# PROVISION WRITERS' GUIDE

2012 Edition

Last Revision Date: 3-15-13

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## Overview

This guide was originally developed by Norma Smith in the *NCDOT Specifications Primer* in July 2008. The intent is to give a simple set of rules so revisions are clear, precise and consistent.

This publication is revised as needed in order to continue to be a dynamic resource. If you have suggestions, please send them to *specs@ncdot.gov*.

*There are no words that can substitute for engineering judgment or just good old common sense. That must be supplied by the writer!*

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## Follow the 5 C's

Provision writing can be challenging because of the strict language and format required. This guide is designed to simplify the process and help provide a means for making concise, clear, complete, correct and consistent provisions. Use the 5 C's of provision writing to make your provision writing experience successful.

### *Concise*

Use simple words and try to keep sentences to 25 words or less. Try to limit paragraphs to 5 sentences or less. Limit each sentence to one thought and each paragraph to one topic.

### *Clear*

Avoid words or sentences that can be interpreted in more than one way. For example, words like "accurate," "clean," "reasonable," and "sufficient" can mean different things to different people. Avoid using "and/or." Instead of "A and/or B," use "either A or B, or both." Avoid repeating requirements or providing reasons to back up a requirement. Do not restate any information found in the plans.

### *Complete*

Use the standard specification format:

#### Description

A short and concise statement of the work required.

#### Materials

A list of the materials required to complete the work.

#### Construction Methods

A description of the requirements for completion and acceptance of the work.

#### Measurement and Payment

A description of the procedures used to measure the pay items. Include units of measurement, how items will be measured (plan quantity, placed, etc.), and measurement factors such as temperature, waste, spillage, etc. A definition of pay items needed to complete the work. Include incidental items.

### *Correct*

Thoroughly research information to be sure that it is correct. Make sure references are correct and up-to-date. Make sure spelling, grammar and punctuation are correct.

### *Consistent*

Be consistent with punctuation, grammar, word usage, format, referencing, and the use of abbreviations and numbers.

## Provision Responsibility

Within NCDOT, there are several types of provisions. The responsibility of each provision is based on who approves it and the use of the provision, whether it is used statewide consistently in each contract or if it is used for one project. Which type of provision are you planning to write?

| Provision Type | Owner | Description |
|---|---|---|
| Standard Provision (SP) | Contract Standards and Development Unit | These statewide provisions encompass the General and Roadway sections of proposals. They are used frequently in contracts and contain the standard language used in NCDOT contracts. Provisions are reviewed and approved in the Contract Standards and Development Unit with input, as needed, from other Units, industry, the Attorney General, and FHWA. These provisions are sent to FHWA for review. The Standard Provisions are maintained by the Specification Engineer in the Contract Standards and Development Unit. |
| Special Provision Inserts (SPI) | Contract Standards and Development Unit | These provisions are statewide standard provisions that are used less frequently in the General and Roadway sections of proposals or in Division let POC contracts. These provisions are considered the same as project special provisions with the same approval routing except that they are maintained by the Specification Engineer in the Contract Standards and Development Unit and they are available on the common drive. |
| Project Special Provision (PSP) | Units (Geotech, Structures Management, Roadway Environmental, etc.)<br><br>or<br><br>Divisions | These provisions are generated and maintained by Units or Divisions. Units typically post provisions on their website. Divisions post provisions on the common drive. |
| Supplemental Specifications | Varies | While not typically considered a provision, these NCDOT publications modify the *Standard Specifications* since the 2012 revision because of the definition change to "Supplemental Specifications." A good example of a Supplemental Specification that modifies the *Standard Specifications* is the *NCDOT Hot Mix Asphalt Quality Management System Manual*. |

## Provision Organization

These provisions are written like an article in the *Standard Specifications* with the four major headings: Description, Materials, Construction Method, and Measurement and Payment. These provisions typically cover new work or infrequent work not already addressed in the *Standard Specifications*. Review similar items in the *Standard Specifications* to see if you can modify the book in order to cover the work as opposed to creating a new "stand alone" provision.

**Provision Titles:** Titles are typically the same as the pay items described in the provision or a brief description of the main point of the provision. Attempt to keep the title under 50 characters in length to allow title to be included in the provision file name.

**Description:** Do not add requirements to the Description. The description is a brief, clear, and concise statement of work to be performed. *Do not include measurement, payment, materials, or construction information in the description.*

**Materials:** Address the materials used with reference to specific articles in Division 10 when possible.

When materials references are not in the *Standard Specifications*, look for ASTM, AASHTO or other well-known references. Remember to locate the reference and keep a copy in your file. If it is too large to keep in the file, have an electronic link in which you can access the document, if needed. The contractor and material supplier must be able to locate the reference.

Modify material references, if needed, to meet the minimum Department requirements. If no material references are available from other sources, write Department requirements in this section.

*Do not include measurement, payment, or construction information in the materials section.*

Start the section by adding: "Refer to the *2012 Standard Specifications*.". Follow this statement with a table addressing the materials items and Section, Article or Subarticle reference. Title the table as "Item" and "Section." Use a capital letter with each new word in the item. See example below.

*EXAMPLE:*
**Materials**

Refer to the *2012 Standard Specifications*.

| **Item** | **Section** |
|---|---|
| Anchor Pins | 1056-2 |

**Construction Methods:** Tell the Contractor what work needs to be performed and what restrictions or requirements are necessary. Describe the construction methods or the work to be accomplished. Use references within the *Standard Specifications* to eliminate the need to repeat

or rewrite processes or descriptions of construction methods already researched, written and approved.

Describes preliminary, interim and final acceptance testing or quality control if these are the responsibility of the contractor. Do not write instructions to Department personnel. Use memos, technical bulletins or other means to communicate internal guidelines or procedures.

Keep operations in chronological order to avoid confusion.

*Do not include materials, measurement, or payment information in the construction methods section.*

**Measurement and Payment:** Clearly list the pay item and the method of measurement. Review the master pay item list to see if you can find whether or not the pay item is already listed in the *Standard Specifications*, refer to that specific section (even if you need to modify the book to make this work). Do not repeat pay items addressed in the *Standard Specifications*.

Keep in mind that incorporating several items of work into one pay item will increase the cost and variability of that item and contaminate the Department's data for that pay item.

Begin with the actual pay item name in italics. Add the following phrase after the italicized pay item: "…will be measured and paid as…". Follow this phrase with the method of measurement. If work is incidental to the work of this section, clarify in this section.

Finish the section by adding: "Payment will be made under:". Follow this statement with a table addressing the pay items and units of measure for each new pay item called out in this section. Title the table as "Pay Item" and "Pay Unit." Pay units in the table are singular i.e., Foot, not feet and yard, not yards. Eliminate table lines and ensure there is no additional spacing above or below the lines. Use a capital letter with each new word in the pay item and pay unit. See example below.

*EXAMPLE:*
Payment will be made under:

| **Pay Item** | **Pay Unit** |
|---|---|
| ___" Portland Cement Concrete Pavement, Ramps | Square Yard |

## Writing Specifications

Clear, correct, concise, fair, and contractually enforceable language is our goal!

Specifications are to be written in technical language with less than a 12th grade reading level, if possible. Check this by enabling "show readability statistics" in Word under the Review Tab → Proofing Ribbon → Spelling and Grammar → Options button → check the box labeled "Show Readability Statistics". See Figure 2. Reduce the grade level of your text by reducing the size of the words and the number of words in each sentence.

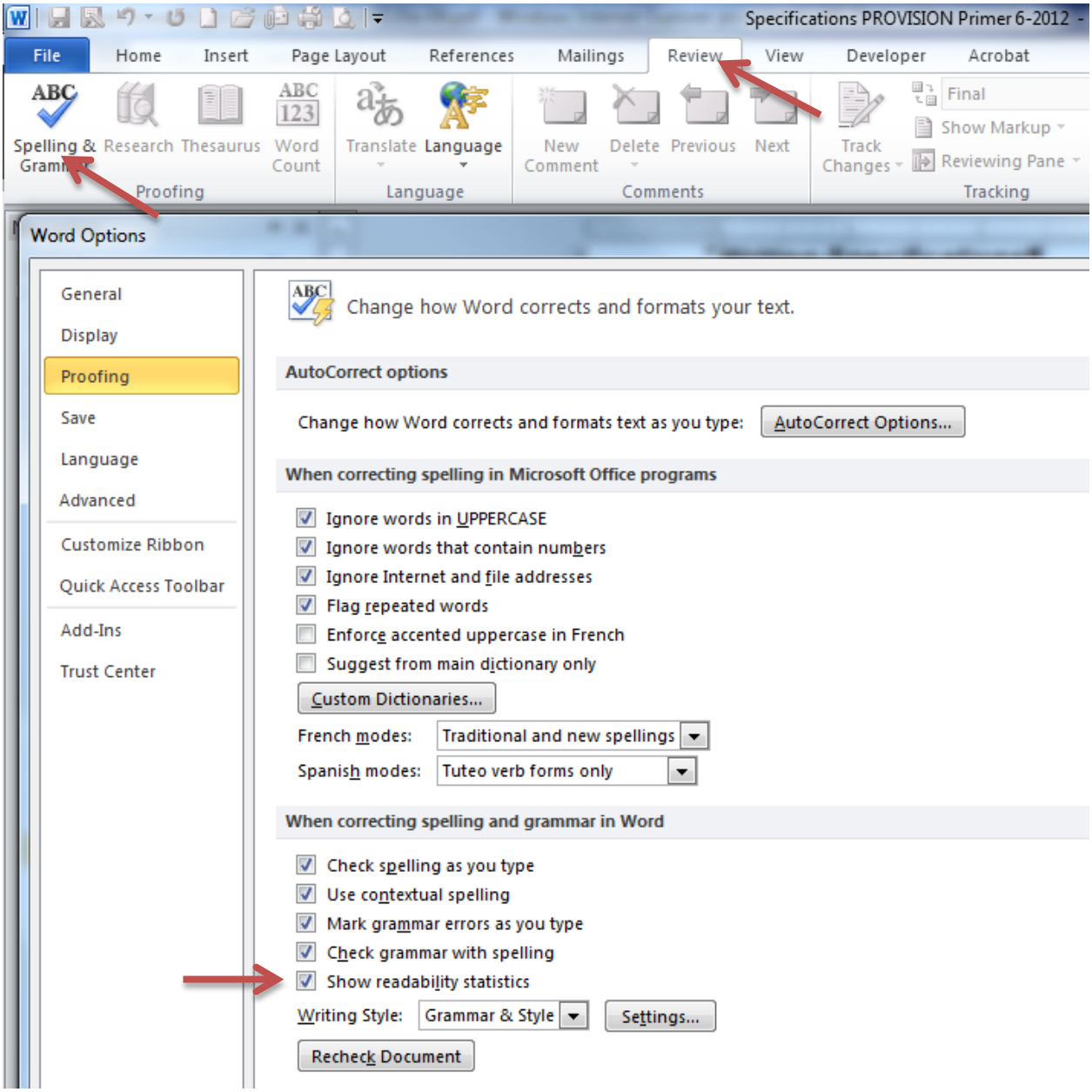


**Figure 1. Show readability statistics in Word.**

Avoid conflicting requirements. Conflicts occur when specifications include the details of the methods to be used and the desired results. If the contractor uses the specific method and the results are not satisfactory, who is responsible?

Do not repeat requirements. Information stated in the *Standard Specifications*, other provisions, the plans, etc. should not be repeated in other sections. Information that is shown on the plans should not be repeated in the *Standard Specifications*.

*Do not attempt to explain or narrate why* the contractor is performing certain tasks or tests in the Specifications. Specify materials, direct action, testing and payment only. Specify contractor

requirements, not Department logic, explanations, or notes to the Engineer. When an additional statement is given in connection with a requirement, the contractor may consider that statement to be a controlling part of the requirement. An additional explanation may obscure the clarity of the requirement itself.

**TABLE 2**
**SUBSTITUTION FOR SIMPLICITY AND CONSISTENCY**

| **Instead of:** | **Consider:** | **Instead of:** | **Consider:** |
|---|---|---|---|
| 1 ½ ft, 1 1/2, 1-1/2 | 1.5 | in such a manner as to | so as to |
| 4X4, 4 by 4 | 4 ft x 4 ft | in the amount of | for |
| a minimum of | at least | in the event of | if |
| a maximum of | no more than | in the event that | if, when |
| a number of | some | in the near future | soon |
| absolutely essential | essential | inch, inches | " |
| aforementioned | the, that, those | initiate | start |
| ampere | amp | is applicable to | applies to |
| as approved, unless otherwise approved | Possibly *delete phrase* | is hereby authorized | may |
| as concerned with | concerns | is indicative of | shows |
| as directed, unless otherwise directed | Possibly *delete phrase* | Linear Feet (in pay item table) | Linear Foot (pay items should be singular) |
| as may be necessary | as needed | M&T, M & T | Materials and Tests Unit |
| as stated in | states | make payment | pay |
| at a later date | later | make preparations for | prepare for |
| at the option of the contractor | the contractor may | make use of | use |
| at the present time | now | methodology | method, way |
| by means of | by | miles per hour | mph |
| by the Engineer | possibly *delete phrase* | multi-lane | multilane |
| capability | can | NCDOT | Department, Department's |
| cease and desist | stop | not able | unable |
| center line | centerline | not accept | reject |
| commence | start | not certain | uncertain |
| consequently | so | not less than | at least |
| considered | will be ~~considered~~ incidental | not many | few |
| contract requirement | contract | not often | rarely |
| cost thereof | cost of | not the same | different |
| cross section | cross-section | not unlike | similar, lacks |
| cubic feet | cf | not…except | only if |
| cubic inches | cu.in. | not…unless | only if |
| cubic yard | cy | not…until | only when |
| December 1st | December 1 | Number (with 1,2,3) | No. |
| degrees (temperature) | ° (spell out for angles) | on a quarterly basis | quarterly |
| does not have | lacks | on a regular basis | regularly |
| does not include | excludes, omits | ounces | oz. |
| due to the fact that | because | paid for | paid |
| enclosed herewith | enclosed | per | / |
| endeavor | try | percent | % |
| Fahrenheit | F | plus or minus | ± |
| feet, foot | ft unless foot-pounds | portland cement | Portland cement |

| TABLE 2 (Continued)<br>SUBSTITUTION FOR SIMPLICITY AND CONSISTENCY | | | |
|---|---|---|---|
| **Instead of:** | **Consider:** | **Instead of:** | **Consider:** |
| for a period of | for | pounds | lbs. unless foot-pounds |
| for the purpose of | for, to | pounds per square inch | psi |
| free from | without | practicable | practical (*careful with this*) |
| gage | gauge | pre-construction | preconstruction |
| gallon per minute | gpm | prior to | before |
| guard rail | guardrail | right of way | right-of-way |
| give consideration to | consider | riprap, rip-rap | rip rap |
| give recognition to | recognize | so as | *delete* |
| heretofore until | now | square feet | sf |
| however | but | square inch | sq.in. |
| if the contractor so elects | the contractor may | square yard | sy |
| impracticable | impractical | subsequent to | after |
| in a manner such that | so that | successfully complete | complete |
| in a timely manner | promptly, on time | terminate | end |
| in advance of | before | the month of June | June |
| in an effort to | to | the number of (unit) | *delete* (leave the unit) |
| in lieu of | instead of | the requirements of | *delete* |
| in many cases | often | type or class A | Type or Class A |
| in many instances | sometimes | worksite | work site |
| in order to | to | yard | yd |

## *Ambiguous Language*

**- / -:** Do not use slash with two words in the *Standard Specifications*. These terms are subjective: either/or, remove/replace, damaged/spalled, and/or and either/each.

*Inappropriate Example:* Paint lines on either shoulder.

*Appropriate Example:* Paint lines on each shoulder.

**Any, All, Every:** *Any* describes a limited amount, based on the discretion of the reader. Replace any damaged guardrail. (How badly is it damaged?)

*All* describes the entire amount. There is no subjective interpretation. Replace all damaged guardrail. (If there is any damage - replace.)

*Every* describes each one. No interpretation needed. Replace every damaged guardrail component.

**Amount – Quantity:** Use *amount* when describing payment or money only. Use *quantity* when describing measurement such as volume, yards, feet.

**Which and That:** *Which* refers to persons and *that* refers to inanimate objects.

*Example:* The General Assembly members, which are elected for 1 term that consists of 2 years….

## *Grammar and Punctuation*

**Its and It's:** *It's* is a contraction for it is. Contractions are not permitted in Specifications language. *Its* is a form of possession.

**Parallel Structure:** Use the same pattern of words to show that two or more ideas have the same level of importance. This can happen at the word, phrase, or clause level. The usual way to join parallel structures is with the use of coordinating conjunctions such as "and" or "or".
*Example:* This work consists of furnish**ing** material, plac**ing** material and clean**ing** the jobsite...

**Do not mix forms:**
*Inappropriate Example:* This work consists of furnish*ing* material, plac*ing* material and *to clean* up the jobsite.

**Mixed Units:** Do not mix units.
*Inappropriate Example:* The restaurant signs were shown at 1/4 mile intervals but the motel signs were every half mile.

**Bullets:**

- Bullets have no place in specifications.

**Using Numerals or Numbers:** When writing Specifications, it is not necessary to write double numbers, i.e. three (3). The exception is when writing out dollar amounts.

Using the actual number in the sentence is the preferred method, except when the number is the first or last word of the sentence. Always spell out a singular 1 as "one".

(1) It is one mile to the next exit and 10 miles to the destination.
(2) Ten miles is formatted correctly since it starts the sentence even though you would say 10 miles within the sentence.
(3) *Exception*: When specifying money, you may use both the words and numbers. The bid bond is two thousand dollars ($2,000) for this project. Do not use extra zeros $2,000~~**.00.**~~
(4) Write decimal numbers as such: 7.456 or 0.7456.
(5) Time: It's 5:00 p.m. somewhere. It is 12 noon or midnight; otherwise, write out the time such as 1:15 p.m.
(6) Fractions use 1/2 instead of ½ for consistency and ease of reading.
(7) Use comma between groups of three digits. 1,000,000 units or 1,000 psi.
*Exceptions*: Addresses, years or decimal fractions less than one.
*Examples:* 1020 Anywhere Street. It is the year 2012. Measure in increments of 0.0004.

Use a "hard" space (°) between numbers and their units to keep them on the same line. A hard space can be made in place of a space by using Control-Shift-Space on the keyboard.

**Colons, Semicolons and Commas:** The convention for spaces are 2 spaces after a period or colon and one space after a comma or semicolon. Do not use a comma before the "and" in a list (see the subtitle above).

**Apostrophes:** Do not use apostrophes for contractions, plural of numbers or letters.

**Singular and Plural:** Do not use (s) for plurals. Refer to the singular unit only.

**Hyphenations:** Do not hyphenate words at the end of a line. Do not use a hyphen with spelled out fractions used as nouns. Hyphenate spelled out fractions used as adjectives.

*Examples:* three fourths of an inch and two-thirds ton

Hyphenate letters used to describe shapes such as T-shape or U-channel.

**Parenthesis:** Use parenthesis sparingly. If it is worth saying, parenthesis are not needed.

**Footnotes:** Footnotes are never appropriate in Specifications. We do use notes with tables.

**Capitalization:** Use the normal capitalizations rules in writing Specifications. Exceptions are as follows:

When addressing the prime contractor only, use a capital Contractor; when addressing contractors in general, use the lower case "c" in contractor.

*Never* capitalize subcontractor in the specifications unless it is the first word of the sentence or part of a title for a form, etc. There are specific responsibilities associated with both contractors and subcontractors. It can be argued that capitalizing the "s" in subcontractor elevates the subcontractor to that position of "the (prime) Contractor".

Capitalize engineer when specifically describing the Department's engineer only. All others are lower case, unless the first word of the paragraph.

**Italics:** Use italics instead of underlining or using quotation marks for books, periodicals, and reference documents.

*Example: Standard Specifications* is capitalized and italicized.

Use italics to highlight pay items described in the Measurement and Payment section.

*Example: __" Encasement Pipe* will be measured from end to end and paid at the contract unit price per linear foot for each size.

## *Voice and Mood*

A specification's goal is to be specific. Constructing sentences using the active voice and imperative mood is the most efficient way to give a command, direction, or instruction, but is not appropriate for every situation. In writing specifications, follow these guidelines:

1. Use the active voice and imperative mood to convey instructions to the contractor. The easiest way to do this is to begin the sentence with a verb.

   *EXAMPLE:*
   Scarify gravel roads to a minimum depth of 6".
   Clear the area of vegetation and obstructions according to Sections 201 and 203.

Active voice verbs used in the *Standard Specifications:*

| | | | | |
|---|---|---|---|---|
| Adhere | Define | Handle | Mount | Scarify |
| Allow | Deliver | Haul | Obtain | Seal |
| Apply | Deposit | Indicate | Operate | Set |
| Begin | Design | Inform | Orient | Shape |
| Blast | Determine | Insert | Paint | Store |
| Brush | Dispose | Inspect | Patch | Substitute |
| Calculate | Drive | Install | Perform | Submit |
| Carry | Dry | Keep | Place | Supply |
| Clean | Engrave | Label | Plot | Survey |
| Clear | Ensure | Lash | Position | Take |
| Compact | Examine | Lay | Pour | Test |
| Confirm | Expose | Locate | Protect | Transport |
| Construct | Fill | Maintain | Provide | Use |
| Correct | Finish | Match | Remove | Wait |
| Cover | Furnish | Mix | Repair | Weld |
| Cut | Give | Mop | Sample | Wet |

2. Use the passive voice and indicative mood when it is necessary to clarify the party responsible for the action. This can occur when both Engineer and Contractor responsibilities are discussed in the same sentence and for optional or alternative actions on the part of either the Contractor or Engineer (that is, discretionary clauses using may). Use "will" when the action is by the Engineer or "shall" when the action is by the Contractor. *Never use The Department SHALL… or The Contractor WILL…*

   *EXAMPLE:*
   *(Passive Voice to Clarify Responsible Party):*

   If the Engineer determines that the work is not extra work, he **will** notify the Contractor in writing of his determination.

   If the Contractor chooses to pursue the claim after the disputed work is complete, he **shall** submit a written claim to the Engineer for an adjustment in compensation based upon his cost records within 120 calendar days after completion of the disputed work.

3. When stating a fact as opposed to directing an action, the indicative mood is most appropriate. The Description is typically written in indicative mood.

   *EXAMPLE:*
   *(Passive Voice, Indicative Mood):*

   This work does not include repair seeding made necessary by negligence on the part of the Contractor.

   The actual conditions that occur during the construction of the project will determine the quantity of seed or fertilizer used.

## *Tables*

Create the table in Word. Keep the tables within the margins set for the document. Border the table with **gray (25%)** lines. Limit the use of underlining, bold or italics. The standard font for a table or chart is 10 pt but may be reduced. If the table is landscape, orient the page so that the head or top is facing the binder side of the document. Each table will be consecutively numbered beginning with the section number, a hyphen and a counter. Do not include "blank" columns or rows. Use superscript, capitalized letters to indicate notes for a table. See the example below.

**TABLE 1072-5**
**HIGH STRENGTH BOLTS WASHER DIMENSIONS**

| Bolt Size D | Circular Washers Dimensions, in Inches | | | | Square or Rectangular Beveled Washers Dimensions, in Inches, for American Standard Beams and Channels | | |
|---|---|---|---|---|---|---|---|
| | Nominal Outside Diameter | Nominal Diameter of Hole | Thickness Min. | Thickness Max. | Minimum Side Dimension | Mean Thickness | Slope of Taper in Thickness |
| 1 1/2 | 3 | 1 5/8 | .136 | .177 | 2 1/4 | 5/16 | 1:6 |
| 2 | 3-3/4 | 2-1/8 | .178 [A] | .28[A] | -- | -- | -- |
| Over 2 to 4 Incl. | 2D-1/2 | D+1/8 | .24[B] | .34 [B] | -- | -- | -- |

A. 3/16" nominal
B. 1/4" nominal

## *Figures*

Do NOT use drawings, details or figures in a provision. It creates a conflict in the contract regarding the hierarchy in Article 105-4 of the *Standard Specifications*.

## *Equations*

Center equations. If you have equations with division, you may insert a table and use the lines in the table to create the division line. Define the variables by using bold format for variable letters and describing what the variable represents including the units of measure. See the example below:

$$\mathbf{W}=0.000789\mathbf{LD}$$

Where **W** equals the maximum allowable leakage in gallons per hour; **L** is the length of pipe tested in feet; and **D** is the nominal diameter of the pipe, in inches.

## *Modifying the Standard Specifications*

When modifying the *Standard Specifications*, use the page and line numbers to help the reader reference specific paragraphs and sentences. Always begin with "Revise the *2012 Standard Specifications* as follows:" so the reader knows how to follow the references.

**(A)** "Divisions" are the chapters in the book (i.e., Division 1 General Requirements),

**(B)** "Sections" divide the Divisions into broad categories and are listed in the Table of Contents (i.e., Section 275 Rock Plating),

**(C)** "Articles" divide the Section and may follow the four major headings: Description, Materials, Construction Method, and Measurement and Payment (i.e., Article 411-2 Materials),

**(D)** "Subarticles" are all headings under the Article level (i.e, Subarticle 411-4(B) Casings or Subarticle 411-4(C)(1) Time),

**(E)** "Tables" may be referenced with the number and title. If the table notes need to be modified, reference the letter associated with the note (i.e., Table 411-2 Bentonite Slurry Rquirements, Note A.)

**(F)** "Figures" may be referenced with the figure number and title.

Use the page and line numbers to help the reader reference specific paragraphs and sentences which are being modified. Always begin with "Revise the *2012 Standard Specifications* as follows:" so that the reader knows how to follow the references to these sections.

*EXAMPLES:*
Revise the *2012 Standard Specifications* as follows:

**Page 1-65, Article 108-5 CHARACTER OF WORKMEN, METHODS, AND EQUIPMENT, line 32**, delete all of line 32, the first sentence of the second paragraph and the first word of the second sentence of the second paragraph.

**Page 2-28, Article 265-4 MEASUREMENT AND PAYMENT, lines 13-30,** replace all occurrences of *Select Granular Material* with *Select Granular Material, Class III*.

**Page 6-26, Article 610-8, SPREADING AND FINISHING,** add the following after line 43: …

**Page 10-39, Article 1016-3, CLASS III, line 15**, replace "either type" with "Type 1, Type 2 or Type 3".

**Page 1-20, Subarticle 102-15(O), line 42,** delete and replace with the following: ...

**Page 10-162, Subarticle 1081-1(A) Classifications, lines 4-7,** delete the second and third sentences of the description for Type 3A.

**Page 10-162, Subarticle 1081-1(B) Requirements, lines 26-30,** replace the second paragraph with the following: …

**Page 10-23, Table 1005-1, AGGREGATE GRADATION-COARSE AGGREGATE,** replace with the following: …

**Page 6-22, Table 610-3, SUPERPAVE MIX DESIGN CRITERIA,** replace line 4, note C, with the following:

**C.** TSR for Type SA-1 and Type B25.0 mixes is 80% minimum.

### *"Fill In" Information*

Some provisions require information to be filled in at a later date and changed with each use of the provision. In Word, under the Insert Tab, in the Text portion of the Ribbon, Click on "Quick Parts." Use "Field…" to insert a "Fill-in" field. Type in the type of information you are seeking in the "Prompt" and "Default Response to Prompt". (DATE)_____. This field can then be found in the final proposal by pressing F11.

## Authority of the Engineer

When writing specifications, there is a tendency to get too detailed, as to whom information should be given. All references should be to the "Engineer" unless there is a specific need to clarify the title of the Engineer. For most cases, specifically naming a Utilities Engineer or a Traffic Control Engineer is not correct. Remember the "Engineer" is the State Highway Administrator, who may delegate limited authority to others.

Article 105-1 and Subarticle 108-9(E) from the *Standard Specifications* state that the "Engineer" has the ultimate authority concerning the contract. Therefore, it is not necessary to repeat "as approved by the Engineer" or "as determined by the Engineer" or "unless otherwise directed" or "as modified by the [plans, contract, detail, Engineer, etc.]"

The authority to modify the specifications is already explicitly given to the Engineer. The only time such phrases should be allowed in the provision is when frequent modifications are made to a specific requirement. If frequent modifications are anticipated, consider removing the requirement from the provision altogether.

## Cited References

When referencing for any types of samples, tests or other specifications, it is not necessary to show a date or year, unless specifically referring to a past issue. The latest issue is already required according to Article 106-2 of the *Standard Specifications*.

> *Inappropriate Example*: … in accordance with the latest version of the MUTCD.
>
> *Corrected Example*: … in accordance with MUTCD.
>
> *Appropriate Example:* Design the support including base plate and anchorage in accordance with *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fourth Edition, 2001*.

When citing a physical test or quantifiable result, test "in accordance with" the test procedure and have measured result "that meets" the standard.

When citing the *Standard Specifications* within the body of the provision, identify the appropriate part of the book without using the title of the section/article/subarticle as follows:

…in accordance with Section 300.
…in accordance with Article 300-1.
…in accordance with Subarticle 300-6(A)(1)(a).

When cross-referencing other standards or laws, use the following formatting (note the spacing conventions):

…in accordance with 49 CFR Part 26 or … that meets 49 CFR Part 26.
…in accordance with NCGS § 23-1.1 or … that meets NCGS § 23-1.1.
…in accordance with AASHTO M 154 or … that meets AASHTO M 154.
…in accordance with ASTM C6118 for Class F or … that meets ASTM C6118.

Cite multiple sections or subsections as follows:

…in accordance with Sections 200, 205, 210, and 215.
…in accordance with Articles 300-1 to 300-4.
…in accordance with Subarticles 300-6(A)(1)(a) to 300-6(A)(4).
…in accordance with 49 CFR Parts 26 and 27.
…in accordance with NCGS §§ 8C-1 to -5.
…in accordance with NCGS §§ 15A-1415, -1445.
…in accordance with AASHTO M 154 and AASHTO M 99.
…in accordance with ASTM C6118 or ASTM C123.

## Pay Items

Common pay items and the abbreviations used in the Trnsport system are as follows:

| | | | | | |
|---|---|---|---|---|---|
| ACR | = | ACRE | M/G | = | 1,000 GALLONS |
| BAG | = | BAG | MD | = | MAN DAY |
| CF | = | CUBIC FOOT | MHR | = | MANHOUR |
| CY | = | CUBIC YARD | MI | = | MILES |
| DAY | = | DAY | MLF | = | 1,000 LINEAR FEET |
| EA | = | EACH | MO | = | MONTH |
| GAL | = | GALLON | MSY | = | 1,000 SQUARE YARDS |
| HR | = | HOUR | SF | = | SQUARE FOOT |
| IN | = | INCH | SMI | = | SHOULDER MILE |
| LB | = | POUND | SY | = | SQUARE YARD |
| LF | = | LINEAR FOOT | TF | = | TRACK FOOT (RAILROAD) |
| LS | = | LUMP SUM | TON | = | TON |

## Complementary and Conflicting Language

The contract is a legal compilation of documents and references. If there are conflicts, Article 105-4 of the *Standard Specifications* determines the hierarchy. Mark this page in your *Standard Specifications* for future reference.

In case of discrepancy, the following will apply in ascending order (see Figure 2):

Calculated dimensions shall govern over scaled dimensions
Supplemental Specifications shall govern over *Standard Specifications*;
Plans shall govern over Supplemental Specifications and *Standard Specifications*;
Standard Special Provisions shall govern over Plans, Supplemental Specifications, and *Standard Specifications*; and
Project Special Provisions shall govern over Standard Special Provisions, Plans, Supplemental Specifications, and *Standard Specifications*.

Each term is defined in the Article 101-3. Supplemental Specifications includes the Department's manuals.

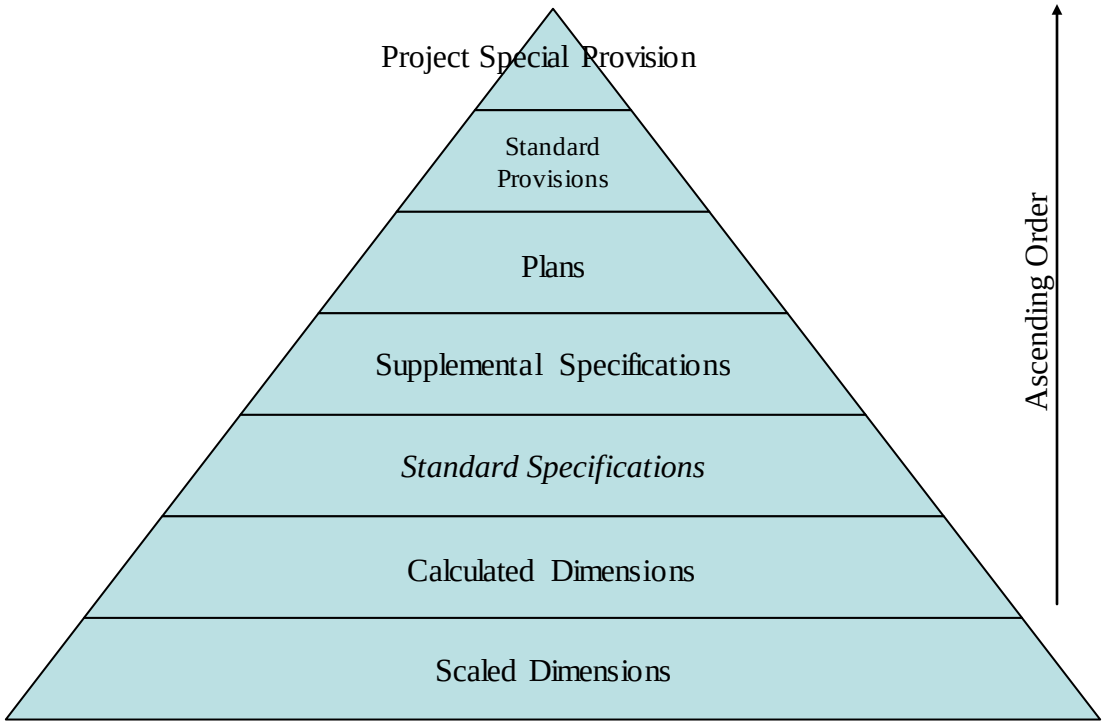


**Figure 2. Hierarchy of Contract Documents.**

## Provision Support

You are not alone. Before you write a provision for specific work required on a project, make sure your unit is the appropriate one to create this provision. Do you need to involve others? Is

there an area in the proposal were this requirement would naturally fit? Should it be in the plans, notes or provisions? Is there already a similar requirement being addressed in another area? The Contract Standards and Development Unit is willing to assist in researching past provisions or even helping to craft language. Please contact the Specification Engineer at specs@ncdot.gov with a draft and an explanation of your requirements. Further support can be found at: http://flh.fhwa.dot.gov/resources/manuals/swg/documents/swg.pdf.

## Format Guidelines

Provisions follow the tiered enumerations of the *Standard Specifications*. The Title appears at the top of the provison followed by the original issue and revision date, *Standard Specifications* reference (if any) and the provision number. The provision may be formatted like a section in the *Standard Specifications* with the four major headings: Description, Materials, Construction Method, and Measurement and Payment.

All lower tier enumerations have consecutive counter designations in the hierarchical order of capitalized letters as the top level (A), numbers as the second level (1), lower case letters as the third level (a), and lower case Roman numerals as the fourth level (i). If you get beyond the lowercase Roman numerals, repeat the order with capital letters as the fifth level. See Figure 1 and Table 1.

Left Margin

Provision Title
Provision Issue Date, Revision Date, Reference and Number
(See Notes)

**PROVISION TITLE:**
(8-21-12) (Rev. 9-18-12) 104-7 SP1 G155

1st parenthesis = Let Date of Original issue
2nd parenthesis = Let Date of latest Revision

*Standard Specification* (hereafter called "book") Reference, if any

SP = Standard Provision
PSP = Project Special Provision
1 = Division of book affected
G = General section of Proposal
R = Roadway section of Proposal
155 = Unique identifier to maintain consistent order in proposal (roughly follows book order)

Heading

**Heading, if needed**

Text

Begin Text. The top level of subsections is at full margin width and justified. Do not indent the text.

Subarticle Level 1

**(A) Subarticle Title** Each successive subordinate level is then indented an additional 0.5" from the left margin.
Begin Text. The text is indented an additional 0.5" from the Letter.

Subarticle Level 2

(1) Subarticle Title
Begin Text. The text is indented an additional 0.5" from the Number.

Subarticle Level 3

(a) Subarticle Title
Begin Text. The text is indented an additional 0.5" from the Letter.

Subarticle Level 4

(i) Subarticle Title
Begin Text. The text is indented an additional 0.5" from the Roman Numeral.

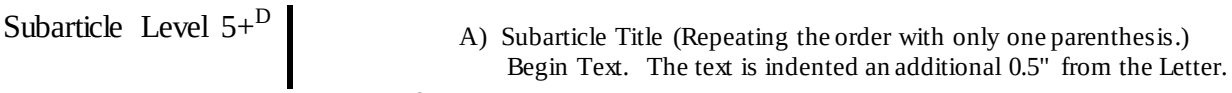


**Figure 3. Hierarchal organization of provisions.**

**TABLE 1**
**FORMATTING FOR HIERARCHICAL LEVELS OF PROVISONS**

| Title | Font | Alignment | Indentation | Paragraph Spacing |
|---|---|---|---|---|
| Provision Title (Ends with a colon:) | Uppercase, Times New Roman, 12 pt, Bold, Underline | Justified | None | Before: 0 pt<br>After: 0 pt |
| Provision Headers (if needed) | Title Case, Times New Roman, 12 pt, Bold | Justified | None | Before: 0 pt<br>After: 0 pt |
| Provision Text | Times New Roman, 12 pt | Justified | None | Before: 0 pt<br>After: 0 pt |
| Subarticle 1<br>**(A)** | Title Case, Times New Roman, 12 pt, Bold | Justified | Hanging 0.5" | Before: 0 pt<br>After: 0 pt |
| Subarticle 1 Text | Times New Roman, 12 pt | Justified | Left 0.5" | Before: 0 pt<br>After: 0 pt |
| Subarticle 2<br>(1) | Times New Roman, 12 pt | Justified | Left 0.5"<br>Hanging 0.5" | Before: 6 pt<br>After: 6 pt |
| Subarticle 2 Text | Times New Roman, 12 pt | Justified | Left 1" | Before: 0 pt<br>After: 0 pt |
| Subarticle 3<br>(a) | Times New Roman, 12 pt | Justified | Left 1"<br>Hanging 0.5" | Before: 0 pt<br>After: 0 pt |
| Subarticle 3 Text | Times New Roman, 12 pt | Justified | Left 1.5" | Before: 0 pt<br>After: 0 pt |
| Subarticle 4<br>(i) | Times New Roman, 12 pt | Justified | Left 1.5"<br>Hanging 0.25" | Before: 0 pt<br>After: 0 pt |
| Subarticle 4 Text | Times New Roman, 12 pt | Justified | Left 1.5" | Before: 0 pt<br>After: 0 pt |
| Subarticle 5+<br>A) | Times New Roman, 12 pt | Justified | Left 2"<br>Hanging 0.25" | Before: 0 pt<br>After: 0 pt |
| Subarticle 5+ Text | Times New Roman, 12 pt | Justified | Left 2" | Before: 0 pt<br>After: 0 pt |
| Materials List Headers | Title Case, Times New Roman, 12 pt, Bold | Table Column Widths of 5.4"and 1.4", Justified | None | Before: 0 pt<br>After: 0 pt |
| Materials List | Title Case, Times New Roman, 12 pt | Justified | Hanging 0.5" | Before: 0 pt<br>After: 0 pt |
| Pay Item Headers | Title Case, Times New Roman, 12 pt, Bold | Table Column Widths of 4.7"and 1.8", Justified | None | Before: 0 pt<br>After: 0 pt |
| Pay Item | Title Case, Times New Roman, 12 pt | Justified | Hanging 0.5" | Before: 0 pt<br>After: 0 pt |

# Provision Examples

To see the lastest list of provisions, please visit: https://connect.ncdot.gov/resources/Specifications/Pages/Specifications-and-Special-Provisions.aspx.

## *Example of "Fill In" Field*

**CONVERT EXISTING [name 1] TO [name 2]:**
(1-1-02) (Rev. 7-18-06) 840, 859 SP8 R50

At the proper phase of construction, convert the existing [name 1] at locations indicated in the plans or where directed, to [name 2] in accordance with the details in the plans and the applicable requirements of Sections 840 and 859 of the *2012 Standard Specifications*.

*Convert Existing [name 1] to [name 2]* will be measured and paid as each, completed and accepted. Such price and payment is considered full compensation for all equipment, materials, labor, tools, and incidentals necessary to complete each conversion satisfactorily.

Payment will be made under:

| **Pay Item** | **Pay Unit** |
|---|---|
| Convert Existing [name 1] to [name 2] | Each |

## *Example of Roadway Standard Drawing Reference*

**CLEARING AND GRUBBING - METHOD II:**
(9-17-02) (Rev. 1-17-12) 200 SP2 R02A

Perform clearing on this project to the limits established by Method "II" shown on Standard Drawing No. 200.02 of the *2012 Roadway Standard Drawings*.

## *Example of Pay Item*

**REINFORCED CONCRETE TAPERED INLET:**
(7-1-95) (Rev. 7-18-06) 300 SP3 R01

**Description**

Construct tapered inlets in accordance with the details in the plans, Section 310 of the *2012 Standard Specifications*, and as directed by the Engineer.

**Measurement and Payment**

*___" x ___" Reinforced Concrete Pipe Tapered Inlet, Class III* will be measured and paid as each, for the actual number incorporated into the completed and accepted work. Such price and payment will be full compensation for all materials, labor, equipment, and other incidentals necessary to complete the work.

Payment will be made under:

| Pay Item | Pay Unit |
|---|---|
| ___" x ___" Reinforced Concrete Pipe Tapered Inlet, Class III | Each |

## *Example of Modifying Work Instructions*

**PREPARATION OF SUBGRADE AND BASE:**
(1-16-96) 610 SP5 R05

On mainline portions and ramps of this project, prepare the subgrade and base beneath the pavement structure in accordance with the applicable sections of the *2012 Standard Specifications* except use an automatically controlled fine grading machine using string lines, laser controls or other approved methods to produce final subgrade and base surfaces meeting the lines, grades and cross sections required by the plans or established by the Engineer.

No direct payment will be made for the work required by this provision as it will be considered incidental to other work being paid for by the various items in the contract.

## *Example of Modifying the Standard Specifications*

**TEMPORARY TRAFFIC CONTROL DEVICES:**
(1-17-12) 1105 SP11 R05

Revise the *2012 Standard Specifications* as follows:

**Page 11-5, Article 1105-6 Measurement and Payment,** add the following paragraph after line 24:

Partial payments will be made on each payment estimate based on the following: 50% of the contract lump sum price bid will be paid on the first monthly estimate and the remaining 50% of the contract lump sum price bid will be paid on each subsequent estimate based on the percent of the project completed.