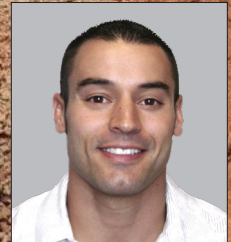


PLANNING ADVISORY NOTICE:

Overview of ANSI/ASSP A10.48 and ANSI/TIA-322 Standards and How They Improve Quality, Efficiency, Safety, and Communication



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The ANSI/ASSP A10.48 and ANSI/TIA-322 Standards were developed through the contributions of countless people with vast experience working on telecommunications structures and are the continued development of their predecessor, ANSI/TIA 1019. These standards have been recognized by the Occupational Safety and Health Administration (OSHA) in investigations and as an option for general duty citations as well as the International Building Code (IBC) in referencing the ANSI/TIA-222 standard for design requirements of telecommunications structures which references both the ANSI/ASSP A10.48 and ANSI/TIA-322 for construction requirements. In addition, these voluntary standards are required by many owners/clients, structure owners, and regulators for work on telecommunications structures. The main reason is quite simple. Use of these standards promotes increased quality, efficiency, and safety by improving and encouraging effective communication between the contractor and involved stakeholders such as the owner/client, structure owner, and Qualified Engineer. Quality, efficiency, and safety are also promoted by the standards by establishing that contractors have a detailed and communicated Construction Plan. Construction Plans, among other things, provide a communications pathway for Qualified Engineers to review construction operations which facilitates the successful construction, demolition, modification, and/or maintenance of the telecommunications structures. This Planning Advisory Notice (PAN) focuses its commentary on the recent revisions to ANSI/TIA-322-A & ANSI/ASSP A10.48-2023 (Effective January 1, 2024) related to Construction Plans and highlights how use of the standards support effective communication amongst industry stakeholders. There will be additional future PANs that will delve more deeply into other areas of these important standards.

Revisions to Standards

Construction Plans have evolved from the original ANSI/TIA-1019-A term “rigging plan” as not all work includes the physical act of rigging. This does not do away with rigging planning, but rather better defines the planning process for construction activities occurring on a telecommunications structure. Stability of the structure can be influenced by factors beyond just rigging such as removing soil around a foundation or anchor location, or performing other heightened risk activities where engagement of a Qualified Engineer and/or Qualified Person may be required. Because of this more holistic approach to construction, the term Construction Plan is now utilized to cast a wider net, so to speak, encompassing more activities than just rigging. It should be noted that



many have used information in the current and previous revision of the ANSI/ASSP A10.48 and ANSI/TIA-322 Standards for activities that were not directly related to rigging. As a result, the evolution of these standards is meeting the industry’s need to support new and existing infrastructure and the many intended uses of telecommunications infrastructure. As discussed above, this planning has a direct impact on the quality, efficiency, and safety of the job site. One recent revision involving Construction Plans appears in ANSI/ASSP A10.48 which now clarifies all construction activities that involve the supporting structure or its foundations to have a documented Construction Plan regardless if hoisting operations are to be performed.

Excerpt from ANSI/ASSP A10.48A-2023:

“4.4 Construction Plans. All construction activities that involve the supporting structure or its foundations shall have a documented construction plan regardless if hoisting operations are to be performed.

A qualified person or competent person shall identify the site-specific classification and construction activities within the construction plan.

Proposed activities shall be outlined in a written construction plan prior to implementation of all classes of construction.

All rigging attached to the structure shall be located around a vertical tower leg(s) at panel points for latticed structures or to the main pole shaft for monopoles in a manner which avoids slippage and prevents damage to structural members, appurtenances and rigging unless alternate locations have been deemed structurally adequate in accordance with Section 4.4.4.1(b).

A qualified person shall determine the need for involvement of a qualified engineer when special considerations apply which are not explicitly covered in this standard.”

A second revision related to Construction Plans is that ANSI/ASSP A10.48 now categorizes them into three groups, Class II, III, and IV. The previous Class I has been combined with Class II and thus all construction projects involving work on the telecommunications structure and/or its supporting foundation will require a written Construction Plan regardless of classification. This change to the standard was made after review of multiple failures that occurred when the work was deemed Class I and later discovered that insufficient planning existed. With all construction classifications now requiring documentation, all involved stakeholders are provided access to the plan. A written Construction Plan is a systematic and detailed presentation showing the equipment and procedures required for construction in accordance with ANSI/ASSP A10.48-2023 that will provide for the safety of personnel and stability of the structure and equipment. The planning required by these standards has a direct impact on the quality and efficiency of the work and greatly assists stakeholders with staying on the same page.

Excerpt from ANSI/ASSP A10.48A-2023:

See Section 4.4, Construction Plans

“The following classifications shall be used for establishing a construction plan:

4.4.1 Class I. Class I construction plans have been combined with Class II; therefore, the class I designation shall no longer apply.

4.4.2 Class II. Class II construction plans shall be developed by a competent person, or a qualified person with direct involvement of the onsite competent person(s) and shall include:

- a) The scope of work involves normal construction methods that do not affect the integrity of the structure.
- b) Where hoisting operations are performed and lift systems are attached to the structure, gross lift loads shall not exceed 500 lbs.
- c) Handline hoisting operations for gross loads under 35 lbs. need not be documented.

4.4.1 Class III. Class III construction plans shall be developed by a qualified person with direct involvement of the onsite competent person(s) and shall include:

- a) The scope of work involves normal construction methods that do not affect the integrity of the structure and includes all work not designated Class II or IV.
- b) Where hoisting operations are performed and lift systems are attached to the structure, gross lift loads shall not exceed 2,000 lbs.
- c) New structure and/or foundation construction where no strength or stability concerns exist. New structure and/or foundation construction shall be classified as Class IV where strength or stability issues have been identified.
- d) All hoisting operations utilizing detached lifting devices that are not supported by the structure.

4.4.2 Class IV. Class IV construction plans shall be developed by a qualified person with direct involvement of the onsite competent person(s) and a qualified engineer. The qualified engineer shall perform an evaluation of the strength and stability of the supporting structure(s) in accordance with the ANSI/TIA-322-A standard. A Class IV construction plan shall include:

- a) Where hoisting operations are performed and lift systems are attached to the structure, gross lift loads more than 2,000 lbs.
- b) Removal, replacement, or modification of structural members.
- c) Construction affecting the strength or stability of the supporting structure(s) including both the above grade superstructure and supporting foundation system(s).
- d) Special engineered lifts; removal, replacement, or modification to unique appurtenances; and/or custom or infrequent construction methods.

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- e) All rigging attached to the structure that is not located around a vertical tower leg(s) at panel points for latticed structures or to the main pole shaft for monopoles.
- f) Straight tag lifts for lift systems attached to the structure with vertical load position angles exceeding 10 degrees, and/or horizontal tag angles exceeding 70 degrees regardless of the gross load. Refer to Appendix A-13(f)."

The third major revision affecting Construction Plans deals with lightweight hoisting operations involving gross loads up to 200 lbs with rigging components attached away from the primary structure (e.g., rigging to a mount). For these applications, the contractor's designated Qualified Person may elect to deem the work as Class III without direct involvement of a Qualified Engineer if the specific conditions and limitations contained within Section 4.4.4.1.b of the revised ANSI/ASSP A10.48 Standard are satisfied. As with all construction activities, if a contractor has questions or concerns with a specific project, the best practice is to consult with a Qualified Person and/or Qualified Engineer to determine if additional due diligence reviews are warranted.

Excerpt from ANSI/ASSP A10.48A-2023:

“4.4.4.1 Exceptions. The following construction activities may be deemed Class III by a qualified person when all specified conditions are maintained and documented within the construction plan:

a) Component Modifications. Component modifications to connections of structural members (e.g., bolt replacements on multi-bolt connections) may be considered Class III under the following conditions:

- i. At least one level of redundancy is always maintained.
- ii. The structural member remains secure and engaged in the bracing system.
- iii. The work is completed within a continuous workday.

b) Lightweight Hoisting Operations with Rigging Attached Away from Primary Structure. Lightweight hoisting operations with rigging attached to the structure at location(s) other than the vertical tower leg(s) at panel points for latticed structures or to the main pole shaft for monopoles may be considered Class III under the following conditions:

- i. All rigging attachments are made at locations which are in good condition and in a manner which avoids slippage and prevents damage to structural members and appurtenances.
- ii. Primary or redundant lift system rigging is attached to the structure at the vertical tower leg(s) at panel points for latticed structures or to the main pole shaft for monopoles and located no more than 4 feet (1.22 m) vertically below the highest rigging attachment point (Reference Appendix A-4(a) and A-4(b) for examples).
- iii. The gross load does not exceed 200 lbs.
- iv. A documented proof test in accordance with Section 9.6 of this standard is completed prior to active hoisting operations.

When any of the specified conditions are in question, a qualified engineer shall be engaged to determine the appropriate construction classification including the need for any additional structural reviews in accordance with the ANSI/TIA-322-A standard.”

Communication

The updates to the standards result in more flexibility for the contractor but also more responsibility, thus necessitating the need for more effective communication. This communication must be supported and facilitated, when necessary, by the entity that engages the contractor. Contractors should inform the entities that engage them that adherence to these standards is required for any activity that is permitted as designed or analyzed under ANSI/



TIA-222, as required in the IBC. It is also incumbent on the contractor to relay the benefits and need for planning supported by these standards.

The entities engaging contractors must also understand that proper information flow is critical. Under these standards it is NOT acceptable to have an outside party, including a Qualified Engineer, create the Construction Plan without the contractor's direct involvement. This requirement by the standards is intended to ensure that the contractor's designated Qualified Person and/or Competent Rigger in charge of the field activities understands and clearly communicates the planned on-site activities.

The contractor controls the means and methods they will implement, the duration of the work, the sequence of operations, and the training of their authorized and competent employees.

Excerpt from ANSI/ASSP A10.48A-2023:

See Section 3, Definitions

“Qualified Engineer, Communication Structures. A professional engineer knowledgeable and experienced in the communication structures industry and this standard, capable of understanding the contractor's construction plan and the scope of work impact upon the structure, and responsible for analyzing the structure's strength and stability while accounting for construction loads in accordance with the ANSI/TIA-322-A standard. The qualified engineer does not have the responsibility for field supervision, development of the construction plan or implementation of the construction means and methods.”

If construction operations necessitate an engineer be engaged to develop specific construction procedures and/or provide on-site engineering supervision, the standard allows for an engineer to assume these additional responsibilities when serving as a Supervising Engineer as

defined within the standards for a very **specific** scope of work. This was done to ensure that there is no confusion regarding the limited responsibility of a Qualified Engineer who strictly performs strength and stability reviews on the supporting structure resulting from construction operations identified within the contractor's Construction Plan. Regardless of the class of Construction Plan required for a job, effective communication with a Qualified Engineer can always take place. Owners/clients and structure owners should support this communication by the contractor when the Qualified Person outlines a need for this level of support from a Qualified Engineer.

Additionally, a Construction Plan is also required to document project personnel, which provides for open communication amongst the Competent Rigger, Qualified Person, Qualified Engineer, and the project stakeholders.

Excerpt from ANSI/ASSP A10.48A-2023:

4.3 Stakeholders. The following identifies minimum stakeholder entities including their roles and responsibilities regarding pre-job planning. Additional stakeholders may be involved on a given project and shall have specific roles and responsibilities identified as it relates to pre-job planning and construction.

4.3.1 Owner/Client. The public body, authority, corporation, association, firm, or person for whom work is to be performed. The owner shall provide, or assist in providing, necessary information required for the contractor to develop site-specific construction and job hazard analysis (JHA) plans including coordination with FCC license entities for maximum permissible exposure (MPE) purposes.

4.3.2 Structure Owner. The structure owner shall coordinate with the structure engineer of record (EOR), FCC licensed tenants, and/or designated representatives to facilitate the transfer of information needed by the contractor to develop site-specific construction and job hazard analysis (JHA) plans when requested by the contractor.

4.3.3 FCC Licensed Entities. FCC licensed entities shall provide available information to the contractor regarding RF emissions that may impact work activities on the site. Such information may include power reduction and/or lockout/tagout procedures for radiating

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equipment. The work activity may be on the subject structure or adjacent structures with active RF emitters.

4.3.4 Contractor (Employer). The contractor shall:

- a) Ensure personal protective equipment (PPE) is provided, used, and maintained.
- b) Review the project documents as required by the contract and scope of work (SOW).
- c) Develop and maintain a site-specific construction plan in accordance with Section 4.
- d) Develop and maintain a site-specific job hazard analysis (JHA) plan in accordance with Section 5.
- e) Designate competent person(s) to be on site when the contractor's employees are performing work.
- f) Establish employee's individual roles and responsibilities for the work to be performed as well as ensure employees working on site are trained in their specific work task responsibilities.
- g) Engage a qualified person, qualified engineer and/or supervising engineer when required by the SOW.
- h) Adhere to federal, state, and local jurisdictional requirements.

4.3.5 Multi-Employer Worksites. On multi-employer worksites, all the employers shall follow a multi-employer worksite plan:

- a) Work together to identify and control hazards to meet OSHA and applicable standards for employee health and safety.
- b) Identify entities as, creating, exposing, correcting and/or controlling employer(s)."

Contractors: Shall develop and maintain control of the Construction Plan in accord with ANSI/ASSP A10.48, engage all required stakeholders based upon the construction class, and effectively communicate the plan and individual responsibilities. Fulfillment of these responsibilities will ensure efficiency and quality in the completed work while always maintaining a safe working environment for the contractor's employees.

Qualified Engineers: Shall complete strength and stability reviews of the supporting structure based on construction activities defined in the contractor's Construction Plan and provide the contractor with a documented construction analysis report in accord with ANSI/TIA-322-A.

Owners/Client: Recognize the construction planning requirements their contracted parties must adhere to, support the contractor throughout the project (including facilitating information and/or documentation requests), and compensate contractors for the expected additional front-end planning costs. Supporting the contractor in this fashion will ultimately result in additional benefits by promoting quality, efficiency, and safety in following these standards.

In closing, this PAN has discussed the benefits of proper project planning and how effective use of the ANSI/ASSP A10.48 and ANSI/TIA-322 Standards can be utilized to directly impact quality, efficiency, and safety in the telecommunications industry. Construction Plans as described in these standards, support this goal by providing the necessary platform to establish effective communication lines thereby ensuring engagement of key stakeholders and successful completion of the project. It is our hope that this PAN will stir communication among all stakeholders to raise awareness of the benefits in following these important standards. ●

Key areas of responsibility for critical stakeholders include but are not limited to: