

Engineering - Site Plan Checklist

- A. Preliminary Information  

- B. General Information  

- 00. Deferment  

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Applicant has substantial issues with this project. Applicant must address all major engineering issues at resubmittal. If the engineering department determines there are substantial engineering issues remaining at resubmittal, the department will recommend deferral at that time.

- 00. Easements  

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Applicant shall complete the standard easement form for any unplatted easements associated with this site plan: <http://franklintn.gov/home/showdocument?id=21149>

Form, required descriptions and exhibits shall be submitted electronically at resubmittal for review. Upon approval, original signature shall be submitted to the City of Franklin for recording prior to obtaining permits.

- 00. Follow Checklist  

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Applicant shall provide all information and format sheets as set forth in the Site Plan Checklist in the Administrative Manual as found on the Planning & Sustainability => Current Planning page of the City's website:

<https://www.franklintn.gov/home/showdocument?id=21931>

- 09. North Arrow and Scale  

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Applicant shall show an appropriate North arrow and graphic scale on all applicable sheets.

- 10. Site Location & Vicinity Map  

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Applicant shall include a site location and vicinity map on plans.

- 14. Signed & Sealed  

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All sheets shall be sealed, signed and dated by Tennessee licensed professional(s).

○ 15. Coordinate System  

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Applicant shall include the note on all sheets referencing the Tennessee State Plan Coordinate System, Zone 5301, Fipszone 4100; NAD 83 datum. The Site Plan shall be tied to field survey information, not referenced from City of Franklin GIS.

○ 16. Major Thoroughfare Plan  

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Applicant shall comply with the City of Franklin Major Thoroughfare Plan. ROW shall be dedicated to meet the requirements in the MTP.

○ 17. Phasing  

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Applicant shall clearly define construction limits for each construction phase on each sheet. Each phase shall have its own standalone Grading and EPSC plan sheets. Entire approved site plan shall post sureties as one project regardless of construction phasing.

○ Approved and not constructed  

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Provide a separate sheet that indicates projects that have been approved and are not constructed in the vicinity of the proposed project.

○ Conditional Approval  

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Conditionally Approved pending swapping of sheets sent separately by e-mail to correct minor remaining issues.

○ Development Plan Approval Needed  

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Prior to approval of the Site Plan, the associated Development Plan for the project shall be submitted at One Stop to satisfy the outstanding Conditions of Approval for the development.

○ Development Plan Sheet  

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Provide the approved development plan sheet within the Site Plan drawings with initial submittal.

○ Plat Revision Required  

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A revised final plat will be required in order to dedicate right-of-way, modify/abandon existing easements on the property and create new easements as necessary for the proposed site development. The revised plat shall be approved and recorded prior to issuance of a Building Permit.

○ Revision Not Approved  

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Sidewalk that cuts through the commercial development's parking lot is not an acceptable substitute for the sidewalk required along public streets per Section 5.10.13 of the Zoning Ordinance. The City Land Planner has determined that the disturbance to the existing trees and landscape screening as a result of the sidewalk installation will be minimal. The proposal to omit the section of sidewalk along

Keats Street adjacent to the Kroger parking lot is not approved. The sidewalk shall be constructed per the previous approved plans.

- Street Classification  
 - Applicant shall show ROW width and the functional street classification per the City of Franklin Major Thoroughfare Plan of all public streets (local, major collector, etc.) on plans.

- C. Existing Conditions Plan  

- 00. Drainage Patterns  
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Applicant shall indicate drainage basins, flow arrows and outfall locations on the existing conditions plan.

- 00. Existing Conditions Plan Sheet  
 - Applicant shall provide an existing conditions plan sheet in the same orientation and scale as the grading plan sheet.

- 000 Survey Information Source  
 - Applicant shall note source of survey information shown on the Existing Conditions Plan, including the following:

1. Survey Method (i.e. Field-run Topographic Survey)
2. Survey Date
3. Survey Company

Be advised that field-run topographic survey is required for all Site Plans. City of Franklin GIS or other aerial survey sources are not to be used as the basis for design.

- 19. Existing Contours  
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Applicant shall provide existing topography showing vertical interval at a minimum ten (10) feet, except that, in areas where existing slopes exceed ten (10) percent, contour interval shall be a minimum of twenty (20) feet.

- 20. Geological Formations  
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Applicant shall provide geologic formations, including: rock outcrops, cliffs, karst topography. existing physical features map, including geological formations or structures; watercourse; water bodies; marshes; existing streets and railroads; existing utility easements and mineral rights shall be shown. Soils map information, based upon data from the United States Soil Conservation Service or other acceptable standards, shall be shown.

- 21. Steep Slopes  

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Applicant shall show natural or man-made slopes of 14% to 19.99%. Existing natural slopes ranging between fourteen (14) and nineteen (19) percent, and slopes twenty (20) percent or greater, shall be graphically indicated and labeled.

Development on natural slopes of twenty (20) percent or greater is prohibited.

- 23. Existing Stormwater Features  

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Applicant shall indicate watercourse, water bodies, Floodway Fringe Overlay (FFO) Zoning Boundary, Floodway (FW) Overlay Zoning Boundary, conveyance, springs (perennial only), sinkholes, channels that drain 25 acres or more, and drainage basins where the site is located.

- 26. Surrounding Conditions  

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Applicant shall show the boundaries of all adjacent parcels and within 500' of site with United States Geological Survey Contours, Franklin GIS, or more accurate information where available. Field run survey shall be used for all information within the boundaries of the property being developed.

- 31. Planned Developments  

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Applicant shall indicate any planned developments within 500' of the site (consisting of approved, but not yet complete development), on the existing conditions plan.

- 33. Planned Road Network  

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Applicant shall include planned road network (including street names) within 1,500' of site (as indicated on the Franklin Major Thoroughfare Plan). Street classification of each street within or adjacent to the development in accordance with intended use based on design, such as local, collector or arterial, which shall be shown within parentheses next to the existing and proposed street names, including total trip generation projected for the development.

- 35. Railroad Infrastructure  

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Applicant shall indicate all railroad infrastructure and right-of-way dimensions

○ 36. Easements  



Applicant shall show all existing easements (including drainage) with dimensions and designations as to type.

○ 40. Existing Parking  



Applicant shall show all existing parking areas with number of parking spaces listed.

○ 41. Benchmark  



Applicant shall reference project benchmark(s) and locate all property monuments on the existing conditions plan.

○ 42. ITS Infrastructure  



Throughout the plans, display the existing Fiber Optic conduit and pull boxes along Murfreesboro Road in the vicinity of the site.

○ Property Owners Within Sheet Limits  



Applicant to provide the following information for each property within sheet limits:

- Property Owner Name
- Property Address
- Tax Map / Parcel Number
- Deed / Plat references

○ Street Trees  



Applicant shall provide location of existing street trees on the Existing Conditions Plan.

○ Survey Required Beyond Property Line  

- Per the Site Plan Checklist, existing conditions extending a minimum of 50 feet past the property line are to be surveyed and shown on plan.

- D. Site Plan  

- 000 Angled Parking Stall Dimensions  

- Applicant shall show angled parking stalls in compliance with Section 5.9.8, Table 5-11 of the Zoning Ordinance:

- 000 Parking Stall Depth To Wall  

- Per Section 5.9.8 Table 5-11, parking stall depth to wall shall be at least 19 ft.

- 000 Trash Collection At Street  

- Residents will be required to bring their trash carts and bluebags to the curb at [street] for collection due to insufficient area for collection trucks to safely maneuver behind the homes.

- 000. Transportation standards  

- All transportation related designs shall be completed according to MUTCD, AASHTO, and City of Franklin standards.

- 000. Concrete Driveway Standard Detail  

- Driveway connections shall conform to the appropriate City of Franklin standard drawing for concrete driveways:

Standard Concrete Driveways (with grass strip)

<http://www.franklin-gov.com/home/showdocument?id=25915>

Lowered Concrete Driveways (with grass strip)

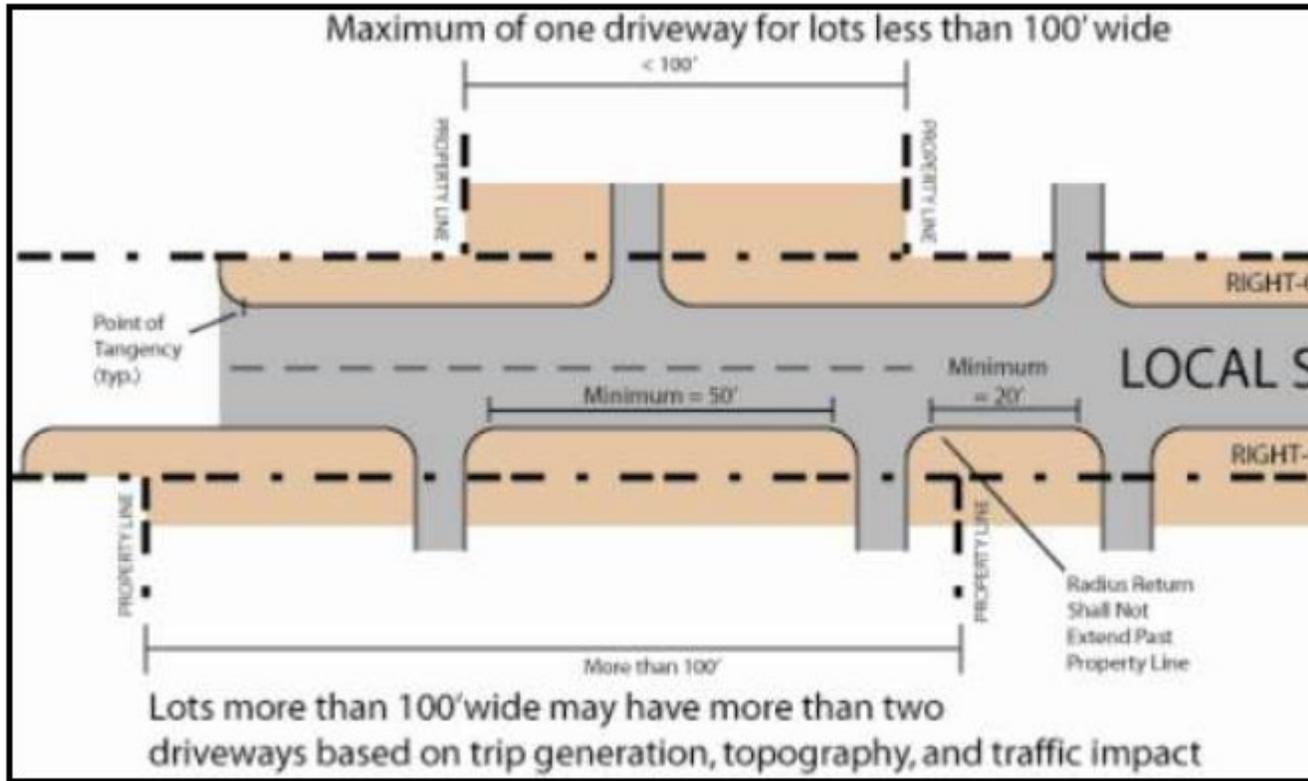
<http://www.franklin-gov.com/home/showdocument?id=25889>

Lowered Concrete Driveways (without grass strip)

<http://www.franklin-gov.com/home/showdocument?id=25891>

- 000. Driveway Location - Local  

- As stated in the Franklin Transportation & Street Technical Standards, section 3.3.25 - Access Management & Design:
(4) Minimum Distance from Intersections
(c) On local streets, no driveway shall be established within one-hundred and twenty-five (125) feet of an intersecting street. See Figure 3.3.25(4)c for design criteria.
(d) All distance measurements shall be made from the nearest point of tangency of the curve of the intersecting street right-of-way to the nearest point of radius return of the driveway.



o 000. Limits of Construction  

Applicant shall clearly show the limits of construction for the project on the site plans.

o 000. Minimum Throat Depth  

- Applicant shall provide driveway throat depth in compliance with the Franklin Transportation & Street Technical Standards which state:

2.3.23(11) Driveways for nonresidential, multi-family, and other similar uses must extend a minimum of thirty (30) feet into the property from the lot line abutting the street before the edge of the driveway may be intersected by a parking space, aisle, or drive.

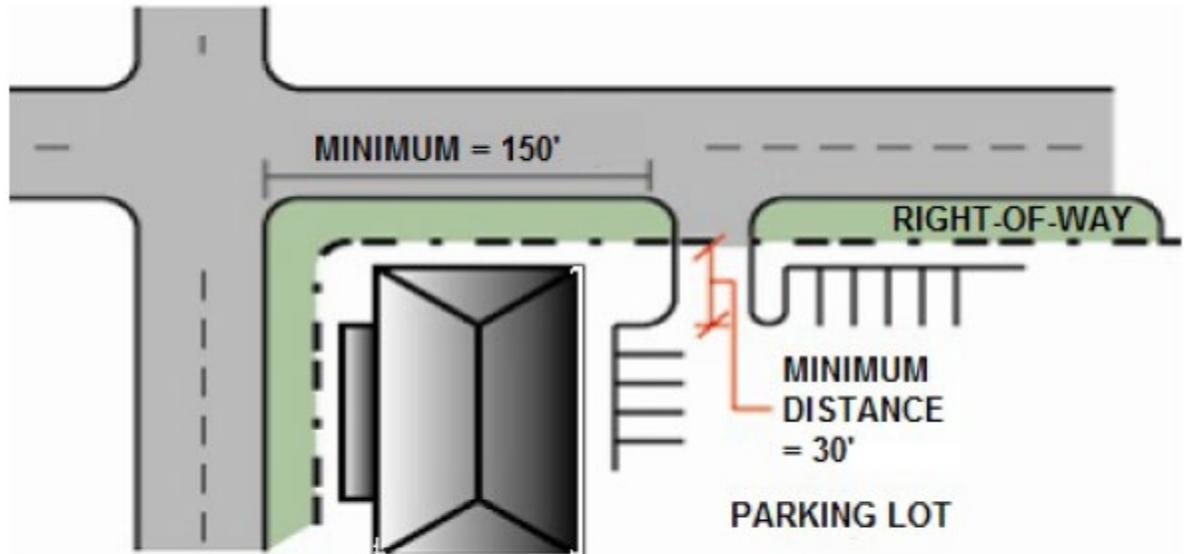


Figure 2.3 (14) – Driveway Approach Design Criteria

- 000. Parking Stall Dimensions  
 - Per section 5.9.8 Dimensional Standards for Parking Spaces and Aisles of the Zoning Ordinance, the minimum width for 90 degree parking stalls adjacent to a landscape island or green space shall be 10 feet.

- 000. Parking Supply  
 - The applicant shall show the overall site updates to the parking demand and supply in the site data.

- 000. Pervious Concrete Note  
 - Applicant shall add note stating:

Pervious concrete installation is to be performed per ACI 522.1-13: Specification for Pervious Concrete Pavement. All pervious concrete must be placed and finished by a National Ready Mixed Concrete Association (NRMCA)-certified Pervious Concrete Installer or Craftsman. NRMCA-certified Technicians may place and finish the pervious concrete only under the direct supervision of an on-site NRMCA-certified Craftsman.

This note is to be added to the Site Layout Sheet, Grading Sheet, and the pervious concrete detail.

- 000. Pervious Pavement - Acceptable Uses  
 - Pervious pavers shall not be used in the Right of Way or any areas to be maintained by the City.

Pervious concrete is acceptable for use only low-traffic areas and pedestrian areas where light duty pavement would be otherwise acceptable. Pervious concrete shall not be used in high-traffic areas, areas where heavy duty pavement is required, or in the Right of Way or any areas to be maintained by the City.

Pervious asphalt is not a permitted paving material.

- 000. Proposed Structures  
 - Applicant shall provide the location of all proposed structures on the site plan, on the utility plan and on the grading plan.

- 000. Sidewalk Width  

- Applicant shall show sidewalks that meet the Minimum Width requirement per Section 5.10.13(4) of the Zoning Ordinance:
 - (a) In no instance shall a sidewalk located within a public street right-of-way have a minimum width less than 5 ft.
 - (b) Sidewalks running in a perpendicular direction from off-street parking spaces shall have a minimum width of 7 ft.
 - (c) Sidewalks abutting a nonresidential or mixed-use structure shall have a minimum width of 8 ft.
 - (d) Sidewalks designed as multiuse paths shall have a minimum width of 10 ft. The width may be reduced to 8 ft in portions of the path to minimize disturbance to existing vegetation or other environmental constraints.

- 111. Finished Floor Elevations  

- Applicant shall provide finished floor elevations on site plan.

- 44. Floodplain  

- Applicant shall show Floodway Overlay Zoning District Boundary and the Floodway Fringe Overlay Zoning District Boundary, (100-year Floodplain) on site plan

- 51. Easements  

- Applicant shall show all easements (including drainage) with dimensions and designations as to type. All detention shall be located within a Public Drainage Easement, and all Green Infrastructure BMPs shall be located within Green Infrastructure Easements.

- 52. Roadway Characteristics  

- Applicant shall include location, width, and classification of all existing and proposed streets (label whether private or public) on site layout plan.

- 53. Walkways  

- Applicant shall include location, width, and materials of all sidewalks, trails, and paths (including connections to the public sidewalk system and adjacent developments) on site layout plan.

○ 55. Retaining Wall Elevations  



Applicant shall label height of proposed retaining wall(s)

○ 57. Vehicle Access  



Applicant shall indicate the location, arrangement, and dimensions of vehicular entrances, exits and parking lot aisles (including primary drives aisles)

○ 58. Pedestrian Access  



Applicant shall clearly depict and label all proposed pedestrian walkways, paths, entrances, ramps, crossings, and handicapped parking areas.

○ 59. Bicycle Access  



Applicant shall clearly depict and label the location and number of bicycle parking facilities.

○ 64. Stacking  



Applicant shall indicate the location and number of all stacking spaces.

○ 65. Loading Zones  



Applicant shall indicate the location and dimensions of all loading zones.

○ 70. Circulation Plan  



Applicant shall include a circulation plan for all new development and redevelopment in the City.

○ ADA Curb Ramp Layout  

- Diagonal curb ramps may direct users into the center of the intersection rather than the cross walk, and should not be used.

Applicant to revise plans and details to reflect COF Street Drawings for perpendicular and/or combination perpendicular curb ramp layouts.

Combination Perpendicular Ramp Details (Ramps 5'-0" to 6'-0" in length).

RP-12 Link: <http://www.franklin-gov.com/home/showdocument?id=25881>

RP-17 Link: <http://www.franklin-gov.com/home/showdocument?id=25859>

Perpendicular Ramp Details (Ramps 6'-0" in length or longer).

RP-11 Link: <http://www.franklin-gov.com/home/showdocument?id=25879>

RP-16 Link: <http://www.franklin-gov.com/home/showdocument?id=25857>

○ ADA Site Arrival Points (Public Sidewalk)  

- Applicant to provide at least one accessible route within the site from public sidewalk to the accessible building entrance served. IBC 1104.1

○ Autoturn  

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Please provide an autoturn plan using City of Franklin/Franklin Fire Department Tower 2 with travel around the site using all drive lanes. Travel paths should begin outside the site illustrating the turn onto the primary entry road/drive, maneuvering around the site, and completed with an illustration demonstrating exiting the site.

If the path begins with a straight approach to the site, the review will be not accepted.

Paths must illustrate the full vehicle swept path (including wheel tracks and out-to-out vehicle overhang sweep) and must indicate a clear, unobstructed travel around the site without impact/collisions to buildings, curbs, landscaping, parking spaces, vehicles, etc

The travel path must be designed with a minimum speed of 5 mph.

On the autoturn sheet, list/provide the following details:

-apparatus specifications (chart format is acceptable or listed)

Number of Front Axles = 1

Front Track Width = 8'

Wheels on Each Front Axle = 2

Number of Rear Axles = 2

Rear Track Width = 8'

Wheel Base = 21.316' (Front Axle to Front Rear Axle)

Rear Axle Spacing = 4.417'

Body Length = 50.0417'

Width = 8.333'

Rear Overhang = 22.1424'

Body Style = Fire Truck

Turning Radius Wall to Wall = 42'

-design speed (**no less than 5mph**); if speed varies indicate points of change by notes/labels.

-landscaping (from landscaping sheet(s))

-parking spaces

-building footprint, sidewalks etc. from the site plan

-any obstructions that would impede vehicle travel such as dumpster enclosures gates, fences, posts, etc.

For legibility, the autoturn exhibit may require several smaller detail sections and/or additional sheets.

Autoturn information can be viewed at <http://www.franklintn.gov/government/departments-a-j/fire/prevention-code-enforcement/plans-submission/apparatus-autoturn>

- Backing onto Public Streets Prohibited  
 - Per section 5.9.3(4)(b) of the City of Franklin Zoning Ordinance, "All off-street parking and loading areas, except on lots used for detached residential dwellings, shall be arranged so that no vehicle shall be required to back from such facilities directly onto public streets."

- COF Standard Drawings for Construction in ROW  
 - Show City of Franklin standard construction drawings for all construction within the right-of-way and Public Access Easements, including pavement section, drainage structure table, concrete driveway apron, curb/gutter, sidewalk, sidewalk expansion joint, ADA ramp/layout, multi-use trail, etc.

Standard Drawings can be found at:

<https://www.franklintn.gov/government/departments-a-j/engineering/transportation/franklin-transportation-street-technical-standards/franklin-transportation-street-technical-standards>

- Compact Parking Spaces  
 - Applicant shall revise compact parking to meet Zoning Ordinance Requirements.

Applicant shall make special note of the following:
 - Per section 5.9.4(7) Off-Street Parking Standards (Compact Spaces), within lots of 20 or more spaces, a maximum of 25% of the minimum number of required off-street parking spaces may be compact.
 - Compact parking spaces shall be located no closer to the primary building entrance than standard parking spaces.
 - Compact parking spaces shall be designated by signage or pavement marking and identified on plans.
 - Compact parking spaces shall be a minimum size of 8.5 feet x 18 feet.

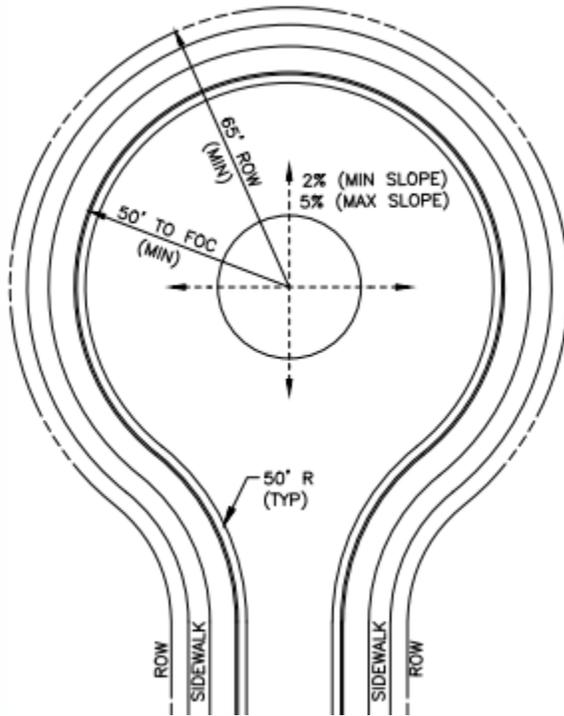
- Construction Notes  
 - The applicant shall provide additional notes as redlined in the drawings regarding:
 - Repair of damaged pavement and accessories in the demolition activity.
 - Inclusion of hours for allowed lane closures and agency providing manual traffic control.

- Critical Lots from PUD  
 - Show all critical lots indicated on the associated PUD.

- Cross-Access  
 - In accordance with Section 5.10.4.3 of the Zoning Ordinance, applicant shall provide cross-access **[to the adjacent property / stubbed to the property line]**. The cross-access easement shall be recorded with the plat and constructed prior to the first Certificate of Occupancy.

- Cul-de-sac Information  

- Applicant to show cul-de-sac information that meets Franklin Transportation & Street Technical Standards requirements, including minimum distances (50-foot radius to face of curb, 65-foot radius to ROW) and slope (2% min, 5% max)



- Dead-End Streets  
 - Per Section 2.3.7 (3) of the Franklin Transportation & Street Technical Standards, temporary dead-end "stub" streets shall not be longer than one residential lot. Applicant to revise drawings accordingly.
- Driveway Dimensions  
 - Applicant shall design all driveway entrances to meet dimensional standards as shown in section 3.3.25 of the City of Franklin Transportation & Street Technical Standards.
- Easements to be Recorded  
 - **Prior to issuance of a Building Permit**, Applicant to record easements shown on the Site Plan by a revised final plat (preferred) or by instrument.
- Emergency Access  
 - The west end of the emergency access alignment is very twisted and not conducive to emergency service. The applicant shall apply Street Standards curvature radii to accommodate at least a 25 mph design speed and curvature tracking to keep the fire truck wheels on the pavement. Show fire truck tracking path for verification.
- Green Infrastructure and Detention Easements  
 - Applicant to show the following easements on the Site Plan drawings:
 - Show Green Infrastructure Easements (GIE) around all Green Infrastructure BMPs (pervious pavement, bioretention, bioretention forebays, etc.)
 - Show Public Drainage Easements (PDE) around all detention areas, unless already located within a GIE. (Public Drainage Easements not needed if already GIE.)
 - Easements shall extend a minimum of 5 feet beyond the top of berm elevation.

Easements are to be recorded by a revised final plat or by instrument prior to issuance of a Building Permit.

- Green Infrastructure in Open Space Lots  
 - Per the City of Franklin Stormwater Ordinance 23-106 (3)(b), All Green Infrastructure Practices shall be located in open space lots on residential Developments requiring plats.

Applicant to locate Green Infrastructure and Detention in open space lots, with public access provided from ROW to said lots. Lots are to be designated as Public Utility, Access, and Drainage Easements (PUADE) with specific Green Infrastructure Easements (GIE) around all Green Infrastructure BMPs (pervious pavement, bioretention, bioretention forebays, etc.) within the lots.

Easements are to be recorded by a revised final plat or by instrument prior to issuance of a Building Permit.

- Meeting Required Prior to One Stop  
 - **Prior to submitting for One Stop**, the Applicant is to schedule a meeting with Engineering, Stormwater, and Water Management staff to demonstrate that the comments made herein have been corrected and incorporated into the project documents.

After the corrections have been made, Applicant to contact Joe Marlo (joe.marlo@franklinton.gov) at the City of Franklin to arrange a meeting at City Hall.

- Meeting Required Prior to Resubmittal  
 - **Prior to resubmittal**, Applicant is to schedule a meeting with Engineering, Stormwater, and Water Management staff due to the comments herein.

Please contact Joe Marlo (joe.marlo@franklinton.gov) at the City of Franklin to arrange a meeting at City Hall.

- Motor Vehicle Stops  
 - Motor vehicle stops are permitted only for handicap spaces. In all other locations, motor vehicle stops are to be removed and replaced with concrete post curb.

- Mounting and Maintenance Agreement  
 - Applicant shall obtain agency agreements for mounting his equipment on agency-owned supports, and for providing electrical service to his equipment. This issue applies whether the supports are owned by MTEMC or the City of Franklin, TN. Each individual mounting location is to be identified in the agreements. Agreements also identify right-of-access and maintenance responsibilities.

- No permanent improvements in right-of-way.  
 - A portion of the frontage of this development has been identified as part of the City's Major Thoroughfare Plan for future roadway improvements and therefore necessary right-of-way acquisition. No private infrastructure necessary for the proposed development shall be allowed in the area designated as necessary right-of-way by the Major Thoroughfare Plan. Any proposed construction in the areas designated for future right-of-way which will be removed or relocated at the time of roadway widening must be considered "temporary", and requires approval by the Board of Mayor and Aldermen.

- Off-Site Easements Obtained  
 - Prior to One Stop approval, applicant shall provide documentation that all off-site easements necessary for construction/functionality of the project site have been obtained.

- Off-Site Work Agreement(s)  
 - The proposed site plan indicates off-site work to be performed on adjacent properties. Prior to One Stop approval, Applicant to provide documentation from the adjacent property owner(s) acknowledging the work shown on their properties.

- Parking Stall Dimensions  

- Applicant shall revise parking to meet section 5.9.8 Dimensional Standards for Parking Spaces and Aisles of the Zoning Ordinance.

Applicant shall make special note of the following items:

1. 90 degree parking stalls shall be 9 feet x 18 feet.
2. The minimum width for parking stalls adjacent to a landscape island or green space is 10 feet.
3. Parking stalls up to walls be increased to at least 19 feet.

- Radius of Driveway Curve  
 - Applicant shall indicate radius of driveway curve on plan. All radius of driveway curves shall meet City of Franklin Transportation & Street Technical Standards Section 3.3.25 (14).
- Reduced Depth Parking Stalls  
 - Per Table 5-11 Dimensional Standards for Parking Spaces and Aisles of the Zoning Ordinance, Footnote [4] for 90 degree stalls allows parking stall depths to be reduced to 16 feet only when the stalls abut a sidewalk or landscape island that is 7 feet in width or wider.
- Sidewalks required along all streets  
 - Per 5.10.13 of the Zoning Ordinance, (1) *Location of Public Sidewalks*, sidewalks are required on both sides of all streets. Sidewalks shall meet minimum requirements as established by the Franklin Zoning Ordinance and the Franklin Street Specifications.

If site considerations or imminent future street widening projects preclude the installation of the sidewalk with the proposed development, the Applicant may contribute fees-in-lieu to the City's Sidewalk Bank / future street project (as applicable) instead of building the sidewalk and corresponding street improvements. The fees-in-lieu amount is \$19/sf based on the average cost per square foot bid for the SR 96 West Sidewalk Project, let by the City of Franklin in June 2015.

- Sidewalks required along street per MTP  
 - Per 5.10.13 of the Zoning Ordinance, sidewalks are required on all streets along the site. The Major Thoroughfare Plan Project Sheet No. [XX] specifies a [XX-foot] wide [sidewalk / multi-use path] along the [north / south / east / west] side of [Street Name] at this location.

If site considerations or imminent future street widening projects preclude the installation of the sidewalk with the proposed development, the Applicant may contribute fees-in-lieu to the City's Sidewalk Bank / future street project (as applicable) instead of building the sidewalk and corresponding street improvements. The fees-in-lieu amount is \$19/sf based on the average cost per square foot bid for the SR 96 West Sidewalk Project, let by the City of Franklin in June 2015.

- Site and off-site lighting  
 - Applicant shall show site and off-site lighting per applicable City of Franklin lighting standards.
- Site Trip Data  
 - Applicant shall provide site trip data on the plans. Trip generation chart shall show entering and exiting trips for daily, AM peak hour, and PM peak hour periods, showing the applicable ITE Trip Generation land use category.
- Street Classification and ROW  
 - Applicant shall show the ROW width and the functional street classification per the City of Franklin Major Thoroughfare Plan of all public streets (local, major/minor collector, major/minor arterial) on the drawings.
- Street Lighting  
 - Applicant shall provide the following items on the drawings regarding Street Lighting per Chapter 9 of the 2017 Transportation & Street Technical Standards.

1. Show street lights on plans. Lights shall be provided at the locations noted below:

0. A minimum of two lights at every unsignalized street intersection.
1. A minimum of one light at every alley intersection.
2. A minimum of four lights at every signalized intersection.
3. A maximum of 300 feet spacing along all Local Streets.
4. A minimum of one light at end of every cul-de-sac or dead-end street (temporary or permanent.)

2. Provide a note on drawings stating "*All street lights shall have a LED light source.*"

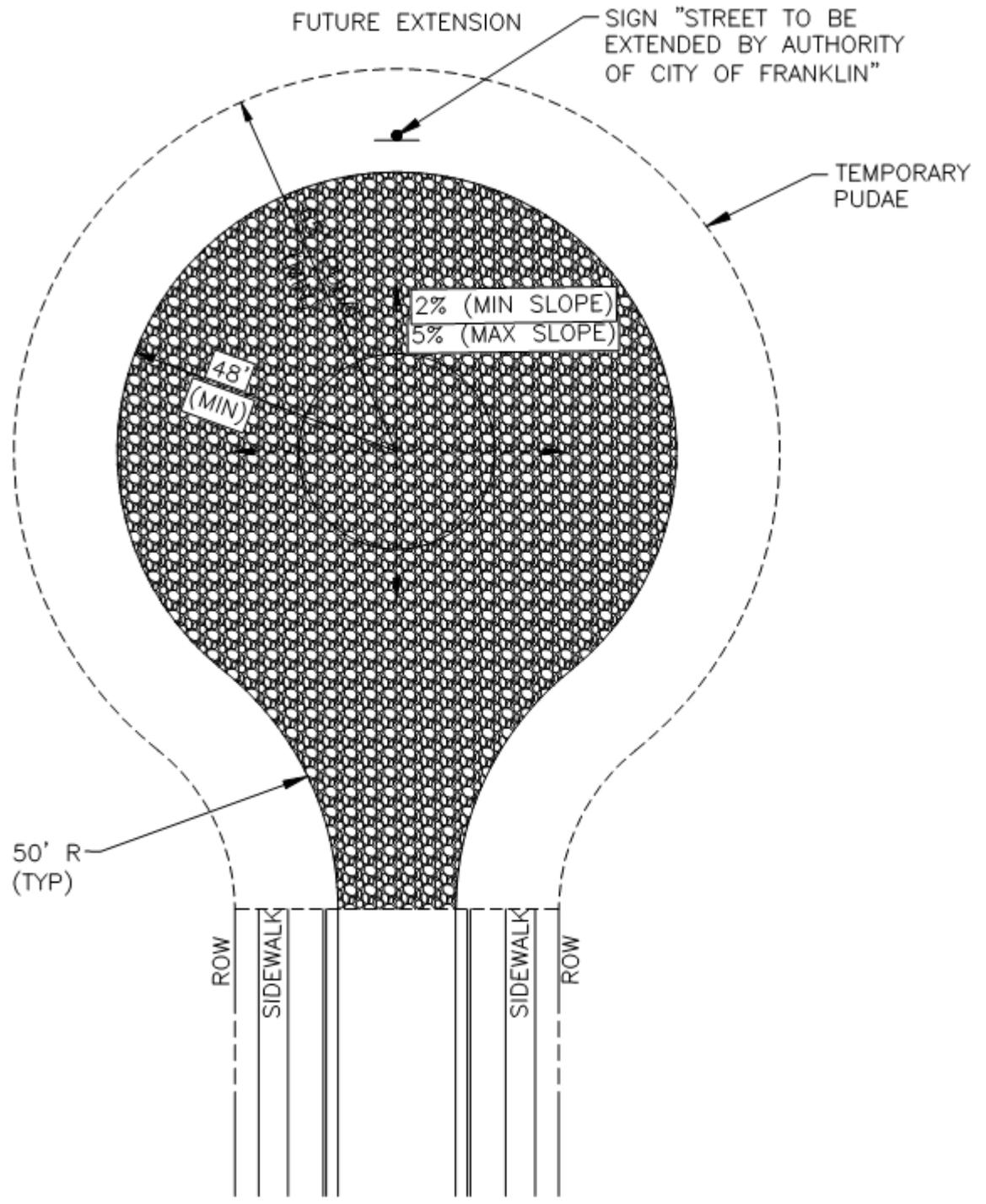
- Demolition Plan  
 - Demolition Permit  
 - Applicant shall provide a demolition plan indicating what site elements are to be demolished/removed. Note that demolition is to be limited to the buildings and associated appurtenances. Disturbance of the subgrade, including grading, excavation, removal of foundations, pavement or underground utilities, **IS NOT** permitted prior to the issuance of the grading permit for the associated site plan (COF #6626).
 - X. Demolition Plan  
 - The applicant shall add, on sheet C1.2, the Note as follows:
18. Prior to the installation of new pavement sections, the contractor shall sawcut the existing pavement at a location sufficient (minimum 1' from the inside edge of the traveled lane) to ensure that the integrity of the existing pavement section is maintained.
- E. Roadway Design and Plan & Profile  
 - 000. On-Street Parking  
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At all parking insets, applicant shall use 45-degree ends rather than 90-degree ends in order to facilitate entry and exit movements.

- 000. Temporary Cul-de-Sac  
 - Applicant shall provide a temporary cul-de-sac per Section 2.3.7(1)(e) of the Street Standards and COF Standard Drawing No. SD-2 for streets to be extended with development of the next section: The cul-de-sac shall be provided with an asphalt turn-around having a pavement radius of at least fifty (50) feet (no designs requiring backing maneuvers will be allowed). The right-of-way/easement radius shall be a minimum of sixty-five (65) feet in areas where there is no adjacent public utility and access easement, and a minimum of sixty (60) feet where public utility and access easements are required and/or provided. The City Engineer may waive the sidewalk and curb/gutter requirements for a temporary cul-de-sac provided the cul-de-sac is expected to be in use three (3) years or less, and interim pedestrian and drainage needs are addressed to the satisfaction of the City Engineer.

All temporary culs-de-sac shall be constructed within dedicated street right-of-way or a dedicated Access Easement for those areas outside the tangent street right-of-way section. The Easement outside the tangent right-of-way section shall be vacated by the City when the Easement is no longer necessary. Application for vacation of the easement must be initiated and paid for by the Developer or property owner.

A sign must be provided at the end of the temporary cul-de-sac noting that the street will be extended in the future. Signing for temporary, dead-end streets shall be in accordance with the requirements of Street Standards Chapter 11, Traffic Signs and Markings.



- 2.3.8(7)(d) Cross Slopes-Cul-de-Sacs  
 - Per Franklin Street Standards, 2.3.8(7)(d) Horizontal Alignment - Cross Slopes for Cul-de-Sacs: Cul-de-sac cross slopes shall not be less than two (2.0) percent nor more than five (5.0) percent, with two (2.0) percent being desirable.

Zoe Drive is shown as 8%.

○ 69. Design Data  

Applicant shall show all design data including design speed, design criteria, functional classification , terrain, traffic data, etc on Roadway Plan & Profile sheets.

○ 70. Circulation Plan  

Applicant shall include a circulation plan for all new development and redevelopment (except new detached and attached residential with less than three dwellings). Circulation plan shall address street connectivity, emergency and service vehicle access, parking movements, accommodation of loading operation, turning radii, traffic calming measures where future "cut-through" traffic is likely, and similar issues.

○ 71. Controlling Features  

Applicant shall show all alignment controlling features (e.g., high-water levels, existing cross roads and bridges, regulated drains, drainage structures, railroads, under drain criteria, traffic maintenance considerations, cemeteries, historical buildings, parks, ADA requirements, existing driveways on adjacent lots, etc.)

○ 72. Drainage Infrastructure  

Applicant shall show all stormwater infrastructure on roadway plan and profile sheets.

○ 73. Project & Construction Limits  

Applicant shall indicate project limits and limits of right-of-way construction on the Roadway Plan & Profile sheet

○ 74. Right-of-Way  

Applicant shall show all public ROW limits and dimensions

○ 76. Private Streets  



Applicant shall design all private streets serving more than one lot to the same standards required for public streets. Private streets shall be clearly denoted on the plans.

○ 77. ROW Dedication  



Applicant shall comply with Section 3.2.4 of the Street Specs. All development adjoining existing Arterial or Collector roadway are required to dedicate (fee simple) right-of-way to meet the minimum requirements for the functional street classification of the existing street.

○ 79. Minimum Design Vehicle  



Applicant shall ensure all street and intersection geometric designs are evaluated to ensure that the minimum turning paths for the selected design vehicles can be safely and efficiently accommodated by the proposed street and intersection geometry.

○ 80. Vertical and Horizontal Alignments  



Applicant shall comply with the Vertical and Horizontal Alignment standards (section 3.3.8 and 3.3.9 Street Specs)

○ 80a. Horizontal/Vertical Alignments - Intersection  



Per Franklin Street Standards, section 2.3.13 - Intersections:
(7) Horizontal Alignment and Vertical Profile

- **(a) Horizontal:** The horizontal alignment of streets through an intersection shall be designed in conformance with Tables 2.3 (2). Intersections may be placed on horizontal curves, provided that the tangent lengths given in Tables 2.3 (2) are provided on the minor street and the required intersection sight distance is met.
- **(b) Vertical:** The street profile grade shall not exceed the percentages shown in Table 2.3 (5) for the approaches to the intersection, as measured along the centerline of the street. **The profile grade within the intersection streets shall not exceed three (3) percent.**
- **(c) Prevailing Street Grade:** The grade of the street with the higher classification shall prevail at intersections. The lesser street shall adapt to the grade of the major street. Grading of adjacent property and driveways shall adapt to the street grades. When streets are of equal classification, the City Engineer shall determine which street grade prevails.

Table 2.3 (5) Maximum Grades		
Classification	Maximum Grade	Maximum Grade Approaching Signalized Intersection
Freeway	Determined by TDOT	n/a
Expressway	Determined by TDOT	2 % for 600 ft.
Major Arterial	6 %	2 % for 500 ft.
Minor Arterial	7 %	2 % for 500 ft.
Major Collector Commercial/Industrial	8 %	3 % for 400 ft. **
Major Collector Residential	10 %	3 % for 300 ft.
Minor Collector	10 %	3 % for 300 ft.
Local Commercial/Industrial	8 %	4 % for 200 ft. **
Local Residential *	14 %*	4 % for 100 ft.
Cul-de-Sac	5 %	n/a
Alley	8 %	n/a

* Maximum desirable grade is 10% unless existing conditions justify the use of a higher grade. When a higher grade is proposed, it must be approved by the City Engineer to ensure ease of service for emergency and service vehicles.

** Concrete pavement may be required to maintain acceptable pavement conditions on steep sections.

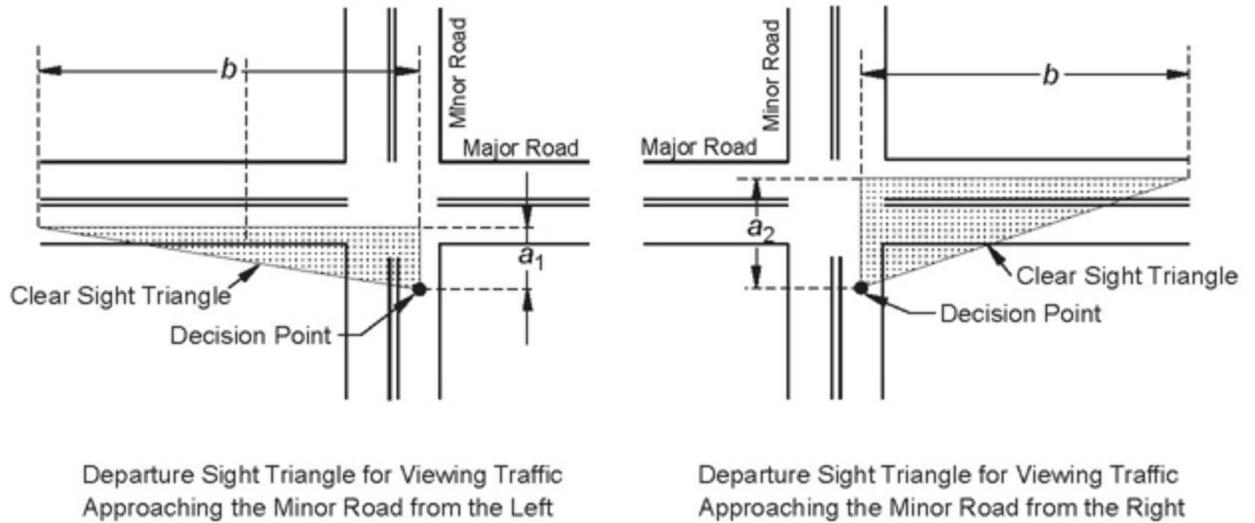
o 81. Sight Triangles 

Applicant shall show sight distance triangles on roadway and landscaping plans

DEPARTURE SIGHT TRIANGLES (SECTION 9.5.2 of the AASHTO Green Book)

A second type of clear sight triangle provides sight distance sufficient for a stopped driver on a minor-road approach to depart from the intersection and enter or cross the major road. [Figure 9-15B](#) shows typical departure sight triangles to the left and to the right of the location of a stopped vehicle on the minor road. Departure sight triangles should be provided in each quadrant of each intersection approach controlled by stop or yield signs. Departure sight triangles should also be provided for some signalized intersection approaches (see Case D in [Section 9.5.3](#) on "Intersection Control"). Distance a_2 in [Figure 9-15B](#) is equal to distance a_1 plus the width of the lane(s) departing from the intersection on the major road to the right. Distance a_2 should also include the width of any median present on the major road unless the median is wide enough to permit a vehicle to stop before entering or crossing the roadway beyond the median. The appropriate measurement of distances a_1 and a_2 for departure sight triangles depends on the placement of any marked stop line that may be present and, thus, may vary with site-specific conditions.

The recommended dimensions of the clear sight triangle for desirable traffic operations where stopped vehicles enter or cross a major road are based on assumptions derived from field observations of driver gap-acceptance behavior ([12](#)). The provision of clear sight triangles like those shown in [Figure 9-15B](#) also allows the drivers of vehicles on the major road to see any vehicles stopped on the minor-road approach and to be prepared to slow or stop, if needed.



Departure Sight Triangles (Stop-Controlled)

– B –

Figure 9-15 Intersection Sight Triangles

- 82. Access Management

- Applicant shall comply with the Access Management and Design Guidelines (Section 3.2.25 Street Specs)

- 83. Drainage Structures

- Applicant shall ensure all drainage pipe located in or adjacent to public or private roadways is Reinforced Concrete Pipe with a minimum diameter of 15".

- 84. ADS Pipe

- Applicant shall remove all ADS Pipe from street right-of-way.

- 85. Roadway Upgrades

- Applicant shall provide plan view showing existing centerline and edges of paving dimensioned relative to right-of-way for existing roadways to be upgraded to City Standards.

- 86. Utilities in ROW  

- Applicant shall comply with Section 3.3.21 Provisions for Utilities for all utilities located in the ROW.

- 88. Stations and Elevations  

- Applicant shall provide plan and profile sheets with corresponding station alignment.

- 89. Cross Sections  

- Applicant shall include cross section for all Collector and Arterial Roadway Designs. Cross section shall comply with Street Standards (Section 3.2.3) and include the following:

- Profile grade line
- Templates of the typical section placed on the existing cross sections
- Drainage structures
- Approaches and Drives
- Clearance to Buildings

- 90. Intersection Detail  

- Applicant shall provide detailed intersection drawings (1"=20') at intersection(s) of proposed City Streets and State Highways

- 91. ADA Ramp  

- Applicant shall provide a sidewalk ramp for each crosswalk at each street corner and approved midblock crossings.

○ 92. Typical Sections  

▪

Applicant shall ensure all proposed street typical sections match all plan view drawings.

○ 92a. Typical Sections not shown  

- Applicant shall include typical sections for each classification and/or configuration of roadway included with the development. Typical sections should include dimensions and cross-slopes of each roadway element (travel lanes, curb & gutter, grass separator strips, sidewalk, right-of-way, etc.).

Typical sections may optionally include pavement design, drainage elements or other design features if needed.

○ ADA On-Street Parallel Parking Spaces  

- ADA On-Street Parallel Parking Spaces are to be provided per Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way by the United States Access Board, including the following:

- For every 25 parking spaces on the block perimeter up to 100 spaces, one parking space must be accessible. (*Section R214*)
- An access aisle shall be provided for each accessible parallel parking space, except where the adjacent sidewalk or available right-of-way is less than or equal to 14 feet wide and the accessible parallel parking spaces are located at the end of the block face. (*Section R309.2*)

○ Inset Parking  

- Applicant shall provide landscape islands to break up the long, continuous sections of inset parking. 200' shall be the maximum length of continuous inset parking without a landscape island break.

○ Offset Intersections  

- Per COF Subdivision Regulations 2.2.1(8): "Street jogs with centerline offsets of less than one hundred twenty-five (125) feet shall be prohibited."

Per COF Street Standards 3.3.13(4): "...Street jogs and/or intersections on minor collector and local streets of less than two-hundred (200) feet shall not be allowed, except where both intersecting streets are cul-de-sacs in which case the street jogs with centerline offsets of less than one hundred and twenty-five (125) feet shall not be allowed."

○ On-street parking & turn lanes slope to gutter.  

- Per Section 3.3.17 of the Franklin Transportation & Street Standards, "(1) Streets are not to be designed as conveyance systems for surface water...(2)... inlets and grates should be located outside the travel lanes to minimize shifting of vehicles attempting to avoid them...(4)(b) Discharge from the street shall be handled by means of a catch basin/curb inlet...(d) Grate inlets should be moved to curb and gutter when adding turn lanes."

On-street parking stalls or turn lanes must be sloped to drain to the combined curb and gutter. No catchbasin grates shall be allowed to infringe on the travel lanes, i.e. between on-street parking and a travel lane, or between a turn lane and travel lane.

○ Roadway Inlet Spacing  

- Applicant shall provide calculations verifying that the roadway storm inlets are spaced to meet the requirements set forth in Section 3.3.17(2) of the Transportation and Street Technical Standards:

"Drainage inlets should be designed and located to limit the spread of water on the traveled way to no more than one half of the travel lane width. Bike lanes and shoulders may be used full width for spread. Because grates may become blocked by trash accumulation, curb openings or combination inlets with both grate and curb openings are advantageous for City streets. These inlets and grates should be located outside the travel lanes to minimize shifting of vehicles attempting to avoid them. Inlet grates shall also be designed to accommodate bicycle and pedestrian traffic where appropriate."

- Roadway Sheet Requirements  
 - Applicant shall provide Roadway Plan & Profile sheets for all public streets, including the following:
 - Proposed roadway network including all surface items proposed in the right-of-way and access easements.(e.g. roadway, curb and gutter, drainage structures, grass strips, sidewalks, landscaping.).
 - Roadway horizontal (centerline) and vertical (profile) alignments clearly shown and labeled, including (but not limited to) stationing at 50' intervals, begin & end construction station labels, horizontal and vertical curve information, intersections, superelevation and transitions.
 - All signs, markings, signals and other traffic control devices used on public and private streets. Pavement markings on public and private streets called out as thermoplastic per TDOT specifications. Sign at end of temporary street end noting that the street will be extended in the future.
 - All proposed (or existing to remain) utilities inside the right-of-way (including storm drainage structures) shown on profiles.
 - All drainage structures and crossings clearly shown and labeled as described in the TDOT Drainage Manual, chapter 3, Drainage Plan Requirements. (https://www.tn.gov/content/dam/tn/tdot/roadway-design/documents/drainage_manual/DM-Chapter_03.pdf).

- Sidewalks must be in access easement.  
 - All sidewalks along streets but outside the right-of-way must be placed in a public access easement.

- TDOT Highway Entrance Permit required  
 - Be aware that this site plan is located along a State Route, and a TDOT Highway Entrance Permit is required for any connection to a State Route or work done in state-owned right-of-way. (See [TDOT Highway Entrance Permit](#) for more information.)

Approval of the TDOT Highway Entrance Permit must be obtained prior to issuance of a City grading permit.

Also be aware any site plan TDOT deems out of compliance typically will need to go before the [Engineering Exceptions Panel](#), which meets quarterly.

- Tee-Alley Intersections  
 - Per Section (5) of the City of Franklin Street Standards, "T-shaped alleys, where one alley terminates into another alley, shall be prohibited unless designed as directed by the City Engineer when special circumstances exist."

Wherever tee-alley intersections are proposed, applicant shall explain the "special circumstances" requiring this layout, and shall work with Engineering to provide a layout that satisfactorily accommodates fire apparatus and/or sanitation vehicle turning movements. Provide autoturn exhibit demonstrating maneuverability for fire, sanitation, or any other service vehicles expected to utilize the alleys, including the full out-to-out vehicle-swept path in addition to the wheel tracks.

- Uncontrolled Crosswalks  
 - All public intersections with marked crosswalks on all legs should be designed as all-way stop conditions and signed appropriately. All mid-block crosswalks should include markings and signage in

compliance with MUTCD and City of Franklin standards.

- F. Traffic Control  
 - 78. Cul-de-sacs  
 -

Applicant shall comply with Cul-de-sac requirements (Section 3.3.7 of Street Standards):

- Cul-de-sacs shall not extend for more than 500' as measured from the center of the cul-de-sac turn around to the nearest right-of-way boundary of the adjoining street right-of-way intersection. If adjoining properties install fire sprinkler systems, this length may be extended to 1,000' in accordance with the adopted fire code. In no case shall a cul-de-sac or temporary dead end street serve more than 20 single-family residential lots.
- Cul-de-sac streets shall have a minimum paved radius of 50' at its outside edge.

- 93. Traffic Control Plan  
 -

Applicant shall include a detailed traffic control plan that complies with the MUTCD for all work within the public Right-of-way. (Note: work on Arterial and Collector Roadways shall be limited to the hours of 9am - 3pm unless special approval is received from the Engineering Department. Work on TDOT roads is to occur only between 8 pm-6 am. A note indicating these work hours shall be included on the plans).

- Traffic Signal Plans  
 - Applicant shall update the traffic signal plans according to the comments and markups provided in the IDT review file.

- G. Signage and Pavement Markings  

- 00. Thermoplastic Bars and Crosswalks  

- Applicant shall show thermoplastic stop bars and crosswalks required on all streets where ramps are provided. Crosswalks shall be white with a minimum width of 6' and 24" wide "Continental" style bars. Crosswalks at mid-block crossings shall be accompanied by signs W11-2 and W16-7P (black legend on fluorescent lime-yellow green background).

- 00. Uncontrolled Crosswalk Signage  

- For uncontrolled pedestrian crossings, the applicant shall add crosswalk warning signs W11-2 and W16-7P (black legend on fluorescent yellow-green background, VIP diamond grade reflectivity) on each approach to the crosswalks.

- 94. Pavement Markings  
 -

Applicant shall ensure all signs, marking, signals, and other traffic control devices used on public and private streets complies with the MUTCD latest edition.

○ 95. Future Extension Sign  

▪ Applicant shall provide signs at the temporary street end noting that the street will be extended in the future.

○ 96. Thermoplastic  

▪ Applicant shall call out all pavement marking on public and/or private streets as Thermoplastic Pavement Markings.

○ 97. Thermo Plastic Bars and Crosswalks  

▪ Applicant shall show thermoplastic stop bars and crosswalks required on all streets where ramps are provided. Crosswalks shall be white with a minimum width of 6' and 24" wide "Continental" style bars

○ Cul-de-sac No Parking signs  

▪ To assure a clear path for cul-de-sac vehicle movements, the applicant shall install at least four (4) NO PARKING ANYTIME signs around the perimeter of the cul-de-sac.

○ Internally Illuminated Street Name Signs  

▪ On sheet 11B, correct the street name identification to Resource PKWY per the station call-out. Also revise internally illuminated street name signs to Resource Pkwy.

○ Signing and Striping Plans  

▪ Provide a signing and striping plan, either on the Right-of-Way & Access sheets or on a separate dedicated layout plan sheet.

○ Speed limit signs  

- Add a Speed Limit 25 sign on Mary Webb just south of Reeves Circle, and on Berry Farms Crossing just south of Old Peytonsville Road.
- Stop Bar Location  
 - Stop bars are to be located behind any pedestrian crossings, not in front of the crossing as shown.
- H. Erosion Protection and Sediment Control Plan  
 - 098. Sequence of Events  
 -

Applicant shall include a detailed sequence of events with durations in compliance with State requirements on EPSC sheets.

- 099. Design Storm  
 -

Applicant shall design and indicate that all erosion and sediment control measures are designed to control the rainfall and runoff from a 2-year, 24-hour storm, at minimum. EPSC's on sites discharging into impaired or exceptional Tennessee water shall be designed to meet the 5-year, 24-hour storm event.

- 100. EPSC General Notes  
 -

Applicant shall include the City approved Stormwater Erosion Prevention and Sediment Control Notes or comparable notes on plans. Notes can be found on the [Engineering Development Services](#) webpage.

- 101. Limits of Disturbance  
 -

Applicant shall clearly delineate the limits of disturbance on all applicable EPSC sheets.

- 102. Tree Protection Fencing  
 -

Applicant shall clearly delineate all tree protection fencing on EPSC plans.

- 103. Stream Buffers  
 -

Applicant shall clearly delineate all stream side and water resource buffers on EPSC Sheets. Stream buffers shall be delineated with tree protection and/or orange barrier fencing.

○ 104. Velocity Dissipation  

■

Applicant shall show all required velocity dissipation for flows over 2 ft/s.

○ 105. BMP Compliance  

■

Applicant shall ensure all proposed stormwater BMPs (temporary and/or permanent) comply with the City's Best Management Practices Stormwater Management Manual.

○ 106. Impaired or Exceptional Streams  

■

Applicant shall clearly label all Impaired or Exceptional Tennessee Water's clearly identified and noted.

○ Concrete Washout  

■

Provide location and detail for the proposed concrete washout area, and include in Construction Activity Schedule.

○ Construction Exit  

■

Applicant shall specify minimum construction exit length of 100'. Show this dimension on both the layout and the construction detail.

○ EPSC Plans Needed  

■

Applicant shall provide plans detailing erosion prevention and sediment control measures to be utilized onsite and the location of the measures.

-For sites < 5 acres initial and final EPSC plans shall be provided.

-For sites \geq 5 acres initial, intermediate, and final EPSC plans shall be provided.

○ Inlet Protection  

■

Applicant shall protect all adjacent inlets with drop bag type inlet protection. Drop bag type inlet protection with overflow ports shall be installed in catch basins on City of Franklin streets, the lowest catch basins on the site, and/or area drains that may cause flooding. Temporary diversions may be needed to prevent stormwater from being directed to the lowest inlets.

○ Temporary Sediment Basin  

■

Applicant shall provide a temporary sediment basin for any outfall which receives drainage from 5 or more acres.

○ Temporary Sediment Basin Calculations  

■

- Plans shall include acreage of drainage area, required and provided wet/dry storage volumes, elevations of wet/dry storage, and details of dewatering device for each basin.

- I. Grading Plan  

- 000 Maximum Slopes  

- Applicant shall not propose graded slopes in excess of 3:1.

- 000 Shallow Bedrock  

- Due to the shallow bedrock encountered relative to the proposed depths of the stormwater BMPs, applicant shall add the following note to the Grading and Drainage Plan as well as the BMP details:

"Where bedrock is encountered during excavation of the BMP, an additional 2 feet of bedrock shall be removed below the bottom sump elevation of the BMP and backfilled with clean #57 stone."

- 000. Ditch Details  

-

Applicant shall provide proposed detail with a minimum 10' bottom and 3:1 side slopes

- 000. Downspouts  

-

Applicant shall show downspout locations on drainage and stormwater plans.

- 000. Drainage Easements  

-

Per Sec. 23-106.(2)(f) of the Stormwater Ordinance

(iii) All new development and redevelopment shall be designed to provide a minimum twenty (20) foot drainage easement on all Stormwater infrastructure serving more than two (2) properties.

- 000. Drainage Patterns  

-

Applicant shall indicate drainage basins, flow arrows and outfall locations on the grading plan.

- 000. Grass Channels  

-

Applicant shall provide sufficient design of grass swales: swales shall include a 10' bottom, 3:1 slopes, and 12" of freeboard above the 10 year 1 hr storm.

○ 000. Impervious Areas  

■

Applicant shall provide a breakdown of impervious and total area on drainage and stormwater management plan sheets.

○ 000. Stormwater Discharge  

■

Stormwater may not be discharged onto neighboring properties without appropriate stormwater easements. Applicant shall provide details and easements, where appropriate, to clearly depict how stormwater is to be discharged from each property.

○ 107. Contours  

■

Applicant shall provide existing and proposed site topography with clear contour labels (minimum 2' contours). Post-development contours must tie to existing within limits of disturbance. Aerial topography shall not be used as the basis of design for site work or to establish existing elevations for construction purposes.

○ 108. Limits of Disturbance  

■

Applicant shall clearly indicate the limits of disturbance on the grading plan.

○ 109. Retaining Wall Elevations  

■

Applicant shall provide top and bottom retaining wall elevations at critical locations on grading plan. Any proposed retaining wall greater than 48" in height as measured from the bottom of the footing requires a separate submittal to Building & Neighborhood Services for review, approval and permitting.

○ 112. Storm Structures  

■

Applicant shall provide storm pipe and structure information: All pipe sizes, material, slope and length and all structure size, rim elevations and invert elevations for storm structures on grading plan.

○ 113. Tree Protection Fencing  

■

Applicant shall show tree protection fencing on Grading Plan.

○ 114. Spot Elevations  

■

Applicant shall provide sufficient spot elevations to confirm that drainage will be directed away from all structures and toward an acceptable outfall on grading plan.

○ 115. Floodplain Calcs  

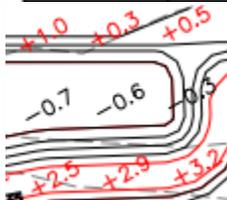
■

Applicant shall show compensatory cut for fill in the floodplain in accordance with Municipal Code Title 23. Compensatory cut shall be at least 150 percent (1.5:1) of all fill in the floodplain.

Backup documentation (cross sections with corresponding tables, Civil 3D generated color-coded map with legend, map with cut/fill values, etc.) shall be provided for all cut/fill quantities. See examples below.

Cut/Fill Calculations

Station	Cut (SF)	Volume (CF)	Fill (SF)	Volume (CF)
0+00	0.0		0.0	
		0.0		0.0



○ 116. ADA Ramps  

■

Applicant shall show handicap access ramp locations with detailed spot shots on grading plan. All ramps, crosswalks, and sidewalks shall comply with ADA requirements. Detectable warning shall be brick red by ADA Solutions, Inc. or approved equivalent.

○ Cover over Storm Pipes  

- Per the Franklin Transportation & Street Technical Standards 7.3.8, the minimum depth of cover for storm sewer pipes is 24 inches to the top of pavement.

Applicant to revise storm sewer depths to provide the required cover. For example, a 15-inch pipe requires a minimum invert depth of 15" diameter + ~3" wall thickness + 24" cover = 3'-6".

Other minimum invert depths based on pipe size are shown below:

- 15-inch pipe: 3'-6" depth to invert
- 18-inch pipe: 3'-9" depth to invert
- 24-inch pipe: 4'-3" depth to invert
- 30-inch pipe: 4'-10" depth to invert
- 36-inch pipe: 5'-4" depth to invert
- 42-inch pipe: 5'-11" depth to invert
- 48-inch pipe: 6'-5" depth to invert

○ Deferred Parking  

- Applicant shall provide phased grading plans to indicate how the 61-space deferred parking lot is to be graded (or remain untouched) in the interim.

○ Detention and Green Infrastructure Easements  

- Show Green Infrastructure Easements (GIE) around all Green Infrastructure BMPs (pervious pavement, bioretention, bioretention forebays, etc.) on the Site Plan. Show Public Drainage Easements around all detention areas, unless already located within a GIE. (Public Drainage Easements not needed if already GIE.)

Easements are to be recorded by a revised final plat or by instrument prior to issuance of a Building Permit.

○ Double Inlet Catch Basins  

- Per Franklin Street Specification section 3.3.17 (4) (d), applicant shall provide double inlet catch basins/curb inlets at low points along streets and at the end of cul-de-sacs.

○ Drainage Easement Serving Two or More Lots  

- All new development and redevelopment shall be designed to provide a minimum twenty (20) foot drainage easement on all Stormwater infrastructure serving two (2) or more properties.

○ Drainage Easements Between Lots  

- Per Sec. 23-106.(2)(f) of the Stormwater Ordinance:

(ii) All new Development and Redevelopment shall be designed and graded so that a minimum ten (10) foot drainage easement and Stormwater conveyance exist between each property.

With the exception of zero-lot-line property lines for attached residential structures, applicant shall show a 5' drainage easement on each side of all common property lines for the lots being created (do not show the easement on adjacent lots not included in this plat).

○ Guardrails at Top of Walls  

- Pedestrian and/or vehicular guardrails are required at the top of site retaining walls adjacent to pedestrian and/or vehicular travel, respectively. With the next submittal, Applicant to show plan locations and details of proposed guardrails.

Base attachment of vehicular guardrails shall be designed and stamped by a Structural Engineer licensed in Tennessee using prescribed loads in AASHTO LRFD Bridge Design Specifications, latest edition. Calculations are to be included with the separate required retaining wall submittal made to Building and Neighborhood Services and Engineering.

Note that vehicular guardrails attached directly to the top of gravity or segmental retaining

walls will not likely be able to resist the prescribed AASHTO loading.

- Maximum Driveway Slope  
 - Per the City of Franklin Transportation & Street Technical Standards Section 3.3.25 (25), driveway slopes shall not exceed 10% for residential drives and 8% for other drives.

- Maximum slope of off-street parking is 6%  
 - Applicant shall comply with section 5.9.3(10) of the Off-Street Parking Standards of the Franklin Zoning Ordinance:

(10) Maximum Slope
(a) Paved off-street parking areas shall not exceed a six percent slope.
(b) Within off-street parking areas on sloping sites (four percent or greater), parking bays shall run parallel to elevation contours.

- Next 2 Downstream Structures  
 - Applicant shall provide a capacity analysis of the next two downstream structures on the Overall Grading & Drainage Plan.

- No-Rise Certificate in FWO  
 - **No-Rise Certification** is required for any proposed grading (cut or fill) in the floodway (FWO). No-rise Certification must be supported with technical data, including a Hydrologic and Hydraulic Analysis (H&H Model), and signed/sealed by a registered professional engineer.

Submittal requirements for No-Rise Certifications as provided by the Tennessee National Flood Insurance Program (TN NFIP) can be found in the link below.

[TN NFIP Guidance Document: No-Rise Submittals](#)

- Retaining Wall Height (Commercial)  
 - Per Zoning Ordinance 5.6.4 (2) (a), the maximum height for retaining walls in nonresidential and mixed-uses is 10 feet. Changes in grade may be permitted to reach a maximum of 16 feet if two or more retaining walls are used, provided each wall is no greater than 8 feet tall and there is a minimum horizontal separation of six linear feet between the walls to allow for the planting of vegetation.

- Retaining Wall Height (Residential)  
 - Per Zoning Ordinance 5.6.4 (2) (a), the maximum height for a single retaining wall in residential uses is 6 feet.

- Retaining Walls  
 - Applicant shall provide the following regarding retaining walls:
 1. Top and bottom retaining wall spot elevations at critical locations on grading plan, and;
 2. A conceptual section of the proposed retaining wall(s) showing the following:
 - Proposed wall and backfill materials.
 - Guardrail details, including height.
 - Where adjacent to bioretention areas, retaining walls shall be shown extending below bioretention and drainage media, with the bottom of wall / top of footing located at or below subgrade.
 - Where adjacent to bioretention areas, section shall include a note stating: "*Retaining walls adjacent to bioretention areas shall not rely on bioretention or stone drainage media for stability or lateral resistance. Bottom of wall / top of footing elevation shall be located at or below bottom of stone drainage media.*"

The wall itself does not need to be designed at this time. Finalized member thicknesses, reinforcing, wall finishes, etc. are to be submitted with calculations in the separate retaining wall submittal to Building & Neighborhood Services for review, approval, and permitting. Be aware that walls with an exposed flat concrete face will not be permitted.

- Site Disturbance Data 
 - Applicant shall provide a breakdown of site acreage, disturbed acres and impervious sq. ft. for this section only on the Grading Plan sheet.
- Slope of Storm Pipes 
 - Per the Franklin Transportation & Street Technical Standards 11.2 (3), the minimum slope of storm sewer pipes shall not be less than **0.50%**. Applicant to revise design accordingly.
- J. Stormwater Management Plan 
 - 000 Downspout Disconnect 
 - Applicant shall delineate areas being utilized for Downspout Disconnect treatment of stormwater so that adherence to design criteria presented in the BMP Manual can be confirmed. Perforated pipe shall be specified for downspout disconnection. As these areas are being utilized as BMPs for treatment of stormwater, they are required to be preserved within Green Infrastructure easements.
 - 000 Pretreatment for Heavy Automotive Uses 
 - Due to the heavy automotive use and potential spills of petroleum products on site, a water quality unit or catch basin insert with filtration specifically designed to remove petroleum products / hydrocarbons from the stormwater runoff shall be installed as a pretreatment measure for any runoff from the pump areas prior to discharging to any green infrastructure BMP's.
 - 000 Regional Features on Infrastructure Site Plan 
 - Any water quality or detention features constructed with, or proposed to be constructed with, the previous Infrastructure Site Plan shall be fully-constructed and functional prior to issuance of the CO for the proposed development.

This comment to remain open as a reminder to staff, but **does not hinder Site Plan approval.**

- 000 Regional Stormwater Features / CO 
 - Add a note to the cover sheet and stormwater management sheet stating:
"All regional stormwater quality and quantity infrastructure shall be installed and functioning properly prior to issuance of the Certificate of Occupancy for any developments utilizing them."
- 000 Underdrain Location 
 - Applicant shall show the location of the proposed underdrains on the plan view of the Grading and Stormwater Management plan sheets.
- 000. A/B Soils 
 -

If A/B Soils level/Code DAB is to be claimed in the Intrinsic GIP calculation in the water quality tool, then an infiltration test must be conducted to prove native a/b soils exist on site. Applicant shall submit infiltration soil report with stormwater management plan.

- 000. Bioretention Planting Schedule 
 -

Provide a separate Plant Schedule for the bioretention areas on the stormwater management plan.

- 000. Bridge Crossings 
 -

Bridged stream crossings shall be an open bottom culvert. Footers shall be located outside of the stream channel and top of bank.

- 000. Do not disturb note  

-

Applicant shall provide the following note on all all EPSC/Grading/Stormwater Management Plan Sheets:

"No clearing, grading, construction, storage, or disturbance of vegetation allowed in the stream buffer except as permitted by the City Engineer."

- 000. Downspout Locations  

-

Applicant shall show proposed downspout locations.

- 000. Filter Ring  

-

Applicant shall add stone filter ring to create forebay condition for storm pipes discharging to the bioretention area. Provide peak velocities at these locations. Where erosive velocities occur, additional measures such as TRM or velocity dissipators (gator teeth) may be required.

- 000. Infiltration Test  

-

A soil infiltration test report will be required for all soils where water quality BMPs are being proposed to show soils underneath BMP's have adequate infiltration rates as per the City of Franklin's BMP manual. **Test results shall be submitted to the City's Engineering Dept. prior to approval of the Site Plan.** Earlier testing is encouraged to aid in BMP design and to ensure that the Site Plan approval process is not delayed.

If all BMPs are designed with underdrains, and no reduction of required detention volume is being sought to account for anticipated infiltration, standard boring or excavation results that indicate absence of groundwater or bedrock within 2' below the bottom elevation of the BMP may be substituted for infiltration testing (excluding GIP-04 Infiltration Trench and GIP-03 Level 2 Permeable Pavement, which require known infiltration rates for the design of the BMP). **These results shall likewise be submitted to the City's Engineering Dept. prior to approval of the Site Plan.**

NO SITE PLAN APPROVAL TO PROCEED TO ONE STOP WILL BE GRANTED WITHOUT INFILTRATION AND/OR SUBSURFACE TESTING RESULTS WHICH VERIFY THE ACCEPTABLE DESIGN OF ALL STORMWATER BMP(S).

An additional infiltration test shall be performed after installation to demonstrate proper performance of the installed BMP's. This shall be signed by and submitted to the City's Engineering Dept. at the completion of the installation process by a registered professional engineer. If failure occurs, it shall be repaired or replaced at the contractor's expense. Refer to Franklin's BMP manual for number of tests required and any additional information.

<https://www.franklintn.gov/government/departments-a-j/engineering/stormwater/construction-development/2016-bmp-manual>

○ 000. Native Plantings  

■

Only Tennessee native plants shall be installed in the bioretention areas. Acceptable bioretention plantings can be found in the City's BMP manual in the bioretention section on p230 located at: <http://www.franklintn.gov/government/departments-a-j/engineering/stormwater/construction-development>

○ 000. No Rip Rap  

■

Applicant shall specify river rock or similar stone for outlet protection at detention pond. Rip rap is not acceptable at this location.

○ 000. Permanent BMP Installation  

■

Applicant shall provide a note on all EPSC, Grading and Stormwater Management sheets that water quality BMPs shall not be installed until build out is near completion to prevent construction sediment from entering water quality BMPs. Water quality areas shall not be used as sediment basins during construction. Installer's of water quality BMP's should follow all installation guidelines set forth in the City of Franklin BMP manual located on the City's website.

○ 000. Pervious Pavement - Add Underdrains  

■

Applicant shall provide underdrains for all pervious pavers, or demonstrate that the existing in situ soils have adequate infiltration rates per the Franklin BMP Manual and how these in situ soils will be protected from compaction during the construction process.

○ 000. Pervious Pavement Pretreatment  

■

Where runoff from landscape areas is shown to cross pervious pavement, include a 2-foot gravel diaphragm between the landscaping and the back of curb for the pervious pavement.

○ 000. Pre-App Redevelopment Stormwater Requirements  

■

With the next submittal, applicant shall submit a Stormwater Management Report which includes Stormwater Management calculations based on the portion of the property which is to be redeveloped and accounts for any applicable offsite drainage areas. The submitted Stormwater Management Plan shall comply with Green Infrastructure - Runoff Reduction requirements as outlined in Municipal Code Title 23, with stormwater quality treatment required for the disturbed portion of the site only.

Note that the City has recently updated its water quality tool to a downloadable Excel spreadsheet format. Model the site using the spreadsheet and include the file with the next submittal. The downloadable spreadsheet can be found at: <https://www.franklintn.gov/government/departments-a-j/engineering/development>

○ 000. Pre-App Stormwater Requirements Advisory  

With the next submittal, applicant shall submit a Stormwater Management Report which includes Stormwater Management calculations based on the portion of the property which is to be developed and accounts for any applicable offsite drainage areas. The submitted Stormwater Management Plan shall comply with Green Infrastructure - Runoff Reduction requirements as outlined in Municipal Code Title 23. **Note that the City has recently updated its water quality tool to a downloadable Excel spreadsheet format.** Model the site using the latest version (**version 2019.01**) spreadsheet and include the file with the next submittal. The downloadable spreadsheet can be found at: <https://www.franklinton.gov/government/departments-a-j/engineering/development>

Per Sec. 23-106.(2)(f) of the Stormwater Ordinance:

(ii) All new development and redevelopment shall be designed and graded so that a minimum ten-foot drainage easement and stormwater conveyance exist between each property.

(iii) All new development and redevelopment shall be designed to provide a minimum twenty (20) foot drainage easement on all Stormwater infrastructure serving more than two (2) properties.

Keep these in mind when laying out the development, particularly where structures are to be located adjacent to easements.

○ 000. Pre-App Subsurface Testing Requirements  

■ Option 1

A soil infiltration test report will be required for all soils where water quality BMPs are being proposed to show soils underneath BMP's have adequate infiltration rates as per the City of Franklin's BMP manual. **Test results shall be submitted to the City's Engineering Dept. prior to approval of the Site Plan.** Earlier testing is encouraged to aid in BMP design and to ensure that the Site Plan approval process is not delayed.

Option 2

If all BMPs are designed with underdrains, and no reduction of required detention volume is being sought to account for anticipated infiltration, standard boring or excavation results that indicate absence of groundwater or bedrock within 2' below the bottom elevation of the BMP may be substituted for infiltration testing (excluding GIP-04 Infiltration Trench and GIP-03 Level 2 Permeable Pavement, which require known infiltration rates for the design of the BMP). **These results shall likewise be submitted to the City's Engineering Dept. prior to approval of the Site Plan.**

NO SITE PLAN APPROVAL TO PROCEED TO ONE STOP WILL BE GRANTED WITHOUT INFILTRATION AND/OR SUBSURFACE TESTING RESULTS WHICH VERIFY THE ACCEPTABLE DESIGN OF ALL STORMWATER BMP(S).

○ 000. Reforestation  

■ Applicant shall indicate the areas to be reforested (subareas [_] per the Water Quality Tool input) on the plans by delineation or hatching. These areas have very specific tree planting density and groundcover requirements per section GIP-10 of the City's BMP manual which should be reflected on the landscape plan sheets.

○ 000. Regional Detention  

■ Applicant shall provide detention calculations and take-down chart for regional detention pond volume allocated to this development for stormwater detention. Take-down chart should show:

- total pond volume
- pond volume utilized by other parcels within the development
- pond volume utilized by this site
- remaining volume available for future development (if any)

○ 000. Sheet Flow Treatment  

- Applicant shall delineate areas being utilized for Sheet Flow treatment of stormwater so that adherence to design criteria presented in the BMP Manual can be confirmed. As these areas are being utilized as BMPs for treatment of stormwater, they are required to be preserved within Green Infrastructure easements to ensure they remain free of structures, pavement, or other obstructions that would limit the infiltration these areas are intended to provide.

- 000. Steamside Buffer Lots  

- Per the Stormwater Management Ordinance (FMC 23-107(6)(e)), applicant shall place all Streamside Buffers in open space lots, to be maintained by the property owner or HOA. Commercial Developments shall be allowed to place Riparian Buffers in a Riparian Buffer Conservation Easement in lieu of open space lots.

- 000. Steep Streamside Slopes  

- Per the Stormwater Management Ordinance FMC 23-107(2)(a)(ii)(B),

1. Where the average Slope of the land within the Streamside Buffer is between fifteen percent (15%) and twenty-five percent (25%), an additional twenty (20) feet shall be added to the minimum buffer width.

2. Where the average Slope of the land within the Streamside Buffer is greater than twenty-five percent (25%), an additional fifty (50) feet shall be added to the minimum buffer width.

- 000. Stormwater Management Plan Needed  

- Applicant shall submit a Stormwater Management Report which includes Stormwater Management calculations. Detention calculations should account for any applicable offsite drainage areas. Water Quality calculations should be based on the portion of the property which is to be developed. The submitted Stormwater Management Plan shall comply with Green Infrastructure - Runoff Reduction requirements as outlined in Municipal Code Title 23 and further detailed in the City of Franklin Stormwater BMP Manual.

- 000. Stream Buffer Signage  

- As per FMC 23-107(5)(d) Stream Buffer boundaries shall be marked with signs that persist before, during, and after construction. Signage shall be posted at the edge of the buffer zone, each lot line, and at a maximum spacing of one hundred fifty (150) feet. This spacing can be reduced for large scale development as approved by the City's Engineering Dept. The location of the signage shall be shown on the Stormwater Mangament Plan, EPSC plans, Grading Plans, Drainage Plans and Buffer Management Plans. These sign shall be supplied by the City of Franklin's Stormwater Inspectors at initial site preconstruction meetings and be installed by the first EPSC inspection.

○ 000. Streamside Buffer Labels  

■

Applicant shall clearly label streambanks and streamside buffer limits on all plan sheets.

○ 117. Areas  

■

Applicant shall list out property area, disturbed area and impervious area in acres for total project listed on plans.

○ 118. Site Topography  

■

Applicant shall show existing and proposed site topography with clear contour labels (minimum 2' contours) on stormwater management plan.

○ 119. Drainage Areas  

■

Applicant shall show a sufficient drainage areas and topographic information to confirm watershed boundaries and time of concentration flow paths.

○ 120. Offsite Drainage  

■

Applicant shall show all applicable offsite drainage areas and include in design.

○ 121. Pond Side Slopes  

■

Applicant shall not propose not propose pond side slopes in excess of 4:1.

○ 123. Water Quantity  

■

Applicant shall design stormwater quantity facilities to address the rate at which flow is released over the entire runoff discharge period and the volume of discharge over the critical design storm period. This shall be applied for the 2, 10, 25, 50 and 100 year design-storm events (Title 23 - Municode).

○ 124. Design Storm  

■

Applicant shall design for the minimum stormwater quantity levels (title 23 -Municode):

- Road catch basins and connecting culverts convey the 10-year design storm runoff.
- Bridge, culverts, and channels and cross drains to pass the 25-year design storm runoff for flows less than or equal to 5,000 cfs.
- Bridge, culverts, and channels and cross drains to pass the 50-year design storm runoff for flows greater than or equal to 5,000 cfs.
- Emergency bypass of 50 and 100-year design storm runoff for all ponds.

○ 125. Runoff in Roadways  

■

Applicant shall design runoff in roadways:

- Critical Service Roads are not inundated by more than 3" of water over half the roadway width under 100-year design storm event.
- Other existing roads (as impacted by the development) designed to have no more than 9" of runoff overtopping the road for a 25-year design storm event.
- Other new roads designed to have no more than 6" of runoff overtopping the road for the 25-year design storm event.

○ 126. Stream Buffers  

■

Applicant shall clearly delineate and label any stream buffers on the Stormwater Management Plan.

○ 127. Green Infrastructure  

■

Applicant shall ensure plans comply with Green Infrastructure - Runoff Reduction requirements as outlined in Municipal Code Title 23.

○ 128. Stormwater BMPs  

- Applicant shall show the location, dimensions, and size of all permanent BMPs on Stormwater Management Plan sheet.

- 129. BMP Details  

- Applicant shall provide details and notes for all proposed stormwater BMPs that match those in the design criteria listed in the City's BMP manual found at:

- <https://www.franklintn.gov/government/departments-a-j/engineering/stormwater/construction-development/2016-bmp-manual>

- 130. BMP Location  

- Applicant shall locate all permanent BMPs/Green Infrastructure in open space lots (where appropriate). All water resource buffers shall be placed in open space or conservation easements.

- 131. Impaired and Exceptional Streams  

- Applicant shall clearly label all Impaired and/or Exceptional Tennessee Water's clearly identified and noted.

- 132. Soil Testing  

- Applicant shall submit a soil test report justifying soil classification for BMP design for soil types A & B. Infiltration tests shall be conducted for these soils.

- 133. LTMP  

- Applicant shall submit a Long Term Maintenance Plan and Maintenance Agreement for all BMPs, devices, or facilities located in the project.

- Bioretention Adjacent to Hardscape  
 - Where bioretention is located adjacent to hardscape (pavement, curb, sidewalk, monument sign footers, etc) provide a minimum setback of 5 ft from the hardscape to the bioretention media surface. Where this minimum setback cannot be provided, the adjacent hardscape shall incorporate a wall extending below grade to the lowest elevation of the bioretention media (including any stone sump) to prevent undermining of the hardscape in the course of the natural settling of the loosely-placed bioretention media. Water quality calculations for bioretention areas surrounded by walls shall use Urban Bioretention coefficients.

- Bioretention Pretreatment  
 - Level 2 bioretention areas require two forms of pretreatment. Level 1 bioretention areas require one form of pretreatment.

If concentrated flow is entering a bioretention area, a pretreatment forebay shall be provided, which can count as one form of pretreatment.

A site specific detail showing how the pretreatment measures will tie into the bioretention grades and the [city approved details](#) shall be provided. See the [BMP Manual](#) for design guidelines of approved pretreatment measures.

- Concrete Transition Strip at Pervious Pavement  
 - A concrete transition is needed between pervious pavement and asphalt pavement to limit the migration of fines into the pervious pavement surface and minimize clogging potential. Applicant to provide a concrete ribbon curb (at parking areas), concrete drive apron (at street), or similar concrete transition between pavement types.

- Detention for Redevelopment of Property  
 - Applicant shall meet Stormwater Management Ordinance Sec. 23-106 (2)

(d) Peak Runoff Control.

(iii) Redevelopment of property without existing detention shall be evaluated using one of the following methods unless otherwise determined by the City Engineer:

A. Rational Method shall evaluate pre-Development conditions utilizing the appropriate turf meadows runoff coefficient or as existing conditions. The more stringent conditions shall govern.

B. USDA Technical Release Number 55 (TR-55) shall evaluate the pre-Development conditions as either grassland conditions or as existing conditions. The more stringent conditions shall govern.

- Easements  
 -

Per Sec. 23-106.(2)(f)of the Stormwater Ordinance:

(ii) All new development and redevelopment shall be designed and graded so that a minimum ten-foot drainage easement and stormwater conveyance exist between each property.

(iii) All new development and redevelopment shall be designed to provide a minimum twenty (20) foot drainage easement on all Stormwater infrastructure serving more than two (2) properties. Keep these in mind when laying out the development, particularly where structures are to be located adjacent to easements.

- Green Roof  
 - It is staff's understanding that design of the proposed green roof is ongoing and will be finalized at the Building Permit stage. It appears that an increased bioretention volume in exchange for any reduction in proposed green roof area is "doable." Staff will revisit the water quality calculations during the Building Plan review, and any necessary revision to the green infrastructure practices can be made at that time as a revision to the Site Plan with abbreviated review period.

- Max Drainage to Level 1 Permeable Pavement  

- Per the City of Franklin BMP Manual Table 3.2, the maximum contributing drainage area to Level 1 Design permeable pavement is twice the permeable surface area. Applicant shall revise the design accordingly.
 - Max Drainage to Level 2 Permeable Pavement  
 - Per the City of Franklin BMP Manual Table 3.2, the maximum contributing drainage area to Level 2 Design permeable pavement is only the rainfall that falls on the permeable pavement surface. Applicant shall revise the design accordingly.
 - No CMP  
 - Applicant shall revise pipe material shown for the underground detention. CMP is not a permitted pipe material for permanent installation in the City of Franklin.
 - Shallow Bedrock  
 -

Due to the shallow bedrock encountered with the test [boring/excavation], add the following note to the Grading and Drainage Plan and the [BMP] Detail:
 "Where bedrock is encountered during the excavation of the [BMP], an additional 2 feet of bedrock shall be removed below the bottom elevation of the BMP shown on the plans and the additional excavation backfilled with clean #57 stone."

- Subsurface Testing Requirements  
 - Option 1
 A soil infiltration test report will be required for all soils where water quality BMPs are being proposed to show soils underneath BMP's have adequate infiltration rates as per the City of Franklin's BMP manual. **Test results shall be submitted to the City's Engineering Dept. prior to approval of the Site Plan.** Earlier testing is encouraged to aid in BMP design and to ensure that the Site Plan approval process is not delayed.
 - Option 2
 If all BMPs are designed with underdrains, and no reduction of required detention volume is being sought to account for anticipated infiltration, standard boring or excavation results that indicate absence of groundwater or bedrock within 2' below the bottom elevation of the BMP may be substituted for infiltration testing (excluding GIP-04 Infiltration Trench and GIP-03 Level 2 Permeable Pavement, which require known infiltration rates for the design of the BMP). **These results shall likewise be submitted to the City's Engineering Dept. prior to approval of the Site Plan.**

NO SITE PLAN APPROVAL TO PROCEED TO ONE STOP WILL BE GRANTED WITHOUT INFILTRATION AND/OR SUBSURFACE TESTING RESULTS WHICH VERIFY THE ACCEPTABLE DESIGN OF ALL STORMWATER BMP(S).

- K. Overall Utility Plan  
 - 000. Utility Contact Information  
 - Applicant shall provide utility company and contact information for all utilities within 500' of site, on the Utility Plan Sheet.
 - 134. Existing and Proposed Utilities  
 -

Applicant shall show all existing and proposed locations, types, and sizes of all water lines, fire hydrants, sanitary sewer lines, reclaimed water systems, storm sewers, culverts, street improvements, sidewalks and any other utilities affected by the site on an Overall Site Utility Plan.

○ 135. Utility Note  



Applicant shall include the following note on the Overall Utility Sheet:

"Within new developments and for off-site lines constructed as a result of , or to provide service to, the new development, all utilities, such as cable television, electrical (excluding transformers,), gas, sewer, telephone and water lines shall be placed underground"

Applicant may modify the note for Light Industrial (LI) and Heavy Industrial (HI) which may have their off-site lines overhead.

○ Street Cuts  



Applicant shall indicate the proposed method of extending utilities across the public street (e.g. Bore & Jack, Horizontal Directional Drill, Open-Cut, etc.). Note that open-cut is not allowed in COF streets unless the applicant demonstrates that other methods are not feasible given the project constraints.

Where open-cut of public streets is proposed, the applicant shall provide the following information on the drawings:

1. Provide the appropriate COF Asphalt Pavement Trench Repair Standard Drawing.

a. Parking Lot/Drive Aisle:

<http://www.franklin-gov.com/home/showdocument?id=25899>

b. Local Street:

<http://www.franklin-gov.com/home/showdocument?id=25901>

c. Collector/Arterial Street:

<http://www.franklin-gov.com/home/showdocument?id=25903>

2. Include the following note on the drawings:

City of Franklin Street Cut Notes:

1. *All cuts in public streets require a Street Crossing Permit and Traffic Control Plan approved by the Street Department.*
2. *At perpendicular street cuts, trench excavations shall be milled and overlaid a minimum of 100 feet centered on the trench.*
3. *At parallel street cuts, trench excavations shall be milled and overlaid from the edge of street to the centerline.*

3. Hatch the relevant mill/overlay areas on the drawings.

- Where the cut is perpendicular to the street and the supplying utility main is on the near side of the street centerline, the hatch may terminate at the street centerline.
- Where the cut is perpendicular to the street and the supplying utility main is beyond the street centerline, the hatch is to extend to the far edge of roadway.
- Where the cut is parallel to the street, the half of the roadway with the utility cut shall be hatched.

● L. Water Design and Plan & Profile  

○ 00. Vertical Bends  



Applicant shall propose pipe deflection for all waterline vertical bends. Angled joints are not acceptable.

○ 000. Engineering Fill  

- Applicant shall call for engineering fill for all fill areas below proposed water service lines.

○ 136. General Information  

▪

Applicant shall show all existing and proposed locations, types, and sizes of all water lines, fire hydrants, sanitary sewer lines, reclaimed water systems, storm sewers, culverts, street improvements, sidewalks and any other utilities affected by the site on Water Plan & Profile sheets.

○ 137. Water Plan & Profile  

▪

Applicant shall provide detailed water plan & profile showing all utility conflicts with utility separation labels. Plan & profile shown on same sheet. Stationing shown in plan and profile views.

○ 138. Future Expansions  

▪

Applicant shall extended water main to furthest property line as required for future expansion of the system as deemed necessary by the City.

○ 139. Connection  

▪

Applicant shall provide a detailed description of how lines will be connected to water system (Ex. Tapping sleeve and valve).

○ 140. Minimum Size  

▪

Applicant shall comply with minimum size for water mains (Section 33 1100, 1.4):

- 6" for fire hydrant laterals
- 8" for mains in noncommercial areas
- 10" for mains in commercial areas

○ 141. Separation - Sanitary  

■

Applicant shall provide the following separation for all waterlines:

- Proposed COF Public Waterline improvements shall typically be located a minimum of 10' clear distance horizontally from any wastewater and/or Reclaimed waterlines and/or manholes;
- where not possible, proposed COF Public Waterline improvements shall typically be located a minimum 18" clear distance vertically above any wastewater and/or Reclaimed waterlines;
- where not possible and proposed COF Public Waterline improvements must cross under any wastewater and/or Reclaimed waterlines, COF Public Waterline improvements shall be located a minimum 18" clear distance vertically below any wastewater and/or Reclaimed waterlines and the proposed COF Public Waterline improvements shall be concrete capped 10' on each side and installed with a full joint centered under the wastewater and/or Reclaimed waterlines;
- where not possible and 18" clear distance may not be observed both the proposed COF Public Waterline Improvements and Sanitary (gravity and/or force) and/or Reclaimed waterlines shall be constructed of DIP and the proposed COF Public Waterline improvements shall be concrete capped 10' on each side and installed with a full joint on center under the wastewater and/or Reclaimed waterlines.

○ 142. Separation - General  

■

Applicant shall provide the following separation for all waterlines:

- Proposed COF Public Waterline improvements shall typically be located a minimum of 10' clear distance horizontally from any utility;
- where not possible, proposed COF Public Waterlines shall typically be located a minimum 18" clear distance vertically above any utility;
- proposed COF Public Waterline improvements and wastewater and/or Reclaimed waterlines shall not be laid in the same trench.

○ 143. Dead ends  

■

Applicant shall minimize dead end water mains in order to provide better water service by looping the system. Dual feeds shall be required unless otherwise approved (Section 33 1100, 1.4).

○ 144. Blowoffs  

■

Applicant shall provide a blowoff or hydrant at all dead ends (Section 33 1219, 1.8).

○ 145. Pipe Material  

■

Applicant shall provide the following Water Main Material (Section 33 1100, 2.1):

- 12" or less shall be Pressure Class 350 DIP
- 14" or larger shall be Pressure Class 300 DIP

○ 146. Fittings  

■

Applicant shall provide Pressure Class 350 ductile iron for all standard and special fittings (Section 33 1100, 2.2).

○ 147. Cover  

■

Applicant shall provide the following cover:

- Water main depth shall be at least 36" with top of pipe at least 12" below level of maximum frost penetrations, and according to the following (Section 33 1100, 3.4):
- Under Roadways: At least 42" of cover over top of pipe
- Under Railroad Tracks: At least 48" of cover over top of pipe

○ 148. Valve Types  

■

Applicant shall indicate butterfly valves on all water mains 12" and larger (Section 33 1216, 2.4) and gate valves on all water mains 2" through 10" (Section 33 1216, 2.2).

○ 149. Valve Spacing  

■

Applicant shall provide a maximum valve spacing of 1,000' apart (500 in commercial) and on all lines at intersections (Section 22 1216, 1.7).

○ 150. Air Release Valves  

- Applicant shall provide air release or combination air relief valves at high points in proposed mains (Section 33 1216, 1.7)

- 151. Casing Pipe  

- Applicant shall comply with the casing pipe specifications (Section 33 0523, 2.3):

- Material - Steel
- Provided for crossing of RR, stream, road, and other sensitive crossings
- Provided from ROW to ROW boundaries
- Diameter a minimum of 4" larger than the outside diameter of the water line.
- Show size and location of boring and receiving pit.

- 152. Fire Hydrant  

- Applicant shall provide hydrants (number and spacing) in accordance with International Fire Code (Section 33 1219, 1.8)

- 153. Easements  

- Applicant shall show and provide all required easements for water mains.

- 20' exclusive easement on center
- Minimum 10' wide temporary construction easements on each side of the permanent easement.

- 154. Prohibited Locations  

- Applicant shall locate all water mains in an exclusive easement outside of all detention basins, water quality ponds or other drainage structures/easements.

- 155. Water Services  

Applicant shall provide water service details:

- Service type, material, size, and separation distance
- Connections made perpendicular to the main
- Services do not cross property lines
- Services limited to one per building or unit. Single family lots are limited to one service

○ 156. Prohibited Plantings  

▪

Applicant shall not locate any trees or large shrubs within any permanent water easements

○ 157. Standard Drawings  

▪

Applicant shall provide all applicable standard drawings from the latest approved version of the Water Management Department's General Requirements and Technical Standards.

○ 158. Flow Test  

▪

Applicant shall provide fire flow test information on the plans to ensure the development will have adequate fire flow and pressure.

○ 159. Availability  

▪

Applicant shall request availability for water.

○ 162. Future Expansion  

▪

Applicant shall extended sanitary sewer main to furthest property line as required for future expansion of the system as deemed necessary by the City.

○ 164. Exclusive Easements  

Applicant shall locate all sanitary sewer in an exclusive easement outside of all detention basins, water quality ponds or other drainage structures/easements (Section 33 3113, 1.7)

○ 165. Separation  

Applicant shall provide sanitary sewer separation from existing and proposed water mains for in accordance with Section 33 3113, 3.3 of the specifications.

● M. Sanitary Sewer Design and Plan & Profile  

○ 00. Engineered Fill  

- Applicant shall call for engineered fill for all fill areas below proposed sanitary sewer.

○ 000. Backwater Valve  

- Applicant shall show finished floor elevation for all structures. Verify elevation of lowest plumbing fixture in each structure with respect to top of casting of the next upstream sanitary manhole. Where elevation of the fixtures are lower than the upstream manhole, include backwater valve in sanitary service line to prevent sewage backing up into the structure.

○ 000. Future Stubs  

Applicant shall show a minimum 5' stub out for future sewer connections where applicable.

○ 000. Swimming Pool  

- A separate swimming pool permit is required for installation of the proposed swimming pool. Provide the following information for evaluation of the proposed swimming pool installation.

Pool Volume (gal): _____

Point(s) of Discharge for Pool Drain and/or Backwash System (ex: sanitary sewer): _____

Maximum Discharge Flow Rate for Pool Drain and/or Backwash (gpm): _____

Estimated Backwash Volume (gal): _____

Frequency of Backwash: _____

Means of Pool Disinfection: Salt / Chlorine _____

Means of Removing Disinfectant from Waste Stream: _____

***** Installation may require a holding tank to ensure adequate function of sanitary sewer. This shall be evaluated on a case by case basis.

○ 000. Water Tight Manhole Ventilation  

Ventilation of gravity wastemains should be considered where continuous watertight section greater than 1,000 feet are incurred. The height of the vent pipe opening shall be a minimum of 1 foot above the 100 year flood plain elevation.

○ 160. General Information  

■

Applicant shall show all existing and proposed locations, types, and sizes of all water lines, fire hydrants, sanitary sewer lines, reclaimed water systems, storm sewers, culverts, street improvements, sidewalks and any other utilities affected by the site on Sanitary Sewer Plan & Profile sheets.

○ 161. Sanitary Sewer Plan & Profile  

■

Applicant shall provide detailed sanitary sewer plan & profile showing all utility conflicts with utility separation labels. Plan & profile shown on same sheet. Stationing shown in plan and profile views.

○ 163. Minimum Drop  

■

Applicant shall provide a minimum drop across sanitary sewer manholes of 0.2' to maintain cleaning and hydraulic gradient. All inverts shall be shown and called out and Sanitary Sewer Plan & Profile sheets.

○ 166. Minimum Size  

■

Applicant shall propose no sanitary sewer mains less than 8" in diameter (Section 33 3113, 1.7)

○ 167. Material  

■

Applicant shall provide the following material for sanitary sewer materials:

- 15" or smaller, less than 12' deep shall be PVC
- 15" or smaller, more than 12' deep shall be DIP (with Protecto 401 ceramic epoxy lining)
- > 15" shall be DIP (with Protecto 401 ceramic epoxy lining)
- > 24" shall be FRP

○ 168. Consistency  

■

Applicant shall propose consistent size, slop and material between manholes (Section 33 3113, 1.7).

○ 169. Minimum Slopes  

■

Applicant shall propose no slopes more shallow than the following (per diameter):

- 8" - 0.40%
- 10" - 0.28%
- 12" - 0.22%
- 15" - 0.15%
- 16" - 0.14%
- 18" - 0.12%
- 21" - 0.10%
- 24" - 0.08%
- 27" - 0.067%
- 30" - 0.058%
- 36" - 0.046%
- 42" - 0.037%
- 48" - 0.031%

○ 170. Anchor  

■

Where sewer slopes are greater than 18% the applicant shall provide anchoring in accordance with Specifications Section 33 3113, 1.7.

○ 171. Service Lines  

■

Applicant shall provide Sanitary Service Lines in compliance with Section 33 3113, 1.8:

- Material shall be the same as the main
- Minimum 6" diameter and slope of 2%
- Service type, material, size, and separation denoted on plans
- Connections shall be made perpendicular to the main
- Sewer service cleanout on private property within 2' of ROW or easement line (1' behind sidewalk where applicable)
- Service lines shall not cross multiple property lines
- Services limited to one per building or unit

○ 172. Minimum Cover  

■

Applicant shall provide a minimum cover for gravity sewer (Section 33 3114, 3.3):

- 30" minimum in non-traffic areas
- 48" minimum in traffic areas
- Where minimum cannot be achieved, provide concrete protection or concrete cap over sewer.

○ 173. Maximum Depth  

▪

Applicant shall not propose any sanitary sewer deeper than 15' without special approval from the Water Management Department (Section 33 3113, 1.7).

○ 174. Easements  

▪

Applicant shall show all existing and proposed easements associated with sanitary sewer mains. Minimum easements depending on main depth:

- < 12' depth - 20' exclusive easement on center
- > 12' depth - 30' exclusive easement on center
- > 20' depth - requires prior approval from Engineering/Water Management Department.
- Minimum 10' construction easement on each side of the permanent easement shall also be provided

○ 174. Standard Drawings  

▪

Applicant shall provide all applicable standard drawings from the latest version of the Water Management Department's General Requirements and Technical Specifications.

○ 176, Casing Pipe  

▪

Applicant shall comply with the casing pipe specifications (Section 33 0523, 2.3):

- Material - Steel
- Provided for crossing of RR, stream, road, and other sensitive crossings
- Provided from ROW to ROW boundaries
- Diameter a minimum of 4" larger than the outside diameter of the sanitary sewer main
- Show size and location of boring and receiving pit.

○ 177. Prohibited Plantings  



Applicant shall not locate any trees or large shrubs within any permanent sanitary sewer easements

○ 178. Manhole Diameter  



Applicant shall comply with manhole size based on main diameter as follows (Section 33 3913, 1.2):

- ≤ 15" main - 42" manhole diameter
- > 15" main - 48" manhole diameter
- > 24" main - 60" manhole diameter
- > 36" main - 72" manhole diameter

○ 179. Manhole Spacing  



Applicant shall not exceed manhole spacing (Section 33 3913, 1.2):

- < 24" mains: 400' max spacing
- ≥ 24" mains: 500' max spacing

○ 180. Floodplain Manholes  



Applicant shall provide watertight manhole covers for all manholes located in the floodplain.

○ 181. Drop Manholes  



Where the difference in invert elevations exceeds 24", applicant shall provide a drop manhole.

○ 182. Minimum Cover for Force Mains  



Applicant shall provide minimum cover for sanitary sewer force mains (Section 33 3400, 3.4):

- Standard Cover - 36"

- Under Roadways - 42"
- Under Railroads - 48"
- At high points - 60"

○ 183. Force Mains  

▪

Applicant shall provide plans with the following force main conditions:

- Pipe slopes continuously between high and low points
- DIP for all force mains ≥ 4 "
- Manhole at force main is fiberglass

○ 184. Pump Station Dedication  

▪

Applicant shall deed to the City all land required for pump station and service road.

○ 185. Availability  

▪

Applicant shall request availability for sanitary sewer.

● N. Reclaimed Water Distribution Piping  

○ 186. General Information  

▪

Applicant shall show all existing and proposed locations, types, and sizes of all water lines, fire hydrants, sanitary sewer lines, reclaimed water systems, storm sewers, culverts, street improvements, sidewalks and any other utilities affected by the site on Reclaimed Water Plan & Profile sheets.

○ 187. Plan & Profile  

▪

Applicant shall provide a detailed plan & profile off all proposed reclaimed water mains showing all utility conflicts with clear distance separation labeled. Applicant shall show plan & profile with stationing on one sheet.

○ 188. Future Expansion  

■

Applicant shall extend reclaimed water main to furthest property line as required for future expansion of the system.

○ 189. Specifications  

■

Applicant shall indicate service type, pipe material, size and separation distance on plans. Connections shall be made perpendicular to the main.

○ 190. Separation  

■

Applicant shall provide the following spacing for all reclaimed water mains:

- Proposed COF Reclaimed Water Distribution Piping System improvements shall typically be located a minimum of 5' clear distance horizontally from any wastewater line and a minimum 10' clear distance horizontally from any waterlines;
- where not possible, proposed COF Public Sanitary Sewer improvements shall typically be located a minimum 18" clear distance vertically above any wastewater line and/or a minimum 18" clear distance vertically below any waterline;
- where not possible and proposed COF Reclaimed Water Distribution Piping System improvements must be within the 5' horizontal and/or 18" vertical clear spacing requirement

○ 191. Utility Crossing Separation  

■

Applicant shall provide a minimum of 18" clear distance separation at all utility crossings.

○ 192. Minimum Size  

■

Applicant shall propose no reclaimed water mains smaller than 4" in diameter. (Section 33 3300, 3.4)

○ 193. Minimum Cover  

■

Applicant shall provide a minimum cover for all reclaimed water mains as follows:

- 42" min under roadways
- 48" min under railroads
- 36" min general

(Section 33 3300, 3.4)

○ 194. Easements  

▪

Applicant shall clearly indicate all existing and proposed easement associated with reclaimed water mains:

- 20' exclusive easement on center
- 10' min temporary construction easement on each side of permanent easement

○ 195. Casing Pipe Specifications  

▪

Applicant shall comply with casing pipe specification as set out in Section 33 0523, 2.3:

- Casing pipe material - steel
- Casing pipe provided for crossings of railroads, streams, roads, and any other sensitive crossing as deemed necessary by the City.
- Casing pipe provided from ROW to ROW
- Casing pipe diameter a minimum of 4" larger than the outside diameter of the reclaimed water main.
- Show size and location of boring and receiving pits

○ 196. Prohibited Plantings  

▪

Applicant shall not propose any existing or proposed trees or large shrubs within any permanent reclaim water main easements.

○ 197. Availability  

▪

Applicant shall request for reclaimed water availability.

○ 234. Hydraulic Gradient  

Applicant shall provide storm drain design and hydraulic gradient calculations in the Stormwater Management Report.

- O. Standard Drawings and Notes  
 - Needs Standard Drawing(s)  
 - Applicant shall ensure that appropriate City of Franklin Standard Drawings are used and that all COF Standard Drawings used are up-to-date. The current COF Standard Details can be found on the Engineering - Development Services website, located at:
<http://www.franklin-gov.com/government/departments-a-j/engineering/development>
 - Side Drain Safety Endwalls  
 - The applicant shall add a note specifying headwalls for side drains along a state route shall comply with TDOT standards for side drain safety endwalls.
 - Update Standard Drawings  
 -

Applicant shall show current City of Franklin standard drawings as found on the Engineering Development Services website at:
<http://www.franklintn.gov/government/departments-a-j/engineering/transportation/franklin-transportation-street-technical-standards/franklin-transportation-street-technical-standards>

- One Stop Submittal for COA Only  
 - One Stop Submittal for COA Only  
 - One Stop submittals are to address Conditions of Approval only. Additional revisions currently shown on plans are to be reviewed on a standard review cycle.

Next Initial Submittal Date: 10/8/18
Next Resubmittal Date: 10/4/18

- P. Landscape/Open Space Plan  
- Q. Architectural Plan  
- R. Lighting Plan  
 - Roadway lighting  
 - Applicant shall incorporate roadway lighting into the street design for all streets, including the extension of Spring Creek Drive.
- S. Sanitary Sewer Hydraulic Report  
 - 000. Sanitary Sewer Hydraulic Report  
 -

Applicant shall provide a Sanitary Sewer Hydraulic Report.

○ 218. Narrative  

■

Applicant shall provide a narrative summary of the Sanitary Sewer Plan in the Sanitary Sewer Hydraulic Report.

○ 219. Drainage Basin  

■

Applicant shall provide an USGS Map delineating entire drainage basin. Sewer sized to accommodate future flows unless otherwise approved by the Engineering Department. Calculations provided showing estimated future flows based on land use.

○ 220. Overall Utility Plan  

■

Applicant shall include the overall utility plan for the development in the Sanitary Sewer Hydraulic Report.

○ 221. Hydraulic Calculations  

■

Applicant shall provide hydraulic calculations showing a mean velocity, when flowing full, of not less than 2.0 feet per second based on Manning's formula using an "n" value of 0.013. High velocity protection shall be required for all velocities greater than 15 feet per second. (Section 33 3113, 1.7)

○ 222. Sewer Size  

■

Applicant shall propose sewer size no more than 0.75 d/D

○ 223. Peaking Factor  

■

Applicant shall apply peaking factor appropriately based on size of development in the Sanitary Sewer Hydraulic Report.

- 224. Floating Lines  

-

Applicant shall ensure wastewater line located near bodies of water do not "float". Buoyancy calculations shall be submitted verifying the wastewater line does not float in the Sanitary Sewer Hydraulic Report. If the wastewater line floats, it shall be anchored.

- T. Stormwater Management Report  

- 000. Long Term Maintenance Plan  

-

Applicant shall complete and submit a completed Long Term Maintenance Plan (LTMP) form for all proposed stormwater features at resubmittal for review.

- 000. Stormwater Management Report  

-

Applicant shall submit a Stormwater Management Report which includes Stormwater Management calculations based on the portion of the property which is to be developed and accounts for any applicable offsite drainage areas. The submitted Stormwater Management Plan shall comply with Green Infrastructure - Runoff Reduction requirements as outlined in Municipal Code Title 23.

- 225. Narrative  

-

Applicant shall provide a stormwater management plan narrative stating an overall explanation of how stormwater will be conveyed, detained, and treated onsite. Include report from water quality calculation tool on the City's website located at:

<https://www.franklintn.gov/government/departments-a-j/engineering/development>

- 226. Summary Tables  

-

Applicant shall provide a tabular presentation of pre- and post-development drainage areas, curve numbers, times of concentration and flow rates in the Stormwater Management Report.

- 227. Calculations  

-

Applicant shall provide SWM calculations based on portion of the property which is to be developed and accounts for any applicable offsite drainage areas in the Stormwater Management Report.

- 228. Watershed Delineation  

-

Applicant shall provide watershed sub-area delineation, hydrologic soil group delineation and property line locations in the Stormwater Management Report.

- 229. Time of Concentration  

-

Applicant shall calculate time of concentration flow paths separated into overland, shallow concentrated and open channel flow for pre- and post-development in the Stormwater Management Report.

- 230. Hydrologic Calculations  

-

Applicant shall provide hydrologic calculations for SWM using Soil Conservation Service methods and tabulated on forms found in TR55 or other approved programs.

- 231. Peak Runoff  

-

Applicant shall provide peak runoff rate calculations for impervious areas only (use this rate for SWM pond routing if the volume required calculated thereby exceeds the volume from the composite developed area) in the Stormwater Management Report.

- 232. PE Signed & Sealed  

-

Applicant shall provide SWM plans and calculations sealed by a currently registered Tennessee Professional Engineer.

- 235. Gutter Spread  

Applicant shall provide gutter spread calculations for all public streets (maximum 6' spread).

- U. Resubmittal  
- V. Site Permits  
 - Long Term Maintenance Agreement  
 - The Long Term Maintenance Agreement has been uploaded to the Document Manager. Please have the Owner sign and notarize the Owners page and send to the Engineering Dept ASAP. (Attn: Amanda Ray)

The Long Term Maintenance Agreement, Form and Plan will be recorded by the City once the Plan & Form are approved during plan review.
 - No Site Permits Required  
 - This issue is for future reference:
Because the amount of disturbance is less than 10,000 SF no Stormwater/Grading Permit is required. The contractor is still required to install and maintain EPSC, Tree Protection & Construction Entrance on site.
 - Site Permit Applications  
 - The Stormwater/Grading & Utility permit applications have been uploaded to the document manager. Please have the 1st page of the application completed and signed, and submit with ORIGINAL, signed and notarized Agreements and Fees (listed on permit) to Engineering.

*The LTMP will be recorded by Engineering once fees have been paid. and permits will be issued when the plans are stamped as approved.
 - Stormwater/Grading Permit (SWG)  
 - The Stormwater/Grading permit application has been uploaded to the document manager. Please have the application completed and submit with ORIGINAL, signed and notarized Agreement and Fees (listed on permit) to Engineering during post PC cycle.
 - TDOT ROW Permit  
 - No work in the TDOT ROW shall commence until the City receives a copy of an issued ROW permit.
 - Utility Permit  
 - The Utility Permit application has been uploaded to the Document Manager. Please have it completed and submitted to Engineering along with the original, signed and notarized Right of Entry Agreement (included with application) and fees (listed on permit) during Post PC cycle.
- W. Availability Request  
 - Availability Request  
 - Please complete the availability request form and email to Amanda Ray (Amanda.ray@franklintn.gov).

Form located here: <http://www.franklintn.gov/home/showdocument?id=14617>