, Bents, Girders, Walls, Deck)
K's	Intelligent Transportation Systems	<ul style="list-style-type: none"> ITS Equipment Details ITS Structure Details

Page	Page Description	Information Included
L's	Permanent Signing	<ul style="list-style-type: none"> • Signing Plan • Sign Details • Sign and Port Data Sheet
M's	Signals	<ul style="list-style-type: none"> • Legends and Details • Signal Plan • Existing Utilities
P's	Illumination	<ul style="list-style-type: none"> • Illumination Legends • Illumination Plan • Illumination Details
Q's	Permanent Pavement Markings	<ul style="list-style-type: none"> • Legend • Pavement Marking Details • Pavement Marking Plan
Drawing Numbers	From Roadway	See plan index (Sheet 1A) for what is included.
Drawing Numbers	From Bridge	See plan index (Sheet 1A) for what is included.
Drawing Numbers	From Traffic	<p>See plan index (Sheet 1A) for what is included. Most common sheets include:</p> <ul style="list-style-type: none"> • Permanent Pavement Markings • Permanent Signing • Illumination Plans • Signal Plans

Basic Plan Reading

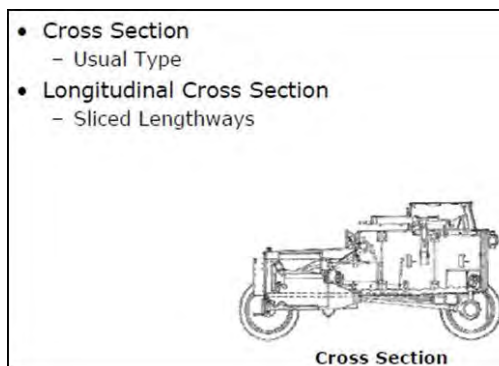
Construction plans include tabular information as well as graphical information. It is important to understand what the graphical depictions are in order to match up the information to the field. The fundamental graphical views are discussed here as background.

Common views presented include the plan, elevation, and cross section view. The views are presented below using a four wheel motorized vehicle, courtesy of NHI Course *134108 Plan Reading*. For more information and detail, check out the NHI website for on-line training modules.



The Plan View is a snapshot of a feature looking directly down on it. The elevation is looking at a feature straight on from one side or the back. The cross section view can either be a slice across the side or the middle as shown in the example to the right.

In the cross section view to the right, a section has been “sliced” away and the inside of the armored car is seen from the side. The inside of the car is also shown. In a drawing, dotted lines show parts not seen, such as the tires or other parts that cannot be seen.



Select Plan Components

Alignment

When building a project, oftentimes more than one roadway segment includes work activities. Each roadway segment is an alignment with a unique designation. The designation may apply to an off-ramp or an adjoining street or separate alignments on divided highways. For example, for a project constructed in Lane County for the Beltline Highway, one alignment was designated *BL* for *Belt Line* while another alignment was designated *EBO* for *East Bound Off-ramp*. Information in the plan set will be tied to an alignment which can typically be found on the Title Sheet.

Stationing

Stationing is used to identify the beginning and ending of a given section on an alignment or to identify a point where a feature is located. Stationing is designated

continuously from a starting point of 0+00. Each 100 feet increases the stationing by one so that the stationing would run 1+00 to 2+00, etc. The 2+00 indicates that the point is 200 feet from a starting point. If the point was 3005 feet from a starting point, the station would be 30+05.

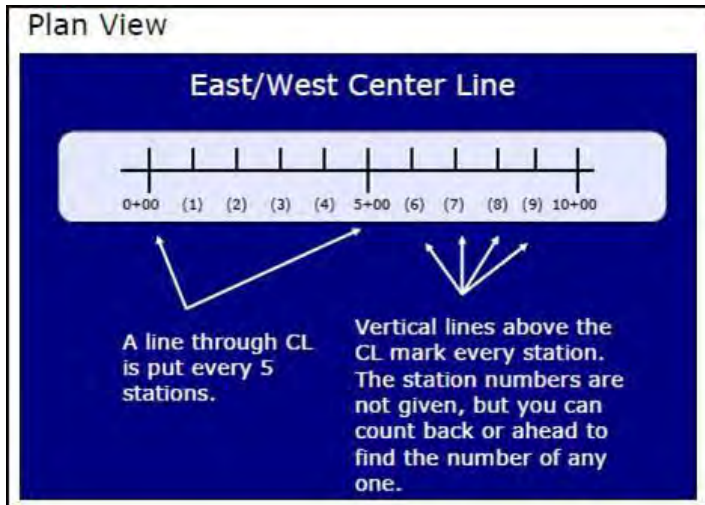


Image courtesy of NHI Course 13410

Stationing is marked along the centerline of a given alignment as shown in the example. Stationing allows the distance between any two points to be determined. For example, to determine the distance between Sta. EBO 104+00 to Sta EBO 105+07.5, remove the "+" in the stations and subtract the higher station from the lower station: 10507.5-10400=107.5 feet

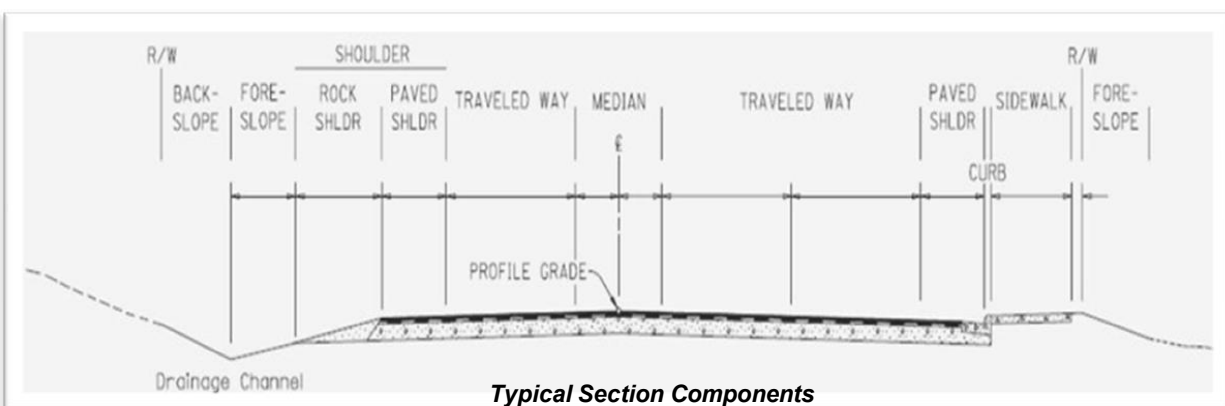
When a particular feature is located along an alignment, a station will be provided with an offset distance designated either left or right. To determine the orientation of left and right side of road, picture yourself standing on the beginning station looking ahead with the stationing increasing. From that perspective, the right offset is to your right and the left is to the left side of the roadway.

⑥ 12" storm sewer pipe (in pl.)
Extend - 3' Rt., 5' depth

Example of construction note with direction Rt. designated.

Typical Sections – General

Typical sections are cross sectional views that define the configuration of a proposed roadway at right angles to the centerline. Typical sections show the width, thickness, and descriptions of the surfacing courses, as well as, the geometrics of the graded roadbed, side ditches, and side slopes. Typical sections will have the alignment designation and the beginning and ending stations to show where that typical section is used and what is going on between those stations.



Typical section requirements differ from project to project; however, all typical sections share the same general components as shown in the figure above and described below.

- **Median** – The portion of a divided highway separating the traveled way for traffic in opposing directions. The principal functions of a median are to separate opposing traffic, provide a recovery area for out-of-control vehicles, provide a stopping area in case of emergencies, allow space for speed changes, storage of left turning vehicles, minimize headlight glare, and to provide width for future lanes.
- **Profile Grade** – A control point referring to the design profile for maintaining proper roadbed grade.
- **Traveled Way** – The area of roadway surface designed for vehicular movement (traffic lanes) between fog lines.
- **Paved Shoulder** – The portion of the roadway contiguous with the traveled way for emergency use recovery of out of control vehicles, accommodation of pedestrians, bicyclists, and stopped vehicles, and for lateral support of subbase rock, base rock, and surface courses.
- **Rock Shoulder** – The shoulder created with rock drainage material used to cover the ends of the surface courses and bases, and for additional area for recovery of out of control vehicles.
- **Curb** – Edging along a street or roadway.
- **Foreslope** – Negative slope of drainage channel. Slope must accommodate recovery of out of control vehicles.
- **Backslope** – Positive slope of drainage channel. Slope must accommodate recovery of out of control vehicles.

Typical Sections – ODOT

Typical sections are used in most contract plans developed in the ODOT format. They are an important part of the plans because they show a detailed cross-sectional view of the work to be done. Therefore, each subsequent typical section or partial section represents a change or variation in the design.

Typical Sections are listed in the following order:

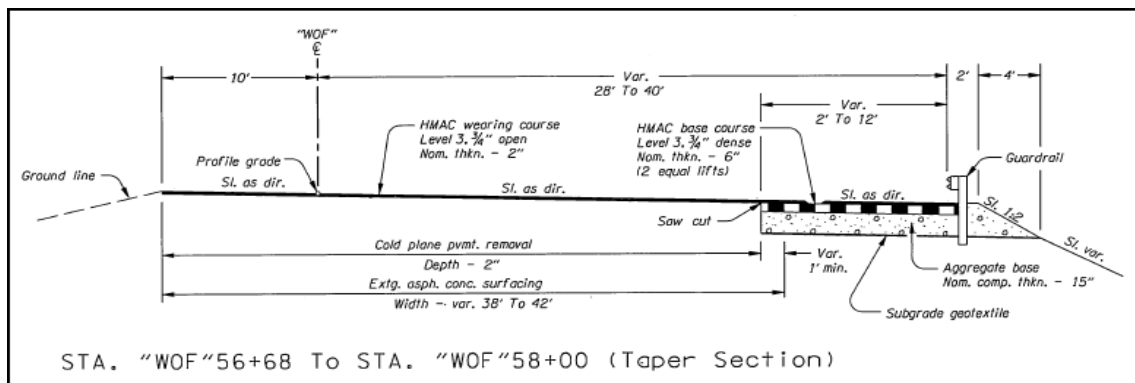
- Mainline
- Frontage Roads or Intersecting Alignments
- Ramps

Check the Stationing on the typical sections to be sure that the entire project is represented with no gaps or overlaps. When looking for a feature, make sure to verify the proper alignment.

Working with the typical section above, many things can be determined including:

- This section is applicable for 5800 - 5668 = 132 feet
- The pavement section includes a subgrade geotextile, 15" of aggregate base, 6" of ACP for base (Level 3 (*mix type*) dense mix (*aggregate gradation*) with $\frac{3}{4}$ " aggregate (*largest aggregate size*)), and 2" of ACP for a wearing course (Level 4 open mix with $\frac{3}{4}$ " aggregate)

- The side slope is to be constructed at 1:2 which represents 1 vertical to 2 horizontal (*listed as a separate note in the plans*).



ODOT Typical Section

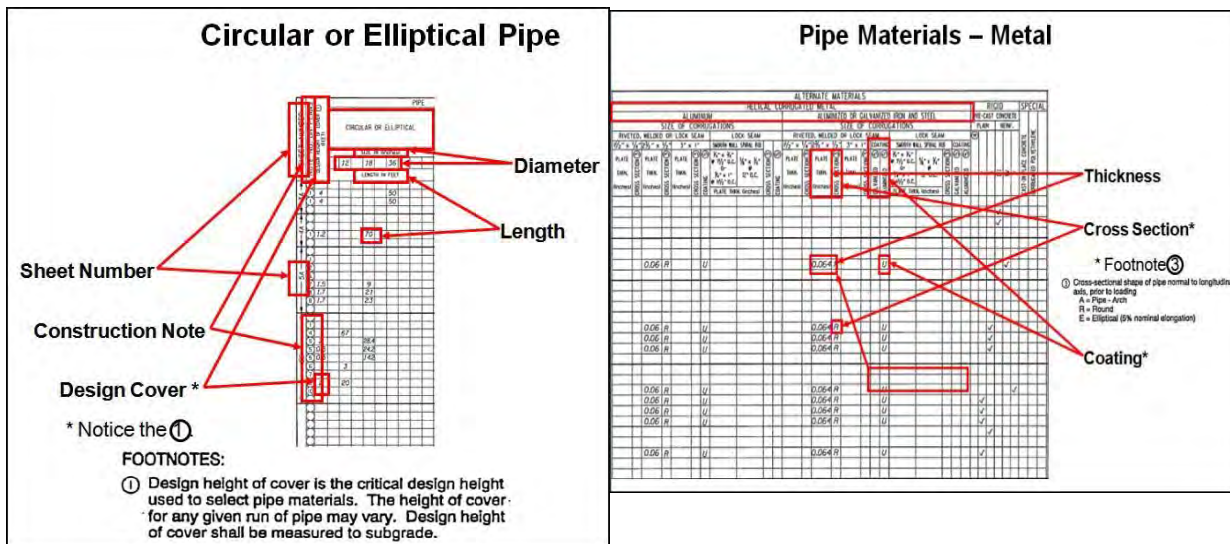
Taper Sections

The typical section above includes taper sections since the road width is changing over the 132 feet. At the beginning station for the typical section, the first taper width listed is used. At the ending station for the typical section, the final taper width listed is used. For the section above the taper widths would be:

- 2' at STA. WOF 56+68
- 12' at STA. WOF 58+00

Pipe Data Sheets

Pipe data sheets include a wealth of information that can easily be overlooked unless each section is carefully reviewed. Included in the data sheets are the sheet number that provides the location of the pipe installation, the pipe length, diameter, type, use, and appurtenances like attached manholes or inlets. The sheet also includes a list of standard drawings that are needed for the project. Examples of information included in the pipe data sheets are shown in the figures.

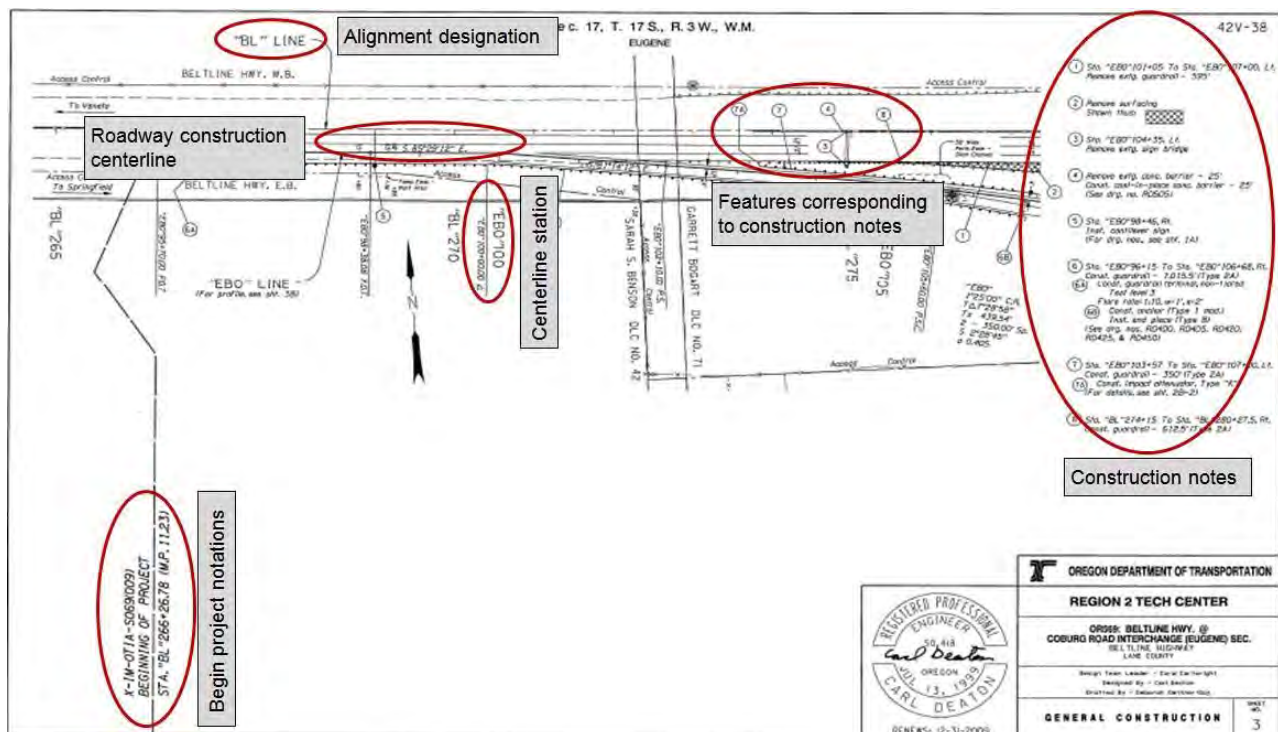


General Construction Information

After the pipe data sheet, the plans include general construction information. The sheets are bundled by station for easy navigation. The first sheet in the set is General Construction sometimes followed by Drainage and Utilities and then the Profile Sheet. The Profile Sheet may include information on manhole and inlet elevations, grades, and excavation and embankment quantities. For example, general construction information from station 1+00 to 2+00, would start on sheet 3, Sheet 3A would include drainage and utilities and 3B would be the profile. Station 2+00 to 3+00 would be covered by sheets 4 through 4B. Other sheets could be included in the packet like the alignment plan, detour information or removal plans. The other sheets would be linked to the General Construction, Drainage and Utilities and Profile sheets with the same number followed by the next letter in the alphabet. (See Plan Set Organization table.)

Plan View

The plan views for a project are included on the Construction Plan Sheets. The stationing on the sheets typically increases from left to right. The top of the sheet (above the centerline) is left to the centerline and the bottom of the sheet (below the centerline) is right. Installation location information for features like signs, fencing, guardrail, delineators, and/or guardrail is included.

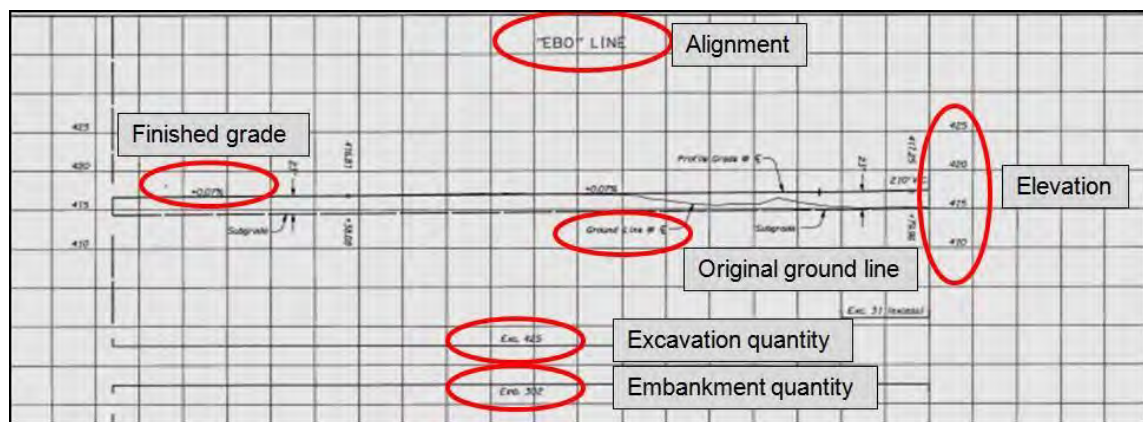


Construction Plan Sheet

Profile View

The profile view is like a longitudinal cross section of the road. Elevation, in feet is listed on the left and right hand sides of the section with station listed underneath the section. The profile grade is drawn on the scaled profile at an elevation taken at a point on the highway, usually at the centerline. The original ground line depicts the land before grading. If the original ground is excavated to match the profile grade, the section is a cut area. If the original ground is below the profile grade line, fill material will be required to bring it up to grade.

Information included on the profile sheet includes the elevation of the original ground, stations, finished grade, subgrade elevation, curve information and grades. The sheet may also include excavation and embankment quantities, as shown below.



Construction Profile Sheet

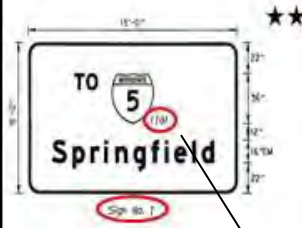
Signing

Permanent signing sheets fall within the broad category of traffic. The sheets include information on the location of the sign, whether it is to be removed or left in place, the location of new signs and the type of sign support all referenced to a sign number. The actual signs are located on a separate plan sheet that shows new signs indicated with solid borders and existing signs indicated with broken borders.

Also included with the sign sheets, are a sign and post data table. The table includes a reference back to the sign number, the size, legend type and the post support type. The sign and post data table references the Oregon Standard Drawings needed for a particular sign construction. Like the pipe data sheet, the signing plan sheets are full of information and careful attention to detail is needed.

Signing Plan Sheets – Sign and Post Data Table

SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		BORDER WIDTH		RADIUS		ARROW SIZE	SIGN TYPE (PER 2008 SEC. 2010 SPEC. PROVISIONS)	SUB-STRATE PLYWOOD SHEET ALUMINUM EXTRUDED ALUMINUM	COLOR 1/		LEGEND TYPE
											BACKGROUND	LEGEND	
		WIDTH	HEIGHT	1/2"	1"	2"	1 1/2"	3"	6"	9"	12"		
★ 1	EBO 98+46	15'-0"	9'-0"		✓			✓	G1	✓	G	W	✓
1a	-	36"	36"						F1	✓	RB	W	✓



Standard Drawings

Standard drawings include design features that are used over and over from project to project. That is, they are not project specific so they won't include the installation location only the construction information. Standard drawings are like the standard specifications in that they can apply to any project. Features like concrete inlets, guardrail installation, sidewalks, and pavement markings are included.

Summary Table

The following table provides a general overview of what information is provided in what resource.

Summary of General Inspection Resources

		Topics Covered	Navigation Options	Important Sections
Special Provisions		Modifications to standard specifications for a specific project.	<ul style="list-style-type: none"> Refer to Schedule of Items (bid item list) which includes spec reference Table of Contents in Standard Specifications. 	Schedule of Items (bid item list)
2024 Standard Specifications	00100 s	<i>Contract rules:</i> common to all contracts; legal requirements and administration.	<ul style="list-style-type: none"> Table of Contents Index 	<ul style="list-style-type: none"> Authorities Order of Precedence Prosecution and Progress
	00200 - 01999	<i>How to:</i> directions/requirements for constructing a project.	<ul style="list-style-type: none"> Table of Contents Index 	<ul style="list-style-type: none"> Construction specific; 2000's - material specifications.
Plans		Information for specific dimensions, locations and features on the project.	<ul style="list-style-type: none"> Table of Contents Some sheets have references for specific Standard Drawings that pertain to a specific item or action on the plans. 	<ul style="list-style-type: none"> Typical Sections Details (specific to the project) General Construction Sheets Pipe Sheets Sign Sheets Standard Drawings
NTMAG		Quality (acceptance) documentation needed for materials used on the project that aren't field tested. Ex: temporary traffic control devices; steel; pipe.	<ul style="list-style-type: none"> Page 2 of NTMAG provides descriptions of quality documents Materials referenced by specification section. 	May refer to the QPL.

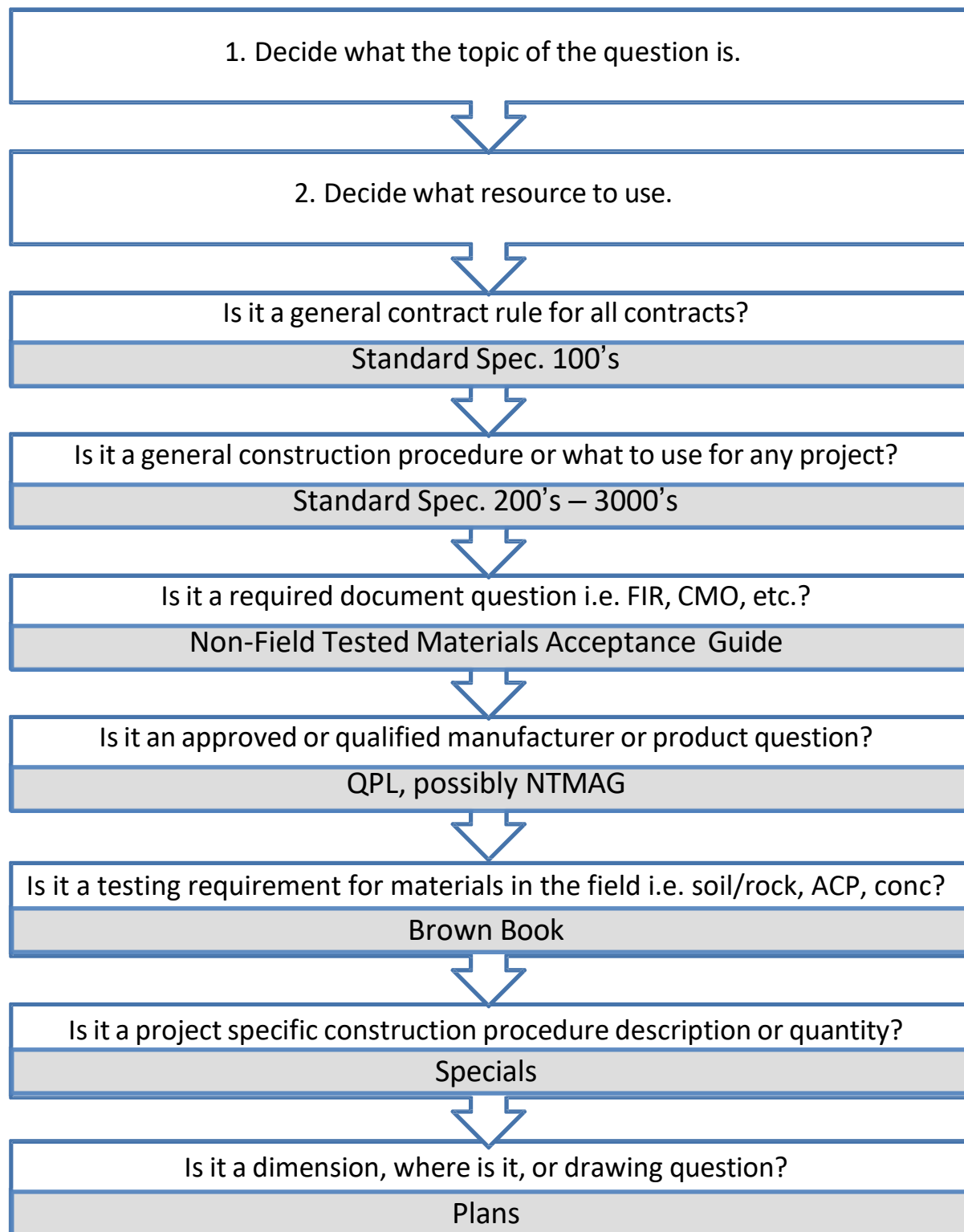
QPL	List of finished products which have been evaluated and/or used by ODOT; If the product is <i>Approved</i> or <i>Qualified</i> or <i>Rejected</i> for use.	<ul style="list-style-type: none"> Alphabetical index by category in front of the document to get spec. number Products listed by specification number Other products pulled out in front of doc. 	<ul style="list-style-type: none"> Erosion control items Pavement markings Permanent impact attenuator attributes and types
MFTP (Brown Book)	Testing requirements for materials tested in the field like rock, asphalt or subgrade, etc.	<ul style="list-style-type: none"> Section index in front and section tabs Materials referenced by specification section. 	<ul style="list-style-type: none"> 4(B) Small Quantity Schedule 4(D) Field Tested Materials Acceptance Guide

Review: Putting It All Together

By now all of the resources available for inspection should be familiar. This section includes a quick review of navigating the materials available to you.



Can you list the information provided in each resource?

General Inspection Navigation: Where to Start

Standard Specifications Review

Standard Specifications include Contract Rules and General Construction Procedures and Materials common to all contracts. There are two methods for navigating the Standard Specifications: Table of Contents and Index Method. Either method will get you to where you need to go. The Table of Contents method will take longer if you don't know where to start. The Index method is quicker if you know what the topic of the question is. The methods are summarized below.

Table of Contents

- a. Each general section is broken down to specific sections in the Table of Contents
- b. To use this method, decide what the topic of the question is and what the general section of the topic deals with.
- c. Once you find the General Section look down the list of Specific Sections to see which specific section your topic pertains to and go to that specific section.
- d. Once you are in a Specific Section then decide which Subsection you are dealing with.

Table of Contents Example:

What are the requirements for removal and salvaging guardrail?

- This is a general construction procedure.
- Topic is removing and salvaging guardrail.
- General section would be Permanent Traffic Safety and Guidance Devices -800
- Part 800 starts on page toc-40. The Specific Section would be 810 – Metal Guardrail.
- Look down the subsection list and find Salvaged Materials – page 849.

Index

To use this method, decide what the topic of the question is, then look in the index for that specific topic.

Index Example:

What are the requirements for removal and salvaging guardrail?

- This is a general construction procedure.

- Topic is removing and salvaging guardrail.
- Look in the Index for this topic.
- Index – page 25 has Removal – guardrail page 258, but it has Remove and Salvage Guardrail page 849.
- The second one fits our topic better, so start there.

Non-Field Tested Materials Guide (NTMAG)

This Resource will show all of the required Quality Acceptance Documentation needed, if any, for a given material. This document will also reference the QPL if the product needs to be off of the QPL list.

- Definitions of each Quality Acceptance Document on the second page of NTMAG.
- Set up in Standard Specification order. Starting with 00210 and working up.

Navigating the Non-Field Tested Materials Guide Acceptance includes:

- Decide what topic of question is.
- Look in Standard Specifications for the Specification number for that topic.
- Look in NTMAG for that specification number topic along the left column.
- Read what Quality Acceptance Document is required, if any, and who needs to submit them.

Qualified Products List (QPL)

This resource is a list of manufacturers and products that have been evaluated by ODOT that is either on an approved/qualified list.

Navigating the QPL includes:

- Decide what topic of question is.
- Look in Standard Specifications for the Specification number for that topic.
- Look in Project Special Provisions for any change to the Standard Specifications or Special Directions.
- Look in NTMAG for that specification number topic and find out what quality documentation needs to go with that material if any.
- Look in QPL under that specification number to find the specific product or manufacturer.

Manual of Field Test Procedures (MFTP / Brown Book)

This resource is a list Test Procedures, Testing Programs, Reports, and Testing Frequency Guide.

Navigating the MFTP includes:

- Decide what you are looking for, ie, test procedure, reports, frequency
- Look at the Test Index or jump to the appropriate tab
- Frequency guide navigation
 - Look in the Standard Specifications for the Specification number of the material
 - Look in Project Special Provisions for any change to the Standard Specifications or Special Directions
 - Find the Specification number along the left side of the Frequency Guide
 - Find the correct test procedure and corresponding frequency on the right

General Inspector Duties

Review construction activity

- Review contractor three week look ahead schedule
 - Document discrepancies or unanticipated changes
 - Review plans and specifications for impeding work
- Meet at the beginning of construction shift with project superintendent
 - Discuss daily construction activity
 - Present potential issues
- Attend weekly construction meeting (if applicable)

Review traffic control

- Check effectiveness of traffic control plan
- Check acceptability of traffic control devices
- Verify flaggers and Traffic Control Supervisors are properly certified
- Monitor flagged traffic queues
- Receive and review Traffic Control Inspection Reports (if applicable)

Review Erosion Control

- Check effectiveness of erosion control plan
- Check functionality of erosion control devices
- Monitor waterways (if applicable)
- Monitor construction equipment and site conditions for possible pollution
- Receive and review weekly Erosion and Sediment Control Monitoring reports

Ensure quality of materials and workmanship on project

- Review plans and specifications
- Actively inspect material and workmanship for contract compliance
 - Verify quality documentation of materials
 - Verify delivered material is same as covered by quality documents
 - Fill out Field Inspection Report for delivered/installed materials
- Monitor quality control testing and frequency
 - Verify testing technicians are properly certified
 - Witness deflection testing
 - Periodically observe all other quality control testing
- Monitor Portland Cement Concrete (PCC) and Asphalt Cement Pavement (ACP) placements for contract compliance

Measure quantity of materials and workmanship on Project

- Fill out Flagging Ticket for staffed flagging station hours
- Take notes of field measurement of materials placed
 - Use basic geometry and simple equations
 - Identify locations and date of placement to incorporate into paynote
- Collect all weight memos and document time and location of delivery
 - Verify random check weighing are in compliance with specifications
 - Verify contractor is determining empty haul vehicles at least twice per day
 - Calculate daily material totals to submit payment

Create Installation Sheet, “Paynotes” for work performed

- Use previously prepared notes to specifically identify location and dates of installation along with field measurements

Construction Documentation



- Photograph construction activity
- Photograph delivered material
- Document construction progress
- Fill out Daily General Inspection Report

Labor and Civil Rights Compliance (Periodic Responsibilities)


- Conduct employee interviews
- Monitor Disadvantaged Business Enterprise (DBE) subcontractors
 - Fill out Commercially Useful Function (CUF) report
 - Randomly verify DBE trucking subcontractors
- Monitor OJT trainees activities (if applicable)

INSERT TAB

Unit 1
General Project Info

<h1>Unit 1</h1> <p>General Project Information</p>	
	

1

<h2>Unit 1 Topics</h2> <ul style="list-style-type: none">▪ Basic understanding of ODOT project delivery process▪ Key resource documents▪ Contract and resource documents▪ Overview of inspector's role during construction projects 
--

2

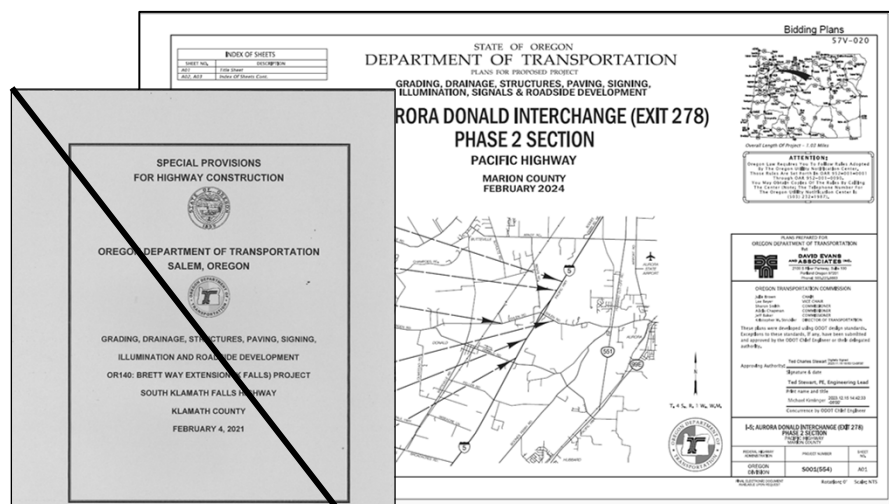
Project Development

- Check quantities at DAP, Advance Plans and Final Plans.
- Review preliminary plans
- Pre-bid: Project site preparation for Contractor site review



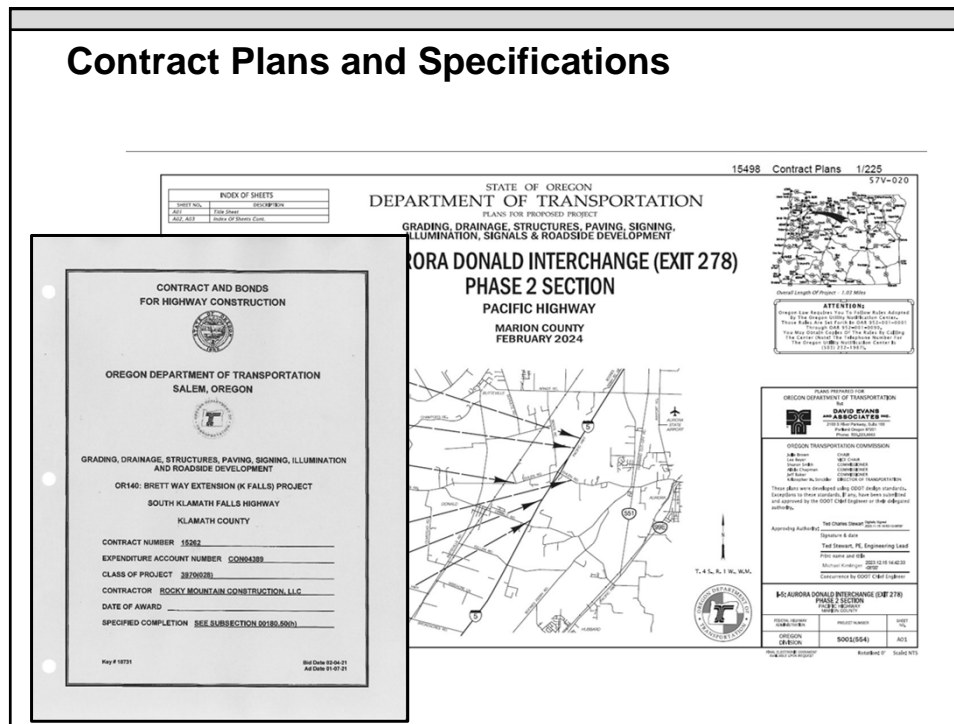
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Bidding Plans and Specifications



4

Contract Plans and Specifications



5

Construction Personnel


Contractor	Charged with constructing the project
Project Manager (PM)	Delegated by Chief Engineer to enforce the provisions of the Contract
Professional of Record (POR)	Responsible for project design and any design elements requiring modification
Inspector	Authorized by PM to inspect, reject and temporarily suspend Work



6

Resources for Inspectors

Daily Resources	Additional Resources
<ul style="list-style-type: none"> Complete set of Contract Plans Standard Specifications Special Provisions (brown specials should include all addendums) Approved Submittals Inspection Forms Inspectors Checklists 	<ul style="list-style-type: none"> Qualified Product List ODOT Nonfield-Tested Materials Guide ODOT Manual of Field Test Procedures (QCCSs) ODOT Construction Manual (used by REs for uniformity in administering projects)



7

Oregon Standard Specifications for Construction





8

Nonfield-Tested Materials Acceptance Guide Qualified & Approved Products List

OREGON DEPARTMENT OF TRANSPORTATION
CONSTRUCTION SECTION

NONFIELD-TESTED MATERIALS ACCEPTANCE GUIDE
2024 STANDARD SPECIFICATIONS
January 2024 UPDATE



Updated versions of this guide are available by printing from the web address listed below. This document is to be used as a guide for documentation required for acceptance of Materials on ODOT Construction projects and does not relieve the user of requirements specified in the Construction Project Documents. Please notify the Contract Administration Unit, in the Construction Section at the ODOT Materials Laboratory, of any changes in Standard Drawings, Special Provisions, or Standard Specifications, etc., which would require additions to, deletions from, or changes to this listing.
Internet Address: <https://www.oregon.gov/ODOT/Construction/Pages/Structure-Services.aspx>

Contact 541-724-7721 to have correction made to this guide. A summary of changes since last publication is found at the end of this document.
*Special Provisions, Contract Plans, and Standard Specifications are presented over this guide per 0100.000. Refer to the Contract for documentation requirements.

Current version in effect at time of advertisement

OREGON DEPARTMENT OF TRANSPORTATION
CONSTRUCTION SECTION

QUALIFIED PRODUCTS LIST

PUBLISHING DATE:
JANUARY 2024

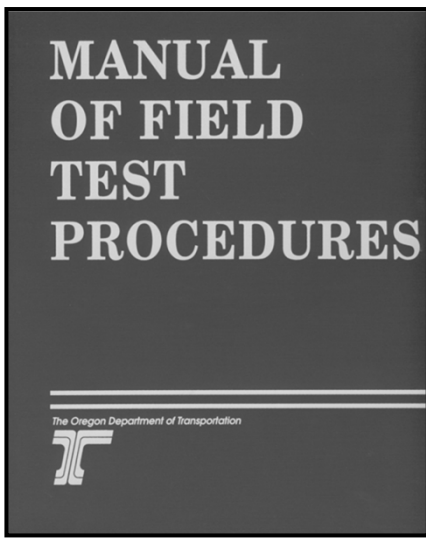


The Qualified Products List is updated every six months or amended as needed.
Current version in effect at time of advertisement

Both guides are available online




9



Updated yearly
by ODOT Construction Section
Current version in effect at time of
advertisement

Guide for Field Tested Materials

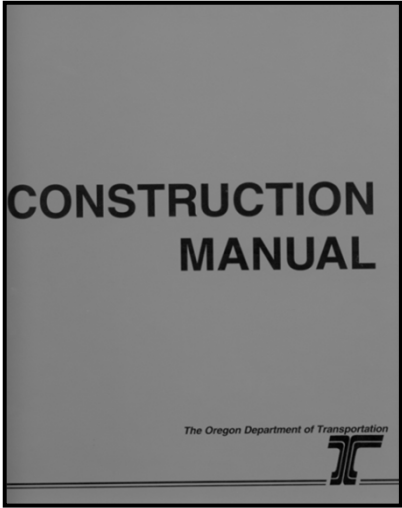


QUALITY ASSURANCE PROGRAM

REVISED DECEMBER 2023

*The MFTP also contains
the Quality Assurance
Program guidelines*


10



Updated by Contract Administration Unit

Download manual online @
<https://www.oregon.gov/ODOT/Construction/Pages/Construction-Manual.aspx>


Binders/tabs may be purchased @
<https://www.oregon.gov/ODOT/Forms/20DOT/7345109.pdf>




11

Additional Project Resources

- Grade reports
- Equipment list and drawings
- Project submittals (Project schedule, traffic control and erosion control plans)
- Change orders





12

Before Construction Begins

- Review Plans and Special Provisions
- Document existing site conditions
- Verify survey control
- Review quality document requirement (Q&Q)



13

Inspection Process (During Construction)

- Daily meeting with superintendent
- Thorough early inspections
- Notify superintendent of any problems or issues as early as possible



14

Inspection Process (Continued)

- Inspect quality of materials and workmanship
- Measure quantities
- Record construction progress
- Prepare installation sheets (paynotes)



15

End of Contract Work

- Create as-builts
- Establish and monitor project clean up work (punch list)
- Complete project documentation



16

Unit 1 Review

- Overview of inspector's role during construction projects
- Basic understanding of ODOT project delivery process
- Key resource documents
- Differentiated between Contract and resource documents

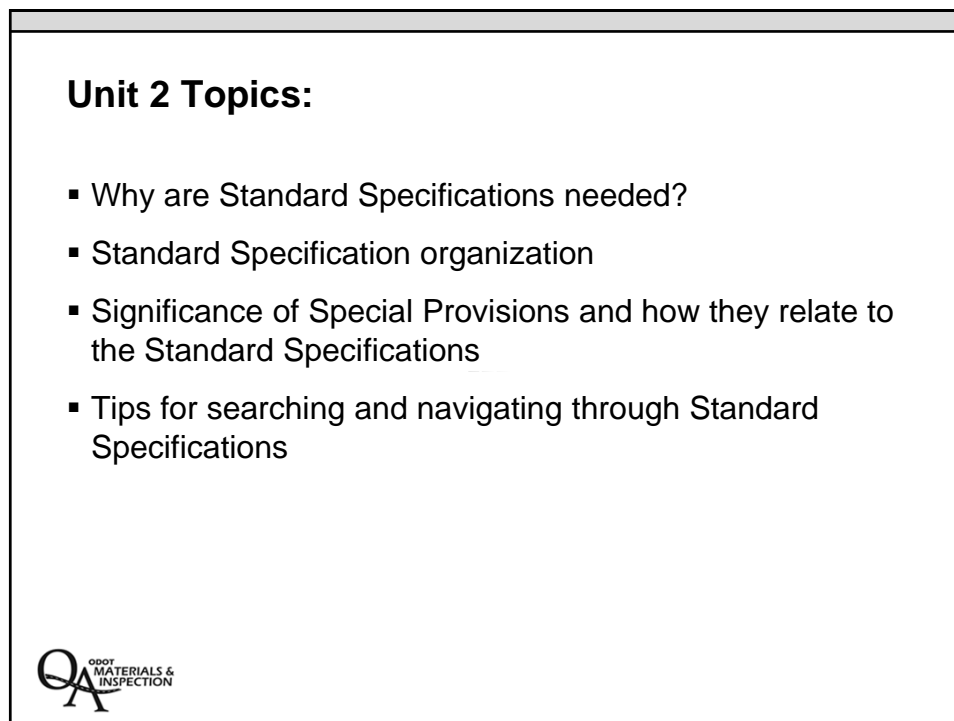


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Unit 2
Standard Specs/Specials



1



2

Standard Specifications for Construction are needed to...

- Establish basic expectations and guidelines between Agency and Contractor
- Describe responsibilities of the Agency and Contractor
- Assure fairness between the Agency and Contractor
- Ensure quality of the workmanship and materials
- Statewide contract administration consistency



3

Order of Standard Specification Sections



4

The Technical Resource List

The Technical Resource List for the 2024 Standard Specifications is at the following website:

https://www.oregon.gov/ODOT/Business/Specs/Technical_Resource_List.pdf



5

Specification Sections: 00200 through 01999

Most subsections structured this way.

Description	• X.00 to X.09
Material	• X.10 to X.19
Equipment	• X.20 to X.29
Labor	• X.30 to X.39
Construction	• X.40 to X.59
Maintenance	• X.60 to X.69
Finishing, Cleaning Up, and Warranties	• X.70 to X.79
Measurement	• X.80 to X.89
Payment	• X.90 to X.99

6

Navigating through the Specifications

Specification Sections – 00200 through 01999



Description (.00) – What is being constructed?



Materials (.10) – What materials are being used for construction?



Construction (.40) – How will construction happen?



Measurement (.80) – How will construction be measured?



Payment (.90) – What are you paying for and how is it required to be paid?



7

Searching for a Specification



Using the Index Vs. Table of Contents

1. Figure out key topic of interest.
2. Look in the index for topic.
3. Decide if section or subsection answers question.
4. If not, look at Table of Contents for topic.
5. If this still does not lead you to your topic, re-frame topic.



8

Special Provisions

- Table of Contents (9/278)
- Labor and Civil Rights (15/278)
- Professionals of Record (69/278)
- Project specific changes to Standard Specifications (91/278)
- Schedule of Items (227/278)
- Project Contract (272/278)

CONTRACT AND BONDS
FOR HIGHWAY CONSTRUCTION

OREGON DEPARTMENT OF TRANSPORTATION
SALEM, OREGON

GRADING, DRAINAGE, STRUCTURES, PAVING, SIGNING,
ILLUMINATION, SIGNALS & ROADSIDE DEVELOPMENT

I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY

CONTRACT NUMBER 15498
EXPENDITURE ACCOUNT NUMBER CON24700
CLASS OF PROJECT S001(554)
CONTRACTOR HP CIVIL INC
DATE OF AWARD
SPECIFIED COMPLETION SEE SUBSECTION 00180.50(7)

Key # 22155 Bid Date 03-22-2024
Ad Date 12-20-2023



9

What are Special Provisions?

Project specific revisions to the Standard Specifications and include:

- Specific information covering work methods, materials, measurements, or basis of payments.
- Special rules or regulations.
- Includes any amended or supplemental permits or orders issued during the course of performing the Work under the Contract.
- Identical formatting as the Standard Specifications.

10

Why do we have Special Provisions?

- Change a Standard Specification for a Specific Project.
- Add or remove sections or subsections from Standard Specifications for a Specific Project.
- Specify estimated quantities for bidding purposes.
- Provide boiler plate provisions
- Other items included:
 - Wage determinations
 - Survey requirements
 - Bid Item schedules



11

How do Special Provisions relate to Standard Specifications?

- Changes **only** the referenced specific Standard Section.
- Changes **only** the referenced specific Standard Subsection.
- When a discrepancy is caused by a special provision section, the special provision **always** takes precedence over the standard specification.



12

Standard Specification vs. Special Provision example

00330.41(a)(9)(c) Excavation Below Grade

Standard Specification vs. Special Provisions

Let's see what the Standard Specification language says vs. the Special Provisions.



13

Standard Specification vs. Special Provision example

00330.41(a)(9)(c) Excavation Below Grade

- Standard Specification
 - “Where unstable materials in encountered below Subgrade in Roadbed excavations, excavate such material below Subgrade as directed. Dispose”
- Special Provisions
 - “Delete subsection 00330.41(a)(9)(c).”



14

Schedule of Items					
228/278					
SCHEDULE OF ITEMS					
I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 (C15498)					
HP CIVIL INC					
ITEM NO	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)
SECTION 0001 TEMPORARY FEATURES AND APPURTENANCES					
0010	0100-0161000T TRAINING	HOUR	9,300.00	20.00	186,000.00
0020	0210-0100000A MOBILIZATION	LUMP SUM	ALL	5,328,118.79	5,328,118.79
0030	0221-0100000A TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LUMP SUM	ALL	1,350,000.00	1,350,000.00
0040	0222-0102000J TEMPORARY SIGNS	SQFT	5,000.00	25.00	125,000.00
0050	0222-0162000E SEQUENTIAL ARROW SIGNS	EACH	2.00	7,000.00	14,000.00



15

Schedule of Items (page 240/278)						
Cost trend tracking number						
0900	0445-035012AF 12 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	3,672.00	139.00	510,408.00	
0910	0445-035012BF 12 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT	1,578.00	240.00	378,240.00	
0920	0445-035012CF 12 INCH STORM SEWER PIPE, 20 FT DEPTH	FOOT	160.00	355.00	56,800.00	
0930	0445-035018AF 18 INCH STORM SEWER PIPE, 5 FT DEPTH	FOOT	262.00	255.00	66,810.00	
0940	0445-035018BF 18 INCH STORM SEWER PIPE, 10 FT DEPTH	FOOT	301.00	290.00	87,290.00	
0950	0445-035018CF 18 INCH STORM SEWER PIPE, 20 FT DEPTH	FOOT	158.00	400.00	63,200.00	



BI found under SP 0445

16



Unit 2 Review:

- ✓Importance of Standard Specifications
- ✓Significance of Special Provisions
- ✓How Special Provisions relate to Standard Specifications
- ✓Tips for searching Standard Specifications




INSERT TAB

Unit 3
00100 – General Conditions

<h2>Unit 3</h2> <p>00100 General Conditions</p>	
	

1

<h3>Unit 3 Topics:</h3> <ul style="list-style-type: none">▪ Basic ODOT construction terminology▪ Inspector project authority and legal requirements▪ Order of document precedence▪ General quality of materials and workmanship requirements▪ Basics for measurement of quantity 
--

2

00100 – General Conditions**General Contract Conditions**
(Agency and Contractor)

- Legalities
- Responsibilities
- Documentation requirements
- Disagreements and claims



3

00100 – General Conditions

- Organization (110)
- Scope of Work (140)
- Control of Work (150)
- Source of Material (160)
- Quality of Material (165)
- Legal Relations & Responsibilities (170)
- Prosecution and Progress (180)
- Measurement of Pay Quantity (190)



4

Conventions

- Grammar
- Capitalization of terms
- Abbreviations



5

Definitions

- First notification
- Second notification
- Third notification



6



Notification of Commencement and Completion Dates for Contract Projects

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2 SECTION

Project Name (Section)

22505

Key No.

15498

Contract No.

PACIFIC HIGHWAY

Highway

Marion

County

CON04700

EA No.

03/14/2024

Date of Award

HP CIVIL INC

Contractor

S001(554)

Federal Aid No.

NICK DONNELLY

Resident Engineer

Resident Engineer Signature

Date

First Notification

5/23/2024

Date

Date on which the erection of a sign or plant, the development of Aggregate sources, or the performance of a Contract construction operation began.

Second Notification

Instructions: Create a line for each Contract completion date according to Special Provisions 00180.50(h); remove lines if completion dates have been eliminated by Contract Change Order (CCO). If applicable, issue a separate Second Note as Work is completed for each interim completion date. Promptly issue a final Second Note once all Work has been completed at the end of Contract Time. Each notification must include the most current information for each specified completion date. If the specified completion date(s) have been modified by CCO, list the most recent date and associated CCO number. If completion date(s) are based on Calendar Days or liquidated damages are being assessed for exceeding Contract Time, ensure Weekly Statements of Contract Time Charges (form 734-3483) have been submitted, corrected if necessary, and proper assessments have been made in the Contract Payment System (CPS) as Contract Time charges are issued.

00180.50(h) #	Specified completion date according to Special Provisions 00180.50(h) or the most recent CCO number	Date Changed by CCO	Most Recent CCO No.	Days Charged Beyond Specified Completion	Date Work completed for each specified completion date signifying the end of Contract Time according to 00180.50(g)	
1	10/29/2027	<input type="checkbox"/>				X

All Claims for Additional Compensation Must Be Submitted By:

(Refer to subsection 00199.30 of the Contract for additional requirements; the claims submittal deadline shall be not later than 45 Calendar Days following the date of final Second Note)

Known items necessary to complete the requirements for Third Notification are:

Third Notification

Date on which all Contract Work was completed including corrective Work, Equipment and plant removal, site cleanup, and Resident Engineer's receipt of all certifications, bills and other documents required under the Contract.

Date

For more information regarding time, refer to Chapter 13, Contract Time of the [Construction Manual](#).

Distribution to Agency entities outside of Doc Express

Download and email to:

- District Manager
- Region Survey Manager
- Region Right-of-Way Manager

For questions about Notifications, email ODOTContractSvc@odot.oregon.gov. Contact information for distribution can be found on the Contract Closeout Contacts document on the [CAU webpage](#).

00140 – Purpose of Contract

- Typical sections
- Agency-required changes in the work



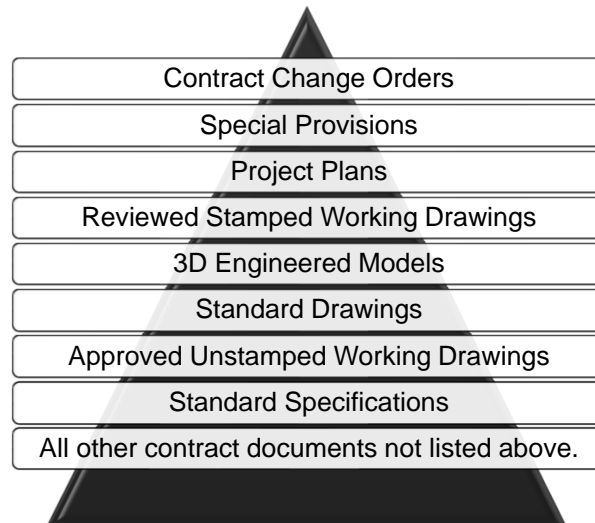
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00150 – Control of Work

- **Engineer**
Full authority over work
- **Project Manager (PM)**
Authority to administer the contract
- **Inspector**
Delegated authority from PM



8

00150.10(a) – Order of Precedence

9

00150.20 – Inspection

- Right to inspect
- Facilities and access
- Acceptability of materials and work



10

00150.40 – Superintendent

- Project communication should be directed to the superintendent including subcontractor work
- Superintendent should be present for all on-site work



11

**00160 – Source of Materials and
00165 – Quality of Materials**

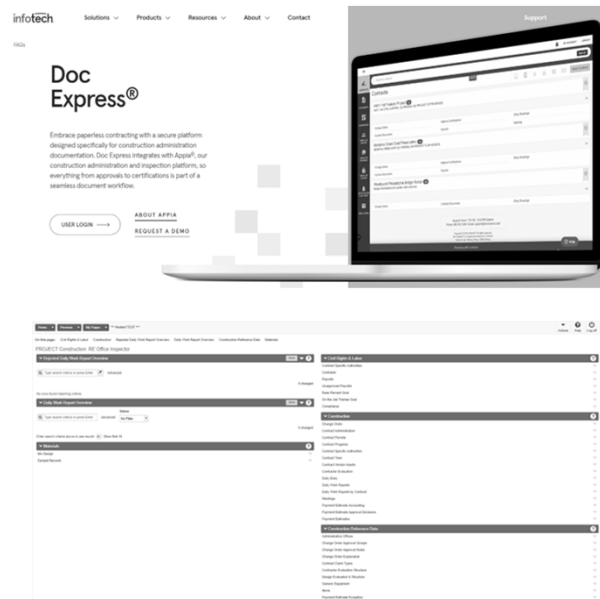
- Ordering, producing, and furnishing materials
- Materials Acceptance Guides



12

Section 00170

- DocExpress^(R)
- AASHTOWare^(R)



13

00180 – Prosecution and Progress

- Prime Contractor shall direct and coordinate all work
- Project Manager must approve subcontractor before they begin working



14

00180.40 – Limitation of Operations

Project Schedule

	ID	Task Mode	Task Name	Duration	Start	Finish	T	F	S	M	T	W	Th	F	Sa	Su	Feb 14, 2021
1			BRETT WAY	427 days	Thu 2/11/21	Fri 9/30/22											
2			PREF-CONST. COORDINATION	117 days	Thu 2/11/21	Fri 7/25/21											
3			Bide Date	1 day	Thu 2/11/21	Thu 2/11/21											
4			Intent to award	1 day	Mon 3/1/21	Mon 3/1/21											
5			Notice to Proceed	1 day	Mon 3/29/21	Mon 3/29/21											
6			Preconstruction Submittals	10 days	Mon 3/22/21	Fri 4/2/21											
7			Preconstruction Meeting	1 day	Wed 4/14/21	Wed 4/14/21											
8			Pre survey meeting	1 day	Wed 4/14/21	Wed 4/14/21											
9			Pre pour meeting	1 day	Wed 4/14/21	Wed 4/14/21											
10			Survey construction signs	3 days	Thu 4/15/21	Mon 4/19/21											
11			Survey For Sign Field Verifications	5 days	Tue 4/20/21	Mon 4/26/21											
12			Construction Submittals	10 days	Thu 4/15/21	Wed 4/28/21											
13			ODOT Submittal Review	4 wks	Mon 4/5/21	Fri 4/30/21											
14			bux colvert	12 wks	Mon 5/3/21	Fri 7/23/21											
15			UTILITY COORDINATION	6 days	Thu 4/15/21	Thu 4/22/21											
19			STAGED CONST.	365 days	Mon 5/10/21	Fri 9/30/22											
20			STAGE II	116.5 days	Mon 5/10/21	Tue 10/19/21											
21			PHASE I	61 days	Mon 5/10/21	Mon 8/2/21											
22			construct soil berm	5 days	Mon 5/10/21	Fri 5/14/21											
23			pave TP&R surface	1 day	Mon 5/17/21	Mon 5/17/21											
24			Install temp signs	3 days	Mon 5/10/21	Wed 5/12/21											
25			temp striping	1 day	Thu 5/13/21	Thu 5/13/21											
26			Install temp barrier	1 day	Fri 5/14/21	Fri 5/14/21											

Project: Project 1
Date: Fri 4/16/21

Task	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Inactive Summary	<div style="width: 100%; height: 10px; background-color: #eee;"></div>	External Tasks	<div style="width: 100%; height: 10px; background-color: #fff;"></div>
split	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Manual Task	<div style="width: 100%; height: 10px; background-color: #eee;"></div>	Internal Milestone	<div style="width: 100%; height: 10px; background-color: #fff;"></div>
Milestone	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Duration-only	<div style="width: 100%; height: 10px; background-color: #eee;"></div>	Deadline	<div style="width: 100%; height: 10px; background-color: #fff;"></div>
Summary	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Manual Summary Rollup	<div style="width: 100%; height: 10px; background-color: #eee;"></div>	Progress	<div style="width: 100%; height: 10px; background-color: #fff;"></div>
Project Summary	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Manual Summary	<div style="width: 100%; height: 10px; background-color: #eee;"></div>	Manual Progress	<div style="width: 100%; height: 10px; background-color: #fff;"></div>
Inactive Task	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Start only	<div style="width: 100%; height: 10px; background-color: #eee;"></div>		<div style="width: 100%; height: 10px; background-color: #fff;"></div>
Inactive Milestone	<div style="width: 100%; height: 10px; background-color: #ccc;"></div>	Finish only	<div style="width: 100%; height: 10px; background-color: #eee;"></div>		<div style="width: 100%; height: 10px; background-color: #fff;"></div>

Page 1

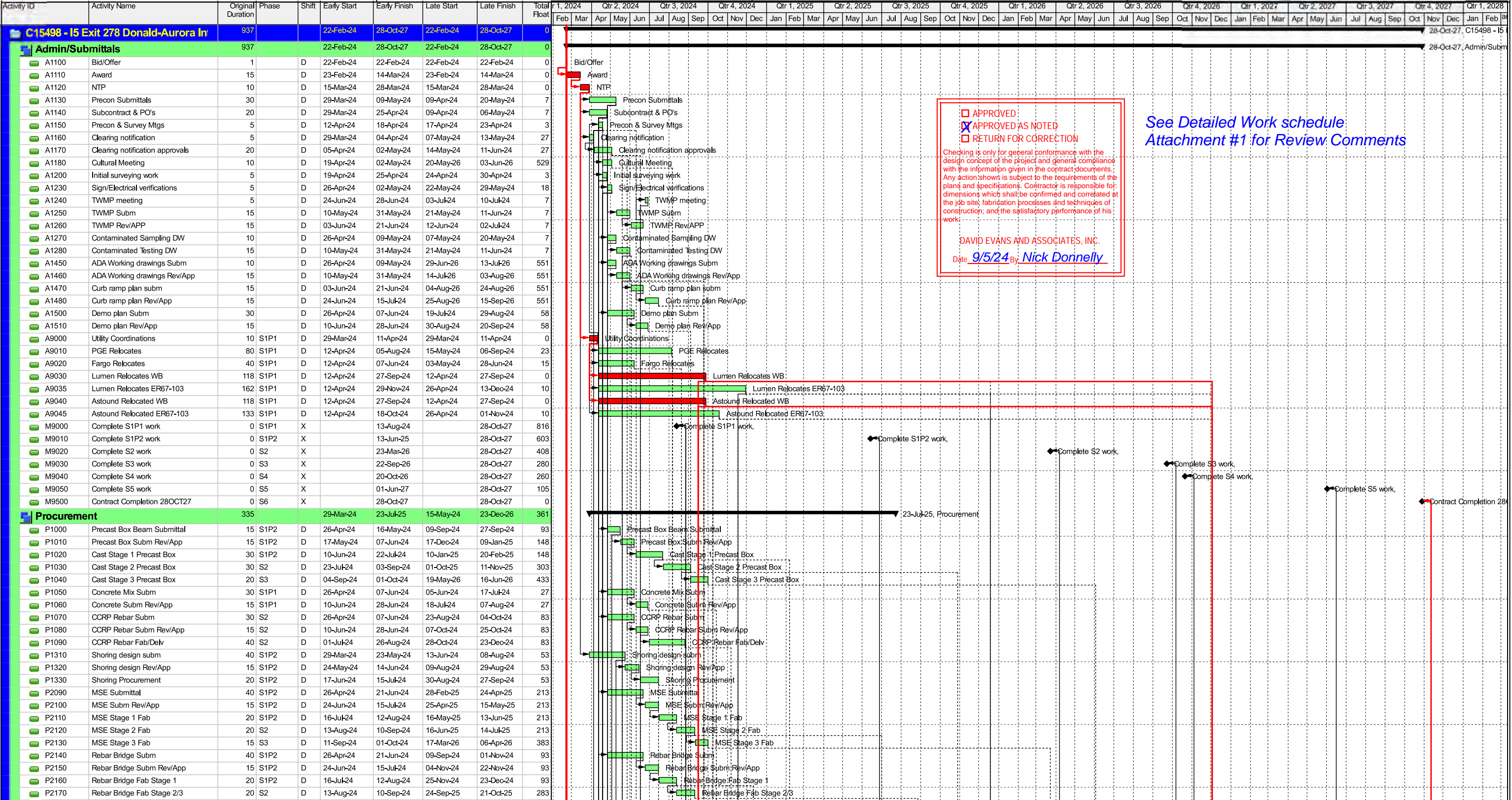
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00180.41 – Project Work Schedules

Three-week Look Ahead Schedule

[illegible]

16





 Actual Level of Effort
  Remaining Work
 ◆ ◆ Milestone
 Actual Work
  Critical Remaining Work
 ▾ summary



 Actual Level of Effort
  Remaining Work
 ◆ ◆ Milestone
 Actual Work
 Critical Remaining Work
 ▬ summary



Structures	736	18-Sep-24	11-Aug-27	23-Sep-24	11-Aug-27	0			
Bridge & MSE	491	18-Sep-24	24-Aug-26	23-Sep-24	24-Aug-26	0			
Stage 1	178	18-Sep-24	30-May-25	23-Sep-24	20-Jun-25	15			
A1285	Bridge Demo St1/ER Closure	5	S1P2	X	18-Sep-24	24-Sep-24	23-Sep-24	27-Sep-24	0
A1290	Shoring /Str Exc St1	20	S1P2	X	30-Sep-24	25-Oct-24	30-Sep-24	25-Oct-24	0
A1300	MSE St1	15	S1P2	D	28-Oct-24	15-Nov-24	28-Oct-24	15-Nov-24	0
A1340	Settlement Monitoring St1	15	S1P2	D	18-Nov-24	09-Dec-24	18-Nov-24	09-Dec-24	0
A1350	Drive Test pile & St1 production	10	S1P2	X	10-Dec-24	23-Dec-24	10-Dec-24	27-Dec-24	0
A1360	FRPS Abutments St1	20	S1P2	D	26-Dec-24	23-Jan-25	24-Jan-25	20-Feb-25	20
A1370	FRPS Bent 2 Ftg St1	10	S1P2	D	26-Dec-24	09-Jan-25	26-Dec-24	09-Jan-25	0
A1380	FRPS Bent 2 Column St1	15	S1P2	D	10-Jan-25	30-Jan-25	10-Jan-25	30-Jan-25	0
A1390	FRPS Bent 2 Cap St1	15	S1P2	D	31-Jan-25	20-Feb-25	31-Jan-25	20-Feb-25	0
A1400	Set precast box St1	10	S1P2	N	21-Feb-25	06-Mar-25	21-Feb-25	06-Mar-25	0
A1410	FRPS End beams/diaph/Xbeam St1	20	S1P2	D	07-Mar-25	03-Apr-25	07-Mar-25	03-Apr-25	0
A1420	FRPS Deck St1	20	S1P2	D	04-Apr-25	01-May-25	04-Apr-25	01-May-25	0
A1430	FRPS End Panel Sleeper St1	5	S1P2	D	02-May-25	08-May-25	02-May-25	08-May-25	0
A1440	FRPS End panel St1	10	S1P2	D	09-May-25	22-May-25	09-May-25	22-May-25	0
A1490	Bridge barrier St1	5	S1P2	D	23-May-25	30-May-25	16-Jun-25	20-Jun-25	15
Stage 2	180	16-Jun-25	02-Mar-26	16-Jun-25	02-Mar-26	0			
A1900	Bridge Demo St2/ER Closure	5	S2	X	16-Jun-25	20-Jun-25	16-Jun-25	20-Jun-25	0
A2000	Str Exc St2	15	S2	X	23-Jun-25	14-Jul-25	23-Jun-25	14-Jul-25	0
A2010	MSE St2	15	S2	D	15-Jul-25	04-Aug-25	15-Jul-25	04-Aug-25	0
A2020	Settlement Monitoring St2	15	S2	D	05-Aug-25	25-Aug-25	05-Aug-25	25-Aug-25	0
A2030	Drive production pile St2	10	S2	X	26-Aug-25	09-Sep-25	26-Aug-25	09-Sep-25	0
A2040	FRPS Abutments St2	15	S2	D	10-Sep-25	30-Sep-25	22-Oct-25	11-Nov-25	30
A2050	FRPS Bent 2 St2	15	S2	D	10-Sep-25	30-Sep-25	10-Sep-25	30-Sep-25	0
A2060	FRPS Bent 2 Column St2	15	S2	D	01-Oct-25	21-Oct-25	01-Oct-25	21-Oct-25	0
A2070	FRPS Bent 2 Cap St2	15	S2	D	22-Oct-25	11-Nov-25	22-Oct-25	11-Nov-25	0
A2080	Set precast box St2	10	S2	N	12-Nov-25	25-Nov-25	12-Nov-25	25-Nov-25	0
A2090	FRPS End beams/diaph/Xbeam St2	20	S2	D	26-Nov-25	26-Dec-25	26-Nov-25	26-Dec-25	0
A2100	FRPS Deck St2	20	S2	D	29-Dec-25	26-Jan-26	29-Dec-25	26-Jan-26	0
A2110	FRPS End Panel Sleeper St2	5	S2	D	27-Jan-26	02-Feb-26	27-Jan-26	02-Feb-26	0
A2120	FRPS End panel St2	10	S2	D	03-Feb-26	16-Feb-26	03-Feb-26	16-Feb-26	0
A2130	FRPS F Rail St2	10	S2	D	17-Feb-26	02-Mar-26	17-Feb-26	02-Mar-26	0
Stage 3	103	24-Mar-26	24-Aug-26	24-Mar-26	24-Aug-26	0			
A2900	Bridge Demo St3/ER Closure	5	S3	X	24-Mar-26	30-Mar-26	24-Mar-26	30-Mar-26	0
A3000	Str Exc St3	5	S3	X	31-Mar-26	06-Apr-26	31-Mar-26	06-Apr-26	0
A3010	MSE St3	12	S3	D	07-Apr-26	22-Apr-26	07-Apr-26	22-Apr-26	0
A3020	Settlement Monitoring St3	5	S3	D	23-Apr-26	29-Apr-26	23-Apr-26	29-Apr-26	0
A3030	Drive production pile St3	5	S3	X	30-Apr-26	06-May-26	30-Apr-26	06-May-26	0
A3040	FRPS Abutments St3	10	S3	D	07-May-26	20-May-26	03-Jun-26	16-Jun-26	18
A3050	FRPS Bent 2 St3	10	S3	D	07-May-26	20-May-26	07-May-26	20-May-26	0
A3060	FRPS Bent 2 Column St3	10	S3	D	21-May-26	04-Jun-26	21-May-26	04-Jun-26	0
A3070	FRPS Bent 2 Cap St3	8	S3	D	05-Jun-26	16-Jun-26	05-Jun-26	16-Jun-26	0
A3080	Set precast box St3	3	S3	N	17-Jun-26	19-Jun-26	17-Jun-26	19-Jun-26	0

30-May-25, Stage 1

24-Aug-26, Bridge & MSE

02-Mar-26, Stage 2

24-Aug-26, Stage 3



 Actual Level of Effort
 Remaining Work
 Milestone

 Actual Work
 Critical Remaining Work
 summary

C15498 I-5 Exit 278 Donald-Aurora



D = Days
N = Nights

Mobility:
20240194 Lane Closures
20240195 NB On Ramp Closure
20240196 SB Off Ramp Closure
20240287 SB On Ramp Closure
20240393 I5 Width restrictions barrier installations

Activity	Crew/Sub	Qty	M	T	W	T	F	Sat	Sun	M	T	W	T	F	Sat	Sun	M	T	W	T	F	Sat	Sun	M	T	W	T	F	Sat
GENERAL ACTIVITIES			10/21	10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30	10/31	11/1	11/2	11/3	11/4	11/5	11/6	11/7	11/8	11/9	11/10	11/11	11/12	11/13	11/14	11/15	11/16
Weekly meeting			10AM							10AM							10AM							10AM					
OSP Support requested	OSP																												
Density Testing	ACS				D																								
Concrete Testing	ACS																												
I5 - Median work																													
Exc median	WVE		D	D	D																								
Temp/perm Median Drainage	DH		D	D	D	D	D			D																			
Cement treatment North	WCSS				D																								
SG Stab/Stone embankment	WVE		D	D	D																								
Agg base South	WVE				D	D	D																						
Agg base North	WVE									D	D	D	D	D															
ACP Temp and CRCP	KRC									D	D	D	D	D			D	D	D	D	D								
Lumen/Astound relocates			?	?	?	?	?			?	?	?	?	?			?	?	?	?	?								
Demo SB bridge	HPC																		N										
Str excavation B2	HPC																			D	D								
Piling delivery														?															
Drive Bent 2 test pile and production pile	HPC																						D	D	D				
Shoring pile	HPC																									D	D		
Exc/Lagging	HPC																												
Flag ER line	HQ																			D	D			D	D	D	D	D	
MSE Wall leveling	HPC																												
MSE Wall	HPC																												
ER line																													
Grade agg base ER STA 80													D	D															
Base pave Bents- ER STA80	KRC																?	?	?	?	?								
Exc West side Bents	WVE																D	D											
ADA ramps @ Bents Rd	LaRusso																						?	?	?				
Signal work Bents Rd	AAK																									?	?		
DW Line Work																													
96" Pipe work embk	WVE																D	D	D										
Agg base	WVE																			D	D								
Pac Pride tie ins	WVE																						D	D					
Pac Pride Flatwork	LaRusso																								?	?	?		
30" piping 96" - ER	DH																?	?	?	?	?			?	?	?	?	?	
SB/C2/D2 Area																													
Perm Illumination	AAK																												
Seeding and Mulching Slopes Project	Fox		D																										

00180.50 – Contract Time

- Contract completion date
- Second Notification issued at end of contract work
- Liquidated damages



17

00190 – Measurement of Pay Quantities

- Rounding of Quantities
- Measurement Guidelines
Engineer's decision is final
- Lump Sum Bid breakdowns



18

BID ITEM	DESCRIPTION	BID QTY	UNITS	UNIT PRICE	Contractor	% or qty		Amount	Period Qty Amount	Previous Qty Amount	TTD Qty Amount
SECTION: 0001 TEMPORARY FEATURES AND APPURTENANCES											
10	TRAINING	9,300	HR	\$ 20.00	All			\$ 186,000.00	- \$ -	\$ -	\$ -
20	MOBILIZATION	1	LS	\$ 5,328,118.79	All			\$ 5,328,118.79	- \$ -	\$ -	\$ -
	50% @ 5%	50%		\$ 2,664,059.40		0.0%	\$ -				
	50% @ 10%	50%		\$ 2,664,059.40		0.0%	\$ -				
30	TPDT	1	LS	\$ 1,350,000.00	HPC			\$ 1,350,000.00	- \$ -	\$ -	\$ -
	Traffic Plan Approvals	15%		\$ 202,500.00		0.0%	\$ -				
	Mobilization to Site/Initial Startup	15%		\$ 202,500.00		0.0%	\$ -				
	Stg1 Ph1	15%		\$ 202,500.00		0.0%	\$ -				
	Stg1 Ph2	15%		\$ 202,500.00		0.0%	\$ -				
	Stg2	15%		\$ 202,500.00		0.0%	\$ -				
	Stg3	10%		\$ 135,000.00		0.0%	\$ -				
	Stg4	5%		\$ 67,500.00		0.0%	\$ -				
	Stg5	5.0%		\$ 67,500.00		0.0%	\$ -				
	Stg6	5.0%		\$ 67,500.00		0.0%	\$ -				
40	TEMPORARY SIGNS	5,000	SF	\$ 25.00	CC			\$ 125,000.00	- \$ -	\$ -	\$ -
50	SEQUENTIAL ARROW SIGNS	2	EA	\$ 7,000.00	HPC			\$ 14,000.00	- \$ -	\$ -	\$ -
60	PORTABLE CHANGEABLE MESSAGE SIGNS	10	EA	\$ 16,500.00	HPC			\$ 165,000.00	- \$ -	\$ -	\$ -
70	RADAR SPEED TRAILER	4	EA	\$ 10,000.00	HPC			\$ 40,000.00	- \$ -	\$ -	\$ -
80	FLAGGERS	2500	HRS	\$ 68.90	HQ			\$ 172,250.00	- \$ -	\$ -	\$ -
90	FLAGGER STATION LIGHTING	6	EA	\$ 3,540.00	HPC			\$ 21,240.00	- \$ -	\$ -	\$ -
100	TRAFFIC CONTROL SUPERVISOR	520	EA	\$ 830.00	HPC			\$ 431,600.00	- \$ -	\$ -	\$ -
110	BPA SAFETY WATCHER	400	HRS	\$ 131.00	HPC			\$ 52,400.00	- \$ -	\$ -	\$ -
120	TEMPORARY BARRICADES, TYPE II	40	EA	\$ 91.50	CC			\$ 3,660.00	- \$ -	\$ -	\$ -
130	TEMPORARY BARRICADES, TYPE III	60	EA	\$ 286.00	CC			\$ 17,160.00	- \$ -	\$ -	\$ -
140	TEMPORARY PLASTIC DRUMS	700	EA	\$ 66.81	CC			\$ 46,767.00	- \$ -	\$ -	\$ -
150	TEMP FLEXIBLE PAVEMENT MARKERS	6,000	EA	\$ 2.30	HPC			\$ 13,800.00	- \$ -	\$ -	\$ -
160	TEMPORARY STRIPING	215,000	FT	\$ 0.21	SPM			\$ 45,150.00	- \$ -	\$ -	\$ -
170	TEMPORARY PAVEMENT LEGENDS	38	EA	\$ 143.00	SPM			\$ 5,434.00	- \$ -	\$ -	\$ -
180	TEMPORARY PAVEMENT BARS	600	SF	\$ 6.85	SPM			\$ 4,110.00	- \$ -	\$ -	\$ -
190	STRIPE REMOVAL	76,000	FT	\$ 0.67	SPM			\$ 50,920.00	- \$ -	\$ -	\$ -
200	LEGEND REMOVAL	480	SF	\$ 9.15	SPM			\$ 4,392.00	- \$ -	\$ -	\$ -
210	BAR REMOVAL	150	SF	\$ 9.15	SPM			\$ 1,372.50	- \$ -	\$ -	\$ -
220	TEMPORARY BARRIER	49,700	LF	\$ 18.00	SB			\$ 894,600.00	- \$ -	\$ -	\$ -
230	TEMP IMPACT ATTENUATOR, SAND	4	EA	\$ 2,500.00	SB			\$ 10,000.00	- \$ -	\$ -	\$ -
240	TEMPORARY IMPACT ATTENUATOR, NARROW	20	EA	\$ 1,000.00	SB			\$ 20,000.00	- \$ -	\$ -	\$ -
250	MOVING TEMP IMPACT ATTEN SAND BARREL	4	EA	\$ 1,000.00	SB			\$ 4,000.00	- \$ -	\$ -	\$ -
260	MOVE TEMP IMPACT ATTEN NARROW	9	EA	\$ 1,000.00	SB			\$ 9,000.00	- \$ -	\$ -	\$ -
270	TEMP IMPACT ATTEN TRUCK MOUNTED	5	EA	\$ 18,000.00	HPC			\$ 90,000.00	- \$ -	\$ -	\$ -
280	REFLECTIVE BARRIER PANELS	4,000	EA	\$ 20.00	SB			\$ 80,000.00	- \$ -	\$ -	\$ -
290	REPAIR TEMP IMPACT ATTEN NARROW	30	EA	\$ 1.00	SB			\$ 30.00	- \$ -	\$ -	\$ -
300	REPAIR TEMP IMPACT ATTEN TRUCK	5	EA	\$ 1.00	HPC			\$ 5.00	- \$ -	\$ -	\$ -
310	REPAIR TEMP IMPACT ATTEN SAND	130	EA	\$ 1.00	SB			\$ 130.00	- \$ -	\$ -	\$ -
320	TEMPORARY GLARE SCREENS	1,800	FT	\$ 29.00	SB			\$ 52,200.00	- \$ -	\$ -	\$ -
330	MOVING TEMPORARY GLARE SCREENS	2,700	FT	\$ 12.50	SB			\$ 33,750.00	- \$ -	\$ -	\$ -
340	TEMPORARY ILLUMINATION	1	LS	\$ 200,000.00	AAK			\$ 200,000.00	- \$ -	\$ -	0.00%
	Wood Pole, Arm & Luminaire Install	20	EA	\$ 8,000.00		-	\$ -				\$ -
	Overhead Wiring Install	2400	LF	\$ 10.00		-	\$ -				\$ -
	Turn On	2	EA	\$ 8,000.00		-	\$ -				\$ -
350	PEDESTRIAN CHANNELIZING DEVICES	315	FT	\$ 40.00	HPC			\$ 12,600.00	- \$ -	\$ -	\$ -
360	TEMPORARY CURB RAMP	2	EA	\$ 3,000.00	HPC			\$ 6,000.00	- \$ -	\$ -	\$ -
370	CONSTRUCT/RMV TEMP ROADBED	1	LS	\$ 3,950,000.00				\$ 3,950,000.00	- \$ -	\$ -	0.00%
	Embk	7.50%		\$ 296,250.00	WVE						
	SW-SB	5.0%				0.0%	\$ -				
	TSB-N	47.5%				0.0%	\$ -				
	TSB-S	47.5%				0.0%	\$ -				
	Excavate	10.00%		\$ 395,000.00	WVE						
	SW-SB	20.00%				0.0%	\$ -				
	TSB-N1	2.00%				0.0%	\$ -				

BID ITEM	DESCRIPTION	BID QTY	UNITS	UNIT PRICE	Contractor	% or qty		Amount	Period		Previous		TTD	
									Qty	Amount	Qty	Amount	Qty	Amount
	TSB-N1	4.00%				0.0%	\$ -							
	TSB-N1	32.00%				0.0%	\$ -							
	TSB-S1	3.00%				0.0%	\$ -							
	TSB-S2	28.00%				0.0%	\$ -							
	TSB-S3	2.00%				0.0%	\$ -							
	TSB-S4	0.50%				0.0%	\$ -							
	TW-C2 LT	0.25%				0.0%	\$ -							
	TW-C2 RT	0.25%				0.0%	\$ -							
	TW-NB N	2.00%				0.0%	\$ -							
	TW-NB S	2.00%				0.0%	\$ -							
	TW-SB N	1.00%				0.0%	\$ -							
	TW-SB S	3.00%				0.0%	\$ -							
	SG geotextile	2.00%	\$	79,000.00	WVE									
	SW-SB	20.00%				0.0%	\$ -							
	TSB-N1	2.00%				0.0%	\$ -							
	TSB-N1	4.00%				0.0%	\$ -							
	TSB-N1	32.00%				0.0%	\$ -							
	TSB-S1	3.00%				0.0%	\$ -							
	TSB-S2	28.00%				0.0%	\$ -							
	TSB-S3	2.00%				0.0%	\$ -							
	TSB-S4	0.50%				0.0%	\$ -							
	TW-C2 LT	0.25%				0.0%	\$ -							
	TW-C2 RT	0.25%				0.0%	\$ -							
	TW-NB N	2.00%				0.0%	\$ -							
	TW-NB S	2.00%				0.0%	\$ -							
	TW-SB N	1.00%				0.0%	\$ -							
	TW-SB S	3.00%				0.0%	\$ -							
	Agg base	19.00%	\$	750,500.00	WVE									
	SW-SB	20.00%				0.0%	\$ -							
	TSB-N1	2.00%				0.0%	\$ -							
	TSB-N1	4.00%				0.0%	\$ -							
	TSB-N1	32.00%				0.0%	\$ -							
	TSB-S1	3.00%				0.0%	\$ -							
	TSB-S2	28.00%				0.0%	\$ -							
	TSB-S3	2.00%				0.0%	\$ -							
	TSB-S4	0.50%				0.0%	\$ -							
	TW-C2 LT	0.25%				0.0%	\$ -							
	TW-C2 RT	0.25%				0.0%	\$ -							
	TW-NB N	2.00%				0.0%	\$ -							
	TW-NB S	2.00%				0.0%	\$ -							
	TW-SB N	1.00%				0.0%	\$ -							
	TW-SB S	3.00%				0.0%	\$ -							
	Paving	59.00%	\$	2,330,500.00	KRC									
	SW-SB	20.00%				0.0%	\$ -							
	TSB-N1	2.00%				0.0%	\$ -							
	TSB-N1	4.00%				0.0%	\$ -							
	TSB-N1	32.00%				0.0%	\$ -							
	TSB-S1	3.00%				0.0%	\$ -							
	TSB-S2	28.00%				0.0%	\$ -							
	TSB-S3	2.00%				0.0%	\$ -							
	TSB-S4	0.50%				0.0%	\$ -							
	TW-C2 LT	0.25%				0.0%	\$ -							
	TW-C2 RT	0.25%				0.0%	\$ -							
	TW-NB N	2.00%				0.0%	\$ -							
	TW-NB S	2.00%				0.0%	\$ -							
	TW-SB N	1.00%				0.0%	\$ -							
	TW-SB S	3.00%				0.0%	\$ -							

BID ITEM	DESCRIPTION	BID QTY	UNITS	UNIT PRICE	Contractor	% or qty		Amount	Period		Previous		TTD	
									Qty	Amount	Qty	Amount	Qty	Amount
	Rmv surfacing	1.25%		\$ 49,375.00	HPC									
	SW-SB	20.00%				0.0%	\$ -							
	TSB-N1	2.00%				0.0%	\$ -							
	TSB-N1	4.00%				0.0%	\$ -							
	TSB-N1	32.00%				0.0%	\$ -							
	TSB-S1	3.00%				0.0%	\$ -							
	TSB-S2	28.00%				0.0%	\$ -							
	TSB-S3	2.00%				0.0%	\$ -							
	TSB-S4	0.50%				0.0%	\$ -							
	TW-C2 LT	0.25%				0.0%	\$ -							
	TW-C2 RT	0.25%				0.0%	\$ -							
	TW-NB N	2.00%				0.0%	\$ -							
	TW-NB S	2.00%				0.0%	\$ -							
	TW-SB N	1.00%				0.0%	\$ -							
	TW-SB S	3.00%				0.0%	\$ -							
	Rmv Agg base	1.25%		\$ 49,375.00	HPC									
	SW-SB	20.00%				0.0%	\$ -							
	TSB-N1	2.00%				0.0%	\$ -							
	TSB-N1	4.00%				0.0%	\$ -							
	TSB-N1	32.00%				0.0%	\$ -							
	TSB-S1	3.00%				0.0%	\$ -							
	TSB-S2	28.00%				0.0%	\$ -							
	TSB-S3	2.00%				0.0%	\$ -							
	TSB-S4	0.50%				0.0%	\$ -							
	TW-C2 LT	0.25%				0.0%	\$ -							
	TW-C2 RT	0.25%				0.0%	\$ -							
	TW-NB N	2.00%				0.0%	\$ -							
	TW-NB S	2.00%				0.0%	\$ -							
	TW-SB N	1.00%				0.0%	\$ -							
	TW-SB S	3.00%				0.0%	\$ -							
380	TEMPORARY DRAINAGE FACILITIES	1	LS	\$ 300,000.00	DH			\$ 300,000.00	-	\$ -		\$ -	0.00%	\$ -
	Install	65%		\$ 195,000.00		0.0%	\$ -							
	Remove	35%		\$ 105,000.00		0.0%	\$ -							
390	TWMF "DW" 6+25	1	LS	\$ 15,000.00	HPC			\$ 15,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal approval	20%		\$ 3,000.00		0.0%	\$ -							
	Install	50%		\$ 7,500.00		0.0%	\$ -							
	Maintain	20%		\$ 3,000.00		0.0%	\$ -							
	Remove	10%		\$ 1,500.00		0.0%	\$ -							
400	TEMPORARY RETAINING WALL A	1	LS	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal Approval	15%		\$ 750.00		0.0%	\$ -							
	Construct	85%		\$ 4,250.00		0.0%	\$ -							
410	TEMPORARY RETAINING WALL B	1	LS	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal Approval	15%		\$ 750.00		0.0%	\$ -							
	Construct	85%		\$ 4,250.00		0.0%	\$ -							
420	TEMPORARY RETAINING WALL C	1	LS	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal Approval	15%		\$ 750.00		0.0%	\$ -							
	Construct	85%		\$ 4,250.00		0.0%	\$ -							
430	TEMPORARY RETAINING WALL D	1	LS	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal Approval	15%		\$ 750.00		0.0%	\$ -							
	Construct	85%		\$ 4,250.00		0.0%	\$ -							
440	TEMPORARY RETAINING WALL E	1	LS	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal Approval	15%		\$ 750.00		0.0%	\$ -							
	Construct	85%		\$ 4,250.00		0.0%	\$ -							
450	TEMPORARY RETAINING WALL F	1	LS	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -	0.00%	\$ -
	Submittal Approval	15%		\$ 750.00		0.0%	\$ -							
	Construct	85%		\$ 4,250.00		0.0%	\$ -							
460	EROSION CONTROL	1	LS	\$ 25,000.00	HPC			\$ 25,000.00	-	\$ -		\$ -	0.00%	\$ -

BID ITEM	DESCRIPTION	BID QTY	UNITS	UNIT PRICE	Contractor	% or qty		Amount	Period		Previous		TTD	
									Qty	Amount	Qty	Amount	Qty	Amount
	Initial setup	25%		\$ 6,250.00		0.0%	\$ -							
	50%	25%		\$ 6,250.00		0.0%	\$ -							
	75%	25%		\$ 6,250.00		0.0%	\$ -							
	100%	25%		\$ 6,250.00		0.0%	\$ -							
470	PLASTIC SHEETING	5,000	SY	\$ 4.75	WVE			\$ 23,750.00	-	\$ -		\$ -		\$ -
480	TEMPORARY MULCHING, HYDROMULCH	9	ACR	\$ 2,000.00	FOX			\$ 18,000.00	-	\$ -		\$ -		\$ -
490	TEMPORARY MULCHING, STRAW	10	ACR	\$ 3,000.00	FOX			\$ 30,000.00	-	\$ -		\$ -		\$ -
500	MATTING, TYPE B	1,030	SY	\$ 10.00	FOX			\$ 10,300.00	-	\$ -		\$ -		\$ -
510	CHECK DAM, TYPE 6	166	EA	\$ 175.00	FOX			\$ 29,050.00	-	\$ -		\$ -		\$ -
520	CONSTRUCTION ENTRANCE, TYPE 1	7	EA	\$ 4,500.00	WVE			\$ 31,500.00	-	\$ -		\$ -		\$ -
530	CONCRETE WASHOUT FACILITY	1	EA	\$ 5,000.00	HPC			\$ 5,000.00	-	\$ -		\$ -		\$ -
540	SEDIMENT FENCE	4,500	FT	\$ 2.50	FOX			\$ 11,250.00	-	\$ -		\$ -		\$ -
550	INLET PROTECTION, TYPE 3	130	EA	\$ 150.00	FOX			\$ 19,500.00	-	\$ -		\$ -		\$ -
560	INLET PROTECTION, TYPE 4	10	EA	\$ 150.00	FOX			\$ 1,500.00	-	\$ -		\$ -		\$ -
570	INLET PROTECTION, TYPE 7	17	EA	\$ 150.00	FOX			\$ 2,550.00	-	\$ -		\$ -		\$ -
580	SEDIMENT BARRIER, TYPE 3	12,450	FT	\$ 3.50	FOX			\$ 43,575.00	-	\$ -		\$ -		\$ -
590	POLLUTION CONTROL PLAN	1	LS	\$ 500.00	HPC			\$ 500.00	-	\$ -		\$ -	-	\$ -
	PCP Approval	20%		\$ 100.00		0.0%	\$ -							
	30%	20%		\$ 100.00		0.0%	\$ -							
	60%	20%		\$ 100.00		0.0%	\$ -							
	90%	20%		\$ 100.00		0.0%	\$ -							
	100% Complete	20%		\$ 100.00		0.0%	\$ -							
600	WORK CONTAINMENT PLAN	1	LS	\$ 500.00	HPC			\$ 500.00	-	\$ -		\$ -		\$ -
	100% When approved													
610	TURBIDITY MONITORING	1	LS	\$ 2,500.00	HPC			\$ 2,500.00	-	\$ -		\$ -		\$ -
	1st month	25%		\$ 625.00		0.0%	\$ -							
	2nd month	25%		\$ 625.00		0.0%	\$ -							
	3rd month	25%		\$ 625.00		0.0%	\$ -							
	4th month	25%		\$ 625.00		0.0%	\$ -							
620	HEALTH AND SAFETY PLAN	1	LS	\$ 1,500.00	HPC			\$ 1,500.00	-	\$ -		\$ -		\$ -
	100% When approved													
630	CONTAMINATED SOIL DISPOSAL	12,952	TON	\$ 40.00	WVE			\$ 518,080.00	-	\$ -		\$ -		\$ -
640	SOIL SAMPLE COLLECTION & TESTING	3	EA	\$ 4,500.00	HPC			\$ 13,500.00	-	\$ -		\$ -		\$ -
650	CONSTRUCTION MATS	4,500	SF	\$ 10.00	HPC			\$ 45,000.00	-	\$ -		\$ -		\$ -
SECTION: 0002 ROADWORK														
660	CONSTRUCTION SURVEY WORK	1	LS	\$ 500,000.00	CS			\$ 500,000.00	-	\$ -		\$ -	-	\$ -
	Initial office calculations	10.0%		\$ 50,000.00		0%	\$ -							
	Establish control	4.0%		\$ 20,000.00		0%	\$ -							
	TCE/Clearing establishment	10.0%		\$ 50,000.00		0%	\$ -							
	Erosion control	2.0%		\$ 10,000.00		0%	\$ -							
	Temp barrier	5.0%		\$ 25,000.00		0%	\$ -							
	Temp Sign staking	3.0%		\$ 15,000.00		0%	\$ -							
	Field verifications	3.0%		\$ 15,000.00		0%	\$ -							
	Match line and saw cutting	2.0%		\$ 10,000.00		0%	\$ -							
	Bridge staking stage 1	6.0%		\$ 30,000.00		0%	\$ -							
	Bridge Staking stage 2/3	5.0%		\$ 25,000.00		0%	\$ -							
	Drairage systems temp	5.0%		\$ 25,000.00		0%	\$ -							
	Drairage systems perm	5.0%		\$ 25,000.00		0%	\$ -							
	Swales/ponds	1.0%		\$ 5,000.00		0%	\$ -							
	Electrical	5.0%		\$ 25,000.00		0%	\$ -							
	ADA working dwg	1.0%		\$ 5,000.00		0%	\$ -							
	ADA ramps & islands	5.0%		\$ 25,000.00		0%	\$ -							
	Perm signs	2.0%		\$ 10,000.00		0%	\$ -							
	Curb lines	2.0%		\$ 10,000.00		0%	\$ -							
	Ret Wall	2.0%		\$ 10,000.00		0%	\$ -							
	Grade verifications	2.0%		\$ 10,000.00		0%	\$ -							
	Barrier	0.5%		\$ 2,500.00		0%	\$ -							
	Gringing/Milling	1.5%		\$ 7,500.00		0%	\$ -							
	Paving temporary	4.0%		\$ 20,000.00		0%	\$ -							
	Paving permanent	6.0%		\$ 30,000.00		0%	\$ -							

Key Inspection Points

- Know your level of delegated authority
- Check the schedule (3-week look ahead)
- Be proactive, anticipate problems
- Point out early to Contractor and PM non-specification materials and workmanship
- Be professional
- Know your resources and contacts



19

Unit 3 Review:

- ✓ Basic ODOT construction terminology
- ✓ Inspector project authority and legal requirements
- ✓ Order of document precedence
- ✓ Quality of materials and workmanship requirements
- ✓ Basics for measurement of quantity



20

00100 – Standard Specifications
Class Problem 3-1

True or False - The Standard Drawings have precedence over 3D Engineered Models.



21

00100 – Standard Specifications
Class Problem 3-2

True or False - The Inspector is not authorized to accept Work and Materials.



22

00100 – Standard Specifications**Class Problem 3-3**

After the Engineer receives the Contractor's notification that all punch list items, final trimming and cleanup have been completed, they will notify the Contractor within _____ Calendar Days that all Work is complete.

- A. 3 days
- B. 7 days
- C. 15 days
- D. 30 days

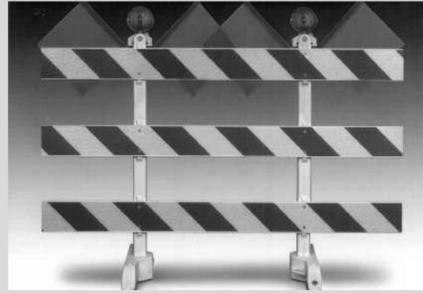


INSERT TAB

Unit 4
00200 – Temporary Features

Unit 4

00200 Temporary Features & Appurtenances



1

00210 – Mobilization

- Move personnel, equipment, supplies, and incidentals to the project site
- Measurement and payment



2

00220 – Accommodations for Public Traffic**00220.02 Public Safety and Mobility**

- Maintain access to business and residential driveways
- Allow emergency vehicles immediate passage at all times
- Stockpile materials and park inactive construction equipment at least 30 feet from traveled way



3

00220 – Accommodations for Public Traffic**00220.02(b) Temporary Pedestrian Accessible Route Plan**

- Limit impacts to one corner
- Find alternate ways to proceed
- Monitor pedestrian access effectiveness



4

00220 – Accommodations for Public Traffic**00220.40 Construction****Keep roadways clean**

- Protect traffic adjacent to excavations
- Lane restrictions (Standard Specs or restrictions in Special Provisions)



5

00220 – Accommodations for Public Traffic**00220.80 Measurement**

No measurement of quantities will be made.

00220.90 Payment

No separate or additional payment will be made for Work performed, unless otherwise provided or pay items are provided under other sections.



6

00221 – Work Zone Traffic Control

00221.00 Scope

- Temporary Traffic Control Devices (TCD)
- Temporary Traffic Control Measures (TCM)
- Temporary Traffic Control Plan (TCP)



7

00221 – Work Zone Traffic Control

00221.10 Materials

- Temp. signing (signs, sign support, flags or flag boards, and amber flashers)
- Barricades, guardrails, barriers, attenuators, and pedestrian fence
- Temp. delineation (temp. tape, striping and flex marker)
- Temp. illumination and traffic signals
- Temp. electrical signs (PCMS, and seq. arrows)
- Temp. night flagging illumination



8

00221 – Work Zone Traffic Control Measurement

- **00221.80 Measurement Method “A”**
 - Separate items and TP & DT
- **00221.88 & .89 Measurement Method “B” & “C”**
 - No measurement of quantities will be made.



9

00221 – Work Zone Traffic Control Payment

- **00221.90 Payment Method “A”**
 - Separate items and TP & DT bid item
- **00221.98 Payment Method “B”**
 - Lump sum bid item "*Temporary Work Zone Traffic Control, Complete*"
- **00221.99 Payment Method “C”**
 - Incidental Basis – When the Contract Schedule of Items does not indicate payment for *work zone traffic control*



10

00222 – Temporary Traffic Control Signs Materials

00222.10 Temporary Signs

- ATSSA
- Standard size and shape
- Sheeting from the QPL
- Roll-up Signs from the QPL
- Substrate can be new or used aluminum or ¾-inch plywood



11

00222 – Temporary Traffic Control Signs Materials

00222.11 Sign Supports

- (a) Use wood sign posts in the sizes and quantities as shown on the Standard Drawings
- (b) Use portable sign supports from the QPL
- (d) Fabricate and use Temp Sign Supports as shown on the Standard Drawings
- (e) Use perforated steel square tube (PSST) sign supports from the QPL and as shown on the Standard Drawings.



12

00222 – Temporary Traffic Control Signs Materials

00222.12 Sign Covers

- From the QPL or
 - Plywood
 - Geotextile fabric
 - Cover entire sign
 - Remove without damage
 - Black and non-reflective
 - Opaque



13

00222 – Temporary Traffic Control Signs Materials

00222.15 Temporary Electrical Signs

- (a) Sequential Arrow Signs – Use Type "C" sequential arrow signs from the QPL.
- (b) Portable Changeable Message Signs – Use PCMS from the QPL.
- (c) Radar Speed Trailers – Use radar speed trailers with a Type 2 panel from the QPL, Conditional List, or as approved.



14

00222 – Temporary Traffic Control Signs Construction

00222.40 Temporary Signs

- Once temporary signs have been accepted and paid for on the Project, do not remove them from the Project, until directed by the Engineer.
- For all temporary warning signs use fluorescent orange retroreflective sheeting background.
- Roll-up signs may be used at a single location for no more than 48 consecutive hours.
- No conflicts between existing and temporary signs.



15

00222 – Temporary Traffic Control Signs Construction

00222.41 Sign Supports:

- Use wood unless (b) through (f) apply
- Roll-up sign supports may be used at a single location for no more than 48 consecutive hours.
 - Turn, cover, or remove signs at the end of each work shift when the condition is no longer in effect.



16

00222 – Temporary Traffic Control Signs Construction

00222.41(d) – Temporary Sign Supports – Use TSS as follows:

- When needed longer than 48 hours
- When Utility conflicts exist
- Post to have reflective sheeting per standard drawings
- If exposed to traffic, do not tip unless protected or approved
- Position shown on standard drawing or TCP
- Remove when not in use



17

00222 – Temporary Traffic Control Signs Construction

00222.45 Temporary Electrical Signs

- (a) Sequential Arrow Signs
- (b) Portable Changeable Message Signs (PCMS)
- (d) Temporary Power Source



18

Retroreflective Sheeting Identification Guide

General

The following information and color table is being provided to inform road authority officials of the various types of retroreflective sheeting, typical applications, and brand names and manufacturers. The information is accurate as of the date of printing and subject to change as new materials are developed.

It is hoped that this information will assist the proper officials in making informed decisions regarding the materials they select for the traffic control devices on their roadways.

This information was obtained from the Standard Specification for Retroreflective Sheeting for Traffic Control, ASTM Designation: D 4956-01, dated January 10, 2001. It has been summarized to provide the basic information regarding retroreflective sheeting types and adhesive backing classes. Technical information regarding the testing procedures that shall be followed to ensure conformance with ASTM specifications are available in the full version of the afore mentioned specification.

Definition

reboundable sheeting, n--retroreflective material intended to be attached to flexible impact resistant plastic devices, such as traffic drumlike channelizing devices

Requirements

Retroreflective sheeting shall consist of a white or colored sheeting having a smooth outer surface and that essentially has the property of a retroreflector over its entire surface. There are nine types and five classes of retroreflective sheeting. Types are determined by conformance to the retroreflectance, color, and durability requirements listed in section 6.1 of ASTM 4956-19 and may be of any construction providing that those requirements are met. Type designation is provided as a means for differentiating functional performance. Typical examples of applications are provided for descriptive information only and are not intended to be limitations or recommendations.

Typical Applications

The typical applications for the retroreflective sheeting addressed in this specification are:

Type	Typical Application
I	Highway Signing, construction-zone devices, and delineators
II	Highway Signing, construction-zone devices, and delineators
III	Highway Signing, construction-zone devices, and delineators
IV	Highway Signing, construction-zone devices, and delineators
V	Delineators
VI	Temporary roll-up signs, warning signs, traffic cone collars, and post bands
VIII	Highway Signing, construction-zone devices, and delineators
IX	Highway Signing, construction-zone devices, and delineators
XI	Highway Signing, construction-zone devices, and delineators

Retroreflective Sheeting Types

Retroreflective sheeting shall be classified as follows:

Type I -- A retroreflective sheeting referred to as "engineering grade" that is typically an enclosed lens glass-bead retroreflective material or a microprismatic retroreflective element material. Applications for this material are permanent highway signing, construction zone devices, and delineators.

Type II -- A retroreflective sheeting referred to as "super engineer grade" that is typically an enclosed lens glass-bead retroreflective material or a microprismatic retroreflective element material. Applications for this material are permanent highway signing, construction zone devices, and delineators.

Type III -- A retroreflective sheeting referred to as "high-intensity" that is typically manufactured as an encapsulated glass-bead retroreflective material or a microprismatic retroreflective element material. Applications for this material include permanent highway signing, construction zone devices, and delineators.

Type IV -- A retroreflective sheeting referred to as "high-intensity" that is typically an unmetallized microprismatic retroreflective element material. Applications for this material are permanent highway signing, construction zone devices, and delineators.

Type V -- A retroreflective sheeting referred to as "super high-intensity" that is typically a metallized microprismatic retroreflective element material. This sheeting is typically used for delineators.

Type VI -- An elastomeric retroreflective sheeting without adhesive. This sheeting is typically a vinyl microprismatic retroreflective material. Applications include orange temporary roll-up warning signs, traffic cone collars, and post bands.

Type VIII -- A retroreflective sheeting typically manufactured as an unmetallized cube corner microprismatic retroreflective element material. Applications for this material include permanent highway signing, construction zone devices, and delineators.

Type IX -- A retroreflective sheeting typically manufactured as an unmetallized cube corner microprismatic retroreflective element material. Applications for this material are permanent highway signing, construction zone devices, and delineators.

Type XI -- A retroreflective sheeting typically manufactured as an unmetallized cube corner microprismatic retroreflective element material. Applications for this material are permanent highway signing, construction zone devices, and delineators.

Note 1 -- All retroreflective sheetings, but especially microprismatic sheetings, may have unique performance characteristics outside of the range of the standard geometries presented in the tables that define the types. Certain applications may require the use of a particular product within a particular type in order to achieve a desired level of retroreflectivity in a given situation. In these cases, information concerning additional performance characteristics must be obtained.

Adhesive Backing Classes

The backing required for retroreflective sheeting shall be classified as follows;

Class 1 -- The adhesive backing shall be pressure sensitive, require no heat, solvent, or other preparation for adhesion to smooth, clean surfaces.

Class 2 -- The adhesive backing shall have an adhesive that shall be activated by applying heat and pressure to the material. The temperature necessary to form a durable permanent bond shall be a minimum of 150° F (66° C). The Class 2 material shall be repositionable under normal shop conditions and at substrate temperatures up to 100° F (38° C) and without damage to the material. The Class 2 material may be perforated to facilitate removal of air in heat-vacuum laminators, but the perforations must be of a size and frequency such that they do not cause objectionable blemishes when the sheeting is printed.







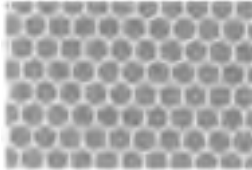
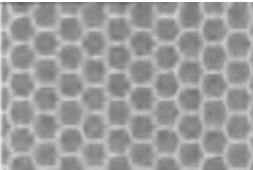
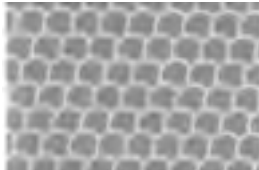
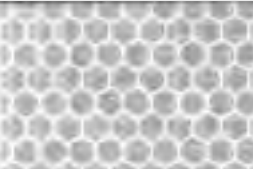
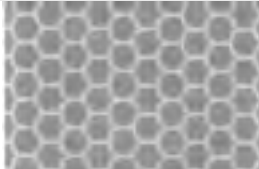
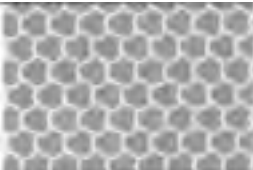
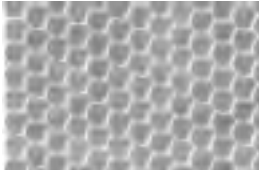
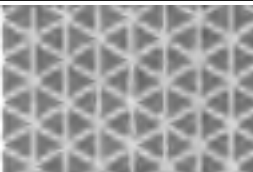

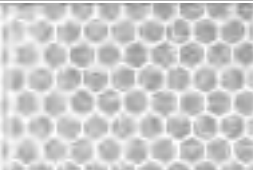



Class 3 -- The adhesive backing shall have a positionable, low-tack, pressure-sensitive adhesive that requires no heat, solvent, or other preparation for adhesion to smooth, clean surfaces. It shall be repositionable up to a temperature of 100° F (38° C) without damage to the material.







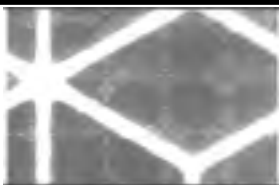

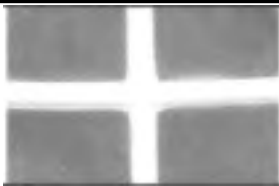

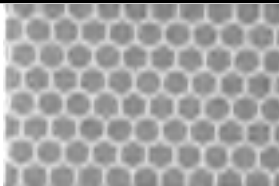



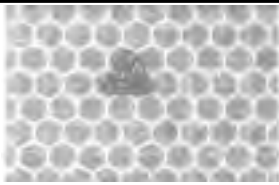

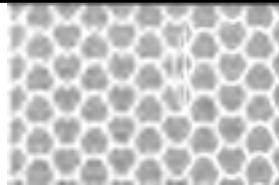
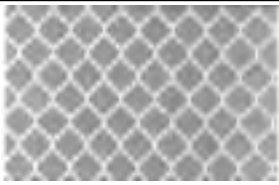

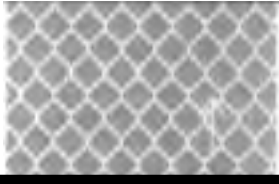
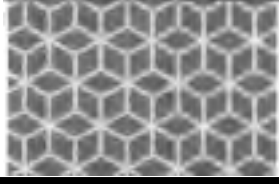
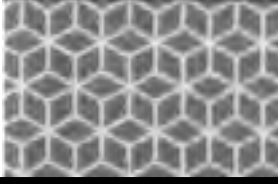
Class 4 -- The adhesive backing shall have a low-temperature, pressure-sensitive adhesive that permits sheeting applications at temperatures down to +20° F (-7° C) without the aid of heat, solvent, or other preparation for adhesion to smooth, dry, clean surfaces.

Class 5 -- This shall be a nonadhesive backing made of material commercially used for self-supporting products such as traffic cone collars, temporary roll-up warning signs, and post bands.

Retroreflective Sheeting Identification Guide

Current as of 11/16/2001

ASTM Type	NOTES: Photographs show the sheeting pattern at actual size. Symbols depict watermark visible on sheeting when viewed up close (not shown at actual size). The “Type” designations used in this guide are ASTM D4956-01 classifications <u>as stated by manufacturers</u> . FHWA does not endorse or approve any material nor does it determine what type category(s) may be. Fluorescent colors are not currently defined by ASTM D4956-01.		
I	Commonly referred to as Engineer Grade. Enclosed lens glass bead materials have a uniform appearance without any pattern or identifying marks. It is indistinguishable from grades lower in reflectivity and durability such as “utility” and “commercial” grade.		
II	Super Engineer Grade - Identical in appearance to Type I except for addition of identifying marks as pictured. Avery Dennison® 	Super Engineer Grade - Identical in appearance to Type I except for addition of identifying marks as pictured. Nippon Carbide 	
III	Symbols used for special applications:  Cones  Drums  Tubes  Signs (Temporary)		
	High Intensity ATSM Rigid Surface		Series 5000 Avery Dennison® Rigid Surface 
	Series 6000 Avery Dennison® Rigid Surface		High Intensity LG Lite Rigid Surface 
	High Performance Ultra Lite Grade II (ULG II) Nippon Carbide Rigid Surface		WR - 6100 Avery Dennison® Reboundable Devices 
	High Impact Channelizer Tape Reflexite Reboundable Devices		22000 Series Kiwalite® Rigid Surface 
	Series 6000 Avery Dennison® Rigid Surface		
IV			
V	AR 1000 Reflexite Barrier Delineators 		AP 1000 Reflexite Railroad Sign Backs and Supports, End of Road Barricade 

VI	<p>Series RS20 3M™ Roll-Up Signs</p>  	<p>Series RS30 3M™ Roll-Up Signs</p>  
	<p>WU-6014 Avery Dennison® Roll-Up Signs</p> 	<p>Flagging Material Reflexite Nighttime Flagging</p> 
	<p>High Performance (Marathon Fluorescent) Reflexite Roll-Up Signs</p> 	<p>Super Bright Fluorescent Reflexite Roll-Up Signs</p> 
	<p>Preformed Cone Collar Reflexite Cones</p> 	<p>3840 Cone Sleeves 3M™ Cones</p>  
VII	<p>Diamond Grade™ LDP 3M™ Rigid Surface</p>  	
VIII	<p>Series 7000 Avery Dennison® Rigid Surface</p>  	<p>Crystal Grade Nippon Carbide Rigid Surface</p>  
	<p>Diamond Grade™ NAP 3M™ Rigid Surface</p> 	
IX	<p>Diamond Grade™ VIP 3M™ Rigid Surface</p>  	
*Unassigned/ Proposed	<p>Resilience™ Channelized Tape Reflexite Reboundable Devices</p> 	<p>Endurance™ Sign System Reflexite Temporary Rigid Signs</p> 

* The materials in “Unassigned/Proposed” box have yet to be classified.

Contact information: www.3M.com/tcm - www.reflectives.averydennison.com - www.nikkalite.com - www.reflexite.com
www.atsminc.com - www.kiwa.com - www.lgchem.com





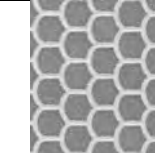
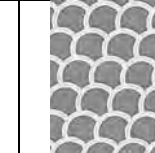
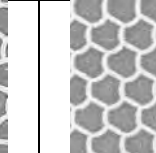
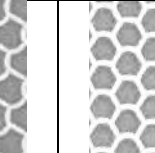
Developed by the Federal Highway Administration - <http://safety.fhwa.dot.gov/programs/retroref.htm>

2014 Traffic Sign Retroreflective Sheeting Identification Guide

This document is intended to help identify sign sheeting materials for rigid signs and their common specification designations. It is not a qualified product list. FHWA does not endorse or approve sign sheeting materials. Many other sheeting materials not listed here are available for delineation and construction/work zone uses.

Many sign sheeting materials have watermarks and/or patterns that are used to identify the material type and manufacturer. The watermarks shown in this guide have been enhanced. The watermarks will be less visible in practice and may not be present on smaller pieces of sheeting due to the spacing.

Retroreflective Sheeting Materials Made with Glass Beads

Example of Sheeting (Shown to scale)								
ASTM D4956-04	I	II	II	III	III	III	III	III
ASTM D4956-13	I	II	II	III	III	III	III	III
AASHTO M268-13	(1)	(1)	(1)	A	A	A	A	A
Manufacturer	Several companies	Avery Dennison®	Nippon Carbide	3M™	ATSM, Inc.	Avery Dennison®	Nippon Carbide	ORAFOL Americas Inc
Brand Name	Engineer Grade	Super Engr Grade	Super Engr Grade	High Intensity	High Intensity	High Intensity	High Intensity	ORALITE® High Intensity
Series	Several	T-2000	15000	2800 3800	ATSM HI	T-5500	N500	5800
NOTES:	(2) (8)	(3) (4) (9)	(4)	(3) (4) (9)	(4)	(4)	(4)	(4)

1) Sheeting material does not meet minimum AASHTO classification criteria.

2) Glass Bead Engineer Grade sheeting is uniform without any patterns or identifying marks.

3) Material no longer sold in the United States as of the date of this publication.

4) Section 2A.08 of the 2009 MUTCD (<http://mutcd.fhwa.dot.gov>) does not allow this sheeting type to be used for new legends on green signs.

- ASTM D4956-04 is referenced in Table 2A-3 of the 2009 MUTCD.
- ASTM D4956-13 is the most current ASTM sign sheeting specification (the 2013 version is designated by "-13").
- AASHTO M268-13 is the most current AASHTO specification (the 2013 version is designated by "-13").

Manufacturer Contact Information

3M - <http://www.3M.com/roadwaysafety>

Avery Dennison - <http://www.reflectives.averydennison.com>

ORAFOL Americas Inc. – <http://www.orafolamericas.com>


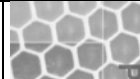






ATSM, Inc. - <http://www.atsminc.com>

Nippon Carbide - <http://www.nikkalite.com>

2014 Traffic Sign Retroreflective Sheeting Identification Guide

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Retroreflective Sheeting Materials Made with Micro-Prisms

Example of Sheeting (Shown to scale)								
D4956-04	(5)	(5)	III, IV	III, IV, X	(5)	(5)	(5) / X	(5)
D4956-13	I	I	III, IV	III, IV	III, IV	III, IV	VIII	VIII
M268-13	(6)	(6)	B	B	B	B	B	B
Manufacturer	3M™	Avery Dennison®	Avery Dennison®	3M™	ORAFOL Americas Inc	Nippon Carbide	Nippon Carbide	3M™
Brand Name	EGP	PEG	HIP	HIP	ORALITE® HIP	HIM	Crystal Grade	Reflective Sheeting
Series	3430	T-2500	T-6500	3930	5900/5930	CRG 94000	CRG 92000	3940
NOTES:	(8)	(8)						

Example of Sheeting (Shown to scale)								
D4956-04	VIII	VII, VIII, X	IX	IX	(5)	(5)	(5)	(5)
D4956-13	VIII	VIII	IX	IX	IX	IX	XI	XI
M268-13	B	(7)	B	B	B	B	D	D
Manufacturer	Avery Dennison®	3M™	3M™	Avery Dennison®	Nippon Carbide	ORAFOL Americas Inc	3M™	Avery Dennison®
Brand Name	MVP Prismatic	Diamond Grade™ LDP	Diamond Grade™ VIP	OmniView™	Crystal Grade	ORALITE®	Diamond Grade™ DG3	OmniCube™
Series	T-7500	3970	3990	T-9500	95000	7900	4000	T-11500
NOTES:		(9)			(9)			

- 5) Material was either unavailable in 2005 (previous version of this Guide) or unassigned in the 2004 version of ASTM D4956.
 6) Sheeting material does not meet minimum AASHTO classification criteria.
 7) Material has been discontinued prior to AASHTO M268-10.
 8) Section 2A.08 of the 2009 MUTCD (<http://mutcd.fhwa.dot.gov>) does not allow this sheeting type to be used for new yellow or orange signs, or new legends on green signs.
 9) Material no longer sold in the United States as of the date of this publication.

Resources

Federal Highway Administration – <http://www.fhwa.dot.gov/retro>
 Manual on Uniform Traffic Control Devices (MUTCD) – <http://mutcd.fhwa.dot.gov>
 Texas A&M Transportation Institute – <http://tti.tamu.edu/visibility>
 ASTM – <http://www.astm.org> AASHTO – <http://www.transportation.org>

00222 – Temporary Traffic Control Signs Measurement and payment

00222.80 Measurement

- Square feet or each

00222.90 Payment

- Square feet for signs
- Each for temporary electrical signs
- No separate or additional payment will be made for sign flags, sign flag boards, posts and other supports, sign covers, or removing and replacing damaged signs.



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00223 – Work Zone Traffic Control Labor and Vehicles

00223.21 Flagger Equipment

- ANSI Class 3 upper body garment or Class 2 upper body garment and Class E trouser or gaiters.
- A hardhat or baseball-style cap.
- Stop/Slow paddle from the QPL.
- Portable, self contained two-way radio and repeaters, as required, with range suitable for communications throughout project.



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00223 – Work Zone Traffic Control Labor and Vehicles

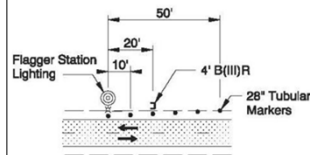
00223.22 Flagger Station Lighting

Flagger station lighting from the QPL.



NOTES:

- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION
LIGHTING DELINEATION

TM 800



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00223 – Work Zone Traffic Control Labor and Vehicles

00223.24 Traffic Control Supervisor Equipment

- Safety apparel according to 00221.20

00223.25 Pilot Cars

- No smaller than a compact pickup truck
- Four wheels
- A "PILOT CAR FOLLOW ME" sign
- Rotating amber light or strobe light
- A two-way radio



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Traffic Control Inspection Report

I-5 Donald Aurora Phase 2

10-30-2024 15498

Project Name (Section)

Date

Contract No.

☐ TP&DT Pay Item

Designated Trained Person's Name

Designated Trained Person's Signature

Certification Number

Date

ESO-008188

10-30-2024

☒ TCS Pay Item

Traffic Control Supervisor's Name

Traffic Control Supervisor's Signature

Certification Number

Date

Project Information

☒ Near Miss Did **NOT** Occur 7:00 AM

3:30 PM

☐ **Near Miss Occurred**
(complete sections at the end)

Arrival Time

Departure Time

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Weather	Clear	Pt. Cloud	Cloudy	Shower	Rain	Snow	
Temp	10°-32°	32°-50°	50°-70°	70°-83°	Over 83°		
Wind	Calm	Light	Medium	Strong			
Humidity	Dry	Low	Med	High			

Today's Operations (include queues, traffic conditions, TCM cleanliness/performance, & TCP maint.)

-Hourly Drive Through Inspection.
-Readjustment of Devices.
-Ensure all Message Boards Operating Properly.

Stage and Phase of Project (include TCP#):

TM Drawing # / Sheet #	Location
EC 09-16	Stage 1 Phase 2 (North/Southbound)

Add New Row

Equipment	#/Type/Item	Placed Date/Time	Location (Engr. Station or MP)	Removed Date/Time
Construction Signs	Triple Shift	6/10 /	MP276.7/279.1 NB	N/A /
Construction Signs	Groved	6/10 /	MP278.8 NB	/
Construction Signs	Triple Shift	6/10 /	MP279.8/278.4 NB	/
Construction Signs	Gooved	6/10 /	MP279.6 SB	/
Construction Signs	Trucks LE	9/16 /	Med. Shoulders (Barrier)	/
Construction Signs	TSS Merge	6/24 /	On Ramp SB	/
Construction Signs	TSS Merge	6/24 /	On Ramp NB	/
Construction Signs	Trucks Ent	9/16 /	Median Shoulders (Barrier)	/
Tubular Markers	#270-Cones	6/17 /	On Job/Crash Trucks	/
Construction Signs	Abrupt Edge	6/10 /	SB On And Off Ramps	/
Drums	#290-Drums	8/5 /	On Job/Staged Tapers	/
Tubular Markers	#100-Candlestick	9/20 /	Yard	/
Blank		/		/
Blank		/		/

Traffic Control Inspection Report

I-5 Donald Aurora Phase 2

10-30-2024 15498

Project Name (Section)

Date

Contract No.

Add New Row

Equipment	#/Type/Item	Placed Date/Time	Location (Engr. Station or MP)	Removed Date/Time
Other: Speed Board	1/Trailer	6/5/24 /	MP279.7	N/A /
Other: Crash Truck	1/Vehicle	10/1/24 /	Yard	N/A /
Other: Arrow Board	2/Trailer	10/1/24 /	Yard	N/A /
Other:		/		/
Other:		/		/
Other:		/		/
Other:		/		/
Other:		/		/
Other:		/		/
Other:		/		/

Add New Row

Variable Message Board	1/Addco	6/3/24 /	MP281.9 NB	N/A /
Message 1/ Message 2	Work Zone Reduce Speed/Lane Shift Ahead			
Variable Message Board	1/addco	6/3/24 /	MP276 NB	N/A /
Message 1/ Message 2	Work Zone Reduce Speed/Lane Shift Ahead			
Variable Message Board	1/Addco	10/1 /	ER Line	N/A /
Message 1/ Message 2	Advanced Warning Ehlen RD. Closure			
Variable Message Board	1/Solartec	10/1 /	ER Line	N/A /
Message 1/ Message 2	Advanced Warning Ehlen RD. Closure			
Variable Message Board	2/Solartec	10/24 /		N/A /
Message 1/ Message 2	Trucks Entering/Exiting HWY/Use Middle Lanes			
Variable Message Board		/		/
Message 1/ Message 2				
Variable Message Board		/		/
Message 1/ Message 2				

Add New Row

Location (Station #) of Missing or Damaged Devices / Maintenance Action Taken (Limit 500 characters)

Readjustment of Devices Throughout the day.

General Comments (Limit 1000 characters)

Median Work and Replacement of Devices that are no Longer Usable.
Coordinate with David Evan's and Subs.

00223 – Work Zone Traffic Control Labor and Vehicles

00223.30 Qualifications – For flaggers, TCS and pilot car operators

- Have a valid driver's license.
- Are at least 18 years old.
- Have a sense of responsibility for public and work crew safety.
- Have a professional appearance.
- Have a courteous but firm manner.



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00223 – Work Zone Traffic Control Labor and Vehicles

00223.31 Traffic Supervision:

- **(a) Traffic Control Supervisor** – When the Schedule of Items includes an item for a TCS.....
 - Make revisions to the TCP
 - Inspect TCD once per shift
- **(b) Traffic Control Inspection Without TCS** – When the Schedule of Items does not include an item for a TCS...
 - Has the authority to assign and control flagging operations.
 - Prepares and signs a daily "Traffic Control Inspection Report"



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12A-2 Traffic Control Inspection Report

Some Projects require the Contractor to employ a Traffic Control Supervisor (TCS) to perform the duties specified in Subsection 00223.31 of the Contract.

One of the duties of the TCS is to prepare and sign a report on the Project traffic control, and submit it to the RE no later than the end of the next TCS construction work shift. The TCS must use the Traffic Control Inspection Report, form 734-2474.

In accordance with Subsection 00221.60 and 00221.90(b), when the bid schedule does not include an item for a TCS, the Contractor's Superintendent or designee will perform the daily traffic control inspection, monitoring, and reporting each working day.

The RE must review the Traffic Control Inspection Reports (TCIRs) to ensure that traffic control is performed and maintained as required. Identified Traffic Control issues must be immediately resolved by the Contractor. Contractor-provided photos accompanying TCIRs should include the general setup, TPAR before/after work, and any photos of incidents/happenings as applicable during the Project (Incident photos should not be of the incident itself necessarily, but of the global traffic control setup during the incident: signs, cones, equipment, etc.).

For work zone safety purposes, near misses correlating to the traffic control configuration are required to be documented by the Contractor on the applicable TCIR. At the end of the Project, the RE will summarize near miss data on the Resident Engineer Narrative, form 734-2756. [Refer to Chapter 37 - Submittal of Final Project Documentation]

The RE will submit the original Traffic Control Inspection Report, form 734-2474, with the final Project documentation in accordance with e-Construction protocol. [Refer to Chapter 37 – Submittal of Final Project Documentation.]

00223 – Work Zone Traffic Control Labor and Vehicles**Construction****00223.42 Traffic Control Supervisors**

- Use traffic control supervisors to oversee the implementation of the TCP, and the quality and placement of all temporary TCM and TCD used on the Project.

Maintenance**00223.61 Flagger Station Lighting**

- At the beginning of each shift, have approved backup flagger station lighting available for immediate use in event of failure.



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00223 – Work Zone Traffic Control Labor and Vehicles**00223.80 Measurement**

- **Unit basis**
 - Traffic Control Supervisor
 - Flagger Station Lighting
- **Time Basis**
 - Flaggers
 - Pilot Car



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00223 – Work Zone Traffic Control Labor and Vehicles**00223.90 Payment**

- (a) Flaggers – **Hour**
- (b) Traffic Control Supervisor – **Each**
- (c) Flagger Station Lighting – **Each or Hour**
- (d) Pilot Cars – **Hour**
- (e) Pedestrian Transport Vehicle – **Hour**
- (f) Automated Flagger Assistance Device – **Each**



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**00223 – Work Zone Traffic Control
Class Problem 4-1**

Scenario: An intersection was constantly flagged at all 4 directions all day during a 12-hour shift. The flaggers varied as follows: Jenny, Jim, Bob, and Lorie flagged the intersection for the first 6 hours and spent one hour each setting up their “Flagger Ahead” queue. They were relieved by Tom, Dick, Harry, and Linda for the last 6 hours. Tom worked an extra half-hour taking down the signs. Each flagger had an hour drive to the shop (two hours round trip). What are the total flagging hours for that particular intersection for that day?

- A. 52.5 hours
- B. 48.0 hours
- C. 60.5 hours
- D. 68.5 hours



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00223 – Standard Specifications**Class Problem 4-2**

What size “Stop/Slow” paddle is recommended for higher speed situations or where more visibility is desired?

- A. 36 inch x 36 inch
- B. 18 inch x 18 inch
- C. 24 inch by 24 inch
- D. There is no size recommendation



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00222 – Standard Specifications**Class Problem 4-3**

Scenario: When permanent sign messages conflict with adjacent temporary sign, the Contractor shall:

- A. Turn permanent signs
- B. Cover permanent signs
- C. A and B are acceptable
- D. None of the above



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00280 – Erosion and Sediment Control**00280.00 Scope**

This work consists providing temporary and sediment control measures to prevent construction-generated pollutants from moving off project sites until the site is permanently stabilized.



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00280 – Erosion and Sediment Control**00280.80 Measurement****00280.90 Payment**

- Erosion control
- Check bid schedule to determine measurement and payment for individual Erosion Control Devices



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4-24-2024

Nick Donnley, Project Manager
David Evan & Associates
5121 Skyline Village Loop S, Suite 200
Salem, OR 97306

RE: 00280 Erosion & Sediment Control Plan (ESCP)
I-5: Aurora Donald Interchange (Exit 278) Phase 2 Section
Contract No. 15498

HP Civil and all subcontractors will comply with erosion and sediment control measures detailed in the contract drawings, Standard Specifications and Special Provisions of Section 280, Section 290. If a significant noncompliance or serious water quality issue occurs that could endanger health or the environment, HP Civil will report it to the Engineer within 24 hours.

HP Civil will inspect the project site and all ESC devices for potential erosion or sediment movement on a weekly basis and when 0.1 inch or more of rainfall occurs within a 24-hour period, including weekends and holidays.

We will adhere to best management practices, monitoring, and reporting as detailed within the Contract. A current copy of Erosion Control Plan will be maintained on-site at all times. The ESCP sheets will be used without modification unless approved otherwise by authorized ODOT/DEA representative. Prior to implementation, any modifications to the ESCP will be submitted to the engineer for approval.

Greg Hyde will be the designated Erosion Control Manager (CESCL: CWT-1130 Exp 1/24/26). Greg Hyde has experience and knowledge at managing and implementing, inspecting, and documenting erosion and sediment control BMP's and conditions. HP Civil has several qualified individuals as per the attached certifications.

Sincerely,

Darren Funk

Darren Funk
Project Manager



8795 Aumsville HWY SE
Salem, OR 97317
CCB # 2020060

Ph: 503-769-2466
Fax: 503-769-2761
estimating@hpcivil.com
ap@hpcivil.com

14. Water quality based effluent limitations and associated requirements for stormwater discharges

Discharges must be controlled to meet all applicable water quality standards. In addition, DEQ expects compliance with the permit conditions is compliance with applicable water quality standards. As soon as the registrant becomes aware or DEQ determines that discharges do not meet applicable water quality standards, corrective actions must be undertaken as required in Section 16.1.

14.1. General effluent limitations to meet applicable instream water quality standards

Discharges must be controlled and may not cause or contribute to an exceedance of the applicable water quality standards as established in OAR 340-041; specifically, OAR 340-041-0036: Turbidity (Nephelometric Turbidity Units, NTU); No more than a 10% (ten percent) cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity.

14.2. Water quality limited streams

DEQ may establish additional controls on construction activities that discharge stormwater runoff to water quality limited streams if Total Maximum Daily Loads are established and construction activities are determined to be a significant contributor to these loads. DEQ may also require application for individual permit or develop a watershed-based general permit for the activity.

15. Erosion and Sediment Control Plan (ESCP)

Before any project under this permit begins, the ESCP must be submitted to DEQ. The registrant must implement the ESCP at all times, from initial soil disturbance until project completion. Failure to implement any of the control measures or practices described in the ESCP is a permit violation. The ESCP must be kept up to date throughout the term of coverage under this permit. The registrant must ensure that an ESCP is revised as necessary to reflect site conditions and submit revisions to DEQ in accordance with the requirements of this permit.

Permit registrants of projects covered under the 1200-CA permit prior to the effective date of this permit must revise and update the ESCP content and site map to ensure that the ESCP is compliant with the requirements of this permit and must submit the revised ESCP to DEQ in YDO by April 1, 2023.

15.1. Qualifications to develop ESCP

- a. For construction activities disturbing twenty or more acres, the ESCP must be developed and stamped by a professional with one of the following credentials, and their name and credentials must be included in the ESCP as a preparer:
 - i. Certified Professional in Erosion and Sediment Control.
 - ii. Certified Professional in Stormwater Quality.
 - iii. Oregon Registered Professional Engineer.
 - iv. Oregon Registered Landscape Architect.
 - v. Oregon Certified Engineering Geologist.
- b. If engineered facilities such as sedimentation basins or diversion structures for erosion and sediment control are required, these portions of the ESCP must be designed and stamped by an Oregon Registered Professional Engineer or an Oregon Registered Landscape Architect (see Section 13.2.17).

SCHEDULE B

MINIMUM MONITORING AND RECORDKEEPING REQUIREMENTS

17. Visual monitoring of site and reporting requirements

17.1. Person(s) responsible for visually monitoring the project site

All sites one or more acres in size must be visually monitored by a Certified Erosion and Sediment Control or Storm Water Quality Visual Monitoring Inspector (Inspector). The Visual Monitoring Inspector must be certified in one of the following sediment and erosion control programs, or any other course approved at a future date by DEQ. DEQ has approved the following programs:

- a. Certified Professional in Erosion and Sediment Control,
- b. Certified Professional in Storm Water Quality,
- c. Certified Inspector of Sediment and Erosion Control,
- d. Washington State Certified Erosion and Sediment Control Lead,
- e. Rogue Valley Sewer Services Erosion and Sediment Control Certification, or
- f. Oregon Department of Transportation Erosion and Sediment Control Manager Certification (ODOT projects only).

17.2. Frequency of visual monitoring inspections

At a minimum, the Inspector must document the initial date of any construction staging, construction activities or land clearing, and conduct and document a visual monitoring inspection of the project site per the following frequency:

- a. On the initial date;
- b. Once every 14 calendar days; and
- c. Daily within 24 hours of any storm event, including snowmelt that results in discharge from the site.

Storm event information can be derived from weather stations that are representative of the site location, rain gauges and other appropriate documentation can be used in the inspection reports. Note, in many parts of Western Oregon, a storm event of 0.10 inches will result in a discharge from construction sites.

17.3 Reductions in visual monitoring frequency

The Inspector must inspect stabilized areas no more than 14 days prior to a site becoming inactive to ensure that erosion and sediment control measures are in working order. For the following scenarios, the Inspector must clearly document the following conditions have begun in the written visual monitoring reports:

- a. The Inspector may reduce the frequency of inspections in any area of the site where the temporary stabilization steps in accordance with Section 13.2.20 have been completed to twice per month for the first month, no less than 14 calendar days apart, then once per month. If construction activity resumes on a stabilized area of the site at a later date, the inspection frequency must immediately increase to that required in Section 17.2, as applicable. The Inspector must document the beginning and ending dates of site inactivity in the visual monitoring reports.
- b. For "linear construction sites" where disturbed portions have achieved final stabilization criteria at the same time active construction continues on others, the inspection frequency may be reduced to twice

12A-3 Erosion Control Monitoring

The Department of Environmental Quality requires that construction activities, under the authority or jurisdiction of a public agency, comply with the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit.

Although the NPDES permit is issued to the public agency, it is incorporated into the Contract and the Contractor must comply with the terms of the permit. The permit requires the Contractor to implement and maintain erosion and sediment control measures for storm water discharge. The permit also requires site inspections and monitoring reports be prepared for active Projects.

The Project Plans typically include an Agency-developed Erosion and Sediment Control Plan (ESCP). If changes are made, the Contractor is required to submit an updated ESCP.

The Contractor is required in 00280.62 to perform and document site inspections. Completed Erosion Control Monitoring, form 734-2361 for each inspection must be submitted to the Engineer.

Throughout the Project, the RE must:

- Work closely with the Contractor when modifications are made to the ESCP or the erosion/sediment control devices.
- Assess and inspect the erosion control devices that are in place, operating as required and maintained throughout the Project in accordance with NPDES permit conditions.
- Complete an Environmental Construction Inspection Report Form 734-2902 for each inspection.
- Make certain the Contractor has inspected and submitted the Erosion Control Monitoring reports according to the schedule requirements of the NPDES Permit.
- Consider withholding payment or suspension of Work for noncompliance issues such as missing erosion control monitoring reports and deviations from the ESCP, among other consideration by the RE
- If a discrepancy or an issue arises on the Project, contact the Region Environmental Coordinator.

During active construction, a copy of the approved ESCP with updated changes must be kept at the construction site.

After construction is complete, submit the Erosion Control Monitoring forms with the final Project documentation in accordance with e-Construction protocol. [Refer to Chapter 37 – Submittal of Final Project Documentation.]



EROSION AND SEDIMENT CONTROL MONITORING

PROJECT NAME I-5: Aur Donald Interchange (Exit 278) Phase 2	INSPECTION DATE 10/19/2024	KEY NUMBER 22505	CONTRACT NUMBER 15498
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1. Identify the erosion control measures from ESCP:

EROSION CONTROL MEASURES	FUNCTION AS DESIGNED?	DESCRIBE WHAT IS NOT FUNCTIONING	LOCATION OF DEFICIENCY	CORRECTIVE ACTION	DATE COMPLETE	IS THERE VISIBLE OR MEASURABLE SEDIMENT LEAVING THE SITE?	HAS SEDIMENT ENTERED A BODY OF WATER?
Inlet Protection	Yes					No	No
Check Dams	Yes					No	No
Sediment Barrier	Yes					No	No
Sediment Fence	Yes		DW	Replaced Section	10/18	No	No
Temp Seed/Mulch	Yes					No	No

DESCRIBE ANY EROSION CONTROL MEASURES NOT LISTED ABOVE

2. Add or attach any additional information as needed:


ADDITIONAL INFORMATION MAY BE INCLUDED IN THIS FIELD OR ATTACHED AND SUBMITTED WITH THIS FORM

Fox installed 725 LF of sediment barrier around the 96in culvert at DW on Monday 10/14. Used additional 150 LF of wattle that wasn't being used as well to place for additional protection. On Tuesday Fox arrived to place temporary seed mix, permanent seed mix No.2, No.3 and wetland seeding Around DW, FA, and lower region of C2. Permanent seeding was placed in culvert region and East end of FA while temp seeding was used on DW ditch lines, West region of FA and C2. Sarah from ODOT came to inspect site on Wednesday and gave corrections that need to be fixed. Removed wattle and sandbags from outlet of 96in stream to let water flow naturally. Fixed orange silt fence on DW by Pac Pride.

3. Weekly rainfall amounts:

RAINFALL REPORTING STATION Climate Toolbox 45.0667, 122.9750	MONITORING PERIOD 10/13-10/19	<input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE	24-HOUR RAINFALL AMOUNT:	0.00	0.08	0.08	0.14	0.09	0.02	0.02
			ENDING DATES:	10/13	10/14	10/15	10/16	10/17	10/18	10/19

4. Signature

ESCM PRINTED NAME Cody Price	ESCM SIGNATURE 	DATE 10/19/2024	CERT NO. 84691	PHONE 971-719-6418
---------------------------------	---	--------------------	-------------------	-----------------------

Minimum Monitoring Requirements: Inspect all erosion control facilities at least every 7 calendar days on active sites and two weeks on inactive sites. Inspect daily during storm water or snowmelt runoff and within 24 hours after more than ½ inch of rain per 24 hour period. See Section 00280 for additional information.

Distribution: Original to Agency Project Manager

00290 – Environmental Protection

00290.00 Scope

- This section describes the contractor duties and obligations to protect land, water, air, wildlife, and other environmental resources of the state.
- Waste material becomes the property of the contractor.



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00290 – Environmental Protection

- Pollution Control Plan
- Protection of wildlife
- Protection of sensitive cultural sites



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00290 – Environmental Protection

00290.30(a-1) Turbidity

- Monitor
- Notify PM of discharge



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00290 – Environmental Protection

- Migratory Bird Act
- Tree removal
- Active nests



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Environmental Protection Fish and Fish Habitat

In-water work periods



37

Environmental Protection

De-fishing operations and containment



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12A-4 Turbidity Monitoring and Reporting

The ODOT Technical Bulletin GE09-03(B) defines the turbidity monitoring requirements included in the Contract to comply with the Clean Water Act (CWA) Section 401 Water Quality Certification.

This requirement will **only** apply to Projects with an Army Corps of Engineers CWA Section 404 permit and/or Department of State Lands (DSL) Removal/Fill permits. Turbidity monitoring and reporting is required for Projects with active “in-water” work when there is a potential for sediment discharge, and for Projects involving wetlands. The specific monitoring and reporting requirements will be defined in the Project Special Provisions and the Project-specific permits.

The RE must ensure that required monitoring and reporting is done by the Contractor per the permit requirements. The Contractor will perform the turbidity monitoring and document the results on the Turbidity Monitoring Report, form 734-2755 unless otherwise specified in the Project-specific permit(s).

The Turbidity Monitoring Reports must be kept on the Project Site and be available for inspection at times in either electronic or hard copy form.

After construction is complete, submit the original Turbidity Monitoring Report forms with the final Project documentation in accordance with e-Construction protocol. [Refer to Chapter 37 – Submittal of Final Project Documentation.]

The ODOT Environmental Section is available for support and guidance to Consultants, Contractors and Agency staff on turbidity monitoring requirements.

12A-5 Accident Investigation and Reporting

When a serious or fatal accident involving the traveling public or a pedestrian occurs within the limits of a construction Project, the RE or Inspector must investigate the accident:

1. To assess this whole section. Remember, don't move anything until documented.
2. To record information that will allow the Agency to adequately defend itself in the event of legal action or an insurance claim. Take pictures and/or video of the accident site.

Complete a Report of Motor Vehicle Accident or Hazardous Material Incident Observed or Investigated by Employee, form 734-3589, when required or requested to do so by others. For more information regarding Project safety and reporting requirements, refer to Chapter 17 – Safety.

Key Inspection Points

- Safety priority to public, contractor, yourself
- Minimize impact to public and community
- Look at the overall project site at least once per day
- Adhere to the TCP and ESCP or modify if necessary
- Work closely with Contractor to prevent erosion issues
- Stop work if preventative devices are not effective
- Keep water confined and away from unprotected slopes
- Know the Region Environmental Coordinator (REC)



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Other Relevant Certifications

- Traffic Control Supervisor (TCS)
- Environmental / Erosion Control Inspector (CECI)



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POLLUTION CONTROL PLAN

PROJECT NAME	HIGHWAY	MILEPOST – TO	MILEPOST – FROM	CONTRACT NUMBER
OR140: Brett Way Extension Project	OR140 & Brett Way	3.74	4.75	15262

1. On-call spill response team:

COMPANY	CALL NUMBER	TRIGGERS FOR CALLING
Northwest Hazmat Inc.	800-597-1323	Reportable quantity of fuel or other hazardous material spill

2. Emergency contacts:

AGENCY PROJECT MANAGER	OFFICE PHONE NUMBER	MOBILE PHONE NUMBER	PROJECT MANAGER'S SECONDARY CONTACT	OFFICE PHONE NUMBER	MOBILE PHONE NUMBER
Tom Feeley	541-883-5780	541-591-0842	Brian Vanrooyen	541-850-6645	509-654-2370
CONTRACTOR	OFFICE PHONE NUMBER	MOBILE PHONE NUMBER	CONTRACTOR'S SECONDARY CONTACT	OFFICE PHONE NUMBER	MOBILE PHONE NUMBER
Bob Crawford	541-882-8377	541-281-7545	Mark Poe	541-882-8377	971-241-2850

If the quantity released exceeds the State or Federal reportable quantities, or if the release impacts or threatens to impact any surface water body, immediately notify DEQ by the Oregon Emergency Response System (OERS) at 1-800-452-0311 and the EPA and USCG through the National Response Center (NRC) at 1-800-424-8802 (Federal reportable quantities or spills impacting or potentially impacting water only). If the quantity released is unknown, proceed with OERS and NRC notifications. Reportable quantities are listed at 40 CFR 302.4 and OAR 340 142 0040 to OAR 340-142-0050.

3. Identify contractor activities:

ACTIVITY	DESCRIBE THE POLLUTANT PREVENTION MEASURES*
Paving	Sweeping, use of water to suppress dust when grinding, avoid paving during wet weather.
Vehicle and equipment maintenance, fueling	Fueling and maintenance of equipment off-site when possible. When on-site required, area to be continuously monitored during activity; secondary containment when possible. Spill prevention efforts used and spill kits on-site.
Lighting and electrical	Sweeping, avoid producing waste, maintain good housekeeping
Working in or near water/wetlands	Sweeping, inlet protection per standard drawings, keep adequate stockpile of spill cleanup materials readily accessible.
Concrete work	Protection from run-off before cured. Containment of clean-out washout area or truck will clean-out off site.
Demolition	Sweeping, use of water to suppress dust when needed.
Excavation and trenching	Dust suppression with water truck, sediment fence installed per plans
Working on contaminated sites	Work performed in accordance with HASP and Lead compliance plan developed by PBS Environmental Engineering.

* Include any information about soil disturbance in the Erosion and Sediment Control Plan.

4. Hazardous substances inventory (Provide information as specified in 00290.30(c)):

SUBSTANCE	STORAGE/CONTAINMENT	USE	MONITORING
Fuel	In fuel truck or off-site vendor. Containment and spill kits in service vehicle.	Equipment Fueling	Employee present while fueling to monitor
Petroleum based products	Lubricants on service truck. Containment and spill kits in service vehicle	Equipment lubrication	Employee present during lubrication

Treated Wood	Storage off-site prior to installation	Sign posts	Employee present during installation
Concrete	Storage in ready mix delivery trucks. Washout area prepared and removed from area as needed, or trucks will cleanout off-site.	Sign Support Footings	Employee present during installation.

5. Project waste inventory (Identify any waste that will be generated):

PROJECT WASTE	HAZARDOUS?	REDUCTION	STORAGE/CONTAINMENT	RECYCLE, RE-USE OR DISPOSE, EXPLAIN WHY	DISPOSAL DOCUMENTATION
Asphalt	No	None	Stockpile	Recycle in HMA	Not Required
Misc. Excavation	No	None	Fill site at Rocky Mtn Construction	Recycle or use as reclamation fill	Not Required
Contaminated Soil Excavation	No	None	Excavate, segregate, stockpile, transport, and dispose	Dispose of on site.	Not Required
	No				
	No				

6. How will the contractor ensure all employees on the job site comply with the pollution control plan?

PCP to be addressed at weekly safety meeting. Copy of plan kept on-site with supervisor.

7. Per 00290.30(b), attach scaled site plans showing locations for hazardous substance storage, spill response equipment, communications equipment and fire suppression equipment.

NOTE FILE NAMES OF PLAN DOCUMENTS IN THIS FIELD

ODOT Standard drawing for inlet protection. Health and Safety Plan (HASP) and Lead Compliance Plan prepared for RMC by PBS Environmental Engineering.

Unit 4 Review:

- ✓Accommodations to public traffic
- ✓Traffic Protection and Directional Traffic (TPDT)
- ✓General requirements for a Traffic Control Plan
- ✓Basics of flagging
- ✓General requirements for a Erosion and Sediment Control Plan and Measures
- ✓General Environmental Protection regulations



INSERT TAB

Unit 5
00300 – Roadwork

Unit 5

00300 Roadwork



1

00300 – Roadwork

- Removal of Structures and Obstructions (310)
- Clearing and Grubbing (320)
- Earthwork (330)
- Subgrade Stabilization (331)
- Geosynthetic Installation (350)



2

Unit 5 Topics:

- Differentiate between clearing and grubbing and removal of structures and obstructions
- Differentiate between embankment and excavation requirements
- Lift thickness requirements
- Earthwork compaction requirements
- Subgrade stabilization
- Geosynthetics requirements



3

00310 – Removal of Structures and Obstructions**00310.00 Scope**

- Guardrails, barrier, inlets, and curbs
- Buildings – concrete floors, slabs, and walls
- Other man-made objects



4

00310 – Removal of Structures and Obstructions

00310.40 Construction

- Guardrail / barrier protection
- When abutting work is to remain, make saw cuts to prevent damage
- Remove obstructions at least two feet below subgrade
- Scarify pavements
- Breakup slabs and walls



5



6

00310 – Removal of Structures and Obstructions

- Unanticipated structures
 - Stop work in area
 - Contact Engineer



7

00310 – Removal of Structures and Obstructions**00310.80 Measurement****00310.90 Payment**

- **Lump Sum Basis** – No measurement of quantities will be made.
- **Separate Item Basis** – Quantities of work performed will be measured either on a length and area or each basis.
- No separate or additional payment will be made for barriers used for temporary protection where guardrail or barriers have been removed



8

00320 – Clearing and Grubbing

00320.00 Scope

- Removing and disposing of vegetation and buried matter.
- Preserving the vegetation and objects designated to remain in place.



9

00320 – Clearing and Grubbing 00320.40 & 00320.41 Operations

- Trim Trees
 - 20' over roadway surface
 - 8' over sidewalks
- Grub to 6 inches below ground
- All matter and debris accumulated become the property of the Contractor.



10

00320 – Clearing and Grubbing

00320.80 Measurement

00320.90 Payment

- **Lump Sum Basis**
No measurement will be made.
- **Area Basis**
Measurement will be the ground surface, limited to the area shown.



11

00330 – Earthwork

00330.00 Scope

Consists of excavation, embankment, ditching, backfilling, grading, leveling, and other earthwork required for construction of the project.



12

00330 – Earthwork

00330.10 Materials

- Selected materials
- Native materials
- Stone embankment



00330.20 Equipment

- Tamping foot rollers
- Vibratory rollers



00330.30 Labor

- CEBT and CDT



13

00330 – Earthwork

00330.40-.41 Construction

▪ Excavation, Preparation

- Protect existing surfacings
- Sawcut existing pavement
- Remove unsuitable materials
- Avoid detrimental operations
- Disposal permit



14

00330 – Earthwork

00330.41 Construction (continued)

▪ Excavation, Types

- General
- Foundation
- Toe trench
- Borrow



15

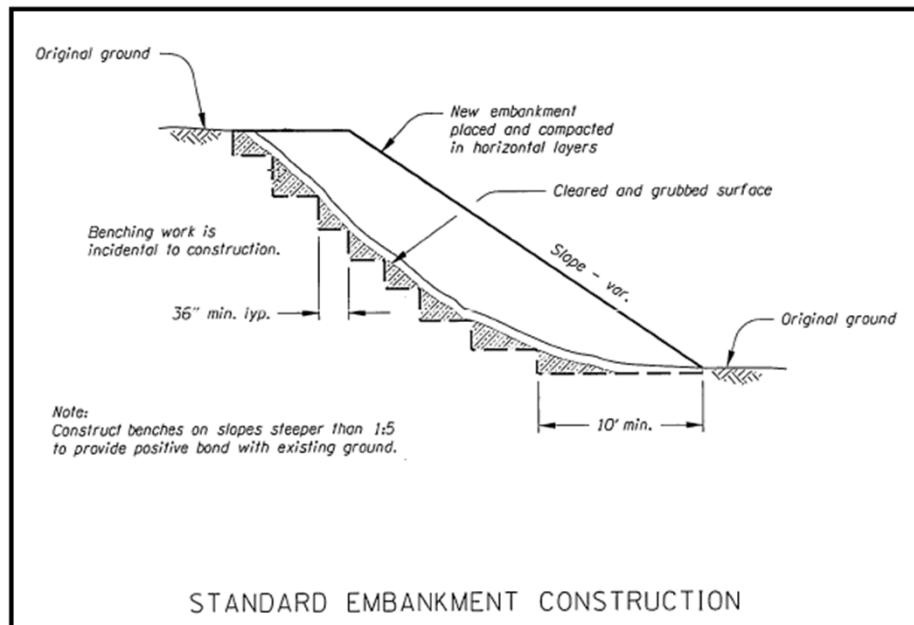
00330 – Earthwork

▪ Embankment, Preparation

- Unstable areas
- Foundation benching
- Excessive moisture



16

0330.42(a-7) – Foundation Benching

17

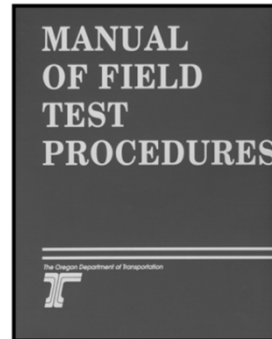
00330 – Earthwork**00330.42(c) Embankment Construction**

- **330.42(c-1)** General embankment material
 - Place fills in nearly horizontal 8-inch lifts
- **330.42(c-2)** For materials with up to 50% *durable rock*
 - Sort material to place in 8-inch lifts or isolate larger rocks to provide adequate compaction around fragments
- **330.42(c-2-e)** for materials with nondurable rock
 - Pulverize non-durable rock to 12 inches and place in 12-inch horizontal lifts

18

00330 – Earthwork**00330.43 Earthwork Compaction**

- Earthwork compaction tested according to MFTP
- Moisture-density testable materials
 - Route hauling trucks over full width of the embankment area
 - Deflection testing according TM 158
 - Density/moisture



19

00330 – Earthwork**00330.43 Construction (continued)**

- Non-moisture-density testable materials
 - Check Special Provisions
 - 12-inch nearly horizontal lifts
 - Compact each layer with a minimum of four full coverages
 - Deflection test TM 158 (one per layer)
 - Verify that it is Non-moisture-density testable



20

00330 – Earthwork**00330.80 Measurement**

Earthwork will be measured as follows:

Volume Basis

based on the Agency's digital terrain model (DTM)



Monthly Measures/Estimates – Final Neat Line



21

00330 – Earthwork**00330.81 Measurement**

- Excavation will be measured as follows:
Measured in their original position BEFORE excavation.
- The following will be measured on excavation basis:
 - Borrow excavation
 - Ditch excavation
 - Foundation excavation
 - General excavation
 - Toe trench excavation



22

00330 – Earthwork

00330.82 Measurement: Embankment will be measured as follows

- Measured in their final embankment position.
- Measurement will be limited to lines, grades, and slopes of the **ORIGINAL** ground contours established before the Contractor begins any work on the project.
- The following will be measured on embankment basis:
 - Embankment in place
 - Stone embankment
 - Extra for selected _____ material



23

00330 – Earthwork**00330.90 Payment**

The accepted quantities of earthwork performed under this section will be paid at the contract unit price, per unit of measurement, for each item that appears in the contract Bid Items.

What is the basis of performance for earthwork on contract 15262? Excavation or embankment project?

Verify in Special Provisions.



24

00331 – Subgrade Stabilization

00331.00 Scope

This work consists of:

- Remove unstable materials
- Replace with stone embankment and/or aggregate as shown or directed



25

00331 – Subgrade Stabilization

00331.10 Materials

- Aggregate base
- Aggregate subbase
- Stone embankment
- Subgrade geotextile
- Water



26

00331 – Subgrade Stabilization**00331.40 Construction**

- Excavate as shown or directed
- Orient geotextile parallel to roadway centerline
- No deflection, or yielding under compactor



27

00331 – Subgrade Stabilization**00331.80 Measurement**

Measure and compute:

- By area to full depth as shown
- If other than depth shown, adjusted to a proportionate volume

00331.90 Payment

- Excavation, geotextile, and backfill material are incidental
- Include a drawing and/or spreadsheet with paynote



28

00331 – Subgrade Stabilization**Class Example for converting to equivalent area**

Given: Specified Bid Item depth 24 inches

Scenario: Contractor performs subgrade stabilization on an area that is 25 feet wide, 75 feet long, and at a depth of 36 inches.

Question: What is the Payable area?



29

00331 – Subgrade Stabilization**Class Example Solution****Excavation Area:**

$$25' \text{ wide} \times 75' \text{ long} = 1875 \text{ ft}^2$$

$$\text{Proportional Depth: } \frac{\text{Actual}}{\text{Given(assumed)}} = \frac{36''}{24''} = 1.5$$

Subgrade Stabilization Area:

$$1875 \text{ ft}^2 \times 1.5 = 2812.5 \text{ ft}^2$$

$$\text{Switch to yd}^2 = 2812.5 \text{ ft}^2 / 9 = 312.5 \text{ yd}^2$$



30

00350 – Geosynthetic Installation

00350.00 Scope

Drainage, embankments, pavements, rip rap, etc.

00350.10 Materials

Furnish materials meeting requirements of Section 02320. QPL



- **Filtration:** Drainage, rip rap, sediment fence
- **Separation:** Subgrade
- **Reinforcement:** Embankment, pavement overlay



31

00350 – Geosynthetic Installation

00350.41 Construction

- “Loosely” place fabric on smooth surfaces.
- On slopes, “roof-lap” starting at the bottom and proceed upwards. “Cap” top of slope
- Overlap according to 00350.41(a-2)



32

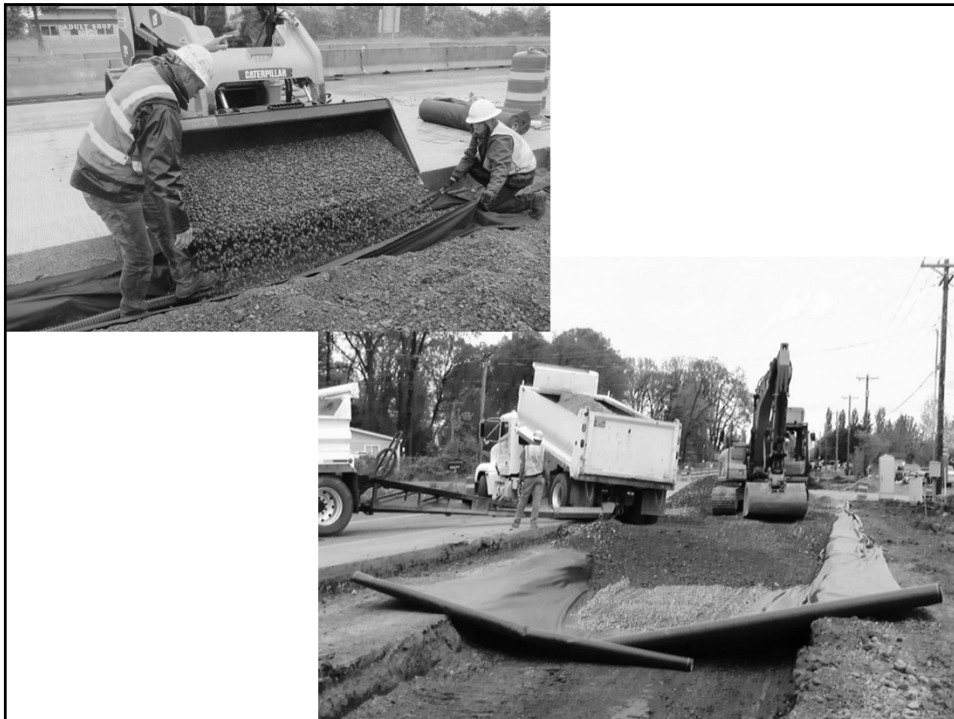
00350 – Geosynthetic Installation

00350.41 Construction (continued)

- Protect Fabric
 - From UV rays
(cover within 5 days)
 - Do not end dump
directly onto fabric
 - No traffic on uncovered
fabric



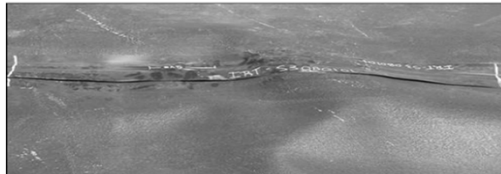
33



34

00350 – Geosynthetic Installation**00350.80 Measurement****00350.90 Payment**

- Payment will be in full for furnishing and placing all materials, and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified.
- No payment for construction laps, seams, joints, or repair patches.



35

Key Inspection Points

- Look for soft spots in subgrade
- Perform informal deflection testing
- Identify maximum depth and limits of stabilization.
Do it once, do it right
- Keep project site stable
- Diligence on geosynthetic measurement
- Estimate quantities of excavation or embankment
- Resolve quantity discrepancies as soon as possible



36

Unit 5 Review:

- ✓ Clearing and grubbing and removal of structures and obstructions
- ✓ Embankment and excavation requirements
- ✓ Earthwork compaction requirements
- ✓ Subgrade stabilization requirements
- ✓ Geosynthetics requirements



37

00331 – Subgrade Stabilization**Class Problem 5-1****Given:** Plan depth 24 inches**Scenario:** Contractor performs subgrade stabilization on an area that is 15 feet wide, 36 feet long, and at a depth of 18 inches. The area to pay for stabilization is:

- A. 45.0 yd²
- B. 405.0 yd²
- C. 80.0 yd²
- D. 718.0 yd²



38

00300 – Standard Specifications**Class Problem 5-2**

Scenario: What is the minimum percent of ultraviolet stability retained strength for nonwoven Embankment Geotextile at 500 hours as determined by ASTM D4355?

- A. 70 percent
- B. 30 percent
- C. 50 percent
- D. The specifications do not give a minimum value



39

00300 – Standard Specifications**Class Problem 5-3**

True or False – Finish subgrade to a tolerance of plus or minus 0.08 foot from the established line, grade, and Cross Section and be free of ruts, depressions and irregularities.



40

00300 – Standard Specifications**Class Problem 5-4**

Scenario: The areas to be cleared and grubbed are typically shown on the plans. However if they are not shown, what is the distance of the clearing line for outside edge of structures?

- A. 5 feet
- B. 10 feet
- C. 15 feet
- D. It does not state in the specifications.



41

00330 – Standard Specifications**Class Problem 5-5**

Scenario: When dealing with Moisture Density Testable Materials, the moisture content at time of compaction shall be to what tolerance?

- A. +/- 1% optimum moisture
- B. +/- 2% optimum moisture
- C. -4% to +2% optimum moisture
- D. There is no variance. Has to be at optimum moisture.



42

**00310 – Removal of Structures and Obstructions
Class Problem 5-6**

Contractor shall remove materials that lie outside of construction areas to an elevation at least _____ below the surface elevation to which the affected area is to be finished.

- A. 6 inches
- B. 1 foot
- C. 2 foot
- D. 4 foot



43

**00331 – Subgrade Stabilization
Class Problem 5-7**



True or False - When the contractor performs subgrade stabilization and the specifications call for stone embankment. As the inspector, you have the right to have the Contractor place a control sample to ensure consistency.




44

INSERT TAB

Unit 6
00400 – Drainage & Sewers

<h1>Unit 6</h1> <p>00400 Drainage and Sewers</p>	
	

1

<h2>00400 – Drainage and Sewers</h2> <ul style="list-style-type: none">▪ Trench Excavation, Bedding, and Backfill (405)▪ Commercial Grade Concrete (440)▪ Sanitary, Storm, Culvert, Siphon, and Irrigation Pipe (445)▪ Manholes, Catch Basins, and Inlets (470) 
--

2

Unit 6 Topics:

- Trench excavation and materials
- Commercial grade concrete
- Sanitary, storm, culvert pipe materials
- Pipe measurement and payment
- Manholes and inlets construction



3

00405 – Trench Excavation, Bedding & Backfill**00405.00 Scope**

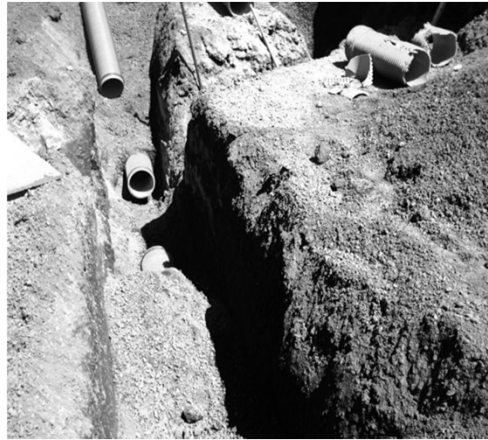
Excavating trenches, constructing trench foundations, placing bedding, pipe zone material and backfill for all pipe under 72 inches.



4

00405 – Trench Excavation, Bedding & Backfill**00405.12 Materials**

- Bedding
 - Sand
 - 3/8" – 0
 - 3/4" – 0
 - Pipe zone material
 - 1" – 0
 - 3/4" – 0



5

00405 – Trench Excavation, Bedding & Backfill**00405.14 Materials (continued)**

- Trench Backfill
 - Class A: Native
 - Class B: Granular
 - Class C: Sand
 - Class D: Pit Run (less than 3" max.)
 - Class E: CLSM (CDF)

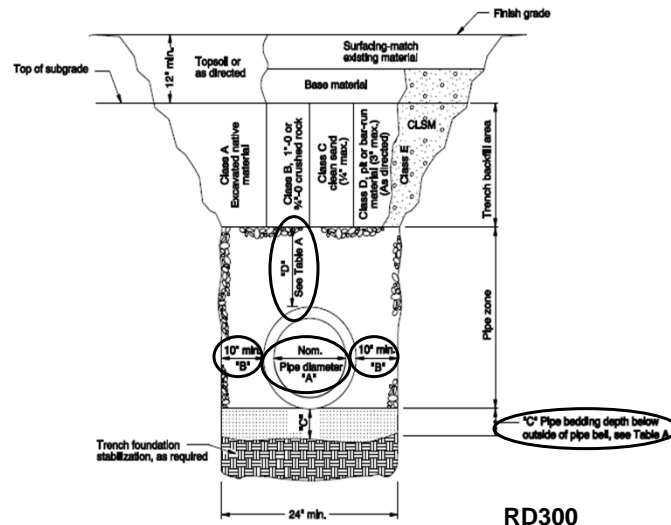


6

00405 – Trench Excavation, Bedding & Backfill

TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14



RD300

7

00405 – Trench Excavation, Bedding & Backfill

00405.40 Construction

- Staking prior to excavation
 - Utility locates required
 - Dewatering plan
 - Backfilling



8

00405 – Trench Excavation, Bedding & Backfill**00405.80 Measurement**

Except for rock or boulder excavation, and trench foundation, no measurement of quantities will be made.

00405.90 Payment

- Rock excavation – Cubic yard
- Boulder excavation – Cubic yard
- Trench foundation – Ton or cubic yard



9

00440 – Commercial Grade Concrete**00440.00 Scope**

- Furnish, place, and finish commercial grade concrete (CGC)
- Non-structural concrete



10

00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe

00445.00 Scope

This Work includes constructing joints and connections to other drainage structures or systems at the locations and grades shown or as directed.



11

00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe

00445.10 Materials

- Metal (steel, aluminum)
 - Concrete (reinforced or non-reinforced)
 - Polyethylene
 - High Density Polyethylene (HDPE)
 - Polyvinyl Chloride (PVC)
 - Ductile Iron



12

00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe**00445.40 Construction**

- Verify staking
- Trench excavation (00405)
- Lay from low end to high
- Bell end at the high end
- Tight joints
- Mastic coating
- Tracer wires
- Line and grade
- Backfill (00405 or 00510)
- Testing (TV, air, deflection)



13

00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe**00445.80 Measurement Pipes****▪ Length**

Along pipe flow line from center to center of manholes, inlets, special sections or the ends of the pipe

▪ Depth

The maximum depth range, to the flow line, for each pipe will be “5 feet”, “10 feet”, “20 feet”, and “over 20 feet” as applicable.



14

00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe**00445.90 Payment**

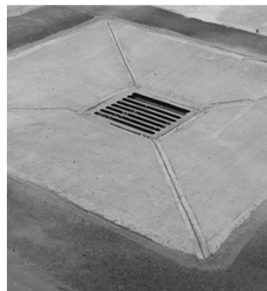
- Pipe – ft
- Tees, wyes, slip joints, sloped end sections, safety end sections, concrete pipe anchors, and concrete closure collars – **each**
- Concrete in blocks – **yd³**
- Reinforcement in blocks – **Lump sum or lb.**



15

00470 – Manholes, Catch Basins and Inlets**00470.00 Scope**

This Work consists of constructing manholes, catch basins, inlets, siphon boxes, slope protectors, and other similar structures.



16

00470 – Manholes, Catch Basins and Inlets**00470.40 Construction****Verify staking**

- Excavate and backfill per Section 00405
- Firm foundation
- Orientation of structure
- Plumb structure
- Water tight joints
- Hydrostatic and vacuum testing



17

00470 – Manholes, Catch Basins and Inlets**00470.80 Measurement**

Measurement is per each complete unit

00470.90 Payment

Payment is per each complete unit



18

**00405 – Trench Excavation, Bedding & Backfill
Class Problem 6-1**

True or False - The contractor has planned to place $\frac{3}{4}$ "- 0 as pipe bedding. You notice there is water accumulating in the trench prior to placement. The specifications allow the Contractor to continue to use the $\frac{3}{4}$ "- 0.



19

**00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe
Class Problem 6-2**

Contractor just placed 235 feet of 12-inch storm pipe from an oversized 60-inch manhole to a standard 48-inch manhole.

Question: What is the measured length for payment of the pipe run?

- A. 235 feet
- B. 235 feet + 60-inch manhole
- C. 235 feet + 48-inch manhole
- D. 235 feet + 1/2 of 60-inch manhole + 1/2 of 48-inch manhole



20

**00445 – Sanitary, Storm, Culvert, Siphon & Irrigation Pipe
Class Problem 6-3**

When placing pipe, what is the maximum allowable variance from the established line and grade?

- A. ½ inch
- B. 1 inch
- C. 1½ inches
- D. 0 inches – Pipe must be at exact line and grade



21

**00400 – Standard Specifications
Class Problem 6-4**

Commercial Grade Concrete (CGC) should not be placed when air temperature is below ____ without approval.

- A. 50° F
- B. 90°F
- C. 35°F
- D. 40°F



22



00400 – Standard Specifications
Class Problem 6-5

True or False - According to the specifications, the Contractor should begin to lay sanitary pipe at the upstream end.




INSERT TAB

Unit 7
00600 – Bases

<h1>Unit 7</h1> <p>00600 Bases</p>	
	

1

<h2>00600 – Bases</h2> <ul style="list-style-type: none">▪ Cold Plane Pavement Removal (00620)▪ Aggregate Base and Shoulders (00640)▪ Aggregate Subbase, Base, and Shoulders (00641) 
--

2

Unit 7 Topics:

- Cold plane pavement removal
- Difference between Sections 00640 & 00641
- Base aggregate compaction requirements
- Base aggregate acceptance
- Base aggregate measurement and payment



3

00620 – Cold Plane Pavement Removal



4

00620 – Cold Plane Pavement Removal

- Surface tolerances
- Construction practices
- Grinding around manholes and inlets



5

00620 – Cold Plane Pavement Removal

00620.80 Measurement

00620.90 Payment

- Measure width in several locations and calculate average
- Use simple geometric shapes for measurement



6

Milling Operations Inspection Checks

- ✓ Proper Location
- ✓ Proper Depth (uniform across width?)
- ✓ Proper Slope
- ✓ Properly Cleaned
- ✓ Need to go Deeper?
- ✓ Measure Area

Resources

- 2008 Oregon Standard Specifications for Construction Sec. 00620, 00730, 00745
- ODOT Pavement Design Guide:
https://www.oregon.gov/ODOT/Construction/Documents/pavement_design_guide.pdf
- ODOT HMAC Inspector Certification Manual
<https://www.oregon.gov/ODOT/Construction/Pages/ACP-Inspector-Cert.aspx>

Contact Us

Jim Doll, QA Specialist
Phone: 503-986-6630
james.p.doll@odot.state.or.us

Spec Notes are prepared by the Construction Section QA Unit for inspectors to provide background information around design elements and specifications to help with making field decisions.

If you have a topic you would like to see addressed in this format, please contact us.

00620 – Cold Plane Pavement Removal



Cold plane pavement removal is used for a variety of treatments including repairing localized failures and removing long segments of highways in preparation for new pavement. Like any construction, a bit of judgment is required to create a good quality milled

pavement that comes in on budget and results in a good quality finished pavement. Here are some questions and answers around the intent of the grinding and the associated specifications.

Q -- Why grind?

A – Grinding is specified for a variety of reasons including:

- to remove all or part of the cracked surface to help control reflective cracking;
- to remove poorly bonded (delaminated) layers which can slide creating pot holes;
- to remove poor quality/unstable asphalt pavement;
- to remove an open graded wearing surface thereby removing a potential water-retaining layer;
- to restore the pavement surface without changing the pavement grade.

Q – Section 00620.43 in the Special Provisions sometimes states that *Traffic will not be allowed to travel on cold planed surfaces*. Why not?

A – The design reason is that traffic could damage a thin layer of pavement left in place that otherwise would be good enough to pave on. We don't want to delaminate or crack up a good base. Also, there may be safety issues including flying rock and friction.

Q – What happens if we grind deeper than the design?

A – Grinding deeper may result in leaving a thin section of pavement that could become dislodged and delaminate. In some areas, like shoulders, aggregate base may be encountered. Going deeper can result in significant pavement quantity overruns. If an extra ½" of mix is required for 500 feet for a 14-foot wide section, the added mix is more than 20 tons. It adds up!

Q – So then, how deep is deep enough?

A – For most situations, the design section should be adequate. For delaminated pavements, once the grinding starts, it is the inspector's duty to verify that adequate preparation has been made. Check for loose chunks or slabs of material that are left after the pavement has been swept. Can you kick off pieces around the edges? Can you dislodge large sections easily either with your boot or shovel?

Loose and delaminated sections need to be removed which should be readily accomplished with a shovel. When in doubt, check with your PM! The photo below shows a pavement ready for an inlay that was partially delaminated. The loose



slabs have been removed and the pavement swept. While it might not look perfect, all broken edges are

gone and the remaining section adheres well to the layer below it. Once prepared, try to minimize the truck traffic on the pavement to reduce the potential for dislodging more material.

Q – What happens if we are overrunning our quantities and decide to grind a thinner section?

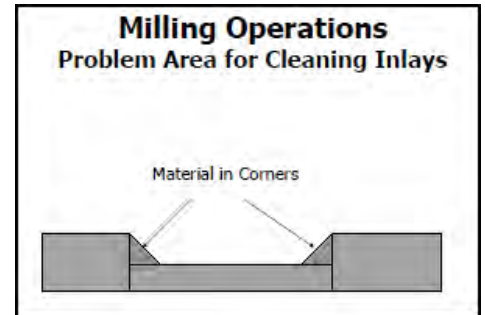
A – Grinding thinner can increase the potential for reflective cracking or increase the potential to leave delaminated pavement sections in place that will lead to shoving and pot holes. With an open graded wearing surface, we typically don't want to leave an open graded layer under a dense graded pavement because it can trap water and lead to

future problems. Also, depending on the pavement design, a thinner pavement could compromise the pavement life as the design may require new HMAC thickness to accommodate future traffic.

Q – We are done with the grinding, what should we look for during sweeping?

A – Per the specifications (00730.42 and 00745.42), prior to applying tack, *remove all material, loose or otherwise, that will reduce adhesion of the tack by brooming, flushing with water, or other approved methods.*

Dust behind a fast-moving vehicle driving on the milled



surface is an indicator of inadequate preparation. The areas to pay close attention to are the corners as shown in the graphic.

Q – The sweeping is done, can we start paving?

A – Maybe. If traffic has been running on the cold planed surface, Section 00620.43 states that *...Before beginning paving operations, make repairs to the existing cold planed surface as directed.* The intent of the specification is to locate any areas that have cracked or delaminated under traffic. Also, Section 00745.42 requires *Preparation of Underlying Surfaces* which refers to Section 00610 *Reconditioning Existing Roadway* which requires removal of unstable material. Now, back to the boilerplate for Section 00620.43, *Payment for the repairs will be made according to Section 00196.* Bottom line, repair the failed sections caused by traffic and pay for it as Extra Work.

Q – What's important about applying tack?

A –After the pavement is swept, per 00745.42 all surfaces that will be next to new HMAC, should be tack coated. This includes the edges of the trench; many joint failures have been attributed to missing tack. Be sure that enough tack is placed and that the trucks are not picking it up during paving. The goal is to glue the pavement layers together for long term performance.



7

00641 – Base Aggregate Construction



QA
ODOT
MATERIALS &
INSPECTION

8

00640 – Aggregate Base and Shoulders versus 00641 – Aggregate Subbase, Base, and Shoulders

	00640	00641
Scope (.00)	Placing aggregate in one or more lifts	Same as 00640
Materials (.10)	Accepted visually	Requires certified technician (except subbase which may be accepted visually)
Construction (.40)	<ul style="list-style-type: none"> Place base material in 6" max layer Place shoulder material in 9" max layer 	<ul style="list-style-type: none"> Base same as 00640 Shoulder same as 00640 Place subbase material in 9" max layer
Measurement and Payment (.80 and .90)	<ul style="list-style-type: none"> Weight basis (tickets) 	<ul style="list-style-type: none"> Weight basis Volume basis as measured in hauling vehicle Area basis in place



9

00641 – Base Aggregate Construction

00641.10 Materials

- Subbase
- Shoulder aggregate
- Base aggregate



10

00641 – Base Aggregate Construction

- Maximum thickness of base aggregate 6 inches
- Compact to 95 percent of maximum density



11

00641 – Base Aggregate Construction

00641.45 Surface Tolerance

- Hubs (blue tops)
- Grade Verification Points



12

00641 – Base Aggregate Construction

00641.80 Measurement

- Weigh memos from certified scales
- Need check weights

00641.90 Payment

- No separate payment for water used in mixture



13

Key Inspection Points:

- Make sure Contractor does not overwork base aggregate
- May be difficult to compact gravel source base aggregate
- Have a positive way to verify quantity of base aggregate
 - Many similar aggregates are incidental to work
 - Pipe zone material
- Have Grade Verification Points and compaction results prior to paving
- Timely collection and summary of tickets



14

Unit 7 Review:

- ✓ Cold plane pavement removal
- ✓ Difference between Sections 640 & 641
- ✓ Base aggregate acceptance
- ✓ Base aggregate compaction requirements
- ✓ Base aggregate measurement and payment



15

Cold Plane Pavement Removal

Class Problem 7-1

What is the required slope of the wedge at each exposed transverse drop-off created during cold plane pavement removal?

- A. 1V:10H
- B. 1V:20H
- C. 1V:40H
- D. 1V:50H



16

00640 and 00641 – Aggregate Base Class Problem 7-2

What is the minimum compaction requirement for dense-graded base aggregate?

- A. 85% of maximum
- B. 90% of maximum
- C. 95% of maximum
- D. 100% of maximum



17

00640 and 00641 – Aggregate Base Class Problem 7-3

What is the maximum lift thickness of the aggregate shoulder courses?

- A. 9 inches
- B. 6 inches
- C. 15 inches
- D. 20 inches



18

00640 and 00641 – Aggregate Base
Class Problem 7-4

In what section would you find gradation requirements for the dense-graded base aggregate?

- A. Section 330
- B. Section 405
- C. Section 641
- D. Section 2630



19

00641 – Base Aggregate**Check Weight Example**

Project Scale	Check Scale
39.69 tons (gross)	39.74 tons (gross)

$$\frac{(39.69 - 39.74)}{39.69} \times 100 = 0.1 \text{ percent}$$

Check weight acceptable?



20

00190.20(f) - Check weight criteria:

If more than 50 tons per Day of all types of Materials are received from a scale, the Contractor shall make random check weighings at least every tenth Day on which more than 50 tons is received or at each interval that 10,000 tons has been weighed, whichever occurs first, or as directed by the Engineer.

The Contractor shall make at least one check weighing on projects where more than 2,000 tons of all types of Materials are received from a scale.

Check weights within 0.4% of the Contractor-provided weight are acceptable.

Aggregate Base Scale		
Daily Total (tons)	Cumulative Total (tons)	Days over 50 tons per day
248.87	248.87	1
371.97	620.84	2
341.20	962.04	3
186.29	1148.33	4
503.27	1651.6	5
587.75	2239.35	6
401.00	2640.35	7
217.31	2857.66	8
93.35	2951.01	9
376.06	3327.07	10
479.48	3806.55	11
45.08	3851.63	11
69.20	3920.83	12
601.70	4522.53	13
300.57	4823.1	14
52.27	4875.37	15
283.48	5158.85	16
270.41	5429.26	17
Number of required check weights		1

ACP Scale		
Daily Total (tons)	Cumulative Total	Days over 50 tons per day
3403.37	3403.37	1
4817.59	8220.96	2
4625.63	12846.59	3
5050.47	17897.06	4
2459.54	20356.60	5
5051.72	25408.32	6
5625.69	31034.01	7
6013.00	37047.01	8
1658.91	38705.92	9
6796.90	45502.82	10
6669.51	52172.33	11
5826.40	57998.73	12
5716.31	63715.04	13
138.52	63853.56	14
6291.77	70145.33	15
5751.24	75896.57	16
426.44	76323.01	17
125.85	76448.86	18
Number of required check weights		7

Stone Embankment Scale		
Daily Total (tons)	Cumulative Total (tons)	Days over 50 tons per day
48.87	48.87	0
11.85	60.72	0
1150.25	1210.97	1
443.45	1654.42	2
221.31	1875.73	3
108.56	1984.29	4
32.13	2016.42	4
65.45	2081.87	5
75.14	2157.01	6
Number of required check weights		1

General Scale Information

Scale Certification Requirements (00190.20(d)) - No materials weighed on scales without current certifications according to this Subsection will be accepted. The Contractor shall provide a copy of all required certifications (not simply the commercial scale license) to the Engineer (**EXAMPLES 1A & 2A**). Scales used to weigh materials paid by the ton shall be certified:

- Before used (if installed at new site)
- 60 Calendar Days after initial inspection
- Annual certification
- When directed by Engineer

Check Weighing Requirements (00190.20(f-1)) - If more than 50 tons per Day of all types of Materials are received from a scale, the Contractor shall make random check weights at least:

- Every tenth Day on which more than 50 tons is received or
- Once each 10,000 ton interval, whichever occurs first

The Contractor shall make at least one check weighing on projects where 2,000 tons of all types of Materials are received from a scale. The Contractor shall provide the Engineer with the results of the check weighing (**EXAMPLE 2**).

Check weights within 0.4% of the Contractor-provided weight are acceptable.

If a different scale is not available within a 30 mile round trip from the regular haul route the Agency will allow check weighing on an approved alternate basis. (Contact Contract Administration for approved alternate methods)

Scales without Automatic Printer (00190.20(f-2)) - The Contractor shall inform the Engineer at least 3 working Days before weighing begins with a scale that does not have an automatic printer. The Contractor shall pay costs for the ODOT weigh witness. In addition, the Engineer may periodically check the weight of loads on another certified scale.

Contractor's Weigh Technician Duties (0019.20(f-3)) - The Contractor's weigh technician shall:

- For scales where the haul vehicle is not tared for each load, determine at least twice a Day the empty haul masses of vehicles.
- Furnish a daily listing of tare (empty haul) masses if more than 10 loads are hauled (**EXAMPLE 3**).
- Furnish a daily listing of net masses and total mass for each type of material hauled that day (**EXAMPLE 4**).
- Furnish legible weigh memo (ticket) for each load of Materials to the Agency's Materials receiver at the point of delivery, or as directed by the Engineer. The memo shall be serially numbered and identify:
 - o Project name
 - o Material type
 - o Date
 - o Net weight (gross and tare as appropriate)
 - o Vehicle identification
 - o Weigh Technician name

Inspector Duties for Weighed Bid Items

- Weigh Memos collected directly from Haul Vehicles (12D-19) – Record the following information on each Weigh Memo (**EXAMPLE 5**):
 - o Location of delivered Material (station, mile point, etc.)
 - o Haul truck identification, if not already noted
 - o Time Material was delivered
 - o Signature and date of Materials Receiver (ticket taker)
 - o Note on the ticket if any loads are rejected
 - o Perform yield calculations at least once per day when 10 trucks or more loads of ACP are placed (form 734-2792)
- Weigh Memos NOT Collected From Haul Vehicles (12D-20) – If the PM determines that field conditions are not safe enough for the Weigh Memos to be collected directly from the haul vehicles the Materials Receiver shall record the following information for each load on the Materials Delivery and Yield Check Sheet (form 734-2792) or similar format:
 - o Location of delivered Material (station, mile point, etc.)
 - o Haul truck identification
 - o Time Material was delivered
 - o Note if any loads are rejected
 - o Perform yield calculations at least once per day when 10 or more loads of ACP are placed
- Duties of Materials Receiver at end of shift
 - o Collect all tickets and daily listing of net masses and tare summary (if ten or more loads have been delivered) from the weigh scales
 - o Perform final pay quantity calculation by either running two tapes (adding machine or other similar means) (**EXAMPLES 6A & 6B**) or recording and totaling loads on the Materials Delivery and Yield Check sheet and running one tape (adding machine or other similar means) (**EXAMPLE 7**)
 - o Verify the two tapes or one tape and Materials Delivery and Yield Check sheet total agree and match
 - o Resolve any discrepancies with the weigh technicians net mass summary (rejected or unused loads)
 - o Bind the Weigh Memos and signed and dated adding tapes (along with tare mass summary, if applicable, and net mass and total mass summary from weigh technician) and submit for checking by a second person before payment is made for the Materials.

Check Weighing Example

	<u>Project or Contractor Scale</u>	<u>Check Scale</u>
Gross Weight	39.69	39.74
$\frac{(39.69) - (39.74)}{39.69} = 0.1 \text{ percent difference}$		

EXAMPLE 1A

Hopper Scale

STATE OF OREGON
Department of Agriculture
WEIGHTS & MEASURES PROGRAM
635 Capitol Street NE, Salem, Oregon 97301-2532
Phone: (503) 986-4670, Fax: (503) 986-4784
http://oregon.gov/ODA/MSD



HEAVY CAPACITY SCALE REPORT

Form 2033 Rev. 01/13

Page 2 of 2

L.A.	
COL.	
Retest	

Date	4/8/15	Time		AM	Duration
				PM	

Location name	Road & Driveway Company			Mailing name			
Location contact name				Mailing contact name			
Location address				Mailing address			
Location city, st, zip	Lincoln City			Mailing city, st, zip			
Location phone				Mailing phone			
License number	146408E	License status		Num. Issued	25	Num. required	
				Num. tested		Seasonal months	

Circle:	Axis	Belt	Floor	GIRSA	Hopper	Lvsik	Overhead	Railroad	Single Animal	Vehicle	Other
---------	------	------	-------	-------	--------	-------	----------	----------	---------------	---------	-------

II-Sect. Scale		DESCRIPTION OF EQUIPMENT				VI-Sect. Scale	
2	3	Scale Capacity	200,000 lbs	Beam Capacity		Dial Capacity	200,000 lbs
		No. of Sections	N/A	Make		Make	Mettler Toledo
		Section/CL	200,000 lbs	ID No.		ID No.	50255-541A
1	4	Printer	Yes	Min. Grad.		Min. Incr.	20 lbs

VEHICLE LENGTH RESTRICTIONS	Limited to Single Drafts up to	N/A	Platform Dimensions	N/A	Previous Test Date	4/1-14
-----------------------------	--------------------------------	-----	---------------------	-----	--------------------	--------

SCALE TEST DETERMINATIONS

Balance on Arrival				Beam Sensitivity:				Zero Load				Full Load			
Load Pos'n	Test Weights	Indication	Error on Indication	Load Pos'n	Test Weights	Indication	Error on Indication	Load Pos'n	Test Weights	Indication	Error on Indication	Load Pos'n	Test Weights	Indication	Error on Indication
	REF. TRUCK	H. 22814	Error 70												
#1	22800	22800	0%												
#2	22780	22800	20 lbs 0.09%												
#3	22600	22660	60 lbs 0.26%												
#4	22160	22200	40 lbs 0.18%												

Shift Test						Strain Load Test					
Load Pos'n	Indication	Load Pos'n	Indication	Load Pos'n	Indication	Uncalibrated Strain Load					
						Test Weights Added to					
						Combined Load Indication					
						Error on Test Weights					
						Load Applied to Section					

Action Taken:	Device Approved	<input checked="" type="checkbox"/>	Device Rejected	<input type="checkbox"/>	Tag Number:	Days for Correction:	Violation Code:	Cal #	N/A
---------------	-----------------	-------------------------------------	-----------------	--------------------------	-------------	----------------------	-----------------	-------	-----

REMARKS: Security seal was found intact. The reference truck scale was certified on site to acceptance tolerance on the same day as the above test. Device is tested and approved.

Department Representative:	Received By:	(Printed)	(Signature)	(Title)
Kirk Trigg	Robert W. Miller			Plant Manager

*VIOLATION CODES ON REVERSE SIDE	GPS Coordinates:	Insp. Type	Posted
White = OFFICE	Yellow = INSPECTOR	Pink = OPERATOR	2

EXAMPLE 1B

CHECK SCALE


 UNITEC*148QP
 CCB#70108

**COMMERCIAL
 SCALE TEST REPORT**
Date Tested 10/20/14Reg. No. C2507

Name Cardinal Creek Quarries Address Newport, OR
 Indicator Make/Model Cardinal 825 Indicator Serial No. _____
 Capacity 160,000# Minimum Grad. 20# Unit Type BS Platform Size 10 x 90
 Number of Sections 5 Ticket Printer Make/Model Epson T-MV590
 Location Newport Scale Type Unitec SP-C Scale Serial No. _____

Initial Test

Load Position	Load Applied	Scale Indication	Error
1	44,520	44,520	Ø
2	}	44,540	+20
3		44,540	+20
4		44,520	Ø
5		44,540	+20
1	20,000	20,000	Ø

Final Test

Load Position	Load Applied	Scale Indication	Error

STRAIN LOAD TEST

Empty Truck Weight	Test Weight Added	Truck & Test Weight Total	Error

Remarks and/or Instructions

Scale tested within tolerance.* Adjusted scale filteringDATE 10/20/2014TIME 12:40Scale Technician [Signature]WT DT IT Meets H.B. 44 Specifications ☒ Yes ☐ No
 358 Upland Drive • Seattle, Washington 98188 • Phone (206) 575-1100 • Fax (206) 575-1248
 9775 SW Commerce Circle, C-1 • Wilsonville, Oregon 97070 • Phone (503) 682-9023
 5708 East First Avenue • Spokane, Washington 99212 • Phone (866) 575-1101

EXAMPLE 2

#44

CHECK WEIGHING (00190.20(f))

Contract Number: 14670

Job Name: FFO-US20PME:UPRR-EDDYVILLE (Phase 3)

Date: 1/11/2016

Ticket Number: 28022218

Check Scale Location: Blodgett

Contractor: Scarsella Brothers Inc.

Contractor Scale		Check Scale
GROSS	104060	104150
TARE	39980	
NET	64080	

Percent Difference: -0.09

(0.4% Maximum Allowable)

Check Weight Witnessed By : Anthony CarrSignature: 

TARE WEIGHT SUMMARY

EXAMPLE 3242810
01/11/2016

Hardrock Aggregate

Customer 482039
Order 27989

<u>VehicleID</u>	<u>Vehicle Description</u>	<u>Driver</u>	<u>Tare</u>	<u>Time</u>
KNI005TP	KNIFE RIVER INC		39,980	6:56 AM
KNI005TP	KNIFE RIVER INC		39,620	2:13 PM
KNI006TP	KNIFE RIVER INC		41,180	7:44 AM
KNI006TP	KNIFE RIVER INC		40,660	2:05 PM
KNI339TP	KNIFE RIVER TRUCK & PUP		38,180	7:30 AM
KNI339TP	KNIFE RIVER TRUCK & PUP		38,020	2:57 PM
KNI521TP	KNIFE RIVER TRUCK PUP		39,480	7:08 AM
KNI521TP	KNIFE RIVER TRUCK PUP		39,180	2:18 PM
KNI522TP	KNIFE RIVER TRUCK & PUP		38,500	7:06 AM
KNI522TP	KNIFE RIVER TRUCK & PUP		38,160	2:48 PM
KNI525TP	KNIFE RIVER INC		38,880	7:18 AM
KNI525TP	KNIFE RIVER INC		38,680	2:43 PM
KNI527TP	KNIFE RIVER TRUCK & PUP		37,780	7:14 AM
KNI527TP	KNIFE RIVER TRUCK & PUP		37,520	2:27 PM
KNI528TP	KNIFE RIVER		38,540	7:12 AM
KNI528TP	KNIFE RIVER		38,060	2:53 PM
KNI602TP	KNIFERIVER T&P		42,480	7:02 AM
KNI602TP	KNIFERIVER T&P		42,380	1:04 PM
KNI738TR	KNIFE RIVER INC		40,620	7:00 AM
LW4TP	LEO WINK TRUCKING	LEO	39,260	7:28 AM
LW4TP	LEO WINK TRUCKING	LEO	39,060	3:06 PM
SD5TP	Steve Dundas Trucking	JD	40,100	7:22 AM
SD5TP	Steve Dundas Trucking	JD	39,980	3:02 PM

EXAMPLE 4

NET WEIGHT AND TOTAL WEIGHT Listing (LOAD SUMMARY)

SCALE TICKET INQUIRY

BEGIN DATE	1/11/2016	LOCATION	242810	PRODUCT	24992120
END DATE	1/11/2016	CUSTOMER	482039		
SELL/BUY/TRANS	ALL	ORDER	27989		
SHIP/RECEIVE	ALL				

<u>Ticket</u>	<u>Loc</u>	<u>Date</u>	<u>Time</u>	<u>Customer</u>	<u>Order</u>	<u>Product</u>	<u>Carrier</u>	<u>Vehicle</u>	<u>Qty</u>	<u>Unit</u>
28,022,178	2428	1/11/2016	3:56:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1005TP	32.71	Ton
28,022,179	2428	1/11/2016	7:00:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1738TR	32.16	Ton
28,022,180	2428	1/11/2016	7:02:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1602TP	31.00	Ton
28,022,181	2428	1/11/2016	7:06:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1522TP	33.07	Ton
28,022,182	2428	1/11/2016	7:08:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1521TP	31.52	Ton
28,022,183	2428	1/11/2016	7:12:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1528TP	32.38	Ton
28,022,184	2428	1/11/2016	7:14:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1527TP	32.62	Ton
28,022,185	2428	1/11/2016	7:18:00AM	SCARSELLA	27989	2 1/2" - 0" CI	OREGON OL	KN1525TP	30.63	Ton
28,022,186	2428	1/11/2016	7:22:00AM	SCARSELLA	27989	2 1/2" - 0" CI	OREGON OL	SD5TP	28.39	Ton
28,022,187	2428	1/11/2016	7:28:00AM	SCARSELLA	27989	2 1/2" - 0" CI	OREGON OL	LW4TP	30.24	Ton
28,022,188	2428	1/11/2016	7:30:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1339TP	30.69	Ton
28,022,190	2428	1/11/2016	7:44:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1006TP	30.68	Ton
28,022,191	2428	1/11/2016	3:13:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1005TP	31.68	Ton
28,022,192	2428	1/11/2016	3:16:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1602TP	29.80	Ton
28,022,193	2428	1/11/2016	3:19:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1521TP	30.95	Ton
28,022,194	2428	1/11/2016	3:27:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1528TP	32.18	Ton
28,022,196	2428	1/11/2016	3:39:00AM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1738TR	30.39	Ton
28,022,257	2428	1/11/2016	2:05:00PM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1006TP	32.48	Ton
28,022,259	2428	1/11/2016	2:13:00PM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1005TP	32.35	Ton
28,022,260	2428	1/11/2016	2:18:00PM	SCARSELLA	27989	2 1/2" - 0" CI	KNIFE RIVER	KN1521TP	32.80	Ton
28,022,269	2428	1/11/2016	3:06:00PM	SCARSELLA	27989	2 1/2" - 0" CI	OREGON OL	LW4TP	29.92	Ton

Tickets 21

658.64



Date: 1/11/2016 Time: 6:56:44AM

Vehicle: KNI005TP KNIFE RIVER INC

Customer: 482039 SCARSELLA BROTHERS INC

Order: 27989 EDDYVILLE PHASE 3 EAST SIDE

P.O.:

Product: 24992120 2 1/2" - 0" CRUSHED

PH3:US20 PME UPRR- Eddyville

Corvallis - Newport Hwy 47V-039

Lincoln Co C14670 CON03608

NHPP-S033(049) K18327

BI 117 J Note Est Date

Received

Hardrock Aggregate

CUT 3 STOCKPILE
7:43 Delivered

Ticket No.:

28022178

	Pounds	Tons	Metric
Gross	105400	52.70	47.81
Tare	39980	19.99	18.13
Net	65420	32.71	29.67

Ordered

Remaining

Today: 32.71 Loads: 1

Weighmaster: Ashley Scheer

As the owner or contractor for this job, I hereby save and hold harmless from any and all liability Knife River or their driver as a result of the Knife River Vehicle being driven inside property or curbsides. I also accept full responsibility for any property damage or any equipment damage to Knife River which may occur beyond this point. I further agree to pay any towing or stand-by charges

32.71 Ton

TERMS: NET - CASH SALES PAYABLE
UPON PICKUP OR DELIVERY.
CHARGE SALES DUE AND PAYABLE
BY THE 10TH OF MONTH FOLLOWING
PURCHASE. A service charge of 1.5%
per month, or a minimum of \$1.00, will
be assessed on any balance due at the
end of the following month's billing
cycle. This is an ANNUAL
PERCENTAGE RATE OF 18%.
PERSONAL NOTICE: We reserve the
right to claim lien for all labor and
material furnished on this job according
to OREGON REVISED STATUTE
87.021

CUSTOMER COPY

EXAMPLE 6A

TWO TAPES FROM EXCEL SPREADSHEET

Note #:	COUNT #			DIF		COUNT #			DIF		COUNT #			DIF	
	1	2				1	2				1	2			
Estimate #:	LOAD					LOAD		Ton			LOAD		Ton		Ton
UNIT = Ton	1	32.71	29.92			71					141				
TOTAL = 658.64	2	32.16	32.80			72					142				
TOTAL = 658.64	3	31.00	32.35			73					143				
PROJECT	4	33.07	32.48			74					144				
FFO-	5	31.52	30.39			75					145				
US20PME:UPRR-	6	32.38	32.18			76					146				
CONTRACTOR	7	32.62	30.95			77					147				
Scarsella Bros	8	30.63	29.80			78					148				
Bl# 1170	9	28.39	31.68			79					149				
MATERIAL	10	30.24	30.68			80					150				
Aggregate Base 2	11	30.69	30.69			81					151				
1/2" - 0" Knife	12	30.68	30.24			82					152				
River	13	31.68	28.39			83					153				
DATE	14	29.80	30.63			84					154				
1/11/2016	15	30.95	32.62			85					155				
LOCATION	16	32.18	32.38			86					156				
Cut 3 Stockpile	17	30.39	31.52			87					157				
	18	32.48	33.07			88					158				
	19	32.35	31.00			89					159				
	20	32.80	32.16			90					160				
	21	29.92	32.71			91					161				
	22					92					162				
	23					93					163				
	24					94					164				
	25					95					165				
	26					96					166				
	27					97					167				
	28					98					168				
	29					99					169				
	30					100					170				
	31					101					171				
	32					102					172				
	33					103					173				
	34					104					174				
	35					105					175				
	36					106					176				
	37					107					177				
	38					108					178				
	39					109					179				
	40					110					180				
	41					111					181				
	42					112					182				
	43					113					183				
	44					114					184				
	45					115					185				
	46					116					186				
	47					117					187				
	48					118					188				
	49					119					189				
	50					120					190				
	51					121					191				
	52					122					192				
	53					123					193				
	54					124					194				
	55					125					195				
	56					126					196				
	57					127					197				
	58					128					198				
	59					129					199				
	60					130					200				
	61					131					201				
	62					132					202				
	63					133					203				
	64					134					204				
	65					135					205				
	66					136					206				
	67					137					207				
	68					138					208				
	69					139					209				
	70					140					210				

[Handwritten signature]
1/20/16

EXAMPLE 6B

TWO ADDING MACHINE TAPES

PH3:US20 PME UPRR- Eddyville
Corvallis - Newport Hwy 47V-039
Lincoln Co C14670 CON03608
NHPP-S033(049) K18327
BI Note Est Date

0° C
32° 71 :
32° 16 :
31 :
3° 07 :
31° 52 :
32° 38 :
32° 62 :
30° 33 :
28° 39 :
30° 24 :
30° 69 :
30° 68 :
31° 58 :
29° 0 :
30° 35 :
32° 18 :
30° 39 :
32° 48 :
32° 35 :
32° 8 :
27° 92 :
658° 64 *

PH3:US20 PME UPRR- Eddyville
Corvallis - Newport Hwy 47V-039
Lincoln Co C14670 CON03608
NHPP-S033(049) K18327
BI Note Est Date

0° C
32° 71 :
32° 16 :
31 :
3° 07 :
31° 52 :
32° 38 :
32° 62 :
30° 33 :
28° 39 :
30° 24 :
30° 69 :
30° 68 :
31° 58 :
29° 0 :
30° 35 :
32° 18 :
30° 39 :
32° 48 :
32° 35 :
32° 8 :
27° 92 :
658° 64 *

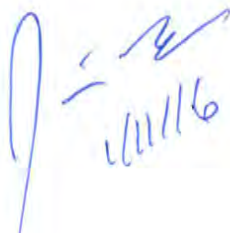


EXAMPLE 7

ONE ADDING MACHINE TAPE AND
MATERIAL DELIVERY SHEET

PH3:US20 PME UPRR- Eddyville
Corvallis - Newport Hwy 47V-039
Lincoln Co C14670 CON03608
NHPP-S033(049) K18327
BI Note Est Date

0.0
32.71
32.16
31.07
31.52
32.38
31.62
30.53
28.79
30.24
30.69
30.68
31.68
29.0
30.35
32.16
30.39
32.48
32.35
32.6
31.92
658.64*


11/11/16

EXAMPLE 7



MATERIAL DELIVERY & YIELD CHECK SHEET

Page 1 of 2PROJECT US 20 PME Phase 3CONTRACT C14670DATE 1/11/2016SOURCE Hard Rock QuarryBID ITEM 1170MATERIAL 2 1/2 Inch - 0 Aggregate Base

MATERIAL DELIVERY

LOAD #	TICKET #	QUANTITY DELIVERED	LOCATION PLACED	TIME DELIVERED	REMARKS
1	178	32.71			
2	179	32.16			
3	180	31.00			
4	181	33.07			
5	182	31.52			
6	183	32.38			
7	184	32.62			
8	185	30.63			
9	186	28.39			
10	187	30.24			
(A) Total		314.72			

(B) THEORETICAL YIELD CALC: $(\text{Width} \times \text{Length} \times (\text{Depth}/12) \times (\text{MAMD} \times \% \text{Comp.}/100) / 2000) = \text{TONS}$

WIDTH (Feet)	LENGTH (Feet)	DEPTH (Inches)	MAMD	% COMPACTION	THEORETICAL TONS

(C) COMPARISON CALC: $(A/B) \times 100$ (D) % TOLERANCE CALC: $(100-C)$ (must be within +/- 10% tolerance)

Ten Load Yield (A)	314.72
Theoretical Tons (B)	
Comparison (C)	
% Tolerance (D)	

*Need Yield Calculation

* Initial here if yield calculations are not applicable due to irregular areas or lack of consistent placement

Inspected by (Print Name) _____

Inspected by (Signature) _____

Date 1/11/16

OFFICE USE ONLY

Checked by (Print Name) _____

Checked by (Signature) _____

Date _____

Quantity This Note _____

Pay Unit _____

☐ Quality Checked

Estimate Number _____

Note No. _____

☐ Quantity Checked

EXAMPLE 7



MATERIAL DELIVERY & YIELD CHECK SHEET


Page **2** of **2**PROJECT **US 20 PME Phase 3**CONTRACT **C14670**DATE **1/11/2016**SOURCE **Hard Rock Quarry**BID ITEM **1170**MATERIAL **2 1/2 Inch - 0 Aggregate Base**

LOAD #	TICKET #	QUANTITY DELIVERED	LOCATION PLACED	TIME DELIVERED	REMARKS
11	188	30.69			
12	190	30.68			
13	191	31.68			
14	192	29.80			
15	193	30.95			
16	194	32.18			
17	196	30.39			
18	257	32.48			
19	259	32.35			
20	260	32.80			
Subtotal		314.00			
Running Total		628.72			


LOAD #	TICKET #	QUANTITY DELIVERED	LOCATION PLACED	TIME DELIVERED	REMARKS
21	269	29.92			
22					
23					
24					
25					
26					
27					
28					
29					
30					
Subtotal		29.92			
Running Total		658.64			

INSERT TAB

Unit 8
00700 – Wearing Surfaces

<h1>Unit 8</h1> <p>00700 Wearing Surfaces</p>	
	

1

<h2>00700 – Roadwork</h2> <ul style="list-style-type: none">▪ Asphalt Concrete Pavement (ACP) (745)▪ Miscellaneous ACP Structures (749)▪ Miscellaneous PCC Structures (759) 

2

Unit 8 Topics:

- Basics of Asphalt Concrete Pavement (ACP)
- ACP measurement and payment
- Construction of miscellaneous ACP structures
- Construction of miscellaneous PCC structures



3

00745 ACP – Statistically Accepted

- Job Mix Formula (JMF)
- Mix Sublot 1000 tons
- Compaction Sublot 200 tons*
- Wearing course is the top lift of ACP, regardless of thickness



4

Contract No.: C15074 **EA:** CON04139 **F.A. No** SA00(023) **Lab No.** 18-MD0051

Project Name: OR126: Cornerstone Dr to Terry St **Amendment 1 Date:**

Highway: Various Highways **County:** Lane **Amendment 2 Date:**

Begin MP: 0.00 **End MP:** 0.00 **Amendment 3 Date:**

Contractor: Wildish Construction Co.

Project Manager: Steve Schultz **Use: Level** 3 1/2" Dense Mix

ASPHALT CONCRETE PAVEMENT MIX DESIGN REVIEW

Lab Name: Wildish Standard Paving **Certified Mix Design Technician:** Tom Bosworth

Mix Producer: Wildish Sand & Gravel **Contractor Mix Design No.:** 2013L312

Asphalt Supplier: McCall **Transferred from Lab No.:** 13-MD0104

Asphalt Grade: PG64-22 **Antistrip Information:** %

Gb (60°/60° F): 1.030

JMF updated for 2018.

Stockpile Information

Stockpile Size	1/2" - #4	#4 - 0	RAP				
Stockpile Source	20-048-3	20-048-3					
Stockpile Percentage	28.0	42.0	30.0	0.0	0.0	0.0	0.0
Bulk Specific Gravity (Gsb)	2.637	2.574	2.646	0.100	0.100	0.100	0.100

Job Mix Formula

Sieve	% Pass	Paving Course	% Asphalt by Wt. of Mixture (Pb)	Maximum Specific Gravity (Gmm):
3/4" (19mm)	100	Wearing <input checked="" type="checkbox"/>		
1/2" (12.5mm)	97	Base <input checked="" type="checkbox"/>	5.8	2.471
3/8" (9.5mm)	82	Leveling <input type="checkbox"/>		
1/4" (6.25mm)	62	Temporary <input type="checkbox"/>		
No. 4 (4.75mm):	53			
No. 8 (2.36mm):	35	VMA:	14.5	VFA: 72
No. 16 (1.18mm):	23	Percent A/C in Rap:	5.6	Combined Aggregate Gravity (Gsb): 2.613
No. 30 (0.60mm):	17	Number of Gyrations:	80	Gmb Sample Weight: 4660
No. 50 (0.30mm):	13	Void Target (Va):	4.0	Mixing Temp Range: 301-311 F
No. 100 (0.15mm):	10	Tensile Strength Ratio:	84	Placement Temp Range: 283-291 F
No. 200 (0.075mm):	6.9			

Compliance Statement: Based on the information submitted for review, this mix design does comply with specifications.

Chris Duman, PE

19-Jul-18

Reviewed by Signature

Date

C: Project Manager; Chris Duman, Pavements; Bituminous; Region2 QA Coord; Wildish Construction Co.
Larry Ilg, Pavements

ACP Job Mix Formula (00745.13)

- ODOT lab report
- Mixing and compaction temperatures ranges
- Design theoretical maximum specific gravity (Gmm)

ODOT DEPARTMENT OF TRANSPORTATION
MATERIALS LABORATORY
588 AIRPORT ROAD SE
SALISBURY, OR 97138-1775
503.586.3889
Fax: 503.586.3895

Contract No.: C15074 EA: CON04129 F.A. No. 5480000 Lab No. 18-MD0051
Project Name: OR126: Corvallis to Terry St Amendment 1 Date:
Highway: Various Highways County: Lane Amendment 2 Date:
Begin MP: 0.00 End MP: 0.00 Amendment 3 Date:
Contractor: Widdah Construction Co. Uts: Level 3 12" Dense Mix
Project Manager: Steve Schultz

ASPHALT CONCRETE PAVEMENT MIX DESIGN REVIEW

Lab Name: Widdah Standard Paving Certified Mix Design Technician: Tom Brownworth
Mix Producer: Widdah David & Gravel Contractor Mix Design No.: 2013.312
Asphalt Supplier: McCab Transferred from Lab No.: 13-MD0104
Asphalt Grade: PG64-22 Anticipated Information: %
G_h (BS' 100 F): 1.030
AP update for 2018

Stockpile Information							
	12" #4	#4	#10	#20	#40	#60	#100
Stockpile Size	20-048-3	20-048-3					
Stockpile Percentage	28.0	42.0	30.0	0.0	0.0	0.0	0.0
Batch Specific Gravity (G _{sb})	2.537	2.574	2.646	0.100	0.100	0.100	0.100

Job Mix Formula				Maximum Specific Gravity (G _{mm})	
Sieve	% Pass	Paving Course	% Asphalt by Wt. of Mix (P _g)	2.471	
3/4" (19mm)	100	Wearing	5.8		
12" (12.5mm)	97	Base			
3/8" (9.5mm)	82	Leveling			
1/4" (6.25mm)	62	Temporary			
No. 60 (2.5mm)	35		VMA: 14.5	VFA: 72	
No. 10 (1.18mm)	23	Percent A.C. in Place: 5.8	Combined Aggregate Gravity (G _{sa}): 2.613		
No. 30 (6.0mm)	17	Number of Cycles/min: 90	Comp Sample Weight: 4650		
No. 50 (9.5mm)	13	Void Target (V _t): 4.0	Mixing Temp Range: 201-211 F		
No. 100 (1.18mm)	1.0	Tensile Strength Ratio: 94	Placement Temp Range: 203-201 F		
No. 200 (0.075mm)	0.3				

Compliance Statement: Based on the information submitted for review, this mix design does comply with specifications.

Reviewed by Signature: *Chris Duman*, PE Date: 10/14/18
C: Project Manager: Chris Duman, Pavement/Bldg./Highway Region QA Coord. Widdah Construction Co.
Larry Ig. Pavements



5

Expectations of Paving Inspectors

- Lay out expectations at pre-paving meeting
- Point out problems while they are occurring, not after the fact
- Work with Contractor to resolve problems
- Temporary Wedges



6

Paving around Existing Guardrail

Standard Drawing RD400

- Pave to the edge of post
- Compact under guardrail
- Modified paving extension



7

Ticket Taker Responsibilities (if you have them)

- Document location and time of placed material
- Yield calculations
- Check for overloads
- Monitor temperature
- Be safe



8

MATERIAL DELIVERY & YIELD CHECK SHEET

Page of

PROJECT

CONTRACT

DATE

SOURCE

BID ITEM

MATERIAL

MATERIAL DELIVERY

LOAD #	TICKET #	QUANTITY DELIVERED	LOCATION PLACED	TIME DELIVERED	REMARKS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
(A) Total					

(B) THEORETICAL YIELD CALC: $(\text{Width} \times \text{Length} \times (\text{Depth}/12) \times (\text{MAMD} \times \% \text{Comp.}/100) / 2000) = \text{TONS}$

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
WIDTH (Feet)	LENGTH (Feet)	DEPTH (Inches)	MAMD	% COMPACTION	THEORETICAL TONS

(C) COMPARISON CALC: $(A/B) \times 100$

(D) % TOLERANCE CALC: $(100-C)$ (must be within +/- 10% tolerance)

Ten Load Yield (A)	<input type="text"/>
Theoretical Tons (B)	<input type="text"/>
Comparison (C)	<input type="text"/>
% Tolerance (D)	<input type="text"/>

<input type="text"/>	* Initial here if yield calculations are not applicable due to irregular areas or lack of consistent placement
----------------------	--

Inspected by (Print Name)

Inspected by (Signature)

Date

OFFICE USE ONLY

Checked by (Print Name)

Checked by (Signature)

Date

Quantity This Note

Pay Unit

☐ Quality Checked

Estimate Number

Note No.

☐ Quantity Checked

MATERIAL DELIVERY & YIELD CHECK SHEET

Page of

PROJECT

CONTRACT

DATE

SOURCE

BID ITEM

MATERIAL

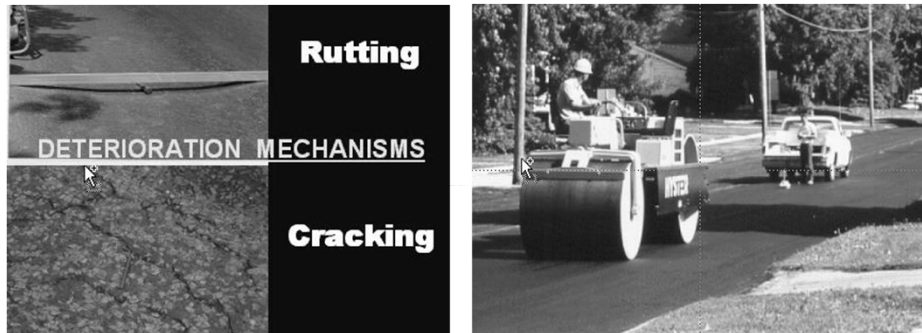
LOAD #	TICKET #	QUANTITY DELIVERED	LOCATION PLACED	TIME DELIVERED	REMARKS
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Subtotal
Running Total

LOAD #	TICKET #	QUANTITY DELIVERED	LOCATION PLACED	TIME DELIVERED	REMARKS
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Subtotal
Running Total

In-Place Air Voids (Compaction – 00745.49) Keys to Performance



9

Importance of Compaction

- Improves mechanical stability
- Improves resistance to permanent deformation
- Reduces moisture penetration
- Improves fatigue resistance
- Reduces low-temperature cracking potential



10

ACP Longitudinal Joints - 00745.47

- Offset joints by at least 6 inches
- For wear course, place at lane lines or fog lines (will require survey if layout is complex)
- Construct tight, even, and straight joints



11

00745 – ACP Measurement and Payment

Weigh Memo (Ticket)

- Tally sheet
- Location of material
- Certified scale
- Check weight
- Document all rejected material



12

00730 Emulsified Asphalt Tack Coat

Tack Bonding

Ultimate Goal – To produce uniform, complete, and adequate tack coverage to bond asphalt pavements to better resist shear stresses.

Section 00730.11 – Dilution of tack coat material (adding additional water) may be allowed up to a maximum 1:1 ratio with Engineer approval.

Bonded Demonstration



Poorly Bonded Asphalt Pavements

- Reduce fatigue life
- 10% bond loss = approximate 50% less fatigue life
- No bond = approximate 60 to 75% loss of pavement life
- Increase slippage and shoving
- Can be difficult to compact

Resources

- 2015 Oregon Standard Specifications for Construction
- ODOT ACP Inspector Certification Manual
<https://www.oregon.gov/ODOT/Construction/Pages/ACP-Inspector-Cert.aspx>
- Best Practices for Emulsion Tack Coats, NAPA 2013

Technical Contact

Larry Ilg, Pavement Quality & Materials Engineer
503-986-3072
larry.d.ilg@odot.state.or.us

Recommended Application Rates Using Asphalt Emulsions (gallons/square yard)

Condition of Existing Surface	Undiluted Residual Rate (asphalt only in tack)	Undiluted Shot Rate (asphalt and water in tack)	1:1 Diluted Shot Rate (additional water)
New Asphalt (Multilayer)*	0.03 to 0.04	0.04 to 0.06	0.09 to 0.12
Old Asphalt (Overlay)	0.04 to 0.06	0.06 to 0.09	0.12 to 0.18
Milled Asphalt (Inlay)	0.04 to 0.08	0.06 to 0.12	0.12 to 0.36
Portland cement concrete	0.04 to 0.06	0.06 to 0.09	0.12 to 0.18

*If tack coat is applied to newly paved ACP surface the residual rate may be reduced to 0.02 gallons/square yard.

Application Rate Multiplication Factors**

Type of Tack Coat Material	Multiplier Factor (to maintain residual asphalt)
Asphalt Binder (Hot Tack)	1.0
Undiluted Asphalt Emulsion	1.5
1:1 Diluted Asphalt Emulsion	3.0

** The application rate for diluted asphalt emulsions needs to be adjusted to maintain the same residual rate of tack

Tack Dilution Advantages and Disadvantages

Advantage

- Easier to provide a uniform coverage
- Less Likely to plug nozzles
- Diluted tack may track less

Disadvantages

- May take longer for tack to break (water and asphalt separate)
- May be prone to run-off
- Difficult to measure and confirm rate
 - » May need ODOT lab test for dilution rate
- Difficult to calculate undiluted asphalt emulsion for payment

Distributor Checklist

- Adequate distributor pressure for even tack flow
- Application rate (calculate for proper residual rate)
- Temperature of emulsion
 - » Asphalt emulsions typically 130° to 160° F
 - » PG type asphalt binder typically 350° to 400° F
- Bar height (ensure triple coverage)
- Correctly sized nozzle clean and free-flowing
- Nozzle angle setting 15 to 30 degrees

Continued on back

Controls to Minimize Tracking of Emulsified Tack

- Minimize construction vehicle traffic especially when tack is breaking
- Prior to tack application, make sure all surfaces are clean especially with grinding operations
- Apply evenly across surface
- Dilute asphalt emulsions
- Use alternate approved asphalt emulsion (CSS-1H)
- Contact the asphalt emulsion supplier for other methods

Asphalt Emulsion (Tack) Breaking and Setting

- Look for the color to change: brown to black
- Supplier can adjust tack formulation to increase/decrease set time if needed
- Variables that may affect break time
 - » Weather (damp weather will delay set time)
 - » Uniformity of tack coat (pooled tack will set slower)
 - » Type of tack (softer tacks will set slower)
 - » Initial temperature of tack (lower tack temperature will delay set time)
 - » Ambient temperature (cooler temperatures will delay set time)

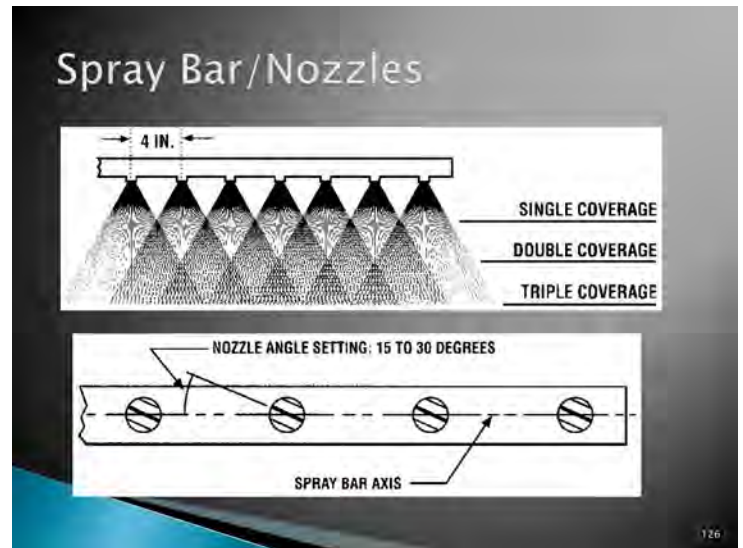


Sampling and Handling of Asphalt Emulsions

- Sample **undiluted** asphalt emulsions
- Use non-metallic containers for the sample storage
- Keep sample out of direct sunlight
- Do not excessively jostle or disturb sample
- Deliver to the ODOT materials laboratory as soon as possible
- Material should be tested within 30 days of sampling

Spec Notes are prepared for inspectors by the Construction Quality Assurance Unit to provide background information around design elements and specifications. For additional Spec Notes, visit us at <https://www.oregon.gov/ODOT/Construction/Pages/QA.aspx>.

If you have an idea for a Spec Notes topic, please e-mail us at ODOTConstructionTraining@odot.state.or.us or contact us at 503.986.5453.



Construction vehicle traffic on tack

- Minimize construction vehicle traffic as much as possible.
- Stagger vehicle traffic to minimize tack pick up
- Best to allow tack to set completely (all water evaporated) before allowing construction vehicle traffic on tack
- May allow construction vehicle traffic on fresh non-breaking tack coat though equipment may have slippage or traction issues
- Avoid all traffic while tack is breaking or in a flocculant state where the water is evaporating away from the asphalt

Tack Yield Calculations

Multiply shot rate (gals/yd²) by binder ratio (typically 2/3 or 1/3) to get residual rate

Mass Method (recommended for full load applications)

Length X Width (feet) of area covered = Area
 Net weight of tack used X Gallon conversion¹ = Gallons
 Gallons ÷ Area ÷ 9 (convert to square yards) = gals/yd²

¹gallon conversion on tack bill of lading

Volume Method

Length X Width (feet) of area covered = Area
 Gallons of tack applied X 60° F conversion Factor² = Gallons
 Gallons ÷ Area ÷ 9 (convert to square yards) = gals/yd²

²see attached temperature volume correction chart for multiplier

Temperature Volume Correction for Emulsified Asphalt³

125	0.98375	130	0.98125
135	0.98125	140	0.98000
145	0.97875	150	0.97750
155	0.97625	160	0.97500
165	0.97375	170	0.97250
175	0.97125	180	0.97100
185	0.96875		

³Interpolate correction values for temperatures not shown

Longitudinal Joint Construction

- ✓ Discuss longitudinal joint construction at pre-pave meeting
- ✓ Stagger joints at least 6" horizontally from layer below
- ✓ Follow all best practices for HMAC placement
- ✓ Apply tack including face of the joint
- ✓ Overlap existing lane 1" +/-0.5" (overlap milled edge 0.5" for inlays)
- ✓ Avoid pushing material away from the joint. Don't rake!
- ✓ First pass of breakdown roller should be on the hot mat 6" from the cold joint or with a 6" overhang on the cold mat.
- ✓ Check compacted joint to ensure that overlap height is 0.1", confirming that no bridging occurred.

Resources

- 2008 Oregon Standard Specifications for Construction Sec. 00745.61
- ODOT ACP Inspector Certification Manual
<https://www.oregon.gov/ODOT/Construction/Pages/ACP-Inspector-Cert.aspx>
- Longitudinal joint training through FHWA, Asphalt Institute
<http://www.asphaltinstitute.org/public/engineering/longitudinal-joint-information.dot>

Technical Contact

Larry Ilg, Pavement Quality & Mat'ls Engineer
Phone: 503-986-3072
larry.d.ilg@odot.state.or.us

Spec Notes are prepared by the Construction Section QA Unit for inspectors to provide background information around design elements and specifications.

If you have a topic you would like to see addressed in this format, please contact Jim Doll at ODOT.

745.61 Longitudinal Joints



All pavements have one internal weakness – joints. Premature joint failures are the result of a combination of low density, permeability, segregation and lack of adhesion at the interface. According to a recent FHWA and Asphalt Institute study, improving HMAC joint quality is probably the single most important thing that can be done to improve pavement performance.

Q – So what's so bad about raking?

A – Raking can remove material away from the pavement edge creating a trench area that does not get adequately compacted. As shown in Figure 1 on the next page.

If the red material (Box A) is removed from the hot mat, the roller bridges the area as shown in Box B. When the mat is finally compacted, the area under the wedge of material has experienced no compaction (Box C) so has a high void content and is most likely more permeable than the surrounding mat.

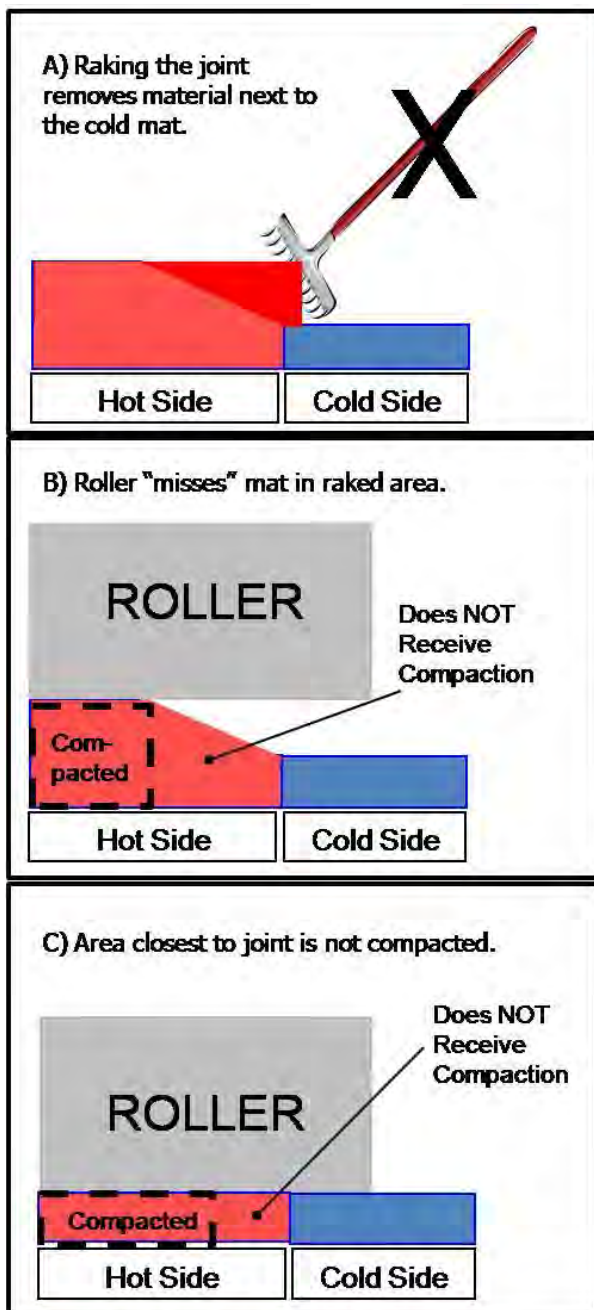


Figure 1. Pushing too much material away from the joint will result in low density at the joint as shown in Box C.

Q – What if the contractor doesn't rake the joint but places hot mix right at the face of the cold joint?

A – This method would be good and fine if all pavements were uniform and smooth. Most contractors use a ski to determine pavement depth that is averaged over the length of the ski.

If there are intermittent high spots along the length of the cold joint, insufficient material will be placed to provide a tight joint. Also, the high spots could be bridged creating marginally compacted areas as shown above.

Q – What is the best process for building a longitudinal joint?

A – Best practices include:

- First, overlap the existing lane (of a butt joint constructed with the paver) 1 inch \pm 0.5". When the butt joint is constructed by milling or cutting back the existing lane, the overlap should be about ½ inch. If the overlap exceeds 1.5", carefully remove the excess with a shovel. See Figure 2.
- Don't rake the joint and only bump the joint if more material is needed. Ensure that enough material is at the joint - thickness of rolldown – 25% (2" lift – ½").
- Compact the supported edge of joint with the first pass of vibratory roller drum on the hot mat, but staying back from the joint 6 to 8" on the 1st pass. The 2nd pass should then overlap onto the cold mat 4 to 6". Watch for any stress cracks developing in the mat that are parallel and 6 to 8" off the joint. If cracks develop, switch to the method presented in the next bullet.
- An alternative compaction process is to have the 1st pass of the vibratory roller on the hot mat overlapping 4 to 6" onto the cold mat. A concern is that if an insufficient depth of HMAC is placed next to the cold mat (starving the joint), the roller will bridge over and not compact the hot material completely as shown in Figure 1.

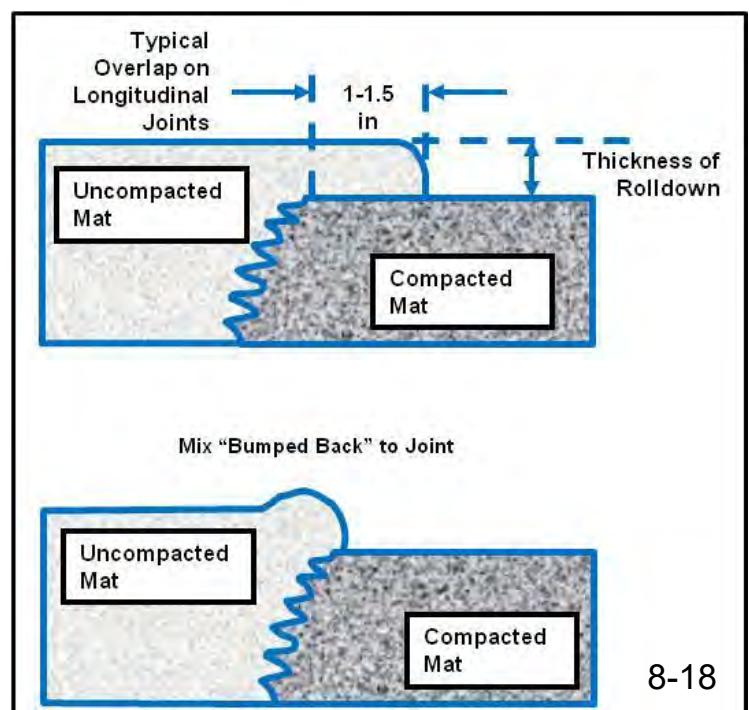


Figure 2. Best practices for placing mix at a longitudinal joint.

00749 – Miscellaneous ACP Structures

- Road approaches
- Street connections
- Driveways
- Guardrail flares



13

00749 – Miscellaneous ACP Structures

- Furnish Level 2, ½" ACP unless otherwise shown
- Construct to 1 inch of true line
- Method compaction specification
- Surface smoothness shall not vary more than ¼ inch from 12-foot straightedge



14

ACP Structures Measurement and Payment

▪ Measurement

- Method A (Weight and extra basis)
- Method B (Complete in place basis)



15

00759 – Miscellaneous PCC Structures

- Curb and gutters
- Islands
- Driveways
- Sidewalks



16

00759 – Miscellaneous PCC Structures**Commercial Grade Concrete**

Construct to established line and make firm and free of all unsuitable material



17

00759 – Miscellaneous PCC Structures

- **Joint locations critical**
- **Grade control**
Check ramps for ADA compliance after completion using Ramp Inspection Form



18

00759 – Miscellaneous PCC Structures Curing and Testing

Surface shall not vary more than $\frac{1}{4}$ inch from edge when tested with a 12-foot straightedge



Keep public traffic off fresh concrete for at least 7 calendar days

19

00759 – Miscellaneous PCC Structures

00759.80 Measurement 00759.90 Payment

- Volume and area basis will be limited to neat lines
- Length along the face of structure, including curb tapers or depressed lengths at driveways and ramps



20

Key Inspection Points:

- Note when paver stops or rollers are not running
- Be proactive with paving...contact resources (PQME) if issues arise
- Pay attention to joints (longitudinal and transverse)
- QCT and visual acceptance of CGC
- Verify lines and grades prior to placing concrete
- Pay attention to ADA ramps
- This is not an exhaustive review of ACP...take ACP class



21

Unit 8 Review:

- ✓ Asphalt Concrete Pavement (ACP)
- ✓ ACP measurement and payment
- ✓ Construction of Miscellaneous ACP structures
- ✓ Construction of Miscellaneous PCC Structures



22

00745 – ACP Statistically Acceptance
Class Problem 8-1

What is the maximum lift thickness of asphalt concrete pavement (ACP)?

- A. 4 inches
- B. 3 inches
- C. 2 inches
- D. There is no maximum



23

00745 – ACP Statistically Acceptance
Class Problem 8-2

True or False - Compaction to a specified density will not be required for asphalt concrete pavement (ACP) placed on bridge decks and end panels.



24

**00749 – Miscellaneous Asphalt Concrete Structures
Class Problem 8-3**

The Contractor is not required to tack areas where asphalt concrete is to come in contact with previously placed Portland cement concrete, asphalt concrete, or bituminous surfaces.



25

**00759 – Misc. Portland Cement Concrete Structures
Class Problem 8-4**

Contraction joints are required to be not less than _____ or more than _____ wide.



- A. 1/16 inch, 1/8 inch
- B. 1/8 inch, 1/4 inch
- C. 1/8 inch, 1/2 inch
- D. 1/4 inch, 1/2 inch




26

INSERT TAB

Unit 9
00800 – Perm. Traffic Devices

<h2>Unit 9</h2> <p>00800 Permanent Traffic Safety and Guidance Devices</p>	
	

1

<h3>00800 – Permanent Traffic Safety and Guidance Devices</h3> <ul style="list-style-type: none">▪ Metal Guardrail (00810)▪ Concrete Barrier (00820)▪ Common Provisions for Pavement Markings (00850)▪ Longitudinal Pavement Markings – Durable (00865) 
--

2

00810 – Metal Guardrail**00810.10 Materials**

- Guardrail terminals form QPL
- Blocks and posts of same type through guardrail run
- Salvage materials may be used if Engineer approves



3

00810 – Metal Guardrail**00810.40 Construction**

- New Installation – Do not leave posts exposed to traffic for more than 24 hours before installing rail (see 00310.40(a) for replacing guardrail)
- Excavate to the lines and grades and depths shown
- Set all posts within 1/2-inch tolerance



4

00810 – Metal Guardrail

- **Count Method**
12½-foot standard length
- **Length Method**
Center to center of end posts



5

00820 – Concrete Barrier**00820.10 Materials**

- Cast-in-place or precast barrier
- Re-use of barrier is allowed if in good condition and proper quality documentation
- Repair or reject damaged barrier



6

00820 – Concrete Barrier**00820.80 Measurement****00820.90 Payment**

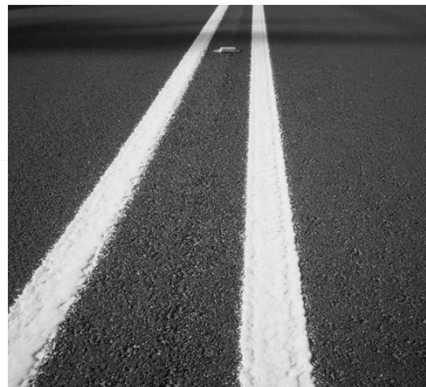
- Cast-in-place barrier measured along line and grade of each run
- Precast barriers by the laying length of a standard section
 - 12 feet 7 inches typical standard laying length



7

00850 – Common Provisions for Pavement Markings

- Furnish materials from QPL
- Use equipment acceptable by the marking material manufacturer



8

00850 – Common Provisions for Pavement Markings

- For projects with partial and no striping plan, contractor documents all existing striping and submit to PM 7 Calendar Days before removing
- Prior to pre-striping conference submit materials, equipment, and spill recovery plan



9

Pavement Markings

- Place control points for lines every 50 feet on tangent and every 25 feet on a curve
- From control points establish guidelines dribble line
- Do not proceed with installation until guide lines are approved by Engineer



10

00850 – Common Provisions for Pavement Markings

- Place material according to manufacturer's recommendations
- Lateral tolerance ½ inch on tangent and 1 inch on curves
- Quality Control retroreflectivity testing performed by Contractor



11

00865 – Longitudinal Pavement Markings Durable

- 150-foot test section
- Warranty for durable and high performance striping
- Measurement is based on nominal width of 4 inches
- Payment will be limited to 75 percent until receipt of warranty



12

00865 – Longitudinal Pavement Marking**Class Example: adjusting to 4-inch nominal width**

- **Scenario:** The Contractor has finished applying 8-inch wide striping from station 01+25 to 12+00 on the right side.
- **Question:** What is the measured amount you would record for the paynote/installation sheet?



13

00865 – Longitudinal Pavement Marking**Class Example: adjusting to 4-inch nominal width**

- **Length:** $12+00 - 1+25$ ($1200-125$) = 1075 feet
- **Width:** 8 inches
- **Number of nominal 4-inch width:** $8 / 4 = 2$
- **Length X Number of 4-inch widths:**

$$1075 \times 2 = 2150$$



14

00810 – Metal Guardrail**Class Problem 9-1**

True or False - Guardrail bolts that attach the metal beam rail to the post block assembly shall be of sufficient length to extend slightly beyond the nuts.



15

00820 – Concrete Barrier**Class Problem 9-2**

For surface finishing of permanent concrete barriers, apply a minimum of two coats of a latex paint from the QPL. The second coat of paint may be applied after:

- A. 1 hour
- B. 24 hours
- C. 7 days
- D. The previous coat does not adhere to the fingers when touched lightly



16

**00850 – Common Provisions for Pavement Markings
Class Problem 9-3**

From the time of taking readings the Contractor has how long to submit pavement marking quality control results?

- A. End of shift
- B. 1 day
- C. 7 days
- D. There is no requirement for submitting results



17

**00865 – Longitudinal Pavement Markings – Durable
Class Problem 9-4**

The Contractor installed 8-inch striping on each side of the roadway from station 1+50 to 9+45. What is the total measured amount of longitudinal pavement markings (striping) to pay?

- A. 795 feet
- B. 1590 feet
- C. 2385 feet
- D. 3180 feet



18

Class Problem 9-4 (continued)

Station 1+50 to 9+45 Right and Left (each side)

$$(945-150 = 795 \text{ feet}) \times 2 = 1590$$

Width: 8 inches

Number of nominal 4-inch width: $8 / 4 = 2$

Length X Number of 4-inch widths: $1590 \times 2 = 3180$



INSERT TAB

Unit 10
00900 – Perm. Traffic Systems

Unit 10

00900 Permanent Traffic Control and Illumination Systems



Photo courtesy of Oregon DOT Flickr



1

00900 – Permanent Traffic Control and Illumination Systems

- Wood Sign Posts (00910)
- Sign Support Footings (00920)
- Metal Sign Supports (00930)
- Signs (00940)



2

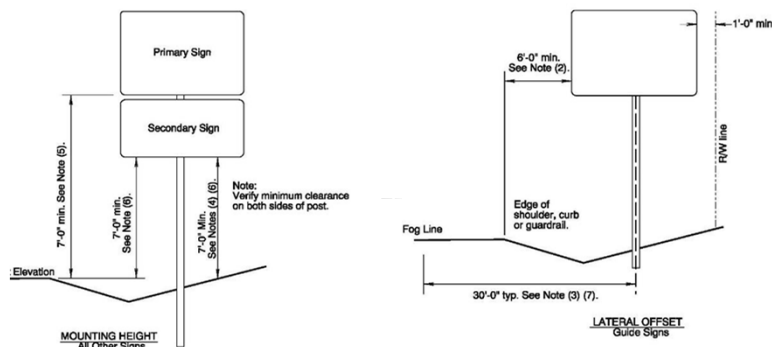
Unit 10 Topics:

- Sign posts installation
- Sign support footings construction
- Metal sign support requirements
- Sign installation and inspection



3

Standard Drawing TM 200 Mounting Height and Lateral Offset Details



Notes:

- | | |
|---------------------------------|---|
| 1) 6' minimum if behind barrier | 4) 8' minimum if bicycle path underneath |
| 2) 2' minimum if restricted R/W | 5) 8' minimum if secondary signs attached |
| 3) 20' for ramp terminal | 6) For multi-post installations measure distance from post closest to roadway |



4

00910 – Wood Sign Posts

- Furnish preservative treated wood sign posts
- Do not set post until location has been approved
- Wood sign posts will be measured on volume basis foot board measure (FBM)



5

Field Verification

Contractor shall field verify post lengths
Form provided by ODOT

WOOD POST FIELD VERIFICATION OF POST LENGTHS

Project Name: _____
Contract No.: _____
Date: _____ Preparer: _____

Refer to Standard Drawings: TM200, TM670
Hwy./Sta. or M.P.: _____ Sign No.: _____ *Post Location: ☐ L ☐ Cr. ☐ Rt.
(For post data table, if different, explain why.) *For multi-post installations, use a separate form for each post.

** Note: Enter all measurements in feet to the nearest hundredth.

Post Length Calculation (Ft.)

Cap (3")	0.25'
Primary Sign Height (+)	0.00
Space (2")	0.17'
Secondary Sign Height (+)	0.00
Elevation D (+)	0.00
Elevation B (-)	0.00
Embedment Depth (+)	0.42
Total (Verified Post Length)	0.42
Verified Post Size (for TM670)	

NOTE: After staking post locations, submit completed form(s) to the Project Manager for review, per Sec. 02150.35(d)(2) of O.G.S. Specs. Project Manager is encouraged to contact Sign Designer for input, as needed.

734-5106 (3/17) 1/2 - 1

6

WOOD POST FIELD VERIFICATION OF POST LENGTHS

Project Name: _____

Contract No.: _____

Date: _____

Preparer: _____

Refer to Standard Drawings: TM200, TM670

Hwy./Sta. or M.P. _____
(Per post data table. If different, explain why.)

Sign No. _____

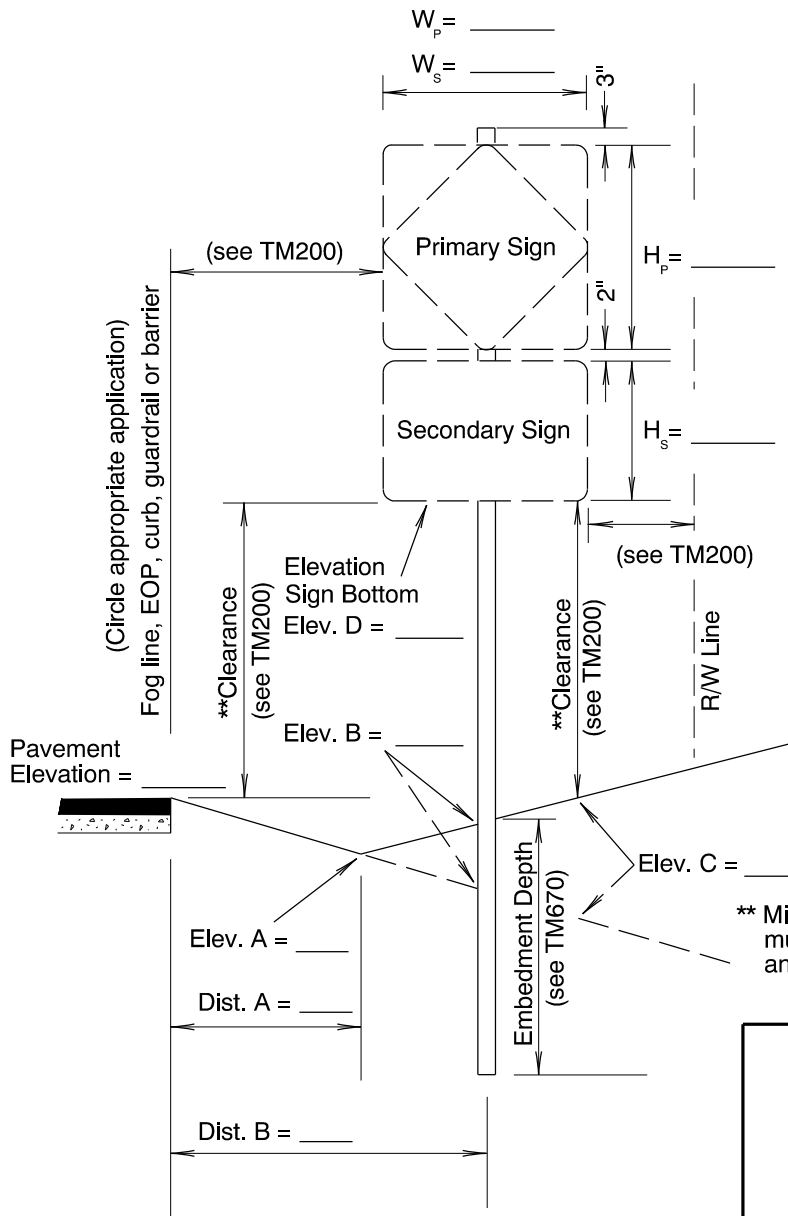
*Post Location: Lt. Ctr. Rt.

*For multi-post installations, use a separate form for each post.

** Note: Enter all measurements in feet to the nearest hundredth.

Post Length Calculation (Ft.)

Cap (3").....	0.25'
Primary Sign Height.....	(+)
Space (2").....	(+) 0.17'
Secondary Sign Height.....	(+)
Elevation D.....	(+)
Elevation B.....	(-)
Embedment Depth.....	(+)
Total (Verified Post Length).....	
Verified Post Size.....	
(Per TM670)	



** Minimum vertical clearance requirements (see TM200) must be satisfied with respect to both Edge of Pavement and ground level beneath entire sign.

NOTE: After staking post locations, submit completed form(s) to the Project Manager for review, per Sec. 00150.35(d)(2) of Std. Specs. Project Manager is encouraged to contact Sign Designer for input, as needed.

Approved

Approved as noted

Returned for correction

Name _____

Date _____

Comments:

00920 – Sign Support Footings

- Commercial grade concrete
- During concrete placement, accurately and securely hold in place all anchor bolts or post stubs until concrete has set
- No measurement of quantities will be made



7

00930 – Metal Sign Supports

- Submit working drawings for all structural metal work except TBB & MPB
- Overhead and butterfly sign supports shall have identifying tags
- No measurement of quantities will be made
 - Estimated quantities will be listed in Special Provisions



8

00930 – Metal Sign Supports

Item	Estimated Quantity (Pound)
Major Sign Supports	
Monotube Cantilever Sign Structure, Str. No. 24035	14,600
Mounts	
Bridge Structure Mounts	6,400
Exit Number Mounts	80
Secondary Sign Mounts	300
Minor Sign Supports	
Multi-Post Breakaway Sign Supports	1832
Triangular Base Breakaway Sign Supports	4555
Perforated Steel Square Tube Slip Base Sign Supports	1170
Perforated Steel Square Tube Anchor Sign Supports	1340



9

00940 – Signs

- Furnish materials meeting 02910
- ODOT Inspection Sticker



10

00940.80 – Sign Measurement

- The quantities of signs will be measured on the area basis, by multiplying the height by width, using the dimensions shown. No deductions will be made for irregular shapes cut from the rectangle.
- Route markers and other signs fastened to the face of larger signs will be measured as separate signs.



11

00940.90 – Sign Payment

The accepted quantities of work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item Unit of Measurement

- (a) Signs, Standard Sheeting, Extruded Aluminum SF
- (b) Signs, Standard Sheeting, Sheet Aluminum..... SF
- (c) Signs, Standard Sheeting, Plywood SF
- (d) Signs, Wide Angle Sheeting, Extruded Aluminum SF
- (e) Signs, Wide Angle Sheeting, Sheet Aluminum SF
- (f) Signs, Wide Angle Sheeting, Plywood SF



12

Key Inspection Points

- Make sure sign locations are properly surveyed
- Utilities marked prior to installation
- Signs should have ODOT inspection sticker when they arrive on the project site.
- Make sure signs are visible
- Verify signs for accuracy or damage once delivered to the project site



13

Unit 10 Review:

- ✓ Sign posts installation
- ✓ Sign support footings construction
- ✓ Metal sign support requirements
- ✓ Sign installation and inspection



14

00920 – Sign Support Footings
Class Problem 10-1

For the sign support footings, what materials can be used for backfill?

- A. Selected General Backfill
- B. Controlled Low Strength Material
- C. Selected Granular Backfill
- D. Both A and C are correct



15

00930 – Metal Sign Supports
Class Problem 10-2

How are metal sign supports measured for payment?

- A. Each
- B. Foot
- C. Pound
- D. No measurement, Lump Sum



16

00940 – Signs

Class Problem 10-3

What is the measurable pay quantity for a sheet aluminum sign with standard sheeting (36" X 36")?

- A. 10 square foot
- B. 9 square foot
- C. 16 square foot
- D. No measurement, Lump Sum



INSERT TAB

Unit 11
01000-Right of Way Dev.

Unit 11

01000 Right of Way Development and Control



1

01000 – Right of Way Development and Control

- Seeding (01030)
- Planting (01040)



2

Unit 11 Topics:

- Stormwater management systems
- Seeding materials and installation
- Permanent and temporary seeding
- Planting procedures
- Establishment periods



3

Stormwater Management Systems

- Make sure Contractor understands purpose of system
- Verify location and elevation of inlets
- Grade to lines established
- Provide feedback to designer

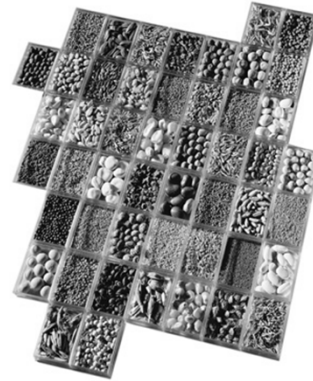


4

01030.13 Seed – Labels, Quality, Pure Live Seed, Inspection, Mixes

Look for:

- Testing date
- Compliance with Oregon and federal seed regulations
- Not sprouted, moldy, wet or damaged



As many as
2.5 million /
pound !



5

01030.13 Seed – Special Provision (page 277/321)

- Use the PLS specified rate listed in 01030.13(f) for determining PLS application rates. Ensure the PLS application rate meets the PLS specified rate. Apply pre blended seed mixes, with multiple species, at a PLS application rate ensuring **all species meet or exceed the PLS specified rate** for each species in the seed mix.



6

**01030.13 Seed – Special Provision
(page 277/321)**

- PLS application rate for an individual seed species is determined as follows:
 - PLS specified rate is listed in **01030.13(f)**
 - PLS factor is obtained by multiplying the seed label germination percentage times the seed label purity percentage. Use the purity and germination percentages from the label on actual bags of seed to be used on the Project.
 - PLS application rate is obtained by dividing the PLS specified rate by the PLS factor.



7

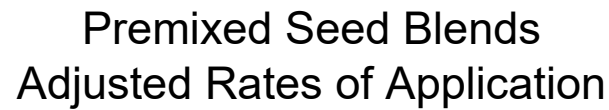
**01030.13 Seed – Special Provision
(page 277/321)**

- For a seed mix, make this calculation for each seed species in the mix and then adjust as follows:
 - Using the seed tag, determine the weight of each seed species in the bag and use this information to find the percentage, by weight, of each seed species is in 1 pound for the pre-blended mix.
 - Divide the percentage by weight of each seed species, per pound, for the pre-blended mix, by the PLS application rate for that specific seed species.

Determine the highest application rate in the seed mix and apply the seed mix at that application rate.



8



C#####

Contract No.

L03/SL1

Lot/Batch No.

Seed %	98.00%
Other Crop Seed %	1.40%
Weed Seed %	0.55%
Inert Material %	0.05%
Total %*	100.00%

RESULTS

734-5180 (08-10-2018)

9

- Certified weed-free straw
- Cellulose fiber from QPL
- Verify application rate



01030.43 – Seeding

a) Temporary and b) Permanent

- **West of the Cascades**
(March 1 - May 15 & Sept 1 - Oct 31) –
Extra time for irrigated areas.
- **East of the Cascades** (Oct 1 - Feb 1) –
Extra time for irrigated areas.
- **Wetland** (Statewide)
(Sept 1 - Oct 31 & Mar 1 - Apr 30)



11

01030.60 – Seeding

- Establishment for permanent seeding, minimum
 - 90% cover for West of the Cascades
 - 30% cover for East of the Cascades
- Measurement area basis
- Partial payment
 - 70% at time of seeding
 - 30% after establishment



12

Planting 01040



13

Plants

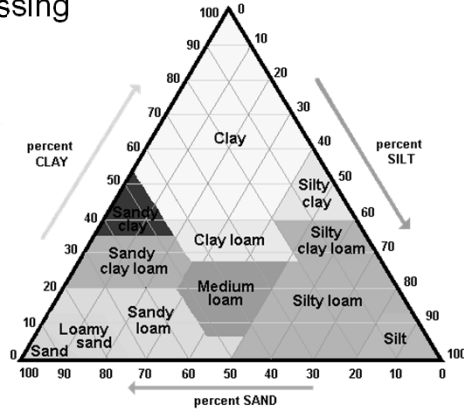
- Do not plant when temperatures are expected to be below 32°F
- Notify Agency a minimum of 24 hours prior to inspection
- Do not plant until inspected and approved by Agency



14

Topsoil

- Submit topsoil for testing
- Do not place topsoil until passing laboratory report



15

01040 – Planting

Planting Seasons

- **01040.41 – West of the Cascades**
September 1 through May 15
- **01040.42– East of the Cascades**
October 15 through November 30



Can be modified as appropriate through Special Provisions



16

01040 – Planting

01040.49 General Planting

- Inspect plants before planting. Look to see plants are healthy
- Inspect planting pit. No standing water (except for wetland plantings)
- Place mix of backfill, soil/bio amendments, fertilizers
- Moisten after planting
- Mulch
- Do no disturb protected existing vegetation



17

01040 – Planting

Planting Establishment

- Typically 1 year
- Three periodic inspections
- Contractor will complete corrective work within 15 days
- Final Inspection



18

01040 – Planting

01040.80 Measurement

- Topsoil, Soil Conditioner and Mulch – measured by cubic yard (in hauling vehicle)
- Average area staked in 30 square yard plots

01040.90 Payment

- Partial payments
- 60% at original planting
- 10% after each establishment inspection (3 of 3 = 30%)
- 10% after establishment



19

Key Inspection Points

- Verify and inspect seed mix and plants at time of delivery
- Make sure the Contractor properly prepares the ground
- Verify correct seeding or planting season
- Disturb as little existing vegetation as possible
- Contact Region Environmental Coordinator (R.E.C.) or Project Biologist with questions



20

Unit 11 Review:

- ✓ Stormwater management systems
- ✓ Seeding materials and installation
- ✓ Permanent and temporary seeding
- ✓ Planting practices
- ✓ Establishment periods



21

01030 – Seeding Class Problem 11-1

What is the application rate, based on dry fiber weight, for hydromulch on slopes steeper than 1V:2H?

- A. 1,000 pounds per acre
- B. 2,000 pounds per acre
- C. 3,000 pounds per acre
- D. 4,000 pounds per acre



22

01040 – Planting Class Problem 11-2

What is the application rate of granular fertilizer per shrub?

- A. 1 pound
- B. 1/2 pound
- C. 1/8 pound
- D. 3/4 ounce



23

01040 – Planting Class Problem 11-3

True or False - No plant substitutions will be allowed unless written evidence is submitted that a specified plant cannot be obtained and has been unobtainable since the execution of the Contract.



24

01040 – Planting **Class Problem 11-4**

True or False - When you run through the Pure Live Seed (PLS) calculations for every seed, you can add them all up to obtain the correct “Amount (lb./acre)”.



25

Truck Measure (End Dump) Worksheet

Project Name:
Contract Number:
Truck No:
Driver:
Date:

Inspector:

English Measurements

A=

B=

C=

D=

E=

F=

G=

H=

I=

J=

K=

Hydraulic Blockout

1. $\frac{(D+E)}{2}$

0.00

2. $\frac{(F+G)}{2}$

0.00

Negative Volume

3. $1*2*H$

0.00

Fillet Volume

4. $A(K-J)(C-I)/2$

0.00

Total Subtractions

5. $3+4$

0.00

Main Volume

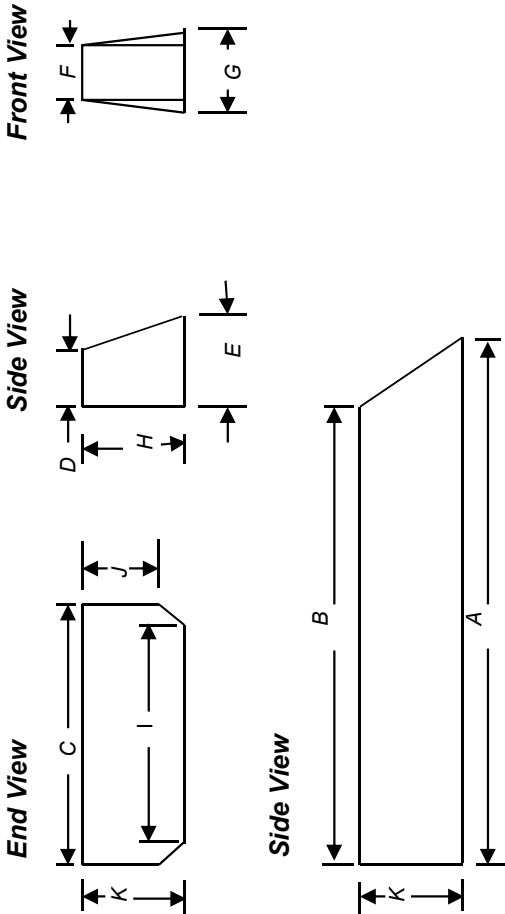
6. $[(A+B)/2]*C*K$

0.00

Total Volume @ 100%

7. $(6-5)/27=CuYd$

0.0 CuYd



Total Riprap Volume @ 70% CuYd

Topsoil Measurement by section 1040.81.

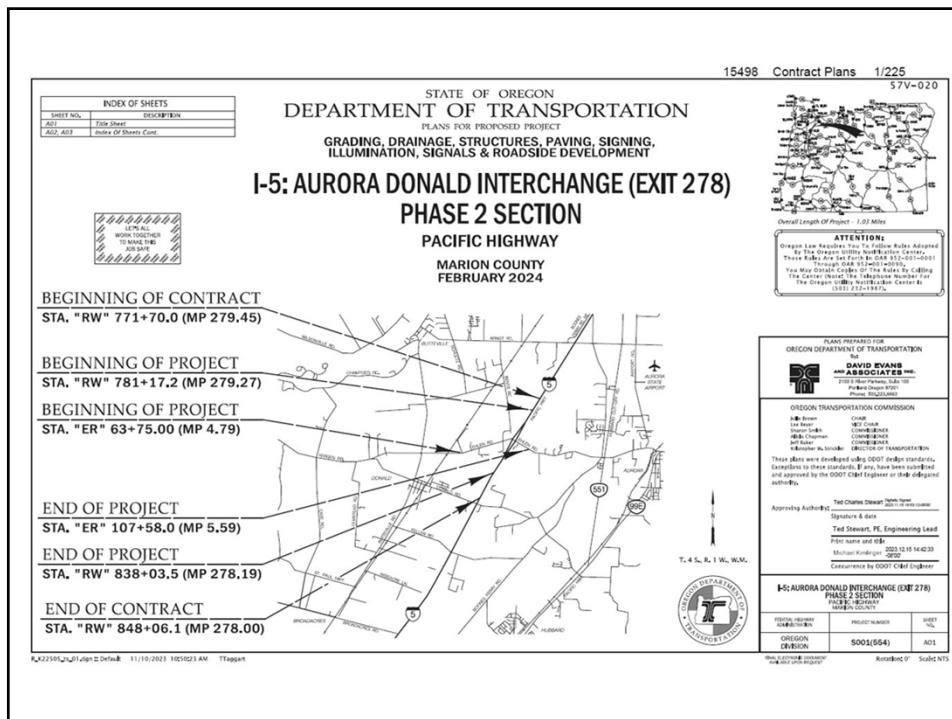
K= The depth of the material inside the truck bed that was leveled for measurement at delivery.

INSERT TAB

Unit 12
Contract Plans



1



2

Unit 12 Topics

- Standard layout of ODOT project plans
- Information on plan sheets
- Navigating and understanding Contract Plans



3

Standard Sheet Order

- Title Sheet
- Typical Sections
- Details
- Pipe Data
- Plans (General Construction) and Profile
- Traffic Control
- Erosion Control
- Signs
- Permanent Pavement Marking
- Standard Drawings

For additional details see the General Guidance section in the Study Guide.



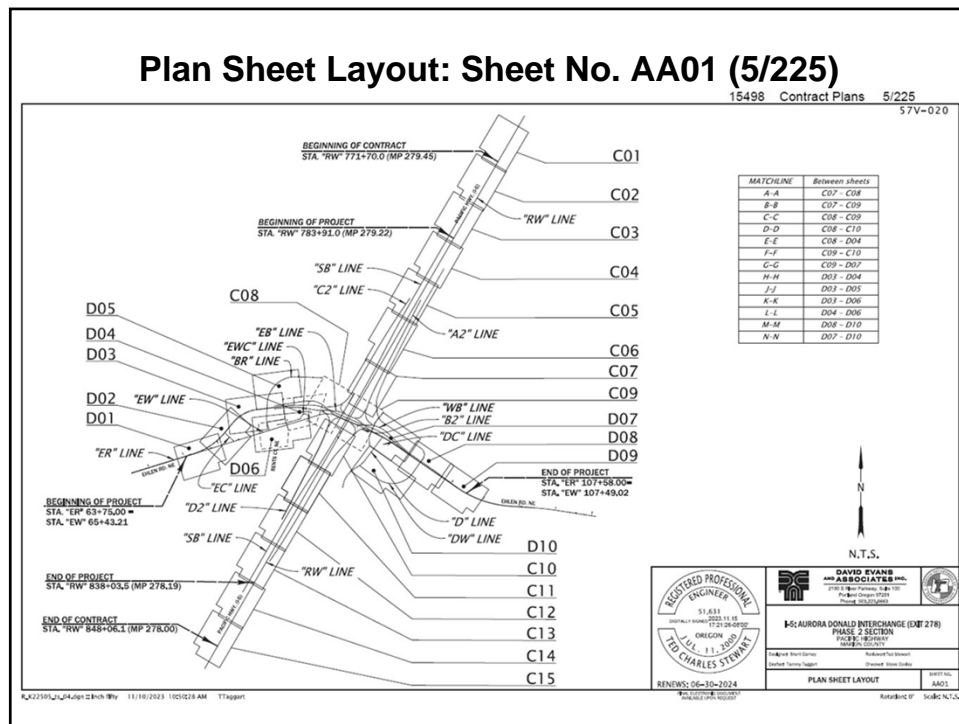
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15498 Contract Plans 3/225
57V-020

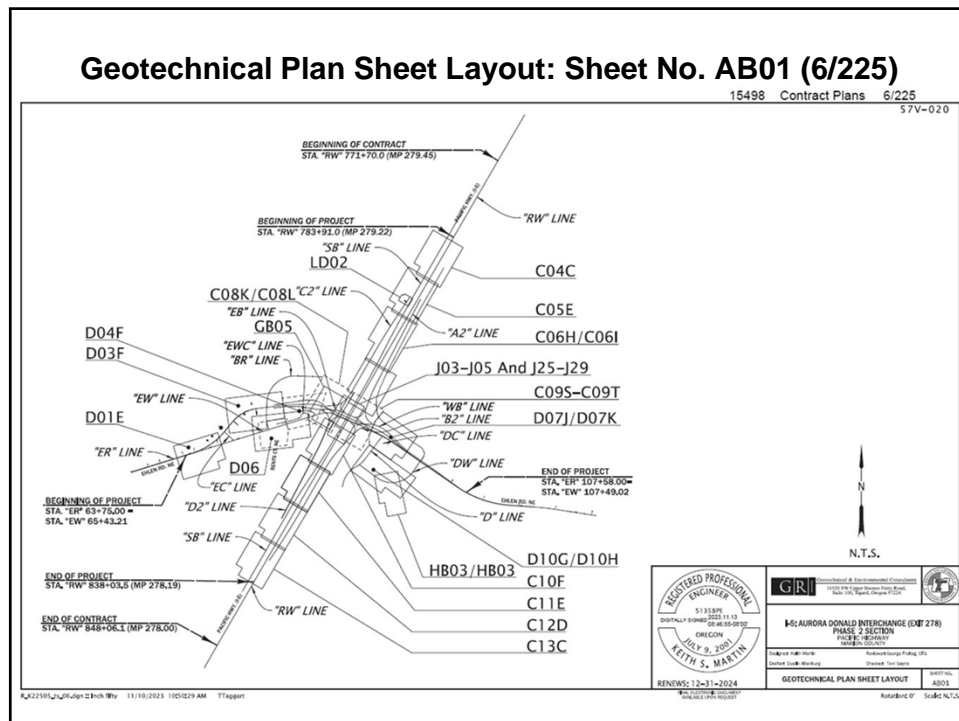
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15498 Contract Plans 4/225

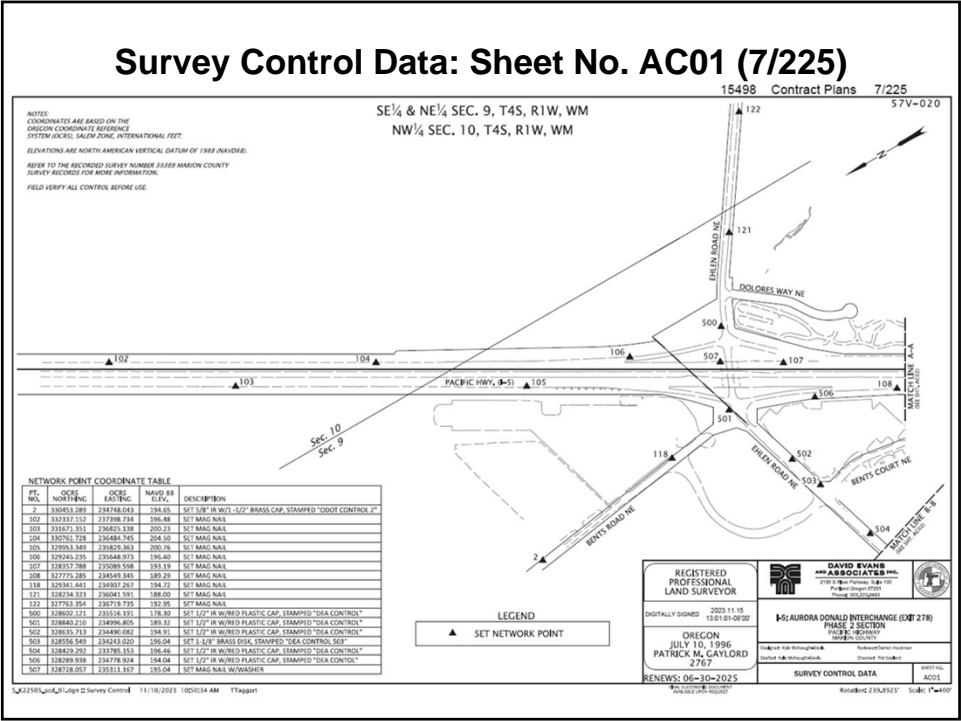
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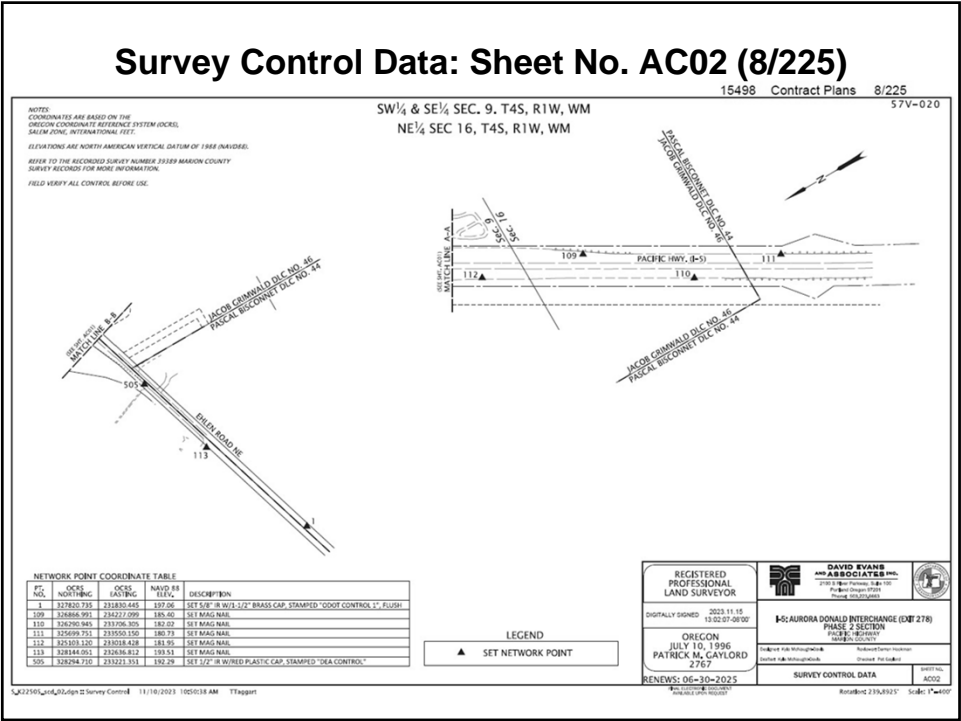
9



10



11



12

Alignment and Stationing

Method to the Madness (for most plan sets)

- Look at Title Sheet for alignment designations
- Look at Typical Sections for corresponding alignments
- Look at General Construction Plan and Profile Sheets to match roadways with alignments

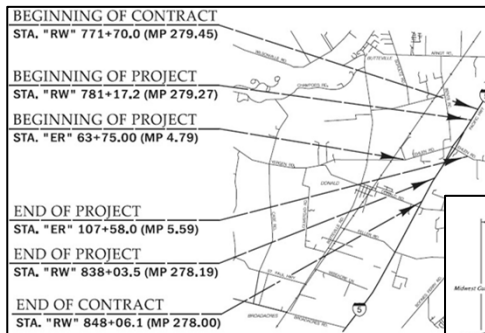


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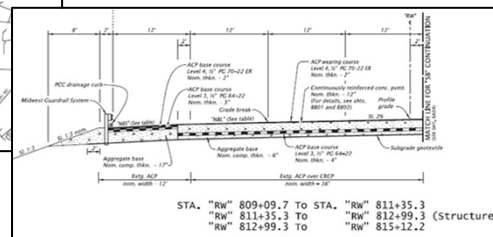
Alignment and Stationing

Most Plans have the Alignments designated on the Title Sheet that correspond to the typical section alignments.

Title Sheet



Typical Section



14

Stationing

- How to read stations:
 - Alignment designation "RW" followed by beginning station number to ending station number
 - STA. "RW" 812+99.3 to STA. "RW" 815+12.2
- To find distance between any two stations:
 - Remove the "+" sign in the number and subtract the ending station from the beginning station

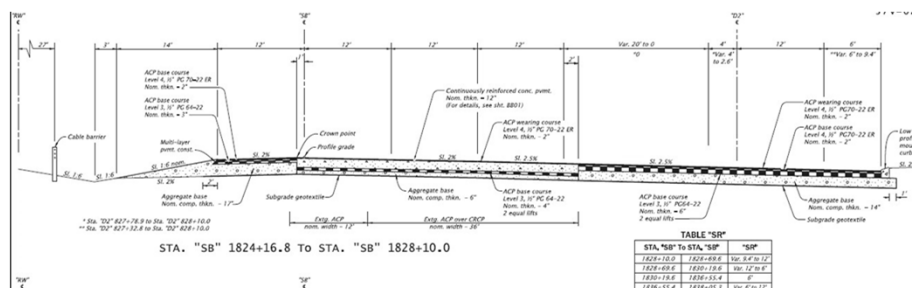
$$81512.2 - 81299.3 = 212.9 \text{ feet}$$



15

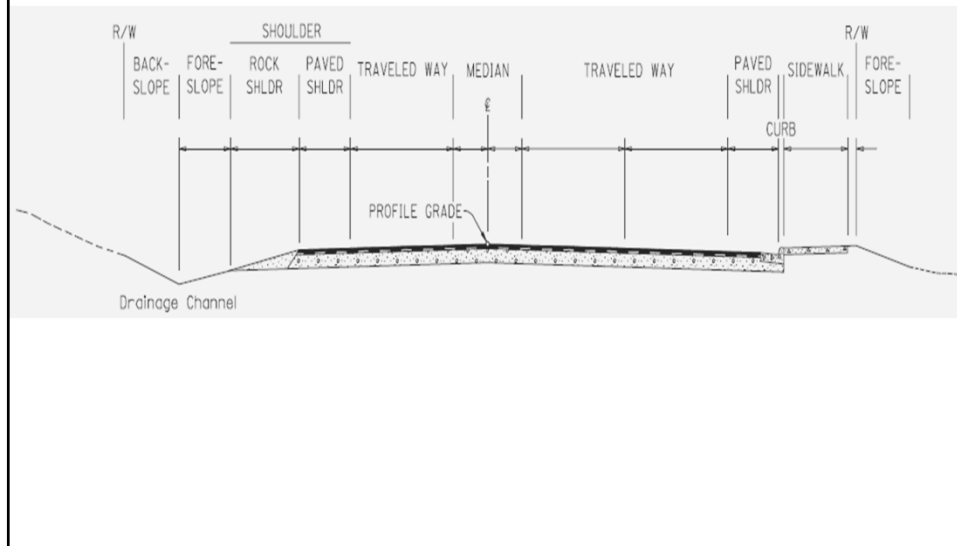
Question 12-1:

On sheet 16/225 of the plans, what is the distance between the two stations for the upper typical section shown?



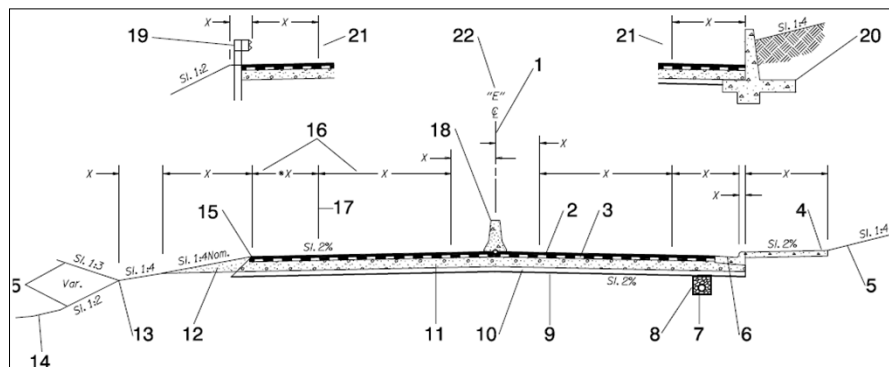
16

Typical Section Components



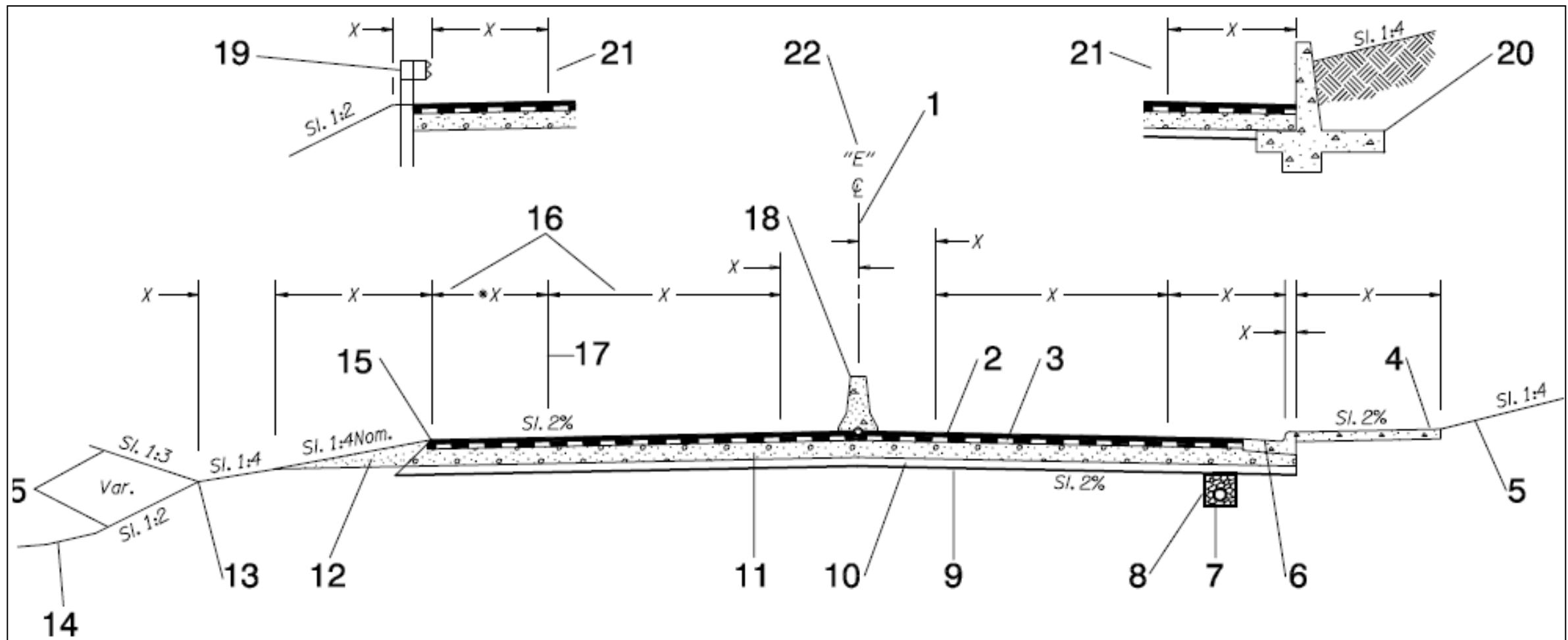
17

Typical Section Components

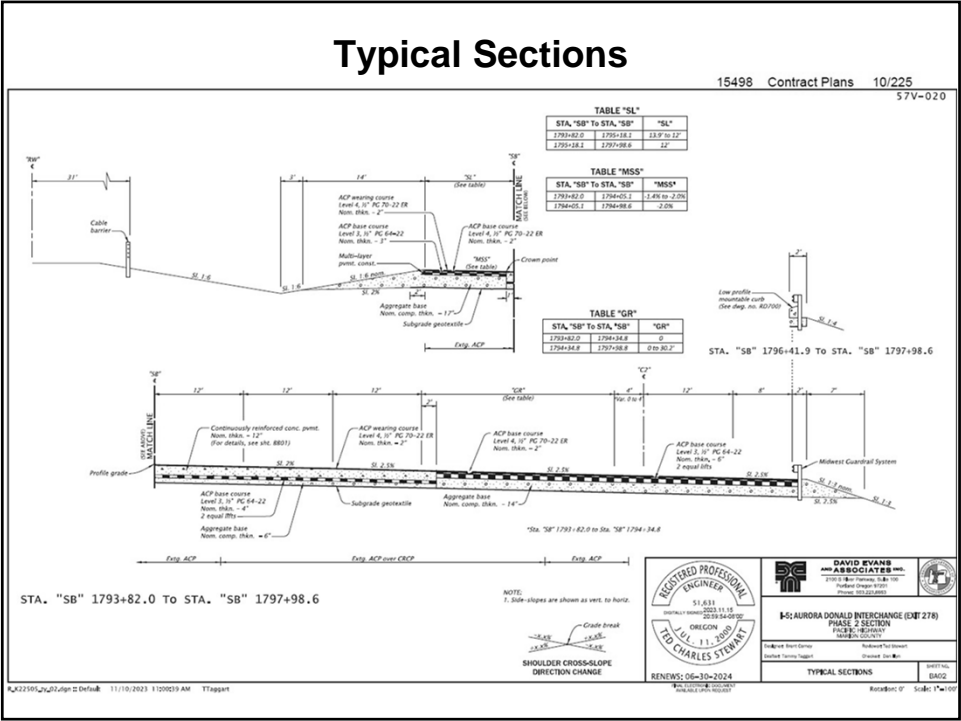


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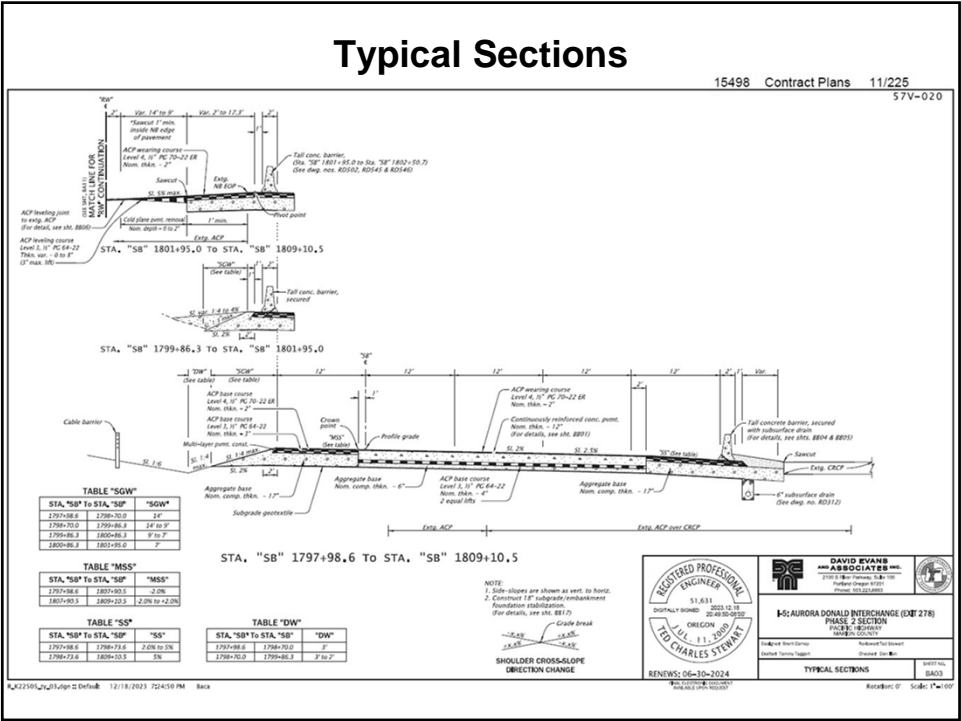
Typical Section Components



- | | | |
|----------------------|---------------------------------------|----------------------------|
| 1. Centerline | 9. Subgrade | 16. Dimension line |
| 2. Wearing course | 10. Subbase | 17. Extension line |
| 3. Base course | 11. Base | 18. Concrete barrier |
| 4. Sidewalk | 12. Rock shoulder | 19. Guardrail |
| 5. Cut or fill slope | 13. Ditch | 20. Concrete structure |
| 6. Curb | 14. Ground line | 21. Stack |
| 7. Subgrade drainage | 15. Multi-layer pavement construction | 22. Centerline designation |
| 8. Geotextile | | |

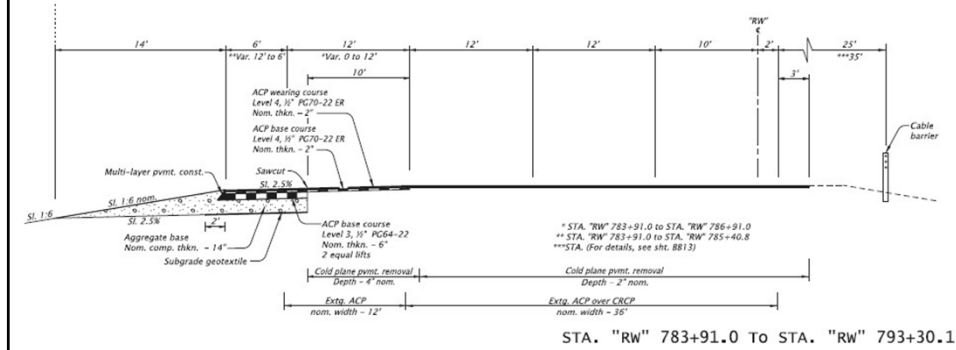


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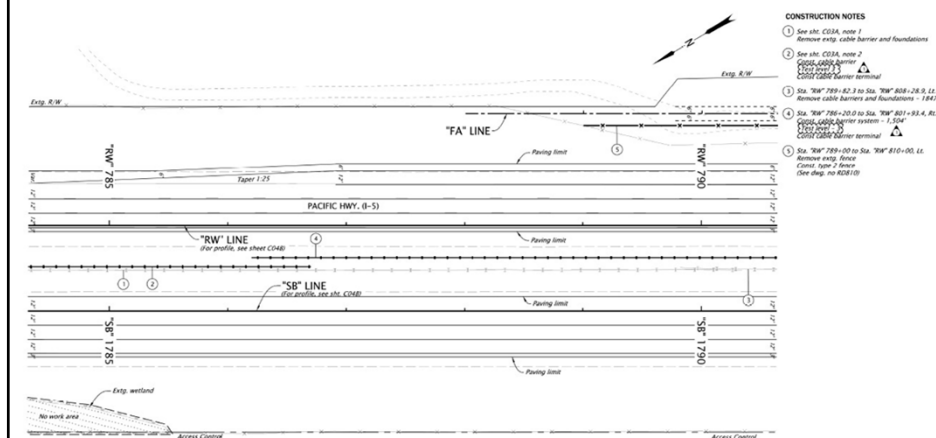
Taper Sections (asterisk example)
Sheet BA09 (17/225)



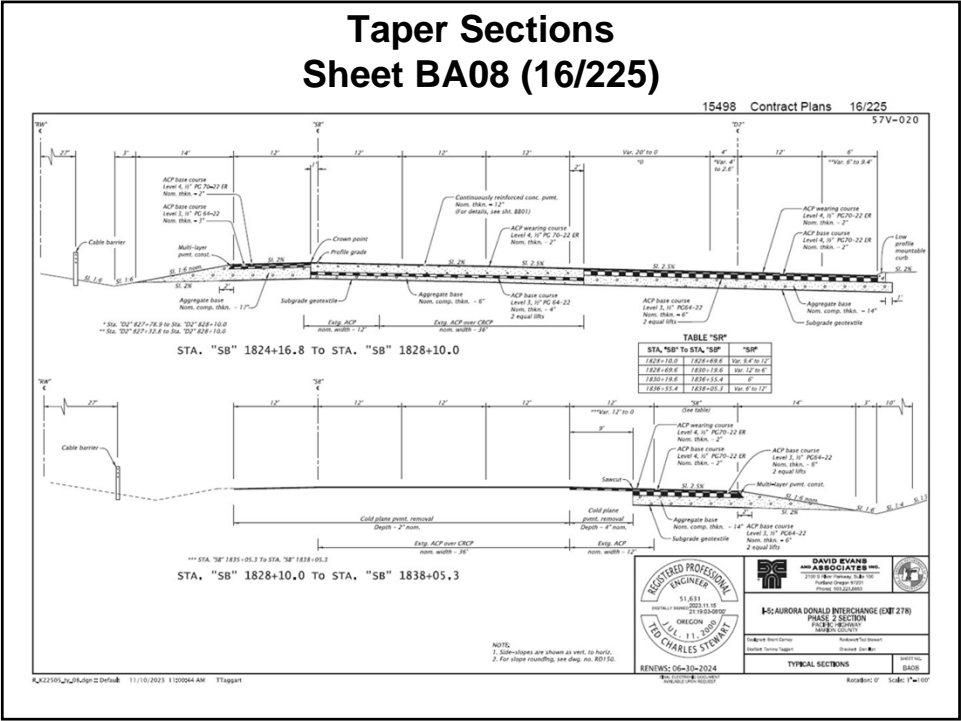
21

Taper Sections (plan view)

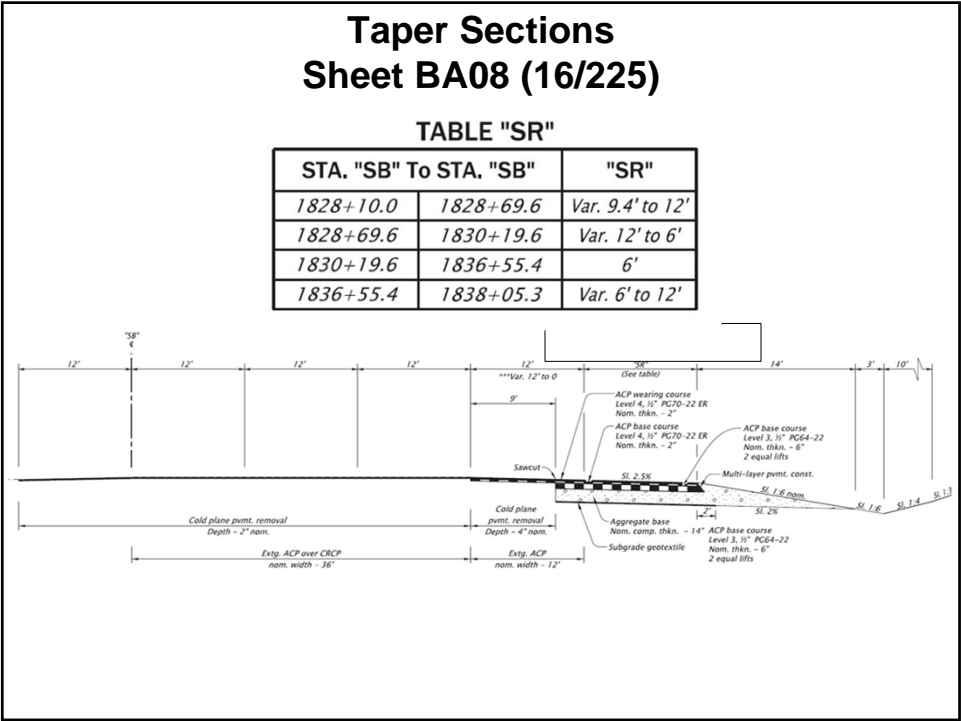
Sheet CO4A (50/225)



22



23



24

Question 12-2: What is the width of the roadway right of centerline to the edge of pavement at station "SR" 1832+50?



25

Typical Section Review



26

Contract Plans 12-3

What is the thickness of the 2nd base lift of ACP in the area right of the CRCP section at STA. "SB" 1793+00?

- A. 4.5 inches
- B. 3 inches
- C. 2 inches
- D. 5 inches



27

Contract Plans 12-4

What is the thickness of the base aggregate beneath the 12 inch continuously reinforced concrete pavement truck apron at STA. "SB" 1825+32?

- A. 4 inches
- B. 6 inches
- C. 14 inches
- D. 17 inches



28

Contract Plans 12-5

What is the thickness of the ACP wearing course at STA.
"RW" 795+58?

- A. 2 inches
- B. 3 inches
- C. 5 inches
- D. 7 inches



29

Contract Plans 12-6

What is the total thickness of the ACP at STA.
"SB 1793+82.0 Rt?

- A. 2 inches
- B. 4 inches
- C. 6 inches
- D. 10 inches



30

Contract Plans 12-7

What is the total width of the roadway edge to edge of pavement at STA. "SB" 1822+30.0?

- A. 38 feet
- B. 36 feet
- C. 60 feet
- D. 58 feet



31

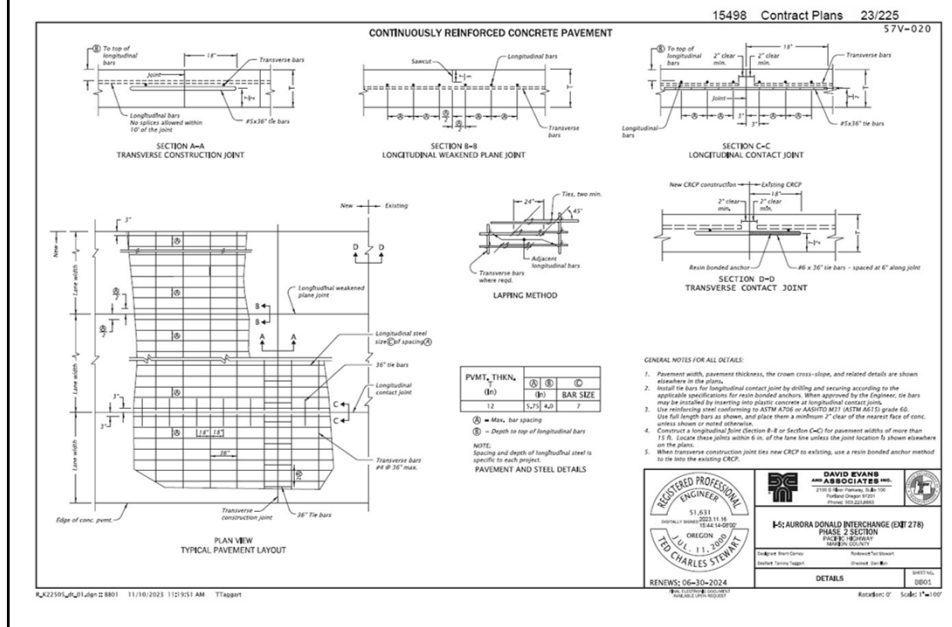
Detail Sheets

- Sheets No. BB01 thru BB17
- Project Specific Detail Drawings
- Modified from Standard Details



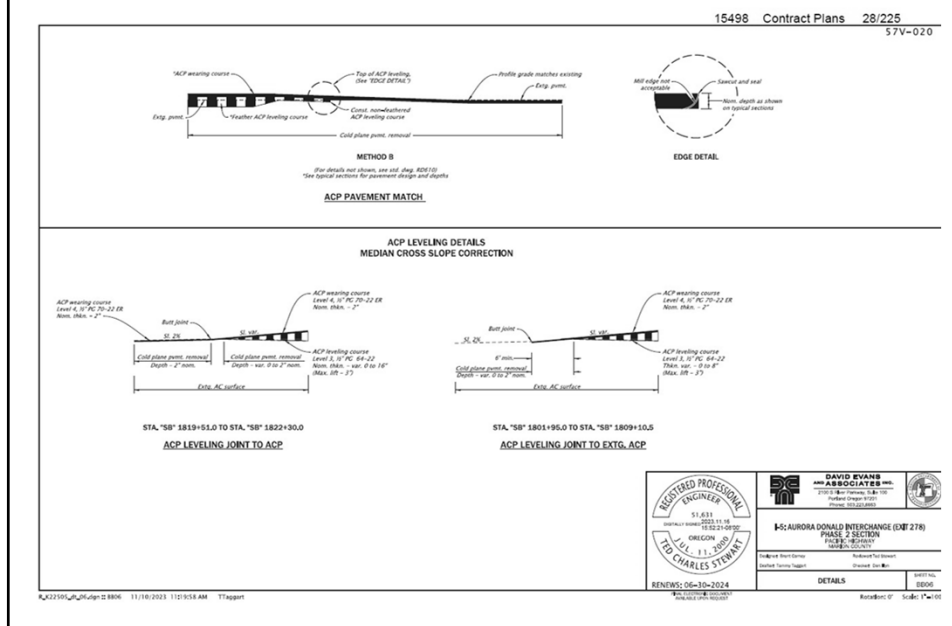
32

Detail Sheets



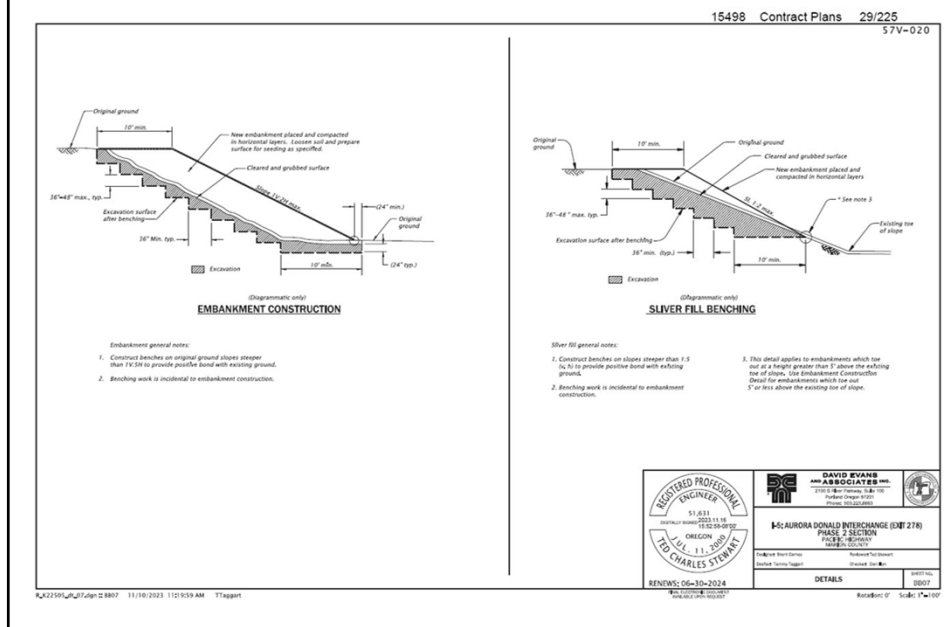
33

Detail Sheets



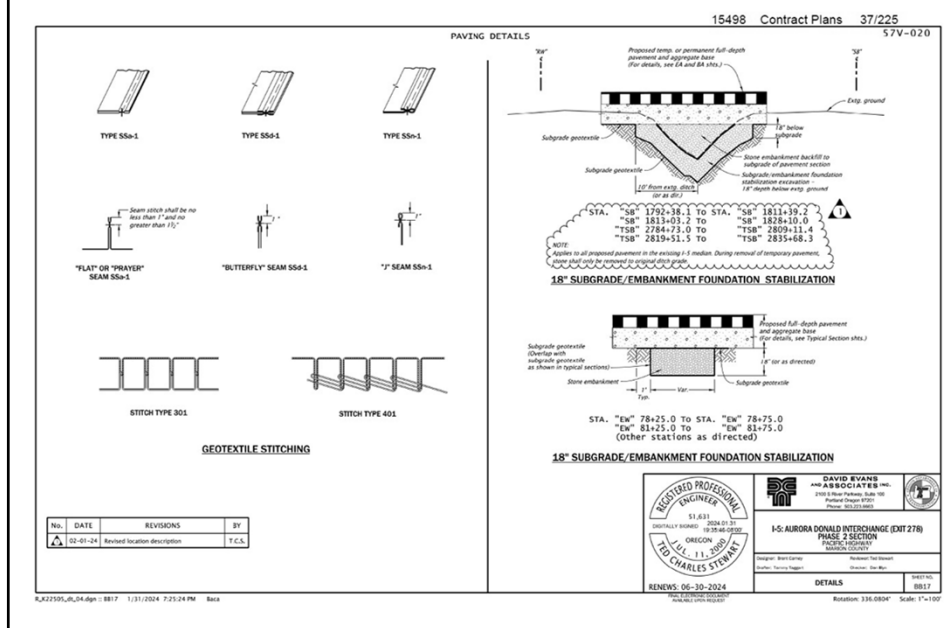
34

Detail Sheets

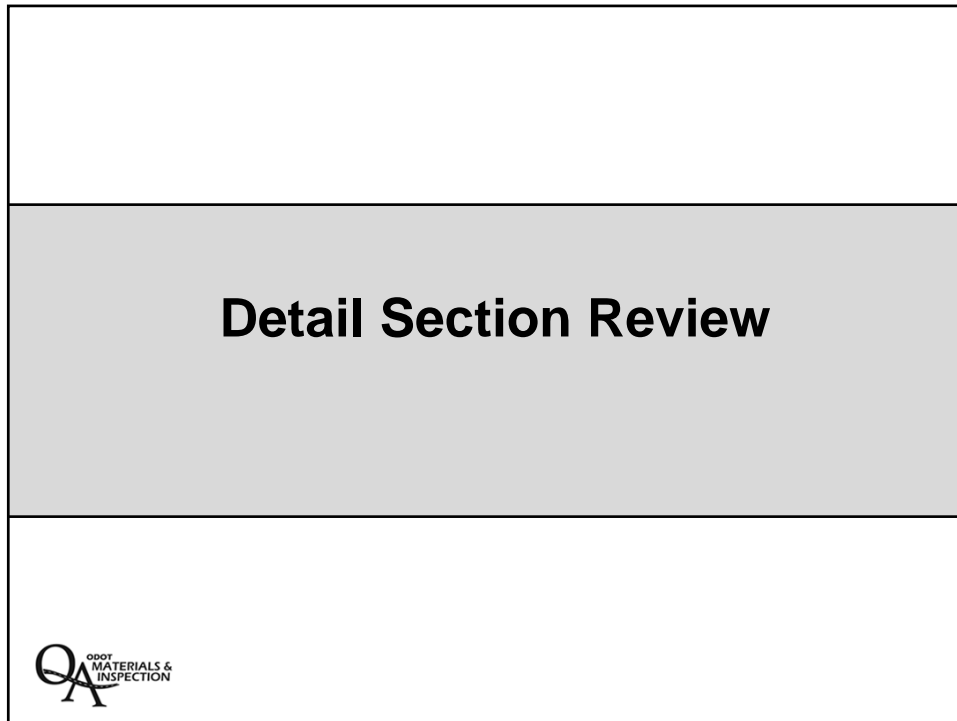


35

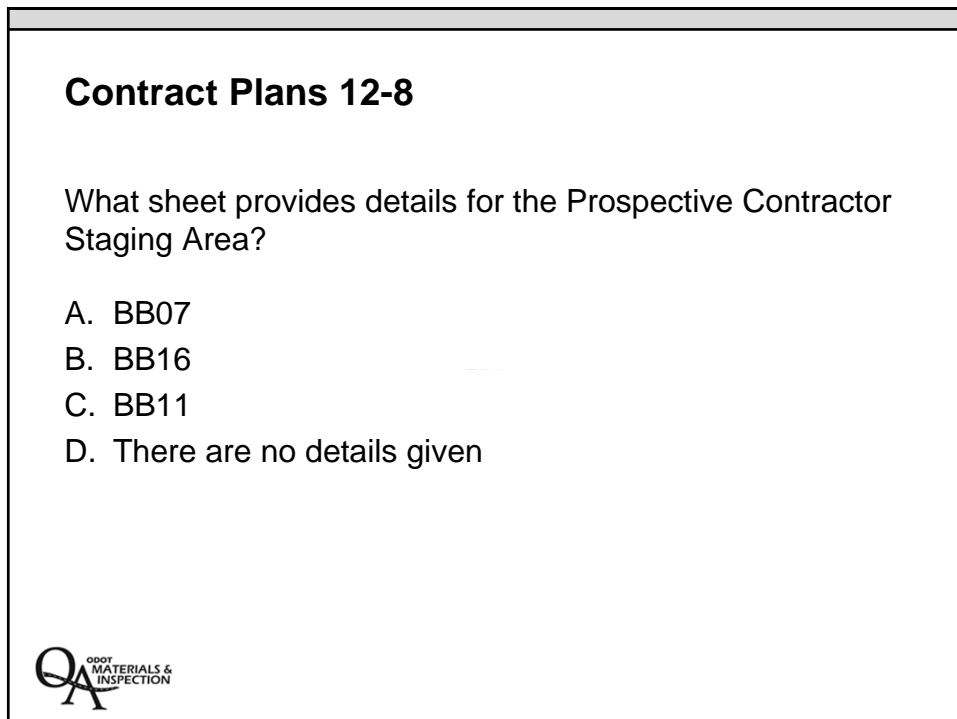
Detail Sheets



36



37



38

Contract Plans 12-9

What is the spacing of the metal reinforcement #4 transverse bars for the Continuously Reinforced Concrete Pavement?

- A. 5.75 inches
- B. 18 inches
- C. 4 inches
- D. 36 inches



39

Contract Plans 12-10

What class of concrete will be used in the Continuously Reinforced Concrete Pavement Transition Panel:

- A. Commercial Grade Concrete
- B. Class 4500 – $\frac{3}{4}$ " Structural Concrete
- C. Class 4000 – $1\frac{1}{2}$ " Paving Concrete
- D. Class 3300 – $\frac{3}{8}$ " Seal Concrete



40

4142

Use / Installation Criteria

USE / INSTALLATION CRITERIA												
DRAIN (PERFORATED)	CULVERT (ROAD APPROACH)	CULVERT (CONDUIT)	CULVERT	IRRIGATION	SIPHON	STORM SEWER	SANITARY SEWER OTHERS (SEE REMARKS)	WATERTIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	pH	RESISTIVITY (HUNDREDS)
						✓		✓			6.9	50.4
						✓		✓			6.9	50.4
						✓		✓			6.9	50.4
						✓		✓			6.9	50.4
						✓		✓			6.9	50.4
						✓		✓			6.9	50.4
						✓		✓			6.9	50.4

QA ODOT MATERIALS & INSPECTION

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Terminal Treatment

TERMINAL TREATMENT	
LT. / RT.	SKEW NUMBER
SLOPED ENDS	PAVED END SLOPES
Not for Conc. Pipe Over 60" Dia.	
1:6 / 1:6	90
1:6 / 1:6	90
1:6 / 1:6	90
1:6 /	90
1:6 / 1:6	90
1:6 /	90

Sloped Ends

Sloped Ends

Number of Paved Ends would be indicated by a check mark if it was applicable.

44

Alternate Materials – Pipe Materials

ALTERNATE MATERIALS

HELICAL CORRUGATED METAL

RIGID

PLASTIC & IRON

ALUMINUM

ALUMINIZED OR GALVANIZED IRON AND STEEL

PRE-CAST

CONCRETE

REINF.

SIZE OF CORRUGATIONS

SIZE OF CORRUGATIONS

RIVETED, WELDED OR LOCK SEAM

LOCK SEAM

RIVETED, WELDED OR LOCK SEAM

LOCK SEAM

1 1/2" x 1/4" 2 2/3" x 1/2" 3" x 1"

SMOOTH WALL

1 1/2" x 1/4" 2 2/3" x 1/2" 3" x 1"

SMOOTH WALL

3 3/4" x 1/4" @ 7 1/2" O.C.

3 3/4" x 1" @ 11 1/2" O.C.

3 3/4" x 1/4" @ 7 1/2" O.C.

3 3/4" x 1" @ 11 1/2" O.C.

Or

Or

Or

Or

3 3/4" x 1" @ 11 1/2" O.C.

3 3/4" x 1" @ 11 1/2" O.C.

3 3/4" x 1" @ 11 1/2" O.C.

3 3/4" x 1" @ 11 1/2" O.C.

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CORRUGATED HDPE

SOLID WALL HDPE


REINFORCED HDPE

PVC - PSI STIFFNESS

POLYPROPYLENE DOUBLE WALL

POLYPROPYLENE TRIPLE WALL

RIGID POLYPROPYLENE



QA
QUALITY MATERIALS &
INSPECTION

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Appurtenances and Remarks

[illegible]

46

Pipe Data Sheet – General Notes

GENERAL NOTES:

1.

A check (✓) indicates column heading applies.
2.

A new pipe culvert installation shall be of like material throughout.
3.

Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, see Std. Dwg. No. RD326.
4.

Dimensions shown are nominal.
5.

All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved. column heading applies.
2.

Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternates use a separate line for each type of material.
3.

Cross-sectional shape of pipe normal to longitudinal axis, prior to loading

A = Pipe – Arch

R = Round

E = Elliptical (5% nominal elongation)
4.

Abbreviations for protective coatings for metal pipe

PM = Polymeric, 10 Mil. thkn. coated both sides

PO = Polyethylene inside lining, polymeric outside

U = Uncoated

CIM = Chevron industrial membrane

Ep = Epoxy coated

FOOTNOTES:

1.

Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.
5.

Abbreviations for existing pipe materials

AB = Asbestos cement

Al = Corrugated aluminum

Co = Concrete

Pl = Plastic

St = Corrugated steel

X = Other material, see remarks column

Pipe Data Sheet – Standard Drawing List

<div><div>RD300</div><div>Trench Backfill, Bedding, Pipe Zone And Multiple Installations</div></div>	<div><div>RD348</div><div>Manhole With Inlet</div></div>
<div><div>RD302</div><div>Street Cut</div></div>	<div><div>RD350</div><div>Sanitary Sewer Piped Inside Drop Connection for Manholes</div></div>
<div><div>RD304</div><div>Arch Pipe Backfill/Compaction</div></div>	<div><div>RD352</div><div>Outside Drop Manholes</div></div>
<div><div>RD306</div><div>Concrete Encasement, Cradle, and Cap Details</div></div>	<div><div>RD354</div><div>Carry Through Manhole – Storm</div></div>
<div><div>RD308</div><div>Bore Casing Detail</div></div>	<div><div>RD356</div><div>Manhole Covers And Frames</div></div>
<div><div>RD310</div><div>Shallow/Deep Trench Service Connection, Blocking and Markers</div></div>	<div><div>RD358</div><div>Manhole Slope Protectors</div></div>
<div><div>RD312</div><div>Subsurface Drain</div></div>	<div><div>RD360</div><div>Manhole Frame Adjustment</div></div>
<div><div>RD316</div><div>Sloped Ends For Metal Pipe</div></div>	<div><div>RD362</div><div>Sanitary Cleanout</div></div>
<div><div>RD317</div><div>Culvert Embankment Protection And Riprap Pads</div></div>	<div><div>RD363</div><div>Gutter Transition At Inlet</div></div>
<div><div>RD318</div><div>Sloped Ends For Concrete Pipe</div></div>	<div><div>RD364</div><div>Concrete Inlets Type G-1, G-2, G-2M, and G-2MA</div></div>
<div><div>RD319</div><div>Miscellaneous Culvert Details</div></div>	<div><div>RD365</div><div>Frames & Grates For Concrete Inlets</div></div>
<div><div>RD320</div><div>Paved End Slope For Culverts 60" Maximum Pipe Size</div></div>	<div><div>RD366</div><div>Concrete Inlets Type CG-1, CG-2</div></div>
<div><div>RD321</div><div>Paved End Slope With Removable Safety Bar(s)</div></div>	<div><div>RD367</div><div>Curb Inlet Channel</div></div>
<div><div>RD322</div><div>Safety End Section For Metal Pipe</div></div>	<div><div>RD368</div><div>Concrete Inlets Type M-E, M-O, B And B-SL</div></div>
<div><div>RD324</div><div>Safety End Section For Concrete, PVC, HDPE & Polypropylene Pipe</div></div>	<div><div>RD370</div><div>Ditch Inlet Type D</div></div>
<div><div>RD325</div><div>Coupling Bands For Corrugated Metal Pipe</div></div>	<div><div>RD371</div><div>Concrete Inlet Base Type CG-3</div></div>
<div><div>RD326</div><div>Coupling Bands For Corrugated Metal Pipe</div></div>	<div><div>RD372</div><div>Concrete Inlet Top, Option 1 Type CG-3</div></div>
<div><div>RD327</div><div>Coupling Bands For Corrugated Metal Pipe</div></div>	<div><div>RD373</div><div>Concrete Inlet Top, Option 2 Type CG-3</div></div>
<div><div>RD328</div><div>Slotted CMP Drain Details</div></div>	<div><div>RD374</div><div>Area Drainage Basin Or Field Inlet</div></div>
<div><div>RD330</div><div>Pipe Slope Anchors – Metal</div></div>	<div><div>RD376</div><div>Miscellaneous Drainage Structures Siphon Box, Inlet Cap & Inlet Adjustment</div></div>
<div><div>RD332</div><div>Pipe Slope Anchors – Concrete</div></div>	<div><div>RD378</div><div>Type "3" Catch Basin, Frame and Grate</div></div>
<div><div>RD334</div><div>Locator Post</div></div>	<div><div>RD380</div><div>Fill Height Tables For Aluminum & Steel Corrugated Pipe</div></div>
<div><div>RD335</div><div>Standard Storm Sewer Manhole</div></div>	<div><div>RD382</div><div>Fill Height Tables For Aluminum & Steel Arch Pipe</div></div>
<div><div>RD336</div><div>Standard Manhole Details</div></div>	<div><div>RD384</div><div>Fill Height Tables For Aluminum & Steel Spiral Rib Pipe</div></div>
<div><div>RD338</div><div>Standard Sanitary Sewer Manhole</div></div>	<div><div>RD386</div><div>Fill Height Table For Circular Concrete Pipe</div></div>
<div><div>RD339</div><div>Pipe To Structure Connections</div></div>	<div><div>RD388</div><div>Fill Height Tables For PVC Pipe</div></div>
<div><div>RD340</div><div>Storm Sewer Pollution Control Manhole</div></div>	<div><div>RD390</div><div>Fill Height Table For Corrugated HDPE Pipe</div></div>
<div><div>RD342</div><div>Shallow Manholes</div></div>	<div><div>RD391</div><div>Fill Height Table For Steel Reinforced HDPE Pipe</div></div>
<div><div>RD343</div><div>24" Manholes</div></div>	<div><div>RD393</div><div>Fill Height Tables For Polypropylene Pipe</div></div>
<div><div>RD344</div><div>Standard Manhole Base Section</div></div>	<div><div>RD398</div><div>Culvert ID Marker</div></div>
<div><div>RD345</div><div>Pipe To Manhole Connections</div></div>	<div><div>RD399</div><div>Stormwater Treatment and Storage Facility Field Markers</div></div>
<div><div>RD346</div><div>Large Precast Manhole</div></div>	

Pipe Data Sheet Review



49

Contract Plans 12-11

What is the total length of 24-inch Storm Sewer pipe on sheet BD01?

- A. 60 feet
- B. 113 feet
- C. 53 feet
- D. 0 feet



50

Contract Plans 12-12

In our Plan Set, what does Standard Drawing RD 343 pertain to? Do we have this drawing in our Plan Set?

- A. 24 inch manhole, yes
- B. 24 inch manholes, no
- C. Standard manhole base section, no
- D. Standard manhole base section, yes



51

Contract Plans 12-13

On Sheet BD01 thru BD04, how many feet of 30-inch storm sewer pipe is required?

- A. 400 feet
- B. 453 feet
- C. 853 feet
- D. 250 feet



52

Plans and Profile

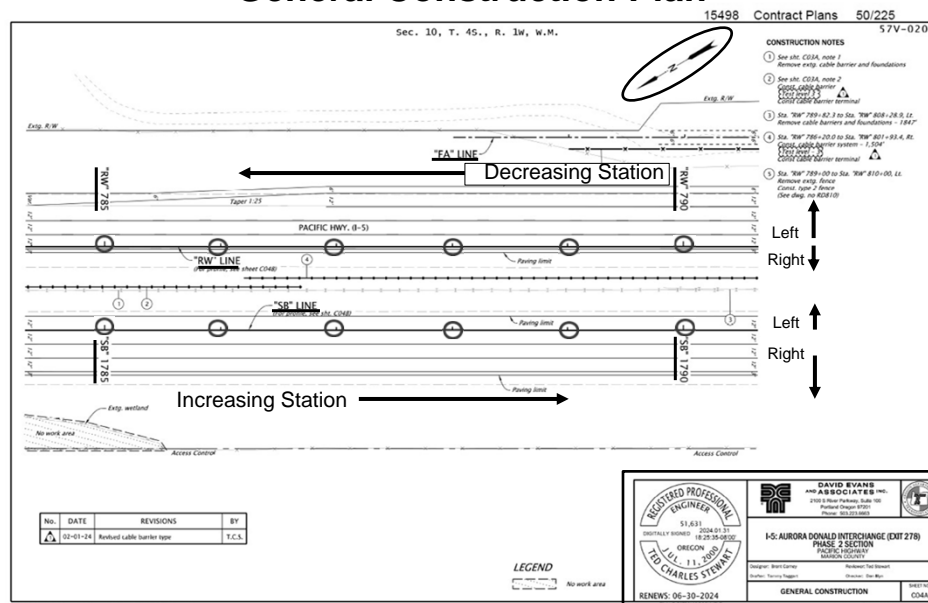
Roadway Construction Plans Sheets

- Alignments
- General Construction
- General Construction Notes
- Construction Profiles
- Drainage and Utilities
- Drainage Notes

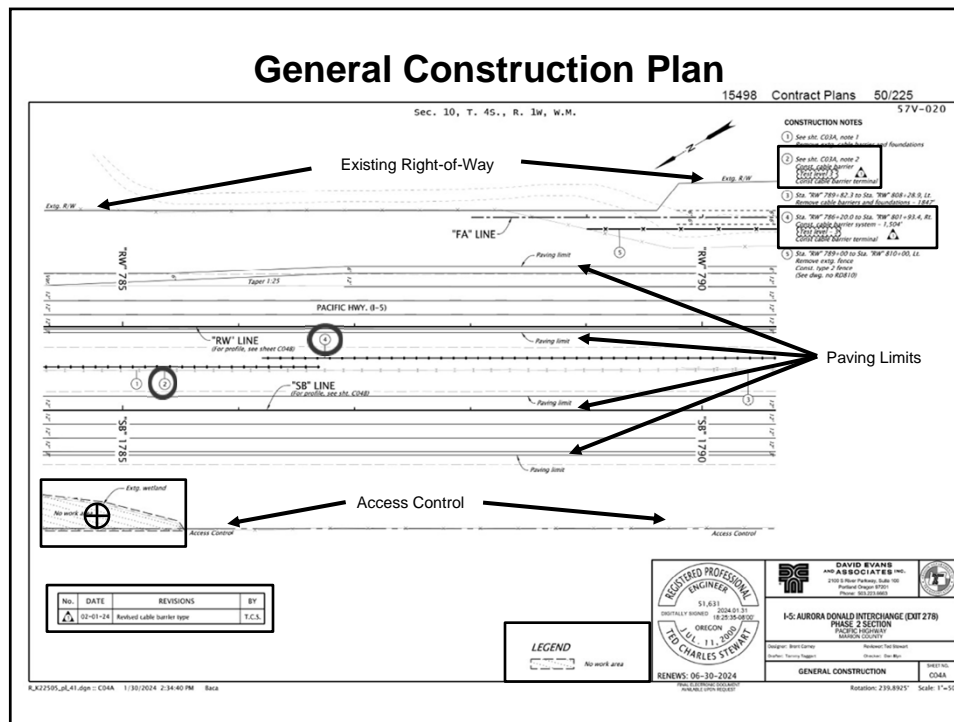


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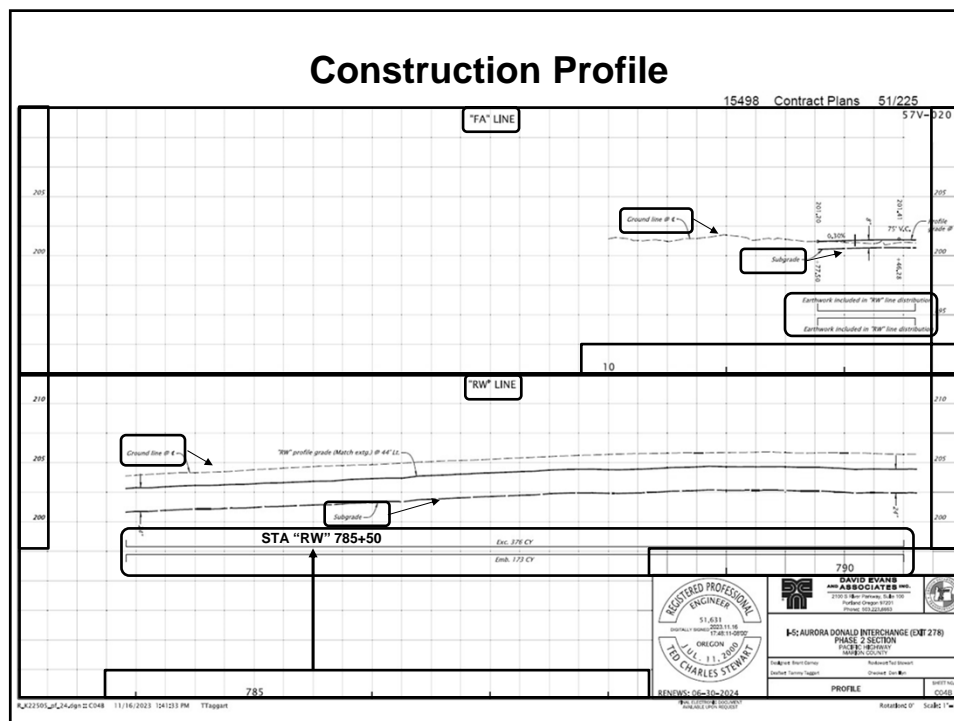
General Construction Plan



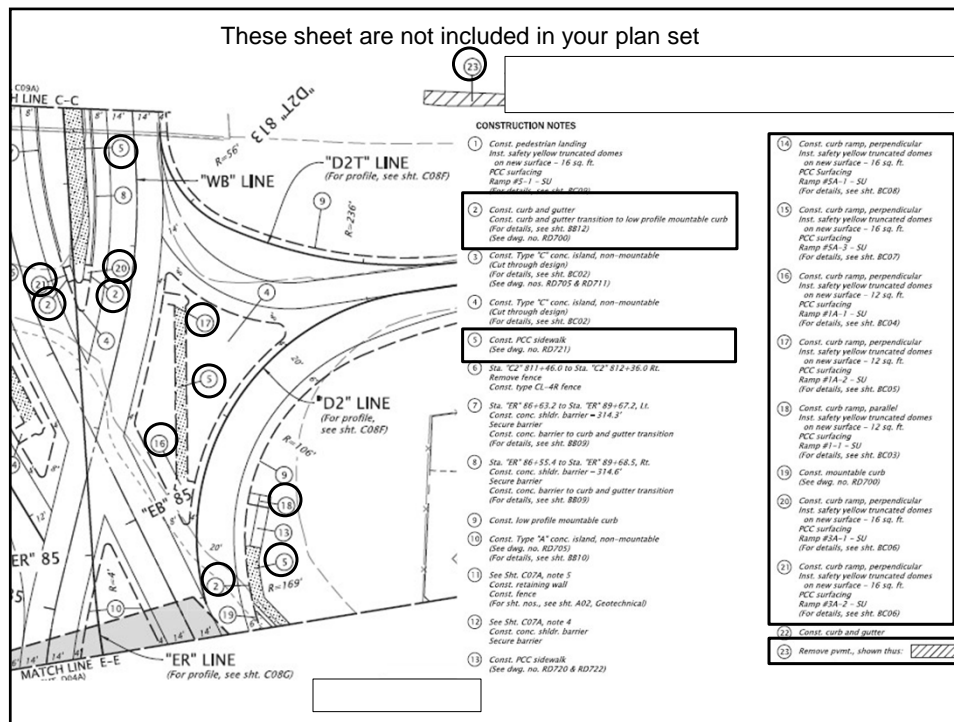
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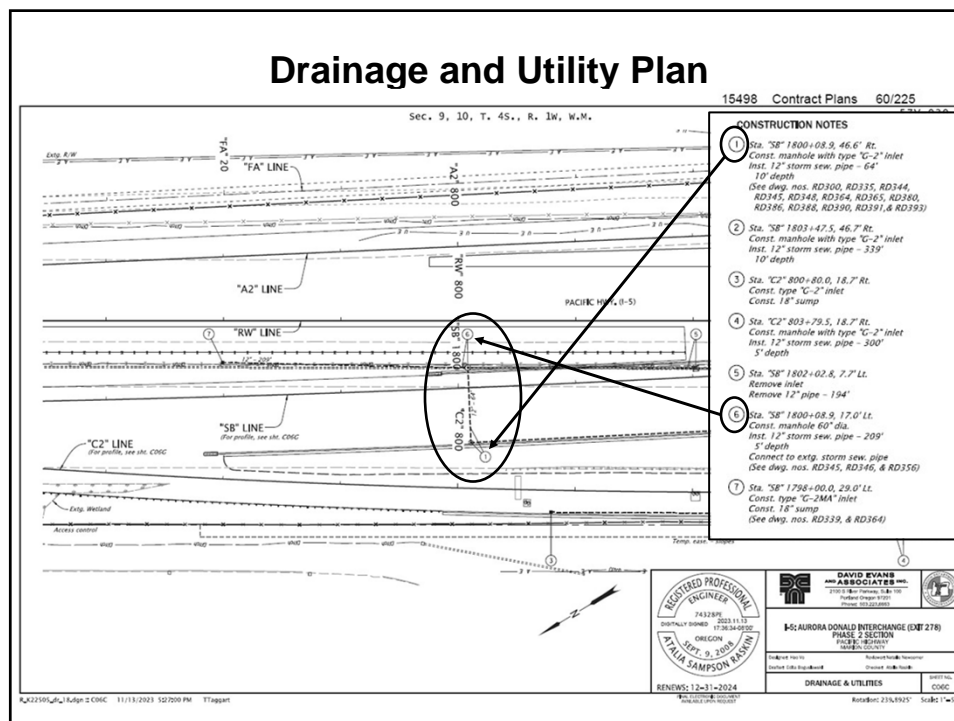
55



56



57



58



Plans and Profile Review



61

Contract Plans 12-14

What work is to be done from STA. "SB" 1792+95.5 to STA "C2" 808+23.6 Rt.?

- A. Construct low profile mountable curb
- B. Remove extg. fence and Const. type 2 fence
- C. Remove extg. cable barrier and foundations
- D. Const. Midwest Guardrail System



62

Contract Plans 12-15

What is the estimated excavation quantity between STA. "SB" 1796+50 and "SB" 1804+00?

- A. 4048 cubic yards
- B. 124 cubic yards
- C. 1283 cubic yards
- D. 99 cubic yards



63

Contract Plans 12-16

What is the grate elevation for the manhole with inlet to be constructed at STA "SB" 1803+47.5, 47.5 Rt.?

- A. 193.52
- B. 192.94
- C. 197.43
- D. 198.65



64

Traffic Control Plans

- The four primary functions of a TCP are to provide:
- Efficient traffic flow
- Enhanced safety
- Minimized inconvenience
- Adequate mobility for all road users



Information on traffic control plan development can be found in the TCP Design Manual found at <https://www.oregon.gov/ODOT/Engineering/Pages/TCP-Manual.aspx> Oregon Department of Transportation : Traffic Control Plan Design Manual : Engineering : State of Oregon

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Traffic Control Plans for Contract 15498:

- Stage 1
(sheet EC01-EC16)
- Stage 2
(sheet ED01 and ED08)
- Stage 3
(sheet EE01 to EE08)
- TPAR
(sheet EJ01 to EJ14)

66

GENERAL NOTES:

1. Signs shown on the plans are the minimum required. All signs to be new or like new condition. Determination of sign condition to be made by engineer.
2. For sign numbers refer to the Manual on Uniform Traffic Control Devices (MUTCD) and the ODOT Sign Policy and Guidelines for the State Highway System.
3. Pedestrian pushbuttons at existing and temporary traffic signals shall remain accessible at all times. If a crosswalk crossing is closed at an intersection, add appropriate signing per the MUTCD and cover the affected pedestrian signal heads.
4. During construction at a signalized intersection, traffic shall be controlled by flaggers when flaggers are used. Coordination of traffic control operations shall be made with ODOT Traffic Engineering.
5. The location of all signs shall be determined by the Engineer prior to construction. Adjustments may be required.
6. Plans to be accompanied by the following sheets: RD545, TM204, TM211, TM820, TM821, TM822, TM845, TM850, TM855.
7. Install temporary striping when necessary to delineate travel lanes as shown in the traffic control plans and as directed by the project engineer. Remove existing striping that conflicts with temporary striping shown on plans.
8. Maintain temporary striping for the duration of construction and until permanent striping is installed.
9. The widths of the travel lanes as shown on the staging plans are minimum widths and must be maintained at all times.
10. Maintain existing signs unless otherwise shown or conflict with plans.

LEGEND

	Under traffic
	Sign on post
	PCMS
	Traffic direction

67

15498 Contract Plans 98/225 57V-020

STAGE 1 Phase 2
I-5 MAINLINE and INTERCHANGE RAMP

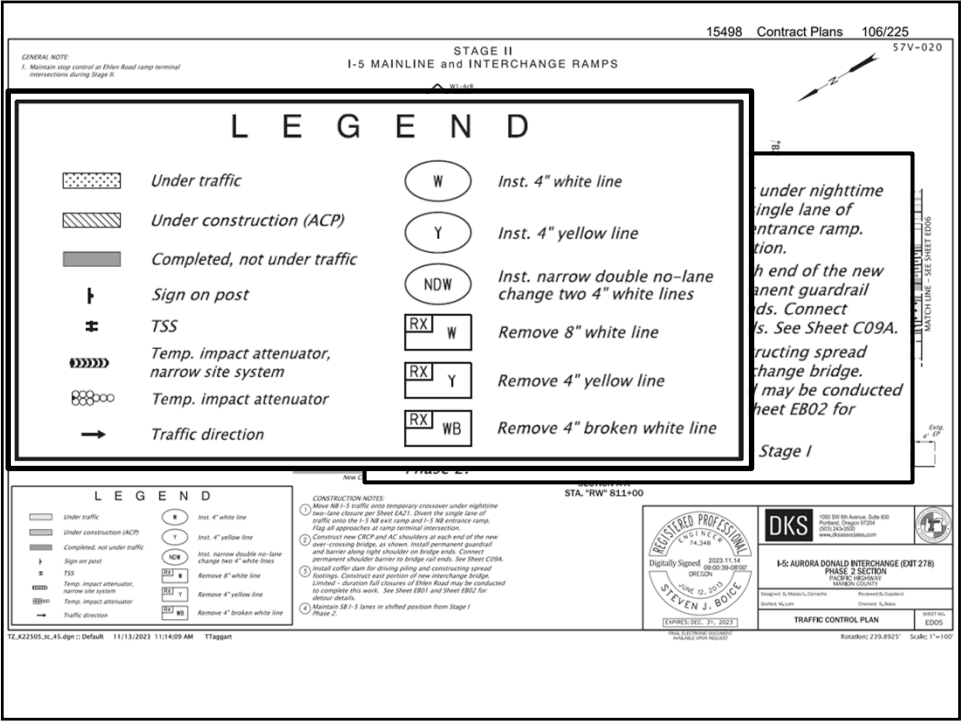
CONSTRUCTION NOTES:

1. Demolish interior portion of existing interchange overcrossing structure. See Sheet J06 for details. Limited - duration full closures of Ehlen Road may be conducted to complete this work.

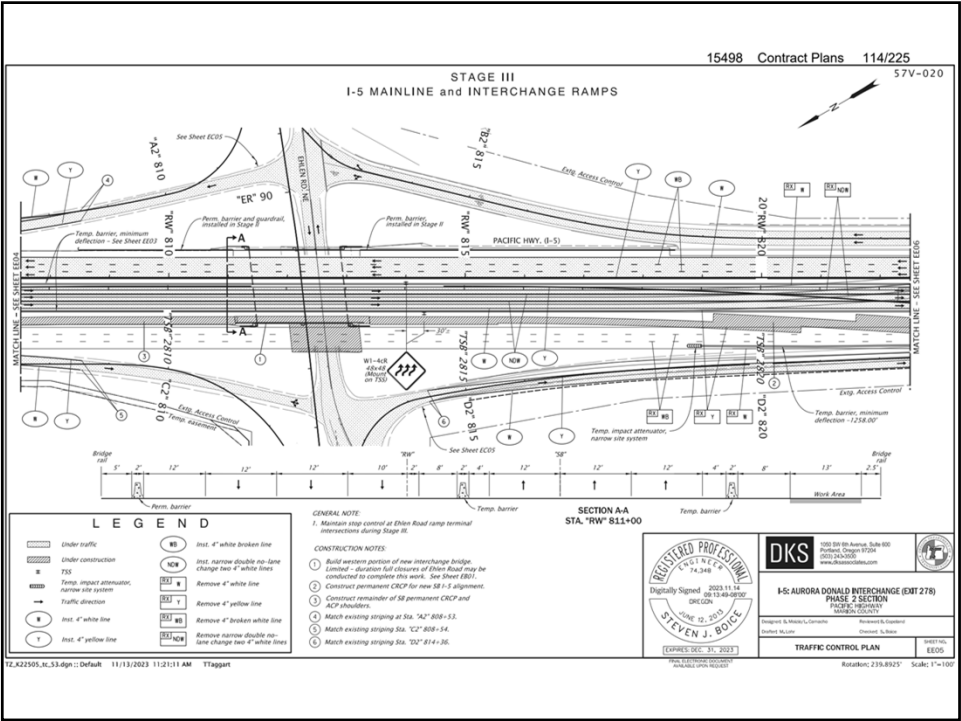
LEGEND

	Under traffic		Inst. 8" white line		Remove 4" broken white line
	Under construction		Inst. 4" yellow line		
	Under construction (ACP)		Inst. 4" white broken line		
	Completed, not under traffic		Remove 4" white line		
	TSS		Remove 4" yellow line		
	Traffic direction				
	Inst. 4" white line				

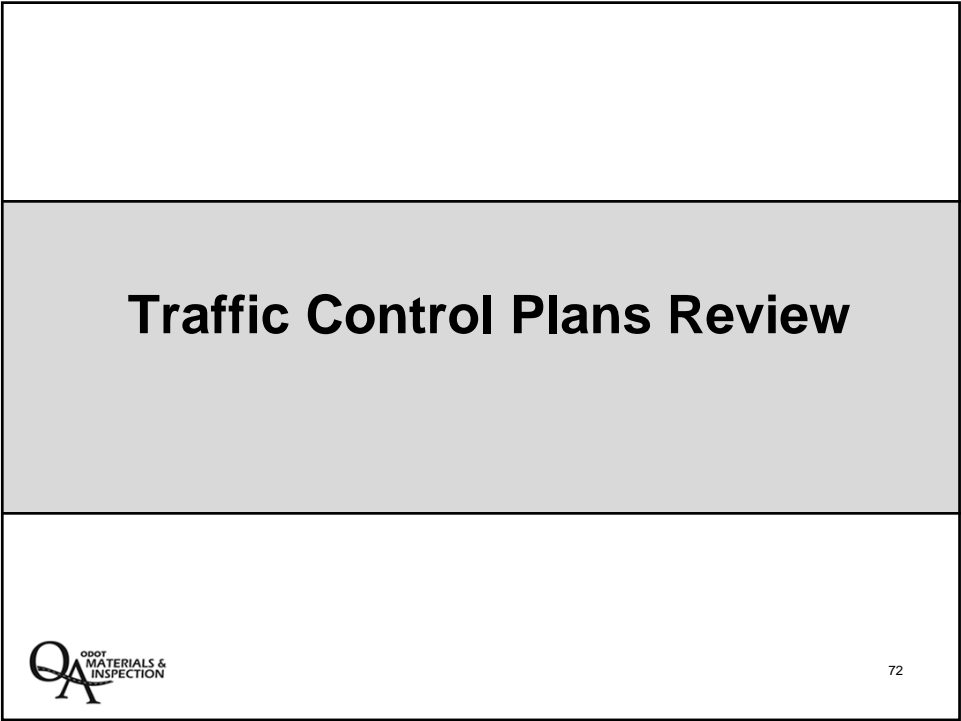
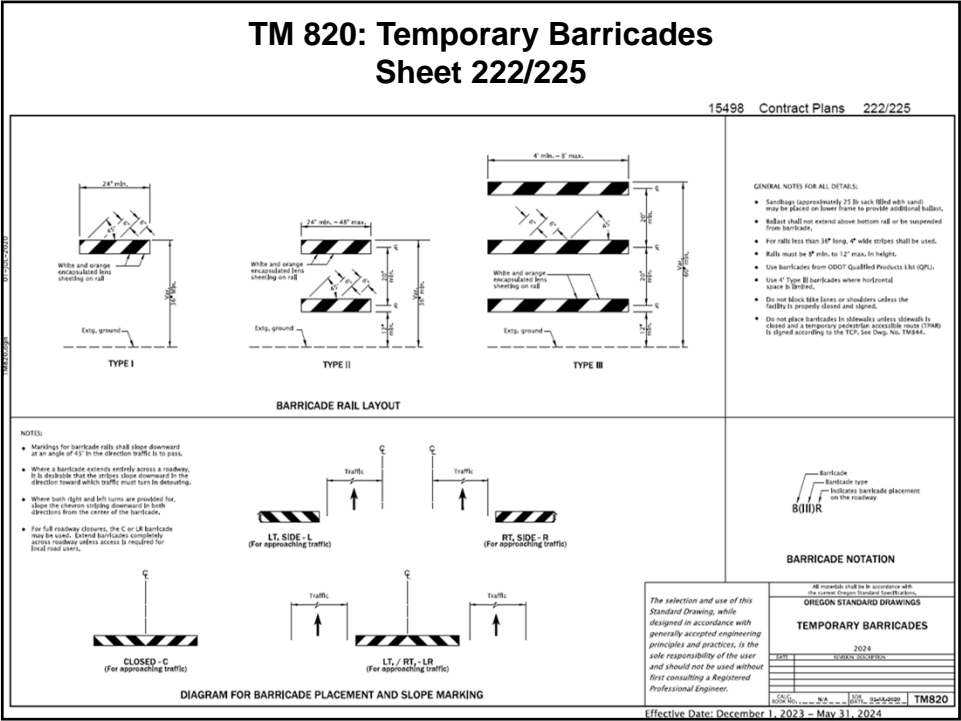
68



69



70



Contract Plans 12-17

During Stage I, Phase 1, the 3-Lane Lane Shift sign at ~ STA 1830 + 20 Rt should be posted on what type of mount?



- A. Type III Barricade
- B. Post
- C. Square Tube Sign Support
- D. Temporary Sign Support (TSS)



73

Contract Plans 12-18

During Stage IV traffic control, what are the dimensions of the "Sidewalk Closed" signs at the Ehlen Rd - Dolores Way NE Intersection?

- A. 12 X 24
- B. 18 X 36
- C. 24 X 12
- D. 30 X 24



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Case Study

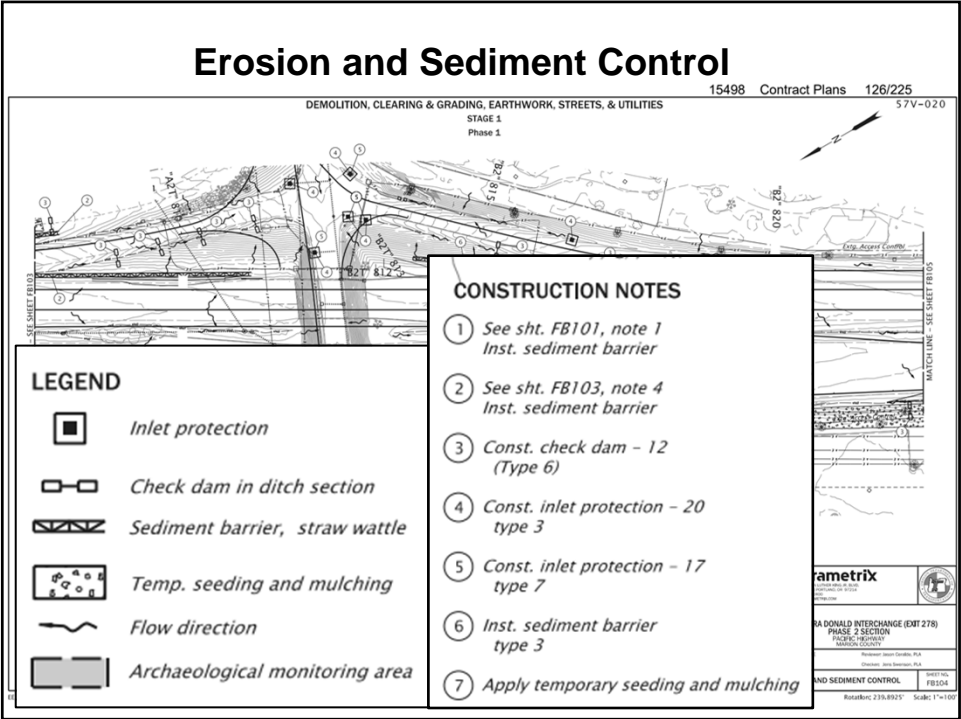


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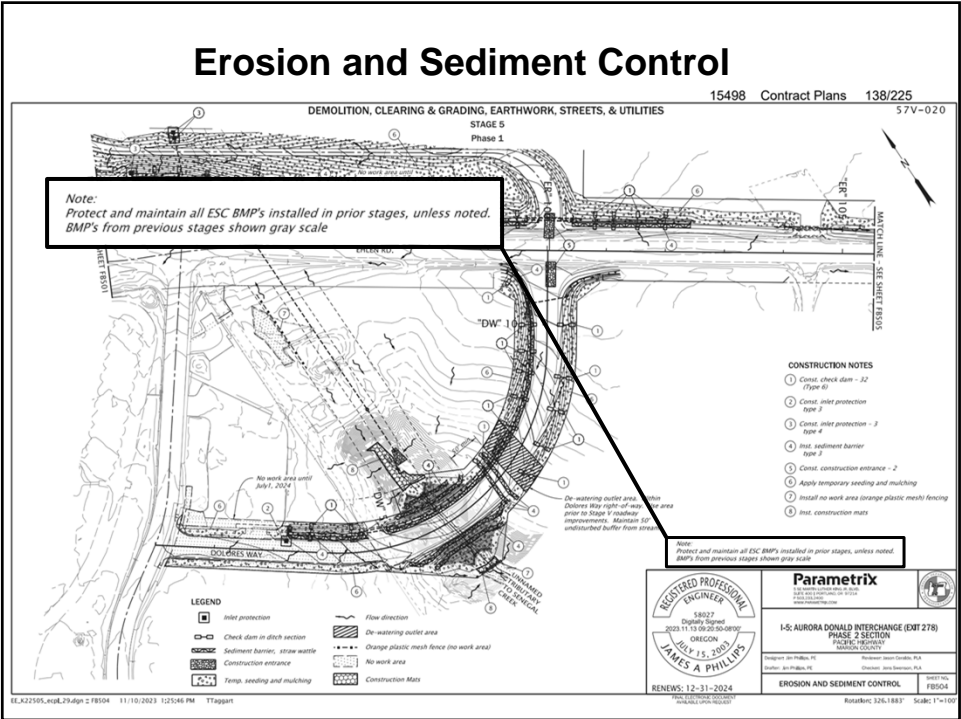
Case Study



76



77



78

Contract Plans 12-19

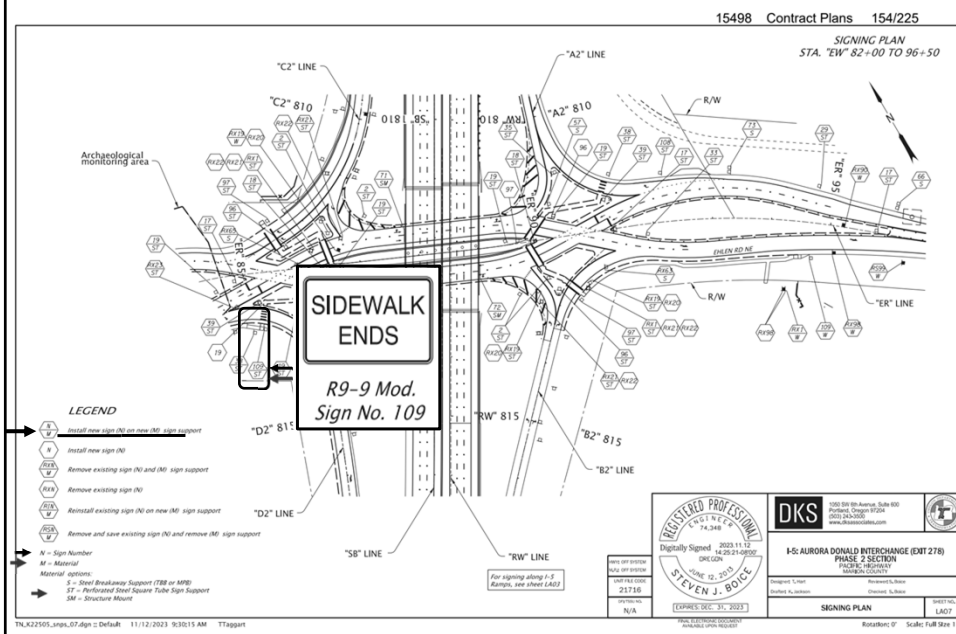
What feature is to be constructed approximately at STA "SB" 1820+45 Rt.?

- A. Sediment fence
- B. Construction check dam, Type 6
- C. Inlet protection, Type 3
- D. Orange plastic work zone fencing

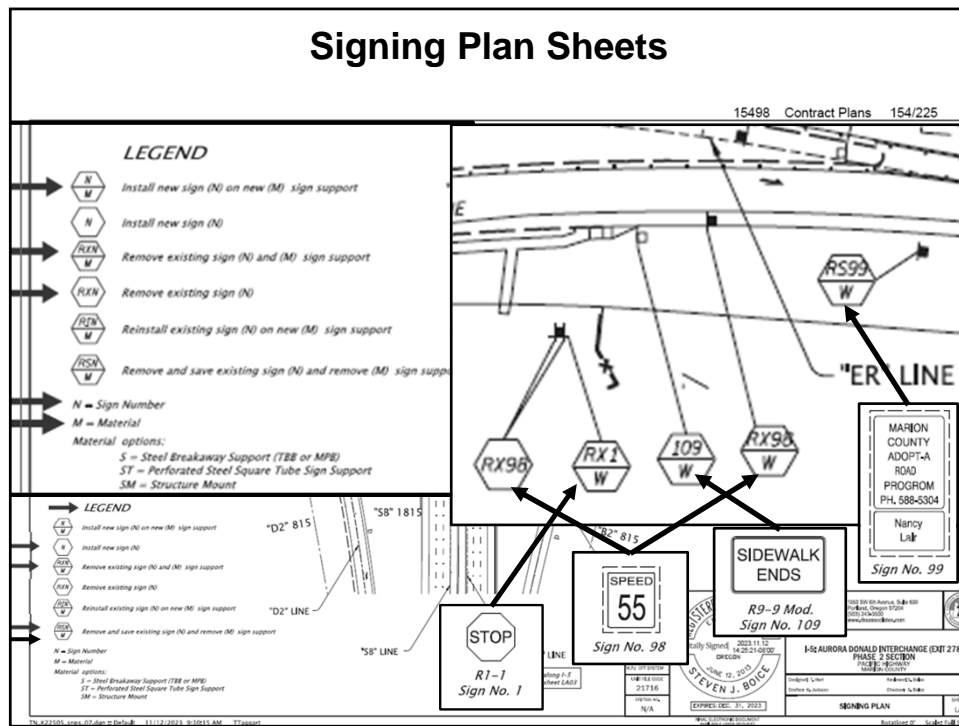


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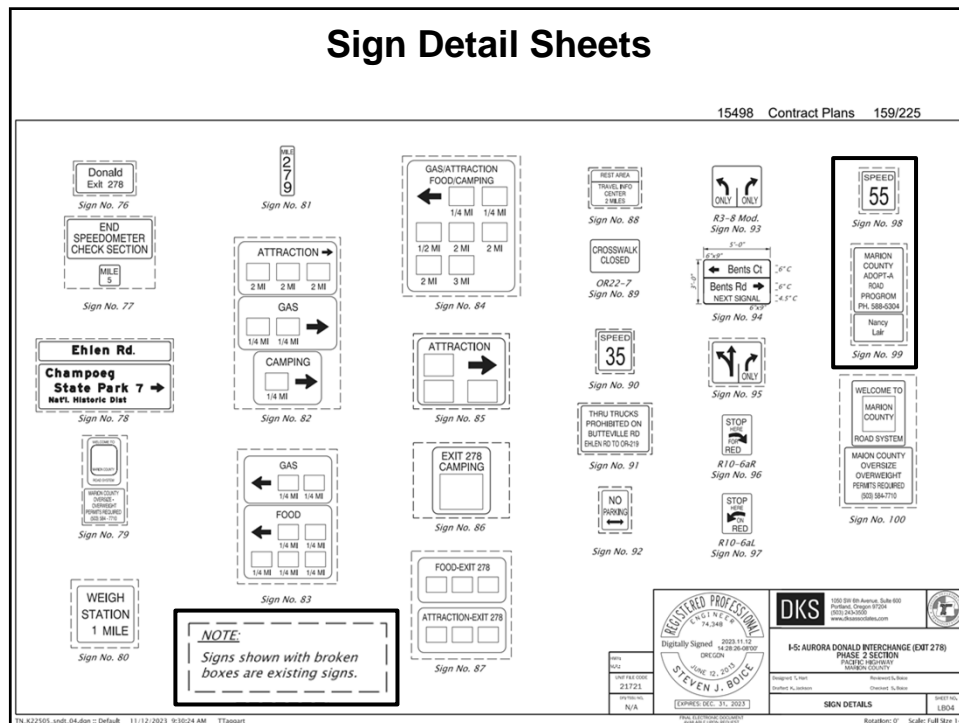
Signing Plan Sheets



80

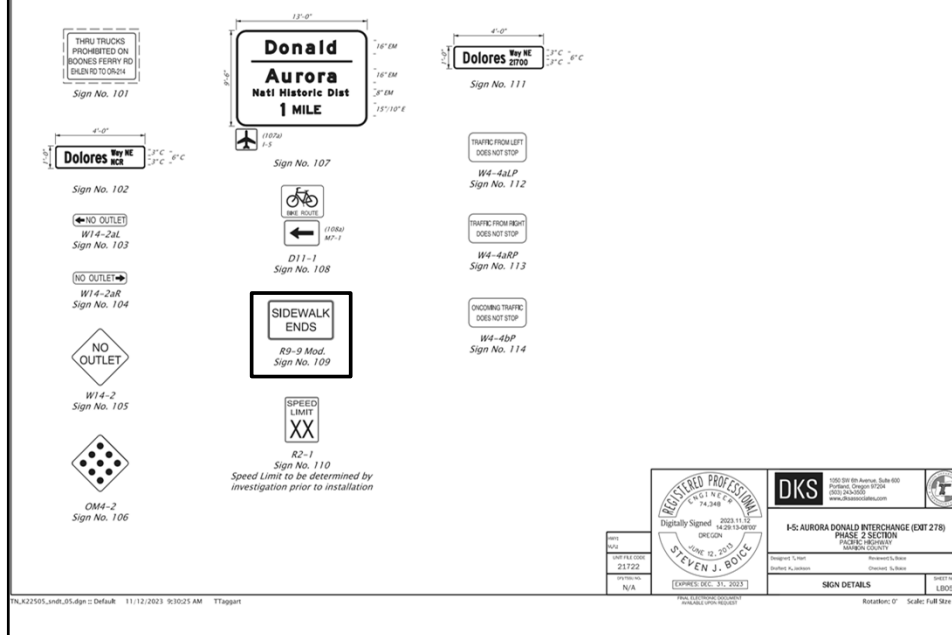


81



82

15498 Contract Plans 160/225



83

15498 Contract Plans 168/225

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84

Sign and Post Data Table

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM675)	SIGN DIMENSIONS	SUB- STRATE	COLOR 1/ 2/				LEGEND	SIGN NO.					
				BACKGROUND		LEGEND								
	1/ BK= BLACK BL= BLUE BR= BROWN FY= FLUORESCENT Y G= GREEN O= ORANGE R= RED RB= RED-BLUE SW= SILVER-WHITE W= WHITE Y= YELLOW YG= YELLOW-GREEN			IV	XI	IV	XI		2/ NOTE: L, C, R ARE LOCATIONS OF POSTS FACING THE SIGN. L = LEFT POST C=CENTER POST R=RIGHT POST					
				PLYWG	SHEET	EXTRU	ASTM TYP	ASTM TYP	ASTM TYP	ASTM TYP	NON-REF	PERMANE	DEMOUN	(TM230-)
99														99
102	"DW" 1+61 LT	48" 8"		✓			G			W		✓		102
4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILE POST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.														
104	"DW" 10+89 RT	36" 36"		✓										104
105	"DW" 10+48 LT	36" 36"		✓			Y				BK	✓		105
107	SEE SHEET LA01	13'-0" 9'-6"		✓			G		W				✓	107
107a		24" 24"		✓			G		W			✓		107a

85

Sign and Post Data Table

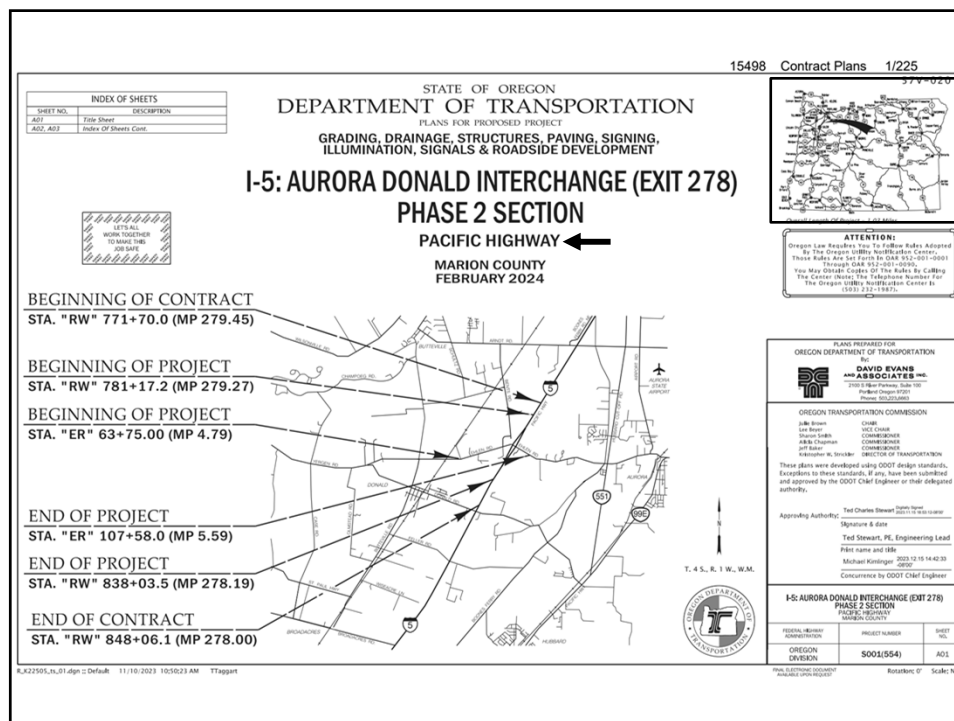
SIGN NO.	TYPE OF SUPPORT																	SECONDARY SIGN (TM676 & TM678)
	WOOD POST (TM670-TM671, TM676)	SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM688)	TRIANGULAR BASE BREAKAWAY (TM602)	H - FRAME (TM602)	MULTI-POST BREAKAWAY (TM220, TM600-TM601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (TM680)	MAST ARM SIGN MOUNT (TM679)	BRIDGE STRUCTURE MOUNT (Refer to Bridge Drawing)	CANTILEVER \ BUTTERFLY (Refer to Bridge Drawing)	SIGN BRIDGE (Refer to Bridge Drawing)	EXIT NUMBER SIGN SUPPORT (TM220, TM225)	ROUTE MARKER FRAME (TM678)	MILE POST MARKER POST (TM221 - TM222)	CROSSWALK CLOSURE SUPPORT (TM240)	VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES	CUSTOM VARIABLE SUPPORT C 4X5.4 C 4X7.25	LENGTH
99	✓																	
102																		
103																		
104																		
105	✓																	
107																		
107a																		

86

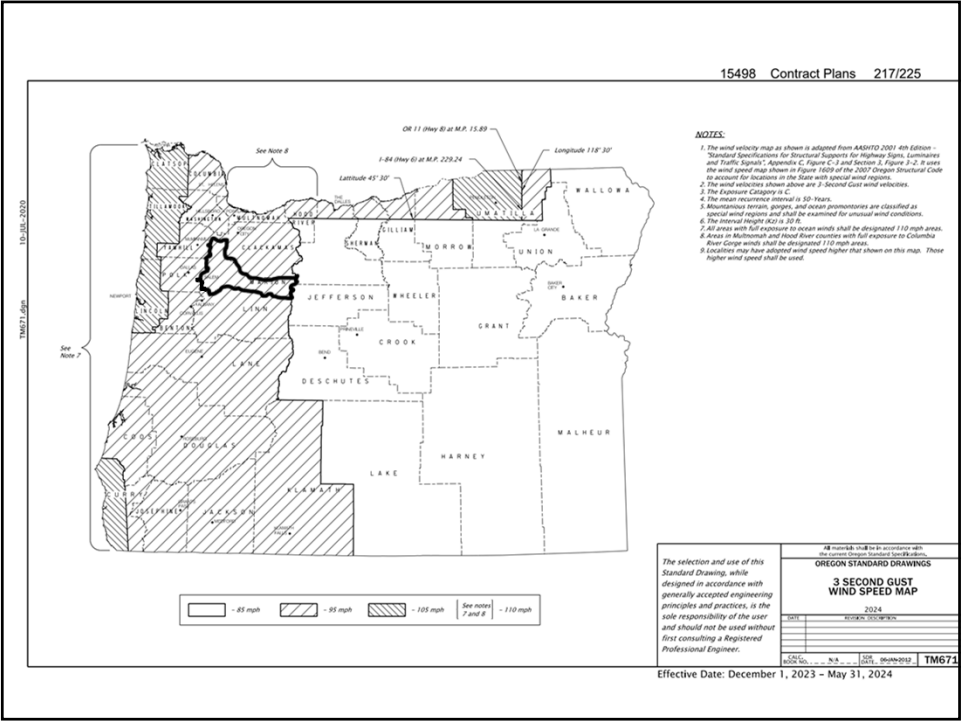
Sign and Post Data Table

POST		FOOTING		REMARKS
SIZE	LENGTH	LOCATION 3/	MIN. DEPTH 5/	
(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)			5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602.
				3/ DISTANCE FROM EDGE OF TRAVEL LANE, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601, TM602, AND TM635.
6"x6"	20.0'	7.5'	5.0'	3/ EDGE OF PAVEMENT
				INSTALL ABOVE SIGN 1
				INSTALL BELOW SIGN 102
				INSTALL BELOW SIGN 102
4"x6"	18.0'	4.2'	5.0'	3/ EDGE OF PAVEMENT
				INSTALL ON EXISTING SIGN SUPPORT

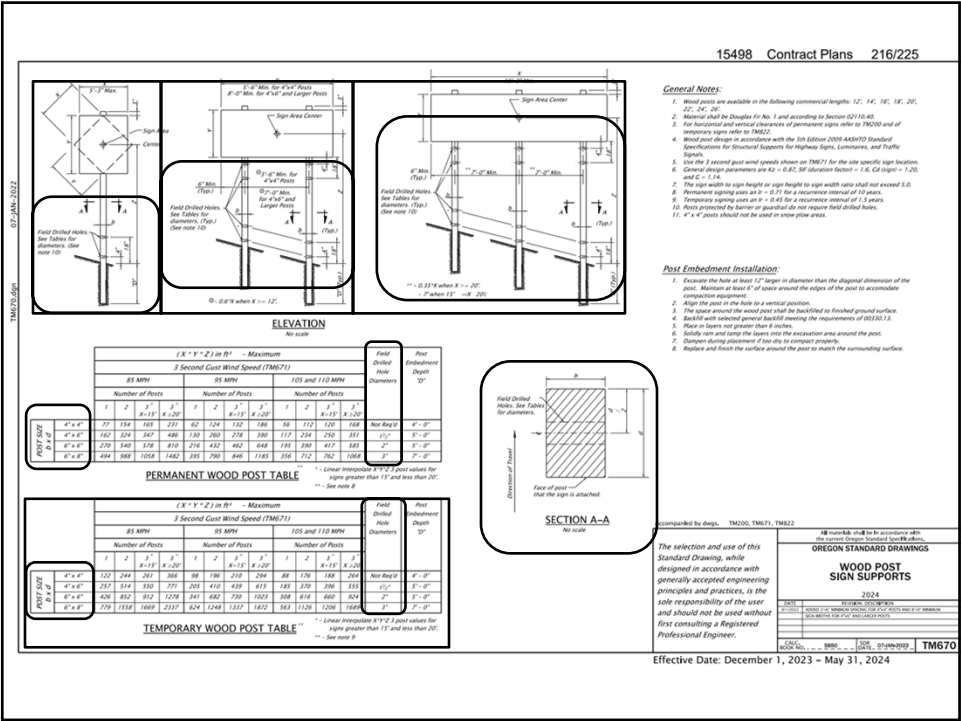
87



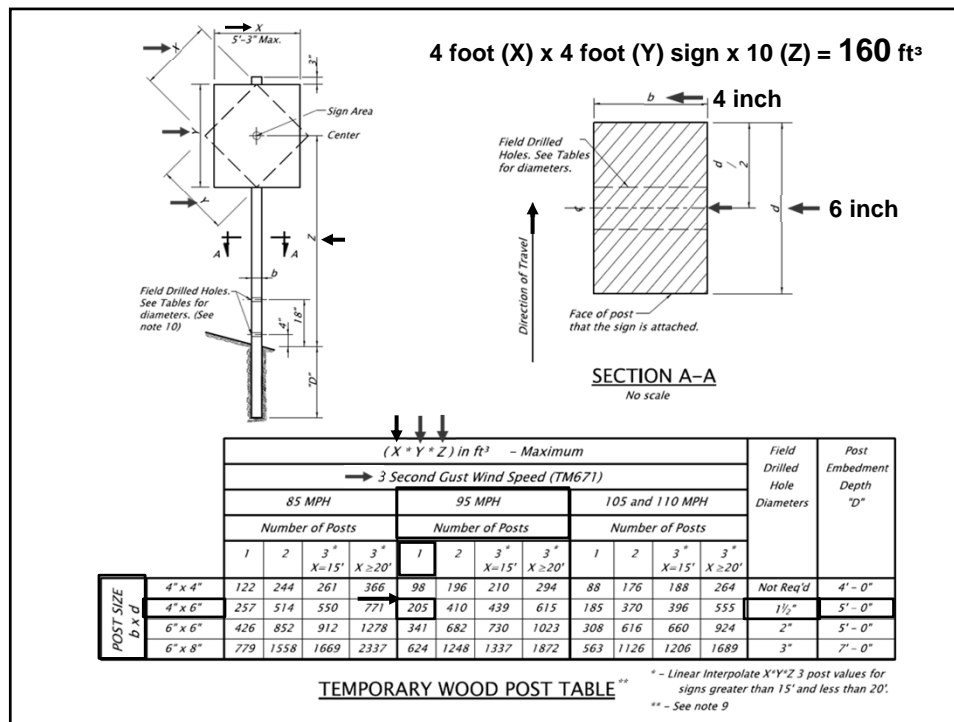
88



89



90



91

Signing Review



92

Contract Plans 12-20

What is the sign number and sign located at "C2"
803+00 Lt.?

- A. 46, To I-5 Directional
- B. 46, Old Ehlen Rd
- C. 84, Ehlen Rd/Aurora
- D. 84, Existing Sign –
Gas/Attraction/Food/Camping



93

Contract Plans 12-21

What is the required substrate for sign #66
at STA "ER" 96+06?

- A. Sheet aluminum
- B. Extruded aluminum
- C. Plywood
- D. Unknown, it's an existing sign



94

Contract Plans 12-22

Sign #104 at "DW" 10+89 Rt, should be installed....?

- A. Measured from Edge of Pavement
- B. Below Sign #1
- C. Below Sign #102
- D. None of the Above



95

Pavement Marking Plan

LEGEND

W	Inst. 4" white line
W-2	Inst. 8" white line
Y	Inst. 4" yellow line
ND	Inst. narrow double no-pa
NDD	Inst. narrow double dotted
CH	Inst. white chevron bars
TM	Inst. yellow transverse med at 20' spacing
WD	Inst. 4" white dotted line
YD	Inst. 4" yellow dotted line
WD-2	Inst. 8" white dotted line
DLL	Inst. 4" white dotted lane l
DLL-2	Inst. 8" white dotted lane l

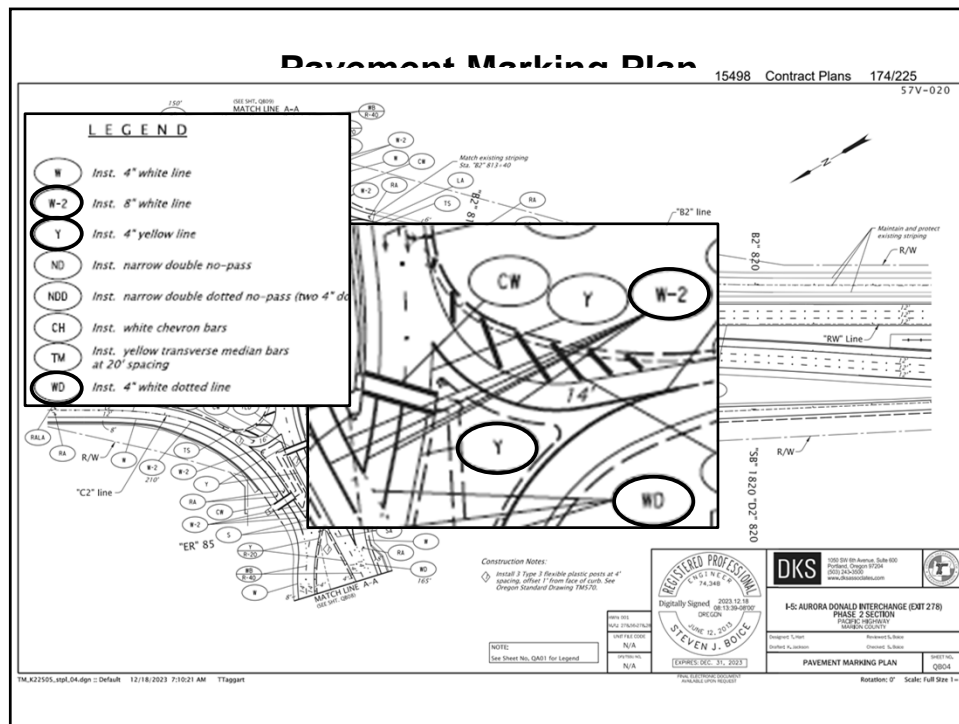
STANDARD DRAWINGS

■	TMS00	Pavement Marking Standard Detail Blocks
■	TMS01	Pavement Marking Standard Detail Blocks
■	TMS02	Pavement Marking Standard Detail Blocks
■	TMS03	Pavement Marking Standard Detail Blocks
■	TMS04	Pavement Marking Standard Detail Blocks
■	TMS05	Rail Crossing Pavement Markings
□	TMS15	Pavement Markers
□	TMS16	Raised Pavement Markers: Freeway Median Crossover
■	TMS17	Recessed Pavement Markers
■	TMS20	Durable Pavement Markings Method 'A' & Method 'D' Surface Installed Profiled
■	TMS21	Durable & High Performance Pavement Markings Surface & Crown Installed Non-Profiled

General Notes:

1. Match points to existing pavement marking and station call-outs are approximate and shall be field verified. Exact locations are to be determined by the Engineer.
2. All longitudinal permanent pavement markings along I-5 shall be Method B: Thermoplastic, Wet Weather, Grooved, Non-Profiled except as noted. See Section 00865 in the Special Provisions. All longitudinal pavement markings along Ehlen Rd and Bents Rd shall be Method A: Thermoplastic, Extruded, Profiled except as noted. See Section 00865 of the Special Provisions.
3. All pavement bars shall be Type B-HS. See section 00867 in the Special Provisions.
4. All reflective pavement markers shall be Type 1. Reflective pavement markers along I-5 shall be recessed per Standard Drawing TMS17.
5. Install Type 1 traffic delineators at entrance and exit ramp gores per Standard Drawings TMS70, TMS71, and TMS75.

96



97

Contract Plans 12-23

According to the pavement marking plan for Contract 15498, what does a "WD-2" designate?

- A. Install 4" white dotted line
- B. Install 8" white dotted line
- C. Install 4" white line
- D. Install 8" white line



98

Contract Plans 12-24

What is the nominal depth of the cold plain pavement removal at STA "RW" 815+12.20 to 818+45.00?

- A. 4 inches
- B. 2 - 0 inches
- C. 3 inches
- D. 2 inches



99

Contract Plans 12-25

What sign is being installed at STA "D2" 815+33 Lt?

- A. None
- B. Merging Traffic - Right
- C. Left Lane Ends
- D. Pedestrian Crossing



100

Contract Plans 12-26

What size tie bars are to be used across the CRCP Transverse Contact Joint?

- A. #5 x 36" tie bars
- B. #6 x 36" tie bars
- C. #7 Longitudinal bars
- D. #4 Transverse bars



101

Contract Plans 12-27

What is to be constructed at STA "SB" 1824+00.0, 26.5' Lt.?

- A. Type G-2 Inlet
- B. Paved End Slope
- C. Riprap Basin
- D. Both B and C



102

INSERT TAB

Unit 13
Quality & Quantity

Unit 13

Quality and Quantity Documentation



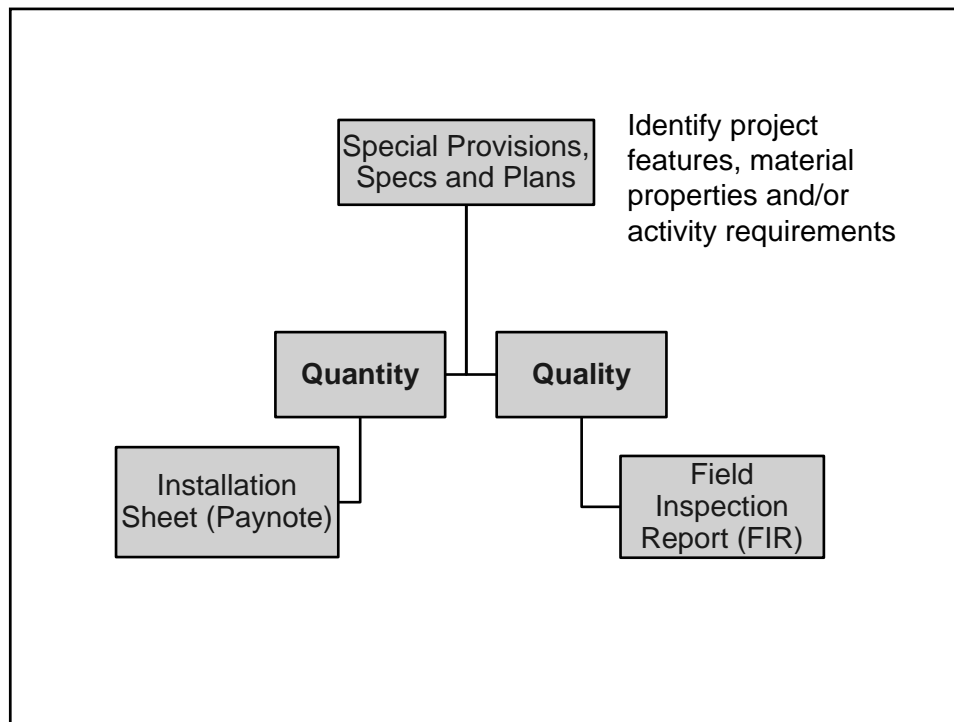
1

Unit 13 Topics:

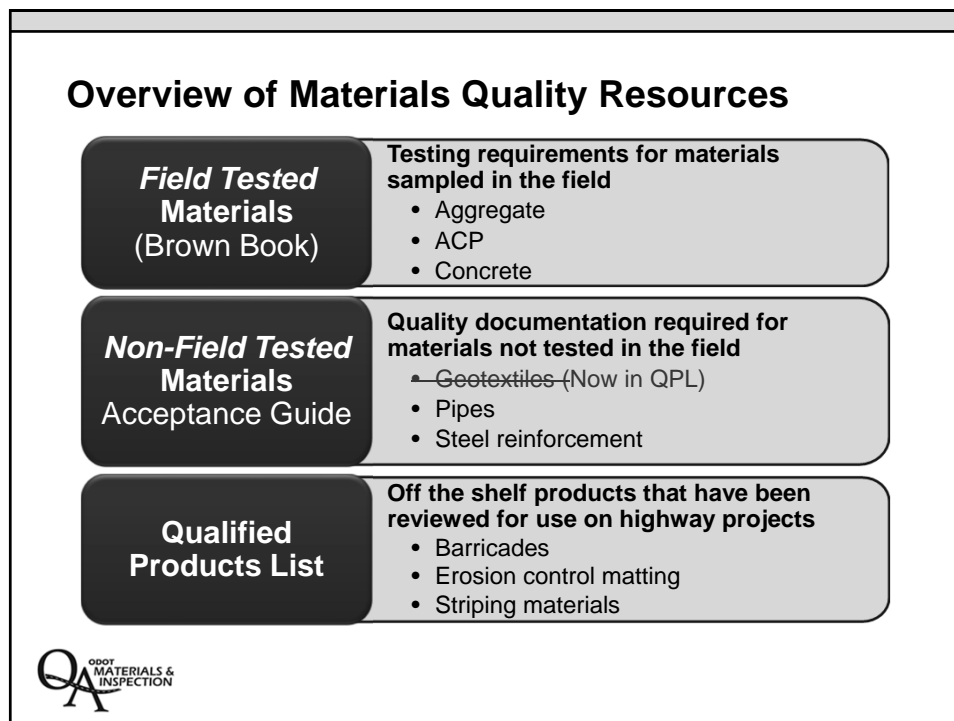
- Overview of Quality Documents
- Overview of Quantity Documents
- Quality and Quantity sheet
- Field Inspection Reports (FIR)
- Installation Sheets (Paynotes)



2



3



4

	OR126: CORNERSTONE DR. TO TERRY ST. SEC. FLORENCE - EUGENE & BELTLINE HIGHWAYS		15074.00				
	LANE COUNTY		This information is a guideline only. Please refer to Special Provisions and Standard Specifications Section 00165 - Quality of Materials				
	QUALITY OF MATERIAL SEC 00165.00						
	T-TEST RESULT CERTIFICATION	Q - QUALITY COMPLIANCE CERTIFICATION			V - VISUAL		
	QPL - QUALIFIED PRODUCTS LIST	O - CERTIFICATE OF MATERIAL ORIGIN			C - COPY OF CERTIFICATIONS		
	F - FIELD INSPECTION REPORT	NTR - NO TESTS/CERTS REQUIRED			P - PLAN		
	R - REPORTS	W - WARRANTY			S- TAG NUMBER OR IMPRINTED/STAMPED NUMBER		
	L- MATERIAL LAB REPORT	FTM - FIELD TESTED MATERIALS ACCEPTANCE			B/G - BLUE & GREEN SHEETS		
	MEASUREMENTS WILL BE LIMITED TO THE DIMENSIONS SHOWN OR AS DIRECTED BY ENGINEER.						
	AREA- MEASURE AT LEAST TO THE NEAREST 0.1 SQUARE FOOT UNLESS OTHERWISE SPECIFIED.						
	MASS (WEIGHT) - MEASURE AT LEAST TO THE NEAREST 0.01 TON UNLESS OTHERWISE SPECIFIED.						
	THE CURRENT VERSION OF THE QPL AT THE TIME OF AWARD IS THE VERSION IN EFFECT FOR THE PROJECT.						
	TIME - NEAREST HALF HOUR						
BI#	BID ITEM Title	UNIT	QTY	QUALITY REQUIRED	SECTION	QUANTITY MEASURE: ALL SPECIFICATION SECTIONS 00XXX.80 - 89	Explanation of quality documentation
GROUP 0200: TEMPORARY FEATURES AND APPURTENANCES							
0010	TRAINING	HOUR	1100.00	NTR	0100		
						per 0210.90 @ 5% earned either 50% mobe or 5% contract (least) @10% earned either 100% mobe or 10% contract (least)	
0020	MOBILIZATION	LS	1.00	NTR	0210	When all work is complete amount of mobe exceeding 10%	
0030	TEMP PROTECTION & DIRECTION OF TRAFFIC	LS	1.00	"L" traffic control inspection report	0225	See 225.90a2 monthly breakdown from contractor Lump Sum Breakdown Summary or Bid Amount/Months in Contract	
0040	TEMPORARY SIGNS	SQFT	1000.00	VERIFY QPL,F	0225.11	225.81, when delivered to the jobsite, limited to signs on approved TCP	
0050	Temporary Barricades, Type II	Each	2.00	VERIFY QPL,F	0225.12	225.82(a) once installed	
0060	TEMP BARRICADES, TYPE III	EACH	6.00	VERIFY QPL,F	0225.12	225.82(a) once installed	
			Est. 810 (count 817.05 Or 804.48)	VERIFY QPL (reflector panels),F		per stick count x 12.5833 ' Meeting requirements of 00820 for concrete	
0070	TEMP CONC BARR REFLECTORIZED	FOOT			0225.12c		
0080	MOVING TEMPORARY CONC BARRIER	FOOT	401.00	F	0225	per stick count x 12.5833'	
0090	TEMP IMP ATTEN NARW SITE SYS	EACH	2.00	VERIFY QPL,F	0225		
0100	MOV TEMP IMP ATTEN NARW SITE	EACH	2.00	F	0225		
0110	TEMPORARY IMPACT ATTENUATOR, TRUCK MOUNTED	EACH	2.00	VERIFY QPL,F	0225		

[illegible]

Quantity and Quality Guideline or “Q&Q” Checklist

- Provides project specific detail
 - Quantity measurement accuracy
 - Quality requirements and frequency of tests
- Helpful for inspectors and contractors
- Guide does not supersede the specifications
- Used by Contract Administration Specialists and inspectors.



5



Installation Sheet or “Paynotes” Form 734-2605

- FIR is part of the Paynote

6



Pay Note
(Project Work Record)

Project Information

OR 140: Brett Way Extension (K Falls) Project	CON04389	000	05	01	C15262
Project Name	EA	Subjob	Estimate No.	Pay Note No.	Contract No.
16 Inch Gate Valve With Bevel - Gear Actuator	1670	Thomas J. Feeley, PE		Daniel Neighbor	
Item Description	Bid/Pay Item No.	Resident Engineer		Prepared by	

Method of Quality Assurance

☐ No Quality Documentation Required

Supporting Documents Provided as Part of Pay Note (Click on letters for definition)

<input type="checkbox"/> E	<input checked="" type="checkbox"/> O
<input type="checkbox"/> L (Number) _____	<input type="checkbox"/> BG
<input type="checkbox"/> I (Number) _____	<input type="checkbox"/> R
<input type="checkbox"/> W	<input type="checkbox"/> P/R
<input type="checkbox"/> P	<input checked="" type="checkbox"/> Q
<input type="checkbox"/> M	<input type="checkbox"/> T
<input type="checkbox"/> Small Quantity	

F - Field Inspection Report (FIR)

New*	Previously Submitted	Estimate No.	Pay Note No.	Link
<input checked="" type="checkbox"/>	<input type="checkbox"/>	005	001	
<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>			

*Enter on New Field Inspection Information Page below.

QPL

☒ No QPL

☐ QPL - Approved

☐ QPL - Qualified

QPL No. _____

QPL No. _____

QPL No. _____

QPL No. _____

QPL No. (Future) _____

Quantity Data

Previous Quantity	0.00	EACH	Unit
Quantity This Note	1.00 (+ or -)		
Total Quantity to Date	1.00		

☐ Remeasurement

☒ Measured in Place Method

☐ Partial Payment

☐ Material on Hand

2021/8/27

Installation Date

Bid Item/Pay Item Completion Date

See Material on Hand Page below

Calculations and/or Remarks

See FIR

Counted in place.

See Attached CMO

Q is verified markings on pipe

☐ Photos Attached

☐ Illustration Attached

Reviewed by

Quality Checked by

Date

Quality Checked by

Date

Pay Note (Installation Record) (Project Work Record)

OR 140: Brett Way Extension (K Falls) Project

1670

05

01

C15262

Project Name

Bid/Pay Item No.

Estimate No.

Pay Note No.

Contract No.

[illegible]



Pay Note (New Field Inspection Information)
(Project Work Record)

OR 140: Brett Way Extension (K Falls) Proje
Project Name

1670
Bid/Pay Item No.

05
Estimate No.

01
Pay Note No.

C15262
Contract No.

Materials Delivered for this Project

16" Gate Valve with Bevel Actuator
Type of Material
American Ductile Iron Pipe Company
Source of Material (Manufacturer or Fabricator)
10.00 EA 10.00
Quantity Delivered Unit Quantity Received
10.00 10.00
Total Received to Date Estimated Total Required
Daniel Neighbor 50240.00
Inspector Name Cert No

2021/7/14
Date Delivered
0.00
Quantity Rejected
on-site
Where inspected
Bob's Excavating
Delivered to (Name of Contractor/Subcontractor)
NA
Rejection explanation/reason
Visually verified supplier. AWWA C151. 16" DI
Class 50
Remarks

Type of Material
Source of Material (Manufacturer or Fabricator)
Quantity Delivered Unit Quantity Received
Total Received to Date Estimated Total Required
Inspector Name Cert No

Date Delivered Delivered to (Name of Contractor/Subcontractor)
Quantity Rejected Rejection explanation/reason
Where inspected
Remarks

Type of Material
Source of Material (Manufacturer or Fabricator)
Quantity Delivered Unit Quantity Received
Total Received to Date Estimated Total Required
Inspector Name Cert No

Date Delivered Delivered to (Name of Contractor/Subcontractor)
Quantity Rejected Rejection explanation/reason
Where inspected
Remarks

Type of Material
Source of Material (Manufacturer or Fabricator)
Quantity Delivered Unit Quantity Received
Total Received to Date Estimated Total Required
Inspector Name Cert No

Date Delivered Delivered to (Name of Contractor/Subcontractor)
Quantity Rejected Rejection explanation/reason
Where inspected
Remarks

Quality Compliance Certificate

00165.35(b) – Quality Compliance Certificate

The Certificate from the Manufacturer shall:

- Verify the Material meets the Specifications
- Prove Material delivered to the project is the same Material covered by the certificate
- Be delivered to the Engineer with the shipment of the Material



7

Good Quality Compliance Certificate

December 10, 2020

Technical Stamping
50600 E. Russell Schmidt
Chenierfield TW7, MI 48051

To Whom It May Concern:

This is to certify that the hot dip galvanizing of the following washers on your Purchase Order number 1660 conforms to specification ASTM A-153. The following sizes and lot numbers comply with the coating, workmanship, finish, and appearance requirements of ASTM F2329 specifications. The hot dip galvanizing is RORIS compliant. The galvanizing process was conducted in a temperature range of 850F to 850F.

PIECES	PARTS & SIZE	LOT NUMBER	AVERAGE ZINC COATING IN MILS
15153	#F0112 1-1/2" WASHER	0920-583	3.83

This certification in no way implies anything other than the quality of our hot dip galvanizing as it pertains to your order.

This product was galvanized in Rockford, IL USA

Yours very truly,
AZZ Galvanizing Rockford, IL

Matthew Roewer
Operations Manager

8



December 10, 2020

Technical Stamping
50600 E. Russell Schmidt
Chesterfield TWP, MI 48051

To Whom It May Concern:

This is to certify that the hot dip galvanizing of the following washers on your Purchase Order number 1660 conforms to specification ASTM A-153. The following sizes and lot numbers comply with the coating, workmanship, finish, and appearance requirements of ASTM F2329 specifications. The hot dip galvanizing is ROHS compliant. The galvanizing process was conducted in a temperature range of 830F to 850F.

<u>PIECES</u>	<u>PART# & SIZE</u>	<u>LOT NUMBER</u>	<u>AVERAGE ZINC COATING IN MILS.</u>
15153	#F0112 1-1/2" WASHER	0920-583	3.83

This certification in no way implies anything other than the quality of our hot dip galvanizing as it pertains to your order.

This product was galvanized in Rockford, IL USA

Yours very truly,

AZZ Galvanizing Rockford, IL


Matthew Roewer
Operations Manager



UNIVERSAL INDUSTRIAL SALES, INC.

PO BOX 699 – PLEASANT GROVE, UT 84062 | PH (801) 785-0505 - FAX (801) 785-1710

QUALITY COMPLIANCE CERTIFICATE

STATE OF OREGON

PROJECT: US101 N.E. Devils Lake Road, ODOT #14861

UIS ORDER NO: 60771

UIS CUSTOMER: Columbia River Contractors, Inc.

The steel materials covered by this certification meet the requirements of Oregon DOT Specifications and Project Specifications as noted above and were **MELTED AND MANUFACTURED IN THE UNITED STATES OF AMERICA IN ACCORDANCE WITH THE "BUY AMERICA ACT"**.

Signed: Scottee Mace
Name: Scottee Mace
Title: Guardrail Material Quality Control
Date Signed: April 14th, 2016

UNIVERSAL INDUSTRIAL SALES, INC. | **GALVANIZING DIVISION**

This is to certify that all galvanizing conforms to the requirements of ODOT Specifications and Project Specifications as noted above. The materials covered by this certification have gone through the galvanizing process in the United States of America. This process complies with FHWA Buy America 23U.S.C.313

Signed: Scottee Mace
Name: Scottee Mace
Title: Guardrail Material Quality Control
Date Signed: April 14th, 2016

US101 @NE Devils Lake Rd
Lincoln City Oregon Coast Hwy
49V-009 Lincoln Co HSIP-S009(455)
C14861 CON03790 k17811
BI Note Est Date

Quality Compliance Certificate

Is this a valid Quality Compliance Certificate?

UIS

UNIVERSAL INDUSTRIAL SALES, INC.
PO BOX 699 - PLEASANT GROVE, UT 84062 | PH (801) 785-0505 - FAX (801) 785-1710
QUALITY COMPLIANCE CERTIFICATE

STATE OF OREGON
PROJECT: US101 N.E. Devils Lake Road, ODOT #14861
UIS ORDER NO: 60771
UIS CUSTOMER: Columbia River Contractors, Inc.

The steel materials covered by this certification meet the requirements of Oregon DOT Specifications and Project Specifications as noted above and were MELTED AND MANUFACTURED IN THE UNITED STATES OF AMERICA IN ACCORDANCE WITH THE "BUY AMERICA ACT".

Signed: Scottie M. M...
Name: Scottie M. M...
Title: Guardrail Material Quality Control
Date Signed: April 14th, 2016

UNIVERSAL INDUSTRIAL SALES, INC. | GALVANIZING DIVISION
This is to certify that all galvanizing conforms to the requirements of ODOT Specifications and Project Specifications as noted above. The materials covered by this certification have gone through the galvanizing process in the United States of America. This process complies with FHWA Buy America 23U.S.C.313

Signed: Scottie M. M...
Name: Scottie M. M...
Title: Guardrail Material Quality Control
Date Signed: April 14th, 2016



9

Quality Compliance Certificate

Is this a valid Quality Compliance Certificate?

UIS

UNIVERSAL INDUSTRIAL SALES, INC.
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Title: Guardrail Material Quality Control
Date Signed: April 14th, 2016

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This is to certify that all galvanizing conforms to the requirements of ODOT Specifications and Project Specifications as noted above. The materials covered by this certification have gone through the galvanizing process in the United States of America. This process complies with FHWA Buy America 23U.S.C.313

Signed: Scottie M. M...
Name: Scottie M. M...
Title: Guardrail Material Quality Control
Date Signed: April 14th, 2016

A. Yes

B. No



10

00165.35(a) Test Result Certificate

- material furnished has been sampled and tested and the test results meet Specifications.
- Include a copy of the specified test results (AASHTO, ASTM, UL or other) and identify testing agency.
- Prove Material delivered to the project is the same Material covered by the certificate.
- Be delivered to the Engineer with the shipment of the Material.



11

[illegible]

Good Test Result Certificate

Clearly identifies what spec
or test method used

Clearly shows the test results

12

Date: February 26, 2021

Customer: ACF West Inc.

PO No.: 063707-DS

Invoice No.: 03/21/ACFW

Cont No.: BEAU 4668891

Product Description: **ACF200-12.5'x432'** is woven slit tape geotextile, comprised of polypropylene yarns from polypropylene fiber and UV additives. ACF200-12.5'x432' is produced in Vietnam.

We certify our shipment to **ACF West Inc.** has the following specifications:

PROPERTIES	ASTM TEST METHOD	MARV
GRAB TENSILE	D4632 (MD/CD)	266.8 lbs / 234.9 lbs
GRAB ELONGATION	D4632 (MD/CD)	19 % / 20.6 %
UV RESISTANCE (3.0 oz)	D4355 (MD/CD)	84.7 % / 81.4 %
TRAPEZOID TEAR	D4533 (MD/CD)	107.2 lbs / 89.2 lbs
CBR PUNCTURE STRENGTH	D6241	838 lbs
APPARENT OPENING SIZE	D4751	50 US Sieve
PERMITTIVITY	D4491	7.219 GPM/ft ² / 0.112 s ⁻¹

Performed By

Verified By


Đỗ Nguyễn Bảo Ngọc

**GIA LOI JSC
GEOTEXTILE LABORATORY**


Hồ Thị Xuân Linh

Test Report for Shipment

PRODUCT			ACF200-12.5'x432'		PO /PI #	063707-DS		Loading date		February 26, 2021		
CUSTOMER			ACF WEST INC.		INVOICE #	03/21/ACFW		Cont No.		BEAU 4668891		
									UV Resistance D4355 (3.0 oz)		MD: 84.7% CD: 81.4%	
Lot #	No. of Rolls	Roll No.	Grab Tensile MD ASTM D4632	Elongation MD ASTM D4632	Grab Tensile CD ASTM D4632	Elongation CD ASTM D4632	Trap. Tear MD ASTM D4533	Trap. Tear CD ASTM D4533	CBR ASTM D6241	AOS ASTM D4751	Flow Rate ASTM D4491	Permittivity ASTM D4491
			lbs	%	lbs	%	lbs	lbs	lbs	mm	gal/min/sf	sec ⁻¹
070121	001	2107S3203	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	002	2107S3204	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	003	2107S3205	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	004	2107S3206	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	005	2107S3207	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	006	2107S3208	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	007	2107S3209	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	008	2107S3210	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	009	2107S3211	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	010	2107S3212	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	011	2107S3301	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	012	2107S3302	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	013	2107S3303	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	014	2107S3304	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	015	2107S3305	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	016	2107S3306	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	017	2107S3307	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	018	2107S3308	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	019	2107S3309	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	020	2107S3310	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	021	2107S3311	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
	022	2107S3312	268.5	19.8	252.5	21.4	114.1	96.0	864.8	0.291	7.219	0.112
100221	023	2110Q7801	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	024	2110Q7802	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	025	2110Q7803	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	026	2110Q7804	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	027	2110Q7805	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	028	2110Q7806	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	029	2110Q7807	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	030	2110Q7808	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	031	2110Q7809	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	032	2110Q7810	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	033	2110Q7811	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	034	2110Q7812	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	035	2110Q7901	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	036	2110Q7902	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	037	2110Q7903	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	038	2110Q7904	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	039	2110Q7905	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	040	2110Q7906	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	041	2110Q7907	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	042	2110Q7908	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	043	2110Q7909	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
	044	2110Q7910	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137
045	2110Q7911	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137	
046	2110Q7912	275.2	20.0	241.8	21.1	113.7	94.8	841.8	0.294	9.055	0.137	
	047	2122V0401	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	048	2122V0402	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	049	2122V0403	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	050	2122V0404	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	051	2122V0405	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	052	2122V0406	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	053	2122V0407	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	054	2122V0408	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	055	2122V0409	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126
	056	2122V0410	279.3	18.8	247.5	21.1	113.8	100.9	877.1	0.221	8.099	0.126

Equipment List and Drawings

00165.35(c) Equipment List and Drawings

These consist of lists of proposed Equipment and Materials, such as:

- Shop drawings
- Material lists
- Equipment lists
- Catalog description
- Manufacturer's brochures

Submit these lists to the Engineer for review of conformance with the Specifications.



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Certificate of Materials Origin (Steel)

00165.35(d) Certificate of Origin of Steel Material

When specified, complete this document (ODOT Form 734-2126) as required by 00160.20 for **FEDERAL-AID** Projects

00160.20(a) Buy America

Only Projects with **Federal Highway Funds**:

- The Contractor shall not **permanently incorporate** foreign-origin iron or steel materials in excess of one-tenth of one percent (0.1%) of the Contract Amount or \$2,500, whichever is greater.
- Includes all manufacturing processes in the casting of ingots, for iron or steel materials (including epoxy coating, galvanizing, painting, and any other coating).

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KREHER STEEL COMPANY, LLC.

PORTLAND BOLT & MFG. CO.

HOT ROLLED ROUNDS A449

1.0000 X 24'3"

PART NO. 18108

PO/Rel 46766

I hereby certify that this data is correct as
contained in the records of this company.

I hereby certify that no mercury came in contact

Certificate of Mill Test Results

SO 1 -347691-001

21Jul20

with or no weld repair was done to this product
while in our possession.

Attn:

Pg 1/2

NUCOR®

Mill Certification

02/10/2020

MTR#:352506-1
Lot #:10010222920
2911 E NUCOR ROAD
PO BOX 309
NORFOLK, NE 68701 US
402-644-0200
Fax: 402-644-0329

Sold To: KREHER STEEL CO LLC
1550 N 25TH AVE
MELROSE PARK, IL 60160 US

Ship To: KREHER STEEL CO LLC
1550 N 25TH AVE
MELROSE PARK, IL 60160 US

Customer PO	1-58726	Sales Order #	10024925 - 1.2
Product Group	Hot Roll - Engineered Bar	Product #	1078267
Grade	1045CA4	Lot #	10010222920
Size	1"	Heat #	100102229
BOL #	BOL-436564	Load #	352506
Description	Hot Roll - Engineered Bar Round 1" 1045CA4 24' 3" [291"] 6001-10000 lbs	Customer Part #	
Production Date	02/05/2020	Qty Shipped LBS	46662
Product Country Of Origin	United States	Qty Shipped EA	720
Original Item Description		Original Item Number	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

Melt Country of Origin : United States

Melting Date: 01/05/2020

C (%)	Mn (%)	P (%)	S (%)	Si (%)	Ni (%)	Cr (%)	Mo (%)	Cu (%)	V (%)	Nb (%)	Zr (%)
0.49	0.77	0.011	0.024	0.24	0.07	0.10	0.02	0.16	0.003	0.002	0.002
N (PPM)	Sn (%)	Al (%)	Pb (%)	Ca (%)	B (%)	As (%)					
70	0.006	0.03	0.000	0.002	0.0000	0.004					

Ni + Cr + Mo (%) : 0.19

Austenitic fine grain by chemical analysis per the latest revision of ASTM A29

Reduction Ratio 55.88 : 1

ASTM E45 Method A (Worst)

Sulfides: T: 1.5 H: 0.5 Alumina : T: 1.5 H: 0.5 Silicates T: 0.5 H: 0.0 Globular T: 1.0 H: 0.5

Other Test Results

Macroetch E381 Surface : 1

Macroetch E381 Mid Radius : 1

Macroetch E381 Center : 3

DI Calculated (IN) : 1.38

Comments:

ASTM A576-90B

JDM AO QL-2

EN 10204 3.1

EN 10204 3.1

All manufacturing processes of the steel materials in this product, including melting, have been performed in the United States.

Finished product is hot rolled in the United States.

All products produced are weld free.

Mercury, in any form, has not been used in the production or testing of this material.

Test conform to ASTM A29-16, ASTM E415 and ASTM E1019-resulphurized grades or applicable customer requirements.

All material melted at Nucor Steel Nebraska is produced in an Electric Arc Furnace.

Strand Cast

Tests included in ISO 17025 scope: Chemistry, Tensile, Brinell Hardness, Rockwell Hardness, Inclusion, and Grain Size.


Exporting Country-USA

Sales@nucor.com

NBMG-10 January 1, 2012

Jim Hill, Division Metallurgist

Page 1 of 2



CERTIFICATE OF MATERIALS ORIGIN

PROJECT NAME (SECTION): OR 140 Brett Way
CONTRACT NO.: 15262

BID ITEM NO.: 1300
BID ITEM NAME: Lighting Pole and Arm

DOMESTIC MATERIALS SOURCE (NAME AND ADDRESS):
Portland Bolt & Mfg
3441 NW Guam St
Portland OR 97210

DOMESTIC MATERIALS DESCRIPTION:
ASTM F1554g36 Anchor Bolts
ASTM A449 Anchor Bolts
ASTM A36 Plates
ASTM A563 DH Hex Nuts
ASTM F436 Washers

FOREIGN MATERIALS SOURCE (INCLUDING MATERIAL OF UNKNOWN ORIGIN (NAME AND ADDRESS)):
None

FOREIGN MATERIALS (OR OF UNKNOWN ORIGIN) DESCRIPTION AND VALUE OF IRON OR STEEL PRODUCT AS IT IS DELIVERED TO THE PROJECT:
None


Authorized Representative: Dave McInnis
Title: Project Manager
Signature: [Signature]
Date: 6-29-2021

Company Name and Address: Portland Bolt & Mfg Inc.
3441 NW Guam St
Portland OR 97210

734-2126 (2-48) ORIGINAL TO PROJECT MANAGER

CMO
(Certificate of Materials Origin)

Form 734-2126



NOTE:
A CMO is always required!!
A statement of origin on the Quality Compliance Certificate does not satisfy the Buy America requirements

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Certificate of Materials Origin
Foreign Steel


Project name and bid item

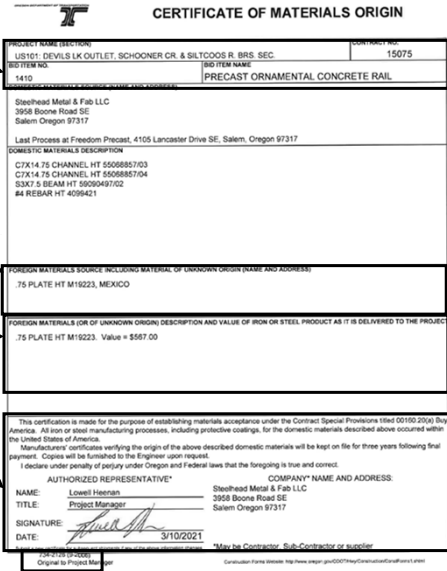
Source of material not supplier

Description and actual cost to Contractor

Signatures and address

Form number





CERTIFICATE OF MATERIALS ORIGIN

PROJECT NAME (SECTION): US101: DEVILS LK OUTLET, SCHOONER CR. & SILTCOOS R. BR. SEC.
CONTRACT NO.: 15075

BID ITEM NO.: 1410
BID ITEM NAME: PRECAST ORNAMENTAL CONCRETE RAIL

Steelhead Metal & Fab LLC
3958 Boone Road SE
Salem, Oregon 97317

Last Process at Freedom Precast, 4105 Lancaster Drive SE, Salem, Oregon 97317

DOMESTIC MATERIALS DESCRIPTION:
C7X14.75 CHANNEL HT 5506885703
C7X14.75 CHANNEL HT 5506885704
S3X7.5 BEAM HT 5505060702
#4 REBAR HT 4099421

FOREIGN MATERIALS SOURCE (INCLUDING MATERIAL OF UNKNOWN ORIGIN (NAME AND ADDRESS)):
75 PLATE HT M19223, MEXICO

FOREIGN MATERIALS (OR OF UNKNOWN ORIGIN) DESCRIPTION AND VALUE OF IRON OR STEEL PRODUCT AS IT IS DELIVERED TO THE PROJECT:
75 PLATE HT M19223, Value = \$587.00

Authorized Representative: David McInnis
Title: Project Manager
Signature: [Signature]
Date: 3/10/2021

Company Name and Address: Steelhead Metal & Fab LLC
3958 Boone Road SE
Salem, Oregon 97317

734-2126 (2-48) ORIGINAL TO PROJECT MANAGER

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Unknown Casing Source Marked as Temporary



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Certificate of Origin of Construction Materials

00165.35(e) Certificate of Origin of Construction Materials

When specified, complete this document (ODOT Form 734-5378) as required by 00160.20 for **FEDERAL-AID** Projects

00160.20(d) Build America Buy America Requirements

Only Projects with **Federal Highway Funds**:

- The Contractor shall not **permanently incorporate** foreign-origin non-ferrous metals, plastic or polymer-based products, glass, lumber or drywall
- Manufactured products assembled outside the Project Site are not subject to BABA

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▪ ODOT Materials Inspection Report

■ Laboratory Report



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Non-Field Tested Materials Quality Compliance Document

Milwaukie Structural Inspection Crew

Using the ODOT Lab Inspection Report with the “built-in” FIR

FIELD USE ONLY

Scott Nelson, Structure Services Engineer

Page: 1 of 2



FABRICATION INSPECTION REPORT

Materials Laboratory, 800 Airport Road SE, Salem OR 97301

Project Name: OR140: Brett Way Extension (K Falls)		Inspection No. 14897	
Highway South Klamath Falls Highway		County Klamath	Contract No. C15262
Contractor Rocky Mountain Construction LLC		FA Project No. 3970(028)	Expenditure Account CON04389
Project Manager Tom Feeley		Reported By Grey, John	
Shipment Of Galv A449 rod and hardware		Shipping Point Portland, OR.	Destination Jobsite
Consigned To Columbia Pacific Sales / T3 Electrical & Construction		Specification ASTM A449	Bid Item No. 1300
Inspected At Portland Bolt & Manufacturing Co. Inc.		Inspected By Grey, John	Date Inspected 07-01-21
Report No.	Quantity Represented SEE BELOW	Quantity Previously Reported	Total Quantity Reported

Quantity	Unit	Description	Bid Item No.	Comments
39	EA	1" x 42" Galv A449 rods W/ 6" TOE, 3" TOE	1300	Lab # 21-001389. Lighting poles & arms
78	EA	1" Galv A563 DH hvy hex nuts		
78	EA	1" Galv F436 hard washers		
39	EA	1" x 6" x 6" Blk A36 plates with 1-1/4" HOC, W/ nut tack welded on.		
39	EA	1" Galv A563 DH hvy hex nut tack welded onto A36 plate washers		
8	EA	1-1/2" x 42" Galv F554 GR36 rods, 6" TOE, 3" TOE.		
16	ea	1-1/2" Galv A563 DH hvy hex nuts		
16	EA	1-1/2" Galv F436 hard washers		
8	EA	5/8" x 4" x 4" Blk A36 plate W/ 1-3/4" HOC, with 1-1/2" nut tack welded on.		
8	EA	1-1/2" Galv A563 DH hvy hex nuts tack welded onto A36 washer plate		

Units are subject to field inspection for final acceptance pursuant to the current edition of the Oregon Standard Specifications for Construction.

MATERIAL REPRESENTED BY THIS REPORT ☒ DOES ☐ DOES NOT COMPLY WITH SPECIFICATIONS
Based on: Inspection ☒ Certification ☒ Lab ☒

Remarks
Item tagged for I.D.

Scott Nelson, Structure Services Engineer

FIELD USE ONLY

FIELD INSP. NO.	BID ITEM NO.	QUANTITY ACCEPTED	TOTAL TO DATE	QUANTITY REJECTED (EXPLAIN)	
MATERIAL REPRESENTED BY LAB REPORT ABOVE RECEIVED ON JOB VERIFIED BY				INSPECTED BY	DATE
<input type="checkbox"/> SAMPLE NUMBER.		<input type="checkbox"/> ODOT TAG MARK			
<input type="checkbox"/> AASHTO/ASTM MARK		<input type="checkbox"/> OTHER (EXPLAIN BELOW)			
REMARKS					

DISTRIBUTION: Files Portland Materials Lab Tom Feeley Rocky Mountain Constructio

ODOT Lab Reports

Issued by the Salem Lab
Provides actual physical testing including:

- Guard rail anchor cables
- Anchor bolts
- Mechanical splices
- Other (paint, curing compounds, etc.)

ODOT DEPARTMENT OF TRANSPORTATION
INTEGRITY LABORATORY
 800 AIRPORT RD. SE SALEM, OR 97301-4792
 (503) 986-3900
 FAX (503) 986-3996

Page 1 of 1

Contract No.: C15262
 Project: OR140: BROOK WAY EXTENSION (K FALLS)
 Highway: SOUTH CLATSOP FALLS
 County: CLATSOP
 Contractor: ROCKY MOUNTAIN CONSTRUCTION LLC
 Project Manager: TOM FOLEY
 Submitted By: JOHN GREY
 Material Source: KERRON STEEL
 Sampled At: PORTLAND ROSS
 DATE Sampled: 21/ 7/ 1
 Type of Test: Verification

EA No.: CON04389
 Lab No.: 21-001389
 Data Sheet No.: P41333 407
 PA No.: 3979(028)
 Bid Item No.: 1300
 Sample No.:
 QTY Represented: 39
 Witnessed By:
 Reported: 21/ 7/ 9
 User: J*H42* ROD

A449 TEST REPORT

Description: Anchor Rod
 Manufacturer: KERRON STEEL
 Heat No.: 100102229
 Lot No.:
 Size: 1.00
 Coating: Zinc
 Material Type: A449

Specimen No.: 1

Dimension Check: OK
 Test Area (in²): 0.7854
 Yield Load (lb): 82,345
 Yield Strength (psi): 104,800
 Tensile Load (lb): 94,055
 Tensile Strength (psi): 120,300
 Coating (oz/ft²): 5.20

1.0 THICKNESS ±0.00

REMARKS:
 Material represented by sample DOES comply with specifications.

TOTAL CHARGES: 0 0.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY

BY FILE: PROJ. NO.: TOM FOLEY : ROCKY MOUNTAIN CONSTRUCTION LLC : KERRON STEEL : PORTLAND ROSS : ROD & QAT
 : PORTLAND MATERIALS : PORTLAND TESTING :

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00170.85(b) – Warranty Requirements

Manufacturer Warranties

- Must be the original warranty (no copies or faxes)
- Job specific
- Signed by manufacturer's representative
- Warranty starts on the date the Engineer accepts the Work and authorizes the final payment unless otherwise specified in the contract



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Contract No.: C15498

EA No.: CON04700

Lab No.:

24-002208

Project: I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2

Highway: PACIFIC

County: MARION

Data Sheet No.: F43930 376

Contractor: HP CIVIL INC

FA No.: S001(554)

Project Manager: NICK DONNELLY

Org Unit: DEA

Bid Item No.: 1430

Submitted By: CHRIS MCDONALD

Org Unit: 7873

Sample No.: 1

Material Source: KRC HARRISBURG

Qty Represented: 3 YD3

Field Tests By :

Cylinders By : JOE RAMIREZ

Witnessed By:

DATE-Sampled: 24/ 8/28

Received: 24/ 9/10

Tested: 24/ 9/25

Reported: 24/ 9/25

Type of Test: Verification

Use: 33" BOX BEAM 24041

Sampled at:

CONCRETE CYLINDER TEST REPORT - ENGLISH

CYLINDER SET INFORMATION

Set Number : 1	Slump (in) (C143) : 9.50
Number of Cylinders : 3	Air Content (%) (C231) : 1.8
Cylinder Size (in) : 4 x 8	Unit Weight (lb/ft3) (C138) : 149.5
Strength Required (psi) : 7000 in 28 Days	Water/Cement Ratio : 0.31
Cement + Flyash (lb/yd3) : 756.0	Concrete Temperature (°F) (C1064) : 69.0

MIX DESIGN

Materials Lab ID No. : 24-CMD915	MD Slump (in) : 10.0
Contractors ID No. : T76N3G	MD Air Content (%) : 2.0
Design Strength : 9000 psi in 28 Days - 62.0 MPa	MD Unit Wt (lb/ft3) : 149.8
Type of Concrete : Precast Concrete Members	MD Water/Cement Ratio : 0.30

LAB RESULTS

Cylinder ID No.	Date Tested	Cylinder Age(days)	Dia (in)	X-Sec (in2)	Total Load(lbf)	Strength (psi)	Type of Fracture
A	24/ 9/25	28	4.04	12.82	127370	9940	Diagonal
B	24/ 9/25	28	4.03	12.76	144250	11310	Columnar
C	24/ 9/25	28	4.03	12.76	144420	11320	Columnar
Average Strength : 10860 psi						74.9 MPa	
Specimens tested in accordance with AASHTO T22/ASTM C39							

3@ 719X =\$ 42.
3@ 954X = 12.

REMARKS:

Concrete represented by these cylinders DOES meet required strength.

*

TOTAL CHARGES: \$ 0.00

KEVIN BROPHY - LABORATORY SERVICES MANAGER

REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL OF THIS LABORATORY.

C: FILES ; PROJ MGR: NICK DONNELLY - DAVID EVANS & ASSOCIATES ; REG 2 Q.A.C. ; HP CIVIL INC ; PHYSICAL TESTING
KRC HARRISBURG ; EUGENE MATERIALS ; FHWA ; CONSTRUCTION - A. JOHNSON

Written Warranties – Forms

Example of Striping Warranty

Available at the ODOT Construction forms webpage:
<https://www.oregon.gov/ODOT/Construction/Pages/Forms.aspx>



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Example of Material Conformance Document Field Tested Material

NUCLEAR COMPACTION TEST REPORT

Project: OR140, Beavertown Extension (N. Falls) Project
 Station: 35+15
 Date: 9/1/2021

Test Results:

Test	Value	Unit
Moisture (%)	15.3	%
Density (pcf)	118.3	pcf
Optimum Moisture (%)	15.3	%
Maximum Dry Density (pcf)	118.3	pcf

Percent Compaction: 97.1

Specific type of forms
specified in Manual of
Field Tested Materials
(MFTP)

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NUCLEAR COMPACTION TEST REPORT

E English (E) or Metric (M)

PROJECT NAME (SECTION) I-5: Aurora - Donald Interchange (Exit 278)		CONTRACT NUMBER 15498	
CONTRACTOR OR SUPPLIER HP Civil		PROJECT MANAGER Nick Donnelly, DEA	
TEST LOCATION (STATION) STA 5 + 75		OFFSET (DISTANCE FROM CENTERLINE) 4 feet left of centerline (CL)	
TEST NUMBER V-1	DISTANCE BELOW GRADE few feet below final grade	LIFT N/A	LIFT THICKNESS 8 inch
DATE 10-3-24			
CODES FOR ROLLER TYPES SDV-SINGLE DRUM VIBRATORY SF-SHEEP FOOT DDV-DOUBLE DRUM VIBRATORY GR-GRID ROLLER		ROLLER TYPE AND DESCRIPTION (MANUFACTURE, WEIGHT, ETC) CAT sheeps foot (SF) 815 B	

REPRESENTS MATERIAL / AREA INCORPORATED

FROM: STATION	5 + 00	OFFSET	4 feet left CL	DIST. BELOW GRADE	approx 2 ft
TO: STATION	7 + 00	OFFSET	4 feet left CL	DIST. BELOW GRADE	approx 2 ft
CHECK BOX	<input type="checkbox"/> DEFLECTION OBSERVED UNDER LOADED EQUIP.	<input checked="" type="checkbox"/> NO DEFLECTION OBSERVED UNDER LOADED EQUIP.			
	<input type="checkbox"/> MOISTURE IS NOT WITHIN SPECIFICATION	<input checked="" type="checkbox"/> MOISTURE IS WITHIN SPECIFICATION			

AASHTO T 310		Wet Density	lb/ft³	Moisture	lb/ft³	Dry Density	Percent Moisture
Shot 1		128.7		11.7		WD - M	(M / DD) X 100
Shot 2		128.7		12.1			
Average		WD 128.7		M 11.9		DD 116.8	%M 10.2 %
(shots within 2 lb/ft³)							

AASHTO	A	No.4	COARSE	8133.6	FINE	10830.5	% Coarse	43
T 99	D	3/4	COARSE	687.1	FINE	7446.5	% Coarse	8

MASS OF MOLD AND MATERIALS	MASS OF MOLD	MASS OF WET MATERIAL (M)	WET DENSITY lb/ft³	SPEEDY MOISTURE % WET (B)	DRY (C)	AASHTO T 255 / T 265 MOISTURE % WET (a) DRY (b) % M (c)			DRY DENSITY lb/ft³ (D)
UNSCREENED COMBINED IN-PLACE MOISTURE →						3072.3	2869.8	7.1	
10039.2	5675.2	4364.0	128.3			4242.8	3920.5	8.2	118.6

WD (A) = (M) X (MF) MOLD FACTOR
MOLD FACTOR (MF) **0.02939**
Mold factor calib. Annually per AASHTO T-19M/T

SPEEDY MOISTURE % (C) = $\frac{(B)}{100 - (B)} \times 100$	T 255 / T 265 MOISTURE % (C) = $\frac{(a) - (b)}{(b)} \times 100$	DRY DENSITY (D) = $\frac{(A)}{(C)+100} \times 100$
--	---	--

Pc (T 224) (from A or D above)	Pf (T 224) (Pf = 100 - Pc)	CURVE NO.	DRY DENSITY Df	OPTIMUM MOISTURE	MCf	k (Gsb x 62.4)	MCc
8	92	5NK	121.0	9.7			

COMBINED IN-PLACE MOISTURE (C) = unaltered one-point moisture W = $\frac{(C)P_f + MC_c P_c}{100}$ W = 7.1	COMBINED OPTIMUM MOISTURE (MCT) (Based on Curve Info.) MCr = $\frac{MC_f P_f + MC_c P_c}{100}$ MCr = 9.7
--	---

CORRECTED DRY DENSITY DD = $WD / (1 + (W/100))$ DD WD 1+(W/100) 120.2 = 128.7 / 1.071

RELATIVE MAXIMUM DRY DENSITY Dd = $\frac{Pf}{Df} + \frac{Pc}{k}$ 121.0 = $\frac{92}{121.0} + \frac{8}{k}$	Dd 100 121.0 = $\frac{100}{k}$
---	--

PERCENT COMPACTION

Original or Corrected (DD / Dd) x 100

Percent Required	95	PERCENT OBTAINED	99
------------------	-----------	------------------	-----------

REMARKS			
<input type="checkbox"/> QUALITY CONTROL <input checked="" type="checkbox"/> VERIFICATION	TYPE GAUGE-SERIAL NUMBER: Humboldt - SN 10030		
CERTIFIED TECHNICIAN (PLEASE PRINT) AND CARD NUMBER	COMPANY NAME	SIGNATURE	DATE
	ODOT Reg 2 QA		10/8/2024

Source Document Examples

- Field notes
- Calculations
- Invoices
- Reports



25

T		Pay Note (Work Record)																																																						
Project Information																																																								
QH 142 (Best Way Extension (K Falls) Project)		CCHD4359	000																																																					
Project No.		SF	00																																																					
		Year	01																																																					
		City/Township	C142002																																																					
		County	000000																																																					
M-100 (Gate Value With Sewer - Grey Activator)		1970	Thomas J. Frealey, PE																																																					
Drawing Number		Revision Number	Current Neighbor																																																					
Method of Quality Assurance																																																								
Requesting Documents Provided as Part of Pay Note or as Letters for Definition:		<input type="checkbox"/> No Quality Documentation Required	<input type="checkbox"/> QPL																																																					
<input type="checkbox"/> S	<input type="checkbox"/> Q	F - Field Inspection Report (FIR) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Previously Submitted</th> <th>Estimate No.</th> <th>Pay Note No.</th> <th>LTR</th> <th>QPL</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>005</td> <td>001</td> <td></td> <td><input type="checkbox"/> No QPL</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - Approved</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - Quashed</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - No</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - No</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - No</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - No</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/> QPL - No (Follows)</td> </tr> </tbody> </table>	No.	Previously Submitted	Estimate No.	Pay Note No.	LTR	QPL	<input type="checkbox"/>	<input type="checkbox"/>	005	001		<input type="checkbox"/> No QPL	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - Approved	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - Quashed	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - No	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - No	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - No	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - No	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/> QPL - No (Follows)
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Quantity Data																																																								
Excavation: _____	EACH	<input type="checkbox"/> Nonreplacement	2021/9/27																																																					
Backfill: _____	_____	<input type="checkbox"/> Material to Place Initial	Noted by Inspector																																																					
Gravelly Fill Area: _____	(in sq ft.)	<input type="checkbox"/> Final Approval	See Meeting Per Completion Date																																																					
Final Quantity to Bill: _____	_____	<input type="checkbox"/> Volume in Notes	See Meeting on Next Page Below																																																					
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<input type="checkbox"/> Photos Attached <input type="checkbox"/> Illustration Attached																																																								

714-3005 Printed January 2022



Installation Sheet or "Paynotes"

Form 734-2605

Must include the following:

- Project identification
- Pay Item identification
- Signatures
(inspector/ checker)

26

2728



Pay Note
(Project Work Record)

Project Information

I-5: AURORA DONALD INTERCHANGE (EXIT 278) PHASE 2	CON04700	011	05	02	15498
Project Name	EA	Subjob	Estimate		Contract
FLAGGERS	0080	NICK DONNELLY			
Item Description	Bid/Pay Item	Resident Engineer	Prepared by		

Method of Quality Assurance

Quality Documentation*	F - Field Inspection Report (FIR) Tracking	QPL																																			
<input type="checkbox"/> C - Const. Mat'l's CMO <input type="checkbox"/> L (Report #) _____ <input type="checkbox"/> I (Report #) _____ <input type="checkbox"/> W <input checked="" type="checkbox"/> P <input type="checkbox"/> Field Tested Material <input type="checkbox"/> Small Quantity *Click on letters for definitions.	<table><tr><th>New*</th><th>Previous</th><th>Estimate</th><th>Pay Note</th><th>Link (opt.)</th></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>_____</td><td>_____</td><td>_____</td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>_____</td><td>_____</td><td>_____</td></tr></table> *This box is not the FIR - New Field Inspection page(s) must be completed!	New*	Previous	Estimate	Pay Note	Link (opt.)	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	<input checked="" type="checkbox"/> No QPL <input type="checkbox"/> QPL - Approved <input type="checkbox"/> QPL - Qualified QPL # _____ QPL # _____ QPL # _____ QPL # _____ Future QPL # _____
New*	Previous	Estimate	Pay Note	Link (opt.)																																	
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<input type="checkbox"/> No Quality Acceptance Documentation Required	<input checked="" type="checkbox"/> Visual Acceptance	<input type="checkbox"/> Illustrations or Photos
---	---	--

Quantity Data

153.000	H	<input type="checkbox"/> Remeasurement	20240910
Previous Quantity	Unit		Installation Date
140.000 (+ or -)		<input checked="" type="checkbox"/> Measured in Place Method	
Quantity This Note		<input type="checkbox"/> Partial Payment	Item Completion Date
293.000		<input type="checkbox"/> Lump Sum Breakdown	
Total Quantity to Date		<input type="checkbox"/> Material on Hand (see Material on Hand page below)	

Calculations and/or Remarks

Work performed per Section 00223.00.

Reviewed by

Quality Checker (add Cert # if applicable)	Date	Quality Checker (add Cert # if applicable)	Date
--	------	--	------



15498

Contract

[illegible]

Flagging Ticket on Doc Express

- Daily record hours
- Signature shows agreement

[illegible]

29

Weigh Memo (Truck Tickets)

- Certified scales with passing check weights
- Meet requirements of 190.20(f)(3)



KNIFE RIVER

AN MDU RESOURCES COMPANY

Hardrock Aggregate

Ticket No.: **28014574**

Date: 7/8/2015 Time: 6:17:30AM

Vehicle: KN1522TP KNIFE RIVER TRUCK & F

Customer: 482039 SCARSELLA BROTHERS INC

Order: 27989 EDDYVILLE PHASE 3 EAST SIDE

P.O.:

Product: 24996006 6" SPECIAL ROCK

Pounds	Tons	Metric
Gross 102300	51.15	46.40
Tare 38040	19.02	17.25
Net 64260	32.13	29.15

Ordered _____

Remaining _____

Today 32.13 Loads: 1

Weightmaster: Ashley Scheer

PH3/US20 POME UPRR- Eddyville
Corvallis - Newport Hwy 47V/039
Lincoln Co K14670 CN30608
NHPP-S033(049) K18237

Received _____

By WJ Note Est Date

OFFICE COPY



30

Remember!

Quantity Documentation

- Prepare documents at the time and place of delivery
- Line out changes – no erasing or white out
- Computer generated formulas **must be shown**
- Use accurate and easy to follow measurements
- DO NOT make payment without:
 - Proper quality documentation
 - Quantity calculations



Construction Manual Section 12-D-2

31

Key Inspection Points

- Make accurate and timely measurements
- Clear and concise paynotes
- Document when Bid Item is complete
- Pay attention to quantities for overruns
- Timely quality documentation
- Match quality documentation to materials being delivered
- Accurate and detailed FIR



32

Unit 13 Review:



- ✓Quality Documents
- ✓Quantity Documents
- ✓Quality and Quantity sheet
- ✓Field Inspection Reports (FIR)
- ✓Installation Sheets (Paynotes)
- ✓Weigh Memos





33

INSERT TAB

Unit 14 CA
General Requirements

<h2>Unit 14</h2> <p>Contract Administration General Requirements</p>	
	

1

<h3>Unit 14 Topics:</h3> <ul style="list-style-type: none">▪ Contract Work▪ Change Orders▪ Extra Work▪ Differing Site Conditions▪ Disputed Work▪ Notice of Delay▪ Request for Contract Time		
		

2

Contract Work

- Original Contract Documents
 - Identified in the project plans and special provisions
 - Has a specific bid item in the Schedule of Items



3

Additional Work

- Increased quantities of Work
 - Within the scope of the Contract
 - Established unit price
- How much is too much?
 - 00140.30 Agency-Required Changes
 - 00195.20 Changes to Plans or Character of Work
 - Insignificant changes
 - Significant changes

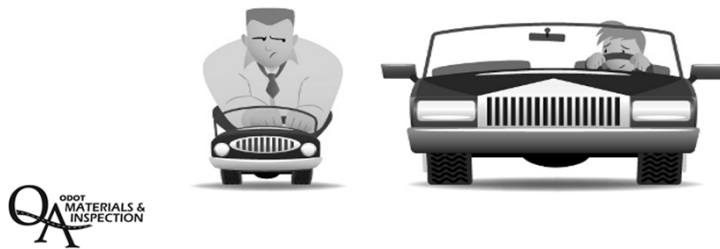


4

Changed Work

00195.20(a) Insignificant Changed Work

- If the changes made under 00140.30 do not significantly change the character or unit cost of the Work to be performed under the Contract, the Agency will pay for such Work at the Pay Item price.



5

Changed Work

00195.20(b) Significant Changed Work

- Character of the Work has changed
- Requires an adjustment of the Contract



6

Changed Work

00195.20(b) Significant Changed Work

- Character of the Work has changed
- Requires an adjustment of the Contract



7

Contract Change Orders

- Written order modifying or adding Work
- CCOs and EWOs are changes to a legal document
- CCOs takes precedence over all other Contract Documents
- Either the Agency or the Contractor may initiate Change Orders
- The CCO should address contract time



8

PROJECT NAME (SECTION) OR140: Brett Way Extension (K Falls) Project		HIGHWAY South Klamath Falls Highway	CONTRACT NO. 15262
CONTRACTOR REPRESENTATIVE Samantha Totten-Perry	NON-AGENCY REPRESENTATIVE 0	AGENCY REPRESENTATIVE Thomas J. Feeley	CCO NO. 1
CONTRACTOR ADDRESS 4815 Tingley Lane #A Klamath Falls, OR 97603	NON-AGENCY REPRESENTATIVE ADDRESS 0	AGENCY REPRESENTATIVE ADDRESS 2557 Altamont Drive Klamath Falls, OR 97603	FA PROJECT NO. 3970(028) KEY NO. K18731
CONTRACTOR PHONE # 541-882-8377	NON-AGENCY REPRESENTATIVE PHONE # 0	AGENCY REPRESENTATIVE PHONE # 541-591-0842	REGION 4
CONTRACTOR EMAIL ADDRESS stotten@rmcpave.com	NON-AGENCY REPRESENTATIVE EMAIL ADDRESS 0	AGENCY REPRESENTATIVE EMAIL ADDRESS thomas.j.feeley@odot.state.or.us	EA (CON NO.) CON04389

THIS CONTRACT IS HEREBY MODIFIED AS FOLLOWS BY THIS CCO (DESCRIPTION AND LOCATION OF WORK COVERED BY THIS ORDER):

Add Pay Item, Radar Speed Trailer.
Location, to be determined by the Engineer.

This Contract Change Order does not affect contract time.

SPECIFICATIONS AND PROVISIONS - THE WORK TO BE DONE UNDER THIS CCO IS TO BE PERFORMED, MEASURED, AND PAID FOR IN ACCORDANCE WITH THE TERMS FOR THE ABOVE CONTRACT EXCEPT AS MODIFIED AS FOLLOWS:

Add Pay Item: Radar Speed Trailer

Delete and replace Section 222.90(d) with the following
(d) Radar Speed Trailer.....Month

Complete all work according to Section 222 of the 2021 Standard Specifications, and as directed by the Engineer. This change order is full compensation for all labor, equipment, and materials to accomplish the work.

ESTIMATED NET COST EFFECT OF THIS CCO ON THE CONTRACT:	INCREASE	\$7,020.00
---	-----------------	-------------------

CONTRACTOR SIGNATURE MAKES THIS CCO A SUPPLEMENTAL AGREEMENT AND IS:

☒ Required ☐ Not Required - Unilateral CCO modifies the Contract without Contractor signature

FOR SUPPLEMENTAL AGREEMENTS ONLY: Contractor: Confirm your agreement by signing, dating and returning the original to the Resident Engineer. Work shall not begin until you are notified that the agreement has either been approved or that work may commence under advance approval. Your signature further confirms agreement that payments in accordance with the agreement constitute full and complete compensation for all costs, both direct and indirect, arising out of the described work covered by this agreement, and releases and discharges the State from other costs except as provided herein.

AGREED TO BY CONTRACTOR		DATE		ODOT AGENCY REPRESENTATIVE		DATE	
Print _____				<input type="radio"/> Recommended		Print _____	
Sign _____				<input type="radio"/> Approved		Sign _____	
RECOMMENDED BY LOCAL AGENCY		DATE		ODOT AREA MANAGER		DATE	
Print _____				<input type="radio"/> Noted		Print _____	
Sign _____				<input type="radio"/> Recommended		Sign _____	
				<input type="radio"/> Approved		Sign _____	
RECOMMENDED BY NON-AGENCY REPRESENTATIVE		DATE		ODOT CONSTRUCTION SECTION		DATE	
Print _____				<input type="radio"/> Noted		Print _____	
Sign _____				<input type="radio"/> Approved		Sign _____	

**DAILY FORCE
ACCOUNT RECORD**

[illegible]

Exception vs CCO

Do I need an Exception or a Contract Change Order?

- A CCO or Exception is NOT required when:
- A CCO is required when:
- An Exception Letter/Form is required when:



9

Do I need an Exception or a Contract Change Order?

<p>A CCO or Exception is NOT required when:</p> <p>There are no changes to the Contract Documents.</p> <p>The Standard price adjustments (6000 series payment CPS) are being applied.</p> <p>Examples:</p> <p>Concal, StatSpec. Adjustments on some failing materials (i.e. Tack, Asphalt binder, etc.).</p> <p>Lump sum adjustments with estimated quantities found in Special Provisions.</p>
<p>A CCO is required when:</p> <p>There are changes to the requirements, specifications or design.</p> <p>There are changes in testing requirements.</p> <p>Money is due to ODOT.</p> <p>Money is due to the Contractor.</p> <p>When there is a zero net cost and a change has been made to the contract.</p> <p>Accepting a reduced quality product, also known as (Non Standard adjustment).</p> <p>Allowing Non-Specification material to remain in place*.</p> <p>Examples:</p> <p>Concrete strength is less than 85%**.</p> <p>Not Oregon certified Permanent seeding.</p> <p>When accepting 3000 psi concrete in place of 4000 psi.</p> <p>Note:</p> <p>*Requires concurrence from the Specification Technical Resource. One may also need an adjustment in the CCO for the shortened life of the material over and above the standard adjustment (if there was one).</p> <p>** Requires an adjustment for concrete less than 85% of required strength and concurrence from the Engineer of Record allowing the material to may remain in place. One may also need an adjustment in the CCO for the shortened life of the material over and above the adjustment for strength.</p>
<p>An Exception Letter/Form is required when:</p> <p>Acceptance of the materials is done by an alternate means.</p> <p>Examples:</p> <p>Missing QC Tests***, Missing check weights, Missing Quality Certification, Missing Tare Weights, Missing Lab inspection, Missing weigh back for tack payment, Missing scale certification, and Missing Verification tests****.</p> <p>Note:</p> <p>***Requires a standard adjustment for missed tests and or reports to be made in the 6000 series in CPS. Also requires an Exception Letter. Contact Technical Resource immediately so that it can be determined if there are enough QC tests to accept with an Exception or if a CCO is needed for acceptance.</p> <p>****ODOT internal issue requires concurrence from specification Technical Resource.</p> <p>Technical Resource list Link: http://www.oregon.gov/ODOT/HWY/SPECS/Pages/manuals_forms_etc.aspx</p>



10

Extra Work

Work NOT included in the Contract...but necessary to complete the Project

- Most Extra Work is required due to errors or oversight during project development and the contract documents.
- *A common example of Extra Work is a project plan set that neglected to include the need to install sidewalk. Since there was no similar work within the original project scope, this would be considered Extra Work.*



11

Extra Work

Extra Work is often not caused by dramatic events.

- Extra Work requires an adjustment of the Contract. If the Resident Engineer (RE) and Contractor cannot agree on a negotiated price, then the RE may issue an Extra Work Order and require the Contractor to perform the Work and pay for the Work as Force Account Work.



12

EXTRA WORK ORDER

TO BE PERFORMED ON A FORCE ACCOUNT BASIS

NOTICE: THIS FORM MUST BE TYPEWRITTEN

PROJECT NAME (SECTION) FFO - US20 PME: UPRR - EDDYVILLE (PHASE 3)		KEY NO. 18327	REGION 2	CONTRACT NO. C14670
HIGHWAY CORVALLIS-NEWPORT HWY		PROJECT MANAGER Steve Schultz PE		AGENCY PM NA
CONTRACTOR NAME AND MAILING ADDRESS SCARSELLA BROS INC PoBox68697 Seattle WA 98168-0697		PM (CONSULTANT OR LOCAL AGENCY) NAME AND ADDRESS		F.A. PROJECT NO. NHPP-S033(049)
				EWO NO. 01
				SUBJOB 000

THE FOLLOWING FORCE ACCOUNT WORK TO BE PERFORMED AND PAID FOR IN ACCORDANCE WITH THE CONTRACT TERMS:
DESCRIPTION AND LOCATION OF EXTRA WORK:

Eddy B inlet repair per attachment "A"

☐ Attach copy of PM's written prior authorization to Contractor to perform work.

ESTIMATE OF QUANTITIES AND COSTS

Estimated Tracked Costs (Labor +Equipment):

Construct Access - M3 line per contract - No additional cost
Water Management - sandbag dam + pumping cost - **\$1500**
78" pipe disassembly/re-assembly - **\$5000**
Excavating channel+Forming for concrete check dam - **\$3000**
Concrete check dam(12 yds) - **\$2000**

Existing Bid Items:

BI 420 Type # Riprap Geotextile(120 SY) - **\$193.20**
BI 580 Impervious Liner (120 SY) - **\$1200**
BI 500 Loose Rip Rap, Class 200(60CY) - **\$3213**
BI 1170 Aggregate Base (1 Ton) - **\$15.70**

Total Estimated Cost = \$16,121.90

PAY ITEM	REASON CODE	WORK TYPE	DESIGN (E OR I)	PM (E OR I)	DESCRIPTION	ESTIMATED AMOUNT
801 900T	25	C	I	I	0400 E0 25 CA Eddy B Inlet Repair	\$16,121.90

SPECIFICATIONS AND OTHER PROVISIONS --

Labor cost estimates under \$10,000 or having industrial accident insurance rates 25% or less may use the standard calculation \$197.30(a) when billing labor costs (Form 1863A). Labor cost estimates greater than \$10,000 or having industrial accident insurance rates greater than 25% shall use \$197.30(b) when billing labor costs (Form 1863B).

The labor estimate for this Force Account: ☐ Meets ☒ Does Not Meet the criteria for \$197.30(b)

The contractor has elected to use: ☒ \$197.30(a) Standard Calculation ☐ \$197.30(b) Actual Costs for Force Account labor costs

RECOMMENDED BY LOCAL AGENCY	DATE	AGENCY PM (ODOT only)	<input type="checkbox"/> RECOMMENDED <input checked="" type="checkbox"/> APPROVED	DATE
Print _____		Print <u>Steven Schultz</u>		
Sign _____		Sign <u>[Signature]</u>		8/29/14
RECOMMENDED BY PM (IF EXTERNAL TO ODOT)	DATE	AREA MANAGER: <input checked="" type="checkbox"/> NOTED <input type="checkbox"/> RECOMMENDED <input type="checkbox"/> APPROVED		DATE
Print _____		Print <u>Steven Schultz for Amy Ransdell (vacation)</u>		
Sign _____		Sign <u>[Signature]</u>		8/29/14
		CONSTRUCTION SECTION: <input checked="" type="checkbox"/> NOTED <input type="checkbox"/> APPROVED		DATE
		<u>[Signature]</u>		9-16-14

ODOT (Internal): The Project Manager signs and submits the original through the Area Manager to Construction Section
ODOT (Outsourced): The Project Manager submits original to Agency PM (ODOT PM or Local Agency Liaison), as appropriate, who then submits through the Area Manager to Construction.
All Projects: Construction will distribute fully signed copies to the Project Manager, Agency PM, and others as appropriate.

WORK OR CHANGE ORDER SUPPORTING DATA (Page 1)

PROJECT NAME (SECTION) FFO - US20 PME: UPRR - EDDYVILLE (PHASE 3)				CONTRACT NO. C14670	
HIGHWAY Corvallis - Newport			F.A. PROJECT NO. NHPP-S033(049)		
NET EFFECT OF ORDER ON PROJECT <input checked="" type="radio"/> Increase <input type="radio"/> Decrease		AMOUNT \$16,121.90	CONSTRUCTION AUTH. \$50,611,458.31	EST. PROJECT COST W/ORDER \$50,627,580.21	OVERRUN % 0.03%
ESTIMATED STARTING DATE* 9/2/2014		OR DATE WORK WAS STARTED*	WORK/CHANGE IS MAJOR? <input type="radio"/> Yes <input checked="" type="radio"/> No		TO ACCOMPANY (ORDER TYPE & NUMBER) EWO 01
PREPARED BY Markus Schaaf		DATE 8/25/2014	REVIEWED BY AREA MANAGER <i>[Signature]</i> (Steven Schultz for Amy Ramsdell)		DATE 8/29/14
WORK OR CHANGE HAS BEEN DISCUSSED WITH					
Name	Title	Name	Title	DATE	
Steve Schultz	Project Manager	BY Jaime Viramontes	Assistant Project Manager		
Name	Title	Name	Title	DATE	
		BY			
Name	Title	Name	Title	DATE	
		BY			
Name	Title	Name	Title	DATE	
		BY			
PRIOR APPROVAL TO PROCEED WITH THE WORK OR CHANGE HAS BEEN OBTAINED FROM*					
Name	Title	Name	Title	DATE	
		BY			
Name	Title	Name	Title	DATE	
		BY			
Name	Title	Name	Title	DATE	
		BY			
WORK OR CHANGE HAS BEEN DISCUSSED WITH FHWA					
Name	Title	Name	Title	DATE	
Mike Morrow	Sr. Operations Engineer	BY Jaime Viramontes	Assistant Project Manager		
FHWA TENTATIVE APPROVAL OBTAINED FROM					
Name	Title	Name	Title	DATE	
		BY			
FOR CONTRACT CHANGE ORDERS THAT CHANGE A CONTRACT PRICE OR DETERMINE A NEW PRICE --					
PM's COST ESTIMATE IS ATTACHED:					
<p>ADDITIONAL INFORMATION THAT IS NOT INCLUDED ON ORDER (Additional Description; Who requested; Why necessary; Why cost is not a contractor responsibility; Parties other than State or FHWA that have agreed to share the costs; Emergency work prior to approval; Estimate effect on project time; Significant discussions; References to supporting and/or attached documents, including cost estimates for "Extra Work Orders" and "Force Orders"; Why contractor refuses to sign). List all previously approved overruns.</p> <p>This work was originally included in preliminary plans. The reason for this work was that Eddy "B" creek was not flowing into the 78" culvert pipe, but was instead disappearing into the ground, upstream of the pipe inlet. However, before the bid date for this current contract, it was observed in the field that the water had started to flow through the 78" pipe. It was believed that the path the water had been flowing through had silted up, therefore making the inlet repair no longer necessary. The repair was deleted from the bid documents by addendum. After the current contract had been let, it was discovered that the water was disappearing into the ground upstream of the 78" pipe, once again necessitating the eddy B inlet repair.</p> <p>Included in Attachment "A" are the original plan sheets that were in the preliminary plans ,quantity estimates , and M3(access road) information.</p> <p>This extra work has no affect on contract time.</p>					

Extra Work Orders

- Extra Work ordered by the Engineer to be performed as Force Account Work (Section 00197)
 - Very tedious and cumbersome. Since most inspectors do not often track Force Account Work, it is best to contact the CSU to complete the Force Account Worksheet prior to any Force Account Work. Kim Free (503) 986-3084 reviews all Force Account Worksheets for all ODOT contracts.
- When are they used?
 - If the Engineer and the Contractor cannot agree on a price for Extra Work



13

Differing Site Conditions

- Type 1 differing site conditions:
 - Project site conditions do not match what is presented in contract documents. *Geo reports identify sandy silt material in borehole locations, once Contractor begins work, they encounter large boulders.*
- Type 2 differing site conditions:
 - Unusual physical conditions that could not be expected to be encountered by Contractor



14

Disputed Work

- 00140.65 allows the Contractor to dispute Change Orders, written orders, and oral orders
- Contractor is required to provide notice of protest
- Work proceeds but is tracked by both parties (See Protest Procedures 00199.20)



15

Protests and Delays

- **Protests**
 - **00199.20 Protest Procedure**
 - Oral Notice
 - Written Notice
 - Records
 - Comparison of Records
 - Work to proceed
 - Evaluation of Protest
 - Evaluation of Protest by Third Party Neutral



16



Contractor's Notice of Differing Site Conditions, Delay, or Protest

Completed by Contractor

Instructions: If you have more than one notice, use a separate form for each. See Section 00150.30 for general requirements for delivery of written notice. See 00140.40, 00180.60 or 00199.20, whichever is applicable for the notice content, timing and other requirements that must be met for timely and proper notice.

Project Name (Section)

Contract No.

Notice No.

Contractor Name

Date Oral Notice Given,
If Required

Date of This Notice

Date Mailed/Delivered to
Agency Project Manager

Check the box for which section this notice applies:

Differing Site Conditions (Section 00140.40)

☐ in the field below provide all of the information required by 00140.40.

Notice of Delay (Section 00180.60) in the

☐ field below provide all of the information required by 00180.60.

Notice of Protest (Section 00199.20) in the

☐ field below provide all of the information required by 00199.20.

(Attach additional sheets if necessary.)

Signature of Person Signing for Contractor

Name and Title of Person Signing for Contractor (please print)

Date

For Agency Use Only

Date Notice Was Received

Date of Meeting to Discuss Notice

If meeting was not held, please state why.

Date of Written Response to Contractor

Distribution: Area Manager; Contract Administration Engineer

Protests and Delays

Delays

If the Contractor complies with 00150.50(c) Contractor's Responsibilities, and if Utility adjustments are completed later than the date specified in the Special Provisions, thus causing Project completion to be *delayed* (provide notification under 00180.60), additional Contract Time will be considered under 00180.80, and additional compensation, if applicable, will be considered under 00195.40



17

What process works best?

Decision by the Engineer- The Engineer will, as soon as practicable, consider, investigate, and evaluate a Contractor's claim for additional compensation, or for a combination of additional compensation and Contract Time, if submitted as required by 00199.30.

Step 1: Region Level Review- The Contractor shall request that the Engineer arrange a meeting with the Region-level reviewer in order to present the denied or partially denied claim for formal review and discussion. The meeting will take place within 21 Calendar Days of the Agency's receipt of the request, or as otherwise agreed by the parties.



18

What process works best?

Step 2: Agency Level Review- The Contractor shall request a meeting with the Contract Administration Engineer (CAE) to present the claim for final Agency review. The presentation will take place within 21 Calendar Days of the Agency's receipt of the Contractor's written request, or as otherwise agreed by the parties.

Step 3: Arbitration; Claims Review Board – 00199.40(d)

- Less than \$50,000
- \$50,000 - \$500,000
- Over \$500,000

Step 4: Litigation- 00199.40(e) **Mediation-** 00199.50



19

Dispute Resolution




20


INSERT TAB

Unit 15 CA
Project Documentation

Unit 15

Project Documentation

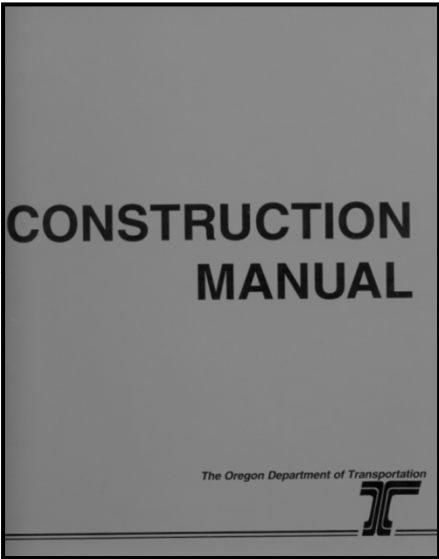





1

Unit 15 Topics

- Daily Reports
- Public Records
- Region Assurance Specialist (RAS) Role
- CPS – How to Request Access





2

How to Use Construction Manual/DEDD/AWD

- Chapters Available
 - Why they are important
 - Public Record implications
- DEDD
 - Naming conventions, transitions, and workflow.
- AWD
 - Processes



3

Daily Reports

- General Daily Progress Reports
 - What should be documented
 - Why they are important
 - Public Record implications
- Accident Investigation and Reporting
 - What to do, and why

Construction Manual, Chapter 12A



4

Daily Reports

- Traffic Control Inspection report
 - The RE office must review the Traffic Control Inspection Reports (TCIRs) to ensure that traffic control is performed and maintained as required.
- Erosion Control Monitoring
 - Make certain the Contractor has inspected and submitted the Erosion Control Monitoring reports according to the schedule requirements of the NPDES Permit.

Construction Manual, Chapter 12A



5

Daily Reports

- Turbidity Monitoring and Reporting
 - The RE must ensure that required monitoring and reporting is done by the Contractor per the permit requirements. The Contractor will perform the turbidity monitoring and document the results on the Turbidity Monitoring Report, form 734-2755 unless otherwise specified in the Project-specific permit(s).
- Accident Investigation and Reporting
 - When a serious or fatal accident involving the traveling public or a pedestrian occurs within the limits of a construction Project, the RE or Inspector must investigate the accident.

Construction Manual, Chapter 12A




6

General Daily Progress Report
PHOTOGRAPHS

OR99/OR218/OR62: Big X Intersection (Medford) Section
Project Name (Optional)

10-Jul-24
Work Date




Insert photo in this box. (Click in box and upload photo from computer or camera.)

Photo # 0710A

T3 Continuing the Boring of HDPE Conduit

Brief Description




Insert photo in this box. (Click in box and upload photo from computer or camera.)

Photo # 0710B

T3 Hot Tapping at Central and Rossanley

Brief Description




Insert photo in this box. (Click in box and upload photo from computer or camera.)

Photo # 0710C

T3 Working on Camera Wiring


Brief Description



Insert photo in this box. (Click in box and upload photo from computer or camera.)

Photo #


Brief Description



Insert photo in this box. (Click in box and upload photo from computer or camera.)

Photo #

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or camera.)

Photo #

Brief Description

734-3474 (11-08-2016) 3

General Daily Progress Report

Form 734-3474, Page 3

Pictures!!!

It is important to document each day's Work and resources used for the activities, especially activities that are impacting the project schedule.


9


General Daily Progress Reports

Your reports are Public Record.

- Be factual
- Be concise
- Be relevant

Appropriate pictures are also nice.





10

What should be Documented?

- Refer to 12A-2 of the Construction Manual
- Generally, track the progress of the Work
 - What got accomplished?
 - Are there positive or negative schedule impacts?
 - Any disagreements or disputes
 - Workmanship problems
 - Relevant conversations with the Contractor
 - Accidents or damage



11

Weather Policy

- Exclusions from Contract Time due to weather that was worse than “reasonably predictable weather” [00180.80(d)] is an “excusable delay,” but not a “compensable delay.” A weather delay that was not reasonably predictable is cause to extend Contract Time [00180.80(d)], the Contractor is not assessed liquidated damages. However, it is not “Unreasonable Delay by the Owner” [Subsections 00195.40 and 00180.50(e)], and therefore is not cause for the Owner to be liable for any additional costs or damages caused by a weather delay.....



12

Weather Policy Continued

- The Contractor can request this Adjustment of Contract Time or the RE can initiate the Adjustment of Contract Time [00180.80(d)]. Refer to Section 13-11 - Adjustment of Contract Time below. If the weather was not reasonably predictable, and it delayed or will delay the completion or critical path of the Project, the Contractor is entitled to an adjustment of Contract Time. In administering Agency contracts, "reasonably predictable weather" is interpreted as if this type of weather normally happens 70% of the time based on weather records



13

Example Chapter 13-9 of the Construction Manual

Year	Rain Days in April
1995	4
1996	6
1997	12
1998	3
1999	5
2000	2
2001	10
2002	3
2003	5
2004	8
2005	8



14

What should be Documented?

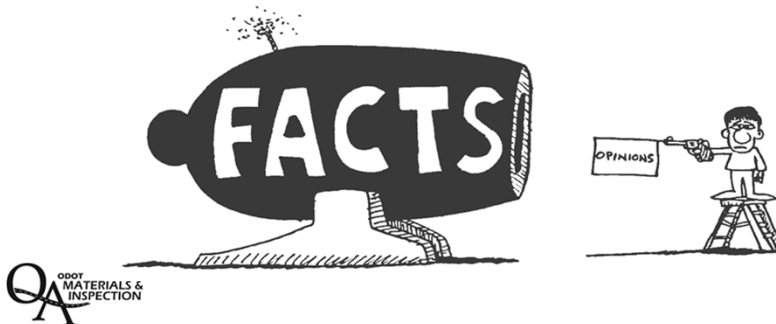
- Another item that should be tracked and reported are Commercially Useful Functions, (CUF) reports. These are required as part of our Disadvantaged Business Enterprise (DBE) Program
 - Construction Manual Chapter 18-2 outlines this program and its requirements
 - Section 18-2(E)(2) states “The RE or designated representative must perform a CUF evaluation of each DBE performing Work on the Project, including **committed and non-committed DBE’s.**”



15

What should NOT be documented?

- Personal remarks and opinions regarding operations and/or personnel on the project
- Irrelevant information
- However, any incidents of a disrespectful workplace should be recorded.



16

General Daily Progress Reports

Four years from now you should be able to answer a few questions.



17

General Daily Progress Reports

- When, exactly, did the earthwork begin?
- What caused the delay?
- Who was involved in the conversation?
- Did the Contractor follow their schedule?
- Was the corrective work completed? When?
- Was the superintendent present and in control of the work?
- How much work was completed that day?



18

Traffic Control Inspection Reports

- The Traffic Control Supervisor (TCS) must submit a Traffic Control Inspection Report (TCIR) no later than the end of the next TCS work shift.
- The RE Office must review the TCIR to ensure traffic control is performed and maintained as required.



19

Public Records

Public Record:

Includes any writing that contains information relating to the conduct of the public's business, including but not limited to court records, mortgages, and deed records, prepared, owned, used or retained by a public body regardless of physical form or characteristics.

ORS 192.311(5)(a)



20



CHAPTER 12A

DAILY REPORTS / DIARIES

Day-to-day records of Project activity and progress are extremely important. The Resident Engineer (RE) is responsible for ensuring Project Records are kept, accurate, and adequate records of the progress of the Project.

The following forms are used to record project progress information, and are discussed in detail in this chapter:

- 12A-1: General Daily Progress Report, form 734-3474, (Structure Coating Daily Progress Report, form 734-1789, may be used for structural coating work)
- 12A-2: Traffic Control Inspection Report, form 734-2474
- 12A-3: Erosion Control Monitoring, form 734-2361
- 12A-4: Turbidity Monitoring Report, form 734-2755
- 12A-5: Report of Motor Vehicle Accident or Hazardous Material Incident Observed or Investigated by Employee, form 734-3589 and Report of Damage to Highway Structure, form 734-3373

The most current forms are available on the [Construction Section Website](#).

12A-1 General Daily Progress Report / Project Manager's Diary

As discussed in Chapter 3 - Delegation of Authority, an Agency employee Personnel associated with the Project (Inspector, Asst. RE, Project Coordinator, QCCS, etc.) must use the General Daily Progress Report form 734-3474. The Structure Coating Daily Progress Report, form 734-1789 may be used for structural coating work. The RE must ensure that required information for a Project is recorded on a daily basis.

If the RE uses form 734-3474 or 734-1789 (Daily), the same information does not need to be recorded on both forms. The forms are meant to supplement each other, not to include duplicate information.

It is very important to record each day's Work and the resources used for activities; **especially those that are impacting the Project schedule.** This needs to be done daily.

It is often beneficial to augment the record of events or situations with sketches, photos, video recordings, or other methods.

For large Projects, each Inspector assigned to a major operation must keep a separate General Daily Progress Report or diary. The RE and other key Project personnel must record Project information, including:

- Weather, Contractor personnel, and Equipment (including a list of Equipment downtime and Subcontractors).
- Location and description of the Work and estimated quantities performed that day.
- Arrivals and departure of major Equipment.
- Condition of traffic control and Roadway. Also, record changes or problems with traffic control and devices.
- Communications with the Contractor, especially those pertaining to Work schedule, Work methods, Materials, or payment.
- Orders and directives given the Contractor. The RE must also send a memo or letter to confirm significant verbal instructions or agreements.
- References to letters, minutes of meetings and attendees, reports, photographs, telephone conversations, etc.
- Disagreements with the Contractor over Work quality or performance, including rejected Work or Materials. List reasons for disagreement, and specific reasons why Work and/or Materials were rejected.
- Delays, difficulties, accidents, Utility damages, and other unusual conditions. Describe factors or conditions that may hinder the Contractor's operations and cause delays. Also, include the time of suspending or resuming Work and explanations.

- Comparison between scheduled Work activities based on Contractor's schedule and actual Work activities. Explain differences.
- Visits or communications within Agency or with FHWA, Utilities, local officials, or property owners.
- Days or periods when no Work is in progress or no Work was accomplished and reasons why.

The daily reports are considered public records. Include only factual information in them. **Do not include personal remarks and opinions regarding operations and/or personnel on the Project.**

Submit the original General Daily Progress Reports with the final Project documentation in accordance with e-Construction protocol. [Refer to Chapter 37 – Submittal of Final Project Documentation.]

The RE must also ensure that other needed reports, including those discussed below, are completed as required.

Public Records

Writing:

...handwriting, typewriting, printing, photographing and every means of recording, including letters, words, pictures, sounds, or symbols, or combination thereof, and all papers, maps, files, facsimiles or electronic recordings.

ORS 192.311(7)



21

Public Records

Don't create documents that you wouldn't want in the newspaper

- Including emails, letters, text messages, inappropriate photos, etc.
- Keep it professional
- No personal opinions



22

How long should documents be kept?

Contract Administration Documents

- Includes: email, paper files, electronic files
- Must be kept 20 years after final payment
- Structures, such as bridges, require longer retention times



23

The Region Assurance Specialists (RAS)

Their role in helping to assure documentation compliance



24

The Goals for the Region Assurance Specialist (RAS)

- Provide early, timely project documentation reviews in the Project Managers office
- Review the organization and documentation process
- Provide technical help to inspectors and Contract Administration Specialist
- Valued resource to ODOT, Local Agency and Consultant Project Managers
- Project reviews by the RAS are intended to be opportunities to coach and mentor construction office staff and to provide additional information to keep documents up to date while Contract Work is on going.



25

Documentation Review Report (DRR) Form 734-1903

- List of comments, missing items or deficiencies
- Distributed to Contract Administration Specialist, APM or PM
- RAS reviews through DocExpress®



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CHAPTER 12

PROJECT RECORDS

The Resident Engineer (RE) will develop or receive many documents and records while administering a construction Project. The documents and records include those that are needed to justify that the Work has been completed according to Contract requirements and that payment has been made.

For the purposes of this manual, "Project Records" is defined as follows:

All information in any way relating to the Project or performance of the Contract, including but not limited to all:

- Financial and accounting records and information.
- Correspondence – including internal communications, emails, field notes, file notes, diary entries, communications with Agency, Subcontractors and authorities.
- Notices, orders, permits, and opinions.
- Survey data – including survey drawings, reports, maps, original computations and other data.
- Materials testing records and Materials certifications.
- All other documents and information whether generated by, for, or received by the Agency in the performance of the Contract, and whether any of such records are:
 - Paper-based.
 - In the form of electronic data.

- In electronic/digital format capable of being reduced to paper-based or electronic/digital format,
- In audio format.
- Constitute visual reproductions such as photos or videotape.

At any time during the life of the Project, the Project Records may be reviewed or audited by a number of parties, including:

- Construction Section personnel.
- ODOT's Internal Audit and Review group.
- Federal Highway Administration (FHWA).
- Region personnel.
- Representatives of Department of Justice or attorneys for a Contractor.
- Any other group performing an audit.
- A person reviewing records under the Public Records Law.

The Project Records:

- Provide documented evidence that the Project was built with Materials that were in conformance with Contract requirements.
- Provide documented evidence that the Contractor has been justifiably compensated for the Work completed.
- Record events and happenings on the Project or that involved the Project.
- Justify that Project costs are reimbursable with Federal or other funds.

The Project Records must be maintained in such a manner that provides documentation and understanding of how the Project progressed, what Materials were incorporated into the Project, and how much Work was performed on the Project.

12-1 Organization of Project Records

For each Project, the RE and the RE staff must become familiar with conditions pertaining to Pay Items and quality requirements, which are included in the Project Plans and Specifications. RE staff also must establish methods to determine quantities, to assure proper quality, and to organize the Project records.

The Project Records associated with an Agency construction Project must be organized, kept current, and filed in a manner as required by the Contract, see 00170.08. Contact the Region Assurance Specialist (RAS) or the Contract Administration Unit (CAU) for further guidance.

The RAS will periodically review the Project documentation for compliance with the Contract requirements during the life of the Project.

12-2 Public Records and Disclosure

Project Records are generally classed as public records, under Oregon's Public Records Law and as defined in ORS 192.005(5), and are available to be reviewed by the Contractor, attorneys, and others who may now, or later, have an interest in the Project.

Certain Project Records are exempt from disclosure and should not be made available to persons other than Agency employees. Two (2) types of Project Records that are generally exempt from disclosure are:

- Records pertaining to litigation when a complaint has been filed or is likely to be filed; and
- Communications of an advisory nature within or between public bodies, with other than purely factual material that is preliminary to final Agency action.

As defined in ORS 192.501 to 192.515, public records that are exempt from disclosure include, but are not limited to:

- Home address.*
- Date of birth.*
- Telephone number.*
- Social Security number.
- Signature.
- Trade secrets.
- Information relating to the appraisal of a real estate prior to its acquisition.

If exempt information is contained in a record that has been requested, such as on a certified payroll, the record must be copied, the exempt information blacked out, and the record recopied before it is released. This is done to ensure that none of the exempt information is visible.

* Per ORS 192.502, this information may be disclosed if the requester can show that the public interest requires its disclosure. The person requesting the information has the burden of showing that public disclosure would not constitute a reasonable invasion of privacy.

For Project Records pertaining to litigation or potential litigation, contact the Contract Administration Engineer (CAE). If you have a question about whether a specific document is exempt from public disclosure, contact the CAE. Do not provide any exempt records to persons other than Agency employees without the authorization of the CAE.

When a non-ODOT employee is allowed to examine any Project Records, safeguard the records from theft, damage, or destruction, and record the event in a diary or memorandum. Include the date, place, persons present, and a listing of the records examined.

12-3 Retention of Project Records

The CAU is responsible for storage of the Project documentation that is required to be submitted to the Construction Section at the completion of a Project. [Refer to Chapter 37 - Submittal of Final Project Documentation.]

The submitted quality, quantity, and labor compliance documentation is combined with the Construction Section files and, along with other Project Records, is submitted to the State Archives by the CAU to be archived for the applicable retention period. The CAU is responsible for archival processes in accordance with Oregon State Archives requirements found at:

<https://sos.oregon.gov/archives/Documents/recordsmgmt/sched/schedule-highway-division.pdf>

Documentation Review Report (DRR)

- All items should be addressed or resolved prior to the next RAS review
- Final DRR signatures of Project Manager and RAS
 - Quantities are considered to be FINAL
 - No Changes will be made at Final Acceptance unless discovery of gross errors or lump sum items not paid at 100%



27

TOP DRR ISSUES



28

MISSING MATERIALS TEST

1

- Make sure you are getting all required tests
 - Use Manual of Field- Tested Procedures
 - Use Test Summary to stay organized and current
- We need to charge Contractors for missing tests and failing tests that are not resolved

Reference: Manual of Field- Tested Procedures



29

CHECK WEIGHT / SCALE CERTS

2

- Need a Scale Certification and License
- Manual weights require an ODOT weigh witness with fees

Reference:

- Standard Specification 00190.20
- Construction Manual Chapter 12D



30


3

TACK – LIGHT AND HEAVY WEIGHT

- Missing Light and Heavy Weight Tickets for Tack
- Manual weights require an ODOT weigh witness with fees

Reference:

- Standard Specification 00190.10(d)(2)
- Construction Manual Chapter 12D



31


4

FIELD TESTED MATERIAL REPORTS

- Wrong Forms Used
- Missing Signatures
- Failing Reports with No Resolution

Reference:

- Construction Manual Chapter 12B




32

5

DOC EXPRESS ITEMS

- Follow the Doe Express Directory (DEDD) for process flow including:
 - Naming Conventions
 - Required Transitions
 - Supporting Documents



33


6

OVERRUN BID ITEMS

- Cost Justification / Quality Limitation Adjustment

Reference:


- Construction Manual Chapter 15



34

6a

Standard Specifications	2018	2021
Temporary Removable Tape	00225.93(g)	00225.90(c)
Temporary Non-Removable Tape	00225.93(h)	00225.90(d)
Temporary Non-Reflective Tape	00225.93(i)	00225.90(e)
Temporary Striping	00225.93(j)	00225.90(f)
Temporary Pavement Bars	00225.93(l)	00225.90(h)
Bar Removal	00225.93(o)	00225.90(k)
Flaggers	00225.98(a)	00223.90(a)
Traffic Control Supervisor	00225.98(b)	00223.90(b)
Pilot Cars	00225.99	00223.90(d)
Pedestrian Transport Vehicle	-----	00223.90(e)
Watering Limited to 125%	00340.91	00340.91
BPA Safety Watchers (boilerplate)	00225.98(a)	00223.90(h)
Railroad Flagger (boilerplate)	00225.98(b)	00223.90(g)
Tow Truck (boilerplate)	-----	00223.90(i)
Extra for Hand-Dug Guardrail Post Holes	00810.90(j)	00810.90(j)




35

7

MEASUREMENTS

- Need to provide beginning and ending stations on paynotes
- Stationing not adding up to lengths – with no explanation
- Missing calculations




36




PAGE			
1		OF 1	
REVIEW #		1	
REVIEW DATE		7/6/2021	
PLANT ESTABLISHMENT		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ESTABLISHMENT END DATE			
QUANTITY	HRS to DATE	% USED	% Project Complete
380	0	0%	15.6%
PREPARED BY (RAS)			
Rob Peters			

PROJECT MANAGER SIGNATURE	DATE	REGION ASSURANCE SPECIALIST SIGNATURE	DATE
---------------------------	------	---------------------------------------	------


[illegible]



DJ Smith RAS - Region 5 & 1 (503) 931-3399	Katie Miller RAS - Region 2 (541) 430-2386	Art Nunez RAS - Region 2 & 4 (503)983-6471
Lajuana Kelley RAS - Region 3 (503) 428-4510	Gene Thomey RAS - Region 3 & 4 (503) 428-3218	Justin Cary RAS – Region 2 (971)-209-6417
Mary Saba RAS - Region 1 (503) 621-2047	Merry Sylvia RAS - Region 1 (503) 781-9317	Tony Nguyen Region 1 & 4 (971) 375-8480




Got Questions?
Ask your Local RAS



37

Contract Payment System



38

Contract Payment System Access (CPS)

Internal ODOT Users

Contact the Contract Administration Unit

- Provide user name
- User authority
- Responsible contracts



39

Contract Payment System Access (CPS)

External Users (Local Agencies & Consultants)

Contact the Contract Administration Unit

- Request a pin
- Return request user name (email address), user authority, responsible contracts



40

Reports Generated by CPS

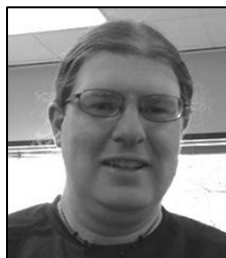
CPS Contract Administration Requirements

- QPL Product Number Tracking
- Unbalanced Bid Item Tracking



41

The Contract Payment System Retainage Tool & Reports



Contact:

James Sealy

ODOT Contract Payments Specialist

503-986-3028

James.L.Sealy@odot.oregon.gov



42

Key Inspection Points

- General dailies are **EXTREMELY** important to provide day to day records of project activity
- A good picture is worth a thousand words
- Region Assurance Specialist is an opportunity to identify and correct contract documentation
- Address items noted on Document Review Report
- Stay organized by writing paynotes and keep up with your documentation. Don't wait until the end of the month!!!!



INSERT TAB

Unit 16
BABA

Build America Buy America (BABA) in 2024

Michael Dennee, Contract Services Group Coordinator



1

Implementation

- Build America Buy America does allow for de minimis amount of foreign construction material incorporated in projects
- The allowances for foreign iron or steel from Buy America still remains the same
- There will be two forms that are required (depending on the type of material)
 - Form 734-2126 – Certificate of Materials Origin
 - Form 734-5378 – Construction Materials CMO



2

De minimis allowance

- The USDOT issued a Public Interest Waiver for De Minimis Costs and Small Grants. The final waiver can be viewed here: <https://www.federalregister.gov/documents/2023/08/16/2023-17602/waiver-of-buy-america-requirements-for-de-minimis-costs-and-small-grants> and this waiver applies to materials covered by the Build America Buy America Act effective for contracts with federal construction authorization after **August 16, 2023.**



3

De minimis allowance

- In order to apply the BABA de minimis amount on a project with assistance of \$500K or more, the lesser of \$1M or 5%, we will need to determine the “Total applicable project costs” for that Project. Using a Build America Buy America Total Applicable Costs Worksheet, form 734-5436.



4

Total Applicable Costs Worksheet

734-5436

FHWA Division of Transportation		Build America Buy America Act Total Applicable Costs Worksheet		<input type="button" value="Print Form"/>
<input type="text" value="Project Name"/>			<input type="text" value="Contract No."/>	
<p>Materials costs that count toward the total applicable costs. Submit this worksheet to the IE Office when any construction materials of foreign or unknown origin are used or expected on the project to ensure that applicable costs for the Project and following completion of all On-Site Work. This worksheet must also be submitted upon the Engineer's request. Include iron and steel, manufactured products, and construction materials.</p> <p>Materials costs that DO NOT count toward total applicable costs include temporary items and exempted items. BAA does not apply to temporary items. The BAA preference only applies to articles, materials and supplies that are consumed by, incorporated into, or affixed to an infrastructure project. BAA excludes capital products, concrete and generative products, aggregates, and concrete additions.</p>				
Bid Item #	Material	Estimated Unit Value Complete Bid Item	Incremental Cost to Date	Applicable Cost
Add Row				Total Applicable Costs:
<p>This summary represents the total applicable costs of materials that have been, or have been estimated to be, incorporated into the contract under the Contract Specifications 1960-00-00-00-00-00 Build America Buy America. Copies of records used to determine these costs will be furnished to the Engineer upon request according to 49 CFR 101.11.</p>				
Authorized Representative _____		Company _____		Date _____
734-5436 (B) 14-2046 DRAFT				

QA
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MATERIALS &
INSPECTION

5

[illegible]

6

De minimis allowance

- Assuming a \$10 million paving project with over \$500K in federal assistance. The paving materials themselves, asphalt and aggregate don't count. We look at estimated material costs for things like pavement markings, delineation, and perhaps some minor signs or drainage and all those material costs for materials under BABA or Buy America add up to \$100,000 "Total applicable project costs", then the waiver would allow up to \$5,000 (5%) of the construction materials under BABA to be unknown or foreign.



7

De minimis allowance

- Assuming a \$10 million bridge project with over \$500K in federal assistance. The concrete and paving materials themselves, Portland cement, asphalt and aggregate don't count. We look at estimated material costs for things like reinforcement steel, bearings, bridge rail, piling, pavement markings, delineation, and perhaps some minor signs or drainage and all those material costs for materials under BABA or Buy America add up to \$1 million "Total applicable project costs", then the waiver would allow up to \$50,000 (5%) of the construction materials under BABA to be unknown or foreign.



8

What has changed

- Implementation of the new Build America Buy America requirements will be focused on the use of Construction materials which are non-ferrous metals, plastic and polymer-based products, glass, fiber optic cable, lumber, **engineered wood**, drywall.
- *Note: Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. (Coatings and Glue) effective for contracts with federal construction authorization after **October 23,2023**.*



9



What has changed

- Specific items that Build America Buy America does apply to
 - Lumber- Treated or Glued
 - Glass beads- Coating
 - PVC items- With or Without rubber gaskets
 - Galvanic Zinc Anodes
 - Engineered Wood - structural composite lumber and cross-laminated timber. * Not a complete listing of Construction Materials see the Material Classification Guide for additional information.



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December 2024

 <h2 style="margin: 0;">CERTIFICATE OF MATERIALS ORIGIN</h2>		 <p>Construction Material Certificate of Materials Origin</p> <p><small>This form is for projects with federal-aid construction administration between 1/1/2002 and 6/30/2003 and does not allow the use of any non-domestic Construction Material.</small></p> <p style="text-align: right;">Print Form</p>	
PROJECT NAME (SECTION)		CONTRACT NO.	
SUB ITEM NO.		IND ITEM NAME	
DOMESTIC MATERIAL'S SOURCE (NAME AND ADDRESS)			
DOMESTIC MATERIAL DESCRIPTION			
FOREIGN MATERIAL'S SOURCE INCLUDING MATERIAL OF UNKNOWN ORIGIN (NAME AND ADDRESS)			
FOREIGN MATERIALS (ONE OF UNKNOWN ORIGIN) DESCRIPTION AND VALUE OF IRON OR STEEL PRODUCT AS IT IS DELIVERED TO THE PROJECT			
<p><small>This certification is made for the purpose of establishing materials acceptance under the Contract Special Provisions titled 00160.20(a) Buy America. All iron or steel manufacturing processes, including protective coatings, for the domestic materials described above occurred within the United States of America.</small></p> <p><small>Manufacturers' certificates verifying the origin of the above described domestic materials will be kept on file for three years following final payment. Copies will be furnished to the Engineer upon request.</small></p> <p><small>I declare under penalty of perjury or falsification under Oregon and Federal laws that the foregoing is true and correct.</small></p>			
AUTHORIZED REPRESENTATIVE* NAME _____ TITLE _____ SIGNATURE _____ DATE _____		COMPANY* NAME AND ADDRESS: Company* Name and Address _____ City _____ State _____ Zip _____ Day Phone _____ Fax Phone _____	
<small>*May Be Contractor, Sub-Contractor or Supplier</small>			

734-5376-31 (11-30-2002)

QA

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MATERIALS &
INSPECTION

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[illegible]

12

Construction Home

Events and Conferences

SERVICES

Contract Administration

Lab Services

Quality Assurance

Structure Services

TRAINING & CERTIFICATION

Inspector Certification Program

Technician Certification Program

PAVEMENT

Managing Pavement Conditions

Pavement Quality and Materials

REFERENCES


Qualified Products

Construction Manuals

Resources

The Contract Administration Unit is responsible for uniform administration of all Oregon Department of Transportation construction contracts including:

- Contract payments;
- Contract change orders;
- Labor compliance;
- Document compliance;
- Measurement and payment;
- Contractor's claims or disputes.



Contact the Construction Section

800 Airport Road SE
Salem, Oregon 97301
Phone: ☎ 503-986-3000
Fax: 503-986-3096
Email the Construction Section

Contract Administration Field Personnel

Visit this page for more service resources

Tools


- Claims Against Contractor Bonds
- Closure & Delay Liquidated Damages Calculator
- Common CCO Templates
- CON-CAL (Reduction Computation)
- Construction Manual
- Construction Materials Testing Costs
- Oil Prices for Current/Newer Projects
- Project Status Reports Index
- Region Assurance Guide
- StatSpec – Version 3.10.5
- Subcontract Requirements


Resources

Build America Buy America Act

Memo from the State Construction and Materials Engineer

- Blue Sheets
- Materials Classification Guide
- Current Qualified Products (QPL) List





13

- New language is posted as part of the Construction Manual (Chapter 22-6 starting on page 4)
- This is our best reference for implementation of the Build America Buy America requirements
- Anything that we need to change as this is being implemented will be modified in the Construction Manual so that RE Offices have information to enforce the requirements
- Please contact us if the guidance in the Construction Manual does not follow the guidance that you have heard – so that we can clarify and make adjustments to the Construction Manual as necessary

22-6 Build America Buy America Act


If the Project contains any federal highway funds, the Contract will contain the Federal Build America Buy America provisions defined in Section 00160.20(d). The Build America Buy America provisions require that all Construction Material manufacturing processes shall occur in the United States.

The Contractor must limit the value of foreign Construction Materials to no more than five percent (5.0%) of the "total applicable costs", or \$1,000,000.00, whichever is less. The "total applicable costs" includes construction materials, iron and steel, and manufactured products. The value of materials are the actual cost of the materials, not the anticipated cost of materials. Any foreign Construction Materials incorporated more than this amount must be removed and replaced with domestic Construction Materials.

Construction materials include an article, Material, or supply that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass;
- engineered wood
- lumber; or
- drywall.

Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.



QA MATERIALS & INSPECTION

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Materials Classification Guide

- List of most Construction Materials
- Organized by Material Codes and Specification
- 39 Pages of Material information
- Identifies how most Materials are addressed

Disclaimer: This spreadsheet is to be used as a guide to help determine the BABA classification of installed materials. The classification of the specific product installed may differ from the classification listed on this guide. Refer to the manufacturer's information to determine the proper classification of the specific product. This Guide will be updated and amended as needed. Refer to SP00160.20 Preferences for Materials for additional information.



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Materials Classification Guide

T

BABA Material Classification Guide
Oregon Department of Transportation

Page 7

MATERIAL CODE	MATERIAL DESCRIPTION	CLASSIFICATION	QPL	NOTES
00470.10.00.00	Precast Vault	I/S		
00470.11.00.00	Precast Concrete Manholes	I/S		
00470.12.00.00	Manholes, Catch Basins, and Inlets, Cap Screws	I/S		
00470.13.00.00	Manholes, Catch Basins, and Inlets, Inside Drop Manhole Connectors	I/S		
00470.42.00.00	Precast Concrete Catch Basins and Inlets, Grade Adjustment Bolt System	I/S	QPL	
00475.10.00.00	Well Casing	I/S		
00510.13.00.00	Structure Excavation and Backfill, Granular Structure Backfill	Exempt		
00512.13.00.00	Steel Casing	I/S		
00512.14.a.00	Drilling Slurry, Mineral Slurry	Exempt		
00512.14.b.00	Drilling Slurry, Synthetic Slurry	Exempt	QPL	
00512.14.c.00	Drilling Slurry, Water Slurry	Exempt		
00512.15.00.00	Crosshole Sonic Log Access Tubes	I/S		
00512.18.00.00	Crosshole Sonic Log Cement Grout	Exempt		
00515.10.00.00	Micropile	I/S		
00520.43.12.00	Steel Piles, Mechanical Splices	I/S		
00530.14.00.00	Concrete Inserts	I/S		
00535.10.00.00	Concrete Anchor, Resin High Strength	MP	QPL	
00535.10.00.01	Concrete Anchor, Resin Low Strength	MP	QPL	
00535.10.b.00	Mechanical Anchor System	I/S	QPL	
00536.11.00.00	Threaded Shear Anchors	I/S		
00538.10.00.00	Epoxy Resin	MP	QPL	
00542.10.a.00	Pumped Repair Mortar	Exempt		
00542.16.00.00	Hollow Wall Anchors	CM		Plastic/polymer
00542.18.00.00	Galvanic Zinc Anodes	CM		
00545.10.00.00	Bridge End Panel Pipe	CM		PVC pipe
00545.10.00.00	Bridge End Panel Pipe	I/S		Steel pipe
00550.00.a.00	Fabricated Precast Prestressed Members	Exempt		
00555.03.00.00	Anchorages Devices	I/S		
00556.10.a.00	Multilayer Polymer Concrete Overlay Epoxy	MP	QPL	Manufactured epoxy

Last revised: 12/01/2023



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Blue Sheet Materials

- Represents all materials covered by the Blue Sheets for traffic signals
- Organized by equipment categories
- 2 pages of information
- Identifies how each signal material is addressed



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Blue Sheets list

Blue Sheet Materials	CMO/CCMO block on Blue Sheets	Iron/Steel CMO	BABA construction material CCMO	BABA manufactured product	Comments
Temporary features					
temporary covers		NO	NO	YES	
temporary meter base socket		NO	NO	YES	
temporary service cabinet		NO	NO	YES	
temporary terminal cabinet	YES - CMO***	***NO/YES	NO	NO	***CMO only required if used in permanent applications
temporary pre-cast 332s foundation		NO	NO	YES	
Temporary span wire equipment					
cable ties	YES - CCMO***	NO	***NO/YES	NO	***CMO only required if used in permanent applications
messenger, tether, & stabilizer cable	YES - CMO***	***NO/YES	NO	NO	***CMO only required if used in permanent applications
eyebolt, turnbuckle, strandvise, S-hook	YES - CMO***	***NO/YES	NO	NO	***CMO only required if used in permanent applications
span wire hanger	YES - CCMO***	NO	***NO/YES	NO	***CMO only required if used in permanent applications
tether clamps	YES - CMO***	***NO/YES	NO	NO	***CMO only required if used in permanent applications
tri-stud adaptor		NO	NO	YES	
Poles and pedestals					
chase nipple	YES - CMO	YES	NO	NO	
pipe plugs	YES - CMO	YES	NO	NO	
pedestal	YES - CCMO	NO	YES	NO	
Conduit & appurtenances					
conduit	YES - CMO/CCMO*	**YES (steel)	*YES (non-metallic)	NO	*Steel requires CMO and non-metallic requires CCMO
conduit bushings	YES - CMO/CCMO*	**YES (steel)	*YES (non-metallic)	NO	*Steel requires CMO and non-metallic requires CCMO
conduit plug	YES - CCMO	NO	YES	NO	
conduit	YES - CMO	YES	NO	NO	
conduit hub		NO	NO	YES	
expansion fitting		NO	NO	YES	
pull line	YES - CCMO	NO	YES	NO	
underground warning tape	YES - CCMO	NO	YES	NO	
Junction box					
Junction boxes		NO	NO	YES	
Cables, wires, grounding/bonding & appurtenances					
bond wire	YES - CCMO	NO	YES	NO	
ground rod	YES - CMO	YES	NO	NO	
ground rod clamp	YES - CCMO	NO	YES	NO	
control cable		NO	NO	YES	
industrial ethernet cable		NO	NO	YES	
interconnect cable		NO	NO	YES	
TFFN, THWN, & XHHW wire		NO	NO	YES	
strain relief	YES - CMO	YES	NO	NO	
Misc mounting					
Radio mount		NO	NO	YES	
video detection mount		NO	NO	YES	
Pedestrian equipment					
Pedestrian signal and mount		NO	NO	YES	
LED module (pedestrian signal)		NO	NO	YES	
pushbutton and mount		NO	NO	YES	

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QPL


- Identifies in the “Remarks” column which QPL items will require a CMO for either steel or construction materials



QPL items List

STANDARD SPEC #	CATEGORY	PRODUCT NAME	LOCAL REPRESENTATIVE AND/OR MANUFACTURER	EFFECTIVE DATE	PRODUCT NUMBER	LIST	REMARKS
0038.10	CRACK INJECTION EPOXY	BIKADUR 62	SIKA CORPORATION 800933-7452 THAD BROWN 420486-6916 ATLAS SUPPLY 800806-7962 MASON'S SUPPLY 800537-3427	11/13/08	548	A	AASHTO TYPES I AND IV.
0038.10	CRACK INJECTION EPOXY	DURAL 452 LV	EUCOID CHEMICAL COMPANY, THE 800321-7028 DAVE DILLON 206280-4576 MASON'S SUPPLY 800537-3427	03/17/14	4752	A	
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	CRACKBOND EPOTHANE T3	ADHESIVES TECHNOLOGY CORP. 854789-4764	08/18/02	5434	Q	CONSTRUCTION MATERIAL CMO REQUIRED
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	EPK55-OVERLAY	E-CHEM, LLC JAMES HIGH 505217-2121	06/04/16	4684	Q	CONSTRUCTION MATERIAL CMO REQUIRED
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	EPK55-OVERLAY FAST	E-CHEM, LLC JAMES HIGH 505217-2121	04/18/17	5048	Q	FOR USE AT LOW TEMPERATURES FOLLOW MANUFACTURER'S RECOMMENDATIONS TEST DECK 2017 CONSTRUCTION MATERIAL CMO REQUIRED
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	FLEXOLITH	EUCOID CHEMICAL COMPANY, THE 800321-7028 DAVE DILLON 206280-4576 MASON'S SUPPLY 800537-3427	01/10/08	230	Q	WAS FLEXOLITH 216
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	PRO-POXY TYPE II DOT	UNITEX BY DAYTON SUPERIOR STEVE HADGORTH 203244-6383 WILLIAMS FORM END 800255-6560	06/10/10	1920	Q	CONSTRUCTION MATERIAL CMO REQUIRED
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	PRO-POXY TYPE II DOT LT	DAYTON SUPERIOR/UNITEX CLAY CHRISTENSEN 8011671-3658	03/13/17	5017	Q	FOR USE AT LOW TEMPERATURES FOLLOW MANUFACTURER'S RECOMMENDATIONS TEST DECK 2017 CONSTRUCTION MATERIAL CMO REQUIRED
0056.10A	MULTI-LAYER POLYMER CONCRETE OVERLAY EPOXY	BIKADUR 22 LO MOD FS (FAST SET)	SIKA CORPORATION 800933-7452	04/18/17	5061	Q	FOR USE AT LOW TEMPERATURES FOLLOW MANUFACTURER'S RECOMMENDATIONS TEST DECK 2017 CONSTRUCTION MATERIAL CMO REQUIRED

*LIST 'A' = APPROVED. MAY BE USED WITHOUT SAMPLES, TESTING, OR QUALITY COMPLIANCE CERTIFICATIONS. MAY NEED A FIELD INSPECTION REPORT.
*LIST 'Q' = QUALIFIED. USE WITH SAMPLING, TESTING, &/OR QUALITY COMPLIANCE CERTIFICATIONS AS NEEDED. NEEDS A FIELD INSPECTIONS REPORT. CHECK SPECS AND NITMAG.
LIST PUBLISHED BY: ODOT MATERIALS LAB: 800 AIRPORT RD SE, SALEM, OR 97301-4796; (503) 956-3059. PLEASE REPORT ANY PROBLEMS USING THESE PRODUCTS.



Non-Field Tested Materials Guide

- C – Construction Materials Certificate of Materials Origin (C-CMO) Form 734-5378 - Build America Buy America (BABA) – Refer to 00160.20(d). Specification Sections that have been identified as containing Construction Materials that may require a C-CMO have been added throughout this guide. They can also be referenced on the Qualified Products List (QPL) at the following website:

<https://www.oregon.gov/odot/Construction/Pages/Qualified-Products.aspx>



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The updated Non field materials acceptance guide

Oregon Department of Transportation
Nonfield-Tested Materials Acceptance Guide
2021 Standard Specifications


SECTION	TYPE OF CONSTRUCTION	MATERIALS	SUBSECTION	ACCEPTANCE DOCUMENTS				REMARKS
				FURNISHED BY CONTRACTOR TO		FURNISHED BY AGENCY		
				LAB	ENGR.	MATERIALS LAB	FIELD PERSONNEL	
00445 (cont)	Sanitary, Storm, Culvert, Siphon, and Irrigation Pipe (continued)	Nonreinforced Concrete Pipe	02410.10(f)				F	ODOT approved manufacturers: - Oldcastle Infrastructure, Auburn, WA - Oldcastle Infrastructure, Eugene, OR - Oldcastle Infrastructure, Keizer, OR - Oldcastle Infrastructure, Nampa, ID - Cascade Concrete Products, Scappoose, OR If pipe is not from ODOT approved manufacturer, contact Structure Services (503-986-3056) for acceptance information 21 Days prior to pipe casting. Requires Structure Services inspection.
		Reinforced Concrete Pipe	02430.10(g)		O		F	
						I		
		Polypropylene Pipe	02415.40		Q, C		F, QPL	
		Polyvinyl Chloride Pipe (PVC)	02415.50		Q, C		F	



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QUIZ TIME!

BABA Material Classification Guide



Scan the QR code with your phone and open the classification guide!

https://www.oregon.gov/odot/Construction/Documents/BABA_Materials.pdf




23


PPC Installation

0557-0102000K | FURNISH PREMIXED POLYMER CONCRETE


0557-0104000J | CONSTRUCT PPC OVERLAY



Polyester Resin




Manufactured Product



Materials processed into a specific form or shape, or combined with other materials to create a product with different properties.

00557.12.a.00 Polyester Resin Binder

00557.10.00.00	Resin Primer, HMWM	MP	HMWM, manufactured
00557.12.a.00	Polyester Resin Binder	MP	Polyester, manufactured
00557.12.d.00	PPC Aggregate		Exempt
00557.12.e.00	PPC Surface Texture Sand		Exempt
00557.16.00.00	Premixed Polymer Concrete		Exempt



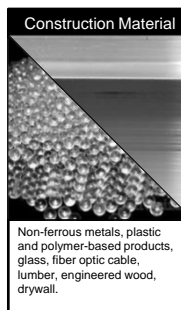
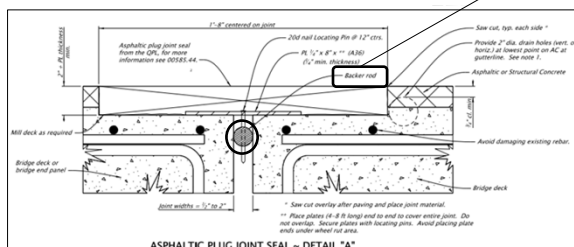
24

Asphaltic Plug Joint

0585-0200100A | ASPHALTIC PLUG JOINT SEALS

Section 00585 Expansion Joints
Section 02440 Joint Materials

Backer
Rod



Non-ferrous metals, plastic and polymer-based products, glass, fiber optic cable, lumber, engineered wood, drywall.

02440.14.00.0
0 Backer Rod

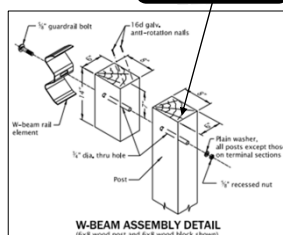


25

Guardrail

0226-0108000F | TEMPORARY GUARDRAIL,
TYPE 2A REFLECTORIZED

Guardrail
Posts



**TEMPORARY -
NOT
APPLICABLE**

00226.10.00.01
Temporary Guardrail Posts



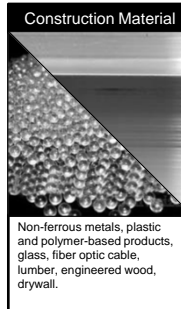
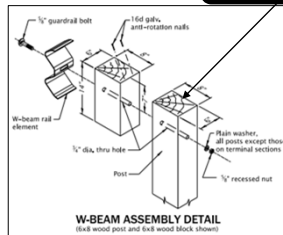
26

Guardrail

~~0226-0108000F | TEMPORARY GUARDRAIL,
TYPE 2A REFLECTORIZED~~

0810-0104000F | GUARDRAIL, TYPE 2A

Guardrail
Posts



02110.10.b.00
Guardrail Posts, Wood



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Resources:

IIJA: <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>

BABA: IIJA Division G, Title IX, Sections 70901-70941

Office of Management and Budget Memo MB-22-11: <https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf>

Contact Information:

General Information & Certificate of Material Origin (CMO) Forms:

Mike Dennee

Michael.J.Dennee@odot.oregon.gov

503-580-2013

Specifications:

Dan Anderson

Daniel.A.Anderson@odot.oregon.gov or ODOTSpecifications@odot.oregon.gov

503-986-3777

Qualified Products List (QPL)

Dean Chess

Dean.M.Chess@odot.oregon.gov



503-986-3059




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INSERT TAB

Unit 17
Construction
Materials

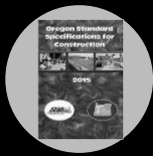
<h1>Unit 17</h1> <p>Construction Materials</p>	
	

1

<h2>Unit 17 Objectives</h2> <p>Provide an understanding of basic material properties</p> <ul style="list-style-type: none">▪ Compaction▪ Moisture/density relationship of soils and aggregate▪ Specific gravity▪ Gradation (sieve analysis) 

2

Proper compaction depends on:



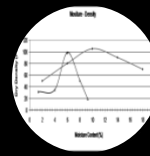
Specifications – requirements



Thickness of the lift

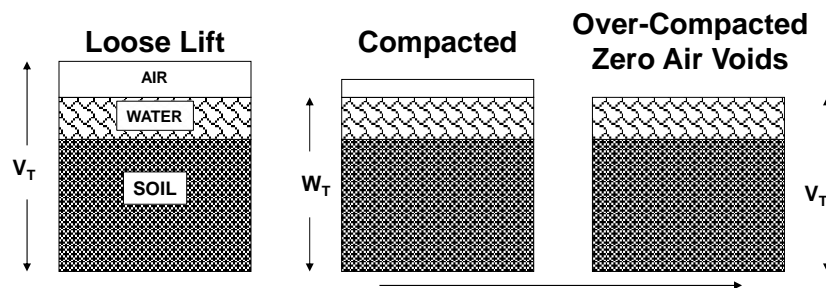


Roller pattern
– uniform
coverage

Moisture
content

3

What happens when a soil is compacted?



**Only the volume of voids decreases
(i.e., individual soil particles get closer to each other).**

Therefore, dry density is a measure of how close the soil particles are to each other.

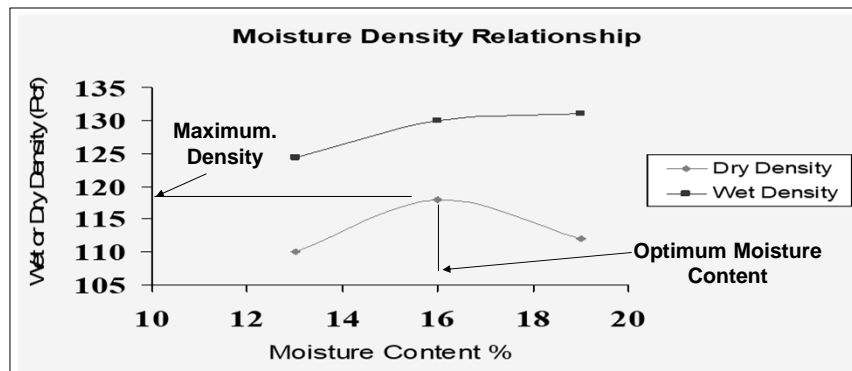
Does weight of soil and water change? Does total volume change?

How do wet and dry density change? Does the moisture content change?

How does percent saturation change? What happens at 0 air voids?

4

Moisture Density Relationship Graphed



Learn and remember terms
Maximum Density and Optimum Moisture Content

This relationship does not hold
 or is weakly observed for clean sands and gravels.

5

Introduction to Materials

- Moisture vs density
- Soils
- Aggregate

Wet



Near Optimum



-3% Optimum



6

Dealing with Wet Materials

- Wet material is normally suitable, just wet
- Work multiple areas
- Keep lifts thinner than normal
- Aerate the material with equipment
- Mix material with rock
- Route trucking over different areas in the fill or cut
- Provide suggestions, not direction



7

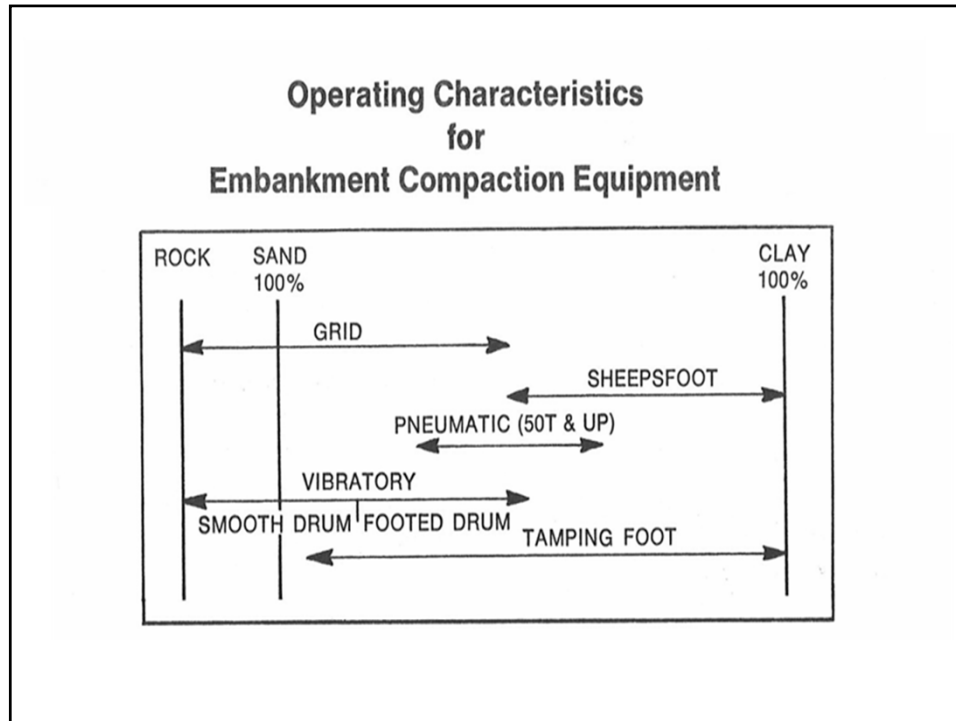
Importance of Compaction

- The density or degree of compaction of soil and aggregate has a significant influence on the stability and durability roadways
- Low density subgrade, subbase, base or embankment will lead to excessive deflection under load and / or long term settlement.

→ **Reduced performance**



8



9

Performing Compaction Testing

Two Test Methods

- Deflection Testing
ODOT TM158
- Nuclear Density Testing
 - AASHTO T310
 - AASHTO T355



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ODOT TM-158 – Deflection Testing

- Required for soil and aggregate materials
- Basically, a proof roll operation
- Water or haul truck loaded to Gross Vehicle Weight and driven over the entire compacted area
- No yielding, deflection. Reaction, or pumping of the ground surface
- Must PASS before conducting other compaction tests
- Must be performed by a certified density technician
- 330.43(b-2-c) – “...witnessed by the Engineer....”



11

Pumping Soil



12

Pumping Base Rock



13

Inspector Documentation to Include:

- Any problems encountered
- Times technician was on-site
- Areas tested
- ODOT TM 158 Deflection Testing results; witness testing
- Nuclear test results – aggregate applications

Suggestion: Document on General Daily Report



14

Specific Gravity

Specific Gravity: The ratio of the mass of one substance to the mass of water (both with the same volume).

For example, the Specific Gravity of rock is:

$$\frac{\begin{array}{c} \text{1 cubic foot of rock} \\ \text{1 cubic foot of water} \end{array}}{\begin{array}{c} 156.0 \frac{\text{lbs}}{\text{ft}^3} \\ 62.4 \frac{\text{lbs}}{\text{ft}^3} \end{array}} \rightarrow \frac{156.0 \frac{\text{lbs}}{\text{ft}^3}}{62.4 \frac{\text{lbs}}{\text{ft}^3}} = 2.500$$

So, the rock is 2.500 times heavier than water.



15

Why is specific gravity important?

Aggregate quantities listed in the Bid Items are based on an assumed specific gravity

Contractor may use a source that is significantly different from what was used for estimating (think lead versus cinders!).

Differences between assumed and actual can affect quantities used.

ACP specific gravity is in the Special Provisions.

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Specific Gravity Example 1

- The Bid Item (BI) lists 1000 tons of aggregate based on an assumed SG = 2.600
- Contractor's aggregate has an actual SG = 2.700
- Calculate actual tons of the Contractor's aggregate required:

$$\frac{2.700 \text{ (Actual or contractor \#)}}{2.600 \text{ (Assumed or agency \#)}} = 1.038 * 1000 \text{ tons} = 1038 \text{ tons}$$

So, 38 additional tons of aggregate are needed to cover the designed volume.



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Specific Gravity Example 2

- BI lists 1000 tons at an assumed SG = 2.600
- Contractor's aggregate has an actual SG = 2.500
- Calculate actual tons of the Contractor's aggregate required:

$$\frac{2.500 \text{ (Actual or contractor \#)}}{2.600 \text{ (Assumed or agency \#)}} = 0.962 * 1000 \text{ tons} = 962 \text{ tons}$$

So 38 tons less of aggregate are needed to cover the same volume.



18

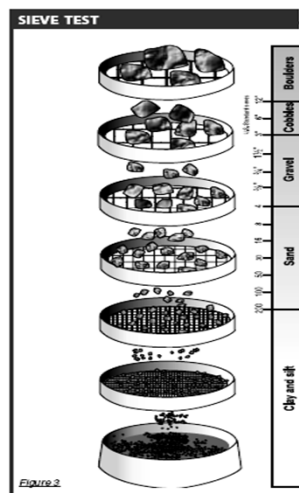
Gradation of Materials



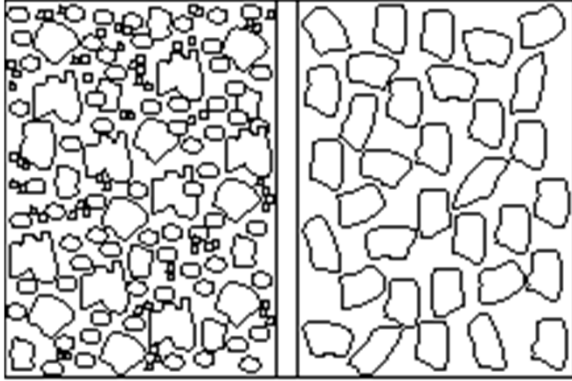
19

Gradation of Materials (Sieve Analysis)

- Gradation determined by sieve analysis
- Reveals the size makeup of materials from largest to smallest



20



Well vs. Uniformly
Graded

Well-graded materials have an even distribution of particle sizes that provide better load handling properties

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MATERIALS &
INSPECTION

21

Key Inspection Points:

- Witness all deflection tests
- TM158 deflection testing needs to be performed by contractors certified density technician
- Need proper moisture, reasonable lift thickness, and adequate compaction to achieve dense material
- Compaction is critical
- Talk to your QCCS about materials related issues

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22

Unit 17 Review

- ✓Moisture/density relationship of soils and aggregate
- ✓Compaction
- ✓Specific gravity
- ✓Gradation (sieve analysis)



23

Specific Gravity

Class Exercise 17-1:

Bid Item 1010 is for 9,451 tons of Level 3 ½ Inch Lime Treated ACP. Special provisions section 00745.80 shows quantities based on $SG = 2.650$. The Contractor has selected his aggregate source and has an $SG = 2.770$.

Calculate the actual quantity of ACP required on the project.



24

Specific Gravity

17-1

The actual quantity of aggregate required on the project is...

- A. 9,451 Tons
- B. 9,879 Tons
- C. 9,042 Tons
- D. 9,277 Tons



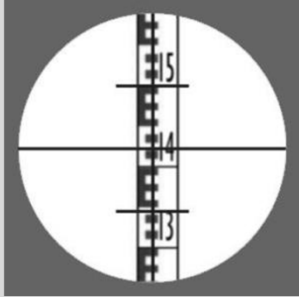
25

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Unit 18
Inspector Survey

Unit 18

Inspector Survey




Kevin LaVerdure, PLS
ODOT Engineering Automation Section



1

Unit 18 Topics

- Understanding surveying's role in the project
 - The Survey "Lifecycle"
- Survey terminology
- Automated Machine Guidance Basics
 - Survey control on the equipment
- Review of survey specifications
 - 00305 and SP00305
- Reading survey stakes/cross sections/cut sheets
 - They all work together to tell a "story"



2

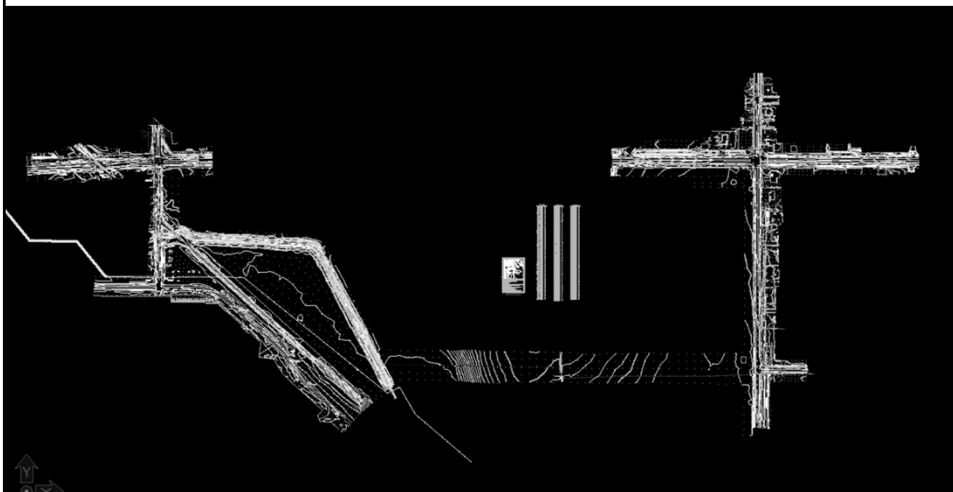
Surveying through the Project Lifecycle

- Project was surveyed BEFORE engineering began
- Base map created showing “everything”
- Pre-construction survey completed just before project was advertised for bidding
- Construction surveying done throughout the project
- QA/QC and quantity surveying done through out construction
- Final survey for Right of Way after construction is finished



3

Survey Base Map In CAD Software



4

Surveying during Construction

- Contractor's Surveyor
 - Direct employee of contractor
 - Sub-contracted surveyor
- Agency Surveyor
 - ODOT RE Office employee
 - ODOT Tech Center employee
 - CEI consultant employee
 - Third party contracted employee



5

Construction Surveying



6

Terminology

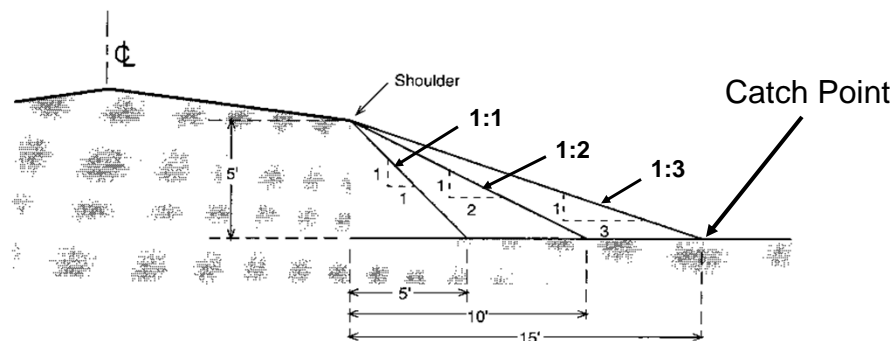
- Slope ratio – vertical to horizontal ratio 1:2, 1:3
- Slope percentage – (vertical / horizontal X 100) 2%, 6%
- Station and offset – Method of locating a point on a project
- Cross Section – Diagram showing road profile in a cross section “graphical” view
- Grade or Cut Sheet – Spreadsheet showing cross section/road profile data in a “text/number format”
- Hub – Marker set in the ground at an “exact” location
- Stake – Wooden lath with data set next to a hub



7

Side Slope Ratios

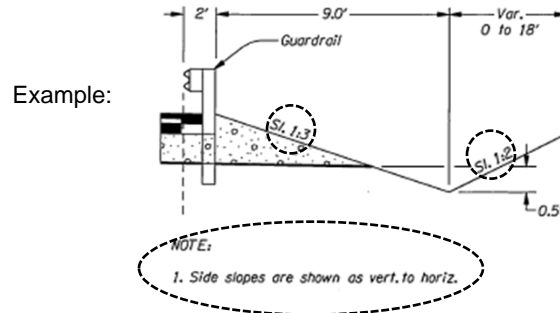
Ratio of vertical units to horizontal or “rise” vs. “run”



8

Side Slopes

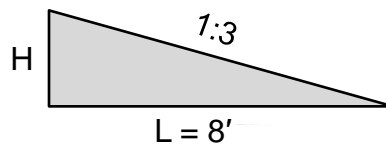
Side Slopes are typically Rise compared to Run expressed as Rise:Run (Vertical to Horizontal) (e.g., 1:3); the format of side slopes will be noted in the plans.



9

Side Slope Calculations

- Given: 1:3 Slope, Cross section length of 8 feet (L)



- Question: What is the change in elevation (H)?

- Solution: $1/3 = H/L$

$$1/3 = H/8$$

$$1 \times 8 = 3 \times H$$

$$8/3 = H$$

$$H = 2\text{--}2/3' (2.666')$$



10

Station and Offset

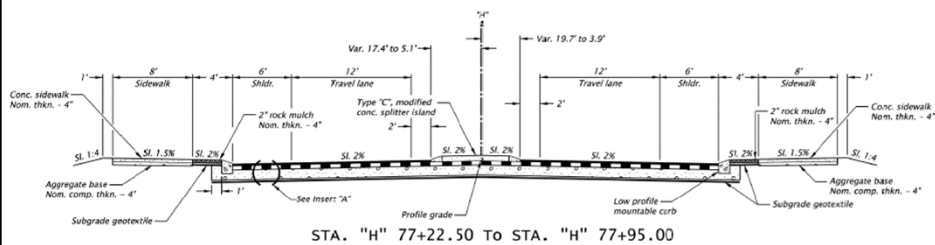
- Station: How far “along” an alignment from the starting point, shown in feet with a (+) between the tens and hundreds units.
- Usually start with a large number to avoid negative Stations
- Station $25+00.25 = 2500.25$ feet from the zero/start point
- Offset: How far left or right of the alignment, shown in feet. rt. or (+) = right, lt. or (-) = left.
- Offset $-21.36 =$ A point $21.36'$ left of the alignment



11

Cross Section

Sheet BA10 from Course Plan Set



Found in the plan set, as supplemental survey data in the Survey Handoff Package, and in the CAD drawings.



12

Grade / Cut Sheet

Cross Section Report

Report Created: 4/9/2021
Time: 3:45pm

Set Name: H Line_2
Alignment Name: H Line
Input Grid Factor: 1.000000

Note: All units in this report are in feet unless specified otherwise.

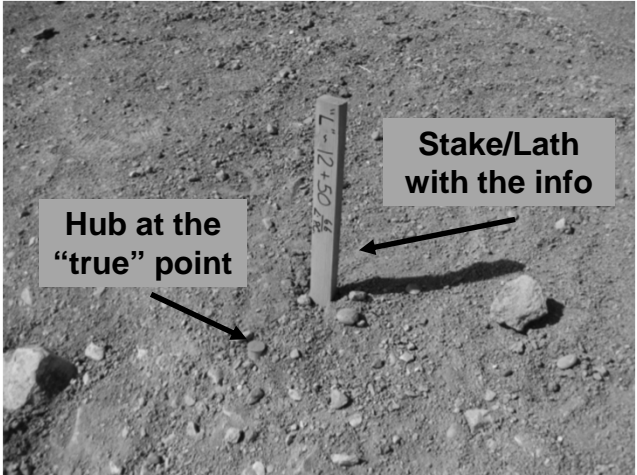
Surface:	H North						
Station:	77+75.000						
Offset:	-44.875	-42.993	-38.485	-37.758	-37.485	-31.663	-29.485
Elevation:	4101.864	4102.335	4103.462	4103.462	4103.462	4103.374	4103.342
Delta Z:	-0.471	-1.127	0.000	0.000	0.087	0.033	0.044
Slope:	-4:1	-4:1	Infinity:1	Infinity:1	67:1	67:1	50:1
Slope Length:	1.940	4.646	0.728	0.272	5.823	2.178	2.184

Found as supplemental survey data
in the Survey Handoff Package

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13

Hub and Stake



Hub at the "true" point

Stake/Lath with the info

QA ODOT MATERIALS & INSPECTION

14

Automated Machine Guidance - AMG



- Equipment is guided by GPS or Total Station
- Can be very accurate!

15

Machine Guidance vs. Machine Control

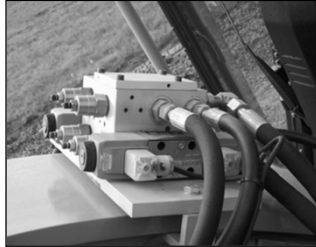
A **machine guidance** system uses automation to provide the equipment operator a **visual indicator** of the position of the cutting edge (blade, bucket, screed, etc.) relative to the design surface being constructed.



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INSPECTION

16

Machine Guidance vs. Machine Control



A **machine control** system positions the cutting edge of the equipment through **automation**.

The system is connected to and controls the hydraulics while the operator simply drives the equipment and manages the automation.



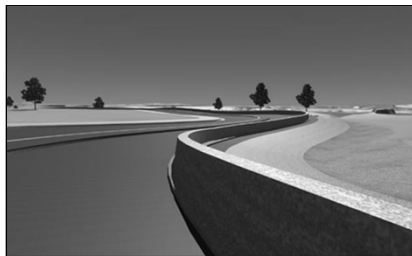
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17

3 Components of Machine Guidance

1. The 3D design and data
2. The machine w/computer, sensors, hydraulic controls, and data communication
3. The positioning system – GPS, TPS, laser, or combination



18

Where are we seeing AMG on our jobs?

- Excavation
- Base rock
- Finish rock
- Compaction
- Asphalt milling
- Concrete paving



19

Positioning the Equipment

- All AMG equipment needs some survey positioning
- GPS/GNSS
- Robotic total stations
- GPS/laser system



20

GPS/GNSS Guidance – Accuracies

+/- 0.04' Horizontal

+/- 0.07' Vertical

- Suffers in tree cover/canyons
 - Must have good view of the sky
- Limit is in the vertical
- Vertical accuracies are not tight enough for some finish work



21

Total Station Guidance Prisms on Machine



22

Total Station Guidance Multiple TS on Site



23

Total Station Guidance – Accuracies

- Limit is line of sight
 - +/- 0.02' Horizontal
 - +/- 0.02' Vertical
- Suffers on busy job sights
- Need at least 1 Total Station per machine and 1 Total Station per grade checker



24

Hybrid - Laser/GPS Guidance Laser & GPS Receiver on Machine



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25

Laser/GPS Guidance Laser Transmitter on Site



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26

Laser/GPS Guidance Accuracies

- Limit is line of sight of Laser
 - +/- 0.04' Horizontal from GPS
 - +/- 0.01' Vertical from Laser
- Suffers on busy job sites
- Fan laser covers +/- 60 feet of elevation change on a site
- Vertical can be held to very tight tolerances!



27

Considerations for AMG Projects

- Needs good 3D Design Data
- Needs to be the correct Data!
- Limited physical stakes to check with
- Needs more survey control
- Needs more survey oversight & grade verification
- Can be wrong!



28

Survey Specifications

- Surveying is mentioned only a few times in the entire Specifications Book!
- 00305 and SP00305 control all surveying work
- Some other survey related works appear in other areas
 - Striping plans
 - ADA Verifications
 - Quantity measurements for bid items
- Supplemental Manual for Surveying Instructions
 - Construction Survey Manual for Contractors



29

00305 – Construction Survey Work

For all Projects, the Survey Requirements are called to by 00305 and/or SP00305. These specifications direct the contractor to the ***Construction Survey Manual for Contractors*** for the detailed requirements/instructions.

The most current manual (January 15, 2021, update)
is available at:

https://www.oregon.gov/ODOT/ETA/Documents_Geometronics/Construction-Survey-Manual-Contractors.pdf



30

00305.80 – Measurement

No measurement of quantities will be made for construction survey work.

00305.90 – Payment

- Paid at lump sum
- Includes all material, equipment, labor, and incidentals necessary to complete the Work
- No additional payment for temporary protection and direction of traffic
- No additional payment for preparing surveying documents



31

**Reading
Construction
Stakes**

32

Typical guard or offset stake

Offset distance from hub to point being staked – 4 feet

Item being staked – Face of Curb

Special note – **Begin Vertical Curve**

Elevation difference between hub and staked point – Fill 1.18 feet

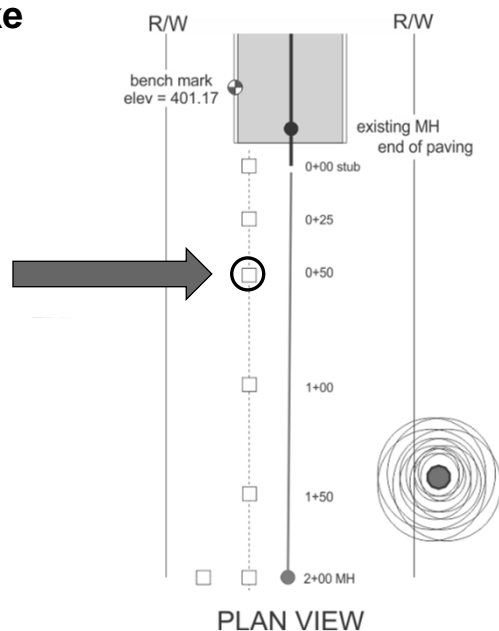
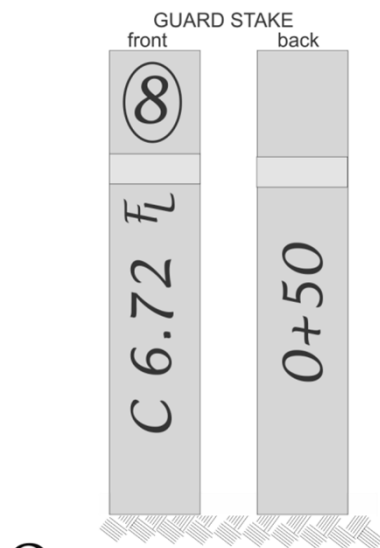
Top of Curb

The station and elevation of the hub may be shown on the back of the stake.

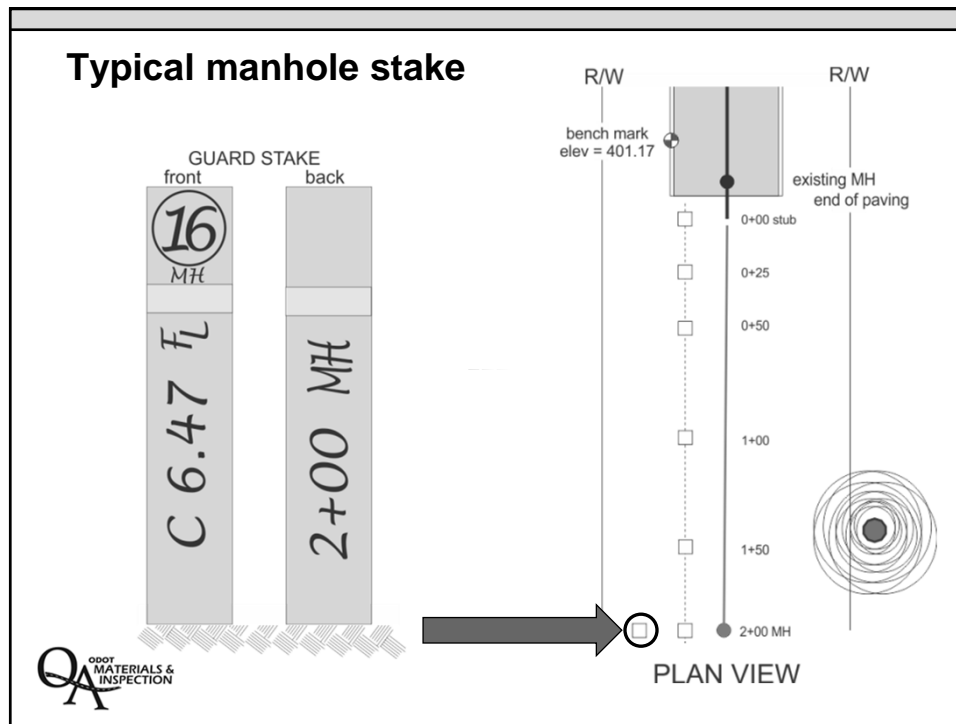


33

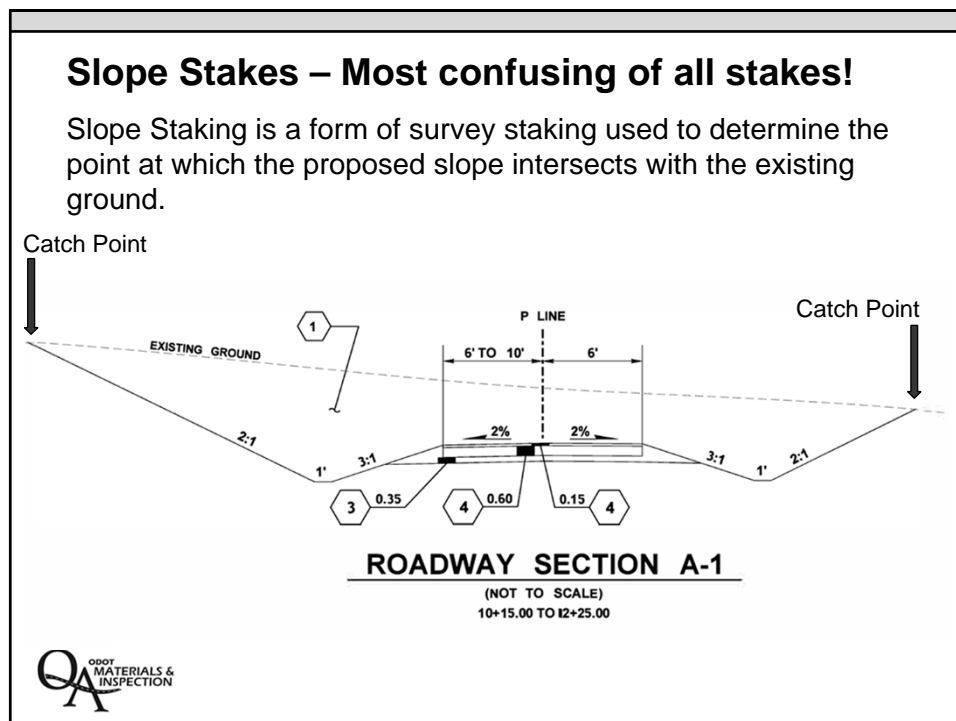
Typical pipe run stake



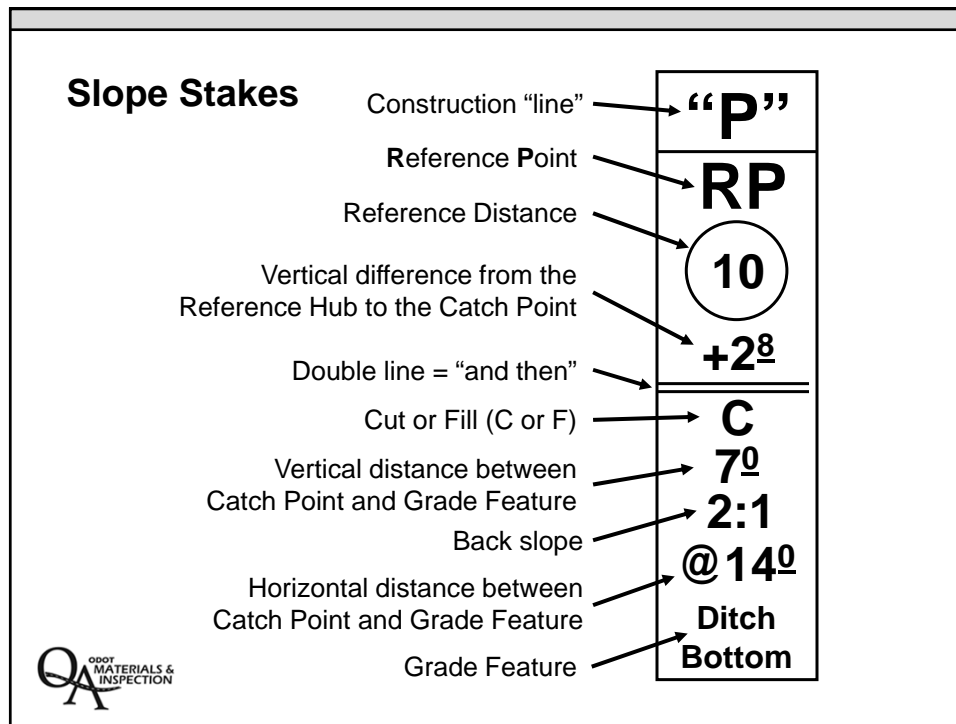
34



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36



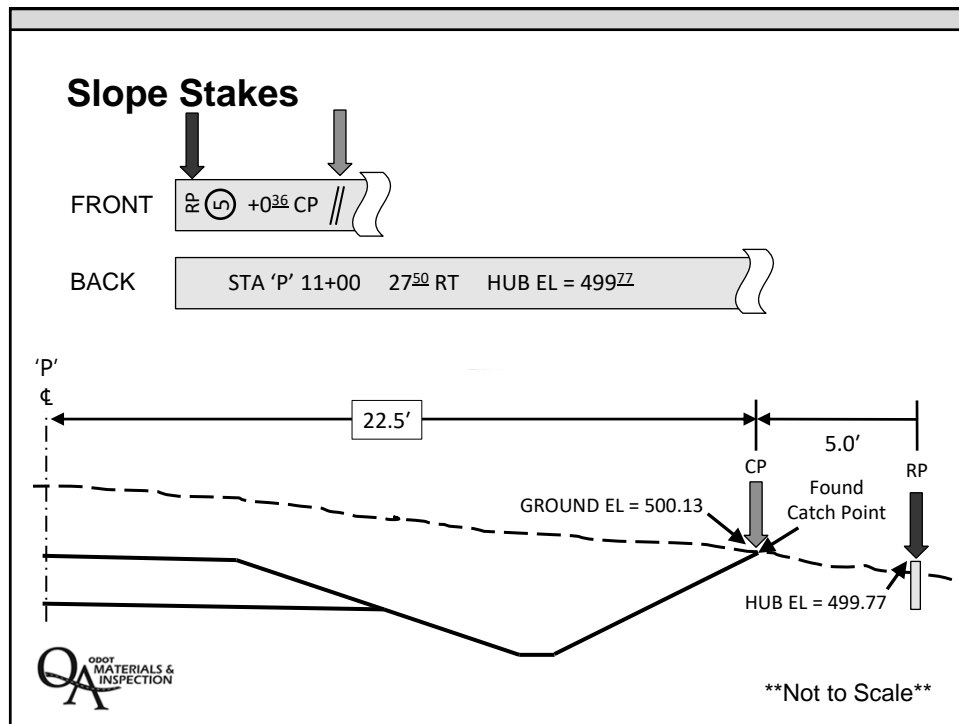
37

Slope Stakes

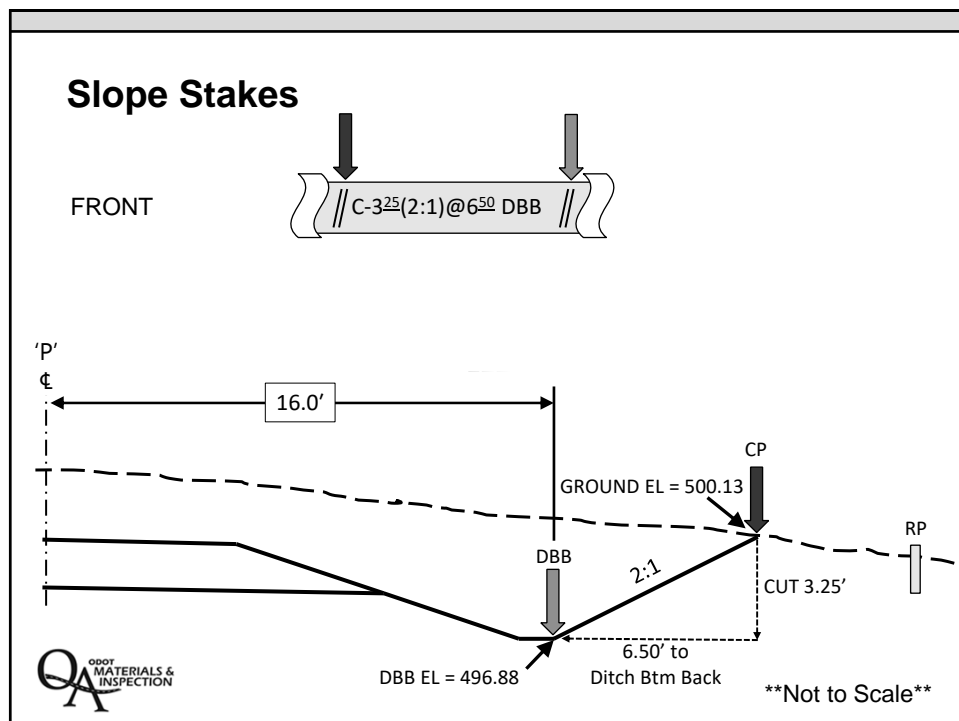
- The lath/stake is divided into a story, it is a dot to dot of the cross-section. Parts are separated by lines.
- Many variations for how a slope stake can be written.
- Should always have:
 - Vertical Distance, C/F
 - Slope, ratio or percent
 - Horizontal Distance
 - Details

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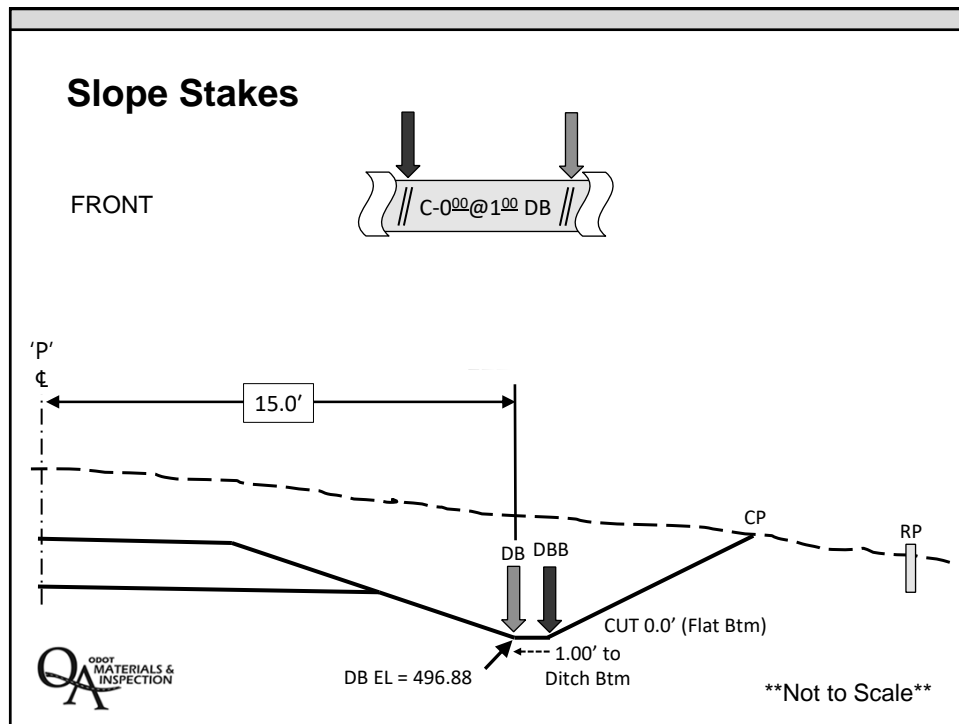
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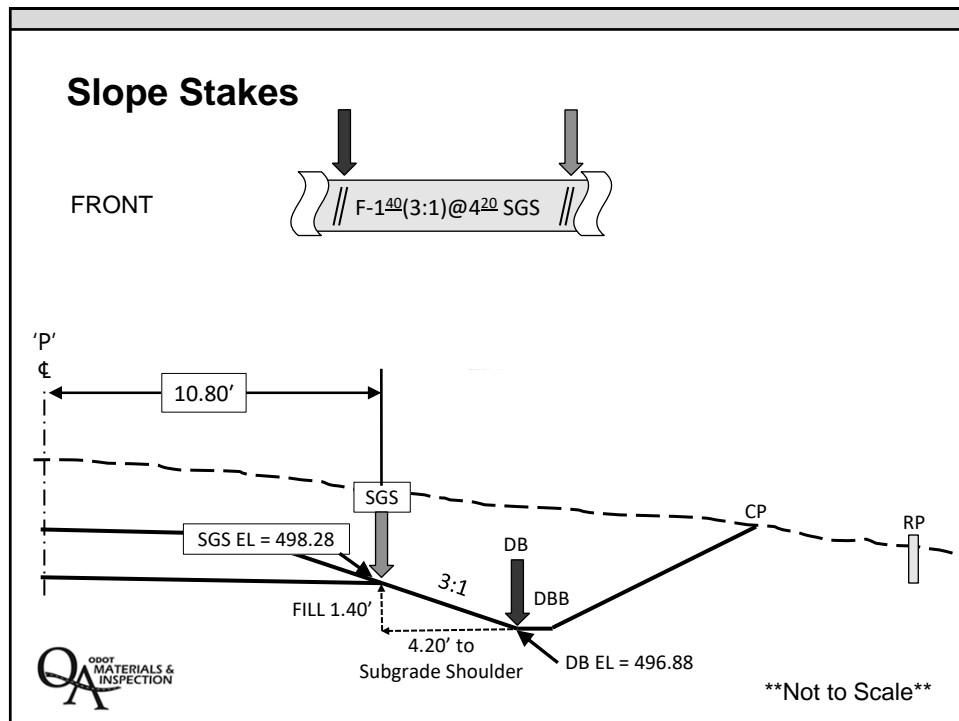
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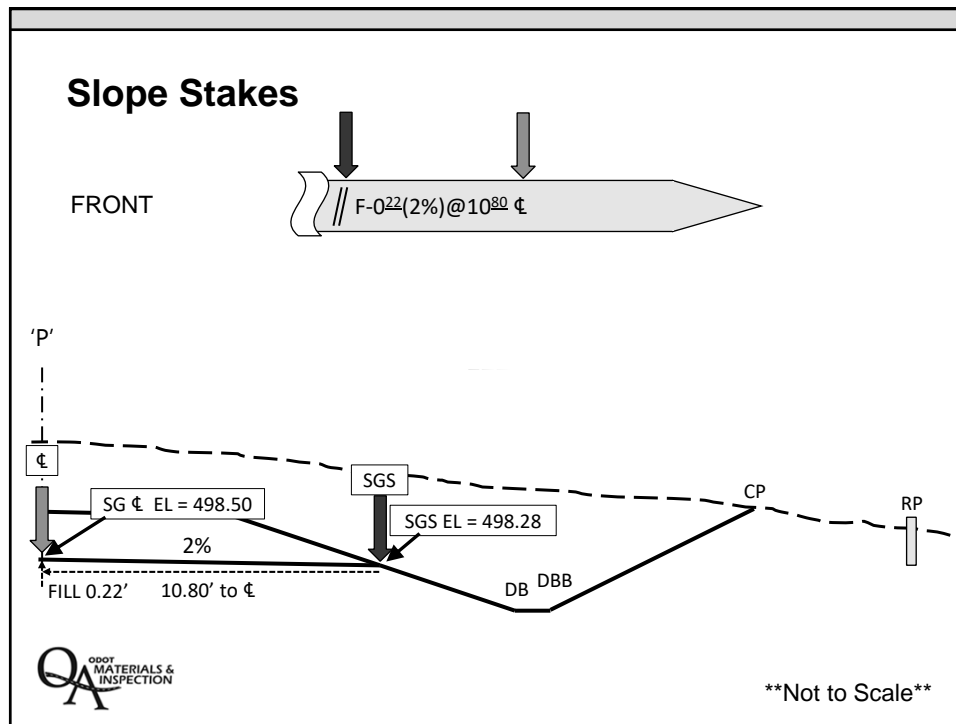
40



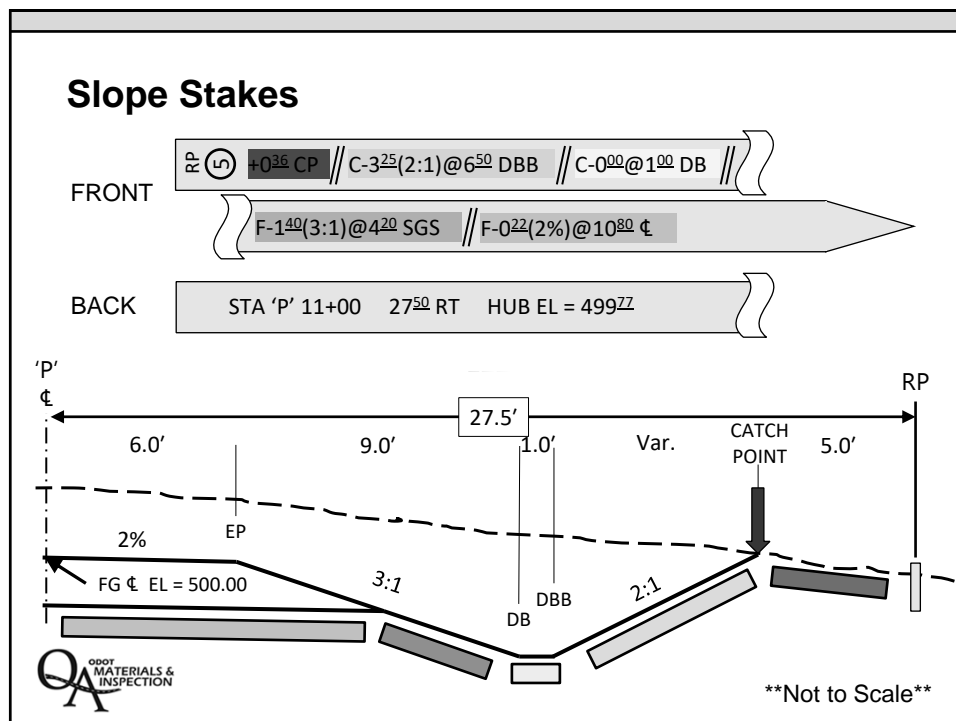
41



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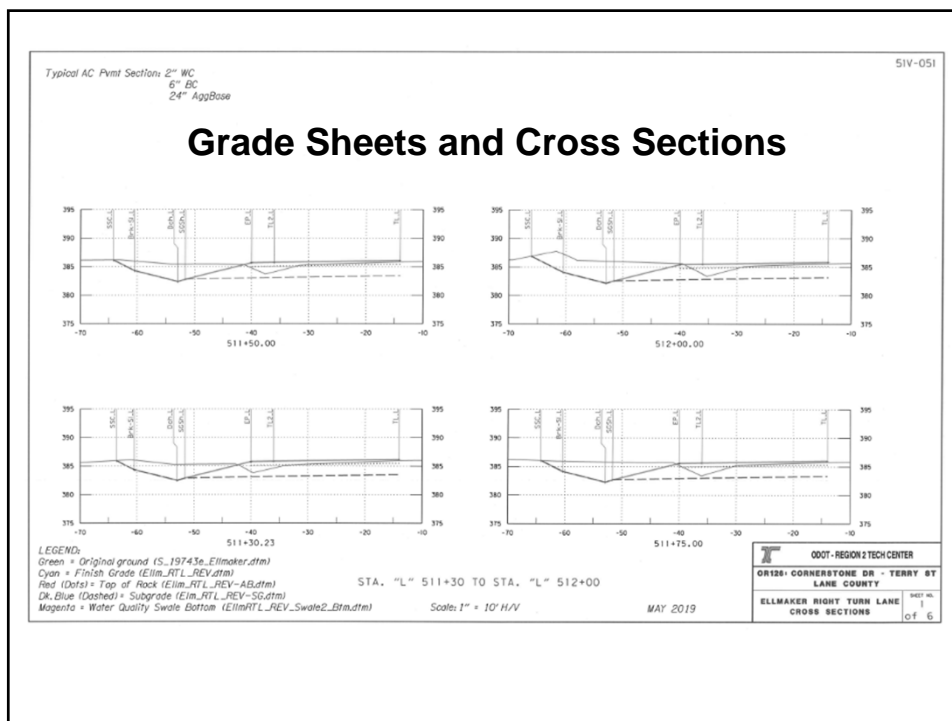
44

Key Inspection Points

- Review survey stakes as they are being set
- Ask surveyor questions regarding protocol for staking and marking on stakes.
- If in doubt, ask prime contractor to manage surveyor sub-contractor



45



46

Grade Sheets and Cross Sections

OR126: CORNERSTONE DR. TO TERRY ST.

"L" LINE BCR Sta. 511+30.23 to 515+40 LEFT - ELLMAKER RD. RIGHT TURN LANE
May 26, 2019

Ellmaker RTL- FG

FINISH GRADE REPORT

Horizontal Alignment: L

Vertical Alignment: Ellmaker

AC Pavement Dig Out Section: 2" WC

6" BC

24" Agg Base

TL_L = Travel Lane Left at FG @ 14' Lt (Sawcut Line)

Dch_L = Ditch Left @ FG

TL2_L = Travel Lane Left at FG @ 36' Lt

Brk-SL_L = Break (Backslope) Left @ FG

EP_L = Edge Pavement Left @ FG

SSC_L = Slope Stake Cut Left

Dch_L = Ditch Left @ FG

RTL = Right Turn Lane

Brk-SL_L = Break (Backslope) Left @ FG

NOTE: FINAL FINISH GRADE PAVEMENT WAS PLACED ON OR126 "L" LINE THROUGHOUT THIS AREA
THIS DESIGN SURFACE HAS BEEN RAISE 0.07' TO BETTER MATCH THE CURRENT FINISH GRADE OF PAVEMENT
SEE ADDITIONAL BUS GRADING SHEET FOR CORRECT BACK OF SIDEWALK/FILL SLOPES THRU BUS PULLOUT

Surface:	Ellm_RTL_REV							
Station:	511+30.23							
Feature		SSC_L	Brk-SL_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -1.61	385.96	384.35	382.48	382.88	385.78	385.84	386.17
Offset	@ 3.21	63.64	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:~3.31	1:~4.00	-1.50%	-1.50%	
Station:	511+50.00							
Feature		SSC_L	Brk-SL_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -1.91	386.16	384.25	382.38	382.78	385.68	385.74	386.07
Offset	@ 3.82	64.25	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:~3.31	1:~4.00	-1.50%	-1.50%	

EP_L = BCR to Ellmaker Rd

47

Grade Sheets and Cross Sections

OR126: CORNERSTONE DR. TO TERRY ST.

"L" LINE BCR Sta. 511+30.23 to 515+40 LEFT - ELLMAKER RD. RIGHT TURN LANE
May 26, 2019

Ellmaker RTL- AB

TOP OF ROCK GRADE REPORT

AC Pavement Dig Out Section: 2" WC

Horizontal Alignment: L

Vertical Alignment: Ellmaker

6" BC

24" Agg Base

TL-AB_L = Travel Lane Left at AB @ 14' Lt (Sawcut Line)

TL2-AB_L = Travel Lane Left at AB @ 36' Lt

EP-AB_L = Edge Pavement Left @ AB

RTL = Right Turn Lane

NOTE: FINAL FINISH GRADE PAVEMENT WAS PLACED ON OR126 "L" LINE THROUGHOUT THIS AREA
THIS DESIGN SURFACE HAS BEEN RAISE 0.07' TO BETTER MATCH THE CURRENT FINISH GRADE OF PAVEMENT
SEE ADDITIONAL BUS GRADING SHEET FOR CORRECT BACK OF SIDEWALK/FILL SLOPES THRU BUS PULLOUT

Surface:	Ellm_RTL_REV-AB			
Station:	511+30.23			
Feature	EP-AB_L	TL2-AB_L	TL-AB_L	
Elevation	385.11	385.17	385.5	
Offset	40	36	14	
Slope	-1.50%	-1.50%		
Station:	511+50.00			
Feature	EP-AB_L	TL2-AB_L	TL-AB_L	
Elevation	385.01	385.07	385.4	
Offset	40	36	14	
Slope	-1.50%	-1.50%		

EP_L = BCR to Ellmaker Rd

48

Grade Sheets and Cross Sections

OR126: CORNERSTONE DR. TO TERRY ST.

Ellmaker RTL- SG

"L" LINE BCR Sta. 511-30.23 to 515+40 LEFT - ELLMAKER RD. RIGHT TURN LANE **SUBGRADE REPORT**

May 26, 2019

Horizontal Alignment: L

Vertical Alignment: Ellmaker

AC Pavement Dig Out Section: 2" WC

6" BC

24" Agg Base

TL-SG_L = Travel Lane Left at SG @ 14' Lt (Sawcut Line)

Dch_L = Ditch Left @ FG

TL2-SG_L = Travel Lane Left at SG @ 36' Lt

Brk-SL_L = Break (Backslope) Left @ FG

EP-SG_L = Edge Pavement Left @ SG

SSC_L = Slope Stake Cut Left

Dch_L = Ditch Left @ FG

RTL = Right Turn Lane

Brk-SL_L = Break (Backslope) Left @ FG

NOTE: FINAL FINISH GRADE PAVEMENT WAS PLACED ON OR126 "L" LINE THROUGH THIS AREA
THIS DESIGN SURFACE HAS BEEN RAISE 0.07' TO BETTER MATCH THE CURRENT FINISH GRADE OF PAVEMENT
SEE ADDITIONAL BUS GRADING SHEET FOR CORRECT BACK OF SIDEWALK/FILL SLOPES THRU BUS PULLOUT

Surface: Elm_RTL_REV-SG

Station: 511+30.23

EP_L = BCR to Ellmaker Rd

Feature	SSC_L	Brk-SL_L	Dch_L	SGSh_L	EP-SG_L	TL2-SG_L	TL-SG_L
Elevation	C -1.61	385.96	384.35	382.48	382.88	383.11	383.17
Offset	@ 3.21	63.64	60.43	52.93	51.6	40	36
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	-2.00%	-1.50%	-1.50%

Station: 511+50.00

Feature	SSC_L	Brk-SL_L	Dch_L	SGSh_L	EP-SG_L	TL2-SG_L	TL-SG_L
Elevation	C -1.91	386.16	384.25	382.38	382.78	383.01	383.07
Offset	@ 3.82	64.25	60.43	52.93	51.6	40	36
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	-2.00%	-1.50%	-1.50%

49

Grade Sheets and Cross Sections

Surface: **Elm_RTL_REV** Name of feature point – See legend at top of page

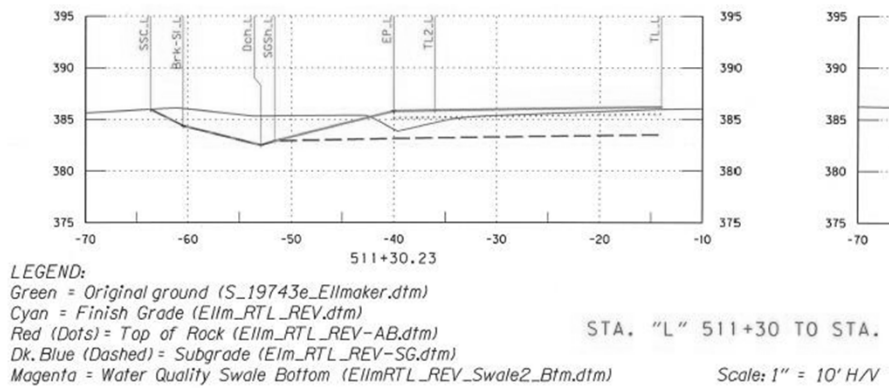
Station: **511+30.23**

Feature	SSC_L	Brk-SL_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -1.61	385.96	384.35	382.48	382.88	385.78	385.84
Offset	@ 3.21	63.64	60.43	52.93	51.6	40	36
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	1:-4.00	-1.50%	-1.50%

Elevation of feature Offset from Centerline*

50

Grade Sheets and Cross Sections



51

Grade Sheets and Cross Sections

Finish Grade vs. Top of Rock vs. Subgrade

511+30.23 @ 14' from CL Are the grades right?

From the grade reports:

(Finish) FG: TL_L = 386.17'

(Top of Rock) TopRock: TL-AB_L = 385.5'

(Subgrade) SG: TL-SG_L = 383.5'

TopRock = FG – Pavement 386.17' – 0.67' = 385.50'

SG = TopRock – AggBase 385.50' – 2.0' = 383.50'

AC Pavement Dig Out Section: 2" WC } 2" + 6" = 8" = 0.67'
 6" BC }
 24" Agg Base 24" = 2.0'

52

Class Problem 16-1

In Section 00850, for projects with partial striping plans or without striping plans, how many days prior to loss of existing pavement markings does the contractor have to submit survey documentation of existing striping?

- A. 3 days
- B. 7 days
- C. 14 days
- D. 28 days



53

Questions?

- If in doubt – ASK!
- Check the 00305 Spec
- Look in the Construction Survey Manual for Contractors
- Call a Surveyor!
- Contact the Engineering Automation Section with questions on the 00305 or Construction Survey Manual



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"L" LINE BCR Sta. 511+30.23 to 515+40 LEFT - ELLMAKER RD. RIGHT TURN LANE FINISH GRADE REPORT

May 26, 2019

AC Pavement Dig Out Section: 2" WC

6" BC

24" Agg Base

Horizontal Alignment: L

Vertical Alignment: Ellmaker

TL_L = Travel Lane Left at FG @ 14' Lt (Sawcut Line)

Dch_L = Ditch Left @ FG

TL2_L = Travel Lane Left at FG @ 36' Lt

Brk-Sl_L = Break (Backslope) Left @ FG

EP_L = Edge Pavement Left @ FG

SSC_L = Slope Stake Cut Left

Dch_L = Ditch Left @ FG

RTL = Right Turn Lane

Brk-Sl_L = Break (Backslope) Left @ FG

**NOTE: FINAL FINISH GRADE PAVEMENT WAS PLACED ON OR126 "L" LINE THROUGHT THIS AREA
THIS DESIGN SURFACE HAS BEEN RAISE 0.07' TO BETTER MATCH THE CURRENT FINISH GRADE OF PAVEMENT
SEE ADDITIONAL BUS GRADING SHEET FOR CORRECT BACK OF SIDEWALK/FILL SLOPES THRU BUS PULLOUT**

Surface: Ellm_RTL_REV

Station: 511+30.23

EP_L = BCR to Ellmaker Rd

Feature		SSC_L	Brk-Sl_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -1.61	385.96	384.35	382.48	382.88	385.78	385.84	386.17
Offset	@ 3.21	63.64	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	1:-4.00	-1.50%	-1.50%	

Station: 511+50.00

Feature		SSC_L	Brk-Sl_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -1.91	386.16	384.25	382.38	382.78	385.68	385.74	386.07
Offset	@ 3.82	64.25	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	1:-4.00	-1.50%	-1.50%	

Station: 511+75.00

Feature		SSC_L	Brk-Sl_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -1.88	386.03	384.15	382.28	382.68	385.58	385.64	385.97
Offset	@ 3.76	64.19	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	1:-4.00	-1.50%	-1.50%	

Station: 512+00.00

Feature		SSC_L	Brk-Sl_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -2.85	386.89	384.04	382.16	382.57	385.47	385.53	385.86
Offset	@ 5.70	66.13	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	1:-4.00	-1.50%	-1.50%	

Station: 512+25.00

Feature		SSC_L	Brk-Sl_L	Dch_L	SGSh_L	EP_L	TL2_L	TL_L
Elevation	C -2.68	386.6	383.92	382.04	382.45	385.34	385.4	385.73
Offset	@ 5.38	65.81	60.43	52.93	51.6	40	36	14
Slope	01:02.0	01:02.0	01:04.0	1:-3.31	1:-4.00	-1.50%	-1.50%	

OR126: CORNERSTONE DR. TO TERRY ST.

Ellmaker RTL- AB

"L" LINE BCR Sta. 511+30.23 to 515+40 LEFT - ELLMAKER RD. RIGHT TURN LANE TOP OF ROCK GRADE REPORT

May 26, 2019

AC Pavement Dig Out Section: 2" WC

Horizontal Alignment: L

Vertical Alignment: Ellmaker

6" BC

24" Agg Base

TL-AB_L = Travel Lane Left at AB @ 14' Lt (Sawcut Line)

TL2-AB_L = Travel Lane Left at AB @ 36' Lt

EP-AB_L = Edge Pavement Left @ AB

RTL = Right Turn Lane

**NOTE: FINAL FINISH GRADE PAVEMENT WAS PLACED ON OR126 "L" LINE THROUGHT THIS AREA
THIS DESIGN SURFACE HAS BEEN RAISE 0.07' TO BETTER MATCH THE CURRENT FINISH GRADE OF PAVEMENT
SEE ADDITIONAL BUS GRADING SHEET FOR CORRECT BACK OF SIDEWALK/FILL SLOPES THRU BUS PULLOUT**

Surface: Ellm_RTL_REV-AB

Station: 511+30.23

EP_L = BCR to Ellmaker Rd

Feature	EP-AB_L	TL2-AB_L	TL-AB_L
Elevation	385.11	385.17	385.5
Offset	40	36	14
Slope	-1.50%	-1.50%	

Station: 511+50.00

Feature	EP-AB_L	TL2-AB_L	TL-AB_L
Elevation	385.01	385.07	385.4
Offset	40	36	14
Slope	-1.50%	-1.50%	

Station: 511+75.00

Feature	EP-AB_L	TL2-AB_L	TL-AB_L
Elevation	384.91	384.97	385.3
Offset	40	36	14
Slope	-1.50%	-1.50%	

Station: 512+00.00

Feature	EP-AB_L	TL2-AB_L	TL-AB_L
Elevation	384.8	384.86	385.19
Offset	40	36	14
Slope	-1.50%	-1.50%	

Station: 512+25.00

Feature	EP-AB_L	TL2-AB_L	TL-AB_L
Elevation	384.68	384.74	385.07
Offset	40	36	14
Slope	-1.50%	-1.50%	

Ellmaker RTL- SG

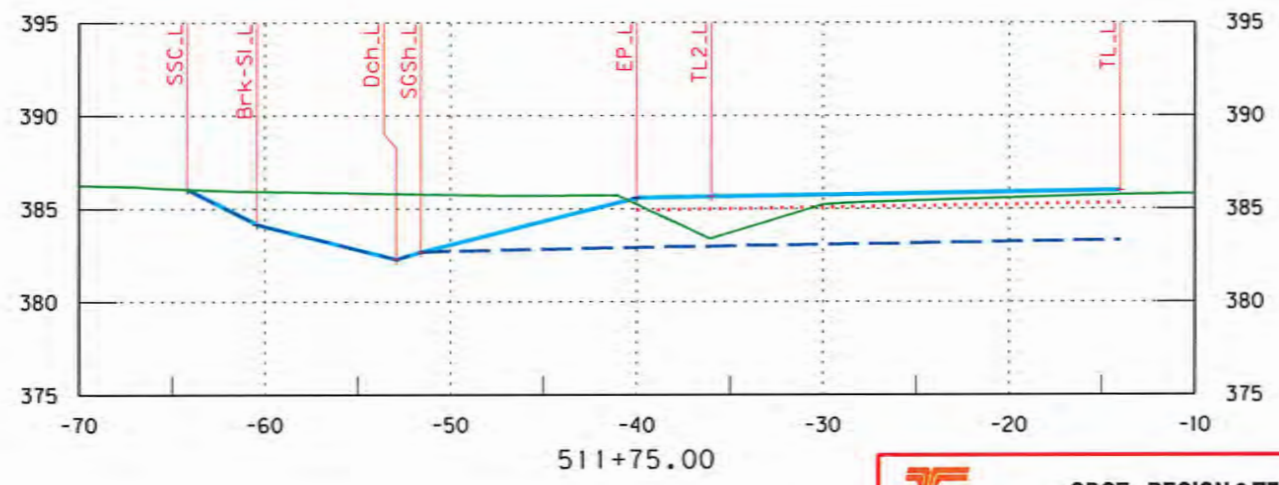
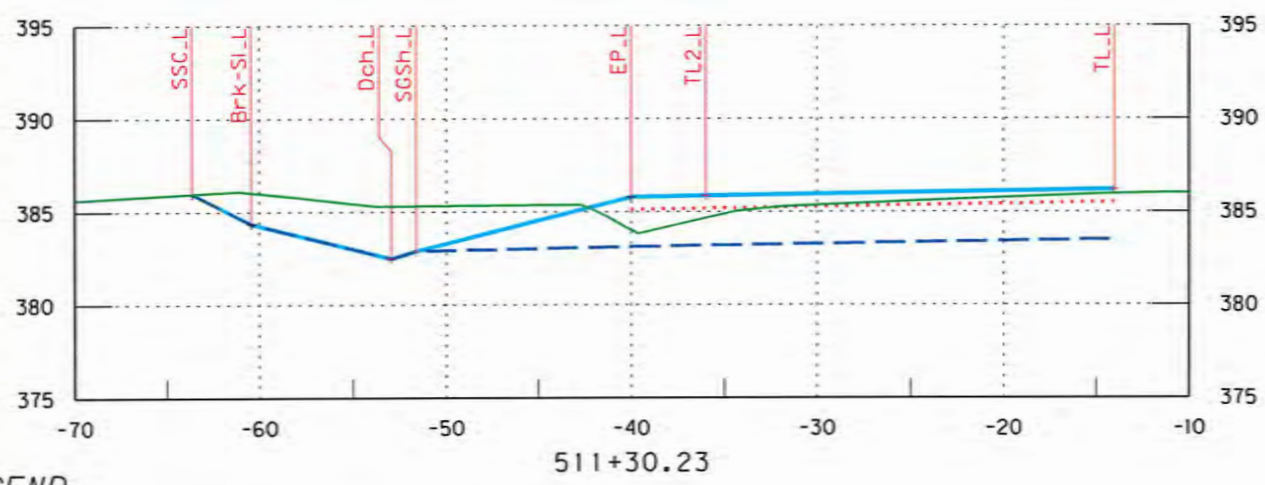
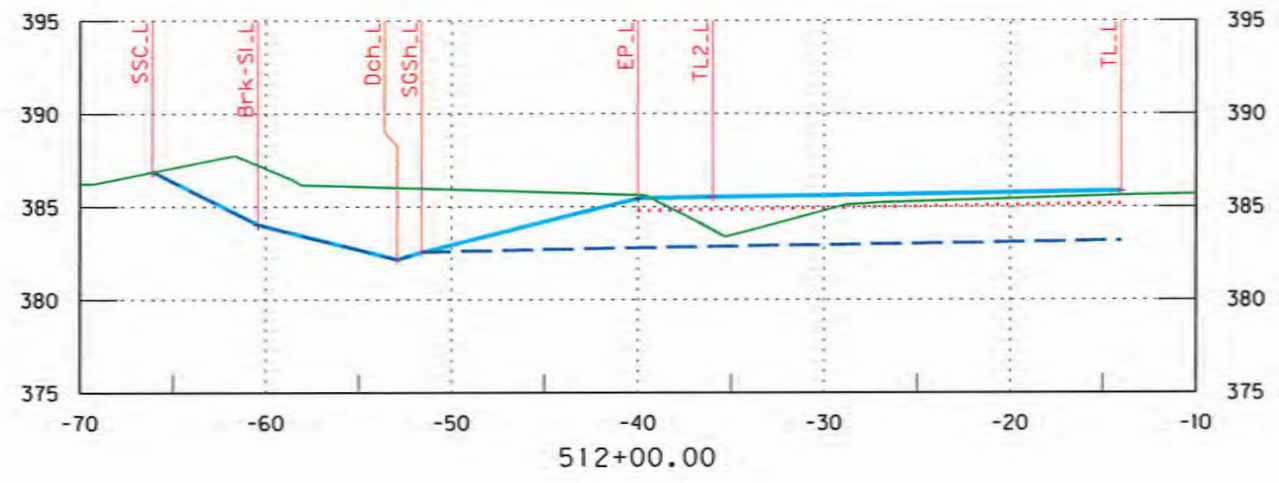
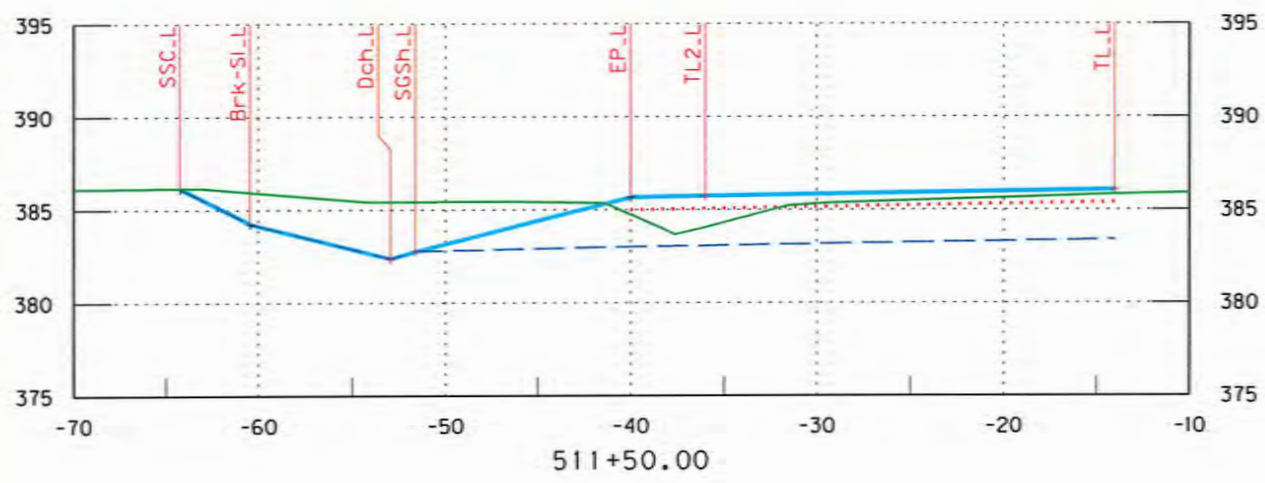
May 26, 2019

24" Agg Base

RTL = Right Turn Lane

Page 1

Typical AC Pmnt Section: 2" WC
6" BC
24" AggBase



LEGEND:
Green = Original ground (S_19743e_Ellmaker.dtm)
Cyan = Finish Grade (Ellm_RTL_REV.dtm)
Red (Dots) = Top of Rock (Ellm_RTL_REV-AB.dtm)
Dk. Blue (Dashed) = Subgrade (Ellm_RTL_REV-SG.dtm)
Magenta = Water Quality Swale Bottom (EllmRTL_REV_Swale2_Btm.dtm)

STA. "L" 511+30 TO STA. "L" 512+00

Scale: 1" = 10' H/V

MAY 2019


 ODOT - REGION 2 TECH CENTER	
OR126: CORNERSTONE DR - TERRY ST LANE COUNTY	
ELLMAKER RIGHT TURN LANE CROSS SECTIONS	SHEET NO. 1 of 6

TABLE "SBL"

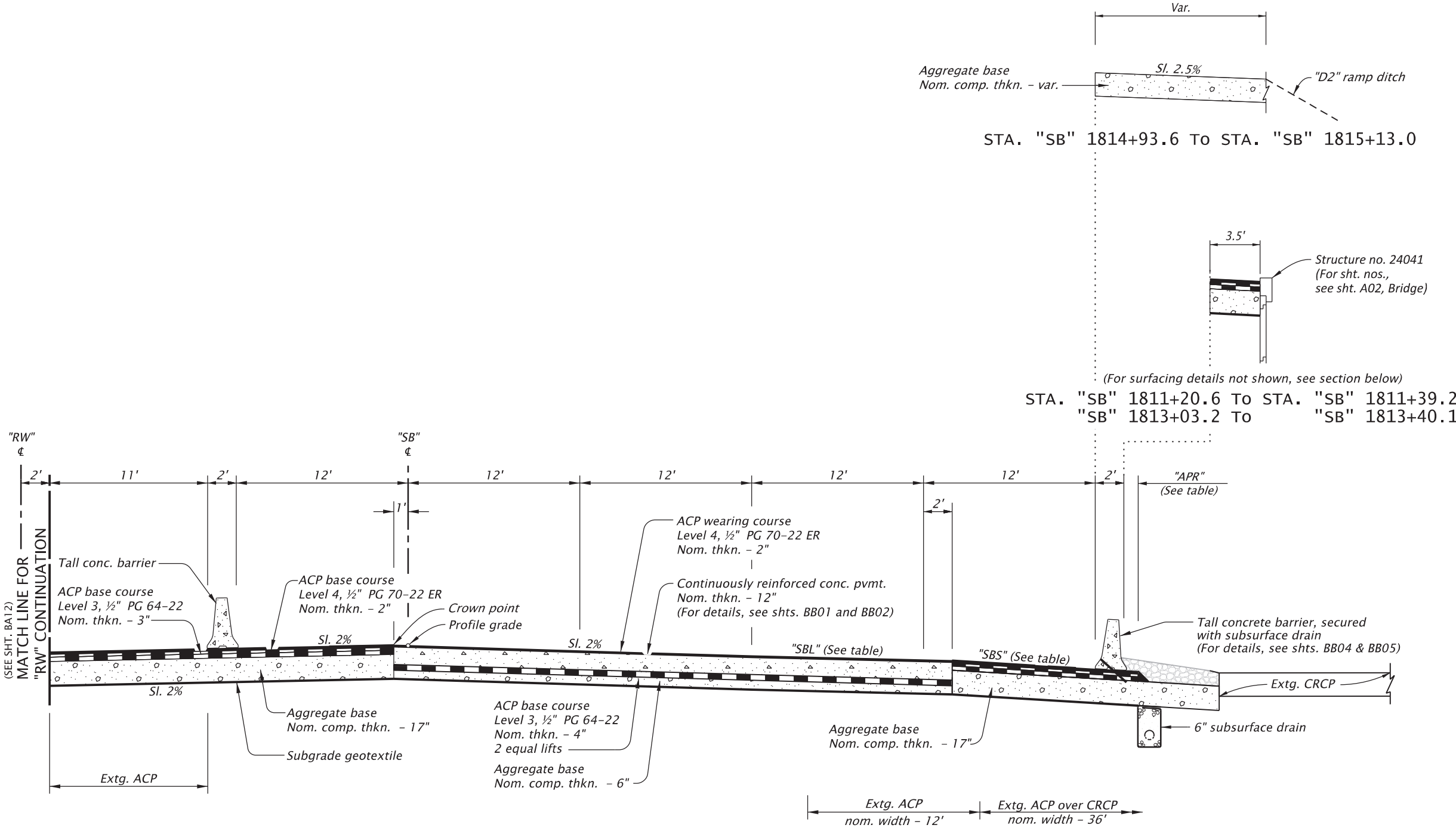
STA. "SB" To STA. "SB"		"SBL"
1809+10.5	1811+16.4	2.5%
1811+16.4	1811+36.4	2.5% to 2%
1811+36.4	1813+10.1	2%
1813+10.1	1813+30.1	2% to 2.5%
1813+30.1	1815+13.0	2.5%

TABLE "SBS"

STA. "SB" To STA. "SB"		"SBS"
1809+10.5	1810+16.4	5%
1810+16.4	1811+36.4	5% to 2%
1811+36.4	1813+10.1	2%
1813+10.1	1813+30.1	2% to 2.5%
1813+30.1	1815+13.0	2.5%

TABLE "APR"

STA. "SB" To STA. "SB"		"APR"
1809+10.5	1810+98.6	1'
1810+98.6	1811+18.6	1' to 3.5'
1811+18.6	1811+20.6	3.5'
1813+40.1	1813+42.1	3.5'
1813+42.1	1813+62.1	3.5' to 1'
1813+62.1	1815+13.0	1'



STA. "SB" 1809+10.5 To STA. "SB" 1811+39.2
"SB" 1811+39.2 To "SB" 1813+03.2 (structure)
"SB" 1813+03.2 To "SB" 1815+13.0

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. Construct 18" subgrade/embankment foundation stabilization.
(For details, see sht. BB17)

REGISTERED PROFESSIONAL ENGINEER
51,631
DIGITALLY SIGNED 2023.12.18 20:49:09-08'00'
OREGON
JUL. 11, 2000
TED CHARLES STEWART
RENEWES: 06-30-2024

DAVID EVANS AND ASSOCIATES INC.
2100 S River Parkway, Suite 100
Portland Oregon 97201
Phone: 503.223.6663

**I-5: AURORA DONALD INTERCHANGE (EXIT 278)
PHASE 2 SECTION
PACIFIC HIGHWAY
MARION COUNTY**


Designer: Brent Carney
Reviewer: Ted Stewart
Drafter: Tammy Taggart
Checker: Dan Ilyin

TYPICAL SECTIONS


SHEET NO.
BA04

INSERT TAB

Unit 19
Labor Compliance

<p>Labor Compliance and Prevailing Wage</p> <p>Diana Foster</p> <p>ODOT Labor Compliance Officer</p> <p>Diana.L.Foster@odot.oregon.gov</p>


1

<p>Unit 19 Labor Compliance</p> <p>Chapter 19 Construction Manual</p> <ul style="list-style-type: none">▪ Prevailing Wage▪ Inspector's Role for Labor Compliance▪ General Daily Progress Reports▪ Employee Interview Reports 

2

Federal Davis-Bacon and Related Acts and Bureau of Labor and Industries (BOLI) Covered Projects

- Federal Aid over \$2,000
- State funded over \$50,000
- If federal and state funded both Davis-Bacon Act and BOLI PWR apply



3

Prevailing Wages

- Wages are set as of Bid Date
- Wages are in place throughout the course of the project
- Base wage rate + fringe rate = total prevailing wage rate (PWR)
- If fringe benefits aren't available, fringe may be paid as wages
- Zone Pay + other differential may be added to the PWR base/fringe



4

If both Davis-Bacon and BOLI apply

- Wage rates are compared and the worker is to be paid the higher of the two wage rates – Davis-Bacon/BOLI
- The wage cost estimating tool is used to compare Davis-Bacon and BOLI
- Prepared by the Project Controls Office and found in Doc Express under payment information



5

Required Postings

- Contractor must post the “Employee Rights” poster at the project site in a location easily accessible to workers
- Wage rates, benefit plan information, and work schedules are required to be posted at the project site, again easily accessible to workers



6

**EMPLOYEE RIGHTS
UNDER THE DAVIS-BACON ACT**

**FOR LABORERS AND MECHANICS
EMPLOYED ON FEDERAL OR FEDERALLY
ASSISTED CONSTRUCTION PROJECTS**

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

**PREVAILING
WAGES**

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME


You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES


Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.



7

Classifications of Work

- Manual/Physical in nature
- Workers are to be paid for the work they are performing
- BOLI Definitions of Covered Occupations (BOLI website www.boli.oregon.gov)



8

Contract Oversight/Due Diligence

- Employee Interview Reports (contractor's workers)
- Performed at least once every six months – not intended as 100% test
- If questions arise, interview reports may be compared to certified payroll reports and inspector daily logs



9

Employee Interview Reports (federal-aid projects)

- Performed at least once every six months with prime and subcontractors' employees, and may be conducted during the employee's work schedule
- Worker may not know their wage rate, or may not want to comment, all okay, make a note
- Interview Report form (734-3475)



10

Employee Interview Report form 734-3475



EMPLOYEE INTERVIEW REPORT (Wage Compliance on Federal-Aid Projects)

PROJECT NAME	CONTRACT NO.
CONTRACTOR OR SUBCONTRACTOR	F.A. NO.
INTERVIEWER	INTERVIEW DATE

EMPLOYEE NAME	WORK CLASSIFICATION	HOURLY WAGE RATES			CURRENT DUTIES AND REMARKS
		STATED BY EMPLOYEE	FROM CONTRACTOR PAYROLL	FROM WAGE DETERMINATION SCHEDULE	

734-3475(11-15-2020)



11

Employee Interview Report (federal-aid projects)

- Information shared is intended to be kept in confidence
- Can be compared to certified payroll reports to check classifications, wages paid and benefit information



12



EMPLOYEE INTERVIEW REPORT

(Wage Compliance on Federal-Aid Projects)

PROJECT NAME	CONTRACT NO.
I-5:Aurora Donald Interchange (Exit 278) P2	C15498
CONTRACTOR OR SUBCONTRACTOR	F.A. NO.
Dirt and Aggregate Interchange	S001(554)
INTERVIEWER	INTERVIEW DATE
	16-Sep-24

EMPLOYEE NAME	WORK CLASSIFICATION	HOURLY WAGE RATES			CURRENT DUTIES AND REMARKS
		STATED BY EMPLOYEE	FROM CONTRACTOR PAYROLL	FROM WAGE DETERMINATION SCHEDULE	
	Foreman Operator Grp 4	\$47.00 / HR	\$52.79+Fringe	\$50.27	Assisting with cable barrier removal.
	Laborer Grp 1	Unknown	\$36.11+Fringe	\$36.11	Assisting with cable barrier removal. Knows it is a prevailing wage project but has no idea of hourly wage.
	App 63% Laborer Grp 1	\$24.00 / HR?	\$22.75+Fringe	\$36.11	Assisting with cable barrier removal. Knows it is a prevailing wage project but has no idea of hourly wage, first day working.
	Laborer Grp 1	\$36.50 / HR	\$36.11+Fringe	\$36.11	Assisting with cable barrier removal.
	Operator Grp 4	\$52.00 / HR	\$52.79+Fringe	\$50.27	Assisting with cable barrier removal.
	Laborer Grp 1	\$36.00 / HR	\$36.11+Fringe	\$36.11	Assisting with cable barrier removal.

Certified Payroll Reporting

- Weekly reporting
- Subcontractors submit to Prime
- Prime contractor submits to ODOT

“Certified” signed statement with exact wording
BOLI/Davis-Bacon language, true and accurate



13

Certified Payroll Reporting

- “No Work Performed” weeks
- Numbering of payroll reports – intending to be consecutive weeks
- Suspensions of work notes to file

Cross reference back to employee interview reports and
inspector daily logs if questions arise



14

Certified Payroll/Public Records

- Certified Payroll reports are considered a public record (ORS 192.311-.478)
- If a Public Records request includes certified payroll reports, information is redacted consistent with ORS 192
- If certified payroll reports are requested as a part of a BOLI investigation – information is not redacted



15

Wage Complaints and Claims

- Wage complaints can be filed in many ways: through Resident Engineer's/Project Manager's office, an inspector, ODOT's Labor Compliance Officer, on behalf of trade unions, and directly to BOLI
- BOLI's Prevailing Wage Rate Complaint form is available online at www.oregon.gov/boli/whd/wageclaim.pdf



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Wage Complaints and Claims

- BOLI requests all inspector daily logs, certified payroll reports, and prime contractor's bond information
- When a complaint is filed, BOLI has 180 days to review, determine and file a Notice of Claim



17

Rental of Operated Equipment

ODOT Specifications 00180.20 (c) 1-4

Intended use – limited to performing minor, incidental, short-duration work with equipment not customarily owned, rented, or leased by the contractor



18

Owner/Operators Independent Contractors

- Owner/Operator Trucks
- Lease agreements



19

Recap and Questions

- Prevailing Wage
- Inspector's Role in Labor Compliance
- Employee Interview Reports



20



CHAPTER 19

LABOR COMPLIANCE

19-1 General

Contractors' employees working on public works construction Projects, whose duties are manual or physical in nature, must be paid at least the applicable prevailing wage rates (hourly base wage rate plus hourly fringe benefits) specified in the Contract for the trade classification of Work they are performing.

When a Project is covered under the State's Bureau of Labor and Industries (BOLI) Prevailing Wage Rate (PWR) law and uses federal funds, the Project will be subject to both the state PWR law and the federal Davis-Bacon and Related Acts (DBRA) at the same time. Even if the Project is funded solely with federal funds, the Project is subject to both State PWR and federal requirements.

For Projects subject to both State and federal prevailing wage rate laws, BOLI will follow federal guidance for the definition of "Site of the Work" and to determine when prevailing wages are due to material delivery personnel.

The Resident Engineer (RE) monitors labor compliance on Agency Projects subject to prevailing wage rate law (DBRA and/or BOLI PWR law). For guidance and determinations relating to "Site of the Work" and material delivery personnel contact ODOT's Labor Compliance Officer (LCO). For consultant managed Projects, contact ODOT's Consultant Project Manager (CPM) or Local Agency Liaison (LAL) for assistance.

19-2 Prevailing Wage Rate Laws and Governance

Federal Davis Bacon and Related Acts (DBRA) and the State's Bureau of Labor and Industries Prevailing Wage Rate (BOLI PWR) Law

A. Covered Work and Wage Rate Determinations

The U.S. Department of Labor (US-DOL) periodically conducts wage surveys to determine prevailing wages as required by the DBRA and Code of Federal Regulations (CFR 29 Labor).

BOLI conducts annual surveys to determine prevailing wages consistent with Oregon Revised Statutes (ORS 279C) and Oregon Administrative Rules governing BOLI and public works contracting.

All federally funded Projects on the National Highway System are covered by DBRA and prevailing wage rates must be paid to Contractor's employees performing duties that are manual or physical in nature on the Project worksite. DBRA prevailing wage rates may not apply to Federal Aid Projects that are off the National Highway System or to Projects that are totally funded with State dollars. These Projects are covered by BOLI PWR law and the appropriate wage rate determination is specified in the Contract.

For Projects subject to both State PWR and federal regulations, Contractors and Subcontractors must pay the higher (hourly base wage rate plus hourly fringe benefit) of either the DBRA or the BOLI wage rate determination for the trade classification of Work being performed.

Effective January 1, 2011, a public agency may use a single date to establish both the State prevailing wage rate and the applicable federal prevailing wage rate for Contracts subject to both BOLI PWR law and the Davis-Bacon Act. The applicable wage rate determinations are specified in the Contract.

A wage estimating tool is available to assist in establishing the correct prevailing wage, fringe, and zone pay rates and for use when reviewing certified payroll reports. Wage information can be found by Contract number in ODOT's Electronic Contract Files at: \\sdata2\oper\ContractElectronicFiles

For consultant managed Projects, contact ODOT's Consultant Project Manager or Local Agency Liaison for assistance.

B. Potential Wage and Hour Violations

The public contracting Agency is responsible for investigating wage and hour related claims and potential violations for Projects covered by both DBRA and BOLI PWR law. If the RE's office be-

comes aware of a potential violation, contact should be made to the Contractor to validate information and attempt to correct any wage and hour related issues. Written correspondence to the Contractor is recommended, with copies to ODOT's Labor Compliance Officer and the Project file. If a remedy is not achieved at this level, the issue is escalated to the LCO.

BOLI is responsible for enforcement of the State's PWR law. If violations are found BOLI has authority, under ORS 652.230, to file a claim against the Contractor's bond for wages owed employees.

During an investigation, BOLI will request information from the contracting Agency including certified payroll reports, the Contractor's Surety and bond information, and the Inspector's Daily records to begin the BOLI investigation. The RE should provide this information to BOLI promptly. ODOT's LCO is the primary point of contact for BOLI and US-DOL inquiries, investigations, and coordinates requests for Project records with the RE's office.

19-3 Roles and Responsibilities

Contractor's and Subcontractor's employees performing manual or physical labor on a prevailing wage covered Project must be paid prevailing wages for the trade Work they are performing as specified in the Contract. If employees are paid a prevailing wage Contractors and all Subcontractors must submit certified payroll reports (Forms WH-38, WH-347, or any form with identical wording and information) including the signed certification/statement of compliance page.

The RE monitors labor compliance over the course of the Project and approves final labor compliance acceptance at Project completion.

This Section is divided into three parts based on the roles and responsibilities of the Contractor, RE and the LCO.

A. The Contractor

1. Required Postings

Each Contractor is required to post all of the following documents in an accessible place at the Project Site:

- US-DOL WH-1321 Poster "Employee Rights Under the Davis-Bacon Act".
- Prevailing wage rates (hourly base wage rate plus hourly fringe benefits), and applicable zone pay...
- Information on fringe benefit plans or program details, and how to access those benefits.

- A regular Work schedule (Days of the week and number of hours per Day).
- Prevailing Wage Complaint link to BOLI's website listed below.

All forms and posters required are available electronically and can be found at:

www.wagehour.dol.gov

www.oregon.gov/BOLI

2. Work Schedule

Contractors must give employees and the RE a regular Work week schedule (Days of the week) and Work shift hours (beginning and ending hours per Day) in writing before beginning Work on the Project. If a Contractor fails to give written notice of the employee's schedule then the Work schedule is presumed to be a 5-Day, 8-hours per Day Work schedule.

- Five days, eight hours per day (5-8's), Monday through Friday.
- Four consecutive days, ten hours a day (4-10's), Monday through Thursday.
- Four consecutive days, ten hours a day (4-10's), Tuesday through Friday.

If the Contractor has a 4-10 Work schedule and requires its employees to Work on a fifth Day, the Work schedule for those employees for that week reverts to a 5 day 8 hours per day work schedule, and overtime must be paid based on the 5 day Work schedule. This is not considered a change in the regular Work schedule.

Example: The Contractor has a Work schedule of 4-10s, Monday-Thursday. Employees worked 10 hours each Day. Employees also Work for two hours on Friday. The Work schedule reverts to a 5 day 8 hour per day schedule, resulting in two hours of overtime due each Day Monday-Thursday, and no overtime on Friday.

The Contractor may elect to employ crews or individuals on different Work schedules.

The Work schedule cannot be changed back and forth to avoid paying overtime. A change in Work shift (for example, day shift to night shift) is not considered a change in Work schedule as long as the Days of the week worked are not changed.

Note: If a trade union's collective bargaining agreement (CBA)

applies and has different overtime provisions, the provisions in the bargaining agreement will take precedence over both state and federal PWR law governing overtime.

3. Classification

The Contractor must pay each employee for the trade classification of Work the employee is performing.

If the employee is working in more than one trade classification the Contractor may elect to pay either:

- The prevailing wage rate for the hours worked per each classification, or
- The higher of the two classification wage rates for the total hours worked.

4. Total Base Wage Rate

The "total base wage" is the base wage rate plus applicable fringe benefits, either paid as cash to the employee or into a program or plan. Overtime must be paid at the rate of one and one half times the hourly base rate plus applicable zone pay or $((\text{hourly base rate} + \text{hourly zone pay}) \times 1.5) + \text{hourly fringe rate}$.

5. Fringe Benefits

The Contractor must pay fringe benefits to each employee for all time worked as specified in the prevailing wage rate determination included in the Contract.

The Contractor may pay fringe benefits as cash to the employee for time worked or may put the fringe benefits into bona fide pension, health, insurance, vacation, or other appropriate programs.

Paying lodging expenses or per diem for travel is not considered a fringe benefit.

For overtime calculations the base wage rate is used at one and one half times without fringe benefit amounts included. If fringe benefits are paid as cash to the employee, when the amount of fringe is removed from the wage rate, the wage rate used for overtime calculations must be at least equal to the prevailing wage rate specified on the wage determination for that trade classification.

The Contractor may not reduce the wage or fringe benefit for any payment that the Contractor is required by federal, State, or local law to make (such as workers compensation, unemployment compensation, or social security contributions).

6. Zone Pay

The Contractor must pay zone pay as required in the Contract.

Zone pay is typically measured from the mid-point of the Project to the nearest base point referenced in the wage rate determination for the trade classification.

If the employee is working in multiple zones the Contractor may elect to pay either:

- The highest of all of the zone pay for all Work on the Project, or
- The appropriate zone pay for Work performed in each zone.

7. Overtime

The Contractor must pay each employee at the proper overtime rate for all overtime worked. ORS 279C.540 specifies overtime requirements for all public works Projects. There are only two exceptions:

- If a trade union's collective bargaining agreement (CBA) applies and has different overtime provisions, the provisions in the bargaining agreement will take precedence over both state and federal PWR law governing overtime.
- For employees who work for Indian-owned businesses on Indian reservations, overtime is specified in the federal Contract Work Hour & Safety Standards Act (CWHSSA) and must be paid for all Work performed over 40 hours in a Work week.

The Contractor must pay overtime when:

- Work is performed in excess of eight hours in a Day and 40 hours in a week when the Work schedule is five consecutive Days, Monday through Friday, or
- Work is performed in excess of 10 hours in a Day and 40 hours in a week when the Work is four consecutive Days (either Monday-Thursday or Tuesday-Friday), and
- Work is performed on Saturdays, Sundays, six legal holidays (New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day).

If the established four Day Work schedule is not followed due to weather, scheduling, or other circumstances then that week's Work schedule reverts to a five Day Work schedule, and overtime is owed for any hours worked over eight in any Day during that week.

When an employee works in more than one trade classification and earns more than one base rate of pay during the Day, and overtime is owed, then the overtime must be calculated and paid based on either a weighted average of the hourly base rates earned or all the overtime for that Day must be paid at the highest rate worked.

8. Monitoring Labor Compliance

The Contractor monitors labor compliance for itself and all of its Subcontractors by:

- Reviewing Subcontractor's certified payroll reports for errors or potential wage and hour concerns or violations. Address all concerns to the Subcontractors promptly.
- Withholding 25% of any amount earned by a Subcontractor if the Subcontractor does not submit, does not submit timely, or does not provide corrected or revised certified payroll reports as required in 00170.65(a) and ORS 279C.845.
- If a Subcontractor does not pay the proper wages, fringe benefits, zone pay, or overtime owed, the Contractor is obligated and responsible to pay a Subcontractor's employees if a Subcontractor fails and/or refuses to properly pay its employees.

Note: For Design-Build Projects subject to the DBRA and/or BOLI PWR law, the Contractor and all Subcontractors are required to provide the same documents and meet the same requirements for labor compliance as described above.

B. Resident Engineer (RE)

The RE monitors labor compliance over the course of the Project, and approves final acceptance of labor at Project completion.

The RE reviews and compares certified payroll reports to verify base wage rates, fringe benefits, zone pay, and overtime calculations are being paid and reported correctly. Any errors or concerns should be addressed with the Contractor promptly for correction or revision.

The RE is responsible to:

- Conduct employee wage interviews, typically every six months, with the Contractor's and Subcontractor's employees to validate wages paid, fringe benefits, proper classification of Work, and overtime paid on federal aid Projects covered by DBRA (CFR 29 Labor).

- Review and compare certified payroll reports with Inspector Daily reports and Employee Interview reports to check the classification of Work being performed, wages paid, and Subcontractors working on-site to anticipate certified payroll reports that are required.
- If errors or deficiencies are found in reviewing certified payroll reports, require the Contractor to correct the error and submit a revised or supplemental certified payroll report with corrections made including a new signed certification/ statement of compliance page.
- If Contractor's employees are due additional wages and/or fringe benefits, zone pay, or overtime pay, proof of payment to the employee is required to validate the correct wages have been paid. A copy of a canceled check, money order, or bank deposit slip will provide adequate proof the error has been corrected and the employee has been paid properly.

Retain the original submitted certified payroll report, the corrected/revised certified payroll report, proof of employee payment, and any other wage related correspondence in the Project files.

- Withhold 25% of any amount earned by the Contractor if the Contractor does not submit, doesn't submit timely, or doesn't provide corrected or revised certified payroll reports as required by 00170.65(a) and ORS 279C.845.
- Submit all certified payroll reports for the Contractor and Subcontractor(s), Employee Interview Reports, and related wage and hour documentation, and the Resident Engineer's Labor Compliance Certification, form 734-1734 for final labor compliance documentation. Refer to Chapter 37 – Submittal of Final Project Documentation.

For Design-Build Projects subject to the DBRA and/or BOLI PWR law, the RE responsibilities for monitoring labor compliance and performing certified payroll review are the same as described above.

C. Labor Compliance Officer (LCO) – Contract Administration

The Labor Compliance Officer (LCO) is responsible to:

- Attend Pre-Construction Conferences to address labor compliance requirements as requested by the RE's office.
- Monitor labor compliance by reviewing payroll reports, employee interview reports, and inspector daily logs in the RE's office, local agency Project offices, and consulting firms for consultant managed Projects.

- Provide program-level technical expertise to RE staff and Contractors.
- Identify and provide training as scheduled or requested.
- Conduct investigations of wage and hour related complaints.
- Track complaints and remedies for trending and training opportunities.
- Perform random audits on the total labor program for overall compliance.
- Primary point of contact for BOLI and US-DOL.
- Technical resource to ODOT staff and industry partners.

19-4 Certified Payroll Reports

A. Contractor Reporting Requirements

On Federal Aid Projects, Contractors and Subcontractors must pay the higher of either the Davis-Bacon Act or the BOLI prevailing wage rates for the type of Work being performed. The Contractor must submit certified payroll reports to the RE office on a weekly basis.

On State funded Projects the Contractor must pay the appropriate BOLI prevailing wage rate specified in the Contract and submit weekly certified payrolls once a month by the 5th of the month.

For both State funded and Federal Aid Projects, each payroll must include a certified statement/statement of compliance using either of the following forms or any form developed with the identical wording on the certification/compliance statement.

- Federal Payroll Form WH-347 for federal funded/Davis-Bacon Projects, or
- BOLI Payroll Form WH-38 for State funded/BOLI Projects and/or federal funded/Davis-Bacon Projects.

Each certified payroll must have:

- A signature of a company official or agent who pays wages or supervises payment of wages to workers employed on the Project on the certification/compliance page.
- Name, address, and an employee's identification number (this may be the last four digits of the employee's social security number).
- Trade classification of Work, group number when applicable, and/or apprenticeship percentage level.
- Hours worked.
- Hourly rate of pay.

- Hourly overtime rate of pay.
- Gross amount earned, including other prevailing wages and non-prevailing wages earned.
- Deductions.
- Hourly rate of fringe benefits contributed to a bona fide fringe benefit party, program or plan.
- Name of party, program or plan and type of fringe benefit provided.
- Hourly rate of fringe benefits paid to employee as cash equivalent.
- Net amount paid.

Note: Certified payrolls are Project-specific. A certified payroll report must show regular and overtime hours for one project only. If an employee works on multiple projects each project will require a separate certified payroll report.

Certified Payroll Reports must be returned to the Contractor for revision if they include employees' full Social Security numbers. (Report only the last four digits or some type of employee identifier).

B. RE Review of Certified Payroll Reports

The RE is responsible to review the Certified Payroll Reports to verify all the required information has been submitted and the Statement of Compliance/Certification has been signed.

Return any Certified Payroll Reports to the Contractor for revision if they include employees' full Social Security numbers.

- Check proper wage payment by comparing information on the certified payroll reports to the base wage, fringe contribution, and zone pay from the appropriate wage rate determination or wage estimating tool.
- Check that benefit plans are specified on the certified payroll reports or specified as fringe paid as cash to the employee.
- Address any wage and hour discrepancies with the Contractor promptly.
- Request corrected certified payroll reports and proof of payment if wages are owed.
- Compare certified payroll reports to Employee Interview reports and Inspector Daily records to identify errors or inconsistencies in the trade classification(s) of Work.

C. Apprentices and Trainees

Refer to Chapter 18 – Workforce and Small Business Equity Programs, OJT/ Apprenticeship section for additional information.

1. Apprentices

Apprentices are registered with the BOLI Apprenticeship and Training Division. The Joint Apprenticeship & Training Committee (JATC) monitors the wages and level of apprenticeship.

The Contractor may pay reduced wages to apprentices as allowed by the applicable JATC. The RE should request documentation from an employer to verify an individual's status as an apprentice.

2. Trainees

Trainees are not registered with a JATC. Contractors must pay each trainee performing manual labor on the Project Site the appropriate prevailing wage for the type of work performed.

19-5 Employee Interview Reports (Form 734-3475)

Employee wage interviews are required on Projects covered by DBRA (CFR 29 Labor) and are intended as a cross check to verify the trade classification of Work the employee is performing and wage rate being paid for that Work.

At least once every six months the RE's office will interview random employees of each Contractor that worked on the Project within that period of time. Record the information on the Employee Interview Report, form 734-3475.

If an employee works in more than one trade classification, the RE or staff reviewing the certified payrolls should verify that the employee is paid under the appropriate trade classifications for Work performed. The RE or Inspector should inform staff reviewing the certified payrolls about employees who Work in more than one occupational classification and should be noted on the Employee Interview Report when interviewing employees.

19-6 Labor Complaints and Investigations

Wage and hour related issues may be identified through:

- Certified payroll report review and monitoring.
- Employee wage interviews.
- Employee complaints.
- A trade union representative, union or labor advocate (e.g., Fair Contracting Foundation).
- A formal filed complaint either to the RE, LCO or to BOLI.

The RE is considered the first level of review and response for issues relating to wage and hour concerns, complaints, and potential violations. If labor related issues cannot be resolved at the RE level, the RE escalates the issue to the LCO.

When the contracting Agency conducts an investigation to resolve a prevailing wage complaint and it is determined that employees are owed additional wages and/or fringe benefits, proof of payment is required. Proof of payment can be in the form of a copy of a canceled check, money order, bank deposit slip, receipt for amount of the additional wages signed by the employee, or proof of mailing via certified or registered mail of the additional wages to the employee. This information is maintained with the corrected certified payrolls showing that employees were properly paid.

If the Contractor failed to properly pay its employees and the Agency had to request that BOLI pay the employee directly (through the Contractor's payment bond), the RE should document this in the required Contractor Performance Evaluation. Refer to Chapter 34 - Contractor Performance Evaluation.

When a formal prevailing wage complaint is filed with BOLI or any other enforcement agency, retainage may be released and final labor may be accepted by the Agency unless the investigating agency requests the retainage be held.

19-7 RE's Labor Compliance Certification (Form 734-1734)

When the Contractor has completed all Work on the Project Site and has submitted all final certified payrolls, the RE will prepare the payroll documentation for semi-final. Once the RE determines the final payroll documentation is complete, the RE will accept the labor compliance documentation.

If the Project has an Establishment Period (planting or seeding), the RE will review the remaining payrolls associated with this Work. Once the RE determines that the payroll documentation is complete, the RE will accept the remaining labor compliance documentation.

Upon final acceptance of the labor compliance, the Resident Engineer's Labor Compliance Certification, form 734-1734 is prepared by the RE office, and signed by the RE.

Note: If there are no certified payrolls associated with the Establishment Period Work, the RE should include the following notation on the signed Labor Compliance Certification form: "No Establishment Period Payrolls".

The RE will submit the following labor compliance documentation with the final Project quality and quantity documentation to CAU:

- Contractor and Subcontractor Certified Payroll Reports including signed Statements/Certification of Compliance.
- Original Employee Interview Reports.
- Either the original or copy of the RE Labor Compliance Certification form.

The RE includes the labor compliance documentation along with quantity and quality documents according to the procedure outlined in Chapter 37 – Submittal of Final Documentation.

19-8 Release of Public Records

Any person may request to look at or obtain copies of certified payrolls or other records on public works Projects. Most Project records, including certified payrolls, are considered public records. Full social security numbers should not be listed on the certified payroll reports, if they are this information is considered sensitive and must be redacted before the certified payroll record(s) will be released.

The procedures set forth in the ODOT Records Manual for responding to Public Records Requests shall be followed for public records requests for certified payroll reports and the release of these records.

Requests for labor related documents made by other government agencies should be sent to ODOT's Labor Compliance Officer (LCO) for response and tracking.

19-9 Prevailing Wage for Truck Drivers

A. Owner-Operators of Trucks

The term "owner/operator" only applies to the owner/operator of a truck. An owner/operator of a truck is not entitled to prevailing wages. For all Projects, an owner/operator of a truck must, prior to providing trucking services, comply with the requirements of 00170.65(4).

Owner/operators of other types of Equipment, such as bulldozers, scrapers, backhoes, cranes, drilling rigs, etc., must receive prevailing wage rates and comply with certified payroll requirements for all Work performed at the Project Site.

The RE will perform "spot checks" on all owner/operators performing Work on the Project to validate owner/operator status. Each owner/operator provided truck shall clearly display the name of the owner/operator on the side of the truck. Truck drivers not meeting the criteria of an owner/operator must be reported on the Contractor's certified payroll and be paid prevailing wage.

B. Non-Owner/Operators of Trucks (Commercial Suppliers)

1. Entitled to Prevailing Wage Rates

- Time spent transporting Materials or supplies between a facility that is deemed part of the Site of Work and the actual construction site.
- Time spent transporting a portion(s) of the building or Work between a site established specifically for the performance of the Contract or Project where a significant portion of such building or Work is constructed and the physical place(s) where the building or Work called for in the Contract(s) will remain.
- All time spent on the Site of the Work for performing Work other than truck driving (mechanic, laborer, etc.).
- Projects subject to Davis-Bacon prevailing wage rates when:
 - » Time spent on the Site of the Work loading and/or unloading Materials and supplies if such time is more than de minimis (15 minutes). This includes time spent waiting to load or unload, but not recognized as lunch or other rest breaks. For the purpose of entitlement to prevailing wages, each trip stands alone and multiple trips on the same Day are not combined (for example, 6 10-minute trips would not entitle the driver to 60 minutes of prevailing wages).
- For Projects subject to BOLI prevailing wage rates when:
 - » Time spent on the Site of the Work loading and/or unloading Materials and supplies if such time equals 20% or more of the work week. This includes time spent waiting to load or unload, but not recognized as lunch or other rest breaks.

2. NOT Entitled to Prevailing Wage Rates

- Time spent driving off the Site of the Work, such as at a commercial supply facility.
- Time spent driving between a Davis-Bacon job and a commercial supply facility while off the Site of the Work.
- All Projects subject to prevailing wage rates when:
 - » De minimis time spent on the Site of the Work, such as less than 15 minutes spent on the Site of the Work merely to pick up or drop off Materials or supplies.
- Time spent driving between prevailing wage rate Projects, or between prevailing wage Projects and private Projects. (Truck drivers may be paid an agreed rate of pay for such activities).

19-10 Site of the Work

Site of the Work is limited to the physical place or places where the construction called for in the Contract will remain when Work on it has been completed, and other adjacent or nearby property used by the Contractor or Subcontractor in such construction which can reasonably be said to be dedicated to the Project and included in the Site of the Work.



For Projects subject to both State and federal PWR laws, BOLI will follow federal definition [29 CFR subtitle A, part 5.2(l)(1-3)] for the term "Site of the Work".

For Projects subject to State prevailing wage rate laws, the term "Site of the Work" is defined in OAR 839-025-0004(25).


For guidance and determinations relating to "Site of the Work" contact ODOT's LCO for assistance.

INSERT TAB

Unit 20
Equity Program

Unit 20 Workforce & Small Business Equity Program	
	

1

Unit 20 Topics: <ul style="list-style-type: none">▪ Aspirational targets and contract goals▪ Commercially useful function (CUF) criteria▪ DBE Trucking▪ Title VI, EEO, ADA▪ Role of inspector for these programs 

2

Construction Manual: Chapter 18

Workforce and Small Business Equity Programs

Contracts with Federal funding may include up to four different Workforce and Small Business Equity programs:

- Disadvantaged Business Enterprise (DBE)
- Equal Employment Opportunity (EEO)
- On-the-Job Training (OJT)/Apprenticeship
- Tribal Employment Rights Ordinance (TERO)



3

DBE Program

Key Monitoring & Compliance Topics

- Policy
- Goals and commitments, and attainments
- Termination or substitution of DBE's
- CUF reviews



4

DBE Program Policy

- Set by the Director of ODOT
- Ensure non-discrimination in USDOT-assisted contracts
- Level playing field for DBEs to compete fairly
- Narrowly tailored program
- Ensure only eligible firms participate
- Help remove barriers to participation of DBEs
- Developing DBEs to compete outside the program
- Give same priority as compliance with other legal obligations to USDOT
- Fostering small business participation



5

DBE Program: Goals and Commitments

- There are **DBE contract goals** and an **Overall DBE Goal**
- The current overall DBE goal for FHWA-funded contracts is **23.43%**.
- When OCR assigns a DBE goal to a project, the Prime must commit sufficient work to DBEs to meet the goal or submit **Good Faith Efforts**
- DBE requirements are in the Special Provisions
- RE staff monitors DBE program compliance throughout project
- OECR Field Coordinator provides project compliance review and technical assistance



6

DBE CUF Reviews

What constitutes “commercially useful function” or “CUF”?

To perform a commercially useful function, a DBE must carry out its contract responsibilities by *actually performing, managing, and supervising* the work involved.

According to Normal Industry Practices

ODOT may only credit payments toward DBE goals if the DBE performs a CUF – No CUF No Credit!



7

FIVE factors must be evaluated when determining whether a DBE is performing a Commercially Useful Function

1. DBE Management
2. DBE Equipment
3. DBE Workforce
4. DBE Materials
5. DBE Performance



8

DBE Management and Control

Does the DBE:

- Manage and supervise its own workforce?
- Complete at least 30% of the work of its subcontract with its own labor and equipment?
- Are they responsible for the performance of contractual bid items?



9

Equipment

Does the DBE:

- Perform work with equipment it owns (or is buying/renting)?
- Directly control and supervise the operation of equipment?
- Provide operators?
 - Please note, there are exceptions for specialty equipment and leased owner-operated trucks



10

Workforce



Does the DBE:

- Keep a regular workforce?
- Pay their employees?
- Have responsibility for payroll and labor compliance for all it's employees?

The above information is confirmed through Certified Payrolls

11

Materials

Does the DBE:

- Negotiate the cost and arrange delivery?
- Pay for materials and supplies?
- Determine the quantity of materials?
- Take ownership and responsibility of materials?



12

Performance

Does the DBE:

- Have responsibility for the performance of a distinct element of the work (bid items)?
- Perform work within normal industry practice?



13

Trucking

Special Crediting and Lease Rules

- DBE must own and operate at least one truck on the project.
- DBE may lease trucks from:
 - Other DBEs (includes Owner Operators) for full credit
 - Non-DBEs (including Owner Operators) for credit, but NOT to exceed the value of work by DBE trucks
- No DBE credit when Prime trucks are used
- RE to independently monitor and verify DBE truck work on random, unannounced basis



14

3A Work Plan Proposal

Before the DBE begins work, they complete the 3A Workplan.

Prepare for the CUF review by familiarizing yourself with the details on the Work Plan Proposal.

Work, Employees, Equipment, Supplies, & Materials will be listed in this document

DISADVANTAGED BUSINESS ENTERPRISE (DBE) WORK PLAN PROPOSAL (FORM 3A)

PRIME CONTRACTOR/CONSULTANT
CONTRACT NUMBER

PROJECT NAME
DBE NAME
ADDRESS
CITY
STATE
ZIP
PHONE
FAX
E-MAIL ADDRESS

A. DBE Work
List the types of work the DBE Subcontractor will perform. Complete all fields for each bid item. (To add another line, click the "+" button. To delete a line, click the "-" button.)

BID ITEM NUMBER	BID ITEM DESCRIPTION	PARTIALITY	IF YES, EXPLAIN	EST. START DATE	EST. COMPLETION DATE

B. Personnel Required
1. Supervisor or foreman: Indicate whether the DBE on-site supervisor or foreman is exclusively employed by the DBE (i.e., is not on another company's payroll and does not have ownership in another business.) If the answer is No, explain.

NAME OF DBE ON-SITE SUPERVISOR OR FOREMAN
IF NO, EXPLAIN

EXCLUSIVELY EMPLOYED BY DBE

2. Other personnel: List the names and craft classifications for all personnel. Indicate whether each individual is regularly employed by the DBE and/or the source from which the individual was/is to be recruited. Complete all fields for each employee. If names are not known, provide the number of employees in each craft in the "employee name" field.

EMPLOYEE NAME	CRAFT CLASSIFICATION	REGULARLY EMPLOYED	IF NO, RECRUITMENT SOURCE

Optional: Instead, attach a list of employee information. Check here if list is attached: ☐

C. Equipment Required
1. List the primary items, implements, or tools that will be used to perform the work of the DBE's subcontract on the project. Equipment includes motorized vehicles such as bulldozers, tractors, concrete rollers, cars, pickups, etc. It also includes flagging signs, radios, and paddles, or other smaller tools if primary to performance of the work. If rented or leased, agency consent to the agreement must be obtained prior to work beginning. Complete all fields for each equipment item:

TYPE OF EQUIPMENT	OWNED	LEASED	RENTED	LEASE/RENTAL AGREEMENT ATTACHED

Optional: Instead, attach an equipment list with the required information. Check here if equipment list is attached: ☐

2. Trucks: When the DBE has been subcontracted to perform trucking on the project, provide the following additional information regarding all trucks the DBE will use to perform the work. Complete all fields for each truck:

LIC. PLATE NO.	MAKE/MODEL	OWNER NAME	DRIVER NAME	OWNED/LEASED	DBE/NOT DBE

Optional: Instead, attach a truck list with the required information. Check here if truck list is attached: ☐

Attach agreement(s) for any leased or rented equipment, including trucks. Check here if agreement(s) attached: ☐

D. Supplies and Materials Required
List the supplies and materials to be used on the project. Indicate the source from which the supplies and materials will be obtained. For a DBE supplier committed to meet a DBE goal, attach documentation showing how the DBE meets manufacturer, regular dealer, or broker requirements, as applicable to the credit being claimed. Complete all fields for each supply or material item:

TYPE OF SUPPLY OR MATERIAL	BUSINESS NAME OF SOURCE	SOURCE CONTACT PERSON NAME	SOURCE PHONE NO.

15

When to Perform a CUF Evaluation

The RE or designated representative must perform at least one CUF review for every DBE: (Committed and Non-committed)

- For each 12-month period the DBE works on the Project (CUF must be performed at peak work for the DBE)
- When a significant change in the operation of the DBE occurs (new equipment is used or work crews change)
- When a significant Change Order affects the DBE's Work (for example, a new type of work is added)
- After termination and substitution of a DBE (for the new DBE)



16

Daily DBE Trucking Log Form 734-2916 (9/2022)

Required for **committed** DBE Trucking Subcontractors

- Must maintain daily DBE trucking log of all trucks it uses on the project
- ODOT form or approved equal must include all information, including certification
- Submit completed form(s) weekly
- Within 14 days of the first recorded date of the log.



17

Full Shift Verification & CUF Review

- Independently review and verify the trucks DBE uses on the Project
 - Without prior notice to the Contractor or Subcontractor(s)
 - At least 10% of total value of the DBE trucking
- CUF Review – Form 3B still required:
 - Reference the independent verification results on the CUF review form
- Use truck tickets for weighed Material delivery, where appropriate.
- Maintain a log or photograph of all trucks entering the Project for the selected Day.
- For Projects where it is not practical to identify every truck on the Project for a given day, the RE will develop and document an alternate plan in cooperation with the FC.



18

Inspector's Role: Observations and Daily Reports

- Keep accurate records of equipment used
- Keep accurate records of crews working that day
- Keep accurate records of whether the DBE is performing work with its own labor/equipment
- Keep accurate records and watch out for workforce overlap between DBE/Prime/other contractors

***Information noted on the Inspector's Daily Reports
may help you when completing the CUF Review
Form 3B.***



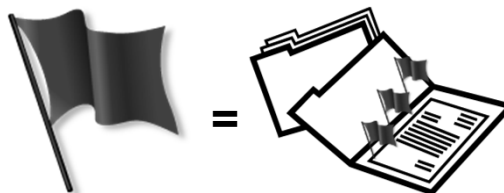
19

Addressing Red Flags

See the DBE Work Plan Proposal Form 3A (734-2165A) to identify how DBE said it would perform its work. Note discrepancies!

Not every red flag means DBE fraud, but every red flag you observe should be reported:

- On the CUF Review Form 3B (734-2165) **and**
- To the Project Manager/RE for review **and** follow-up with the FC
- Contact the OCR FC for technical assistance



20

Use Dropdown for all dates

Check/Compare Payrolls and note the dates that you checked.

DBE CUF (Form 3B)

COMMERCIALLY USEFUL FUNCTION REPORT – FORM 3B (CUF)

Disadvantaged Business Enterprise

Contractor and Contract Information

1. DBE BUSINESS NAME

2. SUBCONTRACT ID

3. CONTROLLING CONTRACTOR (IF APPLICABLE)

4. CDOT CONTRACT NO.

Disadvantaged Business Enterprise Information

5. DBE PRIMARY OWNER

6. PHONE

7. DBE START DATE

8. EST DBE COMPLETION DATE

A. DBE Work

9. BID ITEM

10. BID ITEM DESCRIPTION

11. EST % COMPLETE

B. Personnel Required

12. Do DBE employees appear to have knowledge of and control over the methods of work on their bid items observed on-site?

Yes

No

IF NO, EXPLANATION REQUIRED

13. Is the superintendent or foreman employed exclusively by the DBE?

Yes

No

NAME OF SUPERINTENDENT/FOREMAN EMPLOYED EXCLUSIVELY BY DBE

NAME AND TITLE OF PERSON TO WHOM SUPERINTENDENT/FOREMAN REPORTS

14. List the names and craft classifications of the DBE crew observed on the site:

LAST NAME

FIRST NAME

CRAFT CLASSIFICATION

TO BE COMPLETED IN OFFICE

ON DBE

IF MAJOR OTHER

PAYROLLS

REPORTS TO (LAST, FIRST)

ADD ANOTHER

LIST THE CONTRACTOR NAME AND DATES OF EACH PAYROLL. REVIEWER: PROVIDE ADDITIONAL INFORMATION IF NEEDED

C. Equipment Required

15. List major equipment used by the DBE to complete bid items observed. If not already provided with Work Plan Form 3A, attach rental/lease agreements and/or registrations.

BID ITEM

EQUIPMENT

OWNED

LEASED

LEASED FROM

RENTED

RENTED FROM

ADD ANOTHER

16. Are all personnel and equipment under the direct supervision of the DBE owner or a superintendent/foreman who reports to the DBE owner?

Yes

No

EXPLAIN WHY OR WHY NOT (REQUIRED)

D. Supplies and Materials Required

17. List material suppliers for bid items observed:

BID ITEM

SUPPLIER NAME

ADDRESS, CITY, STATE, ZIP

PHONE

ADD ANOTHER

734-2165 (8/2014)

Page 1 of 3

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Make sure to explain why or why not in this section, add any notes that supports your reasoning

Project Manager must sign off on the review.

State here whether DBE performed a CUF:
"In Compliance"
or
"Not in Compliance"

E. Prime/Other Resources

18. Has any contractor performed, on behalf of the DBE, a substantial amount of work?

Yes

No

IF YES, EXPLANATION REQUIRED

F. Additional Information

CUF Reviewer:

Ensure you filled any document(s) you reviewed in determining your findings (e.g., payrolls, invoices, delivery tickets, etc.). Compare the completed CUF Report - Form 3B with the DBE Work Plan Form 3A to determine if there was deviation from what was proposed by DBE firm and make notes accordingly. Ensure you complete your section and comments as appropriate. If previously entered content needs to be updated or corrected, please return the form to that person for updating. Do not change anything that you did not enter.

By entering your name in the box below, you certify that the information contained in this report is true and accurate to the best of your knowledge and that you have not altered any previously entered content. You further agree that entering your name in the box and submitting this report using a password-protected e-mail account is the equivalent of a manual signature for the purposes of this report.

Does the DBE owner appear to have operational control over the work contracted?

Yes

No

EXPLAIN WHY OR WHY NOT (REQUIRED)

CUF REVIEWER COMMENTS (FIELD EXPANDS AS YOU TYPE. CLICK TAB TO SEE TEXT IN EXPANDED FIELD.)

CUF REVIEWER NAME

TITLE

DATE

CDOT NUMBER

EMAIL

Project Manager:

Ensure you reviewed the CUF Reviewer findings and that the findings are supported by observations and documentation, and determine whether you believe the DBE is in compliance with the requirements to perform a commercially useful function. Review the completed CUF Report - Form 3B and the DBE Work Plan Form 3A and make notes accordingly. Ensure you complete your section and comments as appropriate. If previously entered content needs to be updated or corrected, please return the form to that person for updating. Do not change anything that you did not enter.

By entering your name in the box below, you certify that the information contained in this report is true and accurate to the best of your knowledge and that you have not altered any previously entered content. You further agree that entering your name in the box and submitting this report using a password-protected e-mail account is the equivalent of a manual signature for the purposes of this report.

PROJECT MANAGER COMMENTS (FIELD EXPANDS AS YOU TYPE. CLICK TAB TO SEE TEXT IN EXPANDED FIELD.)

CUF COMPLIANCE - Based on the known DBE work activities on the project and information contained herein, I believe the DBE listed above is:

In Compliance

Not in Compliance

with CUF requirements.

If it is believed the DBE is not performing a CUF on this project, contact the Office of Civil Rights Field Coordinator for further guidance.

PROJECT MANAGER NAME

DATE

PHONE

EMAIL

Field Coordinator:

Ensure you reviewed the CUF Reviewer findings and Project Manager's determination, note whether you are in agreement, and make any additional comments as needed. If in doubt, request to review supporting documents and to receive clarification from the Project Manager. Contact the DBE Program Manager for additional guidance if needed. Ensure you complete your section and comments as appropriate. If previously entered content needs to be updated or corrected, please return the form to that person for updating. Do not change anything that you did not enter.

By entering your name in the box below, you certify that the information contained in this report is true and accurate to the best of your knowledge and that you have not altered any previously entered content. You further agree that entering your name in the box and submitting this report using a password-protected e-mail account is the equivalent of a manual signature for the purposes of this report.

FIELD COORDINATOR COMMENTS (FIELD EXPANDS AS YOU TYPE. CLICK TAB TO SEE TEXT IN EXPANDED FIELD.)

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General Project Information

20-11

Who and When – CUF Review Process

- RE designated staff (usually the Project Inspector) must perform a CUF review of each DBE working on the Project
- RE reviews and approves (comments, recommendations, findings)
- Field Coordinator reviews and provides comments/concurrence
- Office of Equity & Civil Rights (OECR) enters CUF information into database
- RE consults with FC or OECR on any required corrective action

TAKEAWAY: A DBE does NOT perform a CUF if...

...it is merely an extra participant in a transaction, contract, or project through which funds are passed to obtain the appearance of DBE participation.



23

Reporting

- DBE regulations require ODOT to collect and monitor payment data for all subcontractors.
- ODOT is required to report DBE/MWESB utilization and payment data to:
 - » FHWA
 - » Governor's Office
 - » Legislature

Note: If there is no compliant CUF record or Paid Summary Report, ODOT is not allowed to report the DBE payments to FHWA! No CUF, no PSR, no DBE credit.

Failed CUFs are reported to COBID for monitoring.



24

Equal Employment Opportunity (EEO) Program

Ensures equal employment opportunity to all individuals regardless of:

- Race
- Religion
- Sex
- Color
- National origin
- Age
- Disability
- Sexual Orientation
- Gender Identity



25

EEO Program – Posting Requirements Know Your Rights Poster

- This poster is available in both English and Spanish versions.
- Poster needs to be up at the job site accessible to employees.
- Inspectors should routinely check the poster is up at the beginning of projects.
- Contained in and applies to all federal-aid contracts and subcontracts valued \$10,000 or more.



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Americans with Disabilities Act (ADA)

- The ADA is a federal law that applies to all projects, regardless of funding source.
- All ODOT new facilities are built to current standards or guidance. Alterations to existing facilities trigger specific responsibilities.
- All ADA-based requests or complaints need to be forwarded to OECR. ODOT is required to document all ADA requests and complaints and how they are resolved. Typical examples include remediating curb ramps for compliance with current standards, installing audible pedestrian signals where requested, or maintaining accessible access routes during construction.



27

Title VI of the Civil Rights Act

- *OECR provides multiple ways for the public to submit discrimination complaints, including an online complaint form on the ODOT website and ODOT's Toll-free discrimination line:*

855-540-6655

- *Resident Engineers should refer members of the public who seek to file a complaint of discrimination to OECR via those channels or by contacting the region Field Coordinator within 72 hours of receiving a complaint.*
- *Any complaints should be documented in the Dailies.*



28

Temporary Pedestrian Accessible Routes

- **Every work zone must have a Traffic Control Plan**
Situational differences: Urban vs. Rural, Long term vs. Short term
- **Every Traffic Control Plan must include a plan for Pedestrian & ADA access**
Must be equal to or better than before.



**Need TPAR
Assistance?**

**Contact
Workzonestandar
ds@odot.oregon.
gov**

29

OJT/Apprenticeship Program Purpose

- To ensure skilled workers are trained and available by offering training in the highway construction trades
- Use affirmative actions to recruit from a diverse pool of applicants including minorities and women
- Apprentices are often brand new to construction trades
- Know who the project apprentices are and what trade they are registered under (can only be one)



30

Throughout the project:

- Contractor to submit Monthly Progress Records
 - RE/Project Inspector validate against Payrolls/Dailies
- Forward copies of these to OECR Field Coordinator to track progress of trainees/apprentices via email or Doc Express



31

Tribal Employment Rights Ordinance (TERO)



You may be asked to assist in the coordination of site visits by the Tribe's Compliance Officers as they come to the site to review contractors



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Key Inspection Points

- Fill out CUF reports when DBE is on site – peak work preferred
- Complete necessary DBE trucking verifications
- Pay attention to trainees and apprentices
- Keep accurate Dailies of complaints, subcontractors on site and equipment
- Pay attention to DBE activities and coordination
- Contact OECR if any questions arise
- Ensure proper postings are on site



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Unit 20 Review:

- Role of inspector for Office of Equity & Civil Rights programs
- Aspirational targets and contract goals
- Commercially useful function (CUF) criteria
- DBE trucking
- EEO and Workforce



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Contact Us!

DBE Program Manager, Diponker Mukherjee,
971-283-4636 Diponker.Mukherjee@odot.oregon.gov

Region 1 Field Coordinators, Darcy Hesselgesser,
503-400-1960 Darcy.I.hesselgesser@odot.oregon.gov
Tricia Vrana
503 -779-9521 Tricia.VRANA@odot.oregon.gov

Region 2 Field Coordinator, Alyssa Soots,
503-385-6694 Alyssa.SOOTTS@ODOT.Oregon.gov

Region 3 Field Coordinator, Christie Meacham,
541-957-3698 Christie.Meacham@odot.oregon.gov

Region 4 Field Coordinator, Heidi Brown,
541-419-4101 Heidi.Brown@odot.oregon.gov

Region 5 Field Coordinator, Rex Stanley,
541-786-0959 Rex.P.Stanley@odot.oregon.gov





CHAPTER 18

WORKFORCE AND SMALL BUSINESS EQUITY PROGRAMS

Agency Contracts with federal-aid and state funding may include different Work Force and Small Business Equity Programs. These programs include:

- Small Business Programs
 - Minority, Women and Emerging Small Business (MWESB) – State
 - Service Disabled Veteran-Owned Business (SDVOB) – State
 - Disadvantaged Business Enterprise (DBE) - Federal
 - Emerging Small Business (ESB) - State
- Equal Employment Opportunity (EEO) – Federal
- On-the-Job Training (OJT)/Apprenticeship - Federal or State

For Projects that do not include federal-aid funds, the Agency may include an apprenticeship program requirement or an aspirational target. Each program will be addressed separately in this chapter.

NOTE: Projects let under alternative contracting methods such as Design-Build and Construction Manager/General Contractor (CM/GC) may have different goal and target setting procedures, submittal timelines and protocols. Please refer to project specific Contract requirements.

If you have questions regarding any of these programs, call the Office of Civil Rights (OCR) at 503-986-4350, or consult the Civil Rights Field Coordinator (FC), in the applicable [ODOT Region](#).

If you have questions regarding any of these programs, contact the Office of Civil Rights (OCR) or consult the Civil Rights Field Coordinator (FC), in the applicable ODOT Region:

<https://www.oregon.gov/ODOT/Business/OCR/Pages/Contact-Us.aspx>

A. OCR Pre-Construction “Pre-Con” Requirements

The OCR Pre-Con requirements will be emailed to each Resident Engineer (RE) within three days of the Award Letter notification. The report-generated letter will auto-fill the RE’s name on the template letter. The corresponding Field Coordinator (FC), and LAL if applicable, will be copied.

Prior to the Pre-Con Conference, the RE will send the OCR Pre-Con requirements to the Contractor.

For a Project with a zero DBE goal, the RE will:

- Create a new cover letter listing the OCR Pre-Con requirements and attach to the packet of information sent to the Contractor.
- Include OCR Pre-Con requirements as an attachment to the packet of information sent to the Contractor.
- Copy the FC on the packet of information sent to the Contractor.

For a Project with a DBE Contract goal greater than zero:

The OCR will email a PDF copy of the approved Committed DBE Breakdown and Certification Form 734-2531 to the RE to be attached to the Pre-Con requirements. The FC and LAL (if applicable) will be copied.

DO NOT send the OCR Pre-Con requirements until the approved committed DBE breakdown and certification form has been received.

Once DBE breakdown and certification form has been received, the RE will:

- Create a new cover letter listing the OCR Pre-Con requirements and attach it to the packet of information sent to the Contractor.
- Include OCR Pre-Con requirements and the approved committed DBE breakdown and certification form(s) as an attachment to the packet of information sent to the Contractor.

- Copy the FC, and LAL if applicable, on the packet of information sent to the Contractor.

B. OCR “Internal Pre-Con” Meeting

The FC will schedule an internal Pre-Con meeting with the RE office to review the requirements and assure that expectations of them are clear. These meetings are intended to be Project-specific and identify the focus of the reviews and oversight. The RE and appropriate staff must be available for these meetings.

The RE must also copy the Region FC on all Civil Rights related communications. The FC may provide guidance on the content.

C. Pre-Construction “Pre-Con” Meeting

At the Pre-Con with the Contractor, the RE will address each requirement for the Workforce and Small Business Equity Programs included in the Project. The RE will notify the FC of when the Pre-Con meeting will occur and may request assistance from the FC. [Refer to Chapter 11 - Before On-Site Work Can Begin and Exhibit 11B.]

D. OCR Quarterly Reviews

Between First and Second Notification, the FC will, at a minimum, conduct quarterly reviews to determine missing paperwork needed to support OCR requirements are satisfied. The FC will review the following documents:

- Subcontracts (including lower tier Subcontractors)
- Report on Contractor’s Request for Subcontract Consent, Form 734-1395
- Contractor’s Request for Subcontract Consent, Form 734-1964
- Actual first and last Work Days for each Subcontractor
- Paid Summary Reports (PSR) Form 734-2882
- DBE Work Plans (Form 3A) Form 734-2165A
- DBE Commercially Useful Function Form 3B (CUF) Form 734-2165
- Contract Change Orders Form 734-1169, affecting total Contract dollars or Work
- Monthly Employment Utilization Reports (MEUR) Form 731-0668
- Training Program Approval Request (TPAR) Form 734-2880

- Apprentice/Trainee Approval Request (ATAR) Form 734-2878
- Apprentice/Trainee Monthly Progress Report (MPR) Form 734-2879
- Discrepancies from last review report
- Tribal Employment Rights Ordinance (TERO) goal progress, when applicable

The FC will email a written summary of the Civil Rights quarterly review to the RE. The RE should resolve any outstanding issues before the next FC quarterly review.

Monthly, the Office of Civil Rights will electronically distribute the DBE Tracking Report and Workforce Tracking Report to the RE offices and include the LAL, if applicable.

- The DBE Tracking Report shows all the known DBEs on the Project, commitment amount, Contract payment amounts, whether a CUF review has been completed, and whether DBE Work Plan (Form 3A) has been logged as received.
- The Workforce Tracking Report shows Training Goal progress, MEURs missing on the Project, Contract Payment System versus Monthly Progress Reports, and workforce rates for women and minorities on the Project.

For consultant administered Projects, the FC will export the detailed Project specific DBE Tracking Report and Workforce Tracking Report into an Excel spreadsheet and distribute to the consultant RE and LAL.

After Second Notification is issued, the FC will coordinate with the RE to perform a final review of the OCR Project documentation.

A final review summary will be emailed to the RE office, and will list performance measures for any applicable DBE goal, OJT/ Apprenticeship goal, TERO goal (if applicable), and any missing documents that need to be received prior to the RE's issuance of Third Notification.

When all OCR requirements have been satisfied on the Project, the FC will send an email communication to the RE, and LAL if applicable, confirming OCR requirements are satisfied and the Project is ready for close out. [Refer to Chapter 37 – Submittal of Final Project Documentation.]

The RE must address how well the Contractor fulfilled its Workforce and Small Business Equity Program requirements when completing the required Contractor Performance Evaluation. [Refer to Chapter 34 - Contractor Performance Evaluation.]

18-1 Minority, Women, Emerging Small Business Program (MWESB) / Service Disabled Veteran-Owned Business (SDVOB) - State Funded

The Certification Office for Business Inclusion and Diversity (COBID) administers the Certification Programs of Disadvantaged Business Enterprise (DBE), Minority Business Enterprise (MBE), Women Business Enterprise (WBE), Emerging Small Business (ESB), and Service Disabled Veteran-Owned Business (SDVOB). Information on the COBID Programs is available at:

<https://www.oregon.gov/biz/programs/COBID/Pages/default.aspx>

Information on the MWESB and SDVOB Supplemental Aspiration Contract Provisions is available at: <https://www.oregon.gov/odot/Business/OCR/Pages/Disadvantaged-Business-Enterprise.aspx>

A. Contractor-Submitted Diversity Plan

The Contractor is required to submit a Contractor Diversity Plan to the RE office that meets the requirements of the Supplemental Specifications on State Projects without Federal DBE requirements. An example of these provisions can be found at:

<https://www.oregon.gov/odot/Business/OCR/Pages/Forms.aspx>

A sample Diversity Plan can be found at:

<https://www.oregon.gov/odot/Business/OCR/Pages/Forms.aspx>

The RE is responsible for forwarding the Contractor's submitted Diversity Plan to the FC for review and acceptance. The FC will alert the RE if there are any discrepancies.

B. Contractor Payments to Subcontractors

The Contractor is required to certify payments made to Subcontractors. For State Projects with an Aspirational Target greater than zero, the RE will review the Contractor's completed Paid Summary Report, Form 734-2882.

The RE is responsible for forwarding a copy of the completed Paid Summary Report forms to the FC. The FC will review the report and alert the RE if there are any discrepancies.

18-2 Disadvantage Business Enterprise (DBE) Program - Federally Funded

A. Background/Overview

Implementation of the DBE Program is to be given the same priority as compliance with all other legal obligations incurred by ODOT under its financial assistance agreements with USDOT. The RE is responsible for monitoring and enforcing the DBE Contract requirements. Information on the ODOT DBE Program Plan is available on the OCR website at: <https://www.oregon.gov/odot/Business/OCR/Pages/Disadvantaged-Business-Enterprise.aspx>

B. Project Goal Setting

The OCR assigns DBE Contract goals for federally funded Projects. For federally funded Projects with contract goals, each Bidder must submit with its Bid the DBE Commitment Certification and Utilization Form 734-2785 (Form 1). For Projects with a DBE goal, approval of the Contractor's commitment or its good faith efforts to meet the DBE goal is a condition of Award.

C. DBE Commitment

For any Project with a DBE Contract goal, the winning Bidder must submit a Committed DBE Breakdown and Certification Form 734-2531 (Form 2) for each committed DBE to the OCR Info Request mailbox within ten days of Notice of Award. **Note:** Each commitment becomes a requirement of the Contract.

The OCR will send a copy of the approved Committed DBE Breakdown and Certification form(s) along with the OCR Pre-Con Requirements Letter to the RE prior to Notice to Proceed.

D. Termination and Substitutions of Committed DBEs

The Contractor must have "good cause" to terminate and/or substitute a committed DBE. The Contractor is required to notify the RE in writing and obtain written consent before terminating and/or substituting the committed DBE that was a condition of Contract Award. The Contractor also has notice requirements under the DBE Provisions, Section 10.00(b), and is required to notify the affected DBE.

The RE must:

- First consult with the FC, and DBE Program Manager if needed, before providing written concurrence with a DBE termination and/or substitution, and copy the FC and the DBE Program Manager on the correspondence.

- Consider the DBE's response under the DBE Provision, Section 10.00(b) of DBE terminations and/or substitutions.

E. Commercially Useful Function

1. DBE Work Plan Proposal – Form 3A

The DBE Work Plan Form 3A is required for all DBEs participating as Subcontractors on the Project, including non-committed DBEs.

The DBE Work Plan Proposal Form 734-2165A (Form 3A) is completed by the DBE and submitted to the Contractor. The Contractor is required under the DBE Supplemental Required Contract Provisions, Section 07.00, to submit the DBE Work Plan Proposal to the RE at the Pre-Con meeting for all known and committed DBE(s).

The completed Form 3A should show sufficient description of the DBE Work to support a DBE Commercially Useful Function (CUF) Form 734-2165. Contact the FC for any technical advice and assistance.

The RE will:

- Review the DBE Work Plan (Form 3A) for all DBEs (committed and non-committed) for completeness, including supporting documentation.
- Verify that the subcontract is consistent with the DBE Work Plan (Form 3A) and Committed DBE Breakdown and Certification Form 734-2531, as appropriate.
- Send a copy of all documents to the FC. The FC will review DBE Work Plan (Form 3A) and any supporting documentation to verify the DBE's CUF.
 - » Coordinate with the FC if CUF compliance issues are identified.
 - » If the FC or RE determines corrective action is needed, RE will provide written comments to the Contractor.
- Send a copy of the reviewed and accepted DBE Work Plan (Form 3A) to the Contractor.

The Contractor must comply with all requirements of the DBE Supplemental Required Contract Provisions that are included in the Contract. Those provisions must also be incorporated into all subcontracts, at all tiers. [Refer Chapter 14 Subcontracts.]

2. Commercially Useful Function (CUF) Review – (Form 3B)

The RE or designated representative must perform a CUF evaluation of each DBE performing Work on the Project, including committed and non-committed DBEs. [Refer to DBE Supplemental Required Contract Provisions, Section 09.00.]

The RE must complete and sign a Disadvantaged Business Enterprise Commercially Useful Function (Form 3B) Form 734-2165 and submit it, along with any other needed information, to the FC.

The RE or designated representative must perform at least one CUF review per DBE:

- For each 12-month period, for Projects where the DBE's Work lasts longer than twelve months.
- Whenever a significant change in the operation of the DBE occurs (e.g., when new Equipment is used or Work crews change).
- Whenever a replacement or substitution of a DBE occurs (for the new DBE).
- Whenever a significant Change Order changes or affects the Work to be accomplished by the DBE (e.g., when a new type of Work is added).

If the FC or the RE identifies any discrepancies or CUF issues on the form, they will coordinate to determine any needed corrective action.

The RE will also note whether the Contractor had any CUF violations when completing the required Contractor Performance Evaluation. [Refer to Chapter 34 - Contractor Performance Evaluation.]

F. DBE Truck Monitoring

This section is specific to Projects in which the Contractor is using DBE trucking to meet the committed DBE goal for the Project. The following is in addition to all other DBE responsibilities of the RE:

1. DBE Trucking - Work Plan Proposal – Form 3A

Whenever a DBE trucking firm is being used to meet an assigned Contract goal, DBE Contractor/Subcontractor must individually identify all trucks intended for use on the Project on its DBE Work Plan Proposal Form (3A) 734-2165A or an attached list.

The RE will request the DBE Contractor/Subcontractor supply detailed information about each driver, each truck, and any required supporting documentation must be provided, including:

- The driver's name, craft classification, and whether regularly employed by the DBE. If not regularly employed, list the recruitment source.
- The truck information, including:
 - » License plate/truck number
 - » Who owns the truck and whether or not the owner is a DBE firm
 - » Type of truck (end dump, belly dump, etc.)
 - » Make and model of tractor and trailer
 - » Whether the truck, tractor or trailer is owned or leased by the DBE
 - » Copy of lease agreements for any trucks, tractors or trailers leased by the DBE

The DBE firm may add trucks to the Work Plan (Form 3A) at any time prior to the truck being utilized on the Project.

For any owner/operators being utilized, the Contractor will also need to provide the information as required in 170.65(b)(4).

2. DBE Trucking – Daily DBE Trucking Log Form 734-2916

All DBE trucking Subcontractors are required to maintain a Daily DBE Trucking Log Form 734-2916 of all trucks used on the Project. The form 734-2916, or an alternate form, must include the same information and shall identify the truck used by:

- Either license plate number or some other specific identification system
- Truck owner
- The number of hours it was used for each day

The DBE Contractor/Subcontractor is required to submit to the RE the Daily DBE trucking log within 14 days of the first recorded date of the Work and then on a weekly basis thereafter.

3. DBE Trucking – CUF Review - Form 3B and Full Shift Verification

In addition to the CUF review, the RE is also responsible for performing an independent verification of all trucks used on the Project for a full work shift. The RE must, without prior notice to any Contractor or Subcontractors, independently verify at least 10% of the total value of DBE trucking services being provided on the Project.

The RE will generate the shift verification listing of trucks from one of the following methods below:

- Use truck tickets for weighed Material delivery, where appropriate.
- Use an Inspector to maintain a log or photograph of all trucks entering the Project for the selected Day.
- For Projects where it is not practical to identify every truck on the Project for a given day, the RE will develop and document an alternate plan in cooperation with the FC.

Again, the RE office should not provide advance notification to the DBE Subcontractor for days performing the independent verification.

The RE will:

- Choose random peak trucking days to perform the verification.
- Verify all trucks in use on the Project for a full shift.
- Compare the RE's listing of trucks on the Project to the appropriate daily log provided by the DBE Subcontractor.
- Contact the FC if there is a discrepancy in the comparison and assist in investigating the discrepancy.
- Document the resolved discrepancy.

If the discrepancy is unresolved, the verification will be expanded until the RE and FC are satisfied that appropriate DBE credit is being given on the Project.

DBE credit will be given based on the total Subcontractor trucking logs, provided the comparison validates the Contractor's Daily DBE Trucking Log.

4. DBE Crediting for Trucking Firm Services

The RE will be responsible for determining the crediting for the DBE Trucking firm. To determining the crediting, the RE will:

- Compare the dollar value of the DBE trucks to the non-DBE trucks that Work for the DBE trucking firm.
- Determine the credit by evaluating to the total value of the DBE trucks the DBE Trucking firm provides, plus the equal value of the non-DBE trucks that performed Work on the Project.

For instance, a DBE Trucking firm has both DBE trucks and non-DBE trucks performing Work on a Project. If the dollar value of the DBE trucking Work performed is determined to be \$50,000 and the non-DBE trucking Work performed is determined to be \$72,000. The total DBE credit for the trucking services will be limited to \$100,000 and not \$122,000.

G. Contractor Payments to Subcontractors

The DBE Supplemental Required Contract Provisions include the requirements of ORS 279C.580, which requires the Contractor to pay each of its Subcontractors within 10 days of receiving payment from the Agency.

The Contractor is required to certify payments made to Subcontractors. On each Project, the Contractor is also required to complete and submit a Paid Summary Report, Form 734-2882 to the RE 20 days after receipt of payment from the Agency.

The RE is responsible for forwarding a copy of the completed Paid Summary Report form(s) to the FC. The FC will review the report and alert the RE if there are any discrepancies.

H. Corrective Action

If the RE or FC identifies any failure to perform by either the Contractor or any Subcontractor on Projects covered by federal regulation or State statute, the RE must initiate any actions needed to correct violations of the DBE Program.

The RE must:

- Notify the Contractor in writing to require that the violation is corrected in a timely manner.
- Consider use of all legally allowed sanctions and penalties to achieve DBE Program compliance, including those actions listed in Chapter 35 – Termination and Breach of Contract if, as a result of failure by the Contractor, the DBE commitment is not met.
- Copy the FC on all actions.

18-3 Emerging Small Business Program (ESB) - State Funded

The RE is not responsible for the ESB program unless directly overseeing a specific Contract funded directly by the ESB program. Program funds are dedicated to Projects and activities specific to ESB inclusion and development, and cannot be used for purposes other than those defined as a benefit to firms certified as ESB.

ESB funds are designed to provide the opportunity for ESB certified firms to gain experience functioning as a prime on a smaller project. ESB contracts are capped at \$100,000 per Contract, and ESB funds may not be used for the performance of subsidiary work under another Contract.

18-4 Equal Employment Opportunity Program (EEO) - Federally Funded

The goal of the Equal Employment Opportunity Program is to ensure that women, minorities, and other disadvantaged people are adequately represented in construction Work.

The Contractor, and all of its Subcontractors, must comply with the requirements of the Required Contract Provisions Federal-Aid Construction Contracts (FHWA 1273), On-Site Workforce Affirmative Requirements for Women and Minorities on Federal-Aid Contracts, and the Equal Employment Opportunity Provisions included in all Contracts with Federal-Aid funding.

A. EEO Aspirational Targets

Projects may include the EEO-Aspirational Target Provisions.

More information on the ODOT Workforce Development Program is available on the OCR website at:

<https://www.oregon.gov/odot/business/ocr/pages/index.aspx>

B. EEO Reports

Monthly Employment Utilization Report (MEUR)

The Contractor and each Subcontractor shall submit each month to the Engineer a Monthly Employment Utilization Report Form 731-0668 as required by the supplemental provisions.

Each Contractor or Subcontractor must complete and submit the form for each calendar month within the "start" and "end" dates the Contractor or Subcontractor is contracted to be on the Project,

whether or not Work was performed. A calendar month begins on the 1st and ends on the last day of the month.

For instance, if a Subcontractor is performing Work from September to December of the current year and completes its work, the Subcontractor would only submit MEURs for September through December not the entire Project.

The RE will review all MEURs submitted by the Contractor and its Subcontractors monthly for completeness and accuracy and must verify that the following items are correct:

- Contractor's and Subcontractor's name
- ODOT Contract number
- Subcontract number
- Report month and year
- Verify the hours claimed on the MEUR match the hours recorded on the certified payrolls

The RE will also review whether the report is new or revised. If the "No Work Performed" box is checked, verify that no Work was performed by the Contractor for that month.

If acceptable, the RE will approve the electronic MEUR Form by forwarding it to the FC.

If unacceptable, the RE will return the original email and attachment (MEUR pdf file) to the Contractor. The RE should:

- Indicate why the electronic MEUR is being returned.
- Give a brief explanation of the question and/or discrepancy in the body of the email.
- Provide a due date to the Contractor to ensure that the electronic MEUR is corrected and re-submitted timely.

Once the revised electronic MEUR is submitted and accepted by the RE, the RE will forward it to the FC.

If the FC reviews the electronic MEUR and determines the MEUR has an error and is not acceptable, the FC will return the MEUR to the RE for correction. The FC should:

- Indicate why the electronic MEUR is being returned.
- Give a brief explanation of the question and/or discrepancy.
- Request the electronic MEUR is corrected and re-submitted in a timely manner.

18-5 Reimbursable On-the-Job and Apprenticeship Training - Federally and State Funded

When OCR determines that the Reimbursable Federal On-the-Job/Apprenticeship Training Special Provisions apply to a Project, a specific number of hours are assigned as a Pay Item with a fixed Pay Item price. The Contractor is reimbursed for qualified hours worked up to 150% of the Pay Item quantity. If the Contractor fails to meet the Pay Item quantity, the disincentive clause in Section 6 of the applicable Special Provisions will be enforced.

For Projects without federal funding that OCR determines to have reimbursable State funded Apprenticeship Training Special Provisions applied, a specific number of hours are assigned to the Pay Item. The Contractor is reimbursed for the qualified hours.

If the Special Provisions for OJT/Apprenticeship Training apply to the Project, regardless of whether it is State or federally funded, the following procedures apply:

A. Pre-Construction Conference ("Pre-Con")

At the Pre-Con, the Contractor will submit a completed Training Program Approval Request (TPAR), Form 734-2880. The Contractor is ultimately responsible for meeting the OJT/Apprenticeship requirement. However, the Contractor may choose to have one or more of its Subcontractors fulfill part of, or the entire, OJT/Apprenticeship requirement. If the Contractor fails to submit the Training Program Approval Request Form(s) at the Pre-Con, the RE should set a deadline for the Form(s) to be submitted (prior to the Contractor beginning Work) and follow up with the Contractor.

The RE will forward the submitted Training Program Approval Request Form(s) to the FC. Upon approval/denial, the form(s) will be returned to the RE for distribution back to the Contractor.

B. First Notification

1. Apprentice/Trainee Approval Request (ATAR)

Before the Contractor can begin receiving credit/payment toward the OJT/Apprenticeship Pay Item, the Contractor shall complete and submit an Apprentice/Trainee Approval Request (ATAR), Form 734-2878 to the RE for each apprentice to be credited toward the Pay Item. The RE shall forward the ATAR(s) to the FC. Upon approval/denial, the form(s) will be returned to the RE for distribution back to the Contractor.

2. Monthly Progress Record (MPR)

Each approved Apprentice/Trainee shall complete an Apprentice/Trainee Monthly Progress Report (MPR), Form 734-2879 for each month in which the Apprentice/Trainee worked on that Project. The Contractor is required to submit the MPR to the RE by the 10th of each month.

The RE is required to:

- Verify that the Contractor has an approved Training Program and approved ATAR for the apprentice or trainee.
- Verify the hours claimed on the MPR match the hours recorded on the certified payrolls.
- Verify the classification/craft on the certified payrolls match the approved Training Program and ATAR.
- Verify that hours are qualified hours to be reimbursed for the Training/Apprenticeship program including any classroom hours required.
- Verify that the MPR has all required signatures.
- Track the hours monthly and overall to ensure the Contractor meets at least 100% of the OJT goal, but payment does not exceed 150% of the item.
- Return any discrepancies to the Contractor for correction.

Once hours have been verified, the RE shall note the total hours to be paid on the report, ensure that the Contract number is on each report, and forward to the FC each month for monitoring and reporting.

The RE will use the MPR for “paynote” documentation. [Refer to Chapter 12D - Quantities.]

C. Second Notification

The RE will notify the FC when Second Notification is issued so the FC can determine if any paperwork is missing prior to issuance of Third Notification.

The RE should also verify that the amount paid in CPS matches the amount tracked on the ODOT MPR.

If, at the Second Notification, the Contractor has not achieved the Training Goal a disincentive to the Contractor will be applied. [Refer to Section 6 of the Reimbursable Federal On-the-Job and Apprenticeship Training provisions.]

When completing the required Contractor Performance Evaluation, the RE shall address whether the Contractor fulfilled the OJT/Apprenticeship requirements. [Refer to Chapter 34 - Contractor Performance Evaluation.]

18-6 Title VI / Environmental Justice

Title VI of the Civil Rights Act of 1964

"No persons in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

This law has been amended to include sex, disability, age and socio-economic position as protected groups. It also includes Environmental Justice (EJ) which include the socio-economic effects on communities and Limited English Proficiency (LEP).

Affected principles should be implemented in conjunction with Title VI. EJ requires that considerations be made in the implementation of public Projects to avoid disproportionately high and adverse effects on low income or minority populations as well as LEP persons. LEP populations consist of those individuals for whom English is not their primary spoken language and who also have a limited ability to read, write, speak or understand English as a result of their national origin.

Nondiscrimination laws and regulations apply to all ODOT programs and activities regardless of the funding. The scope of this law includes all activities and programs of a recipient, not just the specific ones funded by federal dollars. Under Title VI, ODOT is responsible for the compliance of our sub-recipient, the Contractors.

Title VI, LEP and EJ should be addressed throughout the life of a Project. Any activities that may adversely impact a protected group could be a potential Title VI issue. When necessary and requested, documents will be translated to the language participants can clearly understand under the LEP program. This includes the translation of vital documents into the language of the identified LEP population.

Discrimination Complaint Process:

- Document nature and details (name, facts, basis) surrounding discrimination complaint.
- Notify FC of complaint and relevant information necessary to launch investigation.
- Collaborate with FC to resolve complaint and circumvent escalation of complaint.

If any group or individual feels their rights have been violated under Title VI, a complaint may be filed with the entity they feel violated them or the Agency. This complaint must be made within 180 days of the alleged action, be in writing and contain clear details as to what happened, when, and who was involved.

If you have any questions, please contact the ODOT Title VI Officer. More information on the Title VI/Environmental Justice program is available on the ODOT OCR website.


INSERT TAB

Unit 21
NTMAG

Unit 21


NonField-Tested Materials Acceptance Guide

OREGON DEPARTMENT OF TRANSPORTATION
CONSTRUCTION SECTION
NONFIELD-TESTED MATERIALS ACCEPTANCE GUIDE
2024 STANDARD SPECIFICATIONS
January 2024 UPDATE



Updated versions of this guide are available by printing from the web address listed below. This document is to be used as a guide for documentation required for acceptance of Materials on ODOT Construction projects and does not relieve the user of requirements specified in the Construction Project Documents. Please notify the Contract Administration Unit, in the Construction Section at the ODOT Materials Laboratory, of any changes in Standard Drawings, Special Provisions, or Standard Specifications, etc., which would require additions to, deletions from, or changes to this listing.
Internet Address: <https://www.oregon.gov/ODOT/Construction/Pages/Structure-Services.aspx>


Contact Unit 21a 7721 to have correction made to this guide. A summary of changes since last publication is found at the end of this document.
Special Provisions, Contract Plans, and Standard Specifications last published under the guide per 2016-10-01. Refer to the Contract for documentation requirements.



1

Unit 21 Topics:

- Navigation of the NonField-Tested Materials Acceptance Guide (NTMAG)



2

2024 Standard Specification

00165.10(b) – “NonField-Tested Materials will be accepted according to the ODOT NonField-Tested Materials Acceptance Guide (NTMAG), unless otherwise specified in the Contract.”

OREGON DEPARTMENT OF TRANSPORTATION
CONSTRUCTION SECTION
NONFIELD-TESTED MATERIALS ACCEPTANCE GUIDE
2024 STANDARD SPECIFICATIONS
January 2024 UPDATE



Updated versions of this guide are available by printing from the web address listed below. This document is to be used as a guide for documentation required for acceptance of Materials on ODOT Construction projects and does not relieve the user of requirements specified in the Construction Project Documents. Please notify the Contract Administration Unit, in the Construction Section at the ODOT Materials Laboratory, of any changes in Standard Drawings, Special Provisions, or Standard Specifications, etc., which would require additions to, deletions from, or changes to this listing.

Internet Address: <https://www.oregon.gov/ODOT/Construction/Pages/Structure-Services.aspx>

Contact 541-764-7721 to have correction made to this guide. A summary of changes since last publication is found at the end of this document.

*Special Provisions, Contract Plans, and Standard Specifications take precedence over this guide per 2015C 103a. Refer to the Contract for documentation requirements.



OREGON
STANDARD
SPECIFICATIONS
FOR CONSTRUCTION

2024



APWA

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NonField-Tested Materials Acceptance Guide

- The NTMAG is available on-line at:
<https://www.oregon.gov/ODOT/Construction/Pages/Structure-Services.aspx>
- Will try to be updated every 6 months.
- The NTMAG DOES NOT take precedence over the Standard Specifications, Specials, or Contract Plans.

OREGON DEPARTMENT OF TRANSPORTATION
CONSTRUCTION SECTION
NONFIELD-TESTED MATERIALS ACCEPTANCE GUIDE
2024 STANDARD SPECIFICATIONS
January 2024 UPDATE



Updated versions of this guide are available by printing from the web address listed below. This document is to be used as a guide for documentation required for acceptance of Materials on ODOT Construction projects and does not relieve the user of requirements specified in the Construction Project Documents. Please notify the Contract Administration Unit, in the Construction Section at the ODOT Materials Laboratory, of any changes in Standard Drawings, Special Provisions, or Standard Specifications, etc., which would require additions to, deletions from, or changes to this listing.

Internet Address: <https://www.oregon.gov/ODOT/Construction/Pages/Structure-Services.aspx>

Contact 541-764-7721 to have correction made to this guide. A summary of changes since last publication is found at the end of this document.

*Special Provisions, Contract Plans, and Standard Specifications take precedence over this guide per 2015C 103a. Refer to the Contract for documentation requirements.



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OREGON DEPARTMENT OF TRANSPORTATION	NONFIELD-TESTED MATERIALS ACCEPTANCE GUIDE LEGEND
January 2024 Update	2024 STANDARD SPECIFICATIONS
<p>This guide provides a summary of acceptance documents for frequently used items. New Materials or Materials which are infrequently used may not be listed in this guide. Consult the Contract Documents for acceptance documentation for these items.</p> <p>This guide does not have precedence over the Special Provisions, Contract Plans, or Standard Specifications. Refer to 00150.10(a)'</p>	
<p>E – Equipment Lists and Drawings / Procedures L – ODOT Central Materials Laboratory Report I – ODOT Structure Services Inspection Report W – Warranty (Manufacture or Workmanship) P – Proof of License/Certification or Apprentice Application M – Manufacturer's Field Representative Report</p>	<p>F – Field Inspection Report (FIR) ➤ More information in form 734-2605 processing instructions. O – Certificate of Materials Origin (CMO for Iron or Steel - refer to 00160.20(a)) BG – Blue and Green Sheets (see Sec. 00960, 00970 or 00990) R – Field Report P/R – DEQ Permit or Compost Producer Registration</p>
<p>C – Construction Materials Certificate of Materials Origin (C-CMO) Form 734-5378b - Build America Buy America (BABA) – Refer to 00165.35(e). Specification Sections that have been identified as containing Construction Materials that may require a C-CMO have been added throughout this guide. Refer to the following for additional resources pertaining to BABA Materials:</p> <ul style="list-style-type: none"> Qualified Products List (QPL) - https://www.oregon.gov/odot/Construction/Pages/Qualified-Products.aspx BABA Material Classification Guide - https://www.oregon.gov/odot/Construction/Pages/Contract-Administration-Services.aspx BABA Blue Sheet List - https://www.oregon.gov/odot/Construction/Pages/Contract-Administration-Services.aspx 	
<p>Q - Quality Compliance Certificate – The certificate or equivalent document meeting specification shall be from the manufacturer and shall:</p> <ul style="list-style-type: none"> Verify the Material meets the Specifications, and identify by number any applicable specified test methods used, (ODOT, AASHTO, ASTM, UL, others) Permit positive determination that Material delivered to the Project is the same Material covered by the certificate. <ul style="list-style-type: none"> Be delivered to the Engineer with the shipment of the Material, Or be an identification plate or mark, decal, sticker, label, or tag attached to the container or Material. 	
<p>T – Test Results Certificate – The certificate shall:</p> <ul style="list-style-type: none"> Be from the manufacturer, verifying the Material furnished has been sampled and tested and the test results meet the Specifications. Include, or be accompanied by, a copy of the specified test results (ODOT, AASHTO, ASTM, UL or other) Identify the testing agency and the representative responsible for the test results. Permit positive determination that Material delivered to the Project is the same Material covered by the test results. Be delivered to the Engineer with the shipment of the Material. 	
<p>Small Quantity - A method for accepting relatively small quantities of Materials as noted in this guide without normal sampling and testing. Normal acceptance of Materials may be waived by the Engineer when requested in writing by the Contractor. Small quantity acceptance requirements are listed in this guide along with the maximum amount of Material that can be accepted as small quantity.</p>	
<p>QPL – For some Materials, this guide will refer to the Qualified Products List (QPL). For QPL Materials, the QPL number must be entered into the Contractor Payment System regardless of the method of documentation.</p> <ul style="list-style-type: none"> When using an "A" listed product, document with an FIR/Pay Note citing the QPL product number. When using a "Q" listed product, document with an FIR/Pay Note citing the QPL product number, and attach additional documentation required by this guide. When using a product approved after the QPL in effect for the Project, document with an FIR/Pay Note and attach a copy of the product approval letter or page from the later edition of the QPL. 	
<p>For products submitted by the Contractor that are not listed on the QPL, follow section 00160.05 of the Standard Specifications or Special Provisions.</p>	

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NonField-Tested Materials Acceptance Guide Organization

- Specification Section
- Construction Type
- Materials
- Specification Subsection
- Acceptance Documents (who furnishes the document)
- Remarks (any extra information)

SECTION	TYPE OF CONSTRUCTION	MATERIALS	SUBSECTION	ACCEPTANCE DOCUMENTS				REMARKS
				FURNISHED BY CONTRACTOR TO		FURNISHED BY AGENCY		
				LAB	ENGR.	MATERIALS LAB	FIELD PERSONNEL	
00445 (con't)	Sanitary, Storm, Culvert, Siphon, and Irrigation Pipe (continued)	Asphalt Mastic	00445.12 00445.47		Q		F, QPL	Only required for aluminum and concrete contact surfaces.
								"Q" meeting requirements of 00445.12 and "F" if not from QPL.
		Tracer Wire	00445.11(e) 00445.48		Q		F	"F" and "QPL" if from QPL. Only required for sanitary and storm sewer installation.

QA

ODOT

MATERIALS & INSPECTION

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NonField-Tested Materials Acceptance Guide Organization

Small Quantity Acceptance for NonField-Tested Materials ONLY

This example is on page 51 of NTMAG

00855	Pavement Markers	Pavement Markers Pavement Marker Adhesive	Refer to 00850 in this guide.	
Note: Maximum amount of pavement marker adhesive required for 200 pavement markers may be accepted as small quantity with "F" as long as the adhesive is from the QPL.				

This example is on page 52 of NTMAG

SECTION	TYPE OF CONSTRUCTION	MATERIALS	SUBSECTION	ACCEPTANCE DOCUMENTS				REMARKS
				FURNISHED BY CONTRACTOR TO		FURNISHED BY AGENCY		
				LAB	ENGR.	MATERIALS LAB	FIELD PERSONNEL	
00865	Longitudinal Pavement Markings – Durable	- Methyl Methacrylate - Thermoplastic - Reflective Elements	Refer to 00850 in this guide.					
00866	Longitudinal Pavement Markings – High Performance	- Plural Component - Hi-Build Paint - Reflective Elements - Marking Tape	Refer to 00850 in this guide.					
00867	Transverse Pavement Markings – Legends and Bars	Type A through Type D Reflective Elements	Refer to 00850 in this guide.					
Note: Maximum 3 legends and/or bars may be accepted as small quantity without reflectivity testing with "F" as long as the marking material is from QPL and reflective elements are according to manufacturer.								

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NonField-Tested Materials Acceptance Guide Organization

The NTMAG also has approved manufacturer suppliers for items such as:

- Reinforced Concrete Pipe (00445)
- Precast Manholes, Catch Bases and Inlets (00470)
- MSE, Precast Concrete Panel Facing (00596A)
- Sound Walls (00597)
- Guardrail, Wood Post and Blocks (00810)
- Concrete Barrier, Precast (00820)



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00820

Concrete Barrier

Concrete Barrier

(continued on

Listed below are ODOT approved manufacturers:

- Knife River, Harrisburg, OR
- Oldcastle Infrastructure, Wilsonville, OR
- Jensen Precast, Camas, WA
- Oldcastle Infrastructure, Nampa, ID
- Freedom Precast, Salem, OR
- Rogue Valley Precast, White City, OR

Refer to 00226 for temporary barrier.

If barrier are not from ODOT approved manufacturer, contact Structure Services (503-986-3056) for acceptance information 21 Days prior to barrier casting. Requires Structure Services inspection.

F, QPL

"Q" is package labeling information according to 02210.10(b).

F

"Q" is from hardware fabricator and galvanizer.

F

F, QPL

"C" is for Construction Material CMO according to 00160.20(d)

F

Listed below are ODOT approved manufacturers:

- Knife River, Harrisburg, OR
- Oldcastle Infrastructure, Wilsonville, OR
- Jensen Precast, Camas, WA
- Oldcastle Infrastructure, Nampa, ID
- Freedom Precast, Salem, OR
- Rogue Valley Precast, White City, OR

Refer to 00226 for temporary barrier.

If barrier are not from ODOT approved manufacturer, contact Structure Services (503-986-3056) for acceptance information 21 Days prior to barrier casting. Requires Structure Services inspection.

QA

ODOT MATERIALS & INSPECTION

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NTMAG: Navigation

Find applicable Special Provisions / Standard Specification Section:

If project specific, reference Bid Item.

Locate Documentation Required in NTMAG

QA

ODOT MATERIALS & INSPECTION

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NTMAG

21-5

NTMAG: Test Your Navigational Skills!**Problem 21-1 through 21-3**

- What quality documentation is needed for **temporary erosion control seed**?
- What quality documentation is needed for **PVC, Storm Pipe**
- What quality documentation is needed for **high strength anchor bolts/rods, nuts, and washers** for **sign support footings**?



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NonField-Tested Materials Acceptance Guide and Qualified Products List Overview

- Always check the Special Provisions for Specific Materials
- Always check the Standard Specification Materials
- Always read to make sure you know what Quality Acceptance Documents require
- Try not to incorporate Materials until all quality documents have been submitted and approved
 - Remember: Materials will be subject to acceptance testing if the Engineer so elects.
 - The Engineer may reject damaged or non-Specification Materials regardless of the Materials Conformance Documents furnished.



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Unit 21 Review:

- ✓ Abbreviations and document submittal
- ✓ Navigation of the NTMAG



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NonField-Tested Materials Acceptance Guide Class Problem 21-4

Scenario: What Quality Acceptance Documents must the Contractor submit to incorporate deformed bar (ASTM A706) for concrete reinforcement from a manufacturer that is Approved on the QPL?



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NonField-Tested Materials Acceptance Guide Problem 21-5

Question: In section 00591, under Spray Waterproofing Membrane, what Quality Acceptance Documents are required?



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NonField-Tested Materials Acceptance Guide Problem 21-6

Question: In contract #15498, what Quality Acceptance Documents are required for Bid Item 0750?

Where should we start?

- First, we need to find out what **Bid Item 0750** is.
- Start in the Specials under the Bid Item Schedule:
0750 Subgrade Geotextile.
- The specification number is Section **00350-Geosynthetic Installation.**

With the Section Number, we can look in the **NTMAG**.



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NonField-Tested Materials Acceptance Guide Problem 21-6 (continued)

Question: In contract #15498, what Quality Acceptance Documents are required for Bid Item 0750?

SECTION	TYPE OF CONSTRUCTION	MATERIALS	SUBSECTION	ACCEPTANCE DOCUMENTS				REMARKS
				FURNISHED BY CONTRACTOR TO		FURNISHED BY AGENCY		
				LAB	ENGR.	MATERIALS LAB	FIELD PERSONNEL	
00350	Geosynthetic Installation	Geotextile	00350.10 02320.10(a)(1) 02320.10(c)(1) 02320.20		C		F, QPL	Geotextiles in the QPL are identified as NTPEP listed and are approved for the intended application. "C" is for Construction Material CMO according to 00160.20(d) "F" must document the product name either printed directly on the geotextile by the Manufacturer, or by the product label attached to the original packaging or the geosynthetic itself by the Manufacturer. Geotextile rolls that cannot be verified will be rejected.

- Section – 00350
- Type of Construction – Geosynthetic Installation
- Material – Geotextile Fabric

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NonField-Tested Materials Acceptance Guide Problem 21-6 (continued)

- However, 00350.10 refers you to 02320. 02320.10 allows for a way to evaluate non-QPL sources.

(c) Manufacturer's Test Certification - Furnish test result certificates according to 00165.35 from the geosynthetic manufacturer, and the following:

(1) Geotextiles - Geotextile products listed in the QPL that are identified as "NTPEP listed" in the remarks column have been approved based on participation in the AASHTO National Transportation Product Evaluation Program (NTPEP) and test data from the program. Manufacturer's test certification is not required for NTPEP listed geotextiles from the QPL. For other geotextiles, include the following unless directed otherwise:

- QPL product category and proposed project application.
- Product name printed directly on the geotextile by the Manufacturer. For geotextiles that are not marked with a product name, provide geotextile with product label attached to the geotextile or original packaging by the Manufacturer.
- Manufacturer's name, lot number, roll number, production facility address, and full product information (style, brand, name, etc.).
- Chemical composition of filaments and yarns, including polymer(s) used.
- Minimum average roll values for each of the specified properties from the same lot of geotextiles as the delivered material.

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NonField-Tested Materials Acceptance Guide Problem 21-6 (continued)

To evaluate Test Certificate, Standard Specifications Table 2320-4 (pg. 1083)

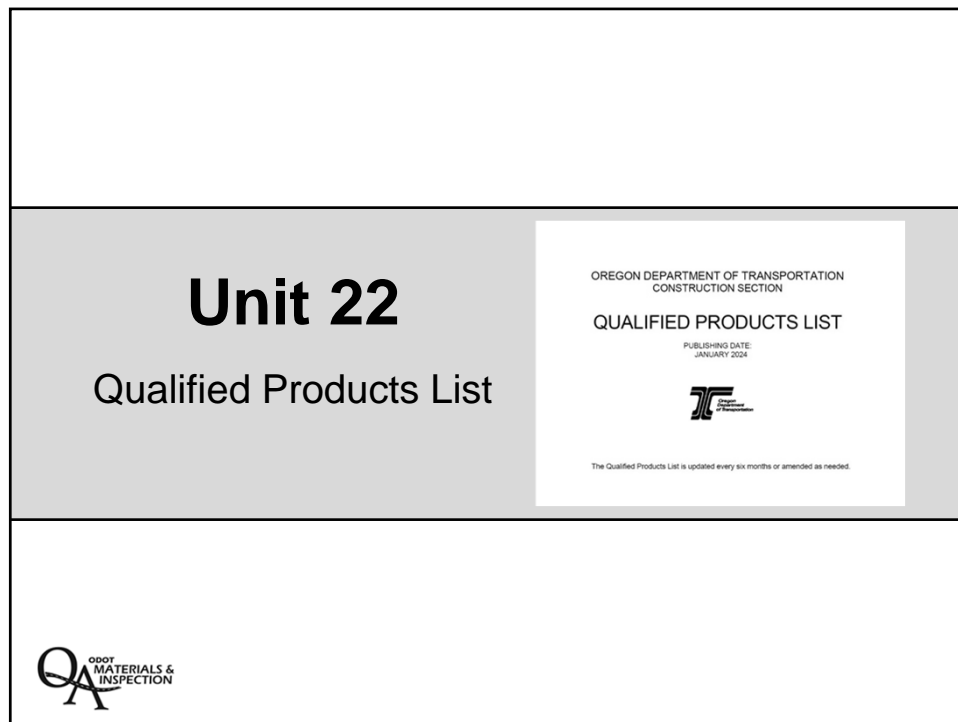
Table 02320-4 Geotextile Property Values for Subgrade Geotextile (Separation) ¹

Geotextile Property	ASTM Test Method	Unit	Geotextile Property Requirements	
			Woven	Nonwoven
Grab Tensile Strength (minimum) Machine and Cross Machine Directions	D 4632	lb	180	113
Grab Failure Strain (minimum) Machine and Cross Machine Directions	D 4632	%	< 50	≥ 50
Tear Strength (minimum)	D 4533	lb	68	41
Puncture Strength (minimum)	D 6241	lb	371	223
Apparent Opening Size (AOS) (maximum) U.S. Standard Sieve	D 4751	—	30	30
Permittivity (minimum)	D 4491	sec ⁻¹	0.05	0.05
Ultraviolet Stability Retained Strength (minimum)	D 4355 (at 500 hours)	%	50	50

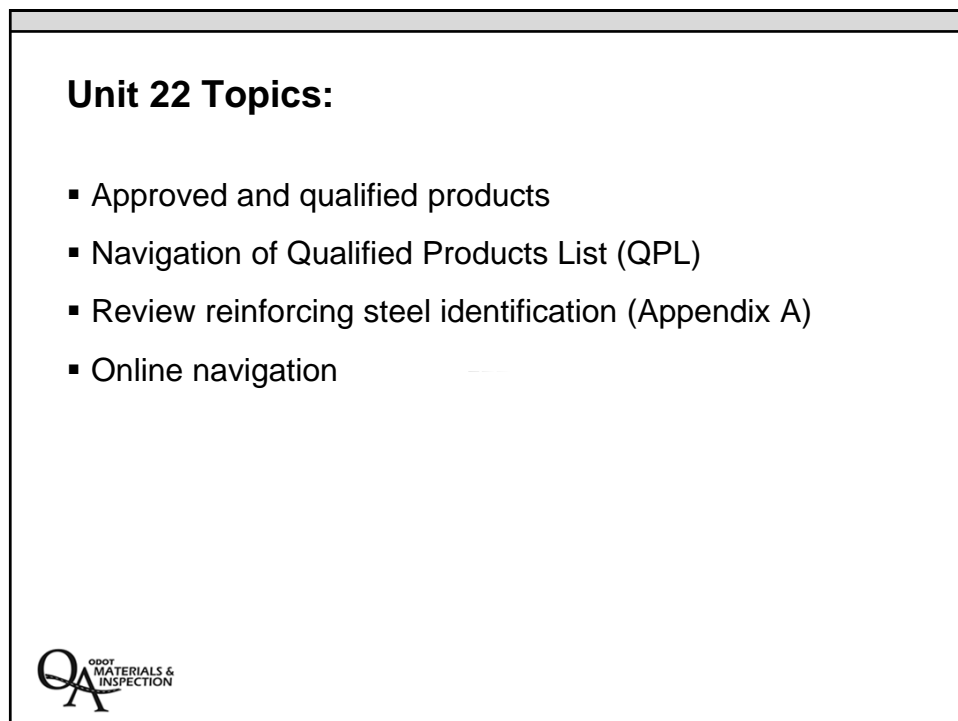
¹ All geotextile properties are Minimum Average Roll Values (MARV). The test results for any sampled roll in a lot shall meet or exceed the values shown in the table.

INSERT TAB

Unit 22
QPL



1



2

Qualified Products List (QPL)



- Updated every 6 months
- Questions concerning the QPL or products

Dean Chess

Product Evaluation Coordinator
(503) 986-3023

Available online at:

<https://www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx>



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Qualified Products List (QPL)

▪ **Qualified List – (Q)**

- List of products that have been reviewed and found to be suitable for use in a specific category.
- Job control testing may still be necessary.

▪ **Approved List – (A)**

- List for commercially available products having low consequence of failure.
- May require a Field Inspection Report.
- No additional testing is required.



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Qualified Products List (QPL)

Organization of QPL

- Page I-III – Index by category for Specification number
- Page IV – Traffic Control Devices Notice information
- Pages V-VI – Erosion Control
- Pages VII-VIII – Pavement Markings
- Pages 1-211 – Qualified/Approved List
- Pages A1-A17 – Reinforcing Steel Producers and Markings



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Qualified Products List (QPL) Pages I-III

OREGON DEPARTMENT OF TRANSPORTATION

"QPL" INDEX BY CATEGORY TO GET SPECIFICATION NUMBERS

PAGE I

CATEGORY	SPEC #	CATEGORY	SPEC #	CATEGORY	SPEC #
ANTI-GRAFFITI COATING - SIGNS	02910.70	CONCRETE BARRIER GATE	00820.00	FLAGGER STATION LIGHTING	00223.22
ASPHALT COLD PATCH - HI PERF	00745.00	CONCRETE MODIFIER - LATEX	02035.00	FLAGGER STOP/SLOW PADDLE	00223.21
ASPHALT RELEASE AGENT	00745.22	CONCRETE SCM - BLENDED	02030.60	FLY ASH	02030.10
AUTOMATED FLAGGER ASSIST. DEVICE	00223.23	CONCRETE SCM - FLY ASH	02030.10	GALVANIZING REPAIR OF HOT-DIP	02530.71
BACKER ROD	02440.14	CONCRETE SCM - GGBF SLAG	02030.40	GEOGRIDS - SUBGRADE REINFORCEMENT	02320.10
BARRICADE, TEMPORARY	00224.15	CONCRETE SCM - METAKAOLIN	02030.50	GEOGRIDS - TYPE I MSEW	02320.10
BARRIER PANELS, REFLECTIVE	00226.11B	CONCRETE SCM - SILICA FUME	02030.20	GEOSYNTHETICS	02320.10B
BARRIER, CABLE	00811.00	CONCRETE SEALER - WATER REPELLENT	02080.30	GLARE SHIELDS	00822.00
BEARINGS, BRIDGE	00582.10	CONCRETE SURFACE RETARDER	02055.10	GLARESCREEN TEMPORARY	00226.11
BICYCLE CHANNELIZING DEVICES	00228.12	CRACK INJECTION, EPOXY	00538.10	GROUT, EPOXY	02080.10
BIRD SPIKES	00907.10	CURING BLANKET, CONCRETE	02050.30	GROUT, KEYWAY	02080.30
BOLT GRADE ADJUSTMENT SYSTEM	00470.42	CURING COMPOUND, CONCRETE	02050.10	GROUT, NON-EPOXY (NON SHRINK)	02080.20
BONDING AGENT, EPOXY	02070.10	DAMP PROOFING, CLEAR	00597.11	GROUT, STRUCTURAL	02080.60
BONDING AGENT, NON-EPOXY	02070.20	DELINEATORS - (TYPES 2, 3 & 5)	00840.10	GROUT, TENDON	02080.50
CEMENT, BLENDED	02010.20	DELINEATORS, TEMP	00224.14	GUARDRAIL BLOCKS, PLASTIC	02110.20
CEMENT, PORTLAND	02010.10	DETECTABLE WARNING DEVICES	00759.12	GUARDRAIL TERMINALS	00810.10
CEMENTITIOUS PIPE LINER	00414.10	DRAINS, TRENCH (PREFORMED)	00446.00	HOT APPLIED JOINT SEALANT	02440.30
CFRP STRENGTHENING WET LAY UP	00565.00	ELASTOMERIC CONCRETE	00584.10	IMPACT ATTENUATOR, PERM.	00830.00
CHEMICAL ADMIXTURES	02040.10	ELECTRONIC CUTTABLE FILM	02910.60	IMPACT ATTENUATOR, TEMP.	00226.12
CHLORIDE REMOVER	00594.13	EROSION CONTROL	00280.00	IMPACT ATTENUATOR, TRUCK MTD	00226.23
CONCRETE & CRACK SEALER HIGH MOD.	02080.20	EXPANSION JOINTS, BRIDGE	00585.10	JOINT FILLER, PREFORMED	02440.10
CONCRETE & CRACK SEALER LOW MOD.	02080.10	FENCINGS, WORKZONE	00221.13	LATEX EMULSION PAINT	02210.30

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Qualified Products List (QPL)

Page IV

Traffic Control Devices Notice (11-2023)

PAGE IV

The American Association of State Highway and Transportation Officials (AASHTO) *Manual for Assessing Safety Hardware* (MASH). MASH is an update to and supersedes NCHRP Report 350.

Requirements in Section 1408 of SAFETEA-LU stated that "The Secretary, in cooperation with the Association [i.e., AASHTO], shall publish updated guidance regarding the conditions under which States, when choosing to improve or replace highway features on the NHS, should improve or replace such features ...". The AASHTO/FHWA Implementation Plan was developed to satisfy that requirement.

Category 1: Plastic Tubular Markers, Plastic Barrels. ODOT Link for Self-Certification form: [Click Here](#)

Category 2: Portable Sign Supports, Tripod Mounted AFAD's, Type 3 Barricades, etc.

Category 3: Impact Attenuators, Guardrail, etc.

Category 4: Trailer Mounted: Sequential Arrows, Message Boards, AFAD's, Flagger Station Lighting, Radar Speed (Trailers), etc.

It is the responsibility of the Contractor, to ensure they use a product, which complies with the appropriate requirements.

FHWA Office of Safety: <https://safety.fhwa.dot.gov/>

Countermeasures that Reduce Crash Severity:
https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/

NCHRP Report 350: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_350-a.pdf

MASH: https://bookstore.transportation.org/item_details.aspx?ID=2707

FHWA Work zone Letter WZ-161:
http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/listing.cfm?code=workzone

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Qualified Products List (QPL)

Pages V

Erosion Control

Page V

<u>Category</u>	<u>Sub Category</u>	<u>Section</u>
<u>Erosion Prevention Materials</u>		
	Matting – Slope	00280.14e
	Type A - Slopes 1V:3H or flatter - Clay Soil	
	Type B - Slopes 1V:3H or flatter - Sandy Soil	
	Type C - Slopes steeper than 1V:3H - Clay Soil	
	Type D - Slopes steeper than 1V:3H - Sandy Soil	
	Matting – Flexible Channel Liner	
	Type E-Shear Stress Range	2 lbs/ft ²
	Type F-Shear Stress Range	4 lbs/ft ²
	Type G-Shear Stress Range	6 lbs/ft ²
	Type H-Shear Stress Range	8 lbs/ft ²
<u>Runoff Control Materials</u>		
	Check Dam	
	Type 5 – Prefabricated System	00280.15a
	Compost Filter Sock	
	Filter Sock Material	00280.15f (1)
<u>Sediment Control Materials</u>		
	Inlet Protection	
	Type 3 – Prefabricated Filter Inserts	00280.16d
	Sediment Barrier	
	Type 7 – Prefabricated Barrier System	00280.16e
	Sediment Mat	00280.16f

Rev 1-2022

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Qualified Products List (QPL)
Pages VI

Page VII

Pavement Markings (1 of 2) (Rev 7-22)

Longitudinal Durable Pavement Markings Section 00865.00

Category Method (A) Extruded	Applications (S) Surface (P) Profile, 120 Mils w/ ½" bumps (G) Grooved (NP) Non-Profile	Material (1) Methyl Methacrylate (MMA) (2) Thermoplastic
Category Method (B) Sprayed	Applications (S) Surface (P) Profile, 120 Mils w/ ½" bumps (G) Grooved (NP) Non-Profile	Material (1) Methyl Methacrylate (MMA) (2) Thermoplastic
Category Method (C) Tape	Applications Pavement Marking Tape – Rolled-In Non-Patterned Pavement Marking Tape – Rolled-In Patterned Pavement Marking Tape – Grooved Non-Patterned Pavement Marking Tape – Grooved Patterned Pavement Marking Tape – Rolled-In Patterned Wet Weather Pavement Marking Tape – Grooved Patterned Wet Weather	
Category Method (D) Wet Weather	Applications (S) Surface (P) Profile, 120 Mils w/ ½" bumps (G) Grooved (NP) Non-Profile	Material (1) Methyl Methacrylate (MMA) (2) Thermoplastic

Qualified Products List (QPL)
Pages 1-211

Page 1

ODOT CONSTRUCTION / MATERIALS SECTION QUALIFIED PRODUCTS LIST APPROVED LIST - NO SAMPLES OR TESTS REQUIRED** QUALIFIED LIST - ADDITIONAL REQUIREMENTS** JANUARY 2024						
STANDARD SPEC #	CATEGORY	PRODUCT NAME	LOCAL REPRESENTATIVE AND/OR MANUFACTURER	EFFECTIVE DATE	PRODUCT NUMBER	LIST
0022.13	FENCING, WORKZONE DELINEATION	KC BARRICADE FENCE	KC WHOLESALE CONSTRUCTION PROD 256/550-4672	03/10/11	1486	A ORANGE SAFETY / SNOW FENCE.
0022.13	FENCING, WORKZONE DELINEATION	PERIMETER PLUS X05650-001	CONWED PLASTICS 612/623-1700 GEOTR 886/709-8935	03/10/11	3147	A
0022.13	FENCING, WORKZONE DELINEATION	PERIMETER PLUS X05650-002	CONWED PLASTICS 612/623-1700 GEOTR 886/709-8935	03/10/11	3306	A
0022.13	FENCING, WORKZONE DELINEATION	PROTEX FENCE - SP204SL-12P	NORPLEX 253/735-3431 ACF WEST 800/978-5115	03/10/11	4324	A
0022.13	FENCING, WORKZONE DELINEATION	SAFT-GNO	TENAX CORPORATION 800/974-7437 ACF WEST 800/978-5115 410/522-7000	04/12/07	3432	A MEETS NEW SPECS.
0022.13	FENCING, WORKZONE DELINEATION	TENAX/ALP SAFETY FENCE	TENAX CORPORATION 800/974-7437 DAVE WRIGHT 800/232-3480 WHITE CAP 800/207-4181 KODAK SUPPLY 800/332-7432	12/14/06	22	A PLASTIC FENCE MUST HAVE ADEQUATE SUPPORTS. 410/522-7000
0022.13	FENCING, WORKZONE DELINEATION	WARNING BARRIER FENCE # 14993	MUTUAL INDUSTRIES 800/523-0988 215/927-6000	07/12/07	3441	A
0022.10B	TEMPORARY SIGNS TYPE	3-M GENES 3904 ASTM D4956 TYPE K	3-M COMPANY TISS 800/853-1380 LOGAN MATSON 312/345-0020	12/09/04	2856	A FLUORESCENT ORANGE
0022.10B	TEMPORARY SIGNS TYPE	AVERY DENNISON W-7514 ASTM D4956 TYPE US	AVERY DENNISON 800/327-5917	02/10/05	2855	A FLUORESCENT ORANGE

*LIST 'A' - APPROVED. MAY BE USED WITHOUT SAMPLER, TESTING, OR QUALITY COMPLIANCE CERTIFICATIONS. MAY NEED A FIELD INSPECTION REPORT.
**LIST 'Q' - QUALIFIED. USE WITH SAMPLING, TESTING, AND/OR QUALITY COMPLIANCE CERTIFICATIONS AS NEEDED. NEED A FIELD INSPECTION REPORT. CHECK SPECS AND NPTMAG.
LIST PUBLISHED BY: ODOT MATERIALS LAB, 800 AIRPORT RD SE, SALEM, OR 97301-4798. (503) 986-3059. PLEASE REPORT ANY PROBLEMS USING THESE PRODUCTS.

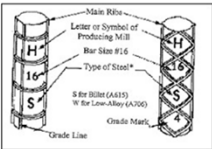
QPL: Reinforcing Steel
(pages A1-A4)

Oregon DOT – QPL (Rev. November 2023) Attachment “A” Approved Rebar Producers (English Units) Page A 1

Appendix A—Approved Reinforcing Steel Producers

The ASTM specifications for billet-steel and low-alloy reinforcing bars (A615 and A706, respectively) require identification marks to be rolled into the surface of one side of the bar to denote the producer’s mill designation, bar size, type of steel and minimum yield designation. Grade 420 bars show these marks in the following order:

- 1st ---Producing Mill (usually a letter)
- 2nd --- Bar Size Number (# 4 through # 18)
- 3rd --- Type of Steel: S Billet (A 615)
W for Low Alloy (A 706)
- 4th ---Minimum Yield Designation



The minimum yield designation for Grade 420 bars is either one (1) single, longitudinal line (grade line) or the number 4 (grade mark).

A grade line is smaller and is located between the two main ribs, which are on opposite sides of all bars made in the United States. A grade line must be continued through at least 5 deformation spaces, and it may be placed on the side of the bar opposite the bar marks. A grade mark is the fourth mark on the bar.

VARIATIONS: Bar identification marks may also be oriented to read horizontally (90° to those illustrated). Grade numbers may be placed within consecutive deformation spaces to read vertically or horizontally.

The Identification marks for the Approved Producers are shown in the following figures. Rebar grades shown on these pages are for reference only. Check the specs for the appropriate requirements.

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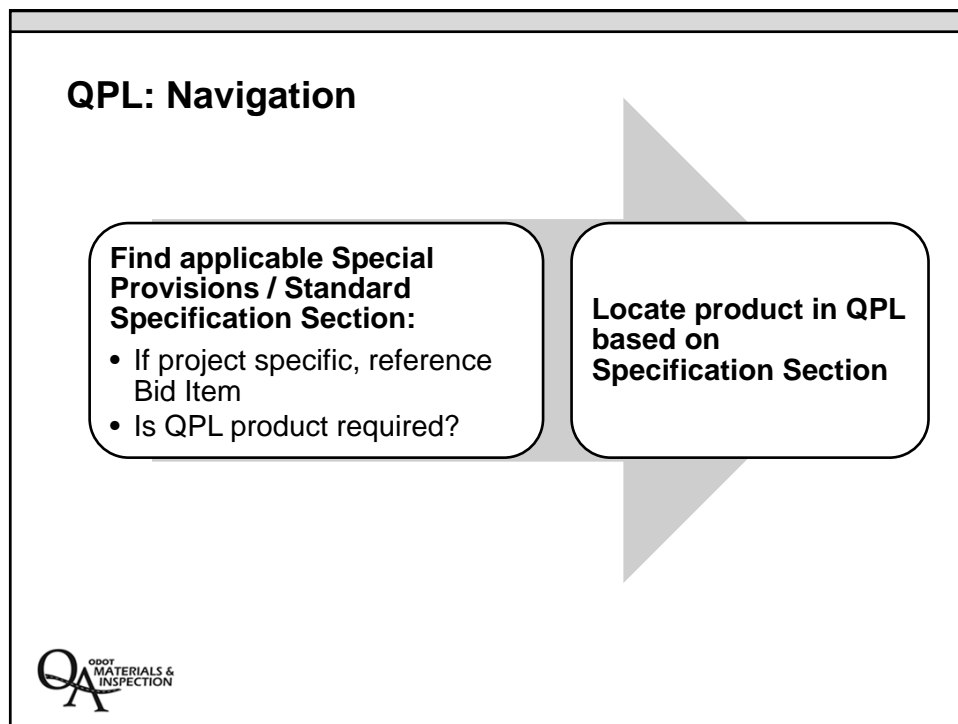
Qualified Products List (QPL)

Page 1, QPL

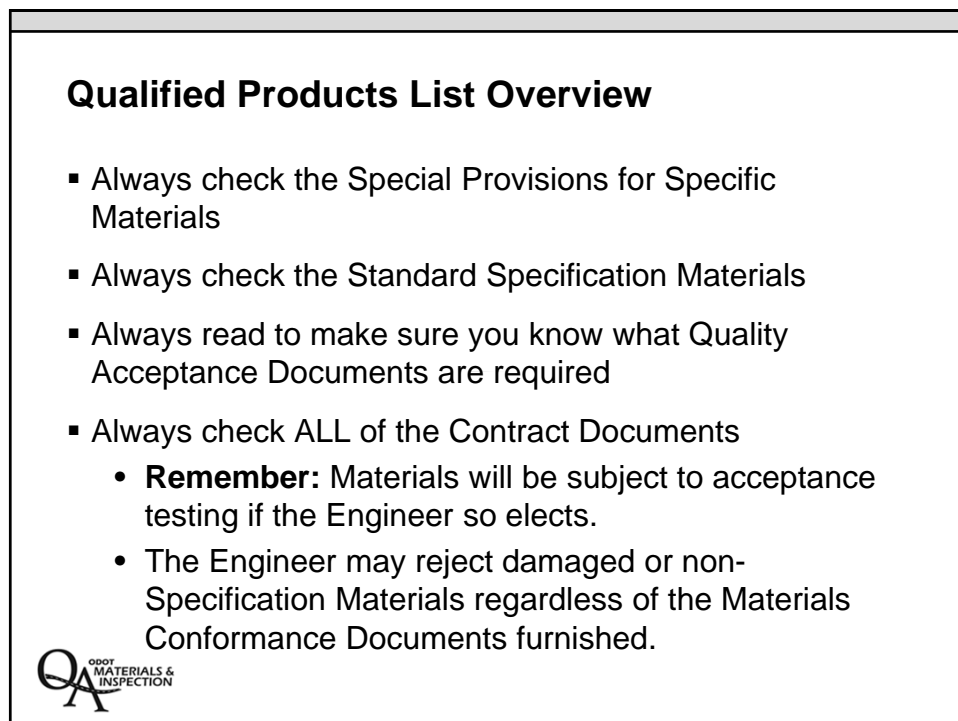
- 1) Standard Specification Number
- 2) Category
- 3) Product Name
- 4) Manufacturer
- 5) Date if was Effective
- 6) Product Number
- 7) Category List A/Q
- 8) Remarks Section

STANDARD SPEC #	CATEGORY	PRODUCT NAME	LOCAL REPRESENTATIVE AND/OR MANUFACTURER	EFFECTIVE DATE	PRODUCT NUMBER	LIST	REMARKS
00221.13	FENCING, WORKZONE DELINEATION	KC BARRICADE FENCE	KC WHOLESALE CONSTRUCTION PROD 206/850-8872	03/10/11	1486	A	ORANGE SAFETY / SNOW FENCE.
00221.13	FENCING, WORKZONE DELINEATION	PERIMETER PLUS X05650-001	CONWED PLASTICS 612/823-1700 GEOTEK 888/708-8835	03/10/11	3147	A	
00221.13	FENCING, WORKZONE DELINEATION	PERIMETER PLUS X05650-002	CONWED PLASTICS 612/823-1700 GEOTEK 888/708-8835	03/10/11	3306	A	

12



13



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Unit 22 Review:

- ✓ Approved and qualified products
- ✓ Navigation of QPL
- ✓ Reinforcing steel identification (Appendix A)




QPL: Test Your Navigational Skills!

Question 22-1: What products can be used for work zone fencing?


- ✓ The standard specification **index page 12** sends you to page 167
- ✓ **00221.13 - Work Zone Fencing** is found on page 167 of the standard specifications
- ✓ On the QPL index page I also references 00221.13 for Fencing, Work Zone

OREGON DEPARTMENT OF TRANSPORTATION						PAGE 1
"QPL" INDEX BY CATEGORY TO GET SPECIFICATION NUMBERS						
CATEGORY	SPEC #	CATEGORY	SPEC #	CATEGORY	SPEC #	
ANTI-GRAFFITI COATING - SIGNS	02910.70	CONCRETE ANCHOR, MECHANICAL	00535.10B	EXPANSION JOINTS, BRIDGE	00585.10	
ASPHALT COLD PATCH - HI PERF	00745.00	CONCRETE ANCHOR, RESIN	00535.10A	FENCING, WORKZONE	00221.13	
ASPHALT RELEASE AGENT	00745.22	CONCRETE BARRIER GATE	00820.00	FLAGGER STATION LIGHTING	00223.22	
AUTOMATED FLAGGER ASSIST. DEVICE	00223.23	CONCRETE MODIFIER - LATEX	02035.00	FLAGGER STOP/SLOW PADDLE	00223.21	
BACKER ROD	02440.14	CONCRETE SCM - BLENDED	02030.60	FLY ASH	02030.10	
BARRICADE, TEMPORARY	00224.15	CONCRETE SCM - FLY ASH	02030.10	GALVANIZING REPAIR OF HOT-DIP	02530.71	
BARRIER PANELS, REFLECTIVE	00226.11	CONCRETE SCM - GGBF SLAG	02030.40	GEOGRIDS - SUBGRADE REINFORCEMENT	02320.10	
BARRIER, CABLE	00811.00	CONCRETE SCM - METAKAOLIN	02030.50	GEOGRIDS - TYPE I MSEW	02320.10	
BEARINGS, BRIDGE	00582.10	CONCRETE SCM - SILICA FUME	02030.20	GLARE SHIELDS	00822.00	



QPL: Test Your Navigational Skills!							
ODOT CONSTRUCTION / MATERIALS SECTION QUALIFIED PRODUCTS LIST APPROVED LIST - NO SAMPLES OR TESTS REQUIRED** QUALIFIED LIST - ADDITIONAL REQUIREMENTS** JANUARY 2021 (AMENDED MARCH 8, 2021)				Page 1			
STANDARD SPEC #	CATEGORY	PRODUCT NAME	LOCAL REPRESENTATIVE AND/OR MANUFACTURER	EFFECTIVE DATE	PRODUCT NUMBER	LIST	REMARKS
00221.13	FENCING, WORKZONE DELINEATION	KC BARRICADE FENCE	KC WHOLESALE CONSTRUCTION PROD 206/950-8972	03/10/11	1486	A	ORANGE SAFETY / SNOW FENCE.
00221.13	FENCING, WORKZONE DELINEATION	PERIMETER PLUS X05650-001	CONWED PLASTICS 612/623-1700 GEOTEK 888/708-8835	03/10/11	3147	A	
00221.13	FENCING, WORKZONE DELINEATION	PERIMETER PLUS X05650-002	CONWED PLASTICS 612/623-1700 GEOTEK 888/708-8835	03/10/11	3306	A	
00221.13	FENCING, WORKZONE DELINEATION	PROTEX FENCE - 5F2048L-12P	NORPLEX 253/35-3431 ACF WEST 800/878-5115	03/10/11	4324	A	
00221.13	FENCING, WORKZONE DELINEATION	SAF-T-SNO	TENAX CORPORATION 800/874-7437 ACF WEST 800/878-5115 410/522-7000	04/12/07	3432	A	MEETS NEW SPECS.
00221.13	FENCING, WORKZONE DELINEATION	TENAX/ALPI SAFETY FENCE	TENAX CORPORATION 800/874-7437 DAVE WRIGHT 503/232-3480 WHITE CAP 503/287-4151 KODIAK SUPPLY 800/332-7452	12/14/06	22	A	PLASTIC FENCE. MUST HAVE ADEQUATE SUPPORTS. 410/522-7000
00221.13	FENCING, WORKZONE DELINEATION	WARNING BARRIER FENCE # 14993	MUTUAL INDUSTRIES 800/523-0888 215/927-6000	07/12/07	3441	A	
							

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QPL: Test Your Navigational Skills!							
Question 22-2: What products can be used for prefabricated check dams?							
✓ Page V 00280.15 (a) – Type 5							
✓ QPL Page 54 (4 products-, <u>Geobale</u> , <u>Geofilter</u> , <u>Geo-Ridge</u> , and <u>Triangular Silt Dike</u>)							
✓ List A							
ODOT CONSTRUCTION / MATERIALS SECTION QUALIFIED PRODUCTS LIST APPROVED LIST - NO SAMPLES OR TESTS REQUIRED** QUALIFIED LIST - ADDITIONAL REQUIREMENTS** JANUARY 2021 (AMENDED MARCH 8, 2021)				Page 54			
STANDARD SPEC #	CATEGORY	PRODUCT NAME	LOCAL REPRESENTATIVE AND/OR MANUFACTURER	EFFECTIVE DATE	PRODUCT NUMBER	LIST	REMARKS
00280.15A	CHECK DAM, TYPE 3	ULTRAP CHECK DAM	HIGHWAY FUEL 503/365-8444	12/10/20	5380	A	
00280.15A	CHECK DAM, TYPE 4	WOVEN POLYPROPYLENE SANDBAG MODEL PRE-HOFT-889	SACRAMENTO BAG CO 800/337-0247 BUSLAND EROSION CONTROL 800/550-3965	01/11/02	3439	A	NOT BIODEGRADABLE
00280.15A	CHECK DAM, TYPE 5	GEOBALE	GEORAY 884/473-7000	12/10/07	3579	A	NOT BIODEGRADABLE
00280.15A	CHECK DAM, TYPE 5	GEOFILTER	GEORAY 884/473-7000	12/10/07	3580	A	NOT BIODEGRADABLE
00280.15A	CHECK DAM, TYPE 5	GEORIDGE	NALEX 503/786-2088 ACF WEST 800/878-5115	04/14/08	2387	A	OK FOR REDUCING VELOCITIES, BUT NOT AS CHECK DAM ALONE. USE WITH A MATTING. NOT BIODEGRADABLE.
00280.15A	CHECK DAM, TYPE 5	TRIANGULAR SILT DIKE	TRIANGULAR SILT DIKE CO. INC. REP. JASON PUGH 405/741-7480 CO. 800/550/7480/550-3965	08/15/01	1392	A	GEOTEXTILE FABRIC AND URETHANE FOAM. NOT BIODEGRADABLE.
							

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Qualified Products List (QPL)**Class Example Problem 22-3**

Scenario: The Contractor on our project has delivered **Deltaline BTR non-reflective temporary removable tape** to our project for **temporary pavement markings**. Can we allow the Contractor to use the tape?



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Qualified Products List (QPL)**Class Example Problem 22-3****Answer:**

First, we need to find out what the specifications say about the materials the Contractor wants to use. Look in the index of the Standard Specifications under pavement markings, temporary. On index-page 20 we find temporary pavement markings, listed on Standard Specs-page 189.

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Qualified Products List (QPL)

Class Example Problem 22-3

Scenario: The Contractor has delivered **Deltaline BTR non-reflective temporary removable tape** to a project for **temporary pavement markings**. Can we allow the Contractor to use the tape?

Answer:

- On the **Standard Specs page 189**, we find that 225.11 Temporary Tape needs to be from the QPL.
- So now we need to look at the QPL. On **page III** of the index, we find **Tape, Temporary** in Specification 225.11 (good it matches).



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Qualified Products List (QPL)

Class Example Problem 22-3

Scenario: The Contractor has delivered **Deltaline BTR temporary non-reflective removable tape** to a project for temporary pavement markings. Can we allow the Contractor to use the tape?

Answer:

- Now we start in the **QPL** and look for Standard Specification 225.11 for Tape, non-reflective temporary, removable.
- Start on page 24, where tape, non-reflective starts and start looking for Deltaline BTR product.
- It is the fourth product listed (found near the bottom page 24)



22

Qualified Products List (QPL)

Class Example Problem 22-3

Scenario: The Contractor has delivered **Deltaline BTR temporary non-reflective removable tape** to a project for temporary pavement markings. Can we allow the Contractor to use the tape?

Page 25

ODOT CONSTRUCTION / MATERIALS SECTION
QUALIFIED PRODUCTS LIST
APPROVED LIST - NO SAMPLES OR TESTS REQUIRED*
QUALIFIED LIST - ADDITIONAL REQUIREMENTS**
JANUARY 2021 (AMENDED MARCH 8, 2021)

STANDARD SPEC #	CATEGORY	PRODUCT NAME	LOCAL REPRESENTATIVE AND/OR MANUFACTURER	EFFECTIVE DATE	PRODUCT NUMBER	LIST	REMARKS
00225.11	TAPE, NON-REFLECTIVE TEMPORARY, REMOVABLE	3-M A145 REMOVABLE BLACK TAPE	3-M COMPANY TSSD 800/553-1380 SCOTT ELLWOOD 503/309-9180	12/08/04	1411	A	BLACK REMOVABLE TAPE DOES NOT HAVE BEADS. SURFACE NEEDS TO BE CLEAN, DRY, AND WARM. CHECK MUTCD FOR APPLICABILITY.
00225.11	TAPE, NON-REFLECTIVE TEMPORARY, REMOVABLE	3-M SERIES 715 TEMPORARY TAPE	3-M COMPANY TSSD 800/553-1380 503/309-9180	07/20/12	4484	A	
00225.11	TAPE, NON-REFLECTIVE TEMPORARY, REMOVABLE	ATM 290	ADVANCED TRAFFIC MARKINGS 253/636-2574 ALPINE PRODUCTS 253/351-8628 RAELEEN LUCAS 862/739-8185	11/10/05	2799	A	BLACK NON-REFLECTIVE TAPE.
00225.11	TAPE, NON-REFLECTIVE TEMPORARY, REMOVABLE	<u>DELTALINE BTR</u>	BRITE-LINE TECH 888/375-1293 TAPE: GORDON SILL 720/473-0217 PAT DONNELLY: 918/891-1248	05/12/05	2838	A	BLACK NON-REFLECTIVE TAPE.

23

Qualified Products List (QPL)

Class Problems

Question 22-4: The Contractor is going to place White Method B, Sprayed Surface, Thermoplastic longitudinal pavement markings. How many manufacturers are available and what quality documentation is required?



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Qualified Products List (QPL)

<u>Description</u>	<u>Page #</u>
Index by Category, for Spec #.....	I-III
Traffic Control Devices.....	IV
Erosion Control Devices	V - VI
Pavement Markings	VII - VIII
Qualified & Approved List.....	1 – 211
by Spec Number	
Reinforcing Steel	A1-A17



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Qualified Products List (QPL)

Organization of QPL

▪ Pages VII-VIII – Pavement Markings

- We are looking for White Method B, Sprayed Surface, Thermoplastic

Page VI

Pavement Markings (1 of 2)

(Rev 7-19)

Longitudinal Durable Pavement Markings Section 00865.00

<u>Category</u>	<u>Applications</u>	<u>Material</u>
Method (A) Extruded	(S) Surface (P) Profile, 120 Mils w/ ½" bumps (G) Grooved (NP) Non-Profile	(1) Methyl Methacrylate (MMA) (2) Thermoplastic
Method (B) Sprayed	(S) Surface (P) Profile, 120 Mils w/ ½" bumps (G) Grooved (NP) Non-Profile	(1) Methyl Methacrylate (MMA) (2) Thermoplastic



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Qualified Products List (QPL)

Class Example Problem 22-4

Question: The Contractor is going to place Method B, Sprayed Surface, Thermoplastic white longitudinal pavement markings. How many manufacturers are available and what quality documentation is required?

- First, we need to find which specification this is under. **Page VII of QPL** shows Method B Thermoplastic in **00865.00**.
- Now check the QPL for products – Method B Thermoplastic starts on **page 110** (00865.00) – be sure to count only thermoplastic products.
- **Two manufacturers listed for white:** Alta, and Permaline.



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Qualified Products List (QPL)

Class Problem

Question 22-4: The Contractor is going to place Method B, Sprayed Surface, Thermoplastic white longitudinal pavement markings. How many products are available and what quality documentation is required?

- NFTMAG 00865 sends us to 00850 Page 51
- W, ~~P~~, M, F, QPL for pavement markers
- R, C, F, QPL for reflective elements



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INSERT TAB


Unit 23
MFTP


Unit 23

Manual of Field Test Procedures

MANUAL OF FIELD TEST PROCEDURES

The Oregon Department of Transportation






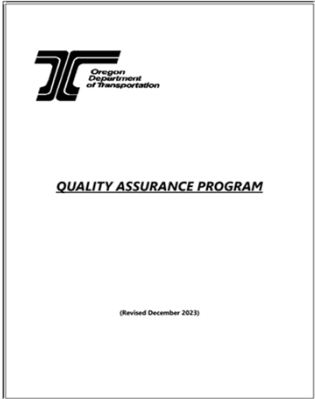
1

MANUAL OF FIELD TEST PROCEDURES


The Oregon Department of Transportation



Updated yearly
by ODOT Construction Section
Current Version in affect at time of advertisement



*The MFTP also contains
the Quality Assurance
Program guidelines*



2

Unit 23 Topics:

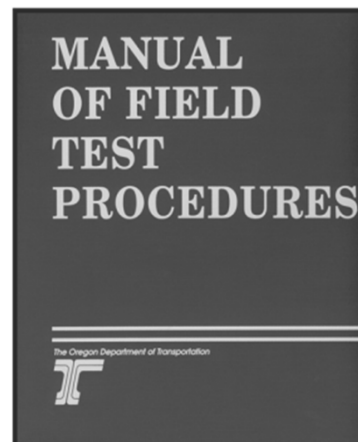
- Quality Assurance Program
- Small quantity acceptance guidelines (Section 4B)
- Field tested materials quality acceptance (Section 4D)



3

Manual of Field Test Procedures

- **Section 1:** Test Procedures
- **Section 2:** Quality Assurance Program
- **Section 3:** Report Forms
- **Section 4(D):** Field Tested Materials Acceptance Guide (in Resource Manual, Tab MFTP)

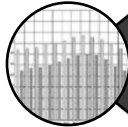


4

What is Quality Assurance?



Actions necessary to provide confidence that a product or service will satisfy given requirements for quality



Based on statistical acceptance and random sampling



Places responsibility on the Contractor for quality control in contracted work.



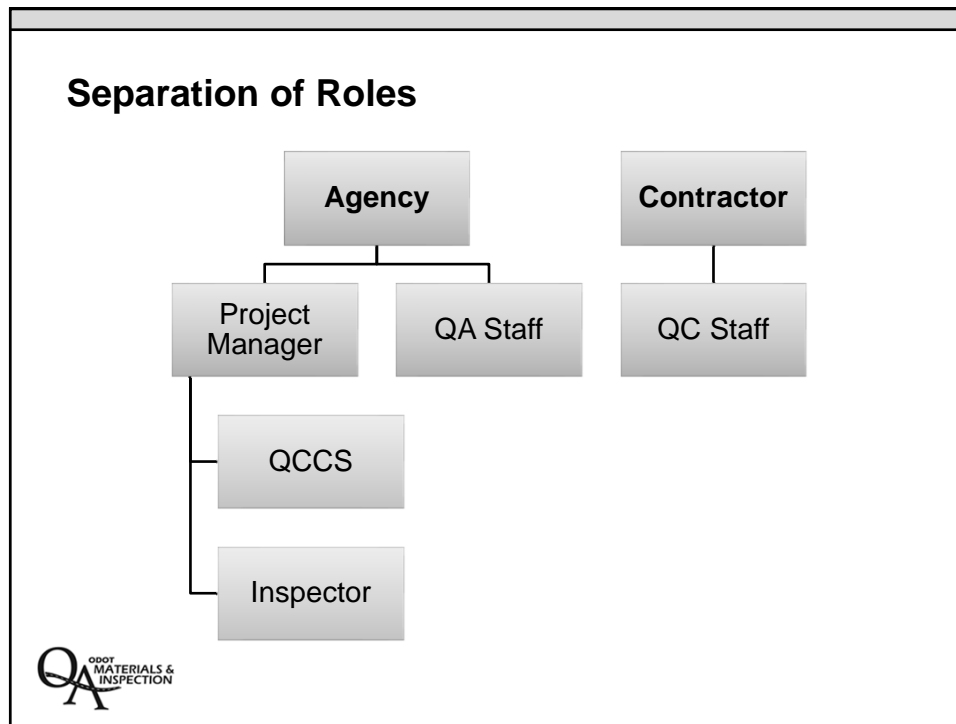
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Purpose of ODOT's Quality Assurance Program for Materials

- Ensure that quality materials are used in the construction of transportation facilities.
- Define the responsibilities of both the Agency and the Contractor in order to satisfy program requirements.



6



7

Roles & Responsibilities

Construction Contractor must:

- Follow ODOT's QA Program
- Provide written QC Plan to PM
- Furnish Materials/Products meeting specifications
- Provide certified labs and technicians






8

Roles & Responsibilities

PM / Consultant ensures that:

- Verify contractor QC personnel are properly certified
- Contractor performs, submits and documents all required testing.
- ODOT QCCS coordinates verification (QA) testing with ODOT Region Quality Assurance.



9

Field Tested Materials Small Quantity Guide Section 4B

ODOT Quality Assurance Program

Small Quantity Table

Section	Type of Material	Approximate Quantity
00330	Earthwork (Embankment)	500 yd ³
00330	Earthwork (Excavation)	500 yd ³
00390	RipRap	100 yd ³
00405	Ditch & Trench Excavation, Bedding and Backfill	50 yd ³
00440	Commercial Grade Concrete (Non-Structural Items)	50 yd ³
00495	Trench Resurfacing	500 Ton
00510	Structure Excavation and Backfill	500 Ton
0A596, 0B596 & 0C596	Retaining Walls	500 Ton
00641	Aggregate Sub-base, Base & Shoulders	2000 Ton
00680	Stockpiled Aggregate	2000 yd ³
00730	Asphalt Tack Coat	50 Ton
00735	Emulsified Asphalt Concrete Pavement (includes asphalt cement)	2500 Ton
00745	Asphalt Concrete Pavement (Statistical Acceptance) (ACP-each Level) (includes asphalt cement).	2500 Ton

Resource Manual, Tab
MFTP

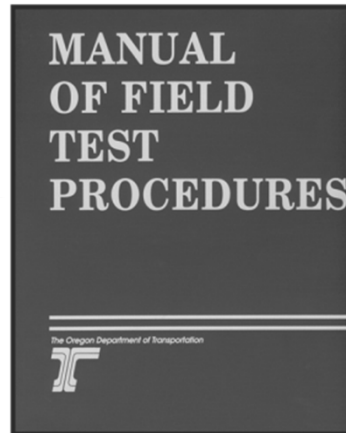


10

Manual of Field Test Procedures

Primary Resource for Field Tested Materials

Section 4(D)
Field Tested Materials
Acceptance Guide



Resource Manual, Tab
MFTP



11


Field Tested Materials Acceptance Guide

- **How to Use** – First Page
- **Definitions** – First and Second Page
- **Types of Tests** – Third Page


6. Visual...when stated in the contract, is a method generally used by the Project Inspector in lieu of normal sampling and testing of field-tested materials as defined in section 00165.00 of the Standard Specifications to document quality. Supporting documentation for visual acceptance is, at a minimum, a field inspection report (FIR). Example: Stone Embankment Gradation



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FIELD TESTED MATERIALS ACCEPTANCE GUIDE 					(Revised November 2023)		Same Frequency for all Tests (Minimums)			
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM 734-	QUALITY ASSURANCE				
		ODOT	WAQTC	AASHTO		Contractor Quality Control	Independent Assurance/Verification		Materials Laboratory	
							Project Manager	Region Quality	Assurance	
SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS										
Aggregate Production Aggregate Subbase Grading (See 00641.10(b))	Abrasion Sampling Aggregates Reducing Aggregates Sieve Analysis Un-Washed Sand Equivalent			T 96	4000	See Sec. 4A	Submit To Central Lab		See Section 4(A)	
				R 90 R 76 T 27		1/Project or 1/Source	Visual			
				T 176	1792					
Aggregate Base and Shoulders Grading Aggregate Base (See 02630) Aggregate Shoulder (See 02640) Open Graded Aggregate Base (See 02630.11) (¹) Perform at least 3 tests (²) May be waived by QAE	Abrasion Degradation Sampling Aggregates Reducing Aggregates (¹) Sieve Analysis Un-Washed (²) Sand Equivalent Fracture (Method 1)	TM 208		T 96	4000	See Section 4A	Submit to Lab		See Section 4A	
				A Sublot equals 2000 Tons						
				R 90 R 76 T 27		1/Sublot		1 per 10 Sublots		
				T 176	1792					
				T 335	1792	1/5 Sublots				
Placement Aggregate Base Plant Mix Applications Only Aggregate (Mixture) Establishing Maximum Density & Optimum Moisture (Mix Design) (²) Method A	Sampling Aggregates Reducing Aggregates Moisture Content of Aggregates & Soils Density Curve Agg. Base Coarse Particle Correction Specific Gravity of Coarse Aggregates	TM 223		R 90 R 76 T 255/265		1/Sublot or minimum 1/Day		1 per 10 Sublots		
				(²) T 99	3468 B	Each Size per Source				
				T 85	3468 B			1/Project		
				A Sublot equals 2000 Tons						
Compaction (²) (Individual tests must meet Specification)	Deflection Testing Nuclear Density of Soils/Aggregates	TM 158		T 310		A Compaction Sublot Equals 400 Tons				
				1793B	(²) 1 per Sublot		(²) 1 (5 Tests) per 50 Sublots (Minimum 5 tests)			

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FIELD TESTED MATERIALS ACCEPTANCE GUIDE 					(Revised November 2023)					Same Frequency for all Tests (Minimums)			
MATERIAL AND OPERATION	DESCRIPTION OF TEST	TEST METHOD			FORM 734-	QUALITY ASSURANCE							
		ODOT	WAQTC	AASHTO		Contractor Quality Control	Independent Assurance/Verification						
							Project Manager	Region Quality Assurance	Materials Laboratory				
SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS (Continued)													
Placement													
Aggregate Subbase													
Compaction	Deflection Testing	TM 158			1793 B	1 per Layer	Visual						

14

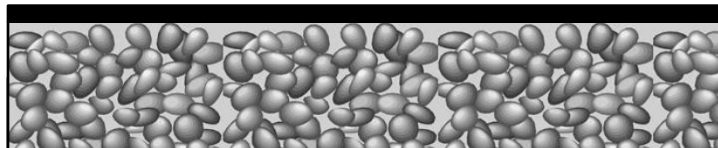
MFTP – Section 4(D)

Example 1



Building a road:

- 3,000 square yards of subgrade stabilization
- Place 10,000 tons aggregate base
- Place 3,000 tons Asphalt Concrete Pavement (ACP)



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MFTP – Section 4(D)

Example 1

Building a road:

- 3,000 square yards of subgrade stabilization
- Place 10,000 tons aggregate base
- Place 3,000 tons ACP

A	B	C	D	E	F	G	H	I
Material and Quantity	Activity	Specification Section and MFTP Sect. 4D	Sublot Size	CONTRACTOR Quality Control, tests per sublot	CONTRACTOR Required Quality Control Sublots	CONTRACTOR Required Quality Control Tests	ODOT Independent Assurance, Verification (10% of QC)	ODOT Required Quality Assurance tests
3000 sqyds Subgrade Stabilization	Compaction of Subgrade Stabilization	00331 Pg 2 of MFTP						



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MFTP – Section 4(D)**Example 1****Building a road:**

- 3,000 square yards of subgrade stabilization
- Place 10,000 tons aggregate base
- Place 3,000 tons ACP

A	B	C	D	E	F	G	H	I
				CONTRACTOR	CONTRACTOR	CONTRACTOR	ODOT	ODOT
Material and Quantity	Activity	Specification Section and MFTP Sect. 4D	Sublot Size	Quality Control, tests per sublot	Required Quality Control Sublots	Required Quality Control Tests	Independent Assurance, Verification (10% of QC)	Required Quality Assurance tests
10,000 tons Aggregate Base	Compaction of Aggregate Base (T310)	00641 Pg 37 of MFTP						



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MFTP – Section 4(D)**Example 1****Building a road:**

- 3,000 square yards of subgrade stabilization
- Place 10,000 tons aggregate base
- Place 3,000 tons ACP

A	B	C	D	E	F	G	H	I
				CONTRACTOR	CONTRACTOR	CONTRACTOR	ODOT	ODOT
Material and Quantity	Activity	Specification Section and MFTP Sect. 4D	Sublot Size	Quality Control, tests per sublot	Required Quality Control Sublots	Required Quality Control Tests	Independent Assurance, Verification (10% of QC)	Required Quality Assurance tests
3000 tons ACP without RAP Dense Graded)	Compaction of ACP (T355)	00745 Pg 58 of MFTP						



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MFTP – Section 4(D)**Example 1 – Answers**

A	B	C	D	E	F	G	H	I
				CONTRACTOR	CONTRACTOR	CONTRACTOR	ODOT	ODOT
Material and Quantity	Activity	Specification Section and MFTP Sect. 4D	Sublot Size	Quality Control, tests per sublot	Required Quality Control Sublots	Required Quality Control Tests	Independent Assurance, Verification (10% of QC)	Required Quality Assurance tests
3000 sqyds Subgrade Stabilization	Compaction of Subgrade Stabilization	00331 Pg 2 of MFTP	Visual				N/A	N/A
10,000 tons Aggregate Base	Compaction of Aggregate Base (T310)	00641 Pg 37 of MFTP	2000 tons	5 tests per sublot	5	25	1	5
3000 tons ACP without RAP (Dense Graded)	Compaction of ACP (T355)	00745 Pg 58 of MFTP	1000 tons	5 tests per sublot (Report Average of 5 tests)	3	15	1	5
					A / D	E x F	F x .10	H x E



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MFTP – Section 4(D)**Example 2 – Answers**

A	B	C	D	E	F	G	H	I
				CONTRACTOR	CONTRACTOR	CONTRACTOR	ODOT	ODOT
Material and Quantity	Activity	Specification Section and MFTP Sect. 4D	Sublot Size	Quality Control, tests per sublot	Required Quality Control Sublots	Required Quality Control Tests	Independent Assurance, Verification (10% of QC)	Required Quality Assurance tests
6000 sqyds Subgrade Stabilization	Compaction of Subgrade Stabilization	00331 Pg 2 of MFTP						
30,000 tons Aggregate Base	Compaction of Aggregate Base (T310)	00641 Pg 37 of MFTP						
6000 tons ACP without RAP (Dense Graded)	Compaction of ACP (T355)	00745 Pg 58 of MFTP						
					A / D	E x F	F x .10	H x E



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Key Inspection Points

- Small quantity acceptance still needs proper quality documentation
- Keep track of what type and quantity of field-tested materials being delivered
- Communicate with QCCS or someone tracking testing
- Check in with technicians
- Understand scope and role of visual acceptance
- Do not accept failing tests



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Unit 23 Review:

- ✓Quality Assurance Program
- ✓Field tested materials quality acceptance (Section 4D)
- ✓Product Compliance requirements
- ✓Small quantity acceptance guidelines (Section 4B)



22

Class Problem, 23-1

The contractor placed 330 cubic yards of Class 4000 Portland cement concrete (PCC) structural concrete in a single day. The Contractor's quality control technician must perform a minimum of _____ strength tests (AASHTO T22 & T23).

- A. 1
- B. 2
- C. 3
- D. 4



INSERT TAB

Unit 24
Dailies

General Daily Progress Report

FFO - US20 PME: UPRR - EDDYVILLE

31-Jul-14

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

NONE

Project Visitors

Photo(s) ☐ Yes ☒ No

N/A

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

Eddy B: Scarsella placed and compacted buttress fill between stations 872+00 to 870+50, approximately 200' to 450' left of centerline, at an elevation of 349'. Roughly 1' of fill was placed in the north half and compacted in the buttress with a minimum of four coverages by the sheepsfoot roller. The roller was breaking up rocks in excess of the 15" maximum diameter. The fill was coming from Fill 6. The round trips were averaging 5 to 10 minutes for the scrapers to place fill in this area today.

The contractor was compacting three 1' thick lifts, in the 200' long section of embankment fill inside the roadway prism. The fill material was coming from Fill 6. The material was compacted with two sheepsfoot rollers as the scrapers were unloading in this area. PSI was on site to observe deflection testing of each lift and to perform a density test at the end of the day.

They were also placing CLSM, supplied by Knife River, over the EB-E horizontal drain collection systems. They placed 2 loads, 20 cubic yards, of the concrete at the collection system. This will complete the burying of this system.

They placed a layer of riprap geotextile fabric, type 3, into the riprap channel EBF6. The fabric was lapped over 2' in each direction. A total of 102.7 sq. yds. of fabric was placed today in Eddy B.

The contractor was working on constructing the splash pad and riprap channel for EBF6. Once the fabric was laid on the surface, the contractor started building the splash pad. A layer of Buttress Rock (6" - 1") was laid on the fabric, class 700 riprap was placed in two lifts and then select general backfill was used to fill in the gaps. The contractor then began working on the riprap channel. The channel was laid out per an email sent by Derryl James with ODOT today regarding slope ditch sizes. The contractor excavated the ditch 13' wide at the bottom and 19' wide at the top. They will resume working on this ditch excavation tomorrow.

Eddy A: Scarsella placed and compacted buttress fill outside the roadway prism between stations 866+00 and 868+00, 350' to 550' left of centerline, at an elevation of approximately 333' to 334'. Roughly 1' of fill was placed in the north half and compacted by at least four passes of the sheepsfoot roller. The roller was breaking up rocks in excess of the 15" maximum diameter. The fill was coming from Fill 6. The round trips were averaging 5 to 10 minutes for the scrapers to place fill in this area today.

The contractor was clearing and grubbing the south and west face of Eddy A. Buttress Rock (6" - 1") was being placed over a bottom layer of fabric to create the blanket drain. The contractor was using stakes to verify that the correct depth was achieved.

General Daily Progress Report PHOTOGRAPHS

FFO - US20 PME: UPRR - EDDYVILLE

31-Jul-14

† Name (Section)

Work Date



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

1

Photo #

Eddy B: Placing CLSM at horizontal drain EB-E, looking north

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

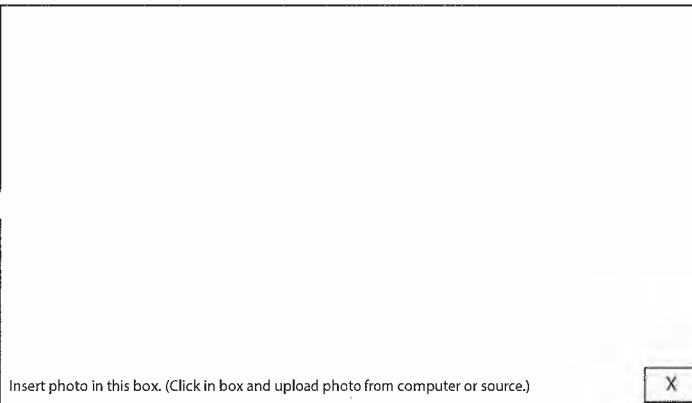
X

2

Photo #

Eddy B: Riprap channel EBF6 and splash pad, looking north

Brief Description

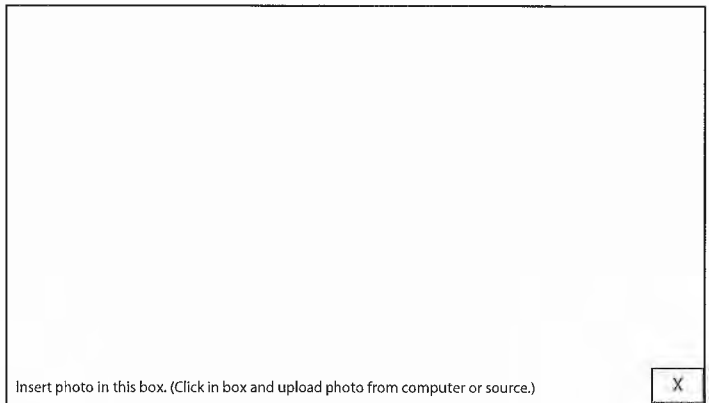


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X

Photo #

Brief Description

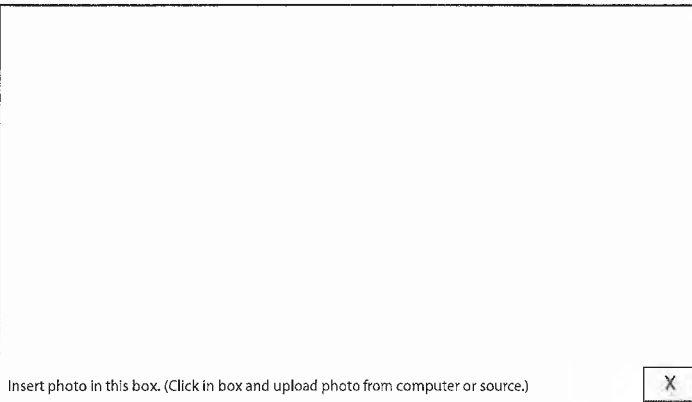


Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Photo #

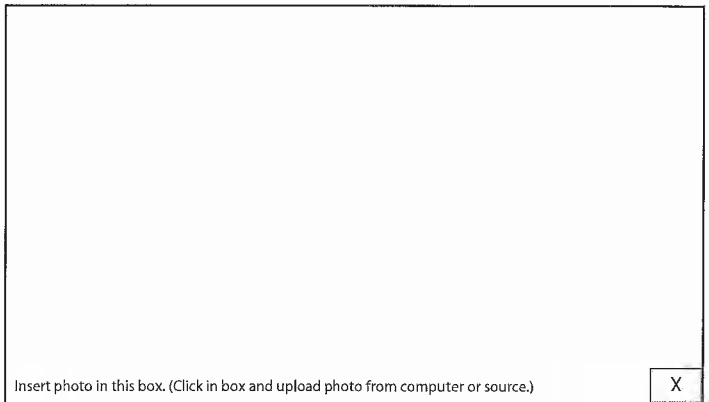
Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Photo #

Brief Description

General Daily Progress Report

FFO-US20 PME: UPRR-EDDYVILLE (PHASE3)

31-Jul-14

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

none

Project Visitors

Photo(s) ☐ Yes ☒ No

none

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

Scarsella continued embankment in Cougar Creek, with a labor crew putting up drain fabric. The PC270 was replaced by the PC600 at 8:05am to load the haul trucks. The fabric crew arrived at 7:55am with the loader and a truck to cover the drain rock on the slopes above the "M5". They worked until 1:05p, left, and then came back later in the afternoon for less than an hour to finish up.

The average haul truck time in the morning was 5:35. The dozer operator continued building a ramp from the "M5" alignment to the rocky area built up last year so they can establish a circular pattern for haul trucks. They have compacted the ramp except for a berm at the edge which they plan to scrape off and use to fill in low spots.

A supervisor (Jim) came on site at 11am. They used the PC270 and the dozer to haul out some trees that had been stacked up after clearing & grubbing. In the process they pulled up a conduit that had been buried and two sections were disconnected. It didn't look like any of the cable inside was damaged, but Cornforth will check the instrument and should know tomorrow morning.

An additional haul truck arrived at 11:45a but was only used for a short while before they went back to two. One of the tracks on the PC270 came off around the same time. Scarsella maintenance worked on it through lunch and they had it back on by ~12:45p. The surveyor arrived at 11:45a to set stakes along the top of the rock buttress above the "M5". He was present for two hours at most.

I talked to the dozer operator about covering the exposed conduit on the SW side of the "M5" with filter rock. He is aware that it needs to be covered.

General Daily Progress Report PHOTOGRAPHS

FFO-US20 PME: UPRR-EDDYVILLE (PHASE3)

31-Jul-14

Name (Section)

Work Date



Insert photo in this box. (Click in box and upload photo from computer or source.)

X



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Photo #

Truck loading area

Brief Description

Photo #

Ramp built from "M5" area into roadway prism

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Photo #

Removing trees

Brief Description

Photo #

Separated conduit

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Separated conduit

Brief Description

Photo #

Conduit bent but not broken

Brief Description

General Daily Progress Report PHOTOGRAPHS

FFO-US20 PME: UPRR-EDDYVILLE (PHASE3)

Project Name (Section)

31-Jul-14

Work Date



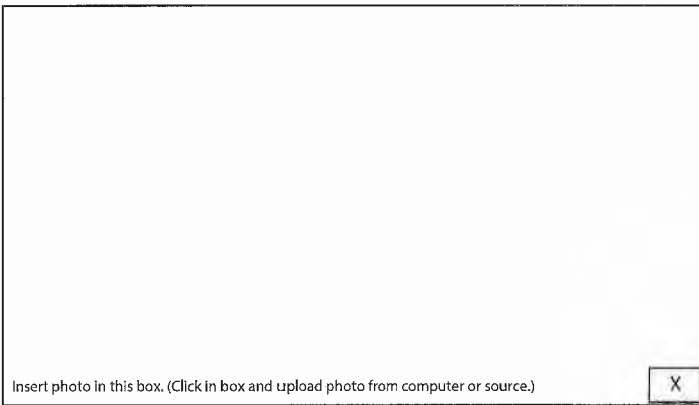
Insert photo in this box. (Click in box and upload photo from computer or source.)



Photo #

Track off of excavator

Brief Description

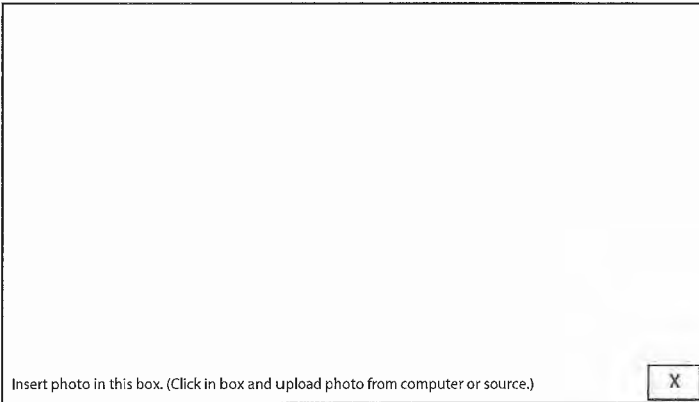


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Photo #

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)



Photo #

Brief Description



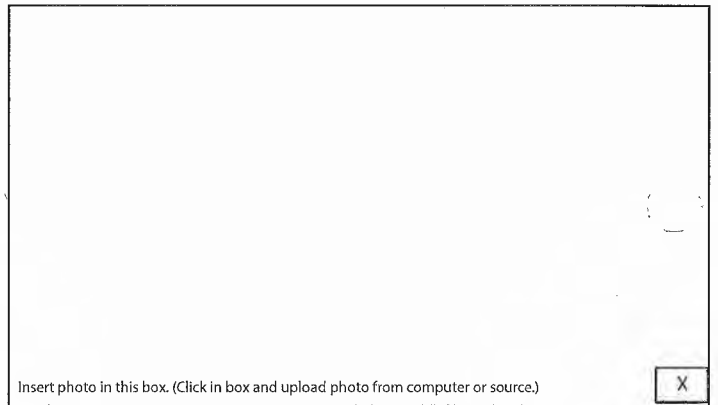
Insert photo in this box. (Click in box and upload photo from computer or source.)



Photo #

Blanket drain completion

Brief Description

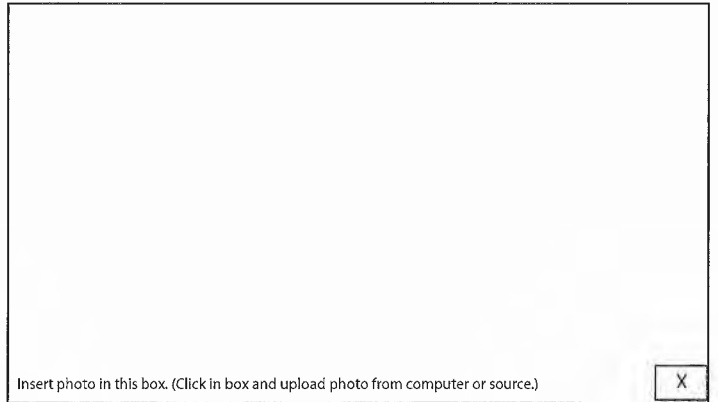


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Photo #

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)



Photo #

Brief Description

General Daily Progress Report

FFO-US20 PME: UPRR - EDDYVILLE (PHASE 3)

8-21-14

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

none

Project Visitors

Photo(s) ☐ Yes ☒ No

none

Remarks

Photo(s) ☐ Yes ☒ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

10:00 am- Arrived at Crystal to help Kim/ODOT surveyor with the work in Crystal. Samone' and Andrea also present. 11:30 am- Took over inspection duties for Bill R. See Bill's daily report for information. Volvo truck hauling 1" minus and 6"-1" drain rock for placement. 1:00 pm- Laborer's install drain blankets on the NWesterly slope in the geogrid area approx. station 831+00 to 833+00 +/- and excavator places 6"-1" rock with blankets. 3:00 pm- PSI takes tests at Crystal roadway prism for 364' - 365' elevation and crew is working on the 365' - 366' grade now. They also placed embankment in the buttress approx. sta. 834+50 to 837+00 +/- and in the NE corner by the drainage ditch. 4:30 pm- Inspector had grade checker place grade stakes for the 12" lift for the night shift. Inspector talked with Ray/Scarsella about lift thickness and will get a better handle on it tonight. 5:15 pm- Crew is finished for the day and crew bus is picking up workers. 6:00 pm- The night crew will work in Crystal hauling from cut 5 and start in the roadway prism continuing with the day shifts lift. Crew is also filling the NE corner of the buttress back by the drainage ditch. 6:15 pm- First truck load arrives in Crystal. Ray will start off with 4 haul trucks and add a fifth when the water truck driver is finished. Ray had talk with his dozer operator and the lift will match the grade stakes set by the Dennis/Scarsella grade checker. 10:40 pm- Inspector leaves job site. Anthony will remain until shift ends. See his daily report for information. Most of the embankment was in the roadway prism but a little on swing shift went into the buttress. PSI should test the roadway prism before placing the next lift.

General Daily Progress Report PHOTOGRAPHS

FFO-US20 PME: UPRR - EDDYVILLE (PHASE 3)

8-21-14

Project Name (Section)

Work Date



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

1

Photo #

drain rock and blankets crystal 831+00 area

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

2

Photo #

Crystal

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

3

Photo #

grade stakes set for the night shift

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

4

Photo #

grade stakes set for the night shift

Brief Description

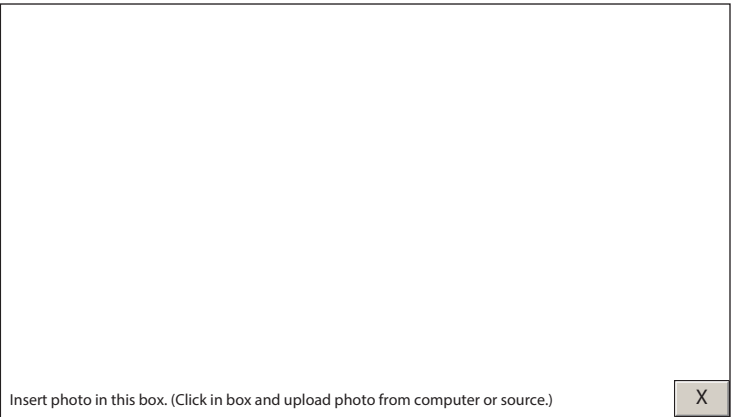


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X

Photo #

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

Photo #

Brief Description



FFO-US20 PME: UPRR - EDDYVILLE (PHASE 3)

14670

Project Name (Section)

Contract No. _____

CORVALLIS-NEWPORT HWY

NHPP-S033 (049)

Highway

Federal Aid No. _____

SCARSELLA BROS. INC.

RAY HENDRICKS

Supervisor Present? ☒ Yes ☐ No

Contractor / Subcontractor

On-Site Supervisor

Weather

Clear <input checked="" type="checkbox"/>	Fair <input checked="" type="checkbox"/>	Cloudy <input type="checkbox"/>	Shower <input type="checkbox"/>	Rain <input type="checkbox"/>	Snow <input type="checkbox"/>
TEMP	10-32 <input type="checkbox"/>	32-50 <input type="checkbox"/>	50-70 <input checked="" type="checkbox"/>	70-83 <input type="checkbox"/>	Over 83 <input type="checkbox"/>
WIND		Still <input type="checkbox"/>	Low <input checked="" type="checkbox"/>	Med <input type="checkbox"/>	High <input type="checkbox"/>
HUMIDITY		Dry <input type="checkbox"/>	Low <input checked="" type="checkbox"/>	Med <input type="checkbox"/>	High <input type="checkbox"/>

Number of Personnel and Major Equipment

The first four columns are fixed and cannot be changed. In each of the remaining columns, please enter a heading specific to your job (e.g., Trainees, Backhoe, Flaggers) and record the numbers used by each contractor or sub.

Contractor/Subcontractor	Hours
SCARSELLA 6:00pm-1:00am	
Crystal	

[illegible]

Location	and/or Description of Work
Crystal	embankment from cut 5

[illegible]

Temporary Traffic Control

Photo(s) ☐ Yes ☐ No

All traffic control items have been inspected and found to be satisfactory ☐ Yes ☐ No (if no, explain below)

no traffic control devices

Equipment

Photo(s) ☐ Yes ☒ No

night crew had 5 trucks, 3 dozers, 1 sheeps foot roller, 1 water truck, 1 grader and night lights at Crystal
1 extra excavator breaking rock at cut 6 and 1 excavator loading haul trucks at cut 5 and 1 extra dozer helping at cut 5

Effects on Work (weather, accidents, breakdowns, delays, personnel, etc.)

Photo(s) ☐ Yes ☒ No

night shift started at 6 pm and will work in Crystal crew will work in the roadway prism farming a soft spot rejected by PSI and in the buttress in the N & NE corner

Bart Rummell

43572

Prepared by

Cert No.

Signature

Swing

☐ Sunday ☐ Monday ☐ Tuesday ☒ Wednesday ☐ Thursday ☐ Friday ☐ Saturday 8-27-14

Shift

Work Date

General Daily Progress Report

FFO-US20 PME: UPRR - EDDYVILLE (PHASE 3)

8-27-14

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

none

Project Visitors

Photo(s) ☐ Yes ☒ No

none

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

3:45 pm- Arrived on site at Crystal to discuss the work schedule with Josh and Samone and the soft spot in the grade.

5:00 pm-PSI rejected an area due to excessive deflection and had talked with Scarsella about farming the area and placing rock to bridge the grade and then testing the soft spot tomorrow first thing (approx. sta. 836+50 to 837+50, from centerline and then right to the haul road). See Samone's daily report for information.

6:00 pm- Inspector talked with Ray about the soft spot in the grade and he will have a dozer and excavator remove and farm that area tonight, and place better material in its place. The night crew will work in Crystal hauling from cut 5 and start off placing material in the buttress and work towards the roadway prism once the soft spot is farmed. PSI had also informed Inspector of passing deflection tests from 832+00 to 835+50 and was okay to place another lift over the grade. From 835+00 to 837+50 the roadway prism will need testing in the morning before placing next lift.

6:15 pm- First truck load arrives in Crystal. The embankment crew started using a dozer in both areas. One in the buttress and one in the prism regrading the soft spot.

9:00 pm- Extra dozer is finished with the soft spot farming material and now will work compaction in the buttress.

12:00 am- Crew breaks for lunch.

12:30 am- Crew will haul material to the buttress until it changes for drier and rockier embankment material.

1:00 am- Inspector leaves job site. Anthony will remain until shift ends. See his daily report for information. Most of the embankment was in the roadway prism and PSI should test the roadway prism before placing the next lift. Working grade elevation in Crystal at approx 371'-372' +/- . The buttress grade elev. approx 372'-373'

Note: The lift covering approx. sta. 835+50 - 837+50 along with the soft spot referring to above, should be tested before placing next lift.

General Daily Progress Report PHOTOGRAPHS

FFO-US20 PME: UPRR - EDDYVILLE (PHASE 3)

8-27-14

Project Name (Section)

Work Date



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

1

Photo #

Crystal: looking North from 835+50 rt side

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

3

Photo #

Crystal: centerline right sta: 836+50 to 837+50

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

5

Photo #

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

2

Photo #

Crystal: looking South from centerline sta: 836+50 to 837+50 soft spot being farmed

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

4

Photo #

Crystal: looking South at soft spot and already tested area in panoramic view

Brief Description



Insert photo in this box. (Click in box and upload photo from computer or source.)

X

6

Photo #

Brief Description



GENERAL DAILY PROGRESS REPORT

PROJECT NAME (SECTION) US 20 PME: UPRR- Eddyville (phase 3)		CONTRACT NO. 14670
HIGHWAY Corvallis-Newport		FEDERAL AID NO. NHPP-S033(049)
CONTRACTOR OR SUBCONTRACTOR Scarsella Bros. Inc		

WEATHER						NUMBER OF PERSONNEL AND MAJOR EQUIPMENT																							
CLEAR	FAIR	CLOUDY	SHOWER	RAIN	SNOW	SUPERVISORS	OPERATORS	TRUCK DRIVERS	LABORERS	Mechanic	TRAINEES	FLAGGER	PILOT CAR	Vac truck	BACK HOE	BLADE	COMPACTOR	COMPRESSOR	CRANE	DISTRIBUTOR	DOZER	LOADER	PAVER	ROLLER	SCRAPPER	TRUCK (DUMP)	TRUCK (PICKUP)	TRUCK (WATER)	
TEMP	10-32	32-50	50-70	70-83	OVER 83																								
WIND	STILL	LOW	MED	HIGH																									
HUMIDITY	DRY	LOW	MED	HIGH																									
CONTRACTOR/SUBCONTRACTOR						HOURS																							
Scarsella Bros. Inc						8				1	1																		
American Rooter						6		1							1														
H&H Flagging						4.5						2																	
LOCATION						AND/OR	DESCRIPTION OF WORK						ESTIMATED QUANTITIES																
													ITEM NO.		THIS DATE		TOTAL												
east and west end							Temp sign installation						50																

REMARKS: Include condition of traffic control and roadway; important discussions with contractor; rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

Scarsella installed the temporary signs for the project on the east and west end of the project. They used flaggers for a few locations and a vacuum truck to excavate the holes for the sign posts.

PREPARED BY:	CERT NO.	SIGNATURE:	SHIFT	S	M	T	W	T	F	S	WORK DATE
			d				x				5/21/2014

USE BACK FOR ADDITIONAL REMARKS - SEE BACK ☐

GENERAL DAILY PROGRESS REPORT PAGE 2

PROJECT NAME (SECTION)	WORK DATE
US 20 PME: UPRR- Eddyville (phase 3)	5/21/2014

REMARKS CONTINUED

1. The first step in the process of identifying a problem is to recognize that a problem exists. This is often done by comparing current performance with a desired state or goal. If there is a discrepancy, a problem is identified. For example, if a company's sales are declining while its expenses are increasing, this indicates a problem that needs to be addressed.

TRAFFIC CONTROL (TP & DT)

TRAFFIC CONTROL (TP & DT) ☐ YES ☐ NO, IF NO EXPLAIN BELOW

ALL TP & DT ITEMS HAVE BEEN INSPECTED AND FOUND TO BE SATISFACTORY

2 flaggers for traffic control.

MATERIALS REJECTED

[illegible]

EQUIPMENT

[illegible]

EFFECTS ON WORK (WEATHER, ACCIDENTS, BREAKDOWNS, DELAYS, PERSONNEL, ETC.)

--

PROJECT VISITORS

[illegible]



GENERAL DAILY PROGRESS REPORT

PROJECT NAME (SECTION) I-5 @ Coburg Intchg	CONTRACT NO. 14476
HIGHWAY Pac Hwy	FEDERAL AID NO.
CONTRACTOR OR SUBCONTRACTOR Scarsella Bros. Inc	

WEATHER						NUMBER OF PERSONNEL AND MAJOR EQUIPMENT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
CLEAR	FAIR	CLOUDY	SHOWER	RAIN	SNOW	SUPERVISORS	OPERATORS	TRUCK DRIVERS	LABORERS		TRAINEES	FLAGGER	PILOT CAR		Mini Exavator	BACK HOE	BLADE	COMPACTOR	COMPRESSOR	CRANE	DISTRIBUTOR	DOZER	LOADER	PAVER	ROLLER	SCRAPPER	TRUCK (DUMP)	TRUCK (PICKUP)	TRUCK (WATER)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

LOCATION	AND/OR	DESCRIPTION OF WORK	ESTIMATED QUANTITIES		
			ITEM NO.	THIS DATE	TOTAL
		Punch list items			

REMARKS: Include condition of traffic control and roadway; important discussions with contractor; rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

Wildish perform extra work: Rock filter basins in veg swale at pipe ends.
General clean-up.
Peter Setara says they are done with punch list.

PREPARED BY:	CERT NO.	SIGNATURE:	SHIFT	S	M	T	W	T	F	S	WORK DATE
			d				x				6/26/2013

USE BACK FOR ADDITIONAL REMARKS - SEE BACK ☐

GENERAL DAILY PROGRESS REPORT PAGE 2

PROJECT NAME (SECTION)	WORK DATE
I-5 @ Coburg Intchg	6/26/2013

REMARKS CONTINUED

This image shows a completely blank white rectangular area enclosed within a thin black border. There are no markings, text, or illustrations present on the page.

TRAFFIC CONTROL (TP & DT) ☒ YES ☐ NO, IF NO EXPLAIN BELOW

MATERIALS REJECTED

EQUIPMENT

--

EFFECTS ON WORK (WEATHER, ACCIDENTS, BREAKDOWNS, DELAYS, PERSONNEL, ETC.)

PROJECT VISITORS

--



General Daily Progress Report

Project Information

I-5: EXIT 61 (LOUSE CREEK) INTERCHANGE IMPROVEMENTS

14785

Project Name (Section)

Contract No.

PACIFIC HIGHWAY

NHPP-S001(456)

Highway

Federal Aid No.

JRT CONSTRUCTION

TJ Thayer

Supervisor Present? ☒ Yes ☐ No

Contractor / Subcontractor

On-Site Supervisor

Weather

Clear	<input type="checkbox"/>	Fair	<input checked="" type="checkbox"/>	Cloudy	<input type="checkbox"/>	Shower	<input type="checkbox"/>	Rain	<input type="checkbox"/>	Snow	<input type="checkbox"/>
TEMP	10-32	32-50	50-70	70-83	Over 83						
WIND	Still	Low	Med	High							
HUMIDITY	Dry	Low	Med	High							

Number of Personnel and Major Equipment

The first four columns are fixed and cannot be changed. In each of the remaining columns, please enter a heading specific to your job (e.g., Trainees, Backhoe, Flagger) and record the numbers used by each contractor or sub.

Contractor/Subcontractor	Hours	Supervisors	Operators	Truck Drivers	Laborers	Flagger	Pickups	CAT 420D Backhoe	Drill Rig/Auger	Komatsu 200 Excavator	CAT 143H Grader	CAT D5G LGP Dozer	BOMAG Roller	John Deere Dozer	Genie TML-4000N	Guardrail Punch	Dump Truck-own/op	Water Truck	Gradall	Roller	Sweeper	Stripe removal truck	highway striper	surveyor	walk behind saw	technician
JRT CONSTRUCTION	10	1	2		2	4	2	1		1			1				3	1	1							
Pariani Land Surveying	2						2																	2		

Location	and/or Description of Work
Highland, C, D	Flaggers
C line drainage	Survey
D34+50	18in culvert pipe
D34+50	18in sloped ends

Estimated Quantities		
Item No.	This Date	Total
130	~40hrs	
220	LS	
310	~83ft	
350	2ea	

Temporary Traffic Control

Photo(s) ☐ Yes ☒ No

All traffic control items have been inspected and found to be satisfactory ☐ Yes ☒ No (if no, explain below)

Stage I work in progress. Minor corrections required of several reviewed items

Equipment

Photo(s) ☐ Yes ☒ No

n/a

Effects on Work (weather, accidents, breakdowns, delays, personnel, etc.)

Photo(s) ☐ Yes ☒ No

n/a

John Mills-Price

40557

Prepared by

Cert No.

Signature

Day

☐ Sunday ☐ Monday ☐ Tuesday ☒ Wednesday ☐ Thursday ☐ Friday ☐ Saturday 06-May-15

Shift

Work Date

21

General Daily Progress Report

I-5: EXIT 61 (LOUSE CREEK) INTERCHANGE IMPROVEMENTS

06-May-15

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

verbal rejection yesterday and today of BI420 trench resurfacing (~19sy) as work would not require resurface if performed per staging during the ramp closure

Project Visitors

Photo(s) ☐ Yes ☒ No

Century Link and hired subcontractors were on site to look at communications and perform work.

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

Pariani-survey drainage items along C line

JRT Construction- flag traffic, traffic control, pipe placement. Discussed with TJ erosion protection D/C/Highland intersection areas, extra work to proceed as appears old bridge columns conflict with new storm pipe on C line--to use equipment as discussed--CCO 1 lump sum items and breakdown for several items discussed, April pay estimate reviewed briefly.

General Daily Progress Report

I-5: EXIT 61 (LOUSE CREEK) INTERCHANGE IMPROVEMENTS

22-May-15

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

n/a

Project Visitors

Photo(s) ☐ Yes ☒ No

n/a

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

JRT Construction-traffic control items. Discussed with TJ schedule and staging, stripe layout adjustments.

Hicks-stripe D and C lines

Pariani-survey

Century Link subcontractor on site performing utility work for splice new line.

General Daily Progress Report

I-5: EXIT 61 (LOUSE CREEK) INTERCHANGE IMPROVEMENTS

09-Jun-15

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

n/a

Project Visitors

Photo(s) ☐ Yes ☒ No

n/a

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

weekly meeting held today, see file for more information

JRT Construction- flagging, general excavation, pipe installation, subgrade density testing. Discussed with TJ to keep debris off roadway, signal at Monument for next stage starting next week per schedule, ACP payment, aerate subgrade soil and procedure expectations. Bridge footings removal to 1ft below grade, worked 1/4hr today prior to breakdown.

embankment today on C line 13+50 to 14, with approximate total 30cy

telecom/fiber utility work at C line

General Daily Progress Report

I-5: EXIT 61 (LOUSE CREEK) INTERCHANGE IMPROVEMENTS

04-Aug-15

Project Name (Section)

Work Date

Materials Rejected

Photo(s) ☐ Yes ☒ No

n/a

Project Visitors

Photo(s) ☐ Yes ☒ No

n/a

Remarks

Photo(s) ☒ Yes ☐ No

Include condition of traffic control and roadway; important discussions with contractors regarding rejected work or materials and reasons; delays, difficulties, accidents, utility damage and other unusual conditions and events; arrivals and departures of major equipment, visitors.

Noted light to medium smoke in atmosphere blocking sun late morning to afternoon, but visibility of intersections and workers not affected in work areas. Weekly meeting held today, see file for more information.

ODOT Maint. Electricians Curt & Dave located what should be the JB location at south side of Monument to Merlin near crossing island. Will return tomorrow to locate the north side JB location.

JRT Construction- biopond place porous pavers, clean up grading various locations, excavation and backfill for signal work at C13-14 area, aggregate grading. Discuss with TJ porous pavers quantity shown for item does not cover entire pond and to avoid damage and more labor for paver placement, left in placement with approximately 13ft short of end with drain. Also discuss JB and electrical options at Monument signal--will track time for excavation to find JB if this is extra work.

PEC- foundation prep shaft tops for concrete tops, forming for JB aprons, place concrete at cabinet/BMC walk-JB aprons-pole foundation tops of #6, #7, and #13.