

CLAY FIRE



Construction and Development Guide

*****Based on the 2014 Indiana Fire Prevention Code
and relevant NFPA Codes and Standards *****

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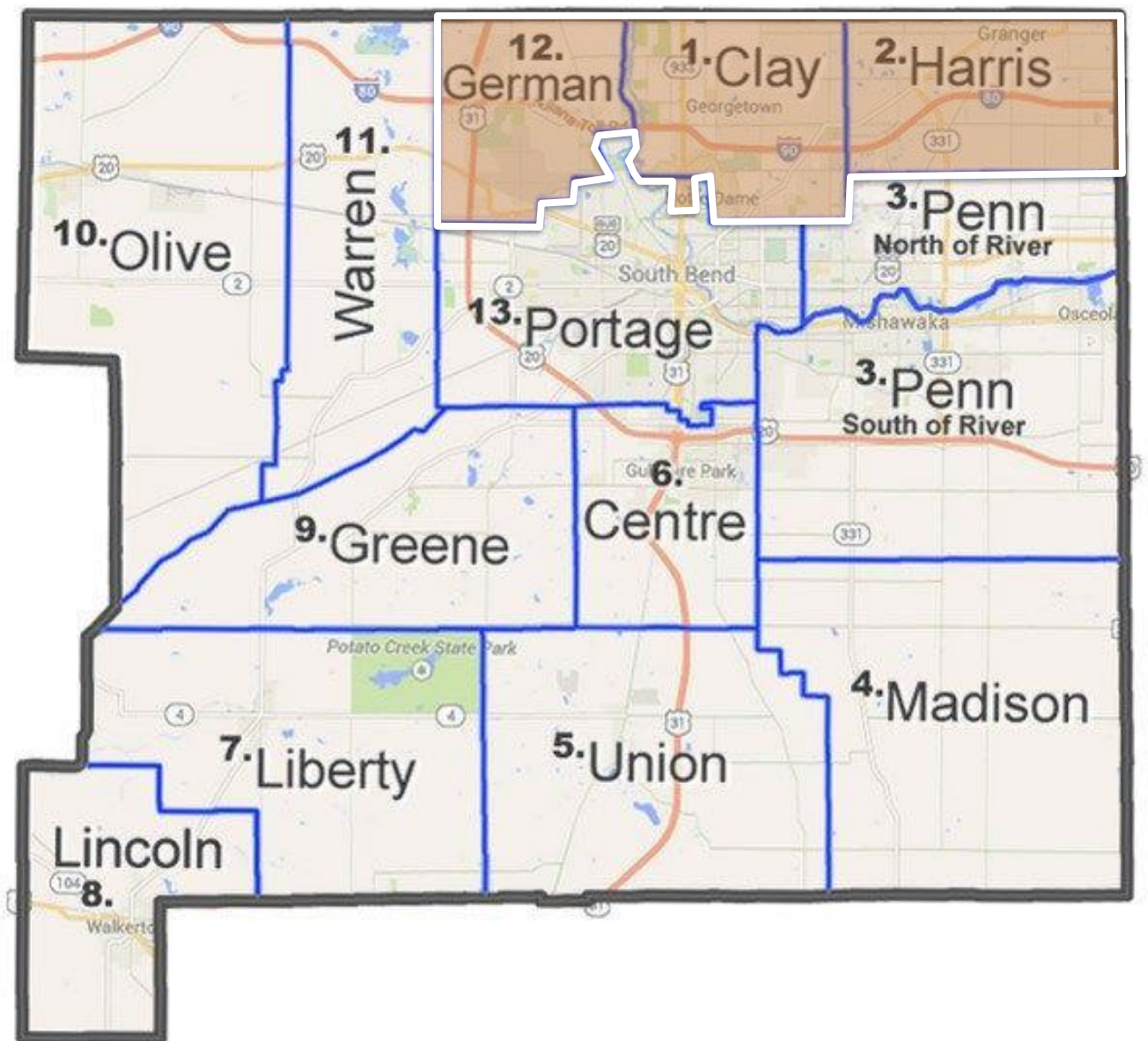
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Map of Jurisdiction

The Clay Fire Territory jurisdiction includes: German Twp., Clay Twp., Harris Twp. and the Town of Roseland and Indian Village.

For any projects within those areas, please contact our Community Risk Reduction Division at (574) 272-2144, Monday thru Friday from 8am – 4pm.



The Purpose for the Guide

This guide denotes critical areas of concern during the plan review process and is intended to assist architects and developers to achieve a code-compliant construction project. This is only a partial list and should not be construed to include all fire codes, building codes, mechanical and electrical codes, or local code(s).

The items addressed are referenced in the following codes and standards; the 2012 ICC Fire Code, 2012 ICC Building Code, the 2014 Indiana Fire Prevention Code, and National Fire Codes / Standards as published by the National Fire Protection Association.

Construction Drawings for Review (Clay, German, Harris Twp. Town of Roseland and Indian Village)

Please provide Clay Fire Territory with two complete sets of drawings; one hard copy and one digital set (**PDF**) along with a site and floor plan in **CAD (DWG format)** and project manual. Drawings should be provided to our office at the time they are provided to the St. Joseph County Building Department. The CAD file allows us to update the department pre-plans. If not on drawings, please provide contact phone and email for owner, architect, and construction manager for questions during the plan review and construction phase of the project.

Once we receive your drawings, we will complete our review within **5** business days. You will then be provided with a letter regarding our plan review process and any questions, comments or areas of concern.

Every effort is made for a thorough plan review process. However, it is possible that something may be overlooked. Concerns may not be noted until a routine site visit, a pre-final site inspection, or the final Certificate of Occupancy inspection. At any time prior to or during construction, the Community Risk Reduction Division / Fire Marshal may be reached by phone at **(574) 272-2144** during the hours **8am to 4pm** Monday thru Friday.

Once your building is under construction, periodic site visits will be conducted by a representative of the Clay Fire's Community Risk Reduction Division.

On page 6, we have included a checklist to be provided to job site superintendents when a property is either under construction or under demolition. The items listed are taken from **(ICC) Chapter 33: Fire Safety during Construction and Demolition**.

System Tests and Construction Inspections:

Note: Notify the Community Risk Reduction Division at (574) 272-2144 a minimum of **twenty-four (24) hours** prior to conducting any system / device test. All required testing must be completed and documentation provided to Clay Fire Territory for a Certificate of Occupancy to be issued.

- Fire Alarm System acceptance test
- Smoke Detection System
- Fire Sprinkler and Standpipe system (200 psi hydrostatic test)
- Underground piping for fire protection system use. (flush & hydrostatic)
- Commercial kitchen fire extinguishing hood system puff test
- Elevator acceptance
- Emergency Communications systems
- Buried medical oxygen piping
- Thrust Blocks
- Fire Stopping
- Pre-final inspection
- Final / C of O inspection

Note: A copy of the required forms / documentation pertinent to each test shall be provided to Clay Fire at the time of, or as soon after the conclusion of the test as possible.

Copies of all required acceptance testing documentation are forwarded to the St. Joseph County Building department as part of your buildings file.

Fire Safety During Construction and Demolition: (IFC Chap.33)

- Smoking shall be prohibited except in approved areas (3304.1)
- No burning of construction materials (3304.2)
- Clearance of combustibles from temporary heating devices shall be maintained in accordance with the labeled equipment. (3303.5)
- The construction site shall be protected by appropriate fencing to deter unauthorized entry. (OSHA reg.)
- Exit signs shall be attached at proper locations for identification and access by workers. (3311.2)
- Buildings four or more stories in height shall be provided with not less than one standpipe for use during construction when the progress of construction is not more than 40 feet in height above the lowest level of fire department access. (3313.1)
- An approved fire extinguisher shall be provided at each stairway on all floor levels and in every storage and construction shed during construction. (3315.1)
- An audible device for evacuation notification and an evacuation plan shall be located in a conspicuous location for building occupants. (OSHA reg.)
- Water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible materials arrive on site. (3312.1)
- Separation distances between buildings under construction and construction-related structures; temporary offices, trailers, sheds, and other facilities for the storage of tools and materials combustible construction contents, shall be in accordance with NFPA 241 table 4.2.1
- Temporary heating equipment shall be listed, installed, used and maintained in accordance with the manufacturer's instructions. (3303.1)
- Accumulations of combustible waste material, dust, and debris shall be removed from the structure and its immediate vicinity at the end of each work shift. (3304.2)

Site Safety Display



All necessary emergency information and equipment mounted together at accessible locations within construction site.

Premise Identification (IFC 505)

- Approved numbers or addresses shall be clearly legible and visible from the street fronting the property. Numbers shall contrast with their background and be no less than 6" in height with a stroke of no less than .5", **no script** is permitted to be used.
- Structures that have 3 or more separate tenants, with both a front and rear entrance, must have an address on the rear door.



Security / Access Gates (503.6)

The installation of **security gates** across a fire apparatus access road **shall be approved by the fire code official.** And if installed, shall have an **approved means of**



emergency operation.

Electric gate operators, where provided, shall be listed in accordance with UL 325, and maintain operational at all times.

Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.



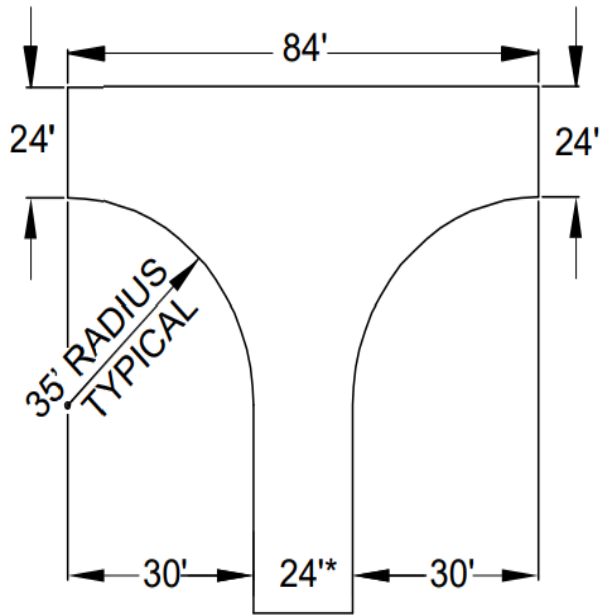
Fire Hydrants (IFC 507.1)

- The on-site water supply shall be accessible to the Fire Department and be located within 100' of the structure being protected by an automatic fire-extinguishing system.
- Fire hydrants must be serviceable (wet), and accessible during all phases of construction.
- Fire hydrants shall face the proper direction. The steamer connection shall face the drive surface and all caps shall be in place.
- Proper grading and elevation around hydrant(s) shall not impede operation and must be provided at time of final inspection.
- Vegetation and landscaping shall be placed in a manner as not to obstruct or impede a fire hydrant from view or use.
- A 3 foot clear space shall be maintained around the circumference of the hydrant.
- Where hydrants may be subject to impact by a motor vehicle, approved physical protection shall be required. (IFC 507.5.6)

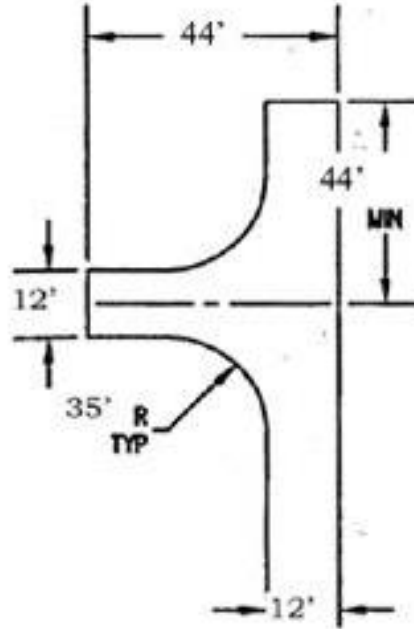
Fire Apparatus Access (IFC 503)

- Fire apparatus access roads shall have an unobstructed width of not less than 30 feet and a minimum vertical clearance for the passage of fire department apparatus is 13 feet 6 inches.
- Fire apparatus access roads shall be designed and maintained to support the imposed loads of the agencies largest apparatus and be surfaced as to provide all-weather driving capabilities. **Must be able to handle 81,000 lbs.**
- Fire apparatus access / turnarounds and cul-de-sac shall be per this document.
- Design of turnarounds must be approved by Clay Fire Territory to meet the needs our largest apparatus.

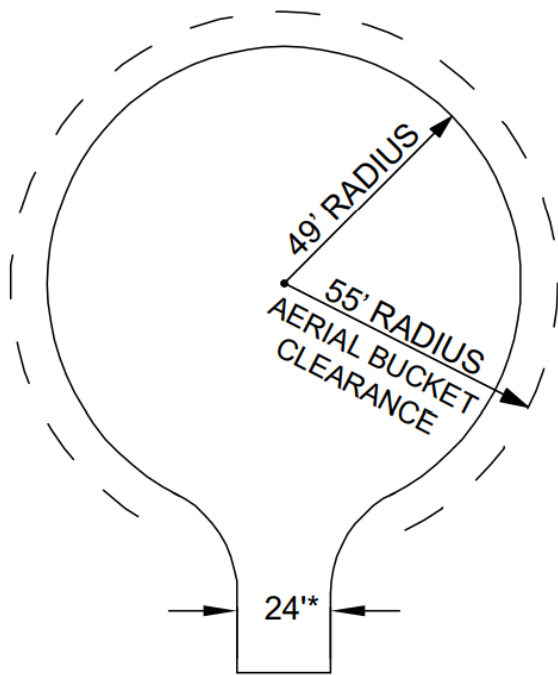
Fire Apparatus Turnaround Guide



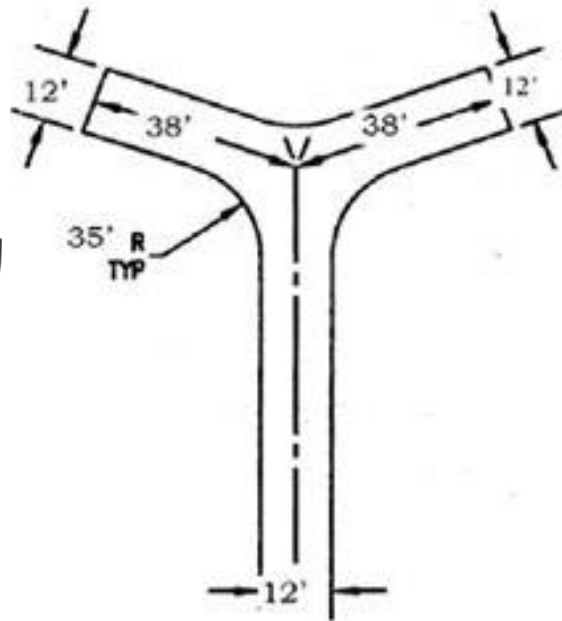
HAMMERHEAD



3-POINT SIDE



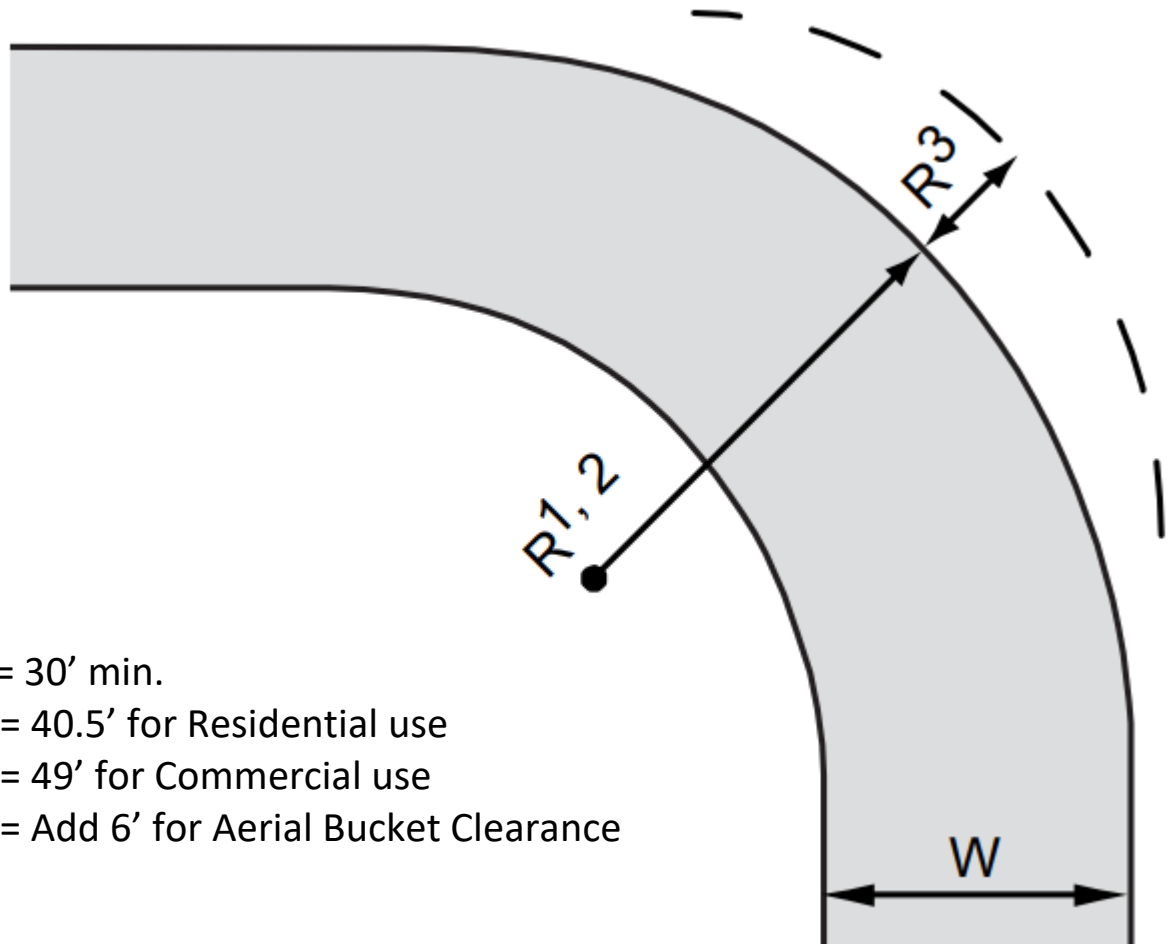
CUL-DE-SAC



3-POINT WYE

Turning Radius

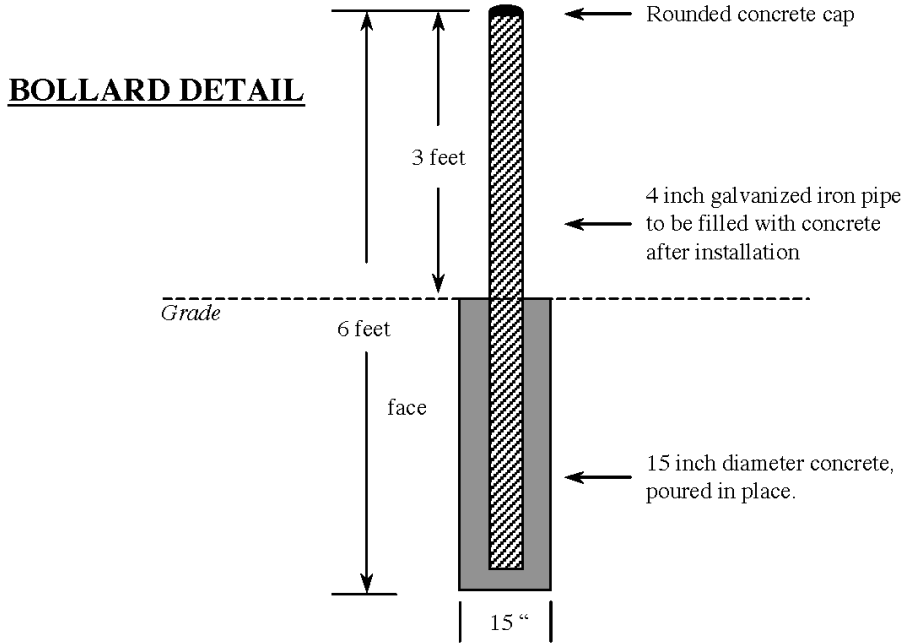
- The minimum outside edge radius of the lane on a turn is 49 feet, with 55 feet outside radius required for aerial bucket clearance for commercial and multi-family uses, and 40.5 feet for other residential uses



Vehicle Impact Protection

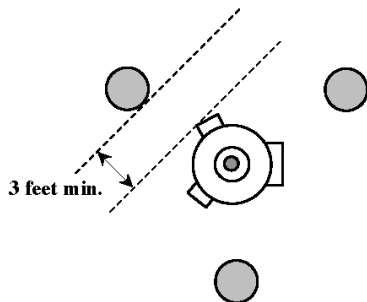
STANDARD DETAILS & SPECIFICATIONS

Subject: Specifications for the installation of bollards for private fire protection equipment, generators, and fuel tanks.



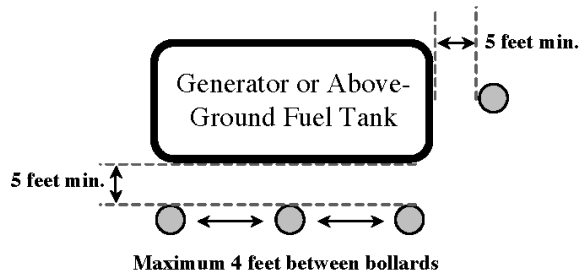
HYDRANT POST LOCATIONS

Bollards shall be **three (3) feet** minimum from the face of fire hydrant. All orifices shall be unobstructed.



GENERATOR/FUEL TANK POST LOCATIONS

Bollards shall be **five (5) feet** minimum from the face of fire hydrant.



NOTE: The installation of bollards for public fire hydrants requires approval from the public water company.

Key Boxes (IFC 506)

- The Clay Fire Territory requires installation of the Knox Box Access System at all new commercial construction (as of 1995) as well as all commercial renovations. More than one key box may be requested. Contact the Community Service Division for determination of installation location and for an order form.
- All keys contained in the key box shall be clearly labeled.



- Online ordering
 - <https://www.knoxbox.com/store/departmentSearch.cfm>
 - Enter "Clay Fire Territory" under the Department Name
 - Clay Fire requires eApproval by one of the Fire Marshal's
 - Press "Proceed with Pre-Authorization Order"
 - Pick your product (Tamper Switch unit not required by Clay Fire)
 - Add to Cart and fill out all forms
 - Fire Marshal will be verifying the order, if approved the order will completed and sent out.
 - Once the order arrives and has been installed, please call 574-272-2144 and schedule a time to install the key and lock the Knox-Box.

Fire Extinguishers (IFC 906)

- Extinguisher locations shall be approved by the Fire Marshal.
- Extinguisher requirements may change according to occupancy / hazard classification.
- A minimum 2A-10BC rated (approximately 5 lb) required where applicable.
- All fire extinguishers are required to have a current inspection tag in place. (Inspected yearly)
- Fire extinguisher cabinets shall be installed with the top of the cabinet no higher than 54" from finished floor.



Fire Protection Equipment

- Drawings for alarm and suppression systems must be provided to Clay Fire for review. All systems must meet applicable NFPA codes and standards. (NFPA 14) (8.1)
- Fire alarm systems shall be the **addressable-type** unless the total devices to be installed number less than 10, in which case, a zoned system will be allowed. Clay Fire Territory shall be contacted to approve fire alarm control panel (FACP) location. Remote annunciator panels may be requested.
- The Fire Department connection shall be located no more than one hundred (100) feet from the hydrant. (NFPA 14: 6.4.5.4.)
- The fire department connection shall be of the 2 ½ “ female Siamese type.
- Fire sprinkler system controls, water flow switches, and the fire alarm system are required to be monitored by an approved monitoring company. Controls are to be labeled with approved signage.
- A U.L. approved exterior electric (horn and strobe), or hydraulic warning device (bell) shall be installed on the outside of the structure proximate to the Fire Department connection of a building protected by a fire sprinkler system.
- If the distance between standpipes is greater than 200', an additional standpipe shall be located in the center of the building beginning at the second floor level and extending to the highest level of the structure to be occupied. (NFPA 14: 7.3.2.2.1.1)



Signs and Labeling

1. All fire sprinkler valves, shutoffs, drains, etc., shall be labeled in accordance with NFPA 13 guidelines.
2. All fire sprinkler systems shall have shut down, drain, and re-charge directions posted in the fire sprinkler control room.
3. All fire alarm systems shall have a device location list at the fire alarm control panel. If it is a zoned system, a zone map must be provided.
4. *Occupancy Limit* signs issued by Clay Fire Territory are to be posted in all assembly occupancies.
5. *Fire Lane* is to be identified by a sign no less than 12” across and 18” high, as in accordance with the “sign code”.
6. When requested, all exterior doors shall be numbered, with the graphics appearing on both the interior and exterior.



Clay Fire Contact Information

1. Dave Cherrone, Fire Marshal
(574) 272-2144 (office)
(574) 532-0439 (cell)
dcherrone@clayfd.com

2. Ron Melser, Deputy Fire Marshal
(574) 272-2144 (office)
(574) 532-3650 (cell)
rmelser@clayfd.com

3. Clay Fire
Community Risk Reduction Division
18355 Auten Road
South Bend, Indiana 46637
(574) 272-4043 (FAX)