

**APPENDIX “B”
STANDARD FORMS FOR PLAN REVIEW**

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CITY OF MANASSAS PLAN REVIEW CHECKLIST

YES	NO	N/A	
_____	_____	_____	COVERSHEET
_____	_____	_____	1. Estimate of quantities and cost
_____	_____	_____	a. Bond prices are from approved list?
_____	_____	_____	b. Frequently omitted bond items are listed?
_____	_____	_____	To include:
_____	_____	_____	Sanitary Manholes
_____	_____	_____	Entrances
_____	_____	_____	Property Corners
_____	_____	_____	Monuments (generally subdiv.)
_____	_____	_____	Traffic Barricade, Street Signs
_____	_____	_____	c. Bond Totals correct?
_____	_____	_____	d. 15% administrative cost?
_____	_____	_____	e. Estimate signed and dated.
_____	_____	_____	2. General Notes (can be placed on sheet)
_____	_____	_____	a. "The developer shall be responsible for costs incurred for the relocation of or damages to any public utilities because of construction."
_____	_____	_____	b. "All sanitary manholes will be installed with a watertight frame and cover. All sanitary sewer systems will be vented every 1000 feet."
_____	_____	_____	c. "All connections to sanitary sewer manholes will be core bored and installed with a rubber boot."
_____	_____	_____	3. Surveying and Mapping Control Information
_____	_____	_____	a. Information completely filled out?
_____	_____	_____	b. Signature and Registration number?
_____	_____	_____	4. Engineer's Seal and Signature?
_____	_____	_____	5. Vicinity Map at 1" = 2000' or less?

YES **NO** **N/A**

6. Approval Block?

7. Title Block?

a. Name, Address & Telephone number of:

Owner?

Developer?

Engineering Firm?

b. Tax Map Number?

c. Does area agree with plat?

d. Zoning? Use group, type of construction?

8. Sheets numbered and dated?

PLAN SHEETS - GENERAL REQUIREMENTS

1. Check Preliminary Plan for:

a. Vehicle counts for street classification?

b. Street names (if different, check with zoning administrator)?

c. General layout?

d. Park or other land to be donated to the public?

e. Proffers of improvements, property, funds in escrow, etc.?

2. Engineer's Seal and Signature? (every sheet)

3. Scale?

4. Date and North Arrow?

5. Sheets Numbered?

YES NO N/A

PLAN SHEETS - STREETS

1. Approved Design Criteria? (See Attachment #1 - Table 1, Page 2133 of subdivision ordinance).

2. Street designed on 7 Vehicle Trips per day per dwelling unit? (See prelim.)

3. All streets shown in plan and profile view?

a. Plan view to include:

Row width?

Pavement width?

100 foot stations?

Curb and Gutter (VDOT Standards)?

Sidewalk (as required)?

Barricade (TB-1 as required)?

Temporary Turnarounds (as required)?

10' utility easement contiguous with all streets?

Handicap ramps (VDOT CG-12s) at all crossings?

Commercial entrances min. 30' wide, max. of 50'?

Entrance min. of 12.5' from P/L

Entrance min. of 25' from intersection on 25 mph street?

b. Profile view to include:

Percent grade on all tangent sections?

Length of all vertical curves?

Sight distance on all vertical curves (see attachment 2 and 3)? (Min. 200')

Top of curb elevations at min. of 50' stations?

Show stationing that agrees with Plan View.

4. Street Section shown?

5. Geometric Design of Entrances meet minimum criteria set forth in VDOT's "Minimum Standards of Entrances to State Highways".

PLAN SHEETS W/L

1. All water lines shown in Plan and Profile

a. Plan view to include:

YES	NO	N/A
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Size of W/L
W/L Material
Location of valves, crosses, tees, blow-offs
Location of Fire Hydrants
Easements for all W/L not in a public right-of-way (15' min.)

b. Profile view to include:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Size of W/L
W/L Material
Depth of cover (min. 42" required)
All utility crossings

_____	_____	_____
-------	-------	-------

2. Minimum size W/L is 4" diameter. Fire hydrants installed on minimum 6" diameter W/L.

_____	_____	_____
-------	-------	-------

3. Location and Design of fire hydrants will be approved by Fire Marshal's Office.

_____	_____	_____
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4. Fire hydrants will be located less than 6" from the face of curb or edge of pavement.

_____	_____	_____
-------	-------	-------

5. The following note shall be on all plans: "Fire Hydrants shall be color-coded in accordance with City of Manassas Fire Marshal's Office Specifications."

_____	_____	_____
-------	-------	-------

6. Required Valves:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Four valves will be used at crosses.
Three valves will be used at tees.
A valve will be installed at least every 1000' on distribution lines
A hydrant will be installed on all dead end W/L's.

_____	_____	_____
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7. Water service size to all structures shown or noted. Size based upon fixture load.

_____	_____	_____
-------	-------	-------

8. Separations of W/L's and other utilities.

a. Parallel installation:

_____	_____	_____
-------	-------	-------

Under normal conditions W/L will have a minimum of 10' of horizontal separation from all other utility lines and manholes.

YES	NO	N/A
-----	----	-----

<hr/>	<hr/>	<hr/>	Where site conditions preclude 10' horizontal separation. Min. of 6' horizontal separation and 18" bottom to crown vertical separation maintained?
-------	-------	-------	----------------------------------------------------------------------------------------------------------------------------------------------------

<hr/>	<hr/>	<hr/>	W/L always 18" above the crown of the Sanitary Sewer.
-------	-------	-------	-------------------------------------------------------

<hr/>	<hr/>	<hr/>	W/L in streets a minimum of 2 feet horizontally from the edge of the gutter pan?
-------	-------	-------	----------------------------------------------------------------------------------

b. Crossings

<hr/>	<hr/>	<hr/>	18" vertical separation required at all crossings.
-------	-------	-------	----------------------------------------------------

<hr/>	<hr/>	<hr/>	W/L always installed above sanitary sewer
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<hr/>	<hr/>	<hr/>	Where 18" vertical separation cannot be obtained lowest utility line encased in concrete, or provide concrete piers with storm sewer conflicts?
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<hr/>	<hr/>	<hr/>	9. Details shown on all special structures, i.e., valve pits, water metering stations, etc.
-------	-------	-------	---------------------------------------------------------------------------------------------

PLAN SHEETS - SANITARY SEWERS

<hr/>	<hr/>	<hr/>	1. All Sanitary Sewers shown in Plan and Profile
-------	-------	-------	--------------------------------------------------

a. Plan view to include

<hr/>	<hr/>	<hr/>	Size of sewer line
<hr/>	<hr/>	<hr/>	Slope of sewer line
<hr/>	<hr/>	<hr/>	Length of sewer materials
<hr/>	<hr/>	<hr/>	Sewer line materials
<hr/>	<hr/>	<hr/>	Location of laterals and clean outs
<hr/>	<hr/>	<hr/>	Location of all manhole and manhole designation.
<hr/>	<hr/>	<hr/>	Easements for all sewer mains not in the right-of-way.

b. Profile view to include:

<hr/>	<hr/>	<hr/>	Size of sewer line
<hr/>	<hr/>	<hr/>	Slope of sewer line
<hr/>	<hr/>	<hr/>	Length of sewer line
<hr/>	<hr/>	<hr/>	Sewer line materials
<hr/>	<hr/>	<hr/>	Location of laterals
<hr/>	<hr/>	<hr/>	Size and slope of laterals

YES	NO	N/A	
_____	_____	_____	Location of all manholes, manhole designation and inverts
_____	_____	_____	Depth of cover
_____	_____	_____	2. Sewer lines straight and uniform slope between manholes?
_____	_____	_____	3. Slope adequate to provide velocity of 2.5 fps with projected flow?
_____	_____	_____	4. Min. slope for sewer lines as shown on attachment #4.
_____	_____	_____	5. Upper or terminal manholes will have a minimum slope of 0.8%.
_____	_____	_____	6. Min. size sewer main is 8 inches.
_____	_____	_____	7. Separation from other utilities.
_____	_____	_____	a. Parallel installation.
_____	_____	_____	10' horizontal separation between sewer and other utilities except for 6' of horizontal separation may be allowed if there is 18" of vertical separation between the utilities.
_____	_____	_____	Sewers in streets a minimum of 2' from the edge of the gutter pan.
_____	_____	_____	b. Crossings
_____	_____	_____	18" vertical separation required at all crossings.
_____	_____	_____	Where 18" vertical separation cannot be obtained lowest utility line encased in concrete, or provide concrete piers with storm sewer conflicts.
_____	_____	_____	8. Service Connections
_____	_____	_____	a. Minimum 4" Sanitary Sewer lateral
_____	_____	_____	b. Clean outs on lateral spaced at (50'); at property line.
_____	_____	_____	c. No more than 2 laterals can be attached to a terminal manhole.

YES	NO	N/A
-----	----	-----

_____	_____	_____
-------	-------	-------

d. No service connections are allowed to in-line manholes.

_____	_____	_____
-------	-------	-------

e. Laterals into existing sanitary lines must use approved saddle connection (see attachment #5).

_____	_____	_____
-------	-------	-------

9. Sanitary sewer design computations provided.

10. Depth of cover:

_____	_____	_____
-------	-------	-------

a. Sanitary sewers installed in the ROW at least 5' below finished grade?

_____	_____	_____
-------	-------	-------

b. Sanitary sewers not in ROW at least 3.5' of cover or DIP Construction?

11. Manholes:

_____	_____	_____
-------	-------	-------

a. Required at:

Junctions with other sewer mains
Changes in alignment or grade
Terminal points in the main

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

b. Spacing

_____	_____	_____
-------	-------	-------

c. Minimum of 0.2' drop across manhole.

PLAN SHEETS - STORM DRAINAGE

_____	_____	_____
-------	-------	-------

1. Storm Drainage improvements shown on Plan and Profile Sheets.

_____	_____	_____
-------	-------	-------

a. Plan sheets to include:

Size of pipe/ditch
Slope of pipe/ditch
Pipe material or ditch lining
Length of pipe/ditch
On and offsite drainage areas
On and offsite runoff coeff.
Location and ID of all structures
Easements for all storm water facilities not in the ROW.

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

a. Profile sheets to include:

YES	NO	N/A
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Size of pipe
Slope of pipe
Pipe material and ditch lining
Length of pipe
Ditch cross sections
Location and ID of all structures
Depth of cover

2. Design Criteria and Comps.

a. Required comps. to include:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Hydraulic capacity
Inlet comps
Headwater comps.
Storm routing

b. Criteria used:

_____	_____	_____
_____	_____	_____
_____	_____	_____

Design for ultimate development
Use rational method to determine runoff
Use Manning's E_Q to determine pipe capacity

c. Design Storms:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

10 year storm for pipes and ditches
2 year storm for inlets
10 year storm for culvert under secondary roads
25 year storm for culverts under primary roads
Route 2, 10, and 100 year storm through detention facility

3. All Storm Drainage Pipe Concrete except: (CI IV in ROW, CLIII not in ROW)

_____	_____	_____
_____	_____	_____
_____	_____	_____

- a. Temp storage
- b. Pipe storage

4. Cover

_____	_____	_____
_____	_____	_____
_____	_____	_____

- a. 2' or 1/2 pipe diameter whichever is greater when in ROW.
- b. 1' or 1/2 pipe diameter whichever is greater when not in ROW.

YES	NO	N/A	
_____	_____	_____	5. Minimum size is 15 inch diameter except D/W culvert which may be 12" diameter.
_____	_____	_____	6. Manholes and/or structures
			a. Required at changes in:
_____	_____	_____	Slope
_____	_____	_____	Alignment
_____	_____	_____	Pipe Size
_____	_____	_____	b. 0.2 drop across str.
_____	_____	_____	c. Max. of every 300' on lines 42 inches and smaller. Max. of 500 ft. on lines greater than 42 inches.
_____	_____	_____	7. Correct end section specified (see Standards Manual Section 8-300.7).
_____	_____	_____	8. Correct outlet treatment (see Standards Manual Section 8-330).
_____	_____	_____	9. Storm Water Management Facility provided on site or contribution made in lieu of on site facility.
			10. Easements:
_____	_____	_____	a. All pipe, ditches, and structures not in ROW must be in min. 15' easement.
_____	_____	_____	b. 100 year flood plain plus 2 feet of freeboard in an easement.
_____	_____	_____	c. Storm Water Management facilities 100 year storm elev. plus one foot of freeboard in an easement.

PLATS

_____	_____	_____	1. All plats shall include:
_____	_____	_____	a. Surveyor's certificate
_____	_____	_____	b. Owner's consent and dedication
_____	_____	_____	c. Notary certificate
_____	_____	_____	d. Approval and recordation block
_____	_____	_____	e. Vicinity Map
_____	_____	_____	f. North Arrow
_____	_____	_____	g. Courses and distances

YES	NO	N/A
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- h. Curve date
- i. Area tabulation
- j. Adjacent properties
- k. Engineer's seal and signature

2. Plats and/or letters of permission for all offsite work and improvements.

_____	_____	_____
-------	-------	-------

3. Erosion Control

a. Devices, site control measures, narratives

_____	_____	_____
-------	-------	-------

b. Sediment basins & traps

_____	_____	_____
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REVIEW BY: _____

ON: _____

**UNIT PRICE LIST FOR PERFORMANCE BONDS
CITY OF MANASSAS
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING**

PROJECT COST ESTIMATE

Project Name: _____

Project Number: _____

Date: _____

Prepared By: _____

Note: This form is to be used as a work sheet to estimate performance bond prices posted with the City of Manassas. These prices do not include items that are to be bonded separately with other agencies.

Concrete Items	Quantity	Units	Unit Cost	Total
VDOT Std. CG-2	0	L.F.	\$15.00	\$
VDOT Std. CG-3	0	L.F.	\$15.00	\$
VDOT Std. CG-6 / CG-6R	0	L.F.	\$16.00	\$
VDOT Std. CG-7	0	L.F.	\$17.00	\$
VDOT Std. MS-1	0	L.F.	\$45.00	\$
VDOT Std. MS-1A	0	L.F.	\$55.00	\$
VDOT Std. Sidewalk (4' Wide)	0	L.F.	\$15.00	\$
VDOT Std. Sidewalk (5' Wide)	0	L.F.	\$18.00	\$
Misc. Concrete	0	C.Y.	\$125.00	\$
VDOT Std. CG-9 Entrance	0	EA.	\$1,400.00	\$
VDOT Std. CG-10 Entrance	0	EA.	\$1,450.00	\$
VDOT Std. CG-11 Entrance	0	EA.	\$1,500.00	\$
VDOT Std. CG-12 Ramp	0	EA.	\$1,000.00	\$
VDOT Std. Retaining Wall	0	C.Y.	\$285.00	\$
City Std. R-7 Commercial Entrance (30')	0	EA.	\$3,000.00	\$
City Std. R-7 Commercial Entrance (40')	0	EA.	\$4,500.00	\$
City Std. R-8 Commercial Entrance (30')	0	EA.	\$2,500.00	\$
City Std. R-8 Commercial Entrance (40')	0	EA.	\$3,500.00	\$
City Std. R-8 Commercial Entrance (50')	0	EA.	\$4,500.00	\$
Concrete Items Subtotal				\$
Storm Sewer Structures	Quantity	Units	Unit Cost	Total
VDOT Std. EW-1 (15")	0	EA.	\$650.00	\$
VDOT Std. EW-1 (18")	0	EA.	\$780.00	\$
VDOT Std. EW-1 (21")	0	EA.	\$960.00	\$
VDOT Std. EW-1 (24")	0	EA.	\$1,150.00	\$
VDOT Std. EW-1 (27")	0	EA.	\$1,280.00	\$
VDOT Std. EW-1 (30")	0	EA.	\$1,400.00	\$
VDOT Std. EW-1 (33")	0	EA.	\$1,500.00	\$
VDOT Std. EW-1 (36")	0	EA.	\$1,850.00	\$
VDOT Std. EW-1 (42")	0	EA.	\$2,160.00	\$
VDOT Std. EW-1 (48")	0	EA.	\$2,470.00	\$
VDOT Std. EW-1 (54")	0	EA.	\$2,890.00	\$
VDOT Std. EW-1 (60")	0	EA.	\$3,340.00	\$

Unit Price List for Performance Bonds – C.O.M.

VDOT Std. EW-1 (66")	0	EA.	\$3,860.00	\$
VDOT Std. EW-1 (72")	0	EA.	\$4,570.00	\$
VDOT Std. EW-2 (15")	0	EA.	\$670.00	\$
VDOT Std. EW-2 (18")	0	EA.	\$800.00	\$
VDOT Std. EW-2 (21")	0	EA.	\$980.00	\$
VDOT Std. EW-2 (24")	0	EA.	\$1,175.00	\$
VDOT Std. EW-2 (27")	0	EA.	\$1,300.00	\$
VDOT Std. EW-2 (30")	0	EA.	\$1,425.00	\$
VDOT Std. EW-2 (33")	0	EA.	\$1,525.00	\$
VDOT Std. EW-2 (36")	0	EA.	\$1,875.00	\$
VDOT Std. EW-2 (42")	0	EA.	\$2,185.00	\$
VDOT Std. EW-2 (48")	0	EA.	\$2,490.00	\$
VDOT Std. EW-2 (54")	0	EA.	\$2,905.00	\$
VDOT Std. EW-2 (60")	0	EA.	\$3,350.00	\$
VDOT Std. EW-2 (66")	0	EA.	\$3,875.00	\$
VDOT Std. EW-2 (72")	0	EA.	\$4,600.00	\$
VDOT Std.ES-1 (15")	0	EA.	\$400.00	\$
VDOT Std.ES-1 (18")	0	EA.	\$480.00	\$
VDOT Std.ES-1 (21")	0	EA.	\$580.00	\$
VDOT Std.ES-1 (24")	0	EA.	\$660.00	\$
VDOT Std.ES-1 (27")	0	EA.	\$772.00	\$
VDOT Std.ES-1 (30")	0	EA.	\$872.00	\$
VDOT Std.ES-1 (33")	0	EA.	\$980.00	\$
VDOT Std.ES-1 (36")	0	EA.	\$1,060.00	\$
VDOT Std.ES-1 (42")	0	EA.	\$1,300.00	\$
VDOT Std.ES-1 (48")	0	EA.	\$1,472.00	\$
VDOT Std.ES-1 (54")	0	EA.	\$1,740.00	\$
VDOT Std.ES-1 (60")	0	EA.	\$2,800.00	\$
VDOT Std.ES-1 (66")	0	EA.	\$3,400.00	\$
VDOT Std.ES-1 (72")	0	EA.	\$3,800.00	\$
VDOT Std.DI-1	0	EA.	\$2,000.00	\$
VDOT Std.DI-2	0	EA.	\$2,000.00	\$
VDOT Std.DI-3 (A,B,C)	0	EA.	\$2,600.00	\$
VDOT Std.DI-3 (D)	0	EA.	\$2,800.00	\$
VDOT Std.DI-3 (E)	0	EA.	\$3,000.00	\$
VDOT Std. DI-3 (F)	0	EA.	\$3,500.00	\$
VDOT Std. DI-5	0	EA.	\$1,880.00	\$
VDOT Std.DI-7	0	EA.	\$2,100.00	\$
VDOT Std.MH-1Manhole	0	EA.	\$2,600.00	\$
VDOT Std.MH-2 Manhole	0	EA.	\$3,500.00	\$
VDOT Std. DI-9	0	EA.	\$500.00	\$
VDOT Std.JB-1	0	EA.	\$5,100.00	\$
Storm Structure Items Subtotal				\$

Unit Price List for Performance Bonds – C.O.M.

Storm Sewer Pipe / Ditches	Quantity	Units	Unit Cost	Total
15" RCP	0	L.F.	\$85.00	\$
18" RCP	0	L.F.	\$90.00	\$
21" RCP	0	L.F.	\$100.00	\$
24" RCP	0	L.F.	\$105.00	\$
27" RCP	0	L.F.	\$110.00	\$
30" RCP	0	L.F.	\$115.00	\$
33" RCP	0	L.F.	\$120.00	\$
36" RCP	0	L.F.	\$150.00	\$
42" RCP	0	L.F.	\$160.00	\$
48" RCP	0	L.F.	\$185.00	\$
54" RCP	0	L.F.	\$195.00	\$
60" RCP	0	L.F.	\$200.00	\$
66" RCP	0	L.F.	\$225.00	\$
72" RCP	0	L.F.	\$250.00	\$
84" RCP	0	L.F.	\$275.00	\$
23"x 14" ERCP	0	L.F.	\$92.00	\$
30"x 19" ERCP	0	L.F.	\$110.00	\$
34"x 22" ERCP	0	L.F.	\$150.00	\$
38"x 24" ERCP	0	L.F.	\$165.00	\$
42"x 27" ERCP	0	L.F.	\$170.00	\$
45"x 29" ERCP	0	L.F.	\$185.00	\$
49"x 32" ERCP	0	L.F.	\$190.00	\$
53"x 34" ERCP	0	L.F.	\$200.00	\$
60"x 38" ERCP	0	L.F.	\$220.00	\$
68"x 43" ERCP	0	L.F.	\$275.00	\$
76"x 48" ERCP	0	L.F.	\$320.00	\$
83"x 53" ERCP	0	L.F.	\$400.00	\$
VDOT Std. Box Culvert	0	C.Y.	\$600.00	\$
VDOT Std. Underdrain (Sidewalk)	0	L.F.	\$5.25	\$
VDOT Std. Underdrain (Roadway)	0	L.F.	\$11.00	\$
VDOT Std. Paved Ditch / Gutter	0	S.F.	\$7.00	\$
VDOT Std. Rip Rap (Dry)	0	S.F.	\$6.50	\$
VDOT Std. Rip Rap (Grouted)	0	S.F.	\$8.00	\$
[*Pipe Includes Bedding Material (#57 Stone)				
Excavation and Backfill with 2' Cover]				
Storm Pipe / Ditches Items Subtotal				\$

Unit Price List for Performance Bonds – C.O.M.

Water Mains / Related Items	Quantity	Units	Unit Cost	Total
Fire Hydrant Assembly	0	EA.	\$2,500.00	\$
4" DIP Water Main	0	L.F.	\$40.00	\$
6" DIP Water Main	0	L.F.	\$50.00	\$
8" DIP Water Main	0	L.F.	\$62.00	\$
12" DIP Water Main	0	L.F.	\$75.00	\$
4" WV&G Valve	0	EA.	\$258.00	\$
6" WV&G Valve	0	EA.	\$350.00	\$
8" WV&G Valve	0	EA.	\$442.00	\$
12" WV&G Valve	0	EA.	\$626.00	\$
4" Wet Tap	0	EA.	\$770.00	\$
6" Wet Tap	0	EA.	\$1,000.00	\$
8" Wet Tap	0	EA.	\$1,300.00	\$
12" Wet Tap	0	EA.	\$4,500.00	\$
Water Service (less than 1")	0	EA.	\$850.00	\$
Water Service (1")	0	EA.	\$1,100.00	\$
Water Service (1 1/2" - 2")	0	EA.	\$1,850.00	\$
Water Service (3" or larger)	0	EA.	\$2,850.00	\$
Water Main / Related Items Subtotal				\$
Sanitary Sewer / Related Items	Quantity	Units	Unit Cost	Total
4" Sanitary Sewer (Plastic)	0	L.F.	\$25.00	\$
6" Sanitary Sewer (Plastic)	0	L.F.	\$38.00	\$
8" Sanitary Sewer (Plastic)	0	L.F.	\$50.00	\$
12" Sanitary Sewer (Plastic)	0	L.F.	\$75.00	\$
8" Ductile Iron Sanitary Sewer	0	L.F.	\$62.00	\$
12" Ductile Iron Sanitary Sewer	0	L.F.	\$75.00	\$
Core-Bore Existing Manhole	0	EA.	\$1,000.00	\$
VDOT Std. MH-1 Manhole (6' Deep)	0	EA.	\$2,350.00	\$
VDOT Std. MH-2 Manhole (6' Deep)	0	EA.	\$3,500.00	\$
Drop Connection	0	EA.	\$500.00	\$
San.Sew./Related Items Subtotal				\$
Pavement / Paving Items	Quantity	Units	Unit Cost	Total
Bituminous Concrete Type SM-9.5	0	S.Y./inch	\$3.45	\$
Bituminous Concrete Type BM-25.0	0	S.Y./inch	\$2.50	\$
Intermediate Course Type IM-19.0A	0	S.Y./inch	\$3.00	\$
Class A Prime & Double Seal (Surface)	0	S.Y.	\$2.50	\$
Aggregate Base Type 21-A	0	S.Y./inch	\$1.10	\$
Asphalt Curb (6" High)	0	L.F.	\$10.00	\$
Asphalt Trail w/ 4" Aggr. Base	0	S.Y.	\$36.00	\$
Asphalt Milling	0	S.Y./inch	\$2.00	\$
Gravel Shoulders (4" Depth)	0	S.Y.	\$4.00	\$
Pavement Restoration	0	EA.	\$2,500.00	\$
Pavement/Paving Items Subtotal				\$

Unit Price List for Performance Bonds – C.O.M.

Landscaping	Quantity	Units	Unit Cost	Total
Deciduous Tree (2.5" cal.)	0	EA.	\$625.00	\$
Evergreen Tree (6'-7')	0	EA.	\$295.00	\$
Shrub (30"-36")	0	EA.	\$115.00	\$
Seed and Mulch (Fescue)	0	/ AC	\$675.00	\$
Sod (Fescue)	0	S.Y.	\$6.00	\$
Landscape Timbers (P.T.)	0	L.F.	\$8.00	\$
Landscaping Items Subtotal				\$
Erosion & Sediment Control	Quantity	Units	Unit Cost	Total
Clear and Grub	0	AC.	\$8,500.00	\$
Silt Fence	0	L.F.	\$5.00	\$
Super Silt Fence	0	L.F.	\$16.00	\$
Safety Fence	0	L.F.	\$6.50	\$
Sediment Trap	0	L.F.	\$27.00	\$
Inlet Protection	0	EA.	\$150.00	\$
Outlet Protection	0	EA.	\$150.00	\$
Check Dam	0	EA.	\$100.00	\$
Diversion Berm	0	L.F.	\$10.50	\$
Construction Entrance w/ Wash Rack	0	EA.	\$2,200.00	\$
Temporary Seeding w/ Mulch	0	S.Y.	\$1.00	\$
Permanent Seeding w/ Mulch	0	S.Y.	\$1.50	\$
Erosion/Sediment Items Subtotal				\$
Earthwork	Quantity	Units	Unit Cost	Total
Fill Material	0	C.Y.	\$9.00	\$
Excavation (Regular)	0	C.Y.	\$6.50	\$
Excavation (Rock)	0	C.Y.	\$15.00	\$
Material Stockpile	0	C.Y.	\$3.25	\$
Earthwork Subtotal				\$
Traffic Control / Signals / Striping	Quantity	Units	Unit Cost	Total
Traffic Signal Pole Assembly	0	EA.	\$25,000.00	\$
Traffic Signal Controller and Cabinet	0	EA.	\$10,000.00	\$
Barricades / Barrels	0	EA.	\$25.00	\$
Temporary Line Painting / Striping (Type A)	0	L.F.	\$0.20	\$
Permanent Line Painting / Striping (Type B)	0	L.F.	\$0.45	\$
Crosswalk Painting (6' Wide)	0	L.F.	\$12.30	\$
Stop Bar Painting (2' Wide)	0	L.F.	\$4.10	\$
Flow Arrow Painting	0	EA.	\$90.00	\$
VDOT Std. Guard Rail	0	L.F.	\$20.00	\$
Std. TB-1 Traffic Barricade	0	EA.	\$150.00	\$
Std. ED-1 Road Edge Delineators (Type 1)	0	EA.	\$55.00	\$
Std. ED-1 Road Edge Delineators (Type 2)	0	EA.	\$40.00	\$
Std. ED-1 Road Edge Delineators (Type 3)	0	EA.	\$45.00	\$
VDOT Std. Guard Rail Terminal (GR-7)	0	EA.	\$4,000.00	\$
Traffic Signals/Striping Subtotal				\$

Unit Price List for Performance Bonds – C.O.M.

Miscellaneous / Incidentals	Quantity	Units	Unit Cost	Total
Monument Sign	0	L.S.	\$	\$
Irrigation System	0	L.S.	\$	\$
Street Lights	0	EA.	\$2,250.00	\$
Parking Area Lights	0	EA.	\$2,100.00	\$
Std. 4' High Chain Link Fence	0	L.F.	\$6.25	\$
Std. 6' High Chain Link Fence	0	L.F.	\$9.50	\$
Std. 4' High Board on Board Fence	0	L.F.	\$18.60	\$
Std. 6' High Board on Board Fence	0	L.F.	\$21.30	\$
Misc. / Incidental Items Subtotal				\$

Construction Cost Total	\$
Admin Cost (15% Construction Cost)	\$
Total Performance Bond Amount	\$

City of Manassas

DEVELOPMENT REVIEW FEE CALCULATION
Effective July 1, 1995

SP # _____

SD # _____

SITE PLANS AND SUBDIVISIONS - Townhouse, Multi-family, Institutional, Industrial, Commercial Development and uses subject to special use permits.

Rates computed on a declining scale based on the cumulative total of disturbed area to be reviewed on the proposed plan. Disturbed areas include all areas delineated within the limits of clearing, grading, and site plan phase lines.

		Disturbed				
		<u>Area</u>	x	<u>Rate</u>	=	<u>Fee</u>
1.	For area > 0 but ≤ 1 ac. - \$48.00/ 1,000 sq. ft.	_____	x	\$48.00	=	\$ _____
2.	+ area > 1 but ≤ 3 ac. - \$36.00/ 1,000 sq. ft.	_____	x	36.00	=	_____
3.	+ area > 3 but ≤ 5 ac. - \$24.00/ 1,000 sq. ft.	_____	x	24.00	=	_____
4.	+ area > 5 ac. - \$16.00/ 1,000 sq. ft.	_____	x	16.00	=	_____
Area Review Fee Subtotal						\$ _____

UTILITIES

		<u>Length</u>	x	<u>Rate</u>	=	<u>Fee</u>
5.	Storm Sewer - \$.10/Lf.	_____ ft.	x	\$.10	=	\$ _____
6.	Sanitary Sewer - \$.10/Lf.	_____ ft.	x	\$.10	=	_____
7.	Water Line - \$.10/Lf.	_____ ft.	x	\$.10	=	_____
8.	Public Street - \$.10/Lf.	_____ ft.	x	\$.10	=	_____
9.	Curb-Gutter - \$.05/Lf.	_____ ft.	x	\$.05	=	_____
Subtotal						\$ _____

SUBDIVISIONS

		<u>Lots</u>	x	<u>Rate</u>	=	<u>Fee</u>
12.	Planned Residential Development - \$40/Lot	_____	x	\$40.00	=	\$ _____
13.	Subdivisions - Preliminary - \$10/Lot	_____	x	10.00	=	_____
14.	Subdivision - Final - \$40/Lot	_____	x	40.00	=	_____
15.	Re-subdivision - \$40/Lot	_____	x	40.00	=	_____
Subtotal						\$ _____

2ND AND 5TH REVIEW AND SUBMISSION

16.	Fewer Than 3 Significant Comments - \$300	\$ _____
17.	3 - 6 Significant Comments - \$500	_____
18.	7 or More Significant Comments - \$700	_____
19.	<u>EROSION FEE</u> - \$50 + \$10/ac.	\$ _____
20.	<u>STORM WATER MANAGEMENT</u> - \$300/per plan (When a pond is proposed)	\$ _____
21.	<u>BASE FEE</u> - \$300.00	\$ 300.00
TOTAL FEES		\$ _____

FEE ASSESSMENTS:

Site Plan: Base Fee + Area Review + Erosion Fee + Utilities + SWM Fee
 Subdiv. Preliminary: Base Fee + Subdivision-Preliminary Fee
 Subdivision Final: Base Fee + Subdiv.-Final Fee + Area Review + Utilities + Erosion Fee + SWM

Fee

“AGREEMENT IN LIEU OF A PLAN”

Building Permit No. _____ Subdivision _____

Address _____ Phone No. _____

In lieu of submission of an erosion and sediment control plan for the construction of this single-family dwelling, I agree to comply with the limitations and conditions of this agreement to prevent off-site sedimentation. In addition, I agree to comply with any reasonable requirements determined necessary by employees of the Public Works Department if upon field inspections, the measures employed on-site are found to not be effective in controlling off-site sedimentation. Such requirements shall be based on the conservation standards contained in this Manual and Virginia Erosion and Sediment Control Handbook and shall represent the minimum practices necessary to provide adequate control of erosion and sedimentation resulting from this project.

REQUIREMENTS:

1. The site, work, materials and plans shall be available at all times for inspections by duly authorized officials of the City of Manassas.
2. Clearing or grading is permitted only in areas so designated and approved on the project plans. No storage of materials or land disturbance is permitted outside of the limits of clearing.
3. The owner/developer shall in all cases install a perimeter sediment control structure at the time of initial land disturbance to prevent off-site sedimentation. Such sediment control structures shall be silt fences, earth berms with sediment traps, construction entrance or other structures which trap sediment on the property. All runoff from the disturbed area shall be directed to the structure.
4. All sediment control structures shall be maintained in an effective operating condition.
5. All disturbed areas on the lot shall be stabilized within 15 days of final grading with permanent vegetation or a protective ground cover suitable for the time of year.
6. All points of construction ingress and egress shall be protected to prevent tracking of mud onto public roads. A stone or paved construction entrance shall be provided prior to any excavation.
7. All cut and/or fill slopes greater than three (3) feet in vertical height shall be graded to a 3:1 or flatter slope.
8. This agreement does not authorize the use of any decomposable materials as fill.
9. Development shall not impair existing surface drainage or constitute a potential sediment hazard. Drainage shall be maintained so as to prevent ponding or sedimentation. I further understand that failure to comply with the above requirements within three working days following notice by the representatives of Public Works or Zoning Department could result in citation for violation of the City of Manassas Erosion and Sedimentation Control Ordinance. I also understand that noncompliance could result in revocation of this land disturbance permit agreement and the building permit for which it was issued.

Signature of Landowner _____

Party Responsible for Erosion Control _____
(If other than landowner)

Approved by _____

Date _____