

# ODOT'S PROPOSED NEW CONCRETE AGGREGATE SPECIFICATIONS

Presented by the  
Ohio Ready Mixed Concrete Association

**Tom Rozsits**



# Discussion Items

- Modification to Item 499
- Aggregate Blending Program
- Mix Submittal Process - JMF
- Ready Mix Challenges



# Modification to Item 499

– First Proposed June 2009

**499.03 Proportioning.** Proportioning of the concrete mixtures contained in this section is based on a predetermined cement content and providing well-graded aggregates using methods described in ACI 302, Chapter 6. Suitable computer software may be used to determine the proportions of the aggregates based on the individual aggregate gradations. Use a combination of aggregates with a nominal 1 inch maximum size and no more than 2.5% passing the no. 200 sieve when using natural sand and no more than 4.5% when using manufactured sand at proportions needed to attain a well-graded mix that is placable, workable and finishable for the desired application. Design the concrete using the cementitious content and water-cementitious (W/Cm) ratio in

Table 499.03-1



# Ready Mix Industry Response

- Support from some...skeptical by others
  - Additional JMFs and oversight of changes
  - Availability of intermediate sizes
  - Already a requirement in commercial flatwork
  - Blended coarse aggregate helps mix performance
    - Reduced shrinkage means less cracking
    - Less paste = less cement & water
    - Controls mix rheology
    - Allows changes to finishing characteristics



# Ready Mix Industry Response

- Try its use on beta projects throughout Ohio by *Proposal Note* addition
- Track limitations and implementation
- Allow for modification as required



# Aggregate Blending Program

- **Concept per Shilstone grading**
- **COMPASS program available at n/c through FHWA at [www.pccmix.com](http://www.pccmix.com)**
  - **Enter aggregate info using average sieve data (reported by aggregate supplier)**
  - **Adjust type, amount of ODOT approved aggregate to blended all aggregate to fit limits**
    - **May consider setting up mixes for low and high slump per class if needed (ie. slipform vs. CIP with Class C)**



# MIX SUBMITTAL PROCESS

- Submittal of program output/results of various mixes using plant specific materials
- ODOT does not see these JMFs as State General but rather plant specific



# CHALLENGES

- 'Change' may drive smaller concrete producers away from supplying ODOT
- Capacity limitations (available bins and aggregate storage area)
- Number JMFs due to aggregate sources/blends with multiple locations
- Shortage of intermediate sizes based on asphalt production season
- Modifying mixes based on aggregate gradation changes

# QUESTIONS?

Thank You!



Tom Rozsits, PE

[tom@ohioconcrete.org](mailto:tom@ohioconcrete.org)

[www.ohioconcrete.org](http://www.ohioconcrete.org)