

Summary Listing of Tests from AC 150/5370-10F

P-152 Excavation and Embankment

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|---|--------------------|--------------------|---------------------------|---|--|-------|
| QA | 152-2.6 | Structural Fill | Proof roll | In-place | Per Direction of Engineer | Rubber tired equipment weighing at least 25 tons | Engineer Observation | |
| QA | 152-2.6, Table 152-1 | Structural Fill placed below the Pavement Soil subgrade | Density & Moisture | In-place | 1 per 4,000 SY | 95% density; +/- 2% Optimum | ASTM D 2922, ASTM D 1556, or ASTM D 2167 | |
| QA | 152-2.6, Table 152-1 | Utility trenches within building and pavement areas | Density & Moisture | In-place | 1 per 4,000 SY | 98% density; +/- 2% Optimum | ASTM D 2922, ASTM D 1556, or ASTM D 2167 | |
| QA | 152-2.6, Table 152-1 | Embankment beneath landscaped or grass areas | Density & Moisture | In-place | 1 per 1,000 SY | 92% density, moisture as needed to obtain density | ASTM D 2922, ASTM D 1556, or ASTM D 2167 | |
| QA | 152-2.9 | Areas under subbase or base course | Grade Tolerance | In-place | | ≤ 1/2" deviation (using 16' straight-edge); +/- 0.05' from true grade | Straightedge; Survey Results | |
| QA | 152-2.9 | Safety areas | Grade Tolerance | In-place | | +/- 0.10' from true grade | Survey Results | |

P-154 Subbase Course

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------------|--------------------|--------------------|------------------------|---|------------------------------|-------|
| QA | 154-2.1 | Subbase Course | Gradation | Stock Pile | 1 per day | Table I gradation | ASTM C 136 ASTM D 422 | |
| QA | 154-3.7 | Subbase Course | Density & Moisture | In-place | 1 per 4,000 SY | 100% ASTM D698<60K; 100% ASTM D1557>60K; +/- 2% Optimum | ASTM D 2922 & ASTM D 1556, | |
| QA | 154-3.8 | Subbase Course | Grade Tolerance | In-place | | ≤ 1/2" deviation (using 16' straight-edge); +/- 0.05' from true grade | Straightedge; Survey Results | |
| QA | 154-3.9 | Subbase Course | Thickness | In-place | 1 per 500 SY | -1/2" | Depth Test or Sample holes | |

P-155 Lime Treated Subgrade

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|-----------------------|----------------------------|--------------------|------------------------|------------------------|----------------------|------------------------------|
| QA | 155-3.1 | Lime Treated Subgrade | Application rate | In-place | One per 500 SY | 5-7% (+0.5%) | | Rate per Geotechnical Report |
| QA | 155-6.4 | Lime Treated Subgrade | Moisture Density Relations | In-place | One per 1000 SY | 93%(0 to +2% Optimum) | ASTM D 698 | |
| QA | 155-3.2, 6.6 | Lime Treated Subgrade | Thickness | In-place | One per 300 SY | -1/2" | Physical Measurement | |

P-157 Cement Kiln Dust (CKD) Treated Subgrade

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|------------------|----------------------------|--------------------|------------------------|------------------------|----------------------|------------------------------|
| QA | 157-3.2 | Cement Kiln Dust | Application rate | In-place | One per 500 SY | 5-7% (+0.5%) | | Rate per Geotechnical Report |
| QA | 157-6.2 | Cement Kiln Dust | Moisture Density Relations | In-place | One per 1000 SY | 90%(0 to +2% Optimum) | ASTM D 1557 | |
| QA | 157-6.6 | Cement Kiln Dust | Thickness | In-place | One per 300 SY | -1/2" | Physical Measurement | |

P-158 Fly Ash Treated Subgrade

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|-----------------------------|----------------------------------|--------------------|------------------------|---|---|-----------------------------------|
| Contractor | 158-2.1 | Fly Ash | CaO | Source | Approved by Engineer | Class "C" designation Minimum 25% CaO | ASTM C 618 Section 3.3, 5, 6, and 8 | |
| Contractor | 158-2.2 | Water | AASHTO T 26 or potable | Source | One per source | AASHTO T 26 or potable | AASHTO T 26 or potable | |
| QA | 158-3.1 | Fly Ash Treated Subgrade | Application rate | In-place | One per 500 SY | 12-15% (+0.5%) of dry weight [8.5-10lbs/sf] depth of 8-inches | | |
| QA | 158-3.2, 6.3, 6.4 | Fly Ash Treated Subgrade | Moisture Density Relations | In-place | One per soil type | N/A | ASTM D 698 | |
| QA | 158-3.2, 6.3 | Fly Ash Treated Subgrade | Moisture Content | In-place | One per 500 SY | 0% - 3% | ASTM D 698 | |
| QA | 158-6.4 | Fly Ash Treated Subgrade | Density | In-place | One per 500 SY | 95% or greater | ASTM D 698 ASTM D 1556, ASTM D 2167, ASTM D 2922 | Compact on dry side of optimum |
| QA | 158-3.2, 6.6 | Fly Ash Treated Subgrade | Thickness | In-place | One per 500 SY | [Per Project] | ASTM D 3665 | |
| QA | 158-6.5 | Fly Ash Treated Subgrade | Grade Tolerance | In-place | | ≤ 3/8" deviation parallel and right angles to CL with 16' Straightedge. | Physical Measurement | |

P-207 Recycled Bituminous Aggregate Base Course

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|---|--------------------------|--------------------|------------------------|---|---|---|
| QA | 207-2.1 | Recycled Bituminous Aggregate Base Course | Gradation | Stockpile | 1 per day | | ASTM C136 ASTM D422 | |
| QA | 207-3.2 | Recycled Bituminous Aggregate Base Course | Fly Ash Application Rate | In-place | One per 500 SY | 10% (+0.5%) of dry weight | | |
| QA | 207-3.4.1 | Recycled Bituminous Aggregate Base Course | Proof roll | In-place | Per Lift | < 1" deflection and < 1" permanent deformation | Tandem Axle Dual Wheel Dump Truck loaded to legal limit | May need to modify procedure to match equipment available |
| QA | 207-3.5 | Recycled Bituminous Aggregate Base Course | Density & Moisture | In-place | 1 per lot [800 SY] | 95% density; -2% to 0% Optimum | ASTM D 2922, ASTM D 1556, | |
| QA | 207-3.7 | Recycled Bituminous Aggregate Base Course | Grade Tolerance | In-place | | ≤ 3/8" deviation parallel and right angles to CL with 16' Straightedge. | Physical Measurement | |
| QA | 207-3.8 | Recycled Bituminous Aggregate Base Course | 0 | In-place | Per lot | -1/2" | Physical Measurement | |

P-208 Aggregate Base Course

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------------------|--|---------------------------------|------------------------|--|---|---|
| Contractor /QA | 208-2.3 | Aggregate | Gradation | Source | One per source | P-208, Table 1 | ASTM C 117 ASTM C 136, ASTM D422 | Certified State Test results acceptable if less than 6 months old, Amt No 200 less than 1/2 of the % No40, < 3% finer than .02 mm unless all crushed. |
| QA | 208-3.4d | Aggregate | Gradation Verification | In-place | 1 per day | P-208, Table 1 | ASTM D 75, ASTM C 136, ASTM C 117 | |
| Contractor | 208-2.2 | Aggregate | Materials Crushed Slag | Source | One per source | Unit weight > 70 lbs/cf | ASTM C 29 | |
| Contractor | 208-2.2 | Aggregate | Base material course aggregate | Source | One per source | Reasonably free of flat / elongated 2 fractured faces $\geq 60\%$ 1 fractured face $\geq 75\%$ | ASTM D 693 | |
| Contractor | 208-2.1 | Aggregate | Wear | Source | One per source | Wear $\leq 45\%$ | ASTM C131 | |
| Contractor | 208-2.3 | Base Course Material | Base material passing the No. 40 sieve | Liquid limit & Plasticity index | One per source | LL ≤ 25 ; PI ≤ 4 | ASTM 4318 | |
| QA | 208-3.4 and 208-3.5 | Aggregate | Moisture/ Density | In-place | 1 per 300 SY | 100% laboratory D698 < 60,000 lb D1557 > 60,000lb 98% control Strip Density (Establish control strip density by determining compactive effort needed to obtain maximum field density) | ASTM D 2922, ASTM D 3017, ASTM D 1556, ASTM D 2167 ASTM D 698 | if a nuclear gauge is used two random reading shall be made for each sub-lot. |
| QA | 208-3.7 | Base Course | Grade Tolerance | In-place | | $\leq 3/8"$ deviation (using 16' straight-edge) | Straightedge | |
| QA | 208-3.8 | Base Course | Thickness | In-place | 1 / 300 SY | - 1/2" | Physical Measurement ASTM D 3665 Either Cores or depth tests comprised of contractors survey | |

* **Notes:** Lot Definition: Lot equals one day's production if 2,400 SY or less; Lot equals one-half day's production if 2,400 to 4,800 SY. Divide each lot into two equal sub-lots.

P-209 Crushed Aggregate Base Course

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------------------|--|---------------------------------|------------------------|---|---|---|
| Contractor /QA | 209-2.1a and 2.1b | Aggregate | Gradation | Source | One per source | P-209, Table 1 | ASTM C 117 ASTM C 136 | Certified State Test results are acceptable if less than 6 months old |
| QA | 209-2.1a | Aggregate | Gradation Verification | In-place | 1 per lot | P-209, Table 1 | ASTM D 75, ASTM C 136, ASTM C 117 | |
| Contractor | 209-2.1 | Aggregate | Materials Crushed Slag | Source | One per source | Unit weight > 70 lbs/cf | ASTM C 29 | |
| Contractor | 209-2.1 | Aggregate | Base material course aggregate | Source | One per source | Flat/elongated ≤ 15% 2 fractured faces ≥90% 1 fractured face = 100% | ASTM D 693 | |
| Contractor | 209-2.1 | Aggregate | Wear | Source | One per source | Wear ≤ 45% | ASTM C131 | |
| Contractor | 209-2.1 | Aggregate | Soundness | Source | One per source | Sodium Sulfate soundness loss ≤ 12% after 5 cycles | ASTM C 88 | |
| Contractor | 209-2.1 | Base Course Material | Base material passing the No. 40 sieve | Liquid limit & Plasticity index | One per source | LL ≤ 25 PI ≤ 4 | ASTM 4318 | |
| Contractor | 209-2.1 | Fine Aggregate | Base material fine aggregate | Source | One per source | Minimum Sand Equivalent value of 35 | ASTM 2419 | |
| QA | 209-3.4 and 209-3.5 | Aggregate | Moisture/Density | In-place | 1 per sub-lot* | 100% laboratory D698 < 60,000 lb D1557 > 60,000 lb 98% control Strip Density (Establish control strip density by determining compactive effort needed to obtain maximum field density) | ASTM D 2922, ASTM D 3017, ASTM D 1556, ASTM D 2167 ASTM D 698 | If a nuclear gauge is used two random reading shall be made for each sub-lot. |
| QA | 209-3.7 | Base Course | Grade Tolerance | In-place | | ≤ 3/8" deviation (using 16' straight-edge) | Straightedge | |
| QA | 209-3.8 | Base Course | Thickness | In-place | 4 per lot* | 4" or more | Physical Measurement ASTM D 3665. Either Cores or depth tests comprised of contractors survey | |

* **Notes:** Lot Definition: Lot equals one day's production if 2,400 SY or less; Lot equals one-half day's production if 2,400 to 4,800 SY. Divide each lot into two equal sub-lots.

P-219 Recycled Concrete Aggregate Base Course

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------------------|--|---------------------------------|--|---|--|-------|
| Contractor | 219-2.1a and 2.1b | Aggregate | Gradation | Source | One per source | P-219, Table 1 | ASTM C 117 ASTM C 136 | |
| QA | 219-2.1a and 4.8 | Aggregate | Gradation Verification | In-place | Per Direction of Engineer - Minimum 1 per sub-lot* | P-219, Table 1 | ASTM D 75, ASTM C 136, ASTM C 117 | |
| Contractor | 219-2.1 | Aggregate | Materials | Source | One per source | PCC >90% by weight Remaining 10% - Wood (0.1% max); Brick mica, schist (max 4%); Asphalt concrete (10% max) | | |
| Contractor | 219-2.1 | Aggregate | Base material course aggregate | Source | One per source | Flat/elongated \leq 20% on the 0.5 inch sieve | ASTM D 4791 | |
| Contractor | 219-2.1 | Aggregate | Wear | Source | One per source | Wear \leq 45% | ASTM C131 | |
| Contractor | 219-2.1 | Base Course Material | Base material passing the No. 40 sieve | Liquid limit & Plasticity index | One per source | LL \leq 25; PI \leq 4 | ASTM 4318 | |
| Contractor | 219-2.1 | Fine Aggregate | Base material fine aggregate | Source | One per source | Minimum Sand Equivalent - 35 | ASTM 2419 | |
| QA | 219-4.7 and 219-4.8 | Aggregate | Moisture/Density | In-place | 1 per sub-lot* | Moisture content as determined by Engineer 100% density If test fails - two additional tests shall be made | ASTM D 698 ASTM D 2922 ASTM D 3017 | |
| QA | 219-4.10 | Base Course | Grade Tolerance | In-place | | \leq 3/8" deviation (using 16' straight-edge) | Straightedge | |
| QA | 219-4.11 | Base Course | Thickness | In-place | 4 per lot* | 4" or more | Physical Measurement ASTM D 3665 Either Cores or depth tests comprised of contractors survey | |

* **Notes:** Lot Definition: Lot equals one day's production if 1,200 SY or less; Lot equals one-half day's production if 1,200 to 2,400 SY. Divide each lot into two equal sub-lots.

P-304 Cement Treated Base Course

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|------------|----------------------|--------------------|------------------------|-------------------------------------|----------------|-------|
| Contractor | 304-2.1 | Mix Design | Compressive Strength | Source | Per Project | 7 day: 500 psi min 1,000 psi max | ASTM D1633 | |
| QA | 304-6.1.1 | CTB | Density | Location | 1/sub-lot | 98% | ASTM D 558 | |
| QA | 304-6.1.2 | CTB | Thickness | Location | 1/sub-lot | random 4' core, - 1/2" | | |
| QA | 304-6.1.3 | CTB | Grade Tolerance | | 1/25' | 1/2" | | |
| QA | 304-6.1.4 | CTB | Surface Tolerance | Location | | 3/8" / 16' | | |

P-401 Plant Mix Bituminous Pavements

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------|------------------|--------------------|------------------------|--|--|--|
| Contractor | 401-3.4 | Job Mix | Test Section | project | one | Stability = Flow = Mat Density Air Voids = Joint Density 90 PWL Gradation AC within action limits VMA | | Evaluated as a single lot, but shall consist of 3 sub-lots |
| QA | 401-5.1a(2) | HMA | Stability / Flow | 4 sub-lots/lot | 2/sub-lot | <60K 1350 / 10-18 >60K 2150 / 10-16 | ASTM D 6927 ASTM D3203 | |
| QA | 401-5.1a(2) | HMA | BSG | 4 sub-lots/lot | 2/sub-lot | | ASTM D 2726 | For use in computing air voids and mat density |
| QA | 401-5.1b(1) | HMA | Mat Density | sub-lot | 1/sub-lot | > 1' from joint ASTM D3665 | ASTM D 2726 ASTM D 1188 | BSG Lot / Avg Lab BSG |
| QA | 401-5.1b(2) | HMA | Joint Density | sub-lot | 1/sub-lot | centered on joint | ASTM D 2726 ASTM D 1188 | lowest BSG Lot / Avg Lab BSG |
| QA | 401-5.2b (1) | HMA | Mat Density | sub-lot | lot | > 90 PWL | Section 110 | See Table 5 for upper & lower limits |
| QA | 401-5.2b (1) | HMA | Air voids | sub-lot | lot | > 90 PWL | Section 110 | TMD per lot ASTM D-2041 |
| QA | 401-5.2b (2) | HMA | Stability / Flow | sub-lot | lot | > 90 PWL | Section 110 | Average of all for sub-lot |
| QA | 401-5.2b (3) | HMA | Joint Density | sub-lot | lot | > 90 PWL | Section 110 | Min. 5" Core |
| QA | 401-5.2b (4) | HMA | Thickness | sub-lot | lot | - 1/4" | Use mat cores | |
| QA | 401-5.2b (5) | HMA | Smoothness | sub-lot | lot | 3/8" 16' straightedge | | |
| QA | 401-5.2b (6) | HMA | Grade | lot | lot | +/-1/2" from plan | Levels @ 50' stations by licensed surveyor | |

P-401 Plant Mix Bituminous Pavements (SuperPave)

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------|------------------|--------------------|------------------------|---|----------------------------|---|
| Contractor | 401-3.4 | Job Mix | Test Section | project | one | <ul style="list-style-type: none"> - Mat Density > 90PWL - Air Voids (%Gmm@ Ndes) - Joint Density > 90 PWL Gradation and AC w/ action limits - VMA & VFA @ Ndes - Dust Proportion - %Gmm @ Nmax | | Evaluated as a single lot, but shall consist of 3 sub-lots all within limits of Table 1 |
| QA | 401-5.1a(2) | HMA | Air voids | 4 sub-lots/lot | 2/sub-lot | 90 PWL (3.35%-4.65% w/sd .65%) | ASTM D 3203 | BSG ASTM D 2726 / ASTM D 1188 For Air Voids & Density TMD ASTM D 2041 |
| QA | 401-5.1a(2) | HMA | BSG | 4 sub-lots/lot | 2/sub-lot | | ASTM D 2726 ASTM D 1188 | For use in computing air voids and mat density |
| QA | 401-5.1b(1) | HMA | Mat Density | sub-lot | 1/sub-lot | > 1' from joint ASTM D3665 | ASTM D 2726 ASTM D 1188 | BSG Lot / TMD |
| QA | 401-5.1b(2) | HMA | Joint Density | sub-lot | 1/sub-lot | centered on joint | ASTM D 2726 ASTM D 1188 | Lowest BSG Lot / TMD |
| QA | 401-5.2b (1) | HMA | Mat Density | sub-lot | lot | > 90 PWL | Section 110 | See Table 5 for upper & lower limits |
| QA | 401-5.2b (1) | HMA | Air voids | sub-lot | lot | > 90 PWL | Section 110 | See Table 5 for upper & lower limits |
| QA | 401-5.2b (2) | HMA | Stability / Flow | sub-lot | lot | > 90 PWL | Section 110 | See Table 5 for upper & lower limits |
| QA | 401-5.2b (3) | HMA | Joint Density | sub-lot | lot | > 90 PWL | Section 110 | See Table 5 for upper & lower limits |
| QA | 401-5.2b (4) | HMA | Thickness | sub-lot | lot | - 1/4" | Use mat cores | |
| QA | 401-5.2b (5) | HMA | Smoothness | | | 3/8" 16' straightedge | | |
| QA | 401-5.2b (6) | HMA | Grade | | | +/- 1/2" profile | | |

P403 Plant Mix Bituminous Pavements

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------|------------------|--------------------|------------------------|--|------------------------------|--|
| Contractor | 403-3.4 | Job Mix | Test Section | project | one | <ul style="list-style-type: none"> - Mat Density - Air Voids - Joint Density - Gradation - AC within action VMA | | Evaluated as a single lot, but shall consist of 3 sub-lots |
| QA | 403-5.1a(2) | HMA | Stability / Flow | 4 sub-lots/lot | 2/sub-lot | <60K 1000 / 8-20 >60K 1800 / 8-16 | ASTM D 6927 ASTM D3203 | |
| QA | 403-5.1a(2) | HMA | BSG | 4 sub-lots/lot | 2/sub-lot | | ASTM D 2726 | For use in computing air voids and mat density |
| QA | 403-5.1b(1) | HMA | Mat Density | sub-lot | 1/sub-lot | > 1' from joint ASTM D3665 | ASTM D 2726 ASTM D 1188 | BSG Lot / Avg Lab BSG |
| QA | 403-5.1b(2) | HMA | Joint Density | sub-lot | 1/sub-lot | centered on joint | ASTM D 2726 / ASTM D 1188 | Lowest BSG Lot / Avg Lab BSG |
| QA | 403-5.2b (1) | HMA | Mat Density | sub-lot | lot | 96 | ASTM D 2726 / ASTM D 1188 | |
| QA | 403-5.2b (2) | HMA | Joint Density | sub-lot | lot | 94 | ASTM D 2726 / ASTM D 1188 | |
| QA | 403-5.2b (3) | HMA | Thickness | sub-lot | lot | - 1/4" | Use mat cores | |
| QA | 403-5.2b (4) | HMA | Smoothness | | | 3/8" 16' straightedge | | |
| QA | 401-5.2b (5) | HMA | Grade | Lot | | 1/2" 50 stations | Licensed Surveyor | |

P-501 Portland Cement Concrete Pavement

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------|--|-----------------------|---|--|---|---|
| QA | 501-4.8c | Concrete | Consolidation Testing | In Place | 1 per 500 CY if suspicion dictates | Avg density shall be minimum 97% of 650 psi and no less than 96% of 650 psi @ 24 hours cure | ASTM C 642 | |
| Contractor /QA | 501-4.11f | Concrete | Straight-edge Testing and Surface Correction | In Place | As needed | 16-foot straight edge while concrete is still plastic to monitor surface issues | | |
| QA | 501-5.1a. | Concrete | Flexural Strength | Location of Placement | 2 per sub-lot* | PWL > 90 prior to testing - beam shall be measured and weighed report to the nearest 0.1 lb refer to spec for PWL details | ASTM D 3665 ASTM C 172 ASTM C 31 ASTM C 78 | |
| Contractor /QA | 501-5.1a | Concrete | Slump, air content, and temp | Location of Placement | 2 per sub-lot* | Testing shall be coordinated with locations of Flexural Strength testing | ASTM C 31 ASTM C 39 | |
| QA | 501-5.1b | Concrete | Thickness | In Place | 1 per sub-lot* | PWL > 90 8" pavement thickness refer to spec for PWL details | ASTM 3665 ASTM C 34 ASTM C 174 | Engineer Responsible for coring |
| Contractor/ QA | 501-5.2e (3) | Concrete | Smoothness | In Place | Per Direction of Engineer | 16-foot straight edge Shall not exceed 1/4" | | |
| Contractor | 501-5.2e (3) | Concrete | Smoothness | In Place | 2 passes per paving lane >20 feet 1 pass per paving lane <20 | California type Profilograph | | Report Contractor Responsible for Profilograph |
| Contractor | 501-55.2e(4) | Concrete | Grade | Lot | Lot | +/- 0.04' vertically and +/- 0.1' laterally @ 50' Stations | Licensed Surveyor | |
| Contractor | 501-6.2 | Concrete | Contractor's Quality Control Testing Plan | | | | | Submitted as part of the Contractor's Quality Control Program |

Notes:

* All testing based upon lot. Typically a lot = one days production depending upon the size of the project and contractors production rates.

P-610 Structural Portland Cement

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------|----------------------|-----------------------|------------------------------------|--------------|------------------------|-------|
| Contractor | 610-3.3 | Concrete | Compressive Strength | Location of Placement | 1 per day (3 cylinders per day) | 3,500 psi | ASTM C 31 ASTM C 39 | |

P-620 Runway & Taxiway Painting

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|------------------|----------------------|-----------------------|------------------------|--|----------------------|--|
| QA | 620-3.1 | Air | Surface Temperature | Location of Placement | | ≥ 45° F and paint manufacturer's recommendations | | |
| QA | 620-3.1 | Pavement Surface | Temperature | Location of Placement | | ≥ 5° F above the dew point and ≤ 120° F and paint manufacturer's recommendations | | |
| QA | 620-2.5 | Test Strip | Test Strip | Project | 1 per project | Test strip of at least 5 gal paint w/beads (35# type I / 50# Type III) | | Make sure that application equipment calibrated properly |
| QA | 620-3.5 | Application | Horizontal Alignment | In place | | ≤ 1/2" deviation in 50' | Physical Measurement | |

D-701 Pipe for Storm Sewer & Culverts

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|-------------|----------------|--------------------|------------------------|--------------|--|-------|
| QA | 701-3.5 | Backfilling | Density | In-place | As needed | See P-152 | ASTM D 2922, ASTM D 1556, or ASTM D 2167 | |

D-705 Pipe Underdrains for Airports

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|-------------|----------------|--------------------|------------------------|-------------------------------|--|-------|
| QA | 705-3.6a and 3.6b | Backfilling | Density | In-place | As needed | See P-152 | ASTM D 2922, ASTM D 1556, or ASTM D 2167 | |
| QA | 705-3.6d | Backfilling | Deflection | In-place | As needed | Pipe not exceed 5% deflection | ASTM D 2321 | |

L-108 Underground Power Cable

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|----------|----------------|--------------------|------------------------|--|----------------|-------|
| Contractor | 108-2.1f and 3.8 | Cable | Resistance | In-place | One per circuit | 500 megohms for new circuits and No less than the resistance measured prior to the start of construction on existing circuits. | | |

L-110 Underground Conduit

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|-------------|----------------|--------------------|------------------------|--------------|---|-------|
| QA | 110-3.5 | Backfilling | Density | In-place | As needed | See P-152 | ASTM D 2922, ASTM D 1556, ASTM D 2167 | |

L-125 Installation of Airport Lighting Systems

| Responsibility | Specification Reference | Material | Tests Required | Sampling Locations | Minimum Test Frequency | Requirements | Test Procedure | Notes |
|----------------|-------------------------|-------------------------------------|----------------|--------------------|---------------------------|-----------------------------------|----------------|-------|
| QA | 125-3.4 | Runway and Taxiway Lights and Signs | Operation | In-place | Per Direction of Engineer | 24-hour test continuous operation | | |