Ohio Department of Transportation

John Kasich, Ohio Governor

Jerry Wray, ODOT Director

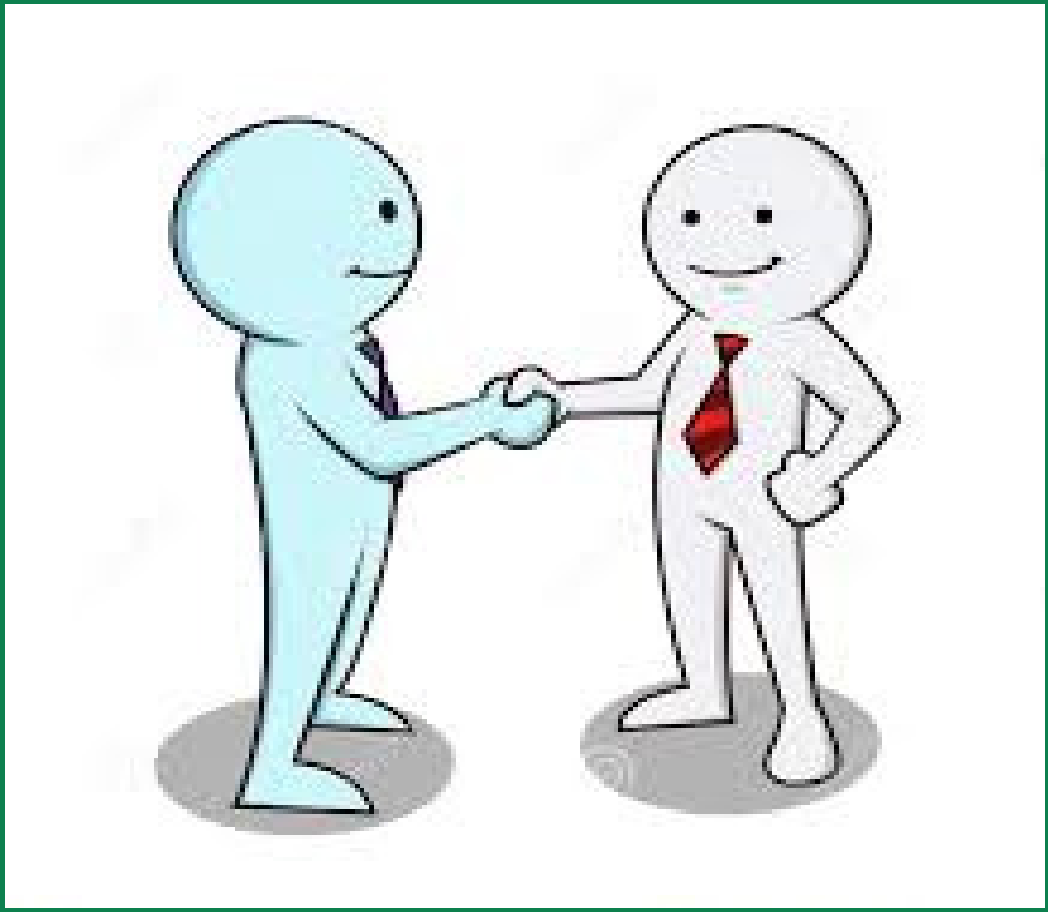
OAIMA Technical Session

November 18, 2016

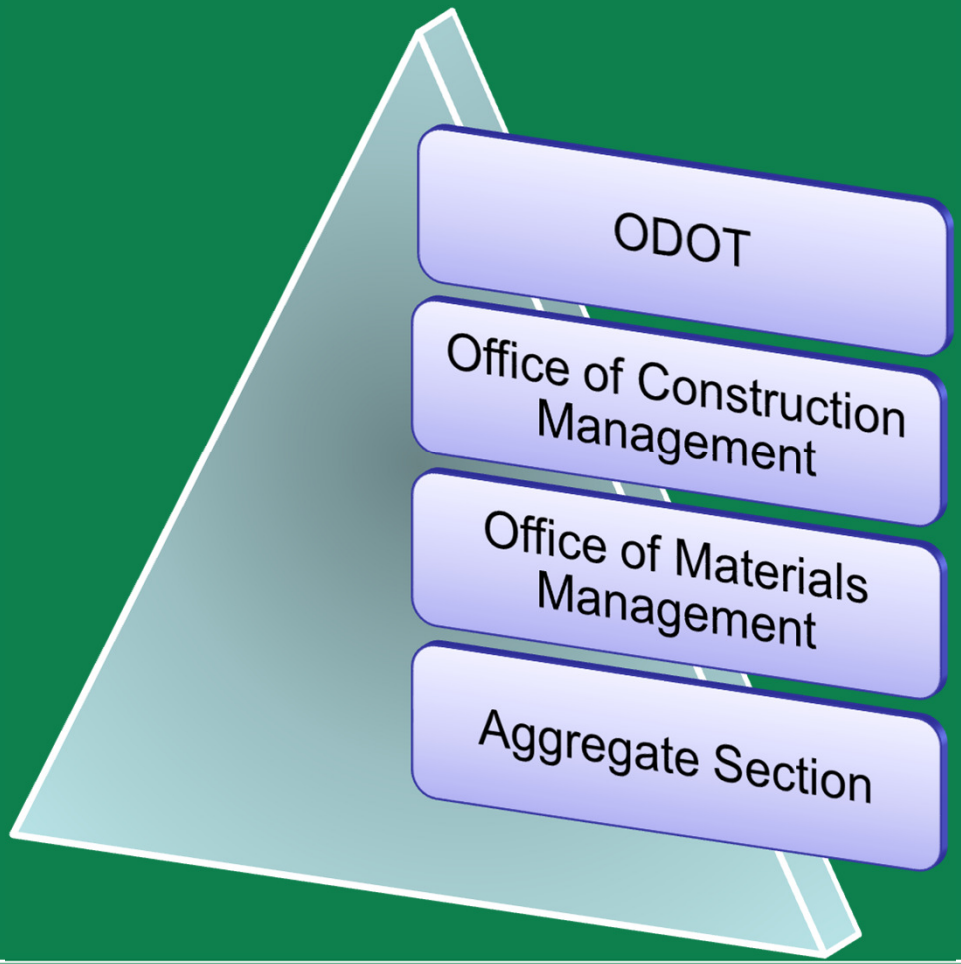
Items to Discuss

- Introductions
- Organizational Structure
- S1069 Program in Review
- Updates
- S1069 Applications Status and Review 2016
- S1069 Annual Documentation Outlook 2017
- Open Discussion/Q & A

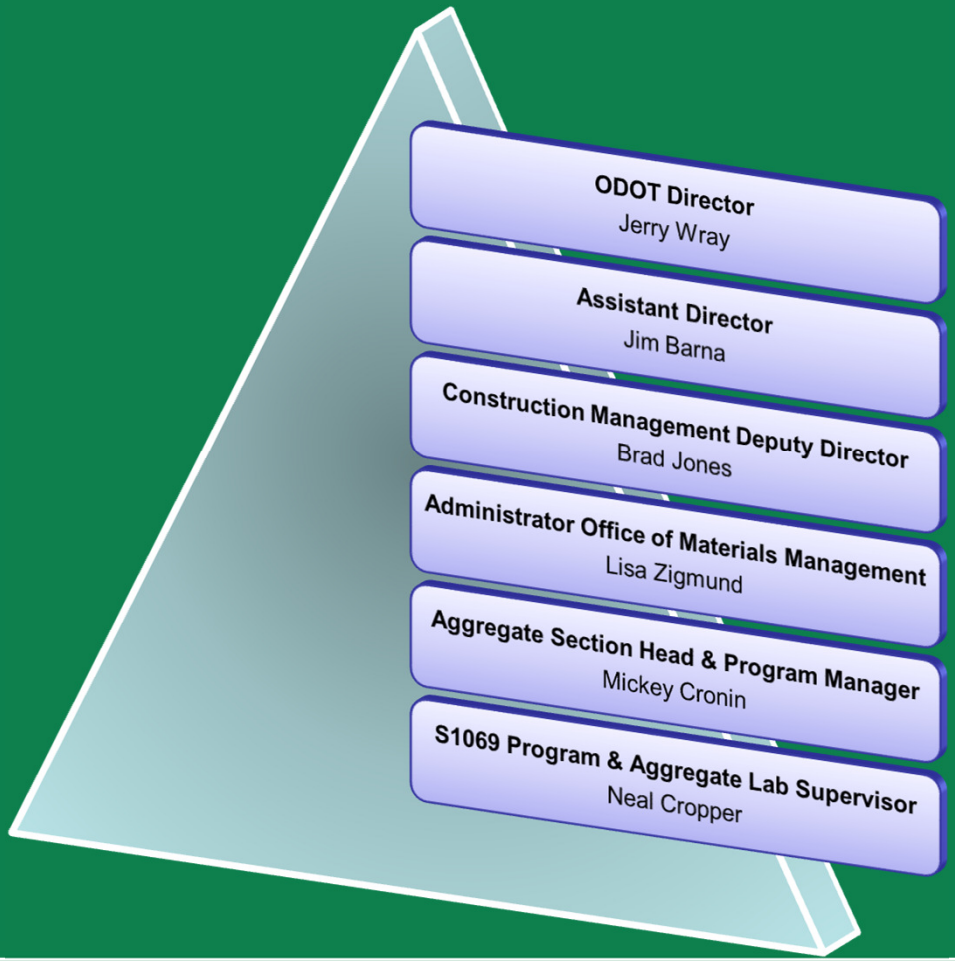
Introductions



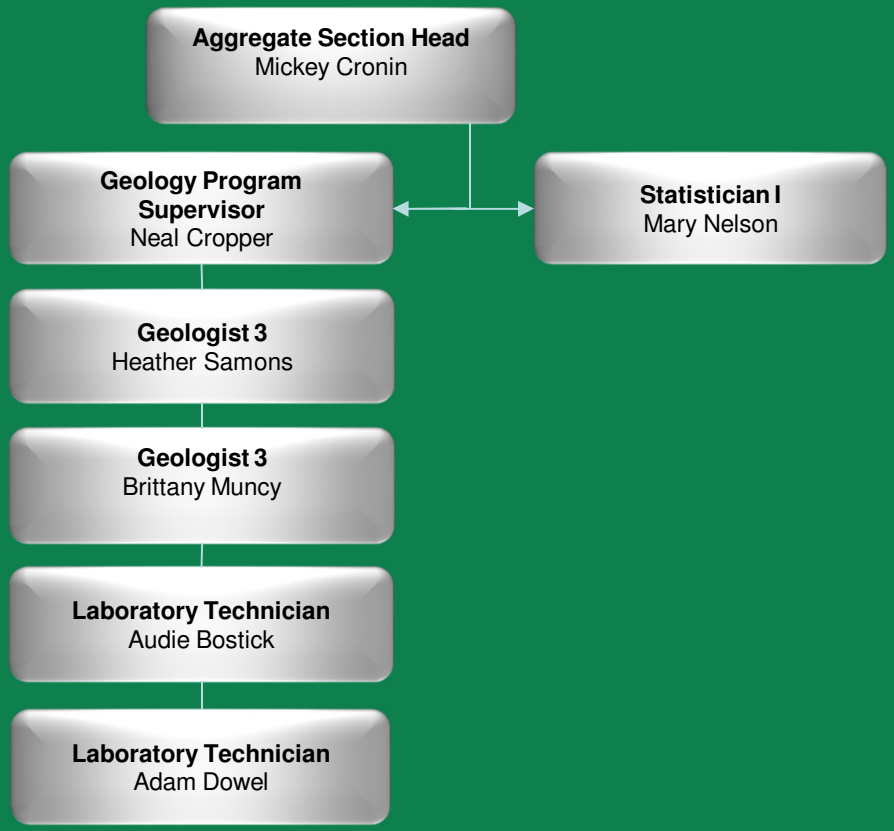
Office Structure



Management Structure



Aggregate Section Structure




Thank
You!!!

Supplement 1069

23 CFR 637

Awesome Aggregates = Awesome Roads

Goals

- Ensure Quality and Consistency
- Partner
- Quality Control First
- Locally Available Aggregates
- Efficiency

Who and What

- As of 2016 there were a total of 330 producer and supplier locations both
- Over 1,000 different products consisting of Limestone, Dolostone, “Trap Rock” Diabase, Sand and Gravel, Slag, Recycled Concrete

S1069 Breakdown

1069.01	Description
1069.02	Abbreviations and Definitions
1069.03	General Prequalification Requirements
1069.04	Laboratory, Testing and Personnel Requirements
1069.05	Application Requirements
1069.06	Quality Control Plan (QCP)
1069.07	Acceptance as a Prequalified Producer or Supplier
1069.08	Shipping and Records Documentation Requirements
1069.09	Supplier Notification of Shipments
1069.10	Prequalification of Additional Materials
1069.11	Department Monitoring and Quality Assurance Program
1069.12	Quality Assurance Testing
1069.13	Failing Material Resolution
1069.14	Dispute Resolution of Test Results
1069.15	Loss of Prequalification
1069.16	Restoration to Prequalified Status
Table 1069-1	PWL Compliance Limits for ODOT Materials

Sections 1-3 - general description & requirements

Section 4 - laboratory requirements

Sections 6-10 - requirements for quality control testing and documentation

Section 10 - new material evaluation process

Sections 11 and 12 - Quality Assurance processes

Sections 13-16 and table 1069-1 - compliance policies and procedures

What's new in recent years?

- An overall reduction in sampling and testing 4-1
  - Change occurred in 2012 when Geologist were brought in to help run a "Risk Based" program

- Application and documentation requirements.
  - Changed occurred in February of 2015
  - QCP's were broken up into two types of documents: Applications and Quality Control Plans

Laboratory & Personnel Requirements

- Section 1069.04 Laboratory and Personnel Accreditations
  - ODOT Qualified
  - AMRL Accredited
  - Personnel
- Section 1069.11 Round Robin Testing
  - All ODOT Qualified and AMRL Accredited Laboratories must participate

Methods and Grade Card

- Accreditation
  - Lab Inspections
    - Standard form being used to check for major items
    - Compliance is good
  - IAS
    - Split samples being taken in the field for “active” technicians
    - Results and participation seem to be very good
- Round Robins
  - Fine Aggregate samples for gradation and wash only sent to 158 laboratories
  - Overall participation and performance is good but follow up was difficult

Laboratory & Personnel Challenges

- IAS Tracking
  - No 100% effective way to accomplish this currently
- Round Robin
  - Follow up & Issue Tracking
  - Sample Prep
  - Retests
  - Laboratory or personnel requalification
- Level III testing & equipment
  - Not currently included in Inspection, IAS, or Round Robin Processes

What's the answer?

General Testing Requirements

TABLE 1069.06-1
MINIMUM AGGREGATE SAMPLING AND TESTING FREQUENCIES

Test Type	Producer / Contractor Testing		Department Testing
	Production QC	Load-out QC	QA
Coarse Aggregate Gradation (T27)	[2]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
Fine Aggregate Gradation (T27)	[2]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
P-200 Wash (T11)	[1]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
Dense Graded Aggregate Gradation (S1005)	[2]	1 test every 10,000 tons shipped or once a week	1 test every 10,000 tons shipped to ODOT
Fracture Count (D5821) – Coarse Aggregate (gravel)	[1]	3 tests a year [3]	1 test every 10,000 tons shipped to ODOT
Fracture Count (D5821) – Dense Graded Aggregate (gravel)	[1]	3 tests a year [3]	1 test every 10,000 tons shipped to ODOT
Specific Gravity (T85) – Coarse Aggregate	[1]	4 tests a year [3]	1 test annually
Specific Gravity (T84) – Fine Aggregate	[1]	4 tests a year [3]	1 test annually

[1] Production testing is not required, but recommended to help ensure a consistent aggregate product.
[2] Production testing is required; the frequency and type of testing is established by the producer.
[3] The Department will notify supplier when gravity testing and fracture count testing is to be performed. The supplier will respond with gravity test results within 30 working days.

General Testing Requirements Continued…

- S1069.10 New Material Evaluation
- S1069.12 Quality Assurance Testing
  - Gradation or Size Consistency
  - Aggregate Quality

QA/QC Gradation Methods & Grade Card

- New Material Evaluations
  - Quality Data submitted for new locations only
  - 8 QC + 2 QC gradations
  - Data sharing between QC & QA to populate an initial PWL
  - Updated Application and QC documentation
  - Compliance is generally good but the process is a bit fragmented and redundant in areas

QA/QC Gradation Methods & Grade Card Cont..

- Monitoring QC
  - Weekly Sales Reports
  - Monthly PWL submittals
  - Compliance report out is good
- Monitoring QA
  - Tonnage Report
  - District Communication
  - Routine Checks
  - Weekly Sales Reports and communication with QCR's
  - Compliance is hard to judge accurately due to timeliness of tonnage reporting
- QA Testing
  - Tonnage reported thus far via "Aggregate Tonnage Report" = 8,213,540 tons
  - Gradation test completed to date = 2,046

QA/QC Gradation Methods & Grade Card Cont..

- Failing Material Resolution
  - Most districts are following methods described in S1069
  - Communication seems to be good between QA/QC
  - Most issues are able to be resolved at the district level
  - Rarely is certification ever interrupted due to gradation

QA/QC Gradation Problem Areas

- New Material Evaluation process is fragmented and redundant
  - QC required to do dual entry to populate ODOT PWL's at times
  - Variables required to make final decision are in multiple locations
- Tonnage based testing can be challenging to track for both ODOT and supplier
  - Can lead to over testing, under testing, or testing after the fact
- Materials used at yards may get neglected due to business rules and practices

How do we move forward?

QA/QC Quality Testing Methods

- Obtaining random QA samples for each certified aggregate size covered by the program
  - Districts creating a baseline
  - Coverage seemed to be pretty good
    - 249 of all 268 sources were sampled by the districts

QA/QC Quality Testing Cont..

- Risk Based Approach to Quality
  - Assessment
    - Quantitative
    - Qualitative
    - Category 1-3
  - Site Visits and Sampling
    - Maintaining a relationship and better understanding of processes
    - Sampling those materials which may be or have been marginal
    - 89 sites were targeted for assessment with 88 completed to date
    - 3,444 Quality Tests were ran
    - 113 various material failures were captured

QA/QC Quality Testing Cont..

- Failing Material Resolution
  - Nothing defined for quality per S1069
  - What is the strategy?
  - What are the outcomes?

QA/QC Quality Testing Problems

- S1069 does not currently require post certification quality testing for aggregates
- Failing material resolution process is lengthy and risky
- Legacy specifications may have the potential to exclude quality products
- Low resolution test data
- Comparison

How can we do better?