Anne Arundel County Dept. of Inspections and Permits
Water Sewer Plan Checklist

Project Name	
Project Number	
Engineer	

Plans are to be designed based on the standards set forth in the Anne Arundel County Design Manual Standards and Specifications, and all other manuals as stipulated in the Anne Arundel County Code.

This checklist is being provided as a general guide for identifying the **minimum** features that should be addressed prior to submitting the plans for review. **The design consultant by assigning his/her seal and signature certifies that the plans were completed in accordance with the current design standards.**

Plans that are incomplete as per the checklist items will result in an incomplete review. Plans will be returned to the consultant and the resubmittal will be considered a first submittal in the review process.

Engineer's Certification (Seal, Signature and expiration information)

Instructions:

1. **The checklist must be submitted with the first submittal.**
2. Packages submitted without the completed checklist will not be reviewed and will be returned to the applicant.
3. Applicant should insert into each box either of the following:
   a. √ This item has been addressed
   b. **N** This item does not apply to this project
4. All boxes must be checked.
5. The review engineer will upon review of the plans verify by inserting either of the following:
   a. √ This item has been adequately addressed or agree that it does not apply.
   b. **X** This item has not been adequately addressed. (Use the remarks column to indicate via letter designation, which item needs to be addressed or if a more detailed response is required then indicate in the remarks column that the item is addressed in the comment letter).
6. A copy of the checklist will be returned to the applicant as an attachment to the comment letter.
7. The Checklist must be returned with the second submittal utilizing the same check format indicated in item 3 above.

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	First Submittal		Second Submittal		Water & Sewer Plan Checklist	Remarks
	Des.	Rev.	Des.	Rev.		
	Cover Sheet					
1					**Title block** (Anne Arundel County Office of Planning and Zoning title block required on all sheets) shall include: A) Project Name and number; B) Sheet Title; C) Date; D) Tax Map, Block and Parcel; E) Assessment District; F) Zoning	
2					**Vicinity Map** (minimum 4" x 4" Scale 1"=2000') (Title Sheet) A) Located in upper right hand corner; B) North arrow shown to top; C) Scale shown; D) Roads labeled; E) Site shaded and labeled	
3					**Location Plan -** A) Scale 1"=200'; B) North arrow shown; C) Existing and Proposed water and sewer lines shown and labeled; D) Existing and Proposed Manholes shown and labeled; E) Existing and Proposed Fire Hydrants shown and labeled; F) Fire Hydrant Coverage shown; G) Coverage of individual plan sheet delineated; H) All road names shown	
4					**Index of Drawings Table** - All drawing titles are shown in table and labeled accordingly.	
5					**General Notes** A) Appropriate General Notes included for project type; B) Project specific notes added; C) Agency titles and phone numbers correct; D) Pipe material and material class correct	
6					**Benchmark -** number, description and elevation. Vertical Control NAVD 1929 or NAVD1988, consultant must indicate which is used. Horizontal Control NAD83.	
7					Signature block with design consultant information	
8					Legal name, address, and telephone number of the owner, developer, applicant, and design consultant	
9					Revision Block	
10					**Bill of Materials** - showing quantity, type, and size of all mains and appurtenances	
	All Plan Sheets					
11					Street names and type of road surface	
12					Lot numbers	
13					Adjacent owners and tax account numbers up to 60 feet beyond end of main	
14					Right of Way/Easement - A) bearings and distances shown; B) labeled public or private; C) labeled existing (Include Liber/Folio) or proposed	
15					Legend including all line types used on plans	
16					Existing utilities using proper symbols	
17					Label all existing water, sewer, and storm drain with appropriate County Public Drawing numbers	
18					North Arrow, scale, at least three coordinate ticks shown	
19					Engineer's seal and signature	
20					**Scale 1"=40'** (Alternate scale must be approved in advance by OPZ)	

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	Des.	Rev.	Des.	Rev.		
	Sewer Plan					
21					Plan shown above profile on same sheet	
22					Proposed sewer shown by bold, heavy line weight	
23					Size and type of pipe shown in accordance with Design Manual	
24					Show drawing numbers for all existing sewer	
25					Manholes numbered and stationed	
26					Manhole at end of all collection lines (no terminal cleanouts permitted)	
27					Drop manholes shown and labeled with Type A or B (determined by distance of drop)	
28					Watertight manholes provided in non-traveled right-of-way	
29					Proposed sewer shall be 4' from the edge of existing pavement in existing development without curb.	
30					Sewer shall not be placed under existing or proposed curb	
31					Special bedding requirements shown where required	
32					Call out method of connection to existing sewer (e.g. Kor-n-Seal, connect to existing stub, install manhole over existing sewer)	
33					Mains extended to limits of property (along frontage, or through easements on site)	
34					Show distance from proposed main to edge of pavement, centerline, or property line	
35					Show distance from proposed main to existing and proposed water mains (min. 10' horizontally)	
36					Structure schedule including coordinates for each manhole	
37					Proposed sewer encased in concrete where appropriate	
38					Proposed sewer house connections at least 10' from existing or proposed water house connections	
39					**House connections -** A) shown for all lots; B) located at low end of middle of lot frontage; C) connected to manhole where possible; D) no more than three connections per manhole; E) Typical house connection detail shown; F) minimum SHC size correct (4" for residential, 6" for commercial); G) max. cleanout spacing correct; H) located at middle of road frontage	
	Sewer Profile					
40					**Scale** 1"= 40' horizontal scale and 1"= 4' vertical	
41					Proposed sewer shown by bold, heavy line weight	
42					Proposed sewer crossings at least 1' min. below existing or proposed water lines.	
43					Special bedding requirements shown where required	
44					First floor elevations shown on profile (invert at sewer main should be equal to house first floor elevation minus 2' plus 2% times the distance from the main to the farthest point on the house - or [FFE-(2'+(0.02)d)]	
45					Call out method of connection to existing sewer (e.g. Kor-n-Seal, connect to existing stub, install manhole over existing sewer)	
46					Crossing and parallel utilities shown and record drawing referenced	
47					Size, type and slope of pipe shown in accordance with Design Manual	
48					Minimum grade and maximum manhole spacing requirements met	
49					Manholes numbered and stationed; inverts labeled (upstream and downstream)	
50					Profile labeled "Street Name" or R/W	
51					Minimum and maximum cover requirements met	
52					Watertight manholes provided in non-traveled right-of-way and clearly identified	
53					**House connections -** A) shown for all lots; B) shown where connected to manholes or at "y" connections to main; C)minimum SHC size correct (4" for residential, 6" for commercial)	

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	Des.	Rev.	Des.	Rev.		
	Water Plan					
54					Plan shown above profile on same sheet; if block plan provided with profiles on separate sheet, plan view shall indicate where each profile can be found	
55					Proposed water shown by bold, heavy line weight	
56					Size and type of pipe shown in accordance with Design Manual	
57					Call out all valves that must be closed to make necessary connections	
58					Coordinates and bearings shown along centerline of water line.	
59					All fittings shown	
60					Proper location of valves and hydrants	
61					Crimp radius, beginning and ending stations, and offsets, for curved water lines are shown	
62					Dead end water mains do not exceed maximum length for size	
63					Special bedding requirements shown where required	
64					Adequate cover over pipe is provided	
65					**Fire hydrants** - A) as a blow-off shall be at the end of each line - teed off five feet prior to end cap; B) located at road intersections where possible; C) three valve shut off provided to eliminate flow to hydrant; D) spacing meets Fire Code requirements	
66					Mains extended to limits of property (along frontage, or through easements on site)	
67					Minimum main size with hydrant correct (8")	
68					**House connections -** A) shown for all lots; B) located at low end of middle of lot frontage, 15' min. from property line unless twin setting is used; C) minimum WHC size correct (1-1/2" with W25 or W25A meter); D) twin service connections used where feasible	
69					Meters - A) specified for each connection; B) adequate size for proposed water meter/vault; C) easement provided where meter is not located within right-of-way	
	Water Profile					
70					**Scale** 1"= 40' horizontal scale and 1"= 4' vertical	
71					Proposed water shown by bold, heavy line weight	
72					Size and type of pipe shown in accordance with Design Manual	
73					Proposed water services to be at least 10' min. horizontally from existing or proposed sewer connections	
74					Special bedding requirements shown where required	
75					**House connections -** shown for all lots	
76					All utility crossings shown	
77					All fittings shown (symbol, label incl. size)	

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	Des.	**Rev.**	**Des.**	**Rev.**		
	Grinder Pumps - (only complete this section if public grinder pumps are proposed)					
78					Sewer Study submitted	
79					Sewer lines labeled "Public" or "Private"	
80					Grinder Pumps labeled "Public" or "Private"	
81					All public grinder pumps shown in right-of-way or in 20'x20' easement	
82					No double grinder pumps proposed	
83					First floor elevations shown (sewer must be 4" min. gravity to grinder pump)	
84					Service valve shown at property line	
85					Grease traps/oil & grit separators shown on commercial sites	
86					Access depth from finished grade to grinder pump inlet shall not exceed 10'	
87					Public grinder pump electrical control panel shall be located in line of sight from grinder pump without any sight obstructions	
88					All existing and proposed discharge manholes must be shown and labeled	
89					Notes shall be provided requiring that the first two discharge manholes must be epoxy coated inside and outside.	
90					Design flow shall be shown	
91					Velocity in low pressure sewer shall be between 1.5 fps and 15 fps	
92					Maximum head for grinder pump checked against manufacturer's specifications	
93					Computations checked for hydraulic profile; all assumptions for the design numbers of simultaneous pumps operating at the same time	
	Miscellaneous					
94					**Quality control** A)Information shown in computations is same as on plans B) Corresponding information on plan view is same as on profile.	
95					**Plat -** check easements/right-of-way shown on plans are shown on applicable plats.	
96					***Traffic Control Plan*** (see section VIII, Anne Arundel County Dept. of Public Works Design Manual, January 2001).	

Review Engineer_____ Date_____