

DINWIDDIE COUNTY

PLANNING, ZONING, CODE COMPLIANCE AND ENVIRONMENTAL

SITE/SUBDIVISION PLAN REVIEW CHECKLIST

Plan Name: _____ Date Submitted: _____

Engineer's Name: _____

Plan Review Submittal Format:

Construction Site/Subdivision Plans (6sets) shall be submitted to the Department of Planning & Zoning with separate agency transmittals as follows: **Planning Zoning/Mark Bassett (2sets), Environmental/Stephen Edwards (1set), Fire & EMS/Nick Sheffield (1set), VDOT/Paul Hinson (1 set) and Dinwiddie County Water Authority/Robert Wilson (1 set). Each agency that has a checklist, that checklist must be completed and submitted with the plans.**

Program Administration Fees:

A Review fee **must** accompany the initial plan submission and is processed at the front counter in the amount of \$300.00 plus \$15.00 per each acre or portion thereof.

An E&S fee **must** accompany the initial plan submission and is processed at the front counter in the amount of \$200.00 plus \$15.00 per each acre or portion thereof.

A VSMP fee **must** accompany the VSMP Application once plans have been approved.

All checks area to be payable to: **Dinwiddie County Treasurer.**

All Plan checklist items below are shown as a minimum requirement only. Additional comments may be required based upon each individual site or subdivision plan. One copy of this checklist must be submitted with the initial plan submission. Check all items that have been submitted/addressed or put N/A if not applicable to this particular site. Any items still pending will need to be left blank. **Forms and applications can be found on the Dinwiddie County Website (www.dinwiddieva.us) under Departments / Planning & Zoning / Environmental / Documents.**

All applicable items listed below must be submitted prior to issuance of a Land Disturbance Permit:

	YES	N/A
Estimate of cost of E&S control measures using Dinwiddie County Surety Worksheet found on website.		
Erosion Control surety bond, letter of credit or check posted in the amount of the approved estimate. (ESC Bond template on county website).		
Submit a completed Land Disturbance permit application.		
Submit a copy of the VDOT permit.		

All applicable items listed below must be submitted prior to issuance of a Land Disturbance Permit:

	YES	N/A
Submit a copy of the COE/DEQ approval of wetland disturbances.		
Submit a copy of the Certified Responsible Land Disturber (CRLD) Certification.		
Any offsite easement plats need to be recorded and a copy submitted.		

All applicable items listed below must be submitted prior to issuance of a Building Permit:

	YES	N/A
Water and Sewer Agreement with appropriate bond.		

All applicable items listed below must be submitted prior to receiving Final Approval for C/O:

	YES	N/A
As-Built plans will need to be submitted.		
SWM/BMP Facility(ies) Certification form(s) to be signed/sealed by Professional Engineer		
SWM/BMP Maintenance Agreement application with approved drawings.		
All on-site easement plats have been recorded.		
Installation and approval on all construction related items shown on the approve plans.		

All applicable items listed below must be submitted prior to Final Construction Plan approval:

	YES	N/A
All Planning Commission and Zoning requirements have been addressed.		
Received approval from Planning, Environmental, Fire&EMS, VDOT and DCWA.		
Provide a 527 Traffic Impact study (if determined to be applicable).		
Submit a signed and sealed copy of the stormwater detention calculations.		

Cover/Title Sheet:

	YES	N/A
Provided Dinwiddie County Title Sheet and filled out applicable fields. This sheet is not to be modified.		
Provide Engineer's Title Block		
Engineer seal signed/dated		

Standard Notes and Details Sheets:

	YES	N/A
Engineer seal signed/dated.		
Sheet Title.		
Sheet Number.		
Standard notes from review agencies (VDOT, DCWA, Fire, Planning & Zoning, etc.)		
Show all Standard Construction and Utility Details.		
Any modified details must be shown with applicable dimensions.		
Show details for any fencing, screening and retaining walls.		
Show detail of Site Identification Sign.		

Pollution Prevention Plan

	YES	N/A
Add the County's standard Pollution Prevention Plan Sheet located on the website.		

Erosion and Sediment Control Notes and Details Sheet(s):

	YES	N/A
Add the County's standard E&S Notes and Detail Sheet located on the website.		

Erosion and Sediment Control Plan - Phase I:

	YES	N/A
Title sheet(s) as: "Erosion and Sediment Control Plan - Phase I"		
All erosion control plans are to be in consecutive order.		
Engineer seal signed/dated.		
Sheet Number.		
Show North Arrow and Graphic Scale		
Erosion Control Legend shown with symbol and Spec. No.		
Add a Phase I Construction Sequence.		
The first note to Phase I Sequence needs to state: "Owner/Contractor is to give the Dinwiddie County Environmental Inspector 48 hours notification to schedule an on-site pre-construction meeting."		
Add the following notes to the Phase I Sequence: -"All earthen structures are to be stabilized immediately after being constructed." -"Site Construction cannot commence until Phase I erosion and sediment control measures installed have been inspected and approved by the Dinwiddie County Environmental Inspector."		
Clearing Limits need to be restricted to only those necessary to install perimeter E&S measures (SF, DD, ST's, SB's, stockpile. etc.).		
Standard symbols must be used to represent EC measures on the plan as indicated on the first page of the practice found in Chapter III of the Virginia E&S Control Handbook.		
Need to show only existing features and phase I E&S measures.		
Show the boundaries of different soil type.		
Show limits of 100 year floodplain, Wetlands and WOUS.		
Show drainage areas going to temporary trap(s) and/or temporary basin(s).		
Construction Entrance (CE) must be graphically shown on the plans and constructed as wide as the proposed permanent entrance. If a wash rack is required, add the following note in <u>bold print</u> : "Installation of a wash rack is required for this site to wash mud and debris from all construction equipment and vehicles prior to leaving the construction area. Water trucks must be provided for the wash rack. Positive drainage must be maintained from the wash rack to a sediment trapping device."		
Safety fence (STD. & SPEC 3.01) is required around all sediment traps (per Chapter III-2 of the VESCH).		
Safety fence (STD. & SPEC 3.01) is required the perimeter of any site that is directly adjacent to pedestrian and vehicular traffic (per Chapter III-2 of the VESCH).		

Erosion and Sediment Control Plan - Phase II:

	YES	N/A
Title sheet as: " Erosion and Sediment Control Plan - Phase II. "		
All erosion control plans are to be in consecutive order.		
Engineer seal signed/dated.		
Sheet Number.		
Show North Arrow and Graphic Scale		
Erosion Control Legend shown with symbol and Spec. No.		
Add a Phase II Construction Sequence.		
Phase II Sequence needs to include: - All actual construction items in their proper sequence of events. -E&S measures that need to be installed as construction progresses. -Removal of any E&S devices as the site construction progresses. -Step must be added which states that proposed sediment traps and basins are to remain in place until all site contributing areas are stabilized. -Provisions and step(s) must be added to address the conversion of sediment basin(s) into a SWM/BMP facility after the upstream areas are fully stabilized. - Any additional notes that may be necessary to explain the intent and purpose of the plans.		
A note must be added in the steps or below the construction sequence stating that the SWM/BMP must be observed by a professional engineer during construction for certification.		
Any Soil Stockpile area(s) must be located on the plans with silt fence provided around the perimeter .		
Show all required E&S measures, existing contours, existing features, proposed contours and proposed features.		
Show Limits of Disturbance.		
Show limits of 100 year floodplain, Wetlands and WOUS.		

SWM/BMP Notes, Details and Calculations:

	YES	N/A
Use the checklist that applies to proposed stormwater facility. Checklist can be found on the County website.		

Demolition Plan Sheet (if applicable) shall contain the following information as a minimum:

	YES	N/A
Engineer seal signed/dated.		
Sheet Number.		
Sheet Title.		
Show North Arrow and Graphic Scale.		
Demolition plan needs to show all other features shaded back (i.e. property lines/information, contours, utilities, drainage structures, adjacent roadways, etc.) such that all existing items to be removed with the Demolition Plan “standout” on the sheet in darker print.		
Show the location of existing storm and sanitary sewer systems, water mains, fire hydrants, service lines, etc... Note any structures to be removed, replaced or relocated.		
Show the location of all other existing utilities, light poles and fixtures on-site and directly adjacent to the proposed site. Note any utilities to be removed, replaced or relocated.		
Show/indicate all existing buildings, curb/sidewalk, pavement, utilities, fencing, and all other miscellaneous structures to be removed from site prior to construction.		
List any additional demolition notes or legends necessary to explain the intent of the work.		

Overall Plan Sheet (if applicable) shall contain the following information as a minimum:

	YES	N/A
Engineer seal signed/dated.		
Sheet Number.		
Sheet Title.		
North Arrow and Graphic Scale.		
Overall proposed design without the proposed contours and existing contours.		

Site Plan/Layout Plan Sheet(s) shall contain the following information as a minimum:

	YES	N/A
Engineer seal signed/dated.		
Sheet Number(s)		
Sheet(s) Title.		
Show North Arrow and Graphic Scale.		
Label all street names, state route numbers, speed limits and R/W widths.		
Existing features need to be shaded and proposed features need to be bolden to show separation.		
Show/indicate all lot lines and block/lot numbers.		
Show/label all existing easements including DB/PG#.		
Show/label all proposed easements.		
Adjacent property owners information.		
Show coordinate points on property corners (if in NAD 83 Datum).		
Show bearings and distances along all proposed and existing property lines.		
Show/indicate location and description of at least two (2) benchmarks with their elevation referenced to mean sea level.		
The dimensions and square footage of all proposed buildings must be shown.		
Setback distances for proposed building(s).		
Show/label 100 year floodplain, wetlands and WOUS.		
Show the location and size/type of existing storm sewer, sanitary sewer, water mains, fire hydrants, service lines, etc		
Show the location of all other existing and proposed utilities (including services), light poles and fixtures on-site and directly adjacent to the proposed site.		
Indicate the location and dimensions of all proposed entrances, exits, off-street parking areas, loading zones, handicapped spaces, interior drives, sidewalks and walkways.		
Indicate the location of all proposed and existing pavement, curbing, sidewalk, etc.		
Stipple all areas proposed to be paved.		

Site Plan/Layout Plan Sheet(s) shall contain the following information as a minimum:

	YES	N/A
Handicapped ramps need to be shown with truncated domes		
All handicapped parking, pedestrian access and signage have met the minimum requirements of the Americans with Disability Act Accessibility Guidelines manual.		
Sidewalks/ramps must be shown adjacent to proposed handicapped parking spaces.		
Adequate number of handicapped parking spaces with sign/markings have been provided.		
At least one van accessible space with sign/markings has been provided.		
All required or provided parking spaces and aisles adjacent to parking spaces shall comply with the minimum dimensions shown under Section 22-237 of the Dinwiddie County Zoning Ordinance.		
Show the dimensions for the dumpster pad along with required screening (fencing).		
Sidewalks been shown connecting parking lots or adjoining sites.		
All curb radii are shown/labeled at entrances and throughout parking areas.		
All Traffic control markings and signage shown.		
Bumper blocks provided on all parking spaces that are directly adjacent to sidewalks.		
Fencing must be shown on the plans along the top of any proposed/existing retaining walls exceeding a height of 30" above ground elevation. Fencing detail must be added to plans. Coordinate the type of fencing and all code requirements with the Building Official.		
Add any additional construction notes necessary to explain the intent of the work.		
Refer to the Dinwiddie County Water Authority's checklist for what needs to be shown on plans concerning proposed utilities.		
Refer to VDOT checklist pertaining to construction within the R/W.		
Refer to the Fire & EMS checklist for specific requirements.		

Landscape and Lighting:

	YES	N/A
Refer to the Dinwiddie County Code for requirements		

Grading and Drainage Plan Sheet(s) shall contain the following information as a minimum:

	YES	N/A
Engineer seal signed/dated.		
Sheet Number.		
Sheet Title.		
North Arrow and Graphic Scale,		
Legend needs to be shown with the appropriate symbols for all items shown on the plan.		
Plan sheet needs to show all other features shaded back (i.e. property lines/information, contours, buildings, drainage structures, adjacent roadways, etc..) such that all proposed Grading/Drainage items and related activity “standout” on the sheet in darker print.		
Drainage Summary table shown (Str. #, Type/Size pipe or inlet, Top, Height, Inv. Elev.)		
Indicate all proposed and existing storm sewers, culverts and appurtenances, identify by structure number, type, size, slot length, material, inverts, etc.		
Indicate with arrows the direction of flow in all gutters, storm sewers, subsurface drains, ditches, streams, etc.		
Indicate location and description of all benchmarks and their elevations referenced to mean sea level.		
The finished floor elevation of all proposed and existing buildings must be shown.		
All Existing contours shown as dashed lines with 5’ intervals shown as shaded		
All Proposed contours shown as solid lines with 5’ intervals shown as bolder.		
Any proposed slopes greater than 3:1 need to be shown with permanent slope stabilization.		
Top of curb elevations must be shown at the nose of all radial curb and at all appreciable breaks in horizontal or vertical alignment.		
Dry gutter is required where runoff flows away from the face of curb. These areas must be cross-hatched and a detail provided on the plan for construction of dry gutter.		
Show/label 100 year floodplain, wetlands and WOUS.		
Add any additional notes that may be necessary to explain the intent and purpose of the plans.		

Hydraulics:

	YES	N/A
<p>Culverts, storm sewer and open channels designed to minimum 10 year criteria:</p> <p>a. 10-yr flow less than pipe capacity.</p> <p>b. Dimensioned channel section with 10-yr lining depth, side slopes, and bottom width are to be specified/shown in the plan and profile.</p>		
Grass ditches and swales shall be a minimum of 1% longitudinal slope.		
Storm sewer minimum slope 0.2%		
Manhole steps required in structures 4 feet and greater in depth		
EC-1 or OP specified at beginning and ends of storm sewer/culverts		
No pipe grades shall exceed 15%, and will need pipe anchors at 10' O.C.		
<p>Open Channel:</p> <p>a. Riprap channels can be used in rear of lots if no closer than 75' to the house.</p> <p>b. Where paved channels are steeper than 15%, anchor lugs are required at 10' O.C.</p> <p>c. The maximum permissible velocity allowable on bare earth is 3.5 fps. Velocities between 3.5 fps and 4.0 fps require a jute lining and any velocities greater than 4.0 fps require a structural lining of either riprap or concrete.</p> <p>d. Open channel depths shall be less than 3', otherwise channels shall be piped.</p> <p>e. Side slopes shall not be steeper than 2:1.</p>		
Hydraulic grade line calculations are required to be shown to support the design of all proposed storm sewers. (10 & 100 year calculations)		
Headwalls/Endwalls are reqd for pipes 24" or larger, multiple lines or slopes exceeding 15%.		
All roof water and downspouts must be collected and discharged in a non-erodible manner.		

Storm Sewer Profile Sheet(s) shall contain the following information:

	YES	N/A
Engineer seal signed/dated.		
Sheet Number.		
Sheet Title.		
Graphic Scale.		
Each storm sewer system should be shown in its entirety to include, at a minimum, the following information: a. Structure number b. Percent of grade and length c. Size and material d. Show catch basins, inlets, etc. with proposed elevation for tops and inverts. e. Show existing and proposed ground surface over centerline of system. f. Existing/Proposed utilities passing perpendicular to the system or sharing a common easement (to include outer elevation)		
Open channels must include, at a minimum, the following: a. Percent of grade b. Centerline profile c. Existing ground profiles at centerline and easement edge. d. Typical section showing 10-year design depth, side slopes, lining, and hydraulic data.		
Stations shown (ascending from left to right) on profile must agree with stations shown on the plan, and progress in the same direction.		

Water and Sanitary Sewer Profiles:

	YES	N/A
Refer to the Dinwiddie County Water Authority checklist for specific requirements.		

Road Profiles (if applicable) / Traffic Control Plans:

	YES	N/A
Refer to VDOT checklist for specific requirements.		

Drainage Area Sheets shall contain the following information:

	YES	N/A
Engineer/Surveyors seal signed/dated .		
Sheet Number.		
Sheet Title.		
Graphic Scale.		
North Arrow		
Shade back all other features (i.e. ROW, property lines, street names, curbing, sidewalk, buildings, etc...) such that all Drainage Area information will “standout” in the plans.		
Use arrows to indicate direction of flow on all roads, ditches, pipes, waterways, etc.		
Pre-Development: a. All drainage areas outlined. b. Existing road right of way with road lanes, layout, property and lot lines; Residential and commercial buildings, parking lots, other physical features etc. c. Existing contours as dashed lines. d. Limits of Wetlands, WOUS and 100 year flood plain.		
Post-Development: a. All drainage areas outlined. b. Total amount (acres) of post development area draining to the basin/outfall area. c. Existing contours as dashed lines. d. Proposed contours as solid lines. f. Proposed and existing road right of way with road lanes, layout, property and lot lines; Residential and commercial buildings, parking lots, other physical features etc. g. Limits of Wetlands, WOUS and 100 year floodplain.		



RICHMOND DISTRICT
SOUTHERN REGION LAND DEVELOPMENT
SOUTH HILL & PETERSBURG RESIDENCIES

SUBDIVISION AND SITE CONSTRUCTION PLAN SUBMITTAL CHECKLIST

PROJECT NAME _____

DEVELOPER/OWNER NAME, MAILING ADDRESS, TELEPHONE AND FAX NUMBER

DESIGN PROFESSIONAL'S NAME, MAILING ADDRESS, TELEPHONE AND FAX NUMBER

GENERAL INFORMATION

PLAN SHEET TO INCLUDE:		YES	NO	COMMENTS
1.	Completed contact information for developer and design professional.			
2.	Date of plan.			
3.	Standard cover sheet with surveying & mapping control information. Vicinity map (1" = 2000') & title block information section completed.			
4.	North arrow, designation of north orientation, match lines, scale with graphic bar scale & index of plan sheet numbers identifying each plan sheet.			
5.	Dated seal & signature of registered professional engineer or land surveyor on each sheet.			
6.	Total acreage, current zoning, & proposed zoning by acres.			
7.	Adjacent parcel identification: tax map reference numbers, owners names, & present zoning/use of all abutting parcels.			
8.	Date of tentative approval with case number.			
9.	Master plan (all phases or proposed sections).			
10.	Complete site layout: sequential numbering & size (in sq. ft.) of each proposed lot and/or unit.			
11.	State route numbers & names on all existing streets to which connections are to be made.			
12.	All proposed street names.			
13.	Right-of-way lines, width, centerline (stationed at 100' intervals), limits of construction & pavement width or back of curb width.			
14.	General notes explaining details of plan.			

15.	Existing and/or proposed dams, detention basins & any extrinsic structures.			
16.	Grading plan: existing and proposed contour lines with sufficient annotations for determining the contour elevation, finished floor elevations, design layout for drainage system.			
17.	Legend detailing all road items, drainage and utility items shown.			

18.	Any zoning waivers, variances, proffers and/or imposed conditions for the project submitted with the plans.			
19.	Written description of all plan revisions shall accompany all revised plans submitted for re-evaluation & approval. Revisions shall be clouded with a comment number matching the written description of the revision.			

GEOMETRICS				
PLAN SHEET TO INCLUDE:		YES	NO	COMMENTS
1.	Location of project entrance & distance measured from the centerline of the road/entrance to the centerline of the nearest intersection of state route or crossovers for field verification of sight distance.			
2.	Existing entrances, street connections, crossovers, etc., located along both sides of the state route that may be affected by the development.			
3.	Existing & proposed rights-of-way, width, & route number.			
4.	Centerline curve data: delta, radius, arc length, chord & tangent, stationing at intersections, PC's, PT's, etc.			
5.	Actual line & length of horizontal sight distance at street intersections & any sight distance easements which may be required.			
6.	Depending on method of stormwater conveyance, either radius of all curb returns to back of curb or fillet radius to edge of pavement. Label the entrance standard and any curb and gutter standards, including spot elevations at radii points (top of curb if appropriate) and all high, low points or drainage breaks located in the entrance. Provide a note on the plan sheet near the entrance "Contractor to contact the design professional for entrance design clarifications, construction anomalies and installation questions."			
7.	Proposed building location, use sq. footages & offset distance to property lines (sites only).			
8.	All temporary turnaround construction & easements as indicated on the preliminary plans (including radii).			
9.	All proposed improvements within the right-of-way along the frontage of the property based upon the functional classification of the roadway.			
10.	Complete dimensions of existing & auxiliary lanes including tapers and shoulders. Provide WP-2 (pavement widening) standard on the plans.			
	Road classification schedule, design speed, traffic volumes (existing and			

11.	proposed) with pavement designs per the Pavement Design Guide for SSR or the Road Design Guide.			
12.	Typical section design details including pavement, base material, shoulders, curb and gutter, sidewalk, underdrains. Typical section to be based upon the functional classification of the roadway. Include 1' pavement widening required for routes with 1000 ADT or greater. Pavement shall be stepped in 1' for each layer, including base stone, of base, intermediate and surface course materials..			
13.	Guardrail, label the type and length, where required.			
14.	Provide Bike and Pedestrian accommodations including CG-12 treatment where required..			
15.	Show stippling on plan sheets of all proposed pavement.			
16.	Provide documentation of the method to be used for determination of existing pavement structure.			
17.	In shoulder and ditch section, a minimum 27" depth shall be required with a minimum 3:1 or flatter front and back slopes.			
18.	Label diameter and length of each entrance pipe on subdivision plans.			
19.	Show entrance location and label entrance standard per the current Road and Bridge Standards. Provide a note on the plan sheet near the entrance "Contractor to contact the design professional for entrance design clarifications, construction anomalies and installation questions." Include apron with roll face curb treatment per the SSR.			

PROFILE AND GRADE				
PLAN SHEET TO INCLUDE:		YES	NO	COMMENTS
1.	Existing ground line at centerline, left & right (along ditches) and right-of-way.			
2.	Finished grade line for mainline & connections. a. Percent of grade, change of grade elevations (PVI) & length of curves. b. Finished grade elevations (50' tangent, 25' curve) & at intersections, PC's, PT's, etc. c. Complete stationing at intersections, PC's, PT's, PVC's, PVT's etc. d. Street names. e. Label the "K" values used for determining sag and crest curve lengths. f. Vertical sight distance for crests. g. Actual line & length of vertical sight distance at street intersections.			

HYDRAULICS

1.	Detailed overall drainage area map defining corresponding sub-areas used for computations showing centerline stationing at 100' intervals, intersections, PC's, PT's, etc., & the proposed storm sewer layout.			
2.	Reference to the hydrologic methodology used including supporting data used in computation of "Q". a) The listed coefficients or "C" values. b) Computations of weighted coefficients "C _w ".			
3.	Complete design computations per the following criteria: a) Culverts & closed storm sewer system design capacity for 10-year (secondaries) or 25-year (primaries)& also flooding computations computation for 100-year. b) False ditches are not allowed within the right of way. c) Cross-culverts computations showing sizes, end treatments, length, skewed angles, type of pipe, design cover, invert in & out elevations, outlet velocity, HW, HW/D (<1), TW conditions (including the tailwater produced when a culvert is the collection agent for a storm sewer) and freeboard. The pertinent calculated information incidental to the design of the culvert shall be tabulated on VDOT standard form LD-269, "Culvert Design Computation." d) Closed storm sewer system include size, velocity, capacity, actual design Q's, length & slope of the pipes, the invert in & out elevations. Pertinent calculated information incidental to the design of the pipeline shall be tabulated on VDOT standard form LD-229, "Storm Sewer Design Computations." e) Minimum velocities (3fps) for proper self cleaning. f) Maximum velocities (10 fps) for internal pipe erosion. g) Anchors or special design for extreme storm sewers, i.e. 16% or >. h) Curb drop inlet spread shall determine the spacing of inlets for a rainfall intensity of 4.0 inches per hour. Include approach spread at sag inlets; spread lengths, depth of water, length on the inlet & height of the inlet slots. 100-year check storm for all sag inlets. i) Hydraulic grade lines or water surface profile include water surface elevations vs. rim elevations. The H.G.L. for storm sewer systems shall be tabulated on VDOT standard form LD-347 for 10-year & 100-year storms, when involved with a designated 100-year flood plain. j) Open channel computation for 2-year frequency is to be used for determining the need, type & dimensions of special ditch lining for erosion. 10-year frequency shall provide sufficient hydraulic capacity of the channel. Include MS-19 calculations for adequacy of existing channel, as stated in the <u>Virginia Erosion & Sediment Control Handbook</u> . k) Include supporting computations for all special design structures such as special design endwalls, inlet, flumes, energy dissipaters, channels, ect. l) Ditch slopes less than 0.75% require concrete paving.			

HYDRAULICS (CONTINUED)					
PLAN SHEET TO INCLUDE		YES	NO	COMMENTS	
4.	Detailed description of all proposed storm sewer structures.				
5.	Graphic details for all non-standard drainage facilities.				
6.	Directions of drainage flow for streets, storm sewer, valley gutters, subdrains, etc.				
7.	Field location for all natural watercourses or drainageways affected by construction, including direction of flow.				
8.	All existing & proposed storm drainage systems in plan & profile views.				
9.	Field located limits of 100-year flood zones & backwater inundation.				
10.	Existing VDOT drainage easements dimensioned & labeled. All easements located outside of the right of way shall be dedicated to public use or the locality.				
11.	Driveway entrance culvert sizing computations for each lot.				
12.	Show all types of required underdrains with outlet locations clearly identified and defined. A. CD-1 required for fill to cut transition. B. CD-2 required for sag situations C. All CD's shall be connected to nearest outfalls. D. UD-2, UD-4 or UD-5 required for all medians. E. UD-4 edge drains on roadways with design ADT of 1,000 vehicles per day or greater under the edge of pavement. F. EW-12 required for all outfalls to ditchlines.				

EROSION CONTROL					
PLAN SHEET TO INCLUDE:		YES	NO	COMMENTS	
1.	Erosion control plan when disturbing over 10,000 sq. ft. west of I-95 or 2,500 sq. ft. east of I-95.				
2.	Location of temporary construction entrance(s) accessing state maintained right-of-way.				

UTILITIES					
PLAN SHEET TO INCLUDE:		YES	NO	COMMENTS	
1.	Alignment & dimensioned location of all existing utilities within limits of existing & proposed right-of-way.				
2.	A. Alignment & dimensioned location of all proposed utilities to be constructed within the limits of existing and proposed right of way. B. All utilities are to be out of the pavement envelop or justification provided for installation under the pavement. C. All terminal MH's must be out of the pavement.				

	D. All waterlines must terminate out of the pavement. E. MH's will not be allowed in the wheel track. F. Water valves, fire hydrants and valves are to be located out of the roadside ditches. G. Verify irrigation systems to be located outside of the right of way.			
3.	Existing & proposed easements, width & use.			
4.	Details showing method of tie-ins within existing right-of-way.			
5.	Details showing required relocations within existing right-of-way. Provide pavement repair detail on the plans with narrative requiring same day pavement replacement in accordance with LUP-OC. No open cuts allowed unless three attempts or extenuating circumstances prevail.			

PERMIT WORKZONE					
PLAN SHEET TO INCLUDE:		YES	NO	COMMENTS	
1.	Detailed work area protection layout, to include a construction sequencing/maintenance of traffic narrative for all construction activities within state maintained right-of-way..				

Notes:

1. The developer is responsible for supplying sufficient information for the Department to determine entrance & road design features to adequately serve the existing roadway & the proposed development.
2. Subdivision plans shall be designed in accordance with VDOT's Subdivision Street Requirements and Road Design Manual.
3. All commercial entrances must meet VDOT standards & specifications as designated in Minimum Standards of Entrance To State Highway.
4. The developer shall be responsible for proper installation of driveway connections and shall be responsible for removing fixed objects within the clear zone prior to the subdivision street acceptance into the system.
5. The developer must sign the following statement:

I have personally reviewed these checklist items and agree to abide by the design and requirements shown hereon.

Print Name: _____

Signature: _____

Date: _____

Certification

I certify that the above stated information is included in the attached plans. If the item was not included provide an explanation why under the comment column.

Engineer's Signature

Date

Dinwiddie FIRE & EMS



COMMERCIAL SITE PLAN SUBMISSION – REQUIRED INFORMATION

STANDARD NOTES:

- All Buildings – Landscaping around existing or proposed Fire Protection Equipment note:**
The following shall be added to the general and landscaping notes:
“No landscaping shall be placed within a three-foot radius of any fire hydrant, fire pump test header, fire department connection for fire protection systems, or fire suppression system control valve. Landscaping shall be of a type that will not encroach in the three-foot radius on maturity of the material.”

- All Buildings – Knox Box Requirement:**
The following shall be added to the general notes on plans:
“An approved key box shall be provided for the proposed building in accordance with the Virginia Statewide Fire Prevention Code, section 506.1.” The required forms and installation instructions for the key box can be obtained from Dinwiddie Fire Marshal’s Office at 804-469-5388.

- Sprinkler System Acceptance Note:**
For buildings equipped with an automatic fire sprinkler system and/or standpipe system, the following must be added to the general notes on the plans:
“Site plan approval does not include the design of the fire sprinkler system underground piping. Prior to installation, shop drawings shall be submitted through the Building Inspections Office for approval.”

WATER / HYDRANT INFORMATION:

- All Buildings – Hydrant Requirement Note:**
“For any structure or building that requires a fire hydrant be installed, a permanent hydrant shall be installed and be in service prior to the use of combustible materials in construction being started on any floor.” Hydrants and their details shall be clearly identified on the plan.

The minimum road width of a fire apparatus access road with a fire hydrant located on it is 26 feet. Please reference Figure D103.1 of the Virginia Statewide Fire Prevention Code, 2009 edition, for more information relating to the minimum clearance around a hydrant.

Dinwiddie FIRE & EMS



Please refer to section 508.7 of the Virginia Statewide Fire Prevention Code, 2009 edition, for minimum spacing around a fire hydrant and fire service features.

- Required Fire Flow:**
The minimum required fire flow for fire protection shall be shown on the submitted drawings. Refer to the Virginia Statewide Fire Prevention Code, 2009, section B105 for further information on determination of the needed fire flow.

- Water Flow Test Data:**
Provide computer generated water flow test data confirming that the required water flow for fire protection is available on site. The water flow calculations shall be shown on the submitted plan. Per The Dinwiddie County Water Authority, please obtain these calculations from Arcadis US, Inc. More information can be obtained from DCWA.

SITE ACCESIBILITY:

- Fire Apparatus Access Roads:**
Provide details for the fire apparatus access roadway to show that there is access to all exterior points of the structure from within 150 feet of the roadway. Please reference Virginia Statewide Fire Prevention Code section 503 for more information.

Buildings having a gross building area of more than 62,000 square feet must have two approved fire apparatus access roadways installed. Please see Virginia Statewide Fire Prevention Code, section D104.2 for more information and exceptions.

Fire apparatus access roads must be constructed to bear a weight capacity of 75,000 pounds. A surface must be utilized that will allow all-weather access. A geotechnical report shall be submitted to Dinwiddie Fire & EMS – Fire Marshal’s Office prior to the road being accepted and a certificate of occupancy being issued. A note that encompasses this information shall be included in the general notes section of the plan.

Dinwiddie FIRE & EMS



Fire Lane Markings (See Attached Documents)

The location of all required curb and street markings, as well as fire lane signs, shall be included on the plan. If the fire lane is between 20 and 26 feet wide, it shall be posted and marked on both sides of the roadway. If the fire lane is in excess of 26 feet in width and up to 32 feet in width, it shall be posted and marked on one side of the roadway. The marking method and location shall be clearly shown on the site plan. All fire lane signs are to be perpendicular to the curb and double-sided.

Aerial Access

Buildings or portions of buildings that exceed a height of 30 feet above the lowest level of fire department vehicle access shall be provided with an aerial access road. The aerial fire apparatus access roadway must be a minimum of 26 feet of unobstructed clear width in the immediate area of the building. Any overhead obstructions shall not be located within the aerial access roadway. At least one of the aerial apparatus access roadways must be located 15 feet at a minimum and 30 feet at a maximum from the building. It also must be positioned in a parallel manner to one complete side of the building. You may reference Virginia Statewide Fire Prevention Code, section D105, for more information.

Turning Radius

A minimum of a 42' turning radius (outside) must be provided for emergency apparatus to travel. This includes cul-de-sacs. A template included on the plans must demonstrate the radius. Reference Virginia Statewide Fire Prevention Code, section D103 for more information.

Fire apparatus access roadways and fire lanes in excess of 150' dead end must be provided with an approved turn-around. The dimensions of the turn-around shall be in accordance with Virginia Statewide Fire Prevention Code, section D103. All dimensions shall be shown on the plan.

***These pages are provided as a guide for the items that shall be provided on a submitted set of plans. Ensure that you meet all requirements of the Virginia Statewide Fire Prevention Code in your submittals. If you need further information, you may contact the
Fire Marshal's Office at 804-469-5388.***



ESTABLISHMENT OF FIRE LANES ON PUBLIC STREETS AND ON PRIVATE PROPERTY DEVOTED TO PUBLIC USE

Guidelines

The Chief of Dinwiddie Fire & EMS, or his duly authorized designee, may require the owner, lessee, or occupant of any private or public traffic way normally open to the public to provide and maintain regulatory signs and/or pavement markings of an approved type to notify operators of motor vehicles of the boundaries of fire lanes and the restrictions related thereto. These fire lanes for buildings less than 30 feet in height shall be at least twenty (20) feet in width, and the route of these fire lanes shall be marked with posted signs. A combination of curb markings, and/or pavement markings may be used with the approval of the fire official. You may reference Virginia Statewide Fire Prevention Code, section 503.7 for more information.

Buildings that are 30 feet or more in height shall have a fire lane that is at least 26 feet in width within 30 feet of the building or as required to provide all weather access for fire apparatus to perform firefighting activities or other duties as needed.

Specifications

A single sign mounted on a single post with either a left, double, or right directional arrow shall be used. The signs shall be posted at intervals of 100 feet or less. All signs are to be mounted 7 feet from the bottom of the sign to the top of the grade.

Where signs are not practical, "No Parking" and "Fire Lane" can be painted on the pavement at intervals of 100 feet or less using yellow reflective paint. When dictated by the fire official, the 100 foot spacing interval can be less due to site characteristics.

The fire official may also require that yellow reflective paint 4 inches wide be placed along either the edge of the gutter pan or the edge of pavement, thereby designating the boundaries of the fire lane.



At each hydrant, either the curb or along the edge of the gutter pan shall be painted with yellow, reflectorized traffic paint for a distance of 15 feet in both directions only when posted signs do not properly delineate the fire lanes.

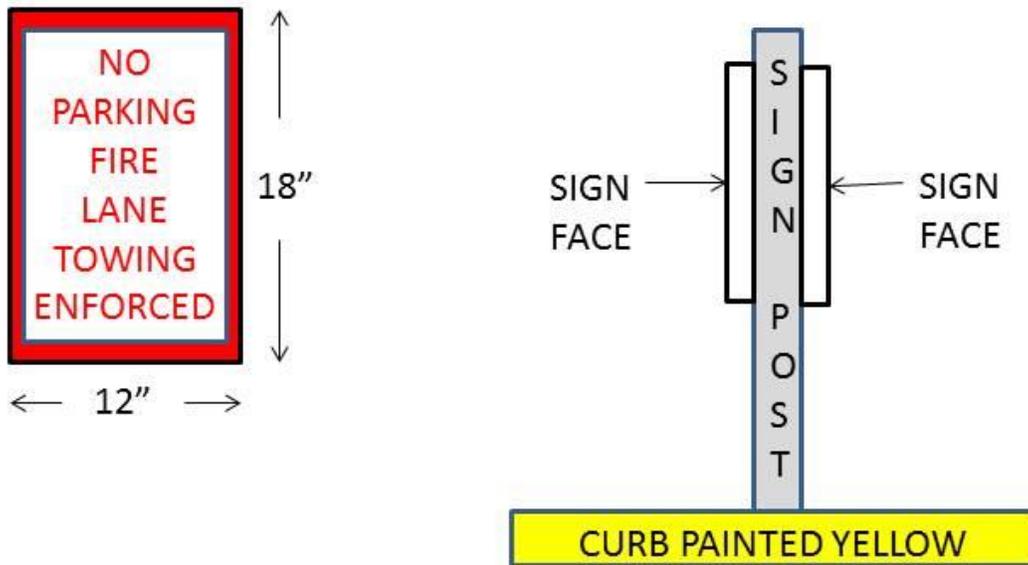
All signs shall be fabricated in accordance with the specifications contained in the Virginia Manual of Uniform Traffic Control Devices for Street and Highways.

Maintenance

In accordance with Section 503.7 of the Virginia Statewide Fire Prevention Code, all designated fire lanes or markings shall be maintained in a clean and legible condition at all times and replaced as necessary to ensure adequate visibility. Posted signs shall have directional arrows to indicate the fire lanes. Posted signs without directional arrows shall include yellow reflective gutter pan or pavement markings to indicate the fire lanes.

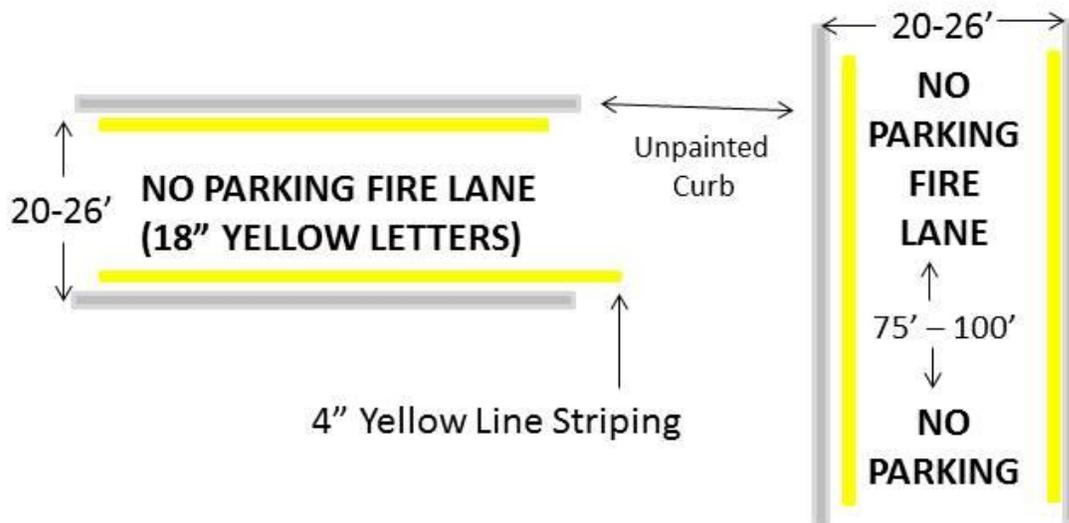
SEE THE ATTACHED PAGE FOR REFERENCES

FIRE LANE PARKING SIGNS



COLOR : RED LETTER AND BORDER ON WHITE REFLECTIVE BACKGROUND
 LETTERS: 2 INCH "C" SERIES
 THIS DRAWING IS FOR REFERENCE
 REFER TO "THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR
 STREETS AND HIGHWAYS" FOR COMPLETE SPECIFICATIONS

PAVEMENT MARKINGS



SITE/SUBDIVISION PLAN CHECKLIST

**DINWIDDIE COUNTY WATER AUTHORITY
ENGINEERS CHECKLIST FOR WATER AND SEWER PLANS**

I. Title Page

- A. _____ Project Name
- B. _____ Engineer's or Class B Surveyor's Seal and Signature
- C. _____ Vicinity Sketch (complete in detail)
- D. _____ Table of Estimated Quantities (including breakdown of type of pipe).
- E. _____ Title Block
- F. _____ Tax Identification Numbers (formerly known as the Tax Map and Parcel Numbers)
- G. _____ Magisterial District
- H. _____ Name, Address, and Phone Number of Developer/Owner
- I. _____ Legend of sanitary sewer and water lines, other utilities and structures existing and proposed ground and pavement profile. Profile information must be shown on profile sheet.
- J. _____ Certification statement of the lot numbers, block letters/numbers and road names, etc.

II. General

- A. _____ The utility plan includes an overall plan of the water and sewer layout, including any phasing of the development.
- B. _____ A subdivision plat indexed to sheet numbers.
- C. _____ Engineer and/or Surveyor has notified all property owners prior to performing any design and/or surveying work (copy of such notification is attached).

III. Standards

- A. _____ Water and Sewer Notes
- B. _____ Vertical scale is 1" = 5' or 1" = 10'; and horizontal scale is 1" = 50' or as approved by the Authority. A "bar" scale is shown on each sheet.
- C. _____ All water and sewer designs conform to the latest Authority, State and Federal regulations or standards.
- D. _____ Plan and Profile sheets are on 24" x 36" paper.
- E. _____ Scale drawings are accurate to within +/- 2% for vertical and horizontal scales.

IV. Plans

- A. Utility Plans
 - 1. _____ All water, sewer, road, and drainage structures are shown on one plan sheet, where applicable. May require larger scale to adequately obtain horizontal integrity.

2. All plans include:

- a) _____ Existing water and/or sewer lines are properly labeled with size and with horizontal and vertical distances referenced on the plan.
- b) _____ A bench mark is required on the site plan.
- c) _____ Horizontal and vertical scale shown on each sheet (scale should be same on plan and profile).
- d) _____ All existing easements are shown accurately and proposed utility easements are shown on plans. The existing easements reflect accurate recordation information.
- e) _____ All existing and proposed storm sewer lines, gas, telephone, power, and other utility lines, which cross or run parallel to the sewer or water lines, are shown with exact horizontal and vertical separations given, where applicable. The engineer is responsible for performing subsurface exploration has been performed where potential conflicts exist, where applicable.
- f) _____ Adjacent road and drainage projects are shown as required.
- g) _____ Consideration has been given to areas where roads and drainage structures may be lowered in the future.
- h) _____ Road names, state route numbers, and right-of-way widths are shown.
- i) _____ Plan and profile are drawn in the same direction. Stations shall ascend from left to right.
- j) _____ Proposed water and/or sewer lines are shown with reference distances from right of way, boundary, buildings, other utility lines, etc.
- k) _____ All property lines and property markers (stones, rods, pins, pipes, monuments, etc.) are shown.
- l) _____ Location of existing houses, buildings, fences, wells and other structures are shown on plans. In lawn or kept areas, trees and shrubs in the easements are shown (size and type).
- m) _____ All designs conform to the latest County and State erosion control and sedimentation rules, regulations, and ordinances. An erosion control and sedimentation plan must be approved by the Dinwiddie County Planning Department and included in the final approved set of utility plans.
- n) _____ The engineer understands that he/she is responsible for coordinating the utility design and construction work with other engineers where their projects connect or are affected by other projects.
- o) _____ Locations of special features (conc. encasement, rip-rap stabilization at creek crossings, clay dams, etc.).

- p) _____ Detail drawings of all stream crossings and storm sewer outlets, with elevations of the stream bed and high (100 year flood elevation) and normal water elevations.
- q) _____ Proper labeling of subdivision (lot, block, street names, subdivision boundaries, etc.).
- r) _____ Adjacent property owner names with deed book and page number are shown on plans.
- s) _____ All fill and cut areas are shown within the area of the existing and proposed sewer and/or water lines.
- t) _____ Necessary easement for onsite and/or offsite easements have been obtained and recorded.
- u) _____ Pavement replacement detail, boring detail, etc. are shown on all plans.
- v) _____ Location and dimensions of all water and sewer service connections are shown.
- x) _____ Proposed, existing, and original ground elevations are shown.
- y) _____ Municipal, subdivision and/or drainage area boundaries are shown.
- z) _____ North Arrow is reflected on all plan sheets.
- aa) _____ Miss Utility notation is shown.
- bb) _____ Engineer understands that any changes made to the road, drainage, water and/or sewer design will require a submittal to the Authority for review and approval of the revised water and sewer plans reflecting those changes.
- cc) _____ All revisions include an explanation either on the plans or by separate transmittal.
- dd) _____ Plans have been submitted to State Health Department for review and approval where applicable. A copy of transmittal letter is to be submitted. A copy of the approved plans and specifications with the approval letter are to be submitted to the Authority.
- ee) _____ If horizontal bore is required, bore location, length of bore, pit location (average 8' x 35') are shown and shown in relation to all existing and/or proposed utilities on plan and profile.
- ff) _____ Alignment of utility in existing VDOT right of ways is consistent with Authority guidelines. A copy of a transmittal letter to Virginia Department of Transportation for their review is attached. Engineer Understands that a letter of approval from Virginia Department of Transportation is required prior to final utility plan approval.
- gg) _____ Clay dams or other acceptable designs are shown at the appropriate locations to avoid water from creek and/or lake being diverted along pipe bedding.
- hh) _____ Utility plans reflect those conditions as approved by the Planning Commission/Board of Supervisors.
- ii) _____ Engineer has contacted Virginia Power to obtain exact location of power lines and received as-built information. Utility plans reflect this information accurately and is in accordance with the "Overhead High Voltage Line Safety Act".

3. Sanitary Sewer Plans

- a) _____ All sanitary sewer plans are labeled with size, grade, length, direction of flow, and type & class of pipes (with backup calculations on the type & class pipe needed, where applicable).
- b) _____ Manholes are labeled with top and invert elevations; coordinates; and locations, size and inverts of drop stacks when a vertical drop is greater than or equal to 2 feet.
- c) _____ Deflection angles at all manholes or bearings of all lines are shown on the plans.
- d) _____ All minimum finished floor elevations and basement elevations are to be shown on plans, where applicable.
- e) _____ A sewerage drainage area map with hydraulic analysis is included in plans.
- f) _____ The engineer has field verified the inverts of the existing manhole(s). Where invert elevations are different from the as-built plan, the engineer has verified his survey work and notified the Authority of the discrepancy.
- g) _____ All manholes are designed to an elevation above the 100 year flood plain elevation as set forth in the design standards, unless otherwise approved by the Authority.
- h) _____ Reference all manholes in easements.
- i) _____ Ground coverage over sewer pipe meets minimum criteria.
- j) _____ Engineer has put a notation that a backwater valve is to be used where the building with a finished floor elevation of the building is below the top elevation of the nearest upgrade manhole from the building connection.
- k) _____ Where the sewer lines are in excess of 12' deep, the Engineer has identified where the sewer lateral must be installed in accordance with the standard details and the appropriate notes are reflected on the plans.
- l) _____ A NOTE stating that the contractor must field verify the inverts of all existing manholes, gas lines, other utility lines prior to the start of construction.
- m) _____ All "%" slopes are divisible by 4 to the nearest hundredth, where possible.
- n) _____ Greater than 0.4% minimum slope has been used whenever possible.
- o) _____ Solid lines have been used for proposed sewers, short dashed lines for existing sewer and labeled future sewer or portions covered under other phases of construction.
- p) _____ A minimum of ten (10) feet horizontal separation is maintained between sewer lines, sewer laterals and water meters or flushing hydrants and between sewer line and storm drainage structures.

- q) _____ All calculations have been checked for accuracy.
- r) _____ All pipe between manholes are of like material and class.
- s) _____ All temporary and/or permanent silt basins are shown and the sewer lines and manholes have been designed around these structures.
- t) _____ All existing sewer laterals are shown on the plans, with station, length and depth, as depicted on the as-built plans.
- u) _____ All sewer lines are designed with the entry into the manhole by the proposed sewer lines at an angle of 90° or greater to the downstream line, or if an exception has been granted, the engineer has increased the drop through the manhole to compensate for the reduced angle and has provided a blowup detail for the appropriate invert shaping that achieves the same results as a 90° or greater entry.
- v) _____ The crowns of all sewer lines enter the manholes at crown's level or higher as specified in the design standards.
- w) _____ Whenever connecting sewer lateral to an existing sewer line, Engineer has put on the plans the proper notation that "the contractor must use a mechanical hole cutter when tapping the existing sewer line and that an approved saddle shall be used" and the appropriate lots affected by this have been identified in the note.
- x) _____ Where new manholes are proposed over existing lines, distance from the new manhole to the two existing manholes is shown; inverts of the manhole and each existing manhole are shown; slope of existing line from new manhole to upstream and downstream existing manholes is shown.
- y) _____ Where future extensions are necessary, these lines are reflected on the plan.
- z) _____ All manholes proposed within areas where vehicles travel are to be located either on center line of road or center of traveling lane.
- aa) _____ Sampling manholes are required for new facilities currently regulated by local or federal industrial waste pretreatment laws.
- bb) _____ At all existing manholes, the engineer has provided the manhole number as reflected on the as-builts, and the Authority project

number associated with the existing manhole.

cc) _____ The following data appears on all lots with minimum finished floor (sewer) designations and for those lots where gravity sanitary sewer service is questionable:

- (1) The minimum finish floor (sewer) elevation;
- (2) A note on the plans stating that the 6" sanitary sewer lateral for that lot is to be installed at 1% grade;
- (3) The invert elevation at the end of the 6" lateral;
- (4) The "building envelope" (at a minimum) and if possible, the building location (i.e. footprint);
- (5) A "lot shot" elevation within the "building envelope"/ building footprint line; and
- (6) Contours (labeled with elevations on each) of the lot.

4. Water Plans

- a) _____ Plans show all fittings, fire hydrants, and valves including sizes. Each appurtenance are properly labeled.
- b) _____ The location of fire hydrants will be coordinated with the Department of Public Safety for Dinwiddie County.
- c) _____ All conflicts with storm sewers and other utility lines are shown with appropriate design changes shown.
- d) _____ A minimum of eighteen (18) inches of vertical clearance has been designed and obtained at all crossings of other utilities, or as specified by other utility agencies, or otherwise approved by the Authority.
- e) _____ All water lines have a minimum of 3.5' of cover.
- f) _____ Fire hydrants and air relief valves are shown on plans and profile.
- g) _____ Hydrants or flushing hydrants are designed at major low places in the line where possible and air release valves are designed at the high points.
- h) _____ Flushing hydrants or fire hydrants are designed at the end of all lines in cul-de-sacs. Location of hydrants comply

with guidelines outlined in design standards.

- i) _____ All water services are shown in accordance with the design standards.
- j) _____ Plans show all connections to the existing subdivision mains, etc.
- k) _____ Engineer has designed water system in accordance with available pressures and has provided fire flow and pressure calculations.
- l) _____ Line location is shown 4' from face of curb or 2' off edge of pavement where there is ditch.
- m) _____ Pipe sizes noted on plans.
- n) _____ Ditch lines are shown on the plan and depth of ditch(s) are shown on the profile at the fire hydrant locations and service lines, where necessary.
- o) _____ Water line stubs for future extensions are designed to be installed beyond the edge of pavement.
- p) _____ Location of water meter boxes are shown outside of non-vehicular traveled areas. Where it is not possible to locate the boxes out of the traveled areas. Where it is not possible to locate the boxes out of the driveways, and/or vehicular traveled area, a cast iron/traffic bearing box is specified.
- q) _____ For water line tie-ins, the engineer has shown the valve to be used for cut off during the tie-in. Where tapping the main line vs. cuttings in a tee is applicable, the engineer has evaluated which method will be used.
- r) _____ Knockdown meter box shall not be located within any travel areas.

Date:

Engineering Firm:

Engineer's Name:

(Print Name)

CERTIFICATION

(Seal)