

Water & Sewer Code: County Use

Water No: H-08 Sewer No: 5980000 Test Gradient: 780

VICINITY MAP Scale: 1" = 600'

# DEVELOPER'S CERTIFICATE

" I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON- INSPECTION BY THE HOWARD SOIL CONSERVATON DISTRICT ".

lastidio mo

ENGINEER'S CERTIFICATE

" I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF TA HOWARD SOIL CONSERVATION DISTRICT ".

7.29.04

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

U.S.D.A NATURAL RESOURCES CONSERVATON SERVICE THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD

SOIL CONSERVATION DISTRICT.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND AS SHOWN ON SDP-00-118 AND ON THESE PLANS.

Castilles of December 2. 500 25. 7/29/04)

TYPE OF BUILDING Not yet classified by AIA NUMBER OF UNITS NUMBER OF S.H.C.'s 1 NUMBER OF W.H.C.'s 1 DRAINAGE AREA: Little Patuxent Patapsco Via Route 108 Pump Station

TREATMENT PLANT:

GEODETIC SURVEY CONTROL MONUMENT 24AA NORTHING: 587,380.458 EASTING: 1,352,603.488

ELEVATION: 387.276 MONUMENT 2485

NORTHING: 586,956.233

EASTING: 1,356,570.840

ELEVATION: 390.945

CONTRACT No. 24-3872-D BETHANY LANE VILLAGE CENTER WATER & SEWER MAIN EXTENTION HOWARD COUNTY, MARYLAND

## GENERAL NOTES

1. Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's

2. All horizontal controls are based on Maryland State Coordinates NAD

3. All vertical controls are based on NAVD 88.

4. All pipe elevations shown are invert elevations unless atherwise noted on

5. Clear all utilities a minimum of 12 inches. Clear all poles by 5'-0" minimum or tunnel as required unless otherwise noted. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractors work requires the bracing of additional poles, any cost incurred by the owner for bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.

6. For details not shown on the drawings, and for materials and construction methods use Howard County Design Manual, Volume IV, Standard Specifications and detail for construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.

7. Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be lacated by the contractor two weeks in advance of construction operations at his own expense.

8. The Contractor shall notify the following utility companies of agencies at least (5) working days before starting work shown on these plans:

410 - 531 - 5533 410 - 850 - 4620 410 - 787 - 9088 State Highway Administration BGE Contractor Services **BGE Under Ground Damage Control** 1-800-257-7777 410-796-1390 410-313-4900 Miss Utility Colonial Pipeline Co. Bureau of Utilities 1-800-252-1133 410-795-1390 1-800-257-7777 Colonial Pipeline Co. Miss Utility 1-800-743-0033/410-224-9210

9. Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.

10. Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.

11. The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-7450 at least five (5) working days before any open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirement per section 18.114(a) of the Howard County Code.

PART II - WATER 1. All water mains to be D.I.P. Class 52 unless otherwise nated.

2. Tops of all water mains to have a minimum of 3'-6" cave unless otherwise noted.

3. Valves adjacent to tees shall be strapped to tees.

4. All fittings shall be buttressed or anchored with concrete in decordance

with the Standard Details unless otherwise provided for an tile drawings.

5. Fire hydrants shall be set to the bury line elevations shawn on the drawings. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.

6. The contractor shall not operate any water main valves on the existing

7. All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.

PART III - SEWER

1. All sewer mains shall be D.I.P. and P.V.C. unless otherwise nated.

2. All manholes shall be 4'-0" inside diameter unless otherwise noted.

3. Force mains shall be D.I.P. only

4. Manholes shown with 12" and 16" walls are for brick manifoles only.

5. Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail G5.52. Where watertight frames and covers are used, set top frame 1'-6" above finished grade unless otherwise noted on drawings.

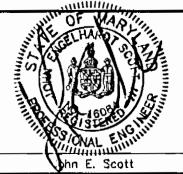
6. House(s) with symbol "C.N.S.) indicates that the cellar connot be

CALL "MISS UTILITY" TELEPHONE 1-800-257-7777 FOR UTILITY LOCATION AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

Engelhardt Engineering, Inc. P.O. Box 1506 Columbia, Maryland 21044 (410) 960-7334



DESIGNED BY.				
DRAWN BY:				
CHECKED BY:		<u></u> .		
DATE				
	BY	NO.	REVISION	DATE

WATER PLAN COVER SHEET

BETHANY LANE VILLAGE CENTER

CONTRACT NO. 24-3872-D

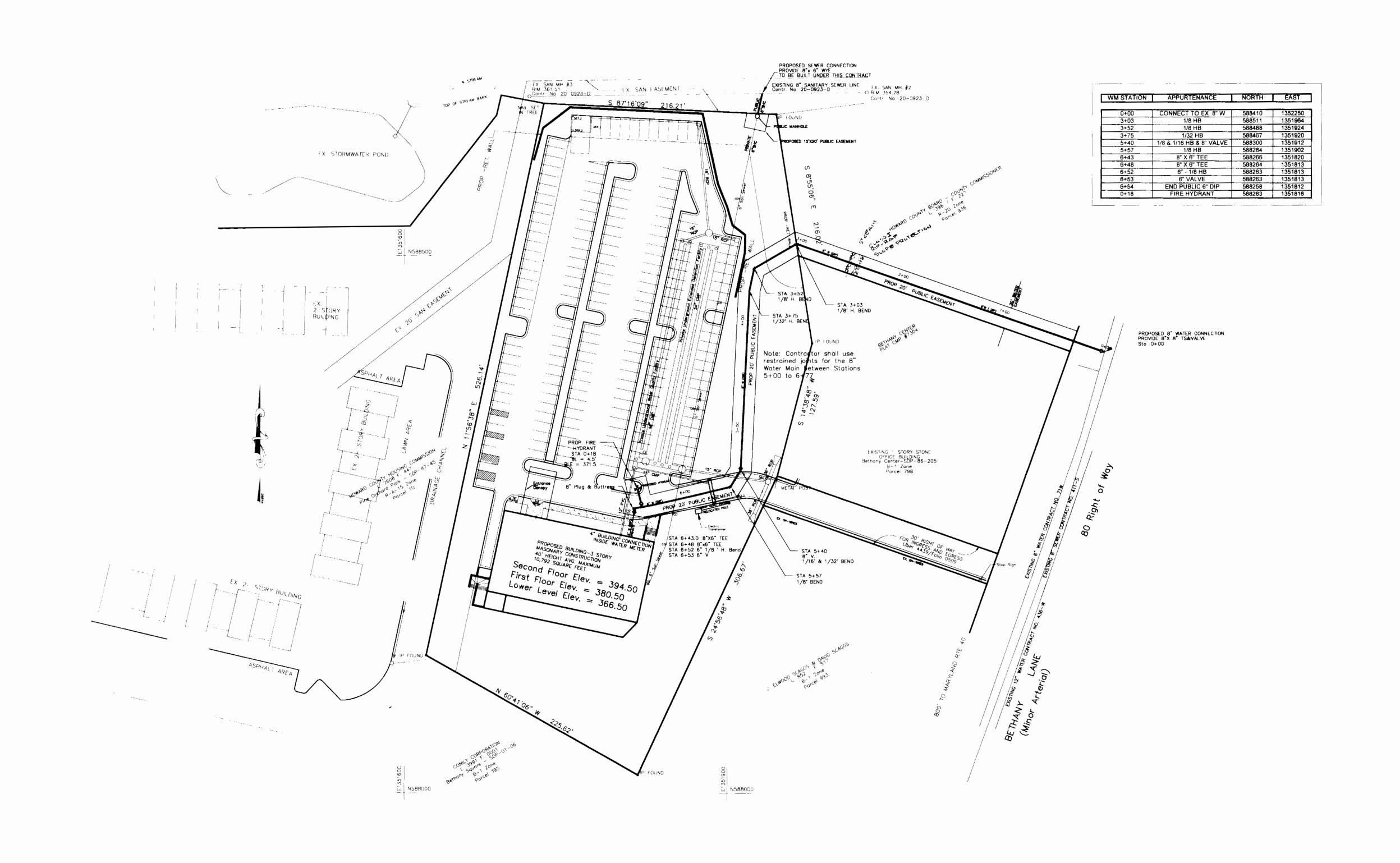
Election District No. 02, Howard County, Maryland

1 OF 4

Shown

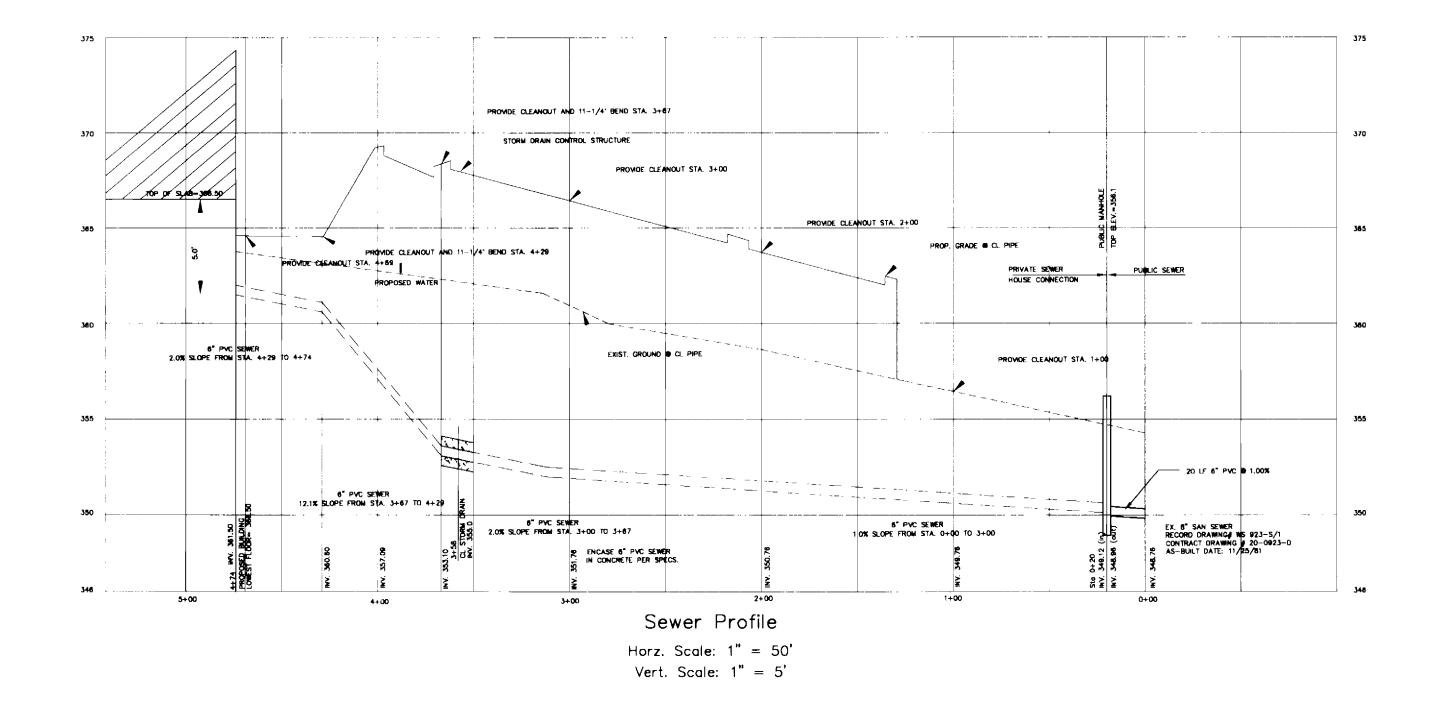
Sheet

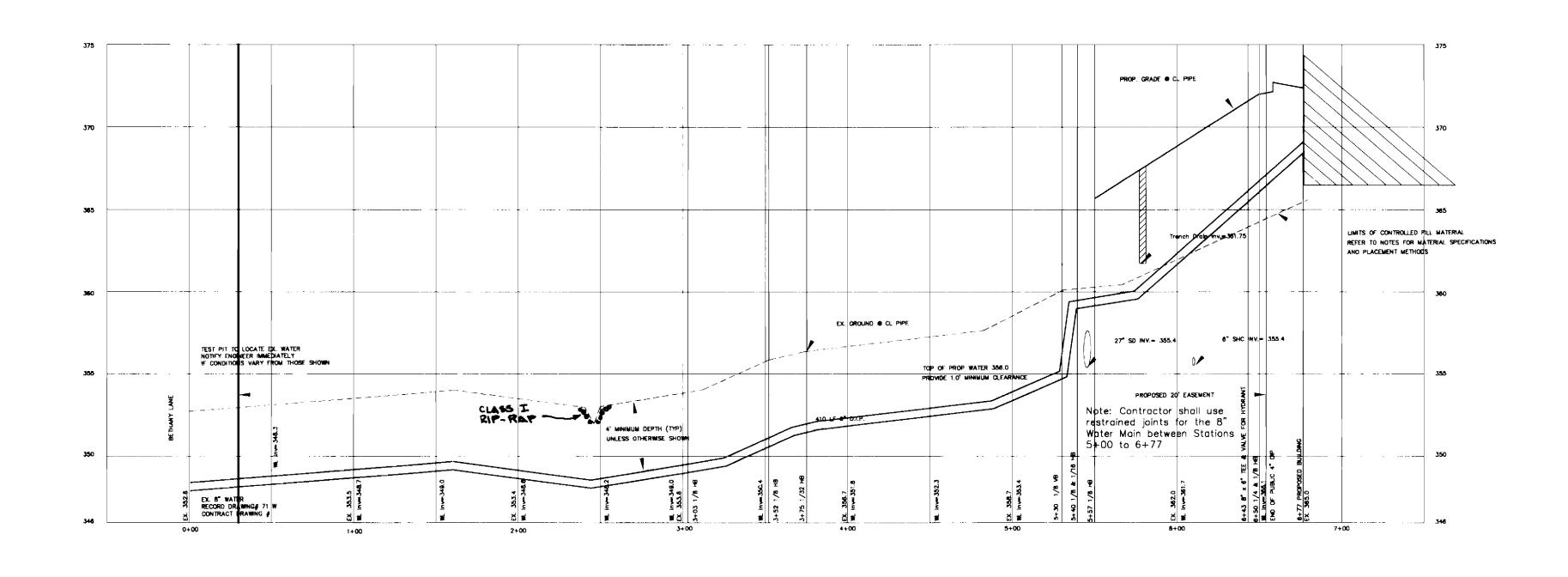
jesa@bellatlantic.net



CALL "MISS UTILITY"
TELEPHONE 1-800-257-7777
FOR UTILITY LOCATION AT
LEAST 48 HOURS BEFORE
BEGINNING CONSTRUCTION.

DEPARTMENT OF PUBLIC WORKS DEPARTMENT OF PLANNING AND ZONING Scale BETHANY LANE VILLAGE CENTER HOWARD COUNTY, MARYLAND HOWARD COUNTY, MARYLAND 1" = 50' Engelhardt Engineering, Inc. P.O. Box 1506 WATER PLAN CONTRACT NO. 24-3872-D Columbia, Maryland 21044 Sheet CHECKED BY: (410) 960-7334 Election District No. 02, Howard County, Maryland jesa@bellatlantic.net 2 OF 4





Water Profile

Horz. Scale: 1" = 50' Vert. Scale: 1" = 5'

CALL "MISS UTILITY"
TELEPHONE 1-800-257-7777
FOR UTILITY LOCATION AT
LEAST 48 HOURS BEFORE
BEGINNING CONSTRUCTION.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

F RUREAU DE LITH TIES DATE

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

alle Development 9/21/04

Engelhardt Engineering, Inc. P.O. Box 1506 Columbia, Maryland 21044 (410) 960-7334 jesa@bellatlantic.net



	DESIGNED BY:					1
	DRAWN BY:	<u> </u>				
шин	CHECKED BY.					
11.	DATE	<u> </u>				
		BY	NO.	REVISION	DATE	

WATER PROFILE

BETHANY LANE VILLAGE CENTER

CONTRACT NO. 24-3872-D

CONTRACT NO. 24-3872-D
Election District No. 02, Howard County, Maryland

Scale As Shown Sheet 3 OF **4** 

## MGWC 1.2: Pump-Around Practice

Temporary measure for dewatering inchannel construction sites

#### DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.

#### IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

- Construction activities including the installation of erosion and sediment control measures should not begin
  until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked
  in the field prior to construction. The contractor is responsible for any damage to existing utilities that may
  result from construction and should repair the damage at his/her own expense to the county's or utility
  company's satisfaction.
- 2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
- 3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
- 4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
- 5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
- 6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

TEMPORARY INSTREAM CONSTRUCTION MEASURES

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATERWAY CONSTRUCTION GUIDELINES
REVISED NOVEMBER 2000

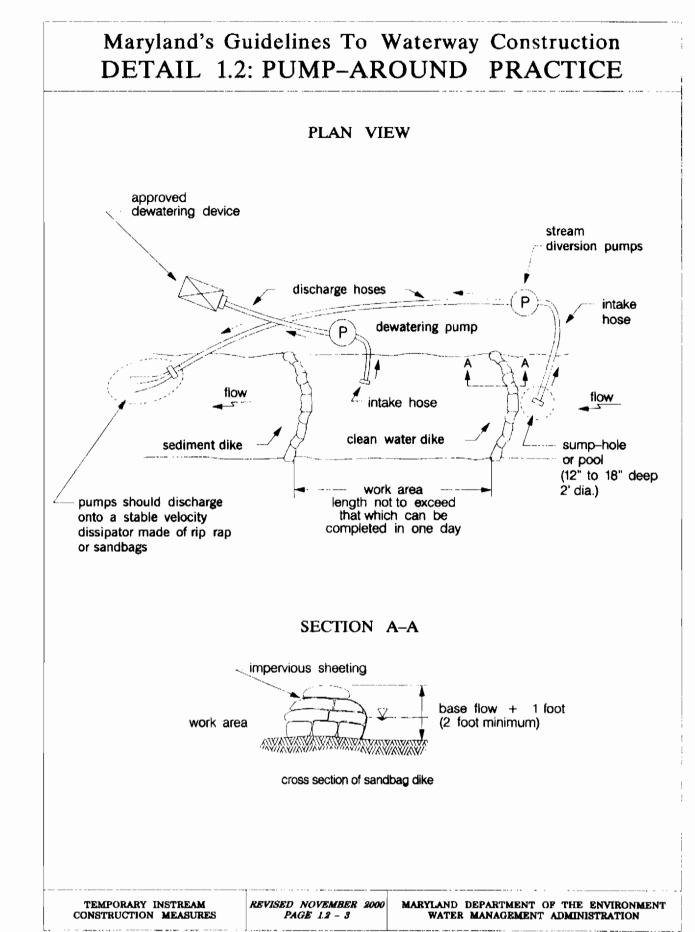
PAGE 1.2 - 1

# MGWC 1.2: Pump-Around Practice

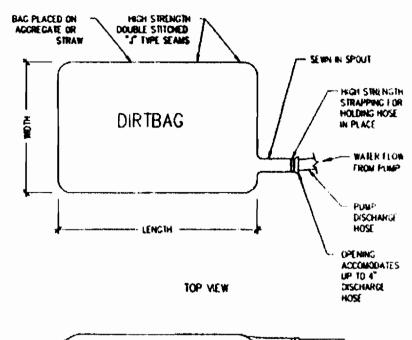
- 7. Water from the work area should be pumped to a sediment filtering measure such as a sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
- 8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
- 9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
- 10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
- 11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
- 12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
- 13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
- 14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

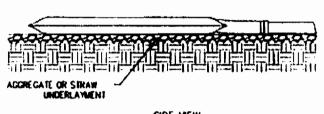
TEMPORARY INSTREAM CONSTRUCTION MEASURES

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATERWAY CONSTRUCTION GUIDELINES
REVISED NOVEMBER 2000
PAGE 1.2 - 2



### Typical Construction:





#### Dirtbag® Specification: Control of Sediment In Pumped Water

#### Control of Sediment In Pu

1.0 Description

1.1 This work shall consist of furnishing, placing and removing Dirtbag® pumped sediment control device as directed by the design enginer or as shown on the contract drawings. Dirtbag® pumped-silt control system is marketed by The BMP Store

#### 2.0 Materials

2.1 Dirtbag®

2.1.1 Dirtbag® shall be manufactured using a polypropylene nonwoven geotextile from SI Geosolutions, then sewn into a bag with a double needle matching using a high strength thread.

2.1.2 Each standard Dirtbag® has a fill spout large enough to accommodate a 4" discharge hose. Straps are attached to secure the hose and prevent pumped water from escaping without being filtered.

2.1.3 Dirtbag® seams shall have an average wide width ftrength per ASTM D-4884 as follows:

Dirtbag' Style	Test Method		Test #	Method
Deibag* 53	ASTM D-4884	60 lbs //m 100 lbs //m		
Detbag € 55	ASTM D-4884			
Property	Test Method	Units	Test Results Style 53 Style 55	
Weight	ASTM D-3776	oz/yď	8	10
Grab Tensile	ASTM D-4632	Ins.	205	250
Pancture	ASTM D-4833	los.	110	150
Flow Rate	ASTM D-4491	galimm/k²	110	85
Permittenty	ASTM D-4191	sec.4	1.5	12
Mulien Burst	ASTM D-3786	lbs w	350	460
UV Resistant	ASTM D-4355	%	70	70
AOS % Retained	ASTM D-4751	US Sieve	80	100

All properties are Minimum Average Roll Value (MARV) except the weight of the fabric which is given for information only. Depending on soil conditions and filtration requirements, additional geotextile options are available. Please call our engineering staff for solutions.

# 3.0 Construction Sequence

3.1.1 To install Dirtbag® on a slope so incoming water flows downhill through Dirtbag® without creating more erosion. Strap the neck of Dirtbag® tightly to the discharge hose. To increase the efficiency of filtration, place the bag on an aggregate or haybale bed to maximize water flow through the surface area of the bag.

3.1.2 Dirtbag® is full when it no longer can efficiently filter sediment or allow water to pass at a reasonable rate. Flow rates will vary depending on the size of Dirtbag®, the type and amount of sediment discharged into Dirtbag®, the type of ground, rock or other substance under the bag and the degree of the slope on which the bag lies. Under most circumstances Dirtbag® will accommodate flow rates of 1100 gallons per minute. Use of excessive flow rates or overfilling Dirtbag® with

sediment will cause the bag to rupture or failure of the hose attachment straps.

3.1.3 Dispose Dirtbag® as directed by the site engineer. If allowed, Dirtbag® may be cut open and the contents seeded after removing visible fabric. Dirtbag® is strong enough to be lifted with optional straps if it must be hauled away. Offsite disposal may be facilitated by placing Dirtbag® in the back of a dump truck or flatbed prior to use and allowing the water to drain from the bag while in place, thereby eliminating the need to lift Dirtbag®.

# 4.0 Basis of Payment

4.1 The payment for any Dirtbag® used during construction is to be included in the bid of overall erosion and sediment control plan unless a unit price is requested.

CALL "MISS UTILITY"
TELEPHONE 1-800-257-7777
FOR UTILITY LOCATION AT
LEAST 48 HOURS BEFORE
BEGINNING CONSTRUCTION.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

htm B - 9-23-04

DEPARTMENT OF PLANNING AND ZONING

HOWARD COUNTY, MARYLAND

9/21/04 DATE

Engelhardt Engineering, Inc. P.O. Box 1506 Columbia, Maryland 21044 (410) 960-7334 jesa@bellatlantic.net



DRAWN BY:

CHECKED BY:

DATE

BY NO. REVISION DATE

SEDIMENT CONTROL DETAILS

BETHANY LANE VILLAGE CENTER

CONTRACT NO. 24-3872-D

Election District No. 02, Howard County, Maryland

Sheet 4 OF 4

Shown