

# Earthwork Inspector - IA Checklist

**Date:** \_\_\_\_\_  
**Technician's Name:** \_\_\_\_\_  
**Technician's email:** \_\_\_\_\_  
**Technician's Company:** \_\_\_\_\_  
**TIN:** \_\_\_\_\_  
**Gauge Serial Number:** \_\_\_\_\_  
**Project name and or number:** \_\_\_\_\_  
**IA Observer:** \_\_\_\_\_

## Procedure Checklist

### FM 1-T238 Density of Solid In Place by the Nuclear Method

No.	Item	Pass	Fail
1	Did the technician allow the gauge to warm-up in accordance with the manufacturers guidelines?		
2	Are the Standard Counts obtained on at least 100 PCF or 1632kg per m cubed material?		
3	Have the Standard Moisture & Density counts been taken today?		
4	Is the Gauge at least 10' away from large objects and at least 30' away from other gauges?		
5	Test site is at least 6" from any vertical object.		
6	Have the last four standard moisture and density counts been recorded in the diary correctly?		
7	Today's standard moisture & density counts calculated correctly & within allowable range.		
8	Did the technician use and record the correct counts?		
9	Is the test site scraped and smooth & all voids > 1/8" filled with native fines?		
10	Drill rod driven to the correct depth (2" past test depth).		
11	Is the gauge indexed to the correct depth?		
12	Is the gauge probe in contact with the correct wall of the hole?		
13	Wet density, density count, and moisture count recorded correctly.		
14	Nuclear moisture content obtained when testing approved base materials (%M), is utilizing approved gauge.		
15	Representative sample obtained correctly, thoroughly mixed and place in a moisture proof container and lid closed.		

### **Determination of Moisture content by means of Calcium Carbide Gas**

No.	Item	Pass	Fail
1	Scale Level & Stable (not applicable for digital scales), protected from the sun, wind, tarred before test begins.		
2	Is the speedy dial on zero before test is performed?		
3	Correct amount of reagent & placed in the body of the tester.		
4	The Speedy held horizontally, balls inserted in the tester correctly (horizontally)		
5	Representative sample obtained correctly, thoroughly mixed and place in a moisture proof container and lid closed.		
6	Is sample weighed correctly and brushed into cap?		

7	Body of tester horizontal when cap placed and sealed.		
8	Balls placed in orbit for the appropriate time? Sand minimum 1 min., heavy clay minimum 3 min. <i>1 Min. or 3 Min.</i>		
9	Readings taken while tester is horizontal at eye level.		
10	Did the technician verify the dial was stabilized and record the correct final reading?		
11	Refer to correct conversion chart and read correctly? 1 or 3 minute.		
12	Test cap opened away from the operator.		
13	Sample examined for lumps.		
14	If lumps are present, a second test ran on remaining sample.		
15	Cap and washer cleaned with cloth.		
16	Body of tester cleaned with brush.		
<b>Reporting Test Results in the density log book</b>			
No.	Item	Pass	Fail
1	Nuclear gauge serial number entered.		
2	Test depth entered correctly.		
3	Test station measured and entered correctly.		
4	Test lift and Total lift numbers measured and entered correctly.		
5	Test location measured and entered correctly.		
6	Standard density count entered correctly.		
7	Soil density count entered correctly.		
8	Wet density entered correctly.		
9	Standard moisture count entered correctly.		
10	Soil moisture count entered correctly.		
11	Speedy dial reading entered correctly.		
12	Correct moisture conversion entered correctly.		
13	Dry density computed and recorded with the correct accuracy.		
14	Correct proctor value entered.		
15	Percent maximum density computed and recorded with correct accuracy.		
<b>Stockpiles (Manual Sampling)</b>			
No.	Item	Pass	Fail
1	Shove a board vertically into a pile just above sampling point (Coarse Aggregate).		
2	Take Increments from the top third, mid-point, and bottom third of the volume of the pile (Coarse Aggregate).		
3	Remove the outer layer and sample from the material beneath (Fine Aggregate).		
4	Insert the appropriate sampling tube randomly to extract increments (Fine Aggregates).		
5	Obtain a minimum of five increments (Fine Aggregate).		
6	Combine the increments to form a field sample (Fine & Coarse Aggregate).		
7	Ensure that the size of the field sample equals or exceeds the approximate minimum mass		
<b>Roadway (Bases and Sub-bases)</b>			
1	Mark areas or place a metal template over specific areas from which will be taken.		
2	Remove the material throughout the full depth.		
3	Exclude any underlying material.		
4	combine the increments to form a field sample.		
5	Ensure that the size of the field sample equals or exceeds the approximate minimum mass recommend in Table 1.		



# Asphalt Field Inspector - IA Checklist

Date:

Name:

Company:

Email:

TIN:

Project name and or number:

IA Observer:

## Procedure Checklist

### Drilled Shaft

<b><u>Measurement of pavement smoothness with the 15' rolling straightedge.</u></b>				
No.	Item	Yes	No	N/A
1	Did the contractor notify the CEI and Authority that the project was ready for straight edging within 48 hours minimum?			
2	Were representatives from the CEI, Authority and the contractor present?			
3	Was a 15' manual straightedge on the project and in good working condition?			
4	Was the manual straightedge checked with a string line for accuracy?			
5	Was it verified that there was free vertical movement of the center wheel?			
6	Did the rolling straightedge check out on a flat are with the manual straightedge?			
7	Was the dial was checked to read "0" when placed on the flat surface and adjustments were made as required?			
8	Were 3/16" and 3/8" shims used and the dial indications verified?			
9	Did CEI and Authority representative continuously observe the indicator for highs and lows in excess of 3/16"?			
10	Were deficient areas marked by the contractors' representative with spray paint or other marking method?			
11	Was the location and magnitude of deficiencies recorded on a straightedge worksheet?			
12	Was there proper maintenance of traffic provided?			
<b><u>Milling</u></b>				
No.	Item	Yes	No	N/A
1	Is the milling machine equipped with a built-in automatic grade control system capable of maintaining a depth of cut and cross slope that will achieve the results specified in the contract documents?			
2	Is the milled surface swept with a power broom or other approved equipment? (Spec. 327-3)			
3	Is a street sweeper used in urban and other sensitive areas? (Spec. 327-3)			
4	Was any surface delamination or scaling pieces removed?			
5	Does milling surface have a uniform texture 1/4" per 10'?			
6	Are the depth of cut and the cross slope checked periodically and documented in on cross slope sheets, QC and VT field books to ensure that the results are in compliance with the contract requirements? (Spec. 327-4)			

<b><u>Prime and tack coat</u></b>				
No.	Item	Yes	No	N/A
1	Was the asphalt distributor used is in accordance with the specifications? (300-3)			
2	Was the roadway surface cleaned prior to application of the tack coat? (300-5)			
3	Was the tack coat applied uniformly with the proper spread rate? (Spec. 300-7)			
4	Was the tack broken prior to the placement of asphalt?			
<b><u>General paving</u></b>				
No.	Item	Yes	No	N/A
1	Are all of the QC/QA technicians roadway qualified?			
2	Has the surface to be paved been cleaned and tacked on existing pavement structures that re to be overlaid with asphalt and between successive layers of asphalt?			
3	Is the paving machine equipped with automatic screed controls that are being used during paving operation?			
4	Does paving machine have a screed width greater than 8' on full width lanes?			
5	Is the string line method being used to obtain and accurate uniform alignment of the pavement edge in areas other than adjacent of curb and gutter?			
6	Was there a constant supply of mix (head of material) maintained at the augers in front of the screed? (330-9)			
7	Was the placement of asphalt mixtures stopped while rain is falling or when there is water on the surface to be paved? (Spec. 330-3 and 330-9)			
8	Was transportation of asphalt mixtures immediately ceased at the plant once rain began to the roadway? (Spec. 330-3 and 330-9)			
9	If the contractor elected to place mix caught in transit , at his own risk, was water removed from the tacked surface to the satisfaction of the CEI and does mix still meets the temperature requirements of 330-10.1.2? (Spec. 330-9)			
10	Was the mix that was caught in transit evaluated separately as a new lot or lots to test of density and evaluation of the bonding between the newly paved layer and under layer? (Spec. 330-9)			
11	Are the depths of the mat, spread rates and cross slope of the pavement being checked at regular intervals to ensure that the results are in compliance with contract requirements? (330-12)			
12	Were the transverse joints and longitudinal joints constructed properly and checked by 15' manual straightedge to achieve smooth and compacted surfaces? Transvers joint should be cross-rolled whenever possible. (Spec. 330-11)			
13	Were the compaction equipment equipped with wheel moistening systems, scrapers and pads to avoid have in HMA adhering to the wheels? (Spec. 320-12)			
14	Were the pneumatic-tire rollers using tires inflated to 50-55 psi. (Spec. 330-10)			
15	Was the self-propelled pneumatic roller used on first overbuild course or the first structural layer on milled surface and asphalt rubber membrane interlayer (AEMI) layer? (Spec. 330-10)			



# Concrete Field Inspector - IA Checklist

<b>Date:</b>	
<b>Technician's Name:</b>	
<b>Technician's Company:</b>	
<b>TIN:</b>	
<b>Project name and or number:</b>	
<b>IA Observer:</b>	

## Procedure Checklist

### **ASTM C 172 Sampling Freshly Mixed Concrete**

No.	Item	Pass	Fail
1	Obtain a representative sample (i.e., from a revolving drum truck mixer).		
2	Sample the concrete at two of more regularly spaced intervals during discharge of the middle portion of the batch.		
3	Repeatedly pass receptacle through entire discharge stream or completely divert discharge stream into sampling container.		
4	Transport samples to place of testing.		
5	Combine samples and remix to form composite sample.		
6	Obtaining the first and final portion of the composite sample shall not exceed 15 minutes.		
7	Minimum size of sample used for strength tests shall be 1 cubic ft.		
8	Start tests for slump, temperature, and air within 5 minutes after obtaining final portion of composite sample.		
9	Start molding cylinders within 15 minutes after fabricating the composite sample.		
10	Protect sample against rapid evaporation and contamination.		

### **ASTM C 1064 Temperature of Freshly mixed Portland Cement Concrete**

No.	Item	Pass	Fail
1	Place thermometer in sample with a minimum of 3" cover around sensor.		
2	Close the air void by gently pressing the concrete around the measuring device		
3	Read the temperature after a minimum period of 2 minutes but no more than 5 minutes.		
4	Do not remove the device from the concrete when reading the temperature.		
5	Record the measured temperature to the nearest 1°F.		

### **ASTM C 143 Slump of Hydraulic Concrete**

No.	Item	Pass	Fail
1	Obtain a sample of freshly mixed concrete per ASTM C 172.		
2	Dampen the mold and the floor or base plate.		
3	Hold the mold firmly against the base by standing on two foot pieces. Do not allow it to move in any way during filing and perimeter cleaning.		
4	Fill mold in three approximately equal layers (by volume), the first to a depth of 2-5/8", the second to a depth of 6-1/8" and the third to just over the top of the mold.		

5	Rod each layer throughout its depth 25 times, distributing the strokes uniformly over the cross section of each layer.		
6	Rod the second and third layers penetrating into the underlying layer approximately 1".		
7	When rodding the top layer, keep excess concrete above the mold at all times.		
8	Strike off concrete level with top of mold using the tamping rod.		
9	Remove concrete from the area surrounding base of the mold.		
10	Lift the mold upward 12" on one smooth motion, without twisting the mold, in 5+/- 2 seconds		
11	Immediately measure to the nearest 1/4" the slump from the top of mold to the displaced original center of the top surface of the specimen		
12	Perform the test from start to finish within 2-1/2 minutes.		

### ASTM C 231 Air Content of Freshly Mixed Concrete by Pressure Method

No.	Item	Pass	Fail
1	Select a representative sample.		
2	Dampen container and fill in three equal layers by moving scoop around perimeter when filling, slightly overfilling the last layer.		
3	Rod each layer 25 times with hemispherical end of rod uniformly distributing, uniformly distributing strokes..		
4	Rod bottom layer throughout its depth without forcibly striking bottom of container.		
5	Rod the middle and top layer throughout their depths and penetrating about 1" into the underlying layer.		
6	Tap the sides of the container smartly 10-15 times with the mallet after rodding each layer.		
7	Strike off concrete (using a sawing motion) level with top of container using the bar clean off rim..		
8	Clean and moisten inside of cover before clamping to base.		
9	Is the aggregate correction factor records determined on the actual concrete proportions being tested.		
Type B METER			
10	Open both petcocks.		
11	Close air valve between air chamber and the bowl.		
12	Inject water through petcock until it flows out the other petcock.		
13	Continue injecting water into the petcock while jarring and tapping the meter to insure all air is expelled.		
14	Close air bleeder valve and pump air up to initial pressure line.		
15	Allow a few seconds for the compressed air to stabilize.		
16	Adjust the gauge to the initial pressure.		
17	Close both petcocks.		
18	Open air valve between chamber and bowl.		
19	Tap sides of bowl smartly with mallet.		
20	Read the air percentage after lightly tapping the gauge to stabilize the gauge hand.		





# Drilled Shaft Inspector - IA Checklist

**Date:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**TIN:** \_\_\_\_\_

**Project name and or number:** \_\_\_\_\_

**IA Observer:** \_\_\_\_\_

## Procedure Checklist

### **Drilled Shaft**

No.	Item	Yes	No	N/A
1	Does the inspector have the necessary Personal Protective Equipment (PPE) - including hard hat, safety vest, etc.?			
2	Does the inspector have a copy of the project's drilled shaft plans (including soil borings)?			
3	Does the inspector have a copy of the applicable FDOT Road and Bridge Specs, Standard Design Index and Supplemental Specifications for the project?			
4	Does the inspector have a copy of the DSIP and mix design? (spec 455-15.1.2 and 455-17.1)			
5	Does the inspector have the required tools, equipment and forms to inspect and document the drilled shaft installations? (ex. drilled shaft logs, pencil/pen, retractable steel tape, weighted tape, calculator, camera, etc.)			
6	Does the inspector have a project contact list available?			
7	Has the inspector compared the contractor's on-site materials and equipment with that listed on the approved DSIP?			
8	Has the inspector measured the actual diameter of the soil/rock auger(s) to be used and compared it to the plan shaft diameter?			
9	Has the inspector performed pre-installation rebar cage inspection - including cage diameter, length, steel, ties, spacers, CSL tubes, etc.? (spec 455-16)			
10	Has the inspector measured the tremie diameter and length to make sure it meets spec requirements, the plug is sealed, and the tremie is long enough to rest firmly on the shaft bottom while charging with concrete? [spec 455-15.9, 455-17, 400, 400-8.3 (10" min. ID for tremie, 455-17.1)			
11	Has the inspector checked that the contractor has correctly established controls (BM, TBM, etc.) for the plan location and top elevation for the shaft?			
12	Has the inspector obtained a good reference (ex. Casing, string line, etc.) and elevation from the contractor for depth measurements using a weighted tape during excavation and concrete placement? (the contractor should have the ability to re-establish a reference & elevation, as necessary)			
13	Has the inspector accurately determined and recorded surface casing dimensions (length, ID, OD) and casing top & tip elevations on the Drilled Shaft Log? (form 700-010-84) (is spec 455-15.8.3 applicable? - if so, was min. 5' below ground an 1-ft above ground surface followed?)			
14	Does the inspector correctly calculate the cased/uncased Theoretical Volume profile [X - vol. (cy) vs. Y - depths (ft)] prior to concrete placement?			

15	Does the inspector monitor the mixing, introduction and maintenance of the slurry during excavation? (spec 455-15.8)			
16	Is the inspector verifying the slurry level is being maintained 4' above GWT (mineral slurry 455-15.18.1) or sufficient to prevent hole caving (polymer slurry 455-15.8.2)?			
17	Does the inspector record soil excavation data (depths, times, soil description, notes, etc.) correctly on the Drilled Shaft Log? (form 700-010-84)			
18	Does the inspector monitor and record the required slurry and fluid testing performed by QC inspection? (spec 455-15.8)(include test data on Drilled Shaft Log, form 700-010-84)			
19	Does the inspector correctly perform and record the measured depth of the excavated shaft bottom on the Drilled Shaft Log form (700-010-84)? (spec 455-11.4 and 455-11-4.1)			
20	Does the inspector correctly perform and record the shaft bottom cleanliness (sediment) inspection on the Drilled Shaft log form (700-010-84)? (spec 455-11.4 and 455-11.4.1)			
21	Does the inspector verify the contractor has provided adequate rebar cage support to center cage in excavation and maintain the cage top at the correct elevation? (spec 455-16.3)			
22	Does the inspector re-check bottom depth & cleanliness after the rebar cage is installed, just prior to starting placemen - to verify shaft depth is maintained (no soil collapse) and bottom is clean?			
23	Does the inspector consider 12 hour time limit of concrete delivery and final cleanout inspection to minimize slurry cake build-up? (misc. filled shafts up to 60", spec 455-15.11.5.1)			
24	Does the inspector make sure the plugged tremie is water-tight and firmly placed on the shaft bottom prior to charging with concrete and lift-off to start concrete placement? (spec 455-15.9)			
25	Does the inspector make sure the tremie tip remains embedded (at least 10', after 10' of concrete is placed) in the rising concrete throughout concrete placement? (spec 455-15.9)			
26	Does the inspector correctly record concrete placement data (truck number, volume, start/stop time, slump, depth tag data, waste, etc.) on the Drilled Shaft Concrete Placement Log? (form 700-010-89)			
27	Does the inspector consider sample testing (slump, cylinders, etc.), steel cage and waste volumes in the shaft concrete volume calculations? (more important when, and if, the actual placed volume is considered marginal)			
28	Does the inspector verify the contractor performs an adequate shaft concrete over pour (to flush out contaminants until good quality concrete is evident at the top of the shaft)? (spec 455-17.1)			
29	Does the inspector use an appropriate X-Y scale on the concrete curve axis that best presents the shaft's actual and theoretical curve detail?			
30	Does the inspector check the top elevation of the rebar cage immediately prior to and after concrete placement?			
31	Has the inspector checked the anchor bolt size and diameter, length, quantity and pattern prior to installation?			
32	Does the inspector monitor the placement of the lead bot for mast arm foundations? (to verify bolt pattern is oriented correctly)			
33	Did the inspector monitor anchor bolt placement in relation to CSL tubes. Do the CSL tubes interfere with the anchor bolts on back side or does loaded anchor bolt have clearance of 1.5" minimum?			

34	Does the inspector include specific details of the drilled shaft location including nearest intersection (Form 700-010-84)?			
35	Does the inspector include thorough and accurate notes regarding any issues or irregularities that occur during the drilled shaft installation?			
Notes:				

# Pile Inspector - IA Checklist

**Date:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**TIN:** \_\_\_\_\_

**Project name and or number:** \_\_\_\_\_

**IA Observer:** \_\_\_\_\_

## Procedure Checklist

### **Drilled Shaft**

No.	Item	Yes	No	N/A
1	Does the inspector have the necessary Personal Protective Equipment (PPE) - including hard hat, safety vest, etc.?			
2	Does the inspector have a copy of the project's bridge/pile plans (including soil borings)?			
3	Does the inspector have a copy of the applicable FDOT Road and Bridge Specs, Standard Design Index and Supplemental Specifications for the project?			
4	Does the inspector have a copy of the criteria set during the test pile program by the PDA specialty engineer?			
5	Does the inspector have the required tools, equipment and forms to inspect and document the pile installation?			
6	Does the inspector have a project contact list available?			
7	Did the inspector inspect the pile after delivery for any deficiencies and that the dunnage was in accordance with the Standard Indexes? (455-7)			
8	Has the inspector compared the contractor's on-site materials and equipment with that listed on the approved Pile Driving Installation Plan? (455-10)			
9	Has the inspector compared the hammer/equipment used during the test pile to see that it is the same for production pile? (455-10)			
10	Has the contractor provided an adequate template to maintain the pile in proper position and alignment during driving? (455-5)			
11	Has the inspector checked that the contractor has correctly established controls (BM, TBM, etc.)?			
12	Has the inspector obtained a good reference (ex. template elevation, string line, top of angle iron on template, etc.) and elevation from the contractor for track of blows per foot/inch during driving of pile? (the contractor should have the ability to re-establish a reference & elevation, as necessary)			
13	Does the inspector correctly record data such as blows per foot/inch, stroke height, start time, stop time and any other notes pertaining to the pile being driven?			
14	Does the inspector monitor the pile installation for any abnormalities during the driving process?			
15	Does the inspector notify the correct contacts if there are any irregularities that occur during the pile installation?			
16	Is the inspector familiar with the acceptance criteria?			
17	Does the inspector correctly inform the contractor when to stop the pile once it reaches criteria?			
18	Does the inspector correctly note that the pile has met the criteria (including reaching minimum tip)?			

