

SITE SAFETY

Warning you are entering a learning environment. Use of your brain will be required. If you have not used your brain for some time we highly recommend putting it into gear and warming it up. Whatever you do, don't fall asleep!



Warning advanced learning environment



Have a cup of tea or coffee



Ensure brain is switched on and in gear



Strictly no snoozing or sleeping in class

The *Write* Stuff!

***How to Prepare
and Implement
Unique Special Provisions***

**Scott Trammell, P.E.
Construction Specifications Engineer**

March 06, 2019

Standard Specifications

- 1. Use good stuff.**
- 2. Do good work.**

What shall we do first?

How about.....?

Ask....



Questions to ask concerning Unique Special Provisions

1. Is it covered in the Standard Specifications?
If so, is it still necessary? Restrictive, or Constructive?
2. Does it conflict with the current Standard Specifications?
The USP should *complement*, not conflict with, the Standard Specs.
3. Do we have an existing special provision, recurring or unique, that addresses the same matter? Can you use that instead?
4. Does it define a unique pay item? (*more on this in a few minutes*)
If so, make sure the **five** basics (*the Big 5*) are covered.
 - **Description**
 - **Materials**
 - **Construction Requirements**
 - **Method of Measurement**
 - **Basis of Payment**

The *Big 5* follows the standard AASHTO Specification Format.



Questions to ask concerning Unique Special Provisions

5. Does it specify a proprietary item or process?
If so, is it necessary?
If so, make sure a **Justification For Use Of Proprietary Material** form has been completed and approved. (see IDM Chapter 17)

6. Do we have access to cited standards? (ASTM, AASHTO, LPA standards)
If not, can the cited standard be revised to one we do have access to?
If not, the standard must be included in the unique.

7. Does it involve Department testing?
If so, have you checked with our folks at Materials and Testing?
(they may have something to say about it)
If not the Department, who does the testing?

8. Has it been through the USP Review Process and reviewed by:



Unique Special Provisions Review Process

Rev 12/17/2018

Unique Special Provision Summary Sheet

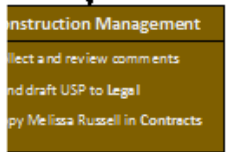
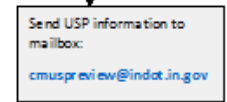
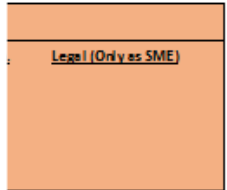
rev. 2/18/2019

Contract No:

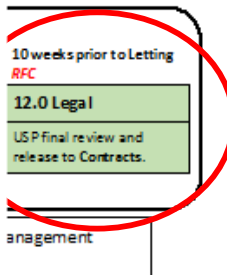
District:

Submitted by:

Submitted Date:



10 weeks prior to Stage 3 submittal (is to next step)



Standard Specifications Section	Unique Special Provision Title	Document Filename	Comments

Legend:

- AE - Area Engineer
- LPA - Local Public Agency
- PM - Project Manager
- RFC - Ready for Contract
- SME - Subject Matter Expert
- USP - Unique Special Provision

Notes:

LPA Projects will be submitted to Contracts beginning at Step 7.0

https://www.in.gov/dot/div/contracts/standards/usp/USP_Process.pdf

Restrictive Type USP

STOCKPILED BORROW MATERIAL FOR PROJECT

The Department has stockpiled sufficient borrow material for use in the project in the southwest quadrant of the I-465 interchange with I-70 on the eastside of Indianapolis.

All borrow required for the project shall be taken from this stockpile.

Provision title is centered and is Courier New font, 10-pt. pitch, all capitals.

There are no referenced *Standard Specifications* sections and line numbers.

Specification text is Courier New font, 10-pt. pitch.

There are no deletions or insertions.

EXAMPLE OF A RESTRICTIVE TYPE UNIQUE SPECIAL PROVISION

Figure 19-3A



Constructive Type USPs

Directly Revises Standard Specifications

PERMANENT BUZZ STRIPS

The Standard Specifications are revised as follows:

SECTION 801, BEGIN LINE 636, DELETE AND INSERT AS FOLLOWS:

4. ~~Temporary~~ *Permanent* Buzz Strips

~~Temporary~~*Permanent* buzz strips shall be a set of transverse markings constructed of ~~removable~~ or durable marking material. Durable marking material shall be used in accordance with 808.07(b).

SECTION 801, BEGIN LINE 1034, DELETE AND INSERT AS FOLLOWS:

~~Temporary~~*Permanent* Buzz Strips..... LFT

Title is centered – Courier New, 10 pt.

Referenced Spec section and line numbers – Courier New, 10 pt.

Spec text is Times New Roman, 12 pt

See Chapter 19 – Figure 19-3B



Defines a unique pay item – needs the “Big 5”

HAND DIG GUARDRAIL POST HOLE

Description

This work shall consist of hand digging guardrail post holes in accordance with 105.03. An undistributed quantity has been included in the contract for this work.

Materials

Materials shall be in accordance with 601.02.

Construction Requirements

When the posts are located within the Tolerance Zone of a utility in accordance with IC-8-1-26-2, 12 in. diameter holes shall be bored in accordance with 601.03 to the required embedment depth by use of hand tools or vacuum excavation. If there are 10 or more hand dug holes adjacent to each other, the hole shall be backfilled with removable flowable fill and the guardrail posts shall be placed immediately into the backfilled hole and braced until the flowable fill cures.

Method of Measurement

The guardrail post holes will be measured per each hand dug post hole.

Basis of Payment

The guardrail post holes will be paid for at the contract unit price per each hand dug post hole, complete in place.

Payment will be made under:

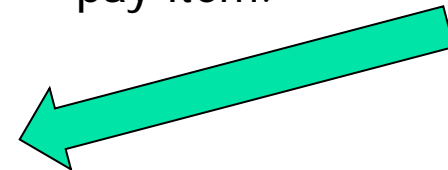
Pay Item	Pay Unit Symbol
Hand Dig Guardrail Post Hole	EACH

The cost of the B-borrow or removable flowable fill shall be included in the cost of Hand Dig Guardrail Post Hole.

1. Title is centered, Courier New, 10 pt.
2. No referenced spec section or line numbers.
3. Text is Courier New, 10 pt.
4. Headings are **Bold**.
5. See Figure 19-3C.

This USP does not directly revise the Standard Specs,

But it **does** define a unique pay item.



About those Pay Items.....

Only items listed in the Standard Specifications are **Standard Items**.

Each existing pay item shown in the list of pay items is identified by:

S = Standard

M = Maintenance

R = Recurring (tied to one or more **R**ecurring **S**pecial **P**rovisions)

U = Unique

This means you need a USP with the **Big 5**.

- Check the **examples** of USP's on our website to see if we already have something that you can **revise to fit** your "unique" project.
- Please also note that adding the word "*modified*" to a standard pay item does not *necessarily* make it Unique that requires the "Big 5".
- Can you use the standard spec section the way it is written and **show your "modification" on the plans**? Could you use a **Restrictive Type USP** to clarify your intentions?

Do NOT address measurement and payment on the plans!



About those Pay Items.....

UNDISTRIBUTED QUANTITIES

The schedule of pay items contains the following undistributed quantities in addition to known plan quantities:

303-08210 Comp Ag No. 53, Temp for Driveways100 TON

The Contractor shall inform, and obtain approval from, the Engineer prior to placement of an undistributed quantity.

Undistributed Quantities is unacceptable as a supplemental description for your unique pay item.

Another question:

Do you really need it?

Could you simply use 104.03, or 109.05?



About those Pay Items.....

- Changing the UNITS of a standard pay item may not be necessary. Can you use the standard pay item?
- Changing the name of a standard pay item does not make it unique. Can you use the standard pay item?
- And remember: *In accordance with* **105.04**,

Instruction to Bidders and
description of pay items listed

in the **Schedule of Pay Items**

hold over:

Unique Special Provisions, (101.53)

hold over:

Plans, (101.36)

hold over:

Recurring Special Provisions, (101.66)

hold over:

Standard Specifications. (101.54)



From Contract Administration.....

For CES Support.....

- Please send an email to:

CESSUPPORT@INDOT.IN.GOV

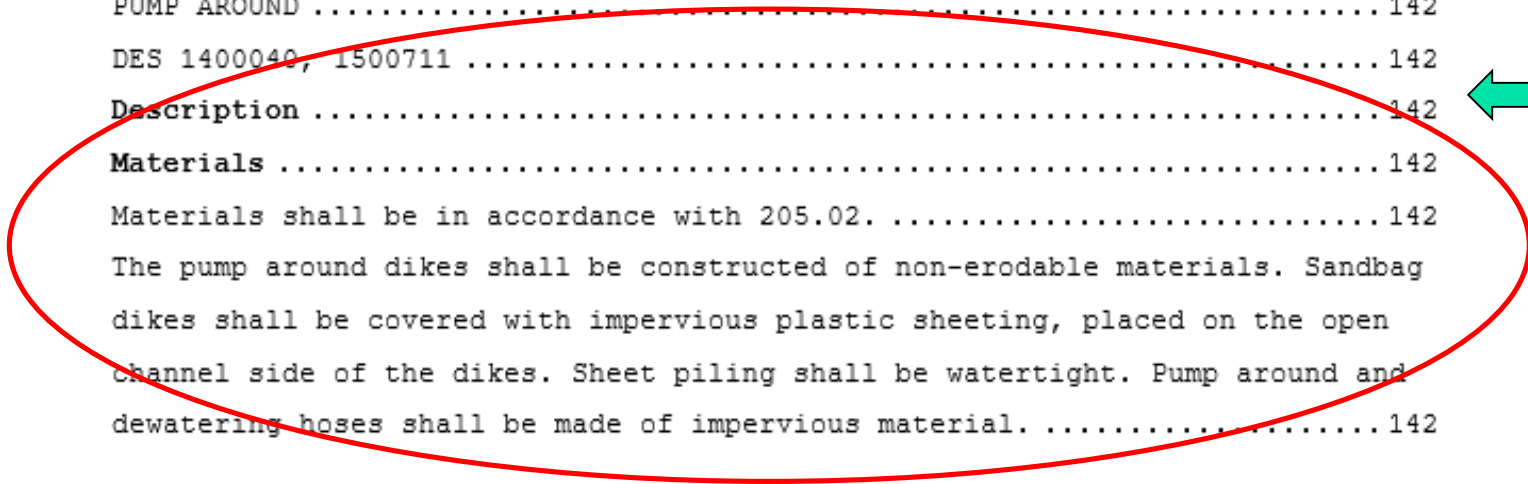
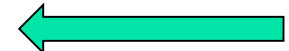
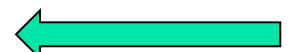
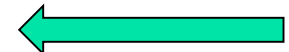
- If you
 - need a *new* pay item number.
Be sure to include the APPROVED USP.
 - require any Group Number changes.
 - have any CES questions or have any problems with CES.



Formatting Concerns for USPs.....

001-1-212 TEMPORARY SIGNAL TIMING PLAN	130
QUESTION AND ANSWER FORM	131
DBE CERTIFICATION RECIPROCITY WITH KENTUCKY	131
ALTERNATE TO CONCRETE SEALERS, DBE COMMITMENT	132
LANE CLOSURE NOTIFICATION	134
FAILURE TO COMPLETE ON TIME FOR RESTRICTION	138
DES 1400040	138
FAILURE TO COMPLETE ON TIME FOR RESTRICTION - TWO OR MORE LOCATIONS	139
NESTING SWALLOWS	140
DES 1500711	140
PUMP AROUND	142
DES 1400040, 1500711	142
Description	142
Materials	142
Materials shall be in accordance with 205.02.	142
The pump around dikes shall be constructed of non-erodable materials. Sandbag dikes shall be covered with impervious plastic sheeting, placed on the open channel side of the dikes. Sheet piling shall be watertight. Pump around and dewatering hoses shall be made of impervious material.	142

Are these
Headers?



Please be careful with formatting,
since it may cause issues for the CIB.



Thank you very much.

About those Pay Items.....

The Contractor shall dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Disposal of water shall not inconvenience others. Sumps, sedimentation tanks, flow-control devices, and temporary sediment and erosion control shall be provided in accordance with 205 and as required by authorities having jurisdiction. Sediment in filter bags shall be removed once it has accumulated to the design volume and be disposed of in accordance with 202.

Method of Measurement

Dewatering will not be measured, regardless of how many times the system is moved, replaced or relocated. Sediment filter bags will not be measured regardless of the number of times a day a filter bag may become filled and replaced.

Basis of Payment

The cost of dewatering shall be included in the cost of other items.

The cost of the pump, materials, installation, inspection, maintenance, sediment filter bags, secondary containment filter sock, material to

- By the way.....

Dewatering is INCIDENTAL to,

206, 702, 715, 716, 720, and 734 Standard Pay Items .



Just because it *LOOKS* okay...

But.....WHY?

type 1

724.03

724.04

724.05



is a *standard*
4 pay item)



Is it Necessary?



Notice Anything?

CORED HOLE IN CONCRETE

As part of the operation to predrill pilot holes to bedrock depth, the Contractor shall core through the existing retaining wall footing in accordance with 701.09, as shown on the plans. The diameter of this hole shall match the diameter of the predrilled pilot holes and cored hole in rock. Once the footing has been cored, predrilling shall continue to bedrock depth in accordance with 701.09(a)2.

Once the piles have been driven and the fill beneath the footing is in place, the prebored holes shall be filled as shown on the plans.

The cost of fill materials and all other incidentals shall be included in the cost of the prebored hole.

Defining a Unique Pay Item is not necessary.

A Restrictive Type USP will suffice, utilizing the Standard 701 Pay Item for Prebored holes.



Who are we writing these for?

- The Contractor
 - to bid the work
 - to perform the work
- Department personnel involved with the contract
 - to enforce those standards.

And,

since we are writing these special provisions for the contract, here are some recommendations for preparing your **Unique Special Provision**.....

www.in.gov/indot/design_manual/files/Ch19_2013.pdf



Write the Unique Special Provision.....

- Voice -** Use passive voice. (*the work... shall be...performed*)
- Sentences -** Use simple language and words. Keep sentences short, 20 words or less (please).
- Paragraphs –** Limit to three or four sentences if possible.
- Terminology –** Be consistent. Avoid words with more than one meaning.
- Pronouns -** Avoid them.
- Capitalization -** Only the title can be all caps. Capitalized words may only be Department, Engineer, Contractor, headings or proper nouns.
- Punctuation -** Minimum. The meaning of a sentence should be clear.



Please use proper Punctuation....



Commas save lives!



Remember the Five "C's" of Spec Writing.....

Make sure that your special provision is.....

- **Clear** - Avoid ambiguities. Make no assumptions. Use words that convey the *exact* meaning.
- **Concise** - Use simple words, and short sentences. *Keep it simple. Get to the point! Be positive.*
- **Complete** - Use the *The Big 5*, when necessary. Do not be vague or leave it open to interpretation.
- **Correct** - Technically, grammatically and specologically correct. Check references. (*and spelling*)
- **Consistent** - Phraseology and terminology used in a Special Provision should **be consistent** with that used in the *Standard Specifications*.



Don't leave it open to interpretation, or.....



Please be Clear and Concise:

Commonly used terms to AVOID:

- per, shall conform to, shall comply with.
Instead, use **shall be in accordance with** Section 605.
- as per. Instead, use **as specified, as shown, *in accordance with***.
- as shown in the plans, as detailed on the plans, as indicated in the plans, as shown on the standard drawings. Instead, use
as shown on the plans.
- shop drawings. Use, **working** drawings.
- and/or. Use either **and** alone, or **or** alone. Choose the one most appropriate for your unique situation. (if in doubt, use **or**)



Liquidated damages will be assessed in the amount of \$50,000 per section per instrument type for any instrumentation that fails to meet applicable the Minimum Survival Requirements. For example, if the Contractor installs six horizontal strain gauges in a section and only two of those gauges function, failing to meet the Minimum Survival Requirement, the Contractor will be assessed liquidated damages in the amount of \$50,000.

A bonus will be paid in the amount of \$5,000 per section per instrument type for instrumentation that meets the Minimum Survival Requirements. For example, if the Contractor installs six horizontal strain gauges in a section and four of those gauges function, meeting the Minimum Survival Requirement, the Contractor will be paid a bonus of \$5,000.



Make sure the language is Correct:

➤ at the Contractor's expense. Instead, use

_____ shall be included in the cost of _____,

.....at no additional cost....., or

with no additional payment.

And, (parenthetically speaking), do not use parentheses, use a comma, or two.



Please be (specologically) Correct:

AVOID saying:

- INDOT. Instead, use
the Department.

- or approved equal. Do not use this phrase, but **define the equal**.

- must, should, or is to. Use
shall, or **will**.

Remember: the Engineer **will**

the Contractor **shall**.

(see General Note 11, and 104.01)



Please make sure to use the Correct words:

NOTIFICATION OF TRAFFIC CONTROL CHANGES

The Contractor shall provide notification of all changes in traffic control, including road closures, to the following agencies at least five calendar days prior to implanting the revised traffic pattern:

Monroe County Community School Corporation	812-330-7700
Bloomington Transit	812-336-7433
Monroe County Sherriff	812-349-2534
Bloomington Police Department	812-339-4477
Bloomington Fire Department	812-332-9763
US Post Office	812-334-7013

The Contractor shall provide notification to the following property owners of all changes in detour routes impacting access to their properties at least seven calendar days prior to implanting the revised traffic pattern:

Unity of Bloomington, 4001 S. Rogers Street	812-333-2484
John & Martha <u>Newlin</u> , 420 W. Gordon Pike	812-336-1149

The cost of providing notifications shall be included in the cost of maintaining traffic.

I think they meant to say "*implementing*".



Be Consistent with proper spec language:

- permit or permitted,
unless you are actually going to require them to obtain a permit.

Use **allow**, or **allowed**.

- Do not use " for inches.

Use **in.**

- Do not use ' for feet or foot.

Use **ft** (*no period after ft*)

- For measurements, instead of using 9" x 9", write

9 in. by 9 in.

do the same for **ft**



Please be Clear and Consistent:

➤ For numbers, use **9** for dimensions, and **nine** for quantities, and by all means – do **NOT** say nine (9). That is not necessary.

➤ Also, numbers **nine** or less are spelled out, numbers **10** or above are written numerically.

*Don't place a number at the beginning of a sentence.
If you have to, spell it out!*

➤ And please, don't ever, I mean **never**, use "i.e." or "etc."
(*Seriously. Don't try it. I know people!*)

➤ If at all possible ---> avoid using any "**-ly**" words.
Seriously.

Absolutely.

Usually.



Do you *really* need to say it at all?

12.

13.

14.

15.



Be Correct (and legal)

Materials shall be in accordance with 619.02 and as follows:

All steel components shall receive a powdercoat paint finish in black, Federal Standard 595B Color 17038. Any equivalent coating system shall be as approved by the Engineer. All hardware shall be painted black, Federal Standard 595B Color 17038.

Construction Requirements

Construction of the powdercoat finish shall be in accordance with 619 and the manufacturer's recommendations.

Without this,
the Engineer didn't have a choice!



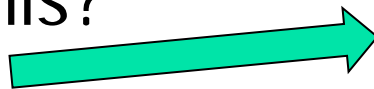
Be Concise and Consistent.....

A cone seeder or other similar broadcasting equipment may also be used if the seed mix does not contain fluffy seeds in amounts sufficient to prevent free flowing without plugging. Seed shall then be pressed into the surface ~~using a cultipacker or roller.~~

All seeding equipment, shall be calibrated to deliver the seed at the rates and proportions specified in the plans. Equipment shall be operated in such a manner as to ensure complete coverage of the entire area to be seeded, and seed shall be placed no de

So..... What ARE
"fluffy seeds" ?

Is it this?



Or this?



Remember - Safety First!

BAT INSPECTION

The Contractor shall inspect the underside of the bridge for the presence of bats prior to construction. If any bats are discovered and do not leave after discovery, the Contractor shall contact an animal control, a wildlife conservation agency, or a public health agency for assistance. If help is not available, the Contractor shall contact the Department of Transportation as

STOP RIGHT HERE!!

1. Find a small container like a box or a large can, and a piece of cardboard large enough to cover the opening of the container. Punch small air holes in the cardboard prior to capturing bat and place cardboard over opening of the container.
2. Put on leather work gloves. When the bat lands, approach it slowly and place the container over it. Slide the cardboard under the container to trap the bat inside.
3. If you are certain there has been no contact between the bat and any people or pets, carefully hold the cardboard over the container and take the bat outdoors and release it away from people and pets.
4. If there is any question about contact between the bat and people or pets, save the bat for testing. Tape the cardboard to the container, securing the bat inside and then contact your health department to have the bat tested for rabies.

This work shall be included in the cost of mobilization and demobilization.

However.....

(a) For work during March 1 to October 31

A trenched-in silt fence shall encircle the entire work area as shown on the plans at least two weeks prior to construction work. Silt fence shall be installed in accordance with 205.06.

Cover objects shall be placed haphazardly, not in transects, throughout the construction area. The qualified biologist shall confirm placement of cover objects. Cover objects shall cover exactly one third of the construction area. Cover objects shall be checked every day for two weeks. Objects shall be checked during temperatures determined appropriate by the qualified biologist.

Any snakes, regardless of species, found under cover objects or within the construction area shall be moved, unharmed, outside of the trenched fencing. Snakes shall be handled with latex-free gloves. A new pair of gloves shall be used for every snake being handled.

After two weeks, the cover objects shall be removed. Construction may start once the cover objects have been removed. Trenched-in silt fencing shall remain in place until completion of the project.

(b) For work during November 1 to February 28:

Requirements from (a) shall apply with the exception that silt fence will be installed at least two weeks prior to construction or no later than October 18.



Are you sure you want to say that?

PILOT LOUNGE

PILOT LOUNGE



Are you sure you want to say that?

Pig Cleaning Procedures

3. Once the speed by hydrant o **715.05 Laying I** the typical speed of 1 fps.

At the time of acceptance, all pipe shall have and other foreign matter.



Prior to constructing a pipe extension, the existing structure shall be cleaned of all foreign materials. Existing anchors, end sections, or headwalls shall be removed as shown on the plans or as directed. All existing pipes which are damaged by the removal operation shall be replaced. Removed materials shall be disposed of in accordance with 202.

within one minute.



On second thought.....



You can't always trust spell-check....

material shall proceed immediately after approval of installation. The geocomposite drainage layer shall be covered by the specified aggregate material within two days of installation.

Tracked equipment and machines shall not operate directly on the geocomposite drainage layer until a minimum of 6 in of aggregate material is placed. Rubber tire vehicles may be allowed to operate on the geocomposite drainage layer to back dump fill material, but shall do so slowly, at speeds of 5 mph or less, and in a straight forward or backwards motion. The vehicle operator shall avoid sharp or standing turns and abrupt stops or acceleration. If any visible damage is noted, fill placement operations shall be stopped. The initial load of specified aggregate material shall be back dumped onto the geocomposite drainage layer and spread to create a working platform. Subsequent loads shall be dumped onto previously placed aggregate and spread with a tracked dozer or similar equipment. When dumping aggregate, the specified aggregate material, equipment operators shall not allow sharp edges such as dozer blades and loader buckets to come in direct contact with the geocomposite drainage layer.

We only allow SMART materials.....

214.04 Fill Placement

Construction vehicles shall not be on the geogrid. The placement of the fill shall proceed



The importance of Proofreading.....

Construction Requirements

The structure base, inlet pipe, and outlet pipe must be set on firm, flat surfaces of compacted soil or fill sand to provide a solid, stable base. Pipes shall be connected and secured using stainless steel clamps. An anti seep collar shall be used on inlet and outlet pipe. The Contractor shall ensure that the structure is level vertically before placing backfill. A survey shall be performed by a professional Land Surveyor to verify the structure base elevation, inlet, and outlet pipe is within +/- 0.5 inch of plans. Hand-tamp backfill soil, do not mechanically compact. Do not use a backhoe or blade to place backfill directly against the water control structure. Inlet and outlet pipes shall be protected by a rodent screen or bar guard. Ensure structure. Place elevation.

How do you “level *vertically*”?

Did they mean “**plumb**”?

Make it a point to read through your USP and imagine how someone else may interpret what you have written.



Do you need to “Quote” me on that?

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The importance of Proofreading.....

compaction following installation. Trees shall not be planted in rows, rather installed **haphazardly** to imitate a more natural pattern. Trees shall be planted so the root collar is even with the ground surface. The roots shall be extended downward into a hole or topsoil. Roots shall not be forced into improper planting holes which would restrict their ability to grow and support the seedling to **permit** survival. Failure to comply with these procedures shall require replanting of trees with no additional payment. Outside temperature and storage requirements shall be in accordance with ~~INDOT design manual standards found in~~ 622.03. All other provisions of planting, backfilling, and watering shall be in accordance with 622.08.

All trees shall be marked with wire flags ~~immediately~~ adjacent to their stems.

Haphazardly.

An *LY* word.

Was it a good idea?



The importance of Proofreading.....

Labeling and Tagging:

The Electrical Contractor shall label all electrical equipment by one of these methods described below:

1. Printed card labels may be used on items of equipment furnished with plastic windows. Labeling of the cards shall be **nearly** printed using a lettering device such as Leroy Instrument.
2. Directories on the inside of panelboards shall be typewritten and shall show a list of circuits and points, equipment, or areas supplied.

Did they mean NEATLY?

Or is it okay if the Contractor just thought about it?

“Well, we *nearly* did the work.....”

Adverbs are not your friend.



Haphazardly ?

Or Nearly?



Make sure
your intentions
are clear.

Please.



There could be consequences.....



Have you ever had a traffic control device walk off the job?



Did anyone check this?



What's wrong with this picture?

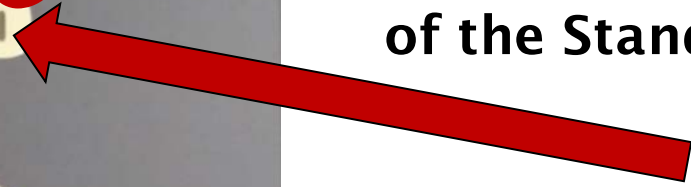


Have you checked that
"Buy America" spec?

106.01(c).

In Summary.....

2020



Please make sure you are referencing the Current version of the Standard Specifications.

Coming Soon!

And *please*

(did you notice I said please? *I'm begging here People!*)

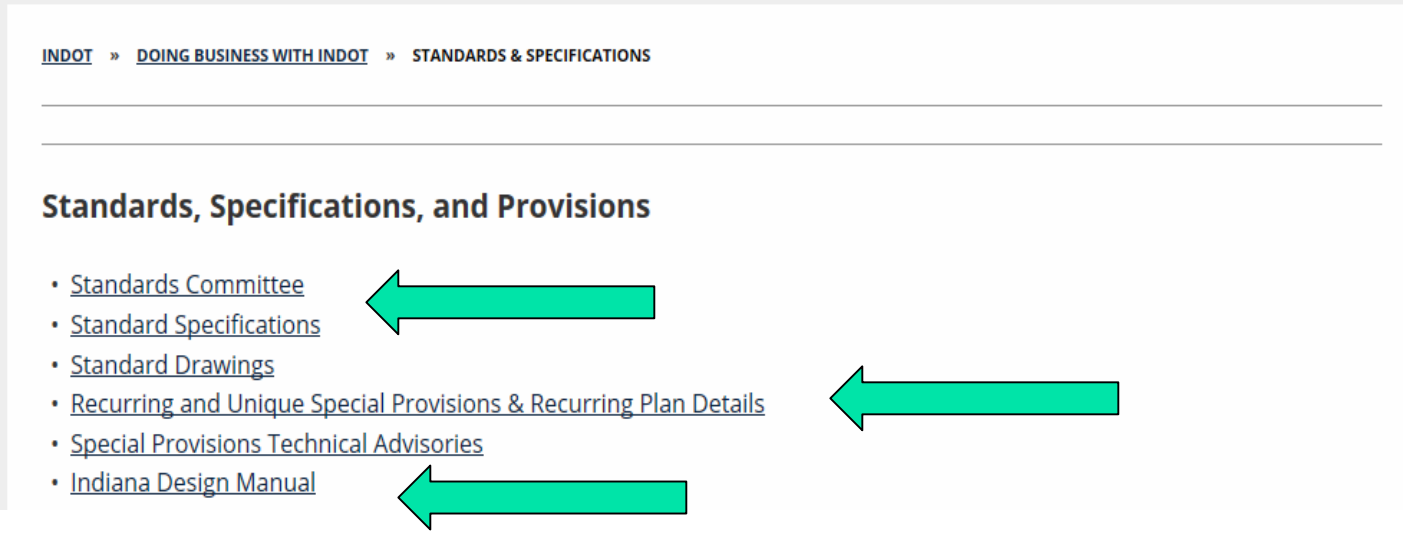
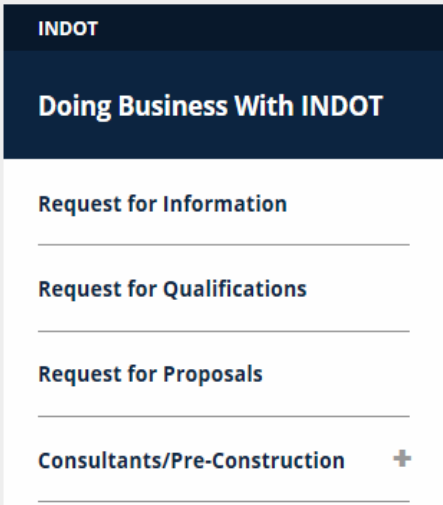
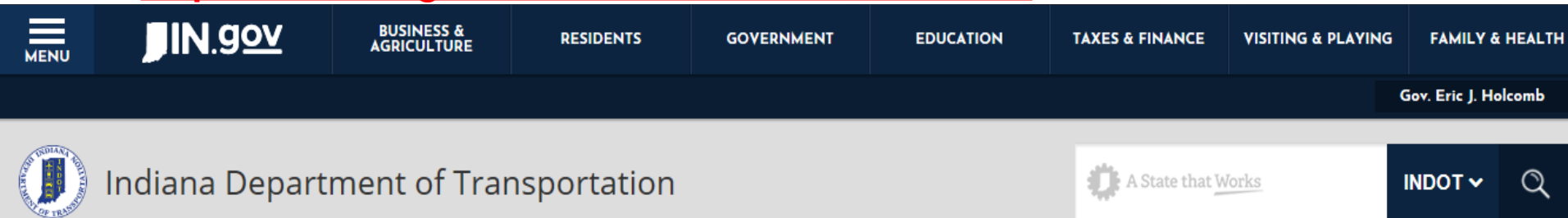
If at all possible, write your Unique Special Provisions in such a way that it points the reader back into the Standard Specifications book at every opportunity.

Also, please (*there it is again!*) look inside the SS Book to see if what you are trying to do is already in there.



Document Links....

- <http://www.in.gov/dot/div/contracts/standards/>



Just go to the INDOT website and click on
Doing Business with INDOT



Thank you.....

RESTROOMS



You can do it. We can help.

