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| CITY OF LAS VEGAS | <u>DEPARTMENT of BUILDING and SAFETY</u> OFFSITE INSPECTION and TESTING SECTION <u>Materials Testing Laboratory</u> | | | Procedure No.: 108 |
| | Procedure: Material Qualification – Aggregate Base (IQAC) | | | Page 1 of 6 |
| | Revision Number | Prepared By | Reviewed By | Approved By |
| 0 | GGJ | GGJ | BM | GGJ |
| Date | 1-8-96 | 5-12-96 | 9-3-96 | 9-3-96 |
| 1 | GGJ | GGJ | GGJ | GGJ |
| Date | 3-8-99 | 5-5-99 | 5-9-99 | 1-1-01 |
| 2 | GGJ | GGJ | GGJ | GGJ |
| Date | 12-5-03 | 12-12-03 | 12-19-03 | 1-1-04 |
| 3 | GGJ | GGJ | TEH | GGJ |
| Date | 1-5-05 | 2-28-05 | 2-28-09 | 2-28-05 |
| 4 | GGJ | GGJ | TEH | GGJ |
| Date | 10-18-10 | 11-9-10 | 12-3-10 | 12-3-10 |
| 5 |  |  |  |  |
| Date | 6-6-11 | 1-24-13 | 1-24-13 | 1-24-13 |
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DEPARTMENT of BUILDING and SAFETY

OFFSITE INSPECTION and TESTING SECTION

Materials Testing Laboratory

City of Las Vegas

**Material Qualification – Aggregate Base
Procedure No. 108 Revision 5**

The italicized and underlined sections of this policy note Revision 5 changes.

City of Las Vegas

**Interagency Quality Assurance Committee (IQAC) Procedure
Type 2 Aggregate Base Material Qualification**



LAS VEGAS
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702-229-6615

LAND DEVELOPMENT
702-229-6371

1.0 This procedure is to outline the current IQAC policy and procedure for qualification, and Quality Assurance (QA) sampling and testing of Type 1 and Type 2 Aggregate Base Materials. Please note that final acceptance of materials will be based upon the material sampled in-place at the project site, per section 106 of the Standard Specifications.

1.1 Each individual location or "pit" shall be referred to as a "source". The responsible party will be the governing agency within whose boundaries the "source" is located. Please contact the governing agency for information.

1.2 The qualification period *for base materials containing 100% virgin aggregate* is one year. The qualification period for *base materials containing a blend of virgin material and recycled concrete or Recycled Asphalt Pavement (RAP) aggregate* is six (6) months

1.3 . The entire qualification process must be completed prior to the first day of April each year *for base aggregates containing 100% virgin aggregate.*

1.4 *The entire qualification process must be completed prior to the first day of April and the first day of October for aggregates blended with recycled concrete aggregate or RAP aggregate.*

Note: The pit or source name shall include "Recycled Concrete Aggregate" or "RAP Aggregate" if such materials are used.

2.0 REFERENCE CODES AND STANDARDS:

2.1 Clark County Uniform Standard Specification:

2.1.1 Section 106, "Control of Materials"

2.1.2 Section 208 "Trench Excavation and Backfill"

2.1.3 Section 302 "Aggregate Base Courses"

2.1.4 Section 704 "Base Aggregates"

2.2 Other:

- 2.2.1 NRS 338.176, NAC 625.550
- 2.2.2 The most current ASTM, AASHTO, NDOT test procedures as indicated in the applicable sections of the Uniform Standard Specifications.

3.0 STATEMENT OF POLICY:

3.1 Submittal:

- 3.1.1 Submittal format shall be completed in accordance with the current IQAC procedure and in compliance with the NRS 338.176 and NAC 625.550 statutes.
- 3.1.2 The Supplier or their representative shall submit a transmittal letter and Type 2 materials report to the CLV for review and approval. The transmittal shall be submitted and approved prior to the utilization of the material. The *responsible* IQAC member must receive the transmittal within twenty-one (21) days of the sampling. When “no exceptions” are taken, the IQAC member will approve the material and submit the information for inclusion on the current IQAC Type 2 *Base Aggregate Material* list.
- 3.1.3 Notification of samples not in compliance with the Standard Specifications is required; however, a report is not. Samples without notification, or a qualification submittal within the 21-day period, will be considered, by the IQAC, to be outside of the Standard Specifications and require re-sampling and testing.

4.0 REPORT

- 4.1 The report must be prepared by, or the direction of a Professional Engineer registered in the State of Nevada. The Report shall be on a standard form¹ generated by the IQAC, include a graphical representation of the “Proctor” value(s), and include the pit name and location. The report must be signed and stamped by the responsible engineer.
- 4.2 Discrepancies between test results will be reviewed on a case-by-case basis. The responsible IQAC member will notify the Supplier of substantial test variation within 10 days of receipt of the qualification submittal.
- 4.3 The Report shall include, at a minimum, the information shown on Attachment No. 1, i.e. the following information:
 - 4.3.1 Sieve Analysis
 - 4.3.2 Liquid Limit
 - 4.3.3 Plasticity Index
 - 4.3.4 Fractured Faces
 - 4.3.5 Percentage Wear
 - 4.3.6 Resistance (R Value)
 - 4.3.7 Total Available Water Soluble Sodium Sulfate

4.3.8 Proctor values with curve and rock correction

4.3.9 Report stamped by the Professional Engineer of record

4.3.10 *Oil Content (If applicable)*

4.4 If testing is provided by another laboratory, that data shall be stamped by the laboratory engineer and included in the report.

5.0 SAMPLING AND TESTING:

5.1 Materials shall be sampled and tested as follows:

5.1.1 The Supplier or their representative shall notify the IQAC member a minimum of 24 hours prior to obtaining the sample. Sampling must be performed during normal working hours.

5.1.2 All samples of aggregate base for Annual / Bi-Annual Qualification shall be "cut" from the "belt". When circumstances do not allow for sampling during production, the Supplier / representative must coordinate with the IQAC representative to identify an alternative plan for sampling.

5.1.3 An approved testing laboratory shall obtain a sufficient size sample for splitting and testing. An IQAC representative shall be present at the time the sample is obtained and a split of the sample shall be provided to the IQAC representative for testing.

5.1.4 If IQAC personnel are not present during the sampling and splitting of the material, the results of the sample will not be accepted.

5.1.5 The most current AASHTO, ASTM, NDOT test procedures shall be used. Testing requirements shall be from the applicable sections of the Standard Specifications.

5.1.6 The AASHTO Methods T180 and T224 (as applicable) shall be used for the moisture-density value.

5.2 Approval to use the material, as Type 1 or Type 2 Aggregate Base, does not constitute acceptance of the material. All construction materials are subject to inspection and / or testing by the responsible agency personnel. Any material that does not conform to the engineering characteristics of those materials approved for use shall be removed and replaced with acceptable material.

6.0 QUALITY ASSURANCE (QA) TESTING:


6.1 The IQAC member responsible for a particle "source" will perform QA testing of the aggregate produced at that location. The frequency of sampling shall be a minimum of once (1) per every three (3) months, or a total of four (4) samples per year for virgin aggregate production. The frequency of QA testing for aggregate blended with concrete or recycled asphalt will be once (1) per every two (2) months, or a total of six (6) samples per year.

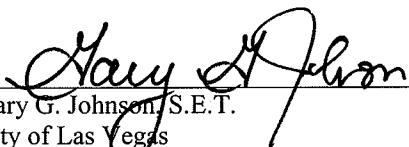
6.2 One of the samples (two for blended aggregate) will be the Annual / Bi-Annual sample. The remaining samples may be taken at any time during the time frame frequency at the discretion of the IQAC member.

6.3 Should the responsible IQAC member find test results, which do not meet specifications, the other members of the IQAC shall be notified. The IQAC member responsible for a particular pit may accommodate minor adjustments for "tuning" of an operation during normal operations. This courtesy shall not be extended during the Annual, Bi-Annual Qualification process. The IQAC shall determine the course of action required for these samples.

7.0 EFFECTIVE DATE AND APPROVALS:

EFFECTIVE DATE: February 1, 2013

 _____ 1-24-13
Tom E. Hayes, P.E. Date
City of Las Vegas
Inspections Manager

 _____ 1-24-13
Gary G. Johnson, S.E.T. Date
City of Las Vegas
Materials Testing Supervisor

Attachment 1

(Annual) (Semi-Annual) IQAC Type 2 Aggregate Base Material Submittal

Aggregate Producer Name: _____

Pit / Crusher Name: _____

General Location (i.e. cross streets): _____

Date Sampled: _____

Legal Description: _____

Section: _____ Township: _____ Range: _____

| Sieve Analysis | | | Test Name | Test Results | Specification |
|-------------------|------------------------|--------------------------|---|--------------|------------------------------------|
| Sieve Size | Percent Passing | Specification (%) | Moisture-Density Relationship | | AASHTO T180 |
| 1" | | 100 | Maximum Density(pcf) | | Nearest Whole Number |
| ¾" | | 90-100 | Optimum Moisture (%) | | Nearest Whole Number |
| ½" | | - | Percent Wear | | 45% Maximum |
| ⅜" | | - | Fractured Faces (%) | | 70% Maximum |
| No. 4 | | 35-65 | Plasticity Index | | |
| No. 8 | | - | Liquid Limit | | 35% Maximum * Maximum From Table 1 |
| No. 16 | | 15-40 | Resistance (R value) | | 78 Minimum |
| No. 30 | | - | Sp. Gravity of +3/4" | | - |
| No. 50 | | - | Total Available Water Soluble Sodium Sulfates | | 0.3 Maximum |
| No. 100 | | - | USCS Classification | | - |
| No. 200 | | 2-10 | Visual Description (Color) | | - |
| | | | <i>RAP Blend % Oil Content</i> | | <i>1.5 % Maximum</i> |

* Section 704.03.01 Standard Specifications

A graph of the Moisture-Density Relationship must be attached

Submitted By: _____ P.E. Stamp:
(Signature)

(Print Name)

(Title)