

Structures: General Requirements

1. Purpose

This specification contains structure requirements for precast and cast-in-place concrete pads.

2. General

1. All construction work is subject to inspection and testing. If the pad does not meet all requirements or exhibits poor workmanship, it shall be rejected by the NVE plant and/or field inspector.

NOTE: All references to Clark County (C.C.) pertain to “Uniform Standards Specification for Public Works’ Construction Off–Site Improvements” – Clark County Standard Specifications (latest edition).

2. All pads shall meet the requirements for Precast Concrete Structures (RS-G2) unless otherwise stated in this specification.


3. Steel Reinforcement

1. All steel reinforcement shall conform to C.C. Section 505, “Reinforcing Steel”, ASTM615, RS-G2, and RS-13 to RS-58 specifications.
2. All reinforcement shall be furnished in the full lengths and sizes. Rebar splicing will not be permitted.
3. Before the reinforcement is placed into the pouring form, the surfaces of the rebar shall be cleaned of all rust and loose mill scale, dirt, grease and any other foreign substances.
4. Rebar shall be tied with wire at least three times in any rebar length. Welding of reinforcement is not permitted. All reinforcements shall be placed on distance chairs and covered with minimum of 3” of concrete (see RS-13 to RS-58 design requirements). Manufacturers must submit any changes to the rebar designs shown on RS-13 to RS-58, to NVE T&D Standards for review and approval. Submittals shall include NVE R-SB ESR Change Recommendation Form, an AutoCAD drawing(s), appropriate engineering and certified test results.
5. Manufacturer shall design the steel reinforcement(s) for each precast pad to support the anticipated structural load(s) and to allow the pad to be handled and set without exceeding the first crack rating of the structure.
6. Prior to supplying any pad(s) to NVE, copies of the pad detail drawing(s) with the manufactures calculations, shall be provided to and approved by the NV Energy, Supervisor T&D Standards:

NV Energy
T & D Standards Department
P.O. Box 98910, M/S 19
Las Vegas, Nevada 89151-0001
Phone: (702)402-6541
Fax: (702)402-6575

4. Concrete

1. All concrete must conform to C.C. Section 501 “Portland Cement Concrete”, C.C. Section 502 “Concrete Structures” and C.C. Section 702 “Concrete Curing Materials and Admixtures” and the RS-G2 specification.
2. Concrete structures shall attain a compressive strength of 3,000 psi prior to shipment and installation. Any structure not meeting this requirement shall be rejected by NVE.

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5. Finish

1. The top and all side surfaces of the pad shall have a steel trowl smooth finish and shall be true even and level (only wet mix is permitted). The finish shall be free from the following:
 - A. Air cavities 0.125" wide by 0.125" deep (for RS-13) and .25" wide by .25" deep (for RS-14 through RS-58)
 - B. Projections beyond surfaces
 - C. Depressions, bumps and other irregularities.
2. The top surface of the pad must be true, even and level. The maximum deviation allowed is .0625" per 3" measured with straight edge in any direction. The top and side edges shall have a smooth 0.5" to 1" bevel or radius.
3. The manufacturer logo and manufacturing date shall be embossed on the top according to RS-G5. Other markings shall conform to RS-G2.
4. Pads shall be free of chips. Cracks or splits may not exceed .032". Cracks exceeding .008" in width shall be repaired with epoxy injection.
5. Pads shall meet the dimensional and tolerance requirements of the RS-13 to RS-58 drawings.

6. Dimension

As set forth in the NVE drawings, dimensions must be measured at the top of the structure. However, the bottom edges (each side) of the pad may be increased in size by 3".

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