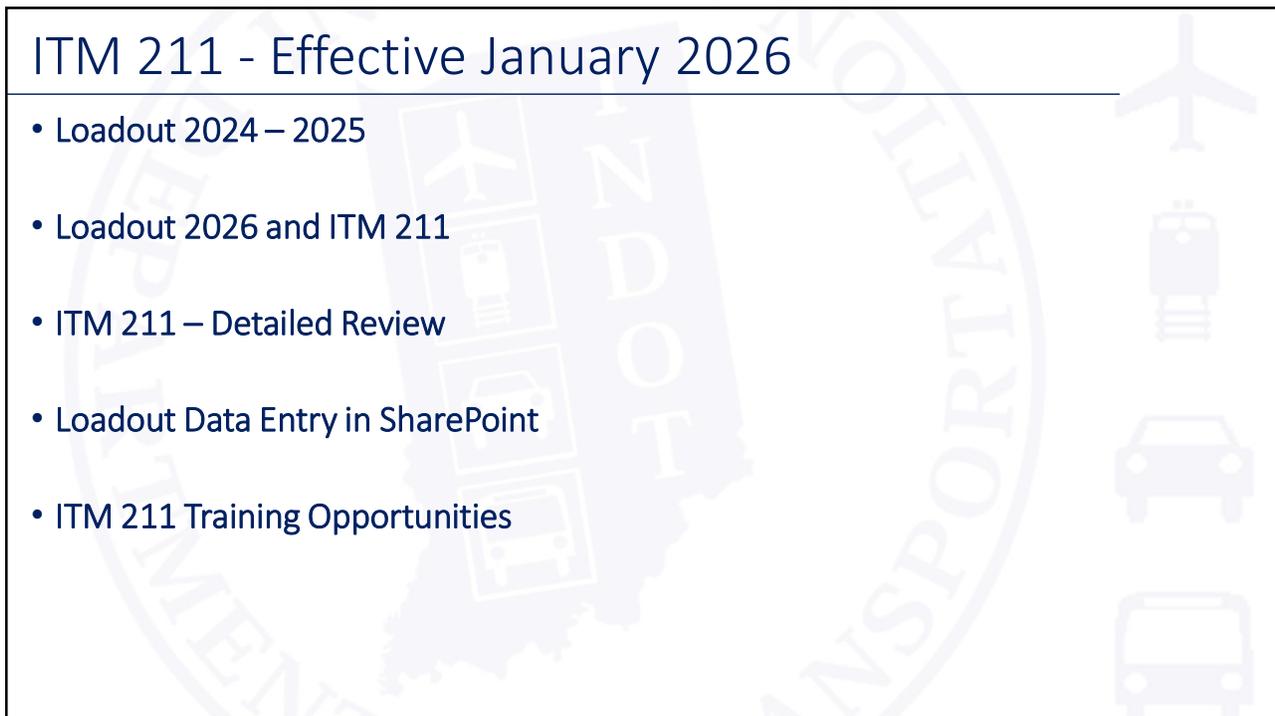


CAPP Loadout PWL The Journey to ITM 211 Effective 01/2026

INDOT Division of Materials and Tests
November 2025

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ITM 211 - Effective January 2026

- Loadout 2024 – 2025
- Loadout 2026 and ITM 211
- ITM 211 – Detailed Review
- Loadout Data Entry in SharePoint
- ITM 211 Training Opportunities

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ITM 211 - Effective January 2026

- Loadout 2024 – 2025
- Loadout 2026 and ITM 211
- ITM 211 – Detailed Review
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ITM 211 - Effective January 2026

- Loadout 2024 - 2025
 - Review our SharePoint Loadout Journey
- Quick Definitions
 - ITM = Indiana Test Method
 - PWL = Percent Within Limits

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CAPP Pilot Loadout Data 2024

• INDOT Letter to Management Representatives March 27, 2024



INDIANA DEPARTMENT OF TRANSPORTATION

Division of Materials and Tests
100 South Dearborne Road
Westborough, IN 46781

PHONE: (317) 850-7291
FAX: (317) 856-4261

Eric Holcomb, Governor
Michael Smith, Commissioner

March 27, 2024

MEMORANDUM

TO: Management Representatives
Certified Aggregate Producers
Trial Phase Producers
Coordinated Testing Phase Producers

FROM: Jim Reilman, PE
State Materials Engineer *Jim Reilman*

SUBJ: Certified Aggregate Producer Program – 2024 Loadout Data Collection: All Sources with Size 8 and 11, and QA Equivalents

This letter provides information about Loadout Data Collection for the CAP Program for the 2024 season. This data collection will build upon our pilot study from 2023 and will serve the purpose of furthering our understanding of how to make the CAP Program better for both the producers and INDOT. Details of the program are below.

Purpose and Need

Collect loadout test data from all CAPP Producers in 2024 to assess the current effectiveness of CAPP for sizes 8 and 11 and QA equivalent aggregates. The collection of data will allow INDOT and Industry to understand where we stand with loadout data on a statewide basis. INDOT and Industry will analyze this data along with INDOT verification data to meaningfully assess the current state of CAPP and to discuss potential updates to the program if needed. *All data summaries will be anonymized, and no identifiable source data will be shared with Industry during this process.*

The Details

1. Frequency/Testing/Reporting/Data

a. Frequency

i. Use your typical loadout frequency. However, you are encouraged (but not required) to consider a frequency that will generate at least 30 loadout samples by the end of 2024 for each applicable product.

b. Testing

i. When sampling more frequently than 1 per every 8000 t, only report the critical sieve. Decant is only required 1 time per every 8000 t.

ii. When sampling at 1 time per every 8000 t, report the critical sieve and decant.

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c. Reporting

i. Report all sample results for this Loadout Data Collection. **Do not call something an "information" sample because it "failed". Do not "discard" samples.** Samples are obtained at the end of each increment, so the results do represent what was just shipped. Report every sample obtained at the agreed upon interval, even if you decided to rework the face of the pile or discard some material from the pile after sampling. This is a record of what was shipped, so all samples are required for this Loadout Data Collection to be representative and meaningful.

ii. Follow the CAPP and your QC Plan separately from this Loadout Data Collection. The results of these samples are for the Loadout Data Collection. These are not intended to create double jeopardy compared to your normal CAPP requirements if you sample at a greater frequency than the required 1 time per every 8000 t. There are no consequences for "failing" test results collected for this Loadout Data Collection if the test was in addition to the required 1 time per every 8000 t test interval.

2. Electronic Data Collection: INDOT will email a link for each source-specific data collection spreadsheet (Microsoft Excel) file to one or more people from each source.

i. Open the link using Edge, Chrome, Firefox, or Safari; Internet Explorer may not work.

ii. You may need to login to your Microsoft account when prompted.

iii. Enter your data directly into the Excel file that opens in your web browser.

iv. Type the data directly into Excel, or paste the data directly into Excel from your own files.

v. Use a separate worksheet tab for each unique product and lodge combination.

vi. You may duplicate tabs as needed.

vii. Enter your current data into Excel daily, weekly, or monthly beginning no later than May 1 for April's results and continuing thereafter.

viii. Work with your District Geologist if you need alternative methods of providing your data.

3. Verification

a. INDOT District Testing personnel will witness the sampling, testing, and reporting of approximately one sample per calendar quarter per source and size. Communicate through District channels to coordinate. Note which samples were witness samples in your records and the Excel file. INDOT will not normally take a split sample for this process.

4. Results

a. INDOT will compile and analyze electronic data throughout 2024.

b. INDOT will share anonymous data with our Industry partners.

c. INDOT and Industry will consider appropriate next steps after reviewing the data.

Sampling, Partial Example.

Showing acceptable variation in sampling difference from targeted sampling ton

Material	Loadout Pilot Information Sample Interval (as determined by source)	Cumulative Tons	Ton Sampled	INDOT Witness?	Comments
8	8000	8,000	4000	D. Rhoades	Sampled early. OK as rate acceptance.
8	8000	16,000	15,500		OK, Reasonably close to 8000 interval.
8	8000	24,000	24,100		OK, Reasonably close to 8000 interval.
8	8000	32,000	32,500	S. Rivers	OK, Reasonably close to 8000 interval.
8	8000	40,000	41,000		OK, Reasonably close to 8000 interval.

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CAPP Pilot Loadout Data 2024

• INDOT Letter to Management Representatives March 27, 2024

Purpose and Need

Collect loadout test data from all CAPP Producers in 2024 to assess the current effectiveness of CAPP for sizes 8 and 11 and QA equivalent aggregates. The collection of data will allow INDOT and Industry to understand where we stand with loadout data on a statewide basis. INDOT and Industry will analyze this data along with INDOT verification data to meaningfully assess the current state of CAPP and to discuss potential updates to the program if needed. *All data summaries will be anonymized, and no identifiable source data will be shared with Industry during this process.*

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CAPP Pilot Loadout Data 2024-2025

- **Size 8 and QA Equivalents**
 - 98 Products
- **Statistical Highlights**
 - 75% have PWL of 95 to 100. Excellent!
 - 12% have PWL <90. 12 of 98 products.
- **Size 11 and QA Equivalents**
 - 62 Products
- **Statistical Highlights**
 - 75% have PWL of 96 to 100. Excellent!
 - 10% have PWL <90. 6 of 62 products.

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CAPP Pilot Loadout Data 2024-2025

- **Loadout 2025** **SECTION 917 – QUALITY ASSURANCE AGGREGATE CERTIFICATION**

917.01 General Requirements

An aggregate source will be authorized to ship products in the status of a Certified Aggregate Producer who is in accordance with the requirements of ITM 211. This will consist of a program which will require the aggregate source to make a commitment to product quality management. Approval to participate in the program will be based on the following criteria:

- (a) existence of suitable materials in the deposit being mined,
- (b) facilities capable of consistently processing uniform materials in accordance with the specification requirements, and
- (c) a source QCP which will ensure that the mineral aggregates have a 95% assurance of being in accordance with the Department's quality and uniformity requirements.

Specific details of the CAPP are contained in ITM 211. Additional details about the program are included in the CAPP Training Manual for Producer Technicians. A Certified Aggregate Producer shall operate in accordance with both publications.

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CAPP Pilot Loadout Data 2024-2025

- **Loadout 2025**
 - Consider 2025 Loadout Path Forward
- **Loadout Data Collection**
 - Continue SharePoint
 - Longer Term IT Solution for Seamless Data
- **Most Producers are Successful with Most Products!**
 - Over 75% meet PWL of 95. Excellent!
- **The Data Now Identifies Products Needing the Producer's Attention**
 - Just 10% to 12% of the Size 8 and Size 11 products are below PWL of 90
 - Every SharePoint Data Sheet Calculates the PWL for the Producer
 - Monthly Summary Created for Corporate Managers with Several Sources

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CAPP Pilot Loadout Data 2024-2025

- **Review the Steps from 2025**
 - Producer Management Group Meetings with Geologists
 - Review Loadout Data. Update Control Limits.
 - Regional Meetings
 - Opportunity to Review Loadout 2024-2025 with More Personnel
 - ITM 211 Update in Partnership with INDOT and Industry
 - Partnership Feedback from Forthcoming Draft
 - Loadout Data for Size 8 and Size 11
 - Producer Response to PWL Data When Appropriate
 - Transitional Implementation 2025 for 2026

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ITM 211 - Effective January 2026

- Loadout 2024 – 2025
- **Loadout 2026 and ITM 211**
- ITM 211 – Detailed Review
- Loadout Data Entry in SharePoint
- ITM 211 Training Opportunities

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ITM 211 - Effective January 2026

- **Loadout 2026 and ITM 211**
 - New ITM 211 Approved 06/16/2025
 - Letter to Management Representatives 07/22/2025
 - Effective 01/01/2026

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ITM 211 - Effective January 2026

- New ITM 211 Approved 06/16/2025

rev 06/16/2025
effective 01/01/2026



INDIANA DEPARTMENT OF TRANSPORTATION DIVISION OF MATERIALS AND TESTS

CERTIFIED AGGREGATE PRODUCER PROGRAM ITM No. 211-26

1.0 SCOPE.

- 1.1 This procedure covers the requirements for an aggregate supplier to become a Certified Aggregate Producer.
- 1.2 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. The user of the ITM is responsible for establishing appropriate safety and health practices and determining the applicability of regulatory limitations prior to use.

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ITM 211 - Effective January 2026

Letter to Management
Representatives
07/22/2025



INDIANA DEPARTMENT OF TRANSPORTATION

Division of Materials and Tests
120 South Shorridge Road
Indianapolis, IN 46219

PHONE: (317) 610-7251
FAX: (317) 356-9351

Mike Braun, Governor
Lyndsay Quist, Commissioner

July 22, 2025

MEMORANDUM

TO: Management Representatives
Certified Aggregate Producers
Trial Phase Producers
Coordinated Testing Phase Producers

FROM: Jim Reilman, PE
State Materials Engineer

SUBJ: Certified Aggregate Producer Program – 2025 UPDATES to ITM 211 for 2026

Included below are several items pertaining to the Certified Aggregate Producer Program that will prepare you for continued success in 2026.

Please use this information as well as the Memorandum to Management Representatives dated March 31, 2025, for the latest updates to the Certified Aggregate Producer Program.

ITM 211-26 rev 06/16/2025. Effective 01/01/2026. (see attachment)

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ITM 211 - Effective January 2026

- Loadout 2024 – 2025
- Loadout 2026 and ITM 211
- **ITM 211 – Detailed Review**
- Loadout Data Entry in SharePoint
- ITM 211 Training Opportunities

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ITM 211 - Effective January 2026

- ITM 211 – Detailed Review. Study Guide for the Big Changes. (Page 1 of 2)
- **Answer these Questions as we Progress through the Training:**
 - What is new in Diary Reporting?
 - What is new about Loadout Sampling Frequency for ALL Products?
 - What is new about Test Compliance Producer Monitoring?

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ITM 211 - Effective January 2026

- ITM 211 – Detailed Review. Study Guide for the Big Changes. (Page 2 of 2)
- Answer these Questions as we Progress through the Training:
 - What is new about Loadout PWL on Last 30 Tests for Sizes 8, 11, and QA Equivalents?
 - Where do we report our Loadout Data?
 - What was clarified about Control Chart plotting?

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ITM 211 - Effective January 2026

- ITM 211 – Detailed Review.
 - Changes in Two General Categories
 - Program Management
 - Loadout

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ITM 211 - Effective January 2026

- ITM 211 – Detailed Review.

General Comments from the Program Management Perspective

- We identified many routine procedures and normal practices that weren't documented elsewhere. Added these items to the appropriate locations in ITM 211 so that current and future generations have a fully functional resource in ITM 211.
- Added diary reporting requirements for Production compliance rate and Load-out PWL.

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ITM 211 - Effective January 2026

- ITM 211 – Detailed Review.

General Comments from the Load-out Perspective

- This version of ITM 211 is a result of over 2-1/2 years of collaboration between INDOT and Industry to make meaningful, strategic improvements to CAPP regarding Load-out testing and reporting for sizes 8, 11, and QA equivalents.
- Continue to enter your Load-out data for sizes 8, 11, and QA equivalents into the CAPP SharePoint site throughout 2025 and beyond.
- Producer responsibilities for achieving and maintaining $PWL \geq 90$ for Load-out data begin on 1/1/2026.
- Every SharePoint Excel data entry worksheet calculates PWL for you.
- Load-out frequency in 11.3.3 is revised for all products, not just 8, 11, and QA equivalents.
- Communicate with your District Geologist when you have questions or concerns. For example, if you have old data from before a significant process change that needs to be archived, we can do that for you. We will move the old data to the blank areas to the right of the data collection areas so that only your current data is used for calculations.
- Please use the remainder of 2025 to prepare your materials and your methods for success in 2026 and beyond.

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ITM 211 - Effective Jan

- ITM 211 – Detailed Review.
 - Changes in Two General Categories
 - Program Management
 - Loadout

Summary of Changes. See ITM 211 for all changes and context.

- Section 2.1 Reference document availability.
- Section 2.4 Added reference to ITM 588 for PWL calculations.
- Section 3.4 Clarified adherent fines to include clay particles.
- Section 3.13 Defined the Qualified Products List (QPL).
- Sections 6.0 and 6.3 Added and defined Qualified Technician.
- Sections 7.3 and 7.4 Clarified Quality Assurance and Alternate materials.
- Sections 8.3 and 8.4 Clarified Laboratory locations and access.
- Sections 10.3.10 and 10.30.11 Added Diary reporting requirements for Production compliance rate and Load-out PWL.
- Section 11.1 Added flakiness testing.
- Section 11.3.3 Revised Load-Out Frequency for all products. Sampling is always based on tonnage. Removed sampling based on time.
- Section 11.7 Defined Flakiness Index sampling and testing frequency.
- Section 12.5.1 Clarified Test Compliance calculation and added Producer responsibilities.
- Section 12.5.2 Defined Load-Out PWL action limits, response requirements, and Producer responsibilities.
- Section 12.5.3 Defined Load-out data reporting and Producer responsibilities.
- Section 12.8 Added requirement for the Producer to continuously monitor and maintain statistical compliance in accordance with 917 and ITM 211.
- Section 13.1 Clarified Control Chart details.
- Section 13.3 Defined producer responsibilities for plotting all normal frequency production and load-out test results. Explained that resamples, retests, and information tests are reported in the diary, but not plotted.
- Section 13.4.10 Control chart format deviations identified in the QCP.
- Section 14.2.1 Added latitude and longitude to the location description.
- Section 14.2.14 Clarified gradation limits for products intended to meet multiple sizes.
- Section 14.2.16 Added ledges, if applicable, to QCP consideration for downstream controls.
- Section 14.2.17 Added laboratory equipment and location description requirements.
- Section 14.3 Changed QCP submittal from the "Department" to the "District Geologist".
- Section 15.3 Added AASHTO 57 to the Coordinated Testing Phase.
- Section 15.5 Revised splitting procedure to AASHTO R 76.
- Section 17.3 Added "class of aggregate from the INDOT QPL" to the list of weigh ticket requirements.
- Section 18.2 Inserted a new section that added the Certified Technician List to Department Responsibilities.
- Section 18.3 Added Load-out procedures during Audits to Department Responsibilities.
- Section 18.5 Revised and detailed the Certified Technician expiration date and recertification options. Explained responsibilities related to Certified Technicians, Qualified Technicians, and the INDOT Independent Assurance Program.
- Section 18.7 Updated District Jurisdiction to clarify that suspension of shipment by the District Testing Engineer may be officially disputed by the Producer to the State Materials Engineer.

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ITM 211 - Effective January 2026

Summary of Changes. See ITM 211 for all changes and context.

- Section 2.1 Reference document availability.
- Section 2.4 Added reference to ITM 588 for PWL calculations.
- Section 3.4 Clarified adherent fines to include clay particles.
- Section 3.13 Defined the Qualified Products List (QPL).
- Sections 6.0 and 6.3 Added and defined Qualified Technician.
- Sections 7.3 and 7.4 Clarified Quality Assurance and Alternate materials.
- Sections 8.3 and 8.4 Clarified Laboratory locations and access.

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2.0 REFERENCES.
2.1 Documents required by the Program shall be maintained either electronically or hard copies. All required documents shall be readily available and easily accessible to all necessary personnel.
2.2 AASHTO Standards.
T 11 Materials Finer Than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
T 27 Sieve Analysis of Fine and Coarse Aggregates
T 112 Clay Lumps and Friable Particles in Aggregates
2.3 ASTM Standards
D5821 Determining the Percentage of Fractured Particles in Coarse Aggregate
E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
2.4 ITM Standards
203 Control Procedures for Classification of Aggregates
207 Sampling Stockpiled Aggregates
206 Scratch Hardness of Coarse Aggregate Particles
210 Class AP Coarse Aggregate
212 Acceptance Procedures of Air Cooled Blast Furnace Slag for Leachate Determination
219 Acceptance Procedures of Steel Furnace Slag for Deleterious Materials
588 Percent Within Limits (PWL)
902 Verifying Sieves
906 Verifying Mechanical Shakers
910 Verifying Balances

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3.0 TERMINOLOGY.
3.1 Terms and Abbreviations. Definitions for terms and abbreviations will be in accordance with the Department's Standard Specifications, Section 101 and the following:
3.2 Addenda. Any addition or deletion to the QCP.
3.3 Addenda Summary Sheet. A page of the QCP, located in the Appendix that is used to record a brief description of addenda, other than items on the QCP Annex, until such time that they are incorporated into the QCP.
3.4 Adherent Fines. Fine particles smaller than the No. 200 sieve created from handling, or silt or clay particles that adhere to the coarse aggregate.
3.5 Certified Aggregate Producer. A Plant/Redistribution Terminal that meets the requirements of the Program, continues to be under the same ownership, and is approved by the Department.
3.6 Certified Material. An aggregate product produced under the Certified Aggregate Producer Program (CAPP) for Department use.
3.13 Qualified Products List (QPL). INDOT's lists of preapproved manufacturers, materials, products, sources, or suppliers.

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6.0 PRODUCER PERSONNEL. The Producer's personnel shall include a Management Representative, a Certified Aggregate Technician, and a Qualified Technician.

6.1 Management Representative. The Management Representative shall be responsible for all aspects of production, handling, and control required by the CAPP at each Certified Aggregate Producer's Plant/Redistribution Terminal.

6.2 Certified Aggregate Technician. A Certified Aggregate Technician is a Producer or Consultant employee who has successfully completed the Certified Aggregate Technician Training Program and has been certified by the Department.

The Certified Aggregate Technician may be responsible for more than one Plant/Redistribution Terminal. The technician shall be at the Plant(s)/Redistribution Terminal(s) to perform the pertinent duties during critical activities and to meet the requirements of the QCP. The technician shall supervise the sampling and testing of material, the maintenance of control charts, and the maintenance of the diary. All sampling and testing required by the Program shall be conducted by a Qualified Technician.

6.3 Qualified Technician. An individual who has successfully completed the written and proficiency testing requirements of the Department's Independent Assurance and Qualified Acceptance Personnel Programs.

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ITM 211 - Effective January 2026

7.0 MATERIALS.

7.1 Material shall be produced in one of three categories: Standard Specification, Quality Assurance, or Alternate. The intended end use of the material and the control limits shall determine the category in which the material is classified.

7.2 Standard Specification. Standard Specification materials shall include all Certified Materials controlled by aggregate gradations as defined in the Department Standard Specifications and the construction contract documents.

7.3 Quality Assurance. Quality Assurance (or QA) materials shall include all Certified Materials controlled by aggregate gradations established by the Producer.

7.4 Alternate. Alternate materials shall include all materials produced for non-state (commercial) use which are not intended to comply with either Standard Specification material or Quality Assurance material.

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ITM 211 - Effective January 2026

8.0 LABORATORY

- 8.1 The Producer shall have a suitable laboratory to accomplish the requirements of the CAPP. Laboratories will be inspected by a Department representative before the Producer enters the Coordinated Testing Phase. Laboratories will also be inspected during audits and as needed to maintain the integrity of the Program.
- 8.2 The laboratory testing equipment shall meet the requirements of the test methods identified for the required sampling and testing, and as stated herein except that an electronic balance shall be provided. The electronic balance shall be readable to 0.1 g and accurate to 0.2 g or 0.1 percent of the test load, whichever is greater, at any point within the range of use.
- 8.3 The Producer shall maintain laboratory service for each Certified Plant/Redistribution Terminal. One approved laboratory may be used for more than one Plant/Redistribution Terminal provided the requirements of the Program are being maintained. **Additional Laboratories can be listed in the QCP if backup laboratories are needed for the source.**
- 8.4 **The Department shall be allowed access to inspect any laboratory used for the Program, and witness production, handling, and control activities during production of Certified Materials.**

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ITM 211 - Effective January 2026

- Sections 10.3.10 and 10.3.11 Added Diary reporting requirements for Production compliance rate and Load-out PWL.
- Section 11.1 Added flakiness testing.
- Section 11.3.3 Revised Load-Out Frequency for all products. Sampling is always based on tonnage. Removed sampling based on time.
- Section 11.7 Defined Flakiness Index sampling and testing frequency.
- Section 12.5.1 Clarified Test Compliance calculation and added Producer responsibilities.
- Section 12.5.2 Defined Load-Out PWL action limits, response requirements, and Producer responsibilities.
- Section 12.5.3 Defined Load-out data reporting and Producer responsibilities.
- Section 12.8 Added requirement for the Producer to continuously monitor and maintain statistical compliance in accordance with 917 and ITM 211.
- Section 13.1 Clarified Control Chart details.
- Section 13.3 Defined producer responsibilities for plotting all normal frequency production and load-out test results. Explained that resamples, retests, and information tests are reported in the diary, but not plotted.
- Section 13.4.10 Control chart format deviations identified in the QCP.

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ITM 211 - Effective January 2026

- Sections 10.3.10 and 10.3.11 Added Diary reporting requirements for Production compliance rate and Load-out PWL.
- Section 11.1 Added flakiness testing.
- Section 11.3.3 Revised Load-Out Frequency for all products. Sampling is always based on tonnage. Removed sampling based on time.
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- Section 13.4.10 Control chart format deviations identified in the QCP.

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- 10.3** Entries in the diary shall as a minimum include:
- 10.3.1** General weather conditions;
 - 10.3.2** Area of mining operation (location and ledges, or pit area);
 - 10.3.3** Estimated quantity of materials produced;
 - 10.3.4** Time test samples were obtained and tests completed;
 - 10.3.5** Nonconforming gradation tests, and the resulting appropriate action taken;
 - 10.3.6** Changes in key personnel, if any;
 - 10.3.7** Significant changes in equipment, plant, screens, etc., which may affect the current statistical results of aggregate materials;
 - 10.3.8** Any significant event or problem;
 - 10.3.9** Any nonconforming trends in the five-point moving average, as well as the action taken to correct the trends, if needed;
 - 10.3.10** Current compliance rate, updated weekly, for critical sieve products being produced; and
 - 10.3.11** Current load-out PWL from the Department's provided spreadsheet, updated weekly, for applicable products being shipped;

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ITM 211 - Effective January 2026

11.0 MATERIALS SAMPLING AND TESTING.

11.1 Sampling shall be in accordance with ITM 207 and testing of all materials that require control for aggregate gradation, decantation, deleterious, crushed particles, and flakiness shall be in accordance with the applicable test method. Sampling shall be performed on uniform tonnage increments in an unbiased manner, and testing of the samples shall be accomplished in such time as to assure that process

control is maintained. Testing shall be performed in accordance with the test methods as designated herein, and the applicable exceptions listed in the Standard Specifications. Test values shall be reported to the nearest 0.1 percent, except for the crushed particle content which shall be reported to the nearest 1 percent. Results are to be rounded using the standard "5" up procedures in accordance with 109.01(a).

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11.3 Gradation. The gradation of the material shall be determined in accordance with AASHTO T 27, except as required in 11.4. The frequency of sampling and testing shall be as follows:

11.3.1 Start of Production Frequency. Start of production material is the first 5000 t when producing a new material. Sampling and testing shall be performed a minimum of once every 1000 t for the first 5000 t, but not required to exceed two per calendar day per material.

11.3.2 Normal Production Frequency. Normal production material is material produced after the start of production. Sampling and testing shall be performed a minimum of once every 2000 t, but not required to exceed two per calendar-day per material.

11.3.3 Load-Out Frequency. Load-out material is the Certified Material that is shipped from the Plant/Redistribution Terminal. For all products shipping ≥ 100 tons per year, sampling and testing shall be in accordance with the QCP and shall be established at a consistent frequency per year per product and at least as frequently as the following Load-Out Frequency Table.

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Load-Out Frequency	
Shipping Tons/Year	Frequency
< 100 t/year	No samples required
≥ 100 t/year	$1 / \leq 8000$ t

ITM 211 - Effective January

11.3.3 Load-Out Frequency. Load-out material is the Certified Material that is shipped from the Plant/Redistribution Terminal. For all products shipping ≥ 100 tons per year, sampling and testing shall be in accordance with the QCP and shall be established at a consistent frequency per year per product and at least as frequently as the following Load-Out Frequency Table.

Notes on Frequency:

1. Begin every calendar year with at least one load-out sample within the first 1000 tons. The remaining samples shall be at the QCP established frequency tonnage interval, calculated beginning at zero tons for the calendar year.
2. No daily, monthly, or annual limit on the number of tests.
3. Sample within ± 1000 t shipped or ± 1 business day at the completion of each full interval.
4. Report and plot all QCP scheduled frequency test results, even when corrective action is later taken based on the test results.
5. Track tonnage continuously throughout the year for determination of the next sample. "Reset" the sampling tonnage to zero on January 1 of each calendar year.

For example, if the QCP for a product sets the frequency at 8000 tons, then: Obtain the first sample of the calendar year between 0 and 1000 tons. Obtain the second sample of the calendar year at 8000 ± 1000 tons, the third sample of the calendar year at $16,000 \pm 1000$ tons, and so on.

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11.7 Flakiness Index. The flakiness index shall be determined for SC aggregates in accordance with ITM 224 and the Standard Specifications. The frequency of sampling and testing shall be not less than once per week for each size of material during the start of production and normal production or as designated in the QCP. No test is required if the week's production is less than 100 t.

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12.5 Test Compliance. For material produced under either the Standard Specification or Quality Assurance categories, 95 percent of all gradation test results on the critical sieve shall statistically be between 10 percent below and 10 percent above the target mean at any one point of sampling. All other sieves shall be maintained within the Standard Specification, Quality Assurance, or construction contract gradation requirements.

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12.5.1 Production. All normal production data on the critical sieves identified for sieve control representing a process shall be included in the calculations for statistical compliance. When the control limits for load-out tests are different than the production control limits, all of the load-out tests may be used. All retest and other extraneous data shall be used for information.

The Producer shall review the 30 most recent production tests for each critical sieve product to ensure the compliance rate is met in accordance with Section 917.

12.5.1.1 If the compliance rate is less than 95% and the standard deviation is less than 5.0%, the Producer shall establish a new target mean and recalculate the compliance rate.

12.5.1.2 If the compliance rate is less than 95% and the standard deviation is 5.0% or greater, the Producer shall designate the stockpile of that product as non-certified material.

12.5.1.3 The Producer shall notify the District Geologist and note in the diary when either of the situations in 12.5.1.1 or 12.5.1.2 occurs.

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ITM 211 - Effective January 2026

12.5.2 Load-Out. The Producer shall monitor the PWL for each size 8 and 11 product and their Quality Assurance material equivalents on the Department's provided spreadsheet. For these products, the most recent 30

normal frequency load-out tests since the last documented significant process change on the critical sieves identified shall be included in the calculation for statistical compliance. After at least 5 tests are reported, when the PWL drops below 90 for a given product, the Producer shall notify the District Geologist. A plan shall be developed to bring the PWL of the product back above 90.

12.5.3 Load-Out Reporting/Uploading. The Producer shall upload load-out results for size 8s and 11s (and QA equivalents) as directed by the Department in the annual Management Representative letter.

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12.8 Statistical Compliance. The Producer shall continuously monitor and maintain statistical compliance in accordance with 917 and this ITM.

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13.0 CONTROL CHARTS.

- 13.1** Control charts are a visual representation of the process control exercised by a Producer. Unless otherwise provided in the QCP, the control charts shall be either posted on a wall at the laboratory or maintained electronically. At a minimum, the control charts shall be maintained until 30 production data points have been plotted. After that time at least 30 production data points shall be continuously displayed. If load-out points are plotted separately, then the load-out charts shall be maintained for a minimum of 30 load-out data points.

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- 13.3 Application.** As a minimum, control charts will be required for gradation control using all start of production and normal production test results for all Standard Specification and Quality Assurance materials or for gradation controlled Alternate materials. For materials which have a critical sieve, only the critical sieve is required to be charted. For all other charted materials, all applicable sieves shall be shown on the chart. Load-out test results shall also be plotted and may be displayed on the same chart as start of production and normal production test results when the target mean remains unchanged. When the load-out target mean is designated in the QCP to be different from the production target mean, the load-out samples shall be charted separately. Other properties may also be charted as part of the Producer's overall QCP. A separate chart shall be maintained for each size of material being produced.

The Producer shall report and plot all normal frequency production and normal frequency load-out test results, even when corrective action is taken based on the test results. Resamples, retests, information tests, and diversions of entire production runs from under the cone, shall have test results listed in the diary but are not normally plotted.

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13.4 Chart Construction.

- 13.4.1 The target mean shall be represented by a heavy long dash followed by a short dash line.
- 13.4.2 Control limits shall be represented by heavy solid lines.
- 13.4.3 Upper and lower specification limits shall be indicated by short, dashed lines. Specification limits are not required to be included on charts for critical sieves that have established control limits.
- 13.4.4 The horizontal lines on the chart indicating the specification limits, control limits, and target mean value, if applicable, shall be numerically identified in the left margin.
- 13.4.5 The plot point for the production test results shall be surrounded by a small circle, and each consecutive point shall be connected by a solid straight line.
- 13.4.6 The moving average of the most current five production test values shall be plotted for the critical sieve. The plot points shall be indicated by a small triangle symbol and connected by solid straight lines.
- 13.4.7 When load-out test points appear on the same chart as production points, they shall be represented by a small square.
- 13.4.8 When load-out test points are plotted on a separate chart, they shall be represented by a small square and connected by a straight line.
- 13.4.9 Test results shall be plotted left to right in chronological order, and dates corresponding to each test shall be shown along the horizontal axis.
- 13.4.10 Any proposed deviation from these procedures shall be identified in the QCP.

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- Section 14.2.1 Added latitude and longitude to the location description.
- Section 14.2.14 Clarified gradation limits for products intended to meet multiple sizes.
- Section 14.2.16 Added ledges, if applicable, to QCP consideration for downstream controls.
- Section 14.2.17 Added laboratory equipment and location description requirements.
- Section 14.3 Changed QCP submittal from the “Department” to the “District Geologist”.
- Section 15.3 Added AASHTO 57 to the Coordinated Testing Phase.
- Section 15.5 Revised splitting procedure to AASHTO R76.

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14.0 QUALITY CONTROL PLAN.

- 14.1** The QCP is a fundamental element in the Program, and shall be one of the first considerations in approval by the Department. Each Plant/Redistribution Terminal providing aggregate under the Program shall have a written QCP, which shall be site and plant specific, and be the basis of control. The QCP shall describe the methods of controlling all properties and quality aspects, which shall involve greater detail than the basic requirements of the Department specifications and policies. The QCP shall encompass the total process from preliminary material quality approval through the point where the aggregate leaves the Producer's control.
- 14.2** The QCP shall include the following information for each Plant/Redistribution Terminal, if applicable:
- 14.2.1** The location of the site, including **latitude and longitude**, physical address, and mailing address if different than the physical address. Reference to the nearest identifiable points such as highways and towns shall also be included.

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- 14.2.14** A list of the target mean values, standard deviations, and control limits on the critical sieves for each material identified as being controlled by critical sieve requirements. Changes in the target mean are **allowed** by addenda to the QCP.

Materials for which no control limits are appropriate shall be identified.

The gradation limits for all Quality Assurance materials shall be included.

Gradation limits for products that are intended to meet multiple gradation requirements shall use the more stringent controls for each product and these limits shall be included.

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14.2.16 A plan for downstream controls after material completion. These controls shall address such items as the identification of material stockpiles by signing, including ledges if applicable, or other acceptable methods, techniques for construction of proper stockpiles, material retrieval techniques and safeguards to ensure the loading and shipping of uncontaminated material.

14.2.17 A list of test equipment that is calibrated or verified, the test methods and frequency of calibration or verification of the equipment, and a statement of accessibility of the laboratory and documentation to Department personnel.

If the laboratory is not located at the Plant, the location of the laboratory shall be designated, and the procedure for transporting samples to the laboratory shall be included.

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14.3 Authentication. The last page of the QCP shall contain two signature blocks. The right-hand block shall be signed and dated at the time of submittal by the Producer's Management Representative, and shall include the title of the person making the signature. The left hand block shall be signed and dated at the time of approval by the State Materials Engineer, Division of Materials and Tests. The Producer shall submit the QCP to the District Geologist for review. The District Geologist will forward it to the INDOT Statewide Geologist for final review and approval. The authentication page will be returned to the Producer after approval.

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15.0 COORDINATED TESTING PHASE.

- 15.1 The Coordinated Testing Phase is the initial phase for Certification. The purpose of this phase is to build mutual confidence in production capability, capacity, uniformity, and quality. Sampling and testing procedures, and test results will be reviewed in a coordinated and shared manner between the Department and the Producer. While operating in this phase, the Producer shall develop the details of the QCP and demonstrate the ability to produce to the required test compliance rate. Mean test values and standard deviations are developed during this process for the critical sieves. Each Plant/Redistribution Terminal shall be under the Coordinated Testing Phase for at least three months of production, or a period as determined by the Department.
- 15.2 Each Plant/Redistribution Terminal requesting to enter the Coordinated Testing Phase shall do so in writing to the State Materials Engineer, Division of Materials and Tests. The request shall include all of the materials to be supplied at the source regardless of whether the materials are for Department or other uses.
- 15.3 **Aggregate Sizes.** While operating in the Coordinated Testing Phase, Producers are encouraged to limit the Coordinated Testing procedures to aggregate sizes 5 or 8; AASHTO 57, 43, 53, or 73; or 23 or 24. Quality Assurance materials may also be used for the Coordinated Testing procedures.

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- 15.5 **Sampling and Testing.** The frequency and types of tests for the Producer's sampling and testing shall be the same as the minimum requirements of the start of production and normal production for Certified Material, except that decantation will be required.

The use of a random sampling method is encouraged; however, if a random sampling method is not used, and if more than one sample per day is required, the samples shall be spread throughout the day's expected production. Department aggregate technicians will conduct coordinated/side-by-side testing on as many of these samples as possible. In any event, Department testing will be conducted on not less than every other test conducted by the Producer, or until the Department is satisfied with the performance and testing results from the Producer.

The coordinated tests shall utilize a split sample for all tests except non-durable, total chert, which shall use the same sample. The procedure for splitting samples shall be in accordance with AASHTO R 76. Both split halves on the final split shall weigh within 10 percent of each other after splitting. If not, both halves shall be recombined and split until this requirement is met.

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- Section 17.3 Added “class of aggregate from the INDOT QPL” to the list of weigh ticket requirements.
- Section 18.2 Inserted a new section that added the Certified Technician List to Department Responsibilities.
- Section 18.3 Added Load-out procedures during Audits to Department Responsibilities.
- Section 18.5 Revised and detailed the Certified Technician expiration date and recertification options. Explained responsibilities related to Certified Technicians, Qualified Technicians, and the INDOT Independent Assurance Program.
- Section 18.7 Updated District Jurisdiction to clarify that suspension of shipment by the District Testing Engineer may be officially disputed by the Producer to the State Materials Engineer.

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17.3 Weigh Tickets. The Certified Producers approval number, originating source name, source number, aggregate size, **class of aggregate from the INDOT QPL,** and ledges for stone materials, shall be entered on each weigh ticket representing material for Department use.

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18.0 DEPARTMENT RESPONSIBILITIES

- 18.1 QPL.** The Department will maintain an updated QPL of all Plants/Redistribution Terminals that are currently certified.
- 18.2 Certified Technician List.** The Department will maintain an updated, published list of all currently certified technicians.
- 18.3 Auditing.** The Department will audit the Program on a random basis at each Plant/Redistribution Terminal to verify that the Producer's production, load-out, sampling, and testing procedures are in accordance with the Program. The audit will include random samples taken by the Producer for informational purposes as directed by the Department. These samples shall be provided to the Department. The sample splitting procedure, and test results agreement shall be in accordance with 15.5.
- 18.4 Mineral Quality.** The Department will be responsible for the pre-approval of the mineral quality at each Plant location in accordance with ITM 203 and ITM 210.

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- 18.5 Training.** The Department will administer a Certified Aggregate Technician Training Program for those aggregate technicians that perform the required duties of the Program. Certification of the technicians will be provided by the Department upon successful completion of the training. Certification for all Certified Technicians expires annually on July 1. Recertification is accomplished by attending a Regional Spring Meeting or by watching a video of the meeting and passing a quiz. Recertification will extend the certification to July 1 of the following year.

The Department will administer the Independent Assurance and Qualified Acceptance Personnel Program for those aggregate technicians that perform

acceptance sampling and testing duties of the Program. Qualification of the technicians will be provided by the Department upon successful completion of a written examination and proficiency test. Certified Technicians cannot perform acceptance sampling and testing duties unless the Certified Technician is currently qualified by Independent Assurance. Qualified Technicians are only allowed to perform acceptance sampling and testing duties but are not allowed to sign the daily diary and CAPP documents. Only Certified Technicians can sign these documents.

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18.6 Certification Removal. Removal from the approved status of a Certified Producer will be the responsibility of the State Materials Engineer, Division of Materials and Tests.

The Producer shall have a right to dispute the removal from Certified Producer status to the Director, Division of Materials and Tests.

18.7 District Jurisdiction. The District Testing Engineer will have the authority to suspend shipment of a specific material or stockpile if the Producer has failed to comply with the Program such that material quality and uniformity is not being met. Such action will be promptly reported to the State Materials Engineer, Division of Materials and Tests.

The Producer shall have the right to dispute the suspension of shipment by the **District Testing Engineer to the** State Materials Engineer, Division of Materials and Tests.

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- ITM 211 – Detailed Review. Study Guide for the Big Changes. (Page 1 of 2)
- Answer these Questions as we Progress through the Training:
 - What is new in Diary Reporting?
 - What is new about Loadout Sampling Frequency for ALL Products?
 - What is new about Test Compliance Producer Monitoring?

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- ITM 211 – Detailed Review. Study Guide for the Big Changes. (Page 2 of 2)
- Answer these Questions as we Progress through the Training:
 - What is new about Loadout PWL on Last 30 Tests for Sizes 8, 11, and QA Equivalents?
 - Where do we report our Loadout Data?
 - What was clarified about Control Chart plotting?

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- ITM 211 – Detailed Review. Study Guide for the Big Changes. (Page 1 of 2)
- Answer these Questions as we Progress through the Training:
 - What is new in Diary Reporting? (10.3)
 - Production Compliance Rate. Loadout PWL. Weekly Reporting.
 - What is new about Loadout Sampling Frequency for ALL Products? (11.3.3)
 - Sample at the Scheduled Frequency.
 - +/- 1000 tons or +/- 1 Business Day. Time based sampling is gone.
 - What is new about Test Compliance Producer Monitoring? (12.5)
 - Production. See District Geologist if you need a spreadsheet tool
 - Loadout. PWL is on Every SharePoint Data entry worksheet

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- ITM 211 – Detailed Review. Study Guide for the Big Changes. (Page 2 of 2)
- Answer these Questions as we Progress through the Training:
 - What is new about Loadout PWL on Last 30 Tests for Sizes 8, 11, and QA Equivalents? (12.5.2)
 - Maintain ≥ 90 PWL. Notify District Geologist and Develop a Plan if PWL < 90 .
 - Where do we report our Loadout Data? (12.5.3)
 - In SharePoint or as Directed through the Letter to Management Representatives.
 - What was clarified about Control Chart plotting? (13.3)
 - Plot Normal Frequency Production and Normal Frequency Loadout
 - Even when Corrective Action is Taken
 - Don't Plot Retests, Information Tests, Entire Production Cone Diversions
 - Report these in the Diary

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- Loadout 2024 – 2025
- Loadout 2026 and ITM 211
- ITM 211 – Detailed Review
- **Loadout Data Entry in SharePoint**
- ITM 211 Training Opportunities

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• Loadout Data Entry in SharePoint

- Request Access through your District Geologist
- Watch for Email from INDOT
- Follow the Link in the Email
- Respond to the Sender of the Link to Confirm Success or Failure

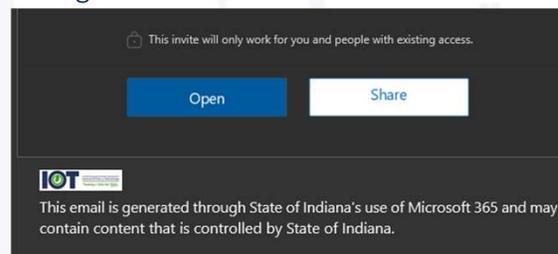
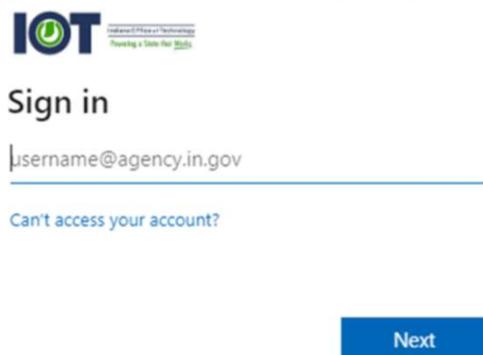


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• Loadout Data Entry in SharePoint

- Some Users will get an additional popup after clicking the link
- Enter your full email address and continue.
- The system won't ask for a password.



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Use a Web Browser for Data Entry.

See the Example Worksheet Tab in Every Excel Workbook.

See the other worksheet tabs for all Source Sizes 8, 11, and QA equivalents.

Work with your District Geologist if you need to add or change a material in the worksheet.

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Loadout Data Entry

Confirm Your Source and Material Information

These are required:

- Name
- Source Number
- Aggregate Name/Size
- QC Plan Target Sampling Frequency
- Critical Sieve
- Target Mean
- Upper Control Limit (UCL)
- Lower Control Limit (LCL)
- Decant Upper Specification Limit (USL)

• Other Items Are Helpful but Less Critical

- Update at Your Discretion

Work with your District Geologist if you need to:

- Add or change a material
- Update your UCL/LCL to match your QC Plan

Source Name and Location	Indiana Aggregates, Anywhere, IN
Source Number	2999
Aggregate Name/Size	INDOT 8AP
Shipment Beginning Date	5/5/2023
Shipment End Date	6/30/2023
Shipment Tons	162,000
Number of Samples	22
Target Sampling Frequency (Tons)	8,000
Average Sampling Frequency (Calculated)	7,364
Critical Sieve	1/2"
Target Mean	52.0
Upper Control Limit UCL	62.0
Lower Control Limit LCL	42.0
Decant Upper Specification Limit USL	2.5
Source Software Name (if any)	Stonemont
Source Calculated Critical Sieve Mean \bar{x}	51.9
Source Calculated Standard Deviation	5.82
Source Calculated PWL	92.0
Producer Technician Name 1	
Producer Technician Name 2	
Producer Technician Name 3	
Producer Technician Name 4	
Producer Technician Name 5	
Sampling Method (ITM207 Mini or Strikeoff)	Strikeoff
Comments	Information Only
Count Samples Out of Spec on Other Sieves	3

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Loadout Data Entry

Enter Your Loadout Test Results

- Sample Date
- Critical Sieve Percent Passing
- T-11 Decant Percent Passing
- All Other Sieves in Specification?
- Comments
- INDOT Witness (If applicable)

Note

- Sample and Test at Your QC Plan Frequency
 - Within +/- 1000 tons or +/- 1 Business Day
- Timely Data Entry
- Continuous Data Over the Months and Years
- PWL Statistics will calculate after 3 tests
- ITM requires action after 5 tests
- PWL Formula Will Calculate the Last 30 Tests

Work with your District Geologist if you need to request the archiving of old data due to a documented significant process change in the last 30 tests in accordance with ITM 211 12.5.2.

Sample Date	Critical Sieve	T-11 Decant	All Other Sieves in Specification? (Yes/No)	Comments	INDOT Witness Name (Blank if none)
5/25/2023	45.1	0.6	Yes		Dusty Roads
5/26/2023	49.1	0.5	Yes		
5/27/2023	56.4	0.7	No		
5/28/2023	56.7	0.6	No		
5/29/2023	51.9	0.5	No		
5/30/2023	59.9	0.7	Yes		
5/31/2023	49.3	0.8	Yes		
6/1/2023	46.8	0.6	Yes		Sandy Rivers
6/2/2023	51.5	0.4	Yes		
6/3/2023	47.4	0.6	Yes		
6/4/2023	55.4	0.7	Yes		
6/5/2023	63.9	0.7	Yes		
6/6/2023	57.2	0.6	Yes		
6/7/2023	56.0	0.9	Yes		
6/8/2023	49.1	0.6	Yes		
6/9/2023	53.6	0.4	Yes		Janet Jackson
6/10/2023	47.9	1.1	Yes		
6/11/2023	54.6	0.3	Yes		
6/12/2023	44.5	0.5	Yes		
6/13/2023	54.2	0.6	Yes		
6/14/2023	52.6	1.0	Yes		
6/15/2023	64.4	0.8	Yes		
6/16/2023	46.3	0.7	Yes		
6/17/2023	49.8	0.6	Yes		
6/18/2023	55.1	0.9	Yes		
6/19/2023	46.5	0.6	Yes		Peyton Manning
6/20/2023	38.7	0.4	Yes		
6/21/2023	50.9	1.1	Yes		
6/22/2023	56.2	0.3	Yes		
6/23/2023	45.1	0.5	Yes		
6/24/2023	49.1	0.6	Yes		
6/25/2023	53.6	0.4	Yes		
6/26/2023	47.9	1.1	Yes		
6/27/2023	54.6	0.3	Yes		
6/28/2023	44.5	0.5	Yes		

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Loadout Data Entry

- **Percent Within Limits (PWL)**
 - Calculation Box below Information Section
 - The Critical Sieve PWL is Calculated
 - Last 30 test results
 - Count, Average, and Standard Deviation
 - Blue Shading
 - Intermediate Calculations for PWL
 - See ITM 588 for Details
- **Communicate with your District Geologist**
 - When PWL is <90
 - See ITM 211 Section 12.5.2
- **“Product Info” Box**
 - Used for Data Analysis in Separate Spreadsheets

K	L
Sampling Method (ITM207 Mini or Strikeoff)	Strikeoff
Comments	Information Only
Count Samples Out of Spec on Other Sieves	3
Critical Sieve	
PWL of Last 30 Tests	92.00
QL PWL	95.00
QL	1.65
QL LCL	42.00
Qu PWL	97.00
Qu	1.81
Qu UCL	62.00
Count	30.00
Calculated Average	51.55
Calculated Standard Deviation	5.78
Product Info	
District	Somewhere
Aggregate Size	8
Material	Stone
Material Classifier	SAP

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- Loadout 2024 – 2025
- Loadout 2026 and ITM 211
- ITM 211 – Detailed Review
- Loadout Data Entry in SharePoint
- **ITM 211 Training Opportunities**

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- **ITM 211 Training Opportunities**
 - Virtual Training 11/18/2025. Recorded Live for Future On-Demand Access
 - CAPP Certified Technician School. December 2025
 - IMAA Winter Workshop. February 2026
 - Regional Meetings. March 2026

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What questions do you have?

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Thank You!

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