

AA 746-07 Shady Rest Road Sewer
Site Plsn Extension

S1829-6390

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor



Margaret G. McHale
Chair

Ren Serey
Executive Director

STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS

1804 West Street, Suite 100, Annapolis, Maryland 21401
(410) 260-3460 Fax: (410) 974-5338
www.dnr.state.md.us/criticalarea/

May 30, 2008

William E. Lesko
Anne Arundel County
Department of Public Works
Bureau of Engineering
2662 Riva Road, MS 7301
Annapolis, MD 21401-7374

Re: Shady Rest Road sewer extension

Dear Mr. Lesko:

Thank you for forwarding the above-referenced project proposal. The 1.6 acre project site is in the Critical Area and is designated partially as a Resource Conservation Area (RCA) and partially as a Limited Development Area (LDA). The proposed project is the 1,250 foot extension of an existing eight-inch sewer from Maryland Route 468 along Shady Rest Road to serve existing and future residents. The proposed project qualifies as a local agency action resulting in development of local significance on private lands or lands owned by local jurisdictions under COMAR 27.02.02. Because the project can not be done in a manner that is consistent with Anne Arundel County's Critical Area program due to the proposed impacts within Habitat Protection Areas and creation of new impervious surface area within a site that currently exceeds the 15% impervious surface limit within the LDA and RCA, the project requires conditional approval by the Commission under COMAR 27.02.06. Under this section, if development located in the Critical Area proposed by a State or local agency is prohibited from occurring then the agency proposing the development may seek conditional approval for the project.

In order for the Critical Area Commission to process this request as a conditional approval, the applicant must submit information demonstrating how the proposed project meets the following criteria.

In order to qualify for consideration by the Commission for conditional approval, it shall be shown by the proposing or sponsoring agency that the project or program has the following characteristics:



B.(1) That there exist special features of the site or there are other special circumstances such that the literal enforcement of these regulations would prevent a project or program from being implemented;

B.(2) That the project or program otherwise provides substantial public benefits to the Chesapeake Bay Critical Area Program;

B.(3) That the project or program is otherwise in conformance with this subtitle;

The conditional approval request shall, at a minimum, contain the following:

C.(1) A showing that the literal enforcement of the provisions of this subtitle would prevent the conduct of an authorized State or local agency program or project;

C.(2) A proposed process by which the program or project could be so conducted as to conform, insofar as possible, with the approved local Critical Area program or if the development is to occur on State-owned lands, with the criteria set forth in COMAR 27.02.05;

C.(3) Measures proposed to mitigate adverse effects of the project or program or an approved local Critical Area program or, if on State-owned lands, on the criteria set forth in COMAR 27.02.05.

In addition to providing the information above, a complete application will include any necessary State or local agency permits, a letter from Maryland Department of Natural Resources' Wildlife and Heritage Service stating that the proposed project will not impact rare, threatened or endangered species, and a letter from the Maryland Historical Trust that the proposed project will not impact any historic resources. These requirements are described further in the enclosed project application checklist.

As soon as we receive your complete application, we will be able to schedule the presentation of your proposed project on the agenda for a Critical Area Commission meeting. Projects must be received at least one month prior to the next scheduled Commission meeting in order to be included on that meeting agenda. The Commission meets on the first Wednesday of each month, and the schedule is posted at <http://www.dnr.state.md.us/criticalarea/aboutthecommission>.

This office has reviewed the submitted project plans and we have provided comments and recommendations below:

- 1) Please provide the following information about the Critical Area within the property: the acreage of the property that is within the Critical Area, the acreage that is designated as an RCA, the acreage that is designated as an LDA, the limits of the nontidal wetlands and 25-foot nontidal wetland buffer on the project site and the total acreage of proposed disturbance within the nontidal wetlands and

their buffers. Also, the applicant will need to obtain permits from Maryland Department of the Environment (MDE) for any disturbance within the nontidal wetlands and their buffers.

- 2) Please clarify the total existing and total proposed impervious surface areas for the project site. The applicant has indicated that there will be an additional 400 square feet of impervious surface for the proposed turn around area. It appears that this area is outside of the Critical Area boundary and therefore this area does not need to be included in the proposed impervious surface area calculation. However, the proposed driveway extension will add impervious surface area and this area should be included in the impervious surface calculations.
- 3) Because the nature of the property is a County owned linear right of way that is currently developed with a road, the applicant can not meet the 15% impervious surface limit as required by the property's LDA and RCA designations. The applicant should discuss this limitation in the narrative addressing the conditional approval criteria. Also, in order to compensate for this requirement, we recommend that the applicant provide some type of stormwater treatment similar to that required by the 10% rule for development within Intensely Developed Areas (IDA). Information about the 10% rule can be found on the Commission's website, at the following address:
http://www.dnr.state.md.us/criticalarea/guidancepubs/10percent_rule.html
- 4) It appears that some tree clearing within existing Forest Interior Dwelling bird (FIDs) habitat will be required for the proposed driveway extension. Accordingly, the applicant must submit the FIDs conservation worksheet to quantify the proposed impacts and required mitigation. The worksheet and further information about FIDs are located in "The Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area," which is available on the Commission website at
http://www.dnr.state.md.us/criticalarea/tweetyjune_2000.pdf
- 5) Please provide a planting plan demonstrating how the mitigation plantings for the necessary tree clearing will be provided. If any mitigation plantings are required for FIDs impacts, these plantings must create FIDs habitat. If locating all of the required plantings on the property is not feasible, an offsite planting area within the Critical Area may be acceptable. The plantings should consist of native species, and a list of such native species can be found in the "U.S. Fish and Wildlife Service's Native Plants for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed" document which is available at
<http://www.nps.gov/plants/pubs/chesapeake/>.

Please feel free to contact me at 410-260-3481 if you have any questions.

Mr. Lesko
May 30, 2008
Page 4 of 4

Sincerely,



Amber Widmayer
Natural Resources Planner

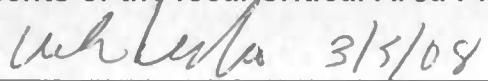
cc: AA 746-07
Richard Parks

Consistency Report for Local Government Projects

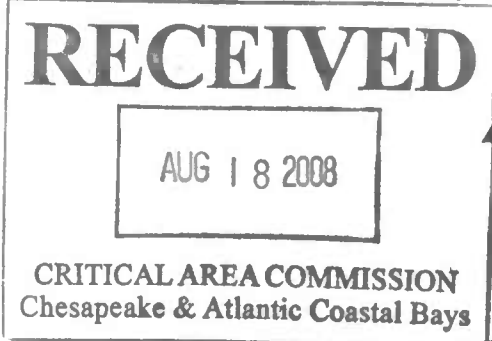
Project Name: Shady Rest Road Sewer Extension	Jurisdiction: Anne Arundel County
Project Description: Extend 8" sewer from MD Route 468 through entire length of Shady Rest Road.	
Local Agency proposing project: Anne Arundel County Dept. of Public Works	
Contact Name and Phone Number: William Lesko, P.M. (410) 222-7569	
Project Location (include street address, tax map and parcel number): Intersection of MD Route 468 and Shady Rest Road, extend entire length of Shady Rest Road	
Critical Area acreage and designation: Disturbed acreage: 1.1 Total acreage: 1.6 Designation: LDA/RCA	

Project Data	
Existing forest/woodland/trees: Yes	% of site: 3%
Proposed clearing: .045 acres	% of existing forest: 100%
Mitigation to be provided: Replanting .045 acres	
Planting location & species (also show on site plan): Table provided on plan, plantings will be provided on site, location TBD	
Existing impervious surface: Yes	% of site: 97%
Proposed new impervious: 400 SF	
Total impervious surface: 1.6 acres	% of site: 97%
If the % of impervious cover exceeds the permitted amount in the LDA or RCA, the project may need a Conditional Approval from the Critical Area Commission. Please contact your Commission planner for assistance.	
Total Area Disturbed: 1.1 acres	
Stormwater Management: (If site is in the IDA, the 10% worksheets must be attached. Otherwise, local stormwater requirements must be addressed.) Site is on LDA/RCA	
Has project received local approval of SWM and sediment and erosion control plans? SWM – N/A SEC: Pending	
Buffer impacts? Yes	Is project water dependent? No
If there are Buffer impacts proposed and the project is not water dependent, the project may need a Conditional Approval from the Critical Area Commission. Please contact your Commission planner for assistance.	
<u>Other Habitat Protection Areas:</u>	
Colonial Nesting Waterbird site? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Waterfowl Staging Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Endangered / threatened species? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Forest Interior Dwelling Bird Habitat? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Anadromous Fish Propagation Waters? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Non-tidal Wetland Impacts? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, MDE permit #: In process	
Tidal Wetland Impacts? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, MDE permit #:	

In accordance with COMAR 27.02.02, we hereby certify that this local agency project is consistent with the requirements of the local Critical Area Program.

 3/5/08 (Signature)

AA 0746-07



August 12, 2008

Amber Widmeyer, Natural Resources Planner
 State of Maryland Critical Areas Commission
 Chesapeake and Atlantic Coastal Bays
 1804 West Street, Suite 100
 Annapolis, MD 21401

The ARRO Group, Inc.

ARRO Consulting, Inc.

RE: Shady Rest Road Sewer Extension

Dear Amber:

Please find our response and revised plans to your letter of May 30, 2008 regarding proposed work associated with Shady Rest Road Sewer Extension within the Critical Area. Should you have any questions, please contact me.

1101 Opal Court

Hagerstown, MD 21740-5941

301.791.1100

Fax: 301.791.5020

info@thearrogroup.com

www.thearrogroup.com

This project involves the extension of a public sewer system consisting of new 8-inch gravity sewer and in some cases where gravity sewer is not possible, the installation of four (4) individual grinder pumps and two (2) low-pressure sewer lines. The existing nineteen (19) lots adjacent to or with access to Shady Rest Road are currently served by individual private wells and septic systems. Many of the existing septic systems are not performing adequately due to the high water table and incompatible soils. As a result, the citizens along Shady Rest Road have petitioned Anne Arundel County to receive a public sewer system so that their septic system may be disconnected.

- B (1) New public sewer lines within Shady Rest Road will be located within the existing paved public road with the exception of individual sewer laterals, which will connect the new sewer main to each house and approximately 75 feet of new 2-inch low pressure line, 4 feet deep which will extend past an existing gravel driveway to serve additional unimproved lots which have petitioned for sewer service. No new impervious areas are planned for this project within the Critical Area. The new gravel lane was eliminated.
- B (2) The installation of the new public sewer system as proposed under this project will eliminate the existing septic systems which are marginally performing at present. Elimination of the individual septic systems will eliminate the introduction of raw wastewater from these homes and the nitrogen and phosphorus components into the groundwater aquifer or surface waters and ultimately the Chesapeake Bay.
- B (3) With the exception of the minimal disturbance to extend public sewer past an existing gravel line as outlined above and the intrusion of public sewer

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 OPERATIONS

systems to existing lots of record which have limited impacts within the Habitat Protection Areas, the project is in compliance with this subtitle.

- C (1) The literal enforcement of the provisions of this subtitle would prevent Anne Arundel County from providing much needed public sewer service to existing lots of record around or adjacent to Shady Rest Road with a history of septic system problems.
- C (2) The project as proposed, except for a 300-foot sewer extension off Shady Rest Road, most of which is within an existing gravel driveway, is contained within the existing County right-of-way and the existing paved road. The project will be supervised and regulated by the County Soil Conservation District and Anne Arundel County Department of Public Works which will limit the work of the Contractor and any adverse environmental impacts to a minimum.
- C (3) Mitigating measures for the project include installing the majority of the sewer line within the existing paved roadway (Shady Rest Road) and limiting any new impervious area to a minimum and only what is needed for installation and perpetual maintenance of the sewer system by the County. New tree planting are planned to mitigate the impacts on FIDS within the critical areas which has been minimized by limiting the width of disturbance to 10 feet and only impacting the perimeter of the forest area, not the interior dwelling areas.

In response to your plan review comments we have addressed your comments in the following manner. Also, please find enclosed three (3) updated sets of plans which reflect the current conditions. Also, be advised that we have eliminated any new gravel surface areas beyond the limits of the existing gravel driveway to the existing house. A copy of a letter from Historic Trust indicating no impact is attached for reference. It also appears that the existing wetland areas that may be impacted are outside the limits of the Critical Areas although a permit application to MDE has been filed.

- 1) Total Area of Project in Critical Areas = 72,000 SF
or
0 in RCA
72,000 SF=LDA
Total non-tidal wetlands + 25' buffer = 0 SF
Total disturbance at non-tidal wetlands + 25' buffer = 0 SF
- 2) Total existing impervious surface area = 41,750 SF
Total proposed impervious surface area = 41,750 SF
- 3) This project will not generate any additional impervious surfaces within the Critical Area. The vast majority or 95% of the project is within the

existing hot mix asphalt road surface or existing gravel driveways. This project is excavating and backfilling a sewer line thereby restoring the existing surface conditions. The existing 18' wide road (Shady Rest Road) is within a 30' right of way with drainage ditches on both sides. There is no opportunity to develop stormwater management techniques on County owned land.

- 4) The impact on FIDS within the Critical Area is 750 SF which is area of forest to be cleared for the sewer extension beyond the limit of the existing gravel lane on the Thompson Property (Parcel 141). This area is within the outer 300 feet or perimeter of the FIDS habitat. The width of the clearing will be limited to 10 feet of the 15 foot wide utility easement.
- 5) The mitigation plan is to replant seven (7) redbud trees within the Critical Areas along the edges of the 15' utility eastment. The Critical Areas disturbance/mitigation plan is provided on sheet 5 of 11 of the plans.

Sincerely,

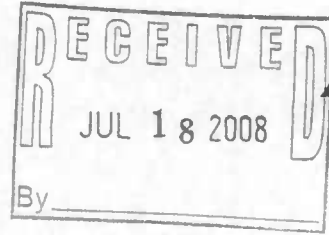


Richard D. Parks, P.E.
Senior Vice President

RDP/ss

Enclosures

F
COE
DLH



July 16, 2008

Ms. Elizabeth Cole, Administrator
Project Review and Compliance
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032

200802304

The ARRO Group, Inc.

ARRO Consulting, Inc.

RE: Shady Rest Road Sewer Extension
Anne Arundel County, MD

1101 Opal Court

Hagerstown, MD 21740-5941

301.791.1100

Fax: 301.791.5020

info@thearrogroup.com

www.thearrogroup.com

Dear Ms. Cole:

We are in the process of designing 2,100 feet of public sewer extension to serve residents along Shady Rest Road in Anne Arundel County. Since a portion of the project is within the Chesapeake Bay Critical Areas, we have been requested to seek your agencies input regarding any impacts on historic resources. A copy of the ADC map page identifying the project location and an 8 1/2" x 11" copy of the design plans are attached for your use.

Thank you in advance for your assistance. If you need any additional information, please contact me.

Sealy

Sincerely,

Richard D. Parks, P.E.
Senior Vice President

RDP/ss

Enclosures

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.
Dixie Henry Date *8/5/08*

*Arch'd
DLH
8/5/08
(1a)*

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OPERATIONS



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Eric Schwaab, Deputy Secretary

December 6, 2007

Mr. Richard D. Parks
ARRO Consulting, Inc.
1101 Opal Court
Hagerstown, MD 21740-5941



RE: Environmental Review for Shady Rest Sewer Extension, Anne Arundel County, Maryland.

Dear Mr. Parks:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted. It is also important to note that the utilization of state funds, or the need to obtain a state authorized permit may warrant additional evaluations that could lead to protection or survey recommendations by the Wildlife and Heritage Service.

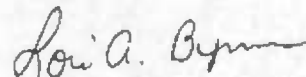
Our analysis of the information provided also suggests that the forested area on or adjacent to the project site contains Forest Interior Dwelling Bird habitat. Populations of many Forest Interior Dwelling Bird Species (FIDS) are declining in Maryland and throughout the eastern United States. The conservation of FIDS habitat is strongly encouraged by the Department of Natural Resources and mandated within the Chesapeake Bay Critical Area. The following guidelines will help minimize the project's impacts on FIDS and other native forest plants and wildlife:

1. Avoid placement of new sewer lines or related construction in the forest interior. If forest loss or disturbance is absolutely unavoidable, restrict development to the perimeter of the forest (i.e., within 300 feet of the existing forest edge), and avoid line placement in areas of high quality FIDS habitat (e.g., old-growth forest). Maximize the amount of remaining contiguous forested habitat.
2. Do not remove or disturb forest habitat during May-August, the breeding season for most FIDS. This seasonal restriction may be expanded to February-August if certain early nesting FIDS (e.g., Barred Owl) are present.
3. Maintain forest habitat as close as possible to the sewer line, and maintain canopy closure where possible.
4. Maintain grass height at least 10" during the breeding season (May-August).

Page 2

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

A handwritten signature in cursive script that reads "Lori A. Byrne".

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER #2007.2300.aa
cc: L. Hoerger, CAC

ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

SHADY REST ROAD SEWER EXTENSION

PROJECT NO. S-0024
CONTRACT NO. S-002409

DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

FOLLOWING INITIAL SOIL DISTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

1. PERMANENT SEEDING:
A. SOIL TESTS: LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES ROUGH INITIAL GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF INITIAL ROUGH GRADING RATES AND OR AS RECOMMENDED BY THE SEDIMENT CONTROL INSPECTOR GRADING ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.

1. OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6-WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

- a. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
- b. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
- c. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (> 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (< 30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
- d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
- e. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- f. IF THESE CONDITIONS CANNOT BE MET ON-SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL OR AMENDMENTS MADE AS RECOMMENDED BY A CERTIFIED AGRONOMIST.

B. SEEDBED PREPARATION: AREA TO BE SEEDBED SHALL BE LOOSE AND FRABLE TO A DEPTH OF AT LEAST 3 INCHES. THE TOP LAYER SHALL BE LOOSEENED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3 INCHES ON SLOPES FLATTER THAN 3:1.

C. SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE 1/4 INCH IN CLAYEY SOILS AND 1/2 INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE WHERE NECESSARY TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER SEED MIXES ARE TO BE USED, SELECT FROM TABLE 25, ENTITLED "PERMANENT SEEDING FOR LOW MAINTENANCE AREAS" FROM THE CURRENT STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. MIXES SUITABLE FOR THIS ARE 1, 3 AND 5-7. MIXES 5-7 ARE SUITABLE IN NON-MOWABLE SITUATIONS.

D. MULCHING: MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED, MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNROTATED, UNCHOPPED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET (2 BALES). IF A MULCH-ANCHORING TOOL IS USED, APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES.

E. SECURING STRAW MULCH: STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:

(I) USE A MULCH-ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH, HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.

(II) WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

(III) LIQUID BINDERS MAY BE USED. APPLY AT HIGHER RATES AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUIPMENT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.

(IV) LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

2. TEMPORARY SEEDING: LIME: 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET. FERTILIZER: 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET. SEED: PERENNIAL RYE - 0.92 POUNDS PER 1,000 SQUARE FEET (FEBRUARY 1 THROUGH APRIL 30 OR AUGUST 15 THROUGH NOVEMBER 1). MILLET - 0.92 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15). MULCH: SAME AS 1 D AND E ABOVE.

3. NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS, EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL FILL IN ROADWAYS AND PARKING AREAS IS TO BE CLASSIFIED TYPE 2 AS PER ANNE ARUNDEL COUNTY CODE - ARTICLE 16, SECTION 2-307, AND COMPACTED TO 90% DENSITY; COMPACTION TO BE DETERMINED BY ASTM D-1557-66T (MODIFIED PROCTOR). ANY FILL WITHIN THE BUILDING AREA IS TO BE COMPACTED TO A MINIMUM OF 95% DENSITY AS DETERMINED BY METHODS PREVIOUSLY MENTIONED. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.

4. PERMANENT SOD: INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. SEEDBED PREPARATION FOR SOD SHALL BE AS NOTED IN SECTION (B) ABOVE. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ABUTTING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE INSTALLED ON FROZEN GROUND. SOD SHALL NOT BE TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO ENSURE ESTABLISHMENT OF SOD.

5. MINING OPERATIONS: SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES: FOR SEEDING DATES OF: FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SERECIA LESPEDEZA AT THE MINIMUM RATE OF 0.5 POUNDS PER 1,000 SQUARE FEET.

6. TOPSOIL SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR TOPSOIL FROM THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

NOTE: PROJECTS WITHIN 4 MILES OF THE BWI AIRPORT WILL NEED TO ADHERE TO MARYLAND AVIATION ADMINISTRATION'S SEEDING SPECIFICATION RESTRICTIONS.

STORMWATER MANAGEMENT NOTE

THERE IS NO CHANGE IN POST-DEVELOPMENT RUNOFF CHARACTERISTICS OF THIS SITE. THEREFORE, THE STORMWATER MANAGEMENT REQUIREMENTS AS STATED IN ARTICLE 21 TITLE 3 OF THE ANNE ARUNDEL COUNTY CODE HAS BEEN MET.

- ### GENERAL NOTES
1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ANNE ARUNDEL COUNTY STANDARD DETAILS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
 2. THE EXISTING UTILITIES ARE SHOWN FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS AND ANY DAMAGE DONE TO THEM DUE TO HIS OPERATION SHALL BE REPAIRED IMMEDIATELY AT HIS OWN EXPENSE.
 3. THE CONTRACTOR SHALL HAND EXCAVATE TEST PITS TO DETERMINE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES TO BE CONNECTED TO OR CROSSED PRIOR TO CONSTRUCTION OF UTILITIES.
 4. THE CONTRACTOR SHALL NOTIFY MISS UTILITY 800-257-7777 FIVE DAYS PRIOR TO START OF WORK SHOWN ON THESE DRAWINGS.
 5. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS AT 222-7331 FIVE DAYS PRIOR TO START OF WORK SHOWN ON THESE DRAWINGS.
 6. CONTRACTOR MUST MAINTAIN ACCESS TO EACH PROPERTY AT ALL TIMES. CONTRACTOR MUST SUBMIT TRAFFIC CONTROL PLAN TO ANNE ARUNDEL COUNTY TRAFFIC ENGINEERING FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
 7. CONTRACTOR IS TO NOTIFY THE MAINTENANCE SECTION AT 222-7331 OF ANY LANE CLOSURES OR DETOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING AND/OR CLEANING UP DUST AND MUD ON ALL ROADS DUE TO VEHICLES ARRIVING AND LEAVING THE JOB SITE AS PART OF THIS WORK.
 8. ALL SEWER GRAVITY MAIN AND FITTINGS TO BE PVC SDR 35 UNLESS NOTED OTHERWISE ON THE PLANS.
 9. ALL LOW PRESSURE SEWER SHALL BE HDPE-DR 11 UNLESS NOTED OTHERWISE AND MAY BE INSTALLED BY DIRECTIONAL DRILLING.
 10. TRENCHES, BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH THE ANNE ARUNDEL CO. STANDARDS, SPECIFICATIONS AND DETAILS EXCEPT THAT IN AREAS TO BE PAVED BACKFILL SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE MODIFIED PROCTOR METHOD AASHTO T-180 METHOD "C". ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE MARYLAND.
 11. STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL ISSUED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
 12. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
 13. TRENCHES SHALL BE PAVED IN ACCORDANCE WITH THE STANDARD DETAILS AND SPECIFICATIONS IMMEDIATELY AFTER ALL UTILITY WORK IS COMPLETED AND TESTED.
 14. EXISTING SITE IS LOCATED OUTSIDE THE 100 YEAR FLOODPLAIN BUT IS WITHIN THE CRITICAL AREA AND FLOODPLAIN DESIGNATION ZONE B.
 15. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR LOCATING AND PAYING ALL PERMIT FEES AND TEMPORARY LAND ACQUISITION COSTS FOR A TRAILER AND STORAGE SITE. THE CONTRACTOR SHALL PROTECT THE TEMPORARY TRAILER AND STORAGE SITE(S) FROM EROSION BY INSTALLING SILT FENCE AT THE LOWER ELEVATIONS. PLACEMENT OF SILT FENCE WILL BE AT THE DISCRETION OF SCS.
 16. CONTRACTOR SHALL ERECT TRAFFIC CONTROL SIGNS, BARRICADES, TEMPORARY STRIPPING AND FLAGGERS IN ACCORDANCE WITH ACO STANDARD DETAILS AND SPECIFICATIONS ON SHADY REST ROAD. ALL TRAFFIC CONTROL ON SHADY SIDE ROAD SHALL BE IN CONFORMANCE WITH SHA STANDARDS AND SPECIFICATIONS.
 17. SEE ACO STANDARD DETAIL S-1 FOR TRENCH AND RESTORATION REQUIREMENTS. IN EXISTING GRASS AREAS, SURFACE RESTORATION TO CONSIST OF 6-INCH TOPSOIL, SEED AND MULCH. RESTORATION OF EXISTING GRAVEL DRIVEWAYS SHALL INCLUDE 6-INCHES OF GRADED AGGREGATE BASE (GAB).
 18. ALL GRAVITY SEWER HOUSE SERVICES SHALL BE ACO STD TYPE 'B' SEWER HOUSE CONNECTIONS UNLESS NOTED OTHERWISE ON THE PLANS.
 19. SEWER SHALL SERVE FIRST FLOOR ONLY FOR ALL PROPERTIES. NO BASEMENT SERVICE IS PROVIDED. SEWER LINE WILL BE CONSTRUCTED WITHIN EXISTING PAVEMENT AND GRAVEL ROADWAY, THEREFORE MINIMIZING IMPACT TO EXISTING NON-TIDAL UPLAND WETLANDS OR FIDS HABITAT.

STANDARD RESPONSIBILITY NOTES

- I (WE) CERTIFY THAT:
- A. ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
 - B. ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. RESPONSIBLE PERSONNEL ON SITE:
 - C. IF APPLICABLE, THE APPROPRIATE ENCLOSURE WILL BE CONSTRUCTED AND MAINTAINED ON SEDIMENT BASIN(S) INCLUDED IN THIS PLAN. SUCH STRUCTURE(S) WILL BE IN COMPLIANCE WITH THE ANNE ARUNDEL COUNTY CODE.
2. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHT, AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES. STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THE PLAN.
3. INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF ALL CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. TEMPORARY STABILIZATION OF THE SURFACE OF PERIMETER CONTROLS, DIKES, SWALES, DITCHES, AND PERIMETER SLOPES MAY BE ALLOWED AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR.
4. THE SEDIMENT CONTROL APPROVALS ON THIS PLAN EXTEND ONLY TO AREAS AND PRACTICES IDENTIFIED AS PROPOSED WORK.
5. THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE DEVELOPER/CONSULTANT FROM COMPLYING WITH FEDERAL, STATE OR COUNTY REQUIREMENTS APPERTAINING TO ENVIRONMENTAL ISSUES.
6. THE DEVELOPER MUST REQUEST THAT THE SEDIMENT CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT, AND THE ORDINANCE.
7. ALL MATERIAL SHALL BE TAKEN TO A SITE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
8. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF TWO ACRES, APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR SHALL BE REQUIRED ON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. THIS WILL REQUIRE FIRST PHASE INSPECTIONS. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE SEDIMENT AND EROSION CONTROL INSPECTOR IS GIVEN.
9. APPROVAL SHALL BE REQUESTED ON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF TWO ACRES BEFORE REMOVAL OF CONTROLS.
10. EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED BY RESPONSIBLE PERSONNEL TO THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK.

SIGNATURE OF DEVELOPER/OWNER DATE
A.A.CO. DEPARTMENT OF PUBLIC WORKS
BRUCE WRIGHT, P.E., ASST. CHIEF ENGINEER TEL. 410-222-7560
2662 RVA ROAD
ANNAPOLIS, MARYLAND 21401

DISTURBED AREA QUANTITY

THE AREA OF THE TOTAL SITE IS 22,000 SQ. FEET (1.65 ACRES - ROAD R/W). THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 48,430 SQUARE FEET (1.1 ACRES) AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROX. 3000 CU. YDS. OF EXCAVATION AND APPROXIMATELY 3000 CUBIC YARDS OF FILL. THE TOTAL SURFACE AREA TO BE VEGETATIVELY STABILIZED IS APPROXIMATELY 2000 SQUARE FEET (0.05 ACRES). ** (UTILITY TRENCH EXCAVATION AND FILL QUANTITIES ONLY. NOT FOR BID PURPOSES)**

SIGNATURE _____ DATE _____

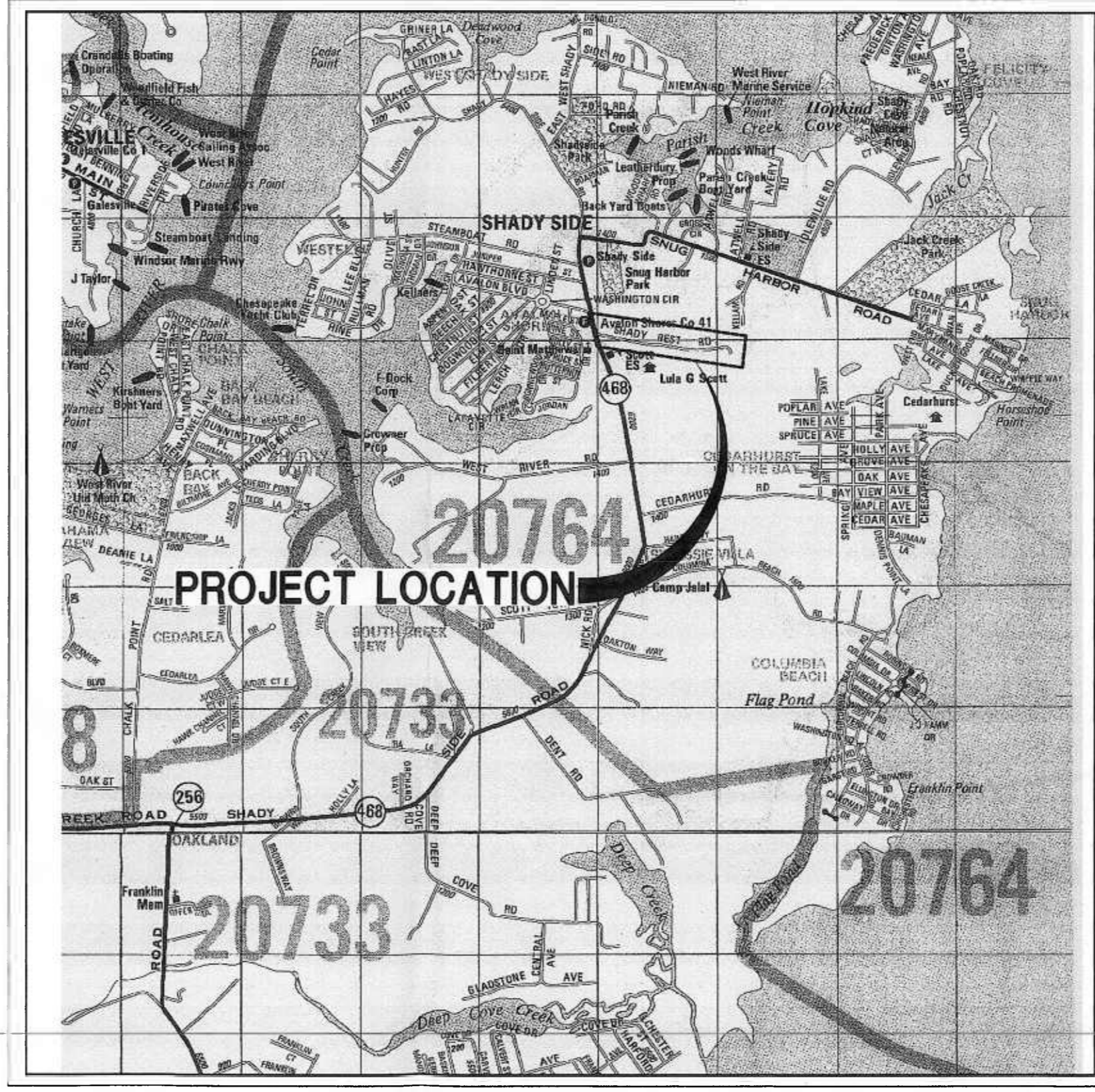
CONSULTANT'S CERTIFICATION

THE DEVELOPERS' PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

RICHARD D. PARKS, P.E. MD. P.E. LIC. #11697 DATE _____
ARRCO CONSULTING, INC.
1101 OPAL COURT, THIRD FLOOR
HAGERSTOWN, MARYLAND 21740

SEQUENCE OF CONSTRUCTION

- WEEK 1 1. PRECONSTRUCTION PHASE
OBTAIN ALL NECESSARY APPROVALS, PERMITS AND EASEMENTS. THE CONTRACTOR MUST NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS (410) 222-7780 AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF ANY WORK TO REQUEST AND SCHEDULE A MANDATORY ON-SITE PRECONSTRUCTION MEETING WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR. WORK MAY NOT COMMENCE UNTIL THE PERMITEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS. ALL STOCKPILES OF EARTH ARE TO BE PLACED UPSLOPE OF EXCAVATED TRENCH OR HAULED TO AN APPROVED STOCKPILE AREA.
- WEEK 2 2. PERIMETER SEDIMENT CONTROL PHASE
a. INSTALL ALL SEDIMENT CONTROL MEASURES.
b. INSTALL ALL TRAFFIC CONTROL AND INFORMATION SIGNS PER COUNTY PERMIT AND APPROVED PLANS.
- WEEK 3 3. SITEWORK PHASE
a. STOCKPILE CONSTRUCTION MATERIALS AS NEEDED WITHIN THE LIMIT OF DISTURBANCE.
- WEEK 3-4 3. SAWCUT THE EXISTING PAVING.
- WEEK 4-16 3. CONSTRUCT GRAVITY SEWER WHILE MAINTAINING TRAFFIC FLOW AT ALL TIMES.
d. CONSTRUCT LOW PRESSURE SEWER AND GRINDER PUMPS WHILE MAINTAINING TRAFFIC FLOW AT ALL TIMES.
e. CONTRACTOR TO EXCAVATE ONLY THE AMOUNT OF THE SEWER TRENCH THAT CAN BE BACKFILLED AND STABILIZED IN ONE WORKING DAY. SILT FENCE IS TO BE PLACED DOWNSTREAM OF THE NON-PAVED WORK TO BE PERFORMED ON A DAILY BASIS.
f. EXCAVATE, STOCKPILE, LAY PIPE AND BACKFILL IN AGREEMENT WITH CONDITIONS AND MANAGEMENT PRACTICES FOR ACO. AND SOIL CONSERVATION DISTRICT.
- WEEK 16 3. REPAIR AND RESURFACE PAVING AND SIDEWALK.
- WEEK 16 4. VEGETATIVELY STABILIZE ALL REMAINING DISTURBED AREAS.
- WEEK 18 4. FINAL INSPECTION AND CLEANUP
a. WITH THE APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL.
b. REMOVE ALL TRASH AND CONSTRUCTION MATERIALS AND DEBRIS FROM THE SITE.



VICINITY MAP
SCALE: 1" = 2000'

INDEX OF DRAWINGS

DWG. NO.	DESCRIPTION
1 OF 11	TITLE SHEET, GENERAL NOTES, MAP, LEGEND
2 OF 11	KEYPLAN, SEC NOTES, DETAILS
3 OF 11	SHADY REST ROAD SEWER PLAN AND PROFILE
4 OF 11	SHADY REST ROAD SEWER PLAN AND PROFILE
5 OF 11	GRAVEL ROAD SEWER PLAN AND PROFILE
6 OF 11	SHADY REST RD - S.E.C. PLAN
7 OF 11	SHADY REST RD - S.E.C. PLAN
8 OF 11	GRAVEL LANE - S.E.C. PLAN
9 OF 11	MAINTENANCE OF TRAFFIC PLAN
10 OF 11	DETAILS
11 OF 11	GRINDER PUMP DETAILS

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED AND APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. _____, EXPIRATION DATE: _____

LEGEND

	EX. UTILITY POLE		EX. SAN. CLEANOUT
	EX. SIGN		EX. MANHOLE
	BENCHMARK		EX. FIRE HYDRANT
	SOIL BORING		EX. VALVE (GV, WV)
	PROP. CONC. ENCASUREMENT		EX. STREET LIGHT
	PROP. BASELINE & TRAVERSE POINT		EX. WATER METER
	PROP. SANITARY SEWER LINE		EX. RIGHT-OF-WAY
	PROP. SANITARY SEWER MANHOLE		EX. GAS LINE
	PROP. TERMINAL FLUSHING CONNECTION		EX. WATER LINE
	PROP. CLEANOUT		EX. SANITARY LINE
	SERVICE VALVE ASSEMBLY		EX. TV LINE
	POLYVINYL CHLORIDE		EX. OVERHEAD ELEC. LINE
	DUCTILE IRON PIPE		EX. UNDERGROUND ELEC. LINE
	SIMPLEX GRINDER PUMP		EX. FENCE
	SILT FENCE		
	LIMIT OF DISTURBANCE		
	UTILITY EASEMENT		

NO.	ISSUED FOR CONSTRUCTION	DATE	BY	APP.
1	ISSUED FOR CONSTRUCTION			
0	ISSUED FOR BID			
E	AGENCY COMMENTS	07/17/08	ACM	RD
D	AGENCY COMMENTS	02/28/08	ACM	RD
C	AGENCY COMMENTS	12/07/07	ACM	RD
B	AGENCY COMMENTS	11/19/07	ACM	RD
A	ISSUED TO CLIENT	10/11/07	ACM	RD
NO	REVISION	DATE	BY	APP.

SEAL
ARRCO
ARRCO Consulting, Inc.
1101 Opal Court, Third Floor
Hagerstown, Maryland 21740
Tel 301.791.1100

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS				SCALE: AS SHOWN	TITLE SHEET, GENERAL NOTES, MAP, LEGEND
REVISED	APPROVED	DATE	APPROVED	DATE	SHADY REST ROAD SANITARY SEWER EXTENSION LOCATED OFF SHADY SIDE ROAD SOUTH OF SNUG HARBOR ROAD
DATE	BY		PROJECT MANAGER	CHECKED BY: RDP 08/07	
	CHIEF ENGINEER			SHEET NO. 1 OF 11	
	APPROVED	DATE	DATE	PROJECT NO.: S-0024 CONTRACT NO.: S-002409	
	ASST. CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		

RECEIVED
AUG 23 2008
CRITICAL AREA COMMISSION



TAX MAP 69, PARCEL 599
LINDA JONES WHITE
LIBER 9402, FOLIO 582
TAX #7000090007600

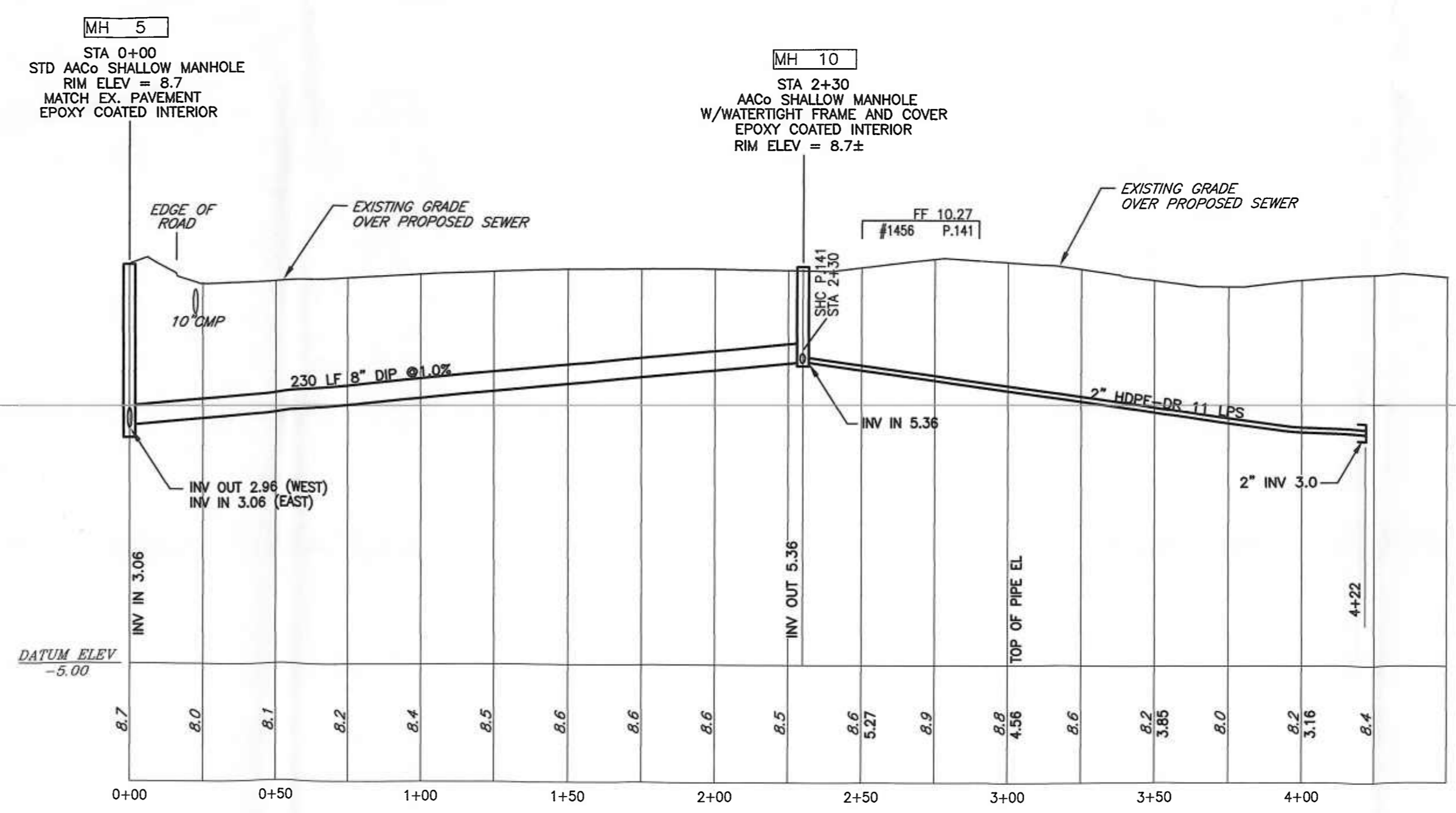
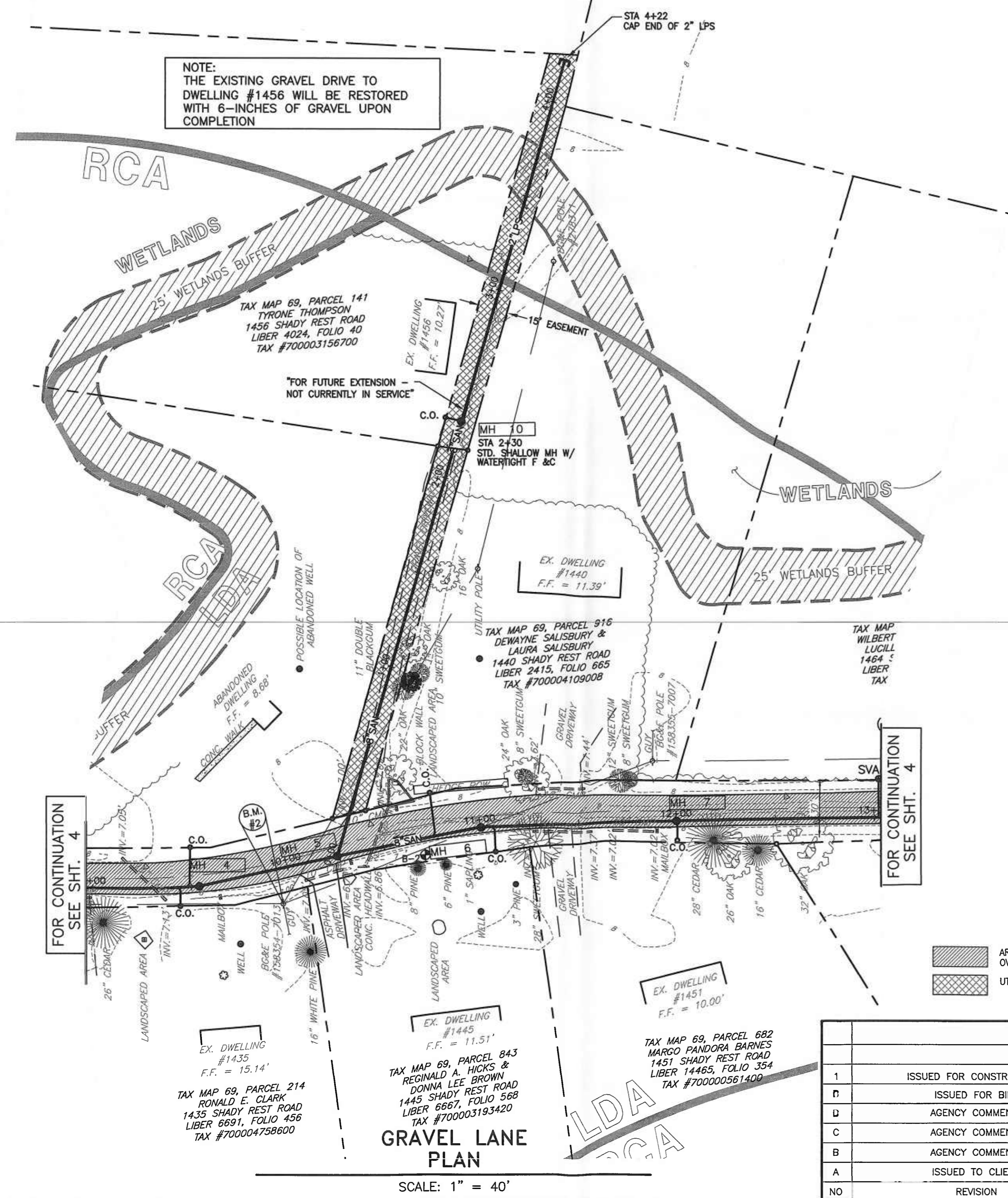
TAX MAP 69, PARCEL 599
LINDA JONES WHITE
LIBER 9402, FOLIO 582

TAX MAP 69, PARCEL 729
FRANK RUFF
1452 SHADY REST ROAD
LIBER 4842, FOLIO 414
TAX #700003553200

NOTE:
THE EXISTING GRAVEL DRIVE TO
DWELLING #1456 WILL BE RESTORED
WITH 6-INCHES OF GRAVEL UPON
COMPLETION

CRITICAL AREA DISTURBANCE/MITIGATION			
LOCATION/ TYPE	MAX. ALLOWED CLEARING	QUANTITY	REFORESTATION - BASED ON DISTURBANCE/FOREST CLEARING
CRITICAL AREA	750 SF OR 0.017 AC	7 AT RATIO 1:1	1-1/2" - 2" CAL. CERCIS CANADENSIS/ EASTERN REDBUD

NOTE: REQUIRED PLANTING WILL BE PROVIDED ON SITE WITHIN THE TRACT AREA AT A MINIMUM OF 10' FROM PROPOSED SEWER LINE AND SUBJECT TO LOCATION AS AGREED UPON WITH THE CRITICAL AREA COMMISSION.



PROFESSIONAL CERTIFICATION
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GRAVEL LANE PROFILE
SCALE: H:1"=40', V:1"=4'

RECEIVED
AUG 26 2008
CRITICAL AREA COMMISSION

NO	REVISION	DATE	BY	APP.
1	ISSUED FOR CONSTRUCTION			
D	ISSUED FOR BID			
D	AGENCY COMMENTS	7/17/08	ACM	RDP
C	AGENCY COMMENTS	2/28/08	ACM	RDP
B	AGENCY COMMENTS	11/19/07	ACM	RDP
A	ISSUED TO CLIENT	10/1/07	ACM	RDP
NO	REVISION	DATE	BY	APP.

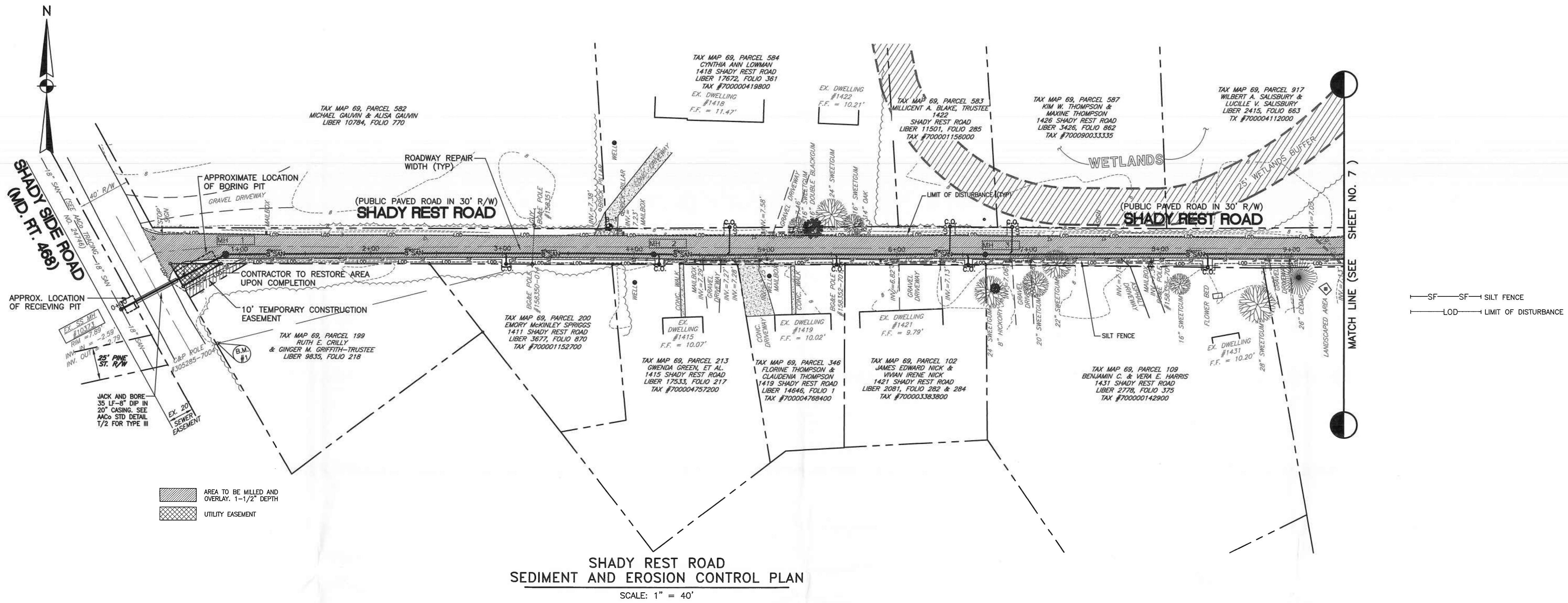
ARRC
ARRC Consulting, Inc.
1101 Opal Court, Third Floor
Hagerstown, Maryland 21740
Tel 301.791.1100

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

REVISED	DATE	BY	APPROVED	DATE	APPROVED
			CHIEF ENGINEER		PROJECT MANAGER
			APPROVED	DATE	APPROVED
			ASST. CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY

SCALE: H:1"=40', V:1"=4'
DRAWN BY: ACM 9/07
CHECKED BY: RDP 9/07
SHEET NO.: 5 OF 11
PROJECT NO.: S-0024
CONTRACT NO.: S-002409

GRAVEL RD PLAN AND PROFILE
SHADY REST ROAD
SANITARY SEWER EXTENSION
LOCATED OFF SHADY SIDE ROAD
SOUTH OF SNUG HARBOR ROAD



**SHADY REST ROAD
SEDIMENT AND EROSION CONTROL PLAN**
SCALE: 1" = 40'

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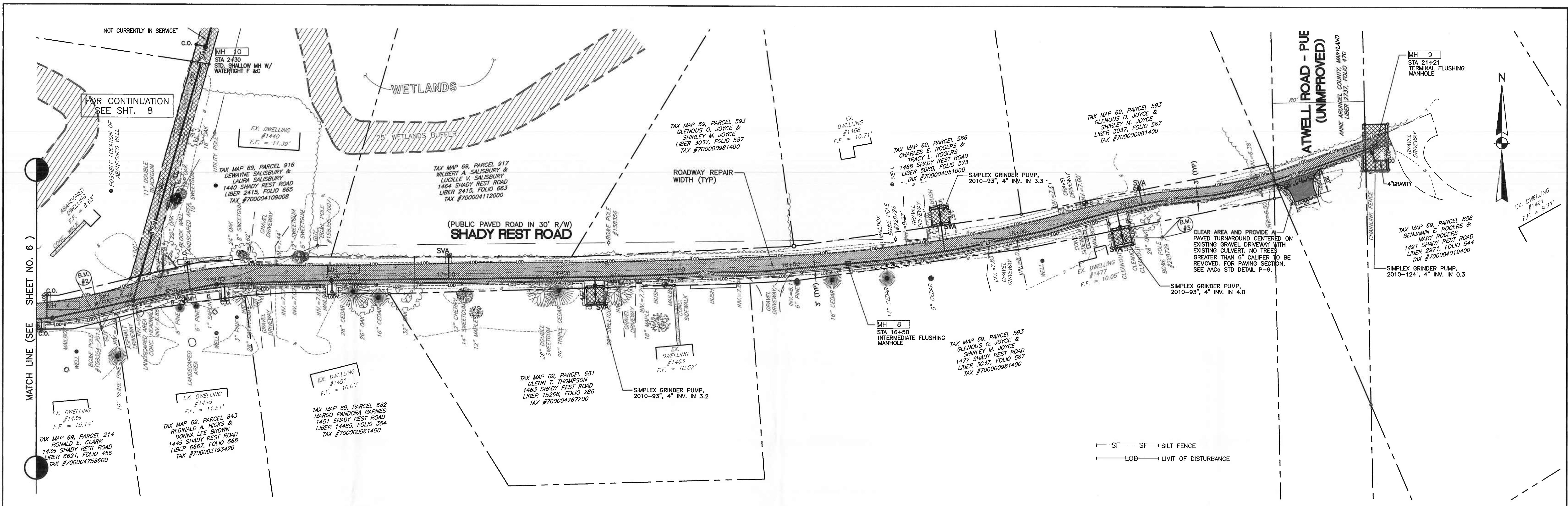
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ARRC
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1101 Opal Court, Third Floor
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ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
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		APPROVED	APPROVED
		ASST. CHIEF ENGINEER	CHIEF, RIGHT-OF-WAY

SCALE: H:1"=40', V:1"=4'	SHADY REST RD S.E.C. PLAN SHADY REST ROAD SANITARY SEWER EXTENSION LOCATED OFF SHADY SIDE ROAD SOUTH OF SNUG HARBOR ROAD
DRAWN BY: ACM 9/07	
CHECKED BY: RDP 9/07	
SHEET NO.: 6 OF 11	
PROJECT NO.: S-0024	
CONTRACT NO.: S-002409	



**SHADY REST ROAD
SEDIMENT AND EROSION CONTROL PLAN**
SCALE: 1" = 40'

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RECEIVED
AUG 26 2008
CRITICAL AREA COMMISSION

				ARRC ARRO Consulting, Inc.		ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS																													
				1101 Opal Court, Third Floor Hagerstown, Maryland 21740 Tel 301.791.1100		<table border="1"> <tr> <th>REVISED DATE</th> <th>BY</th> <th>APPROVED DATE</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		REVISED DATE	BY	APPROVED DATE	DATE					<table border="1"> <tr> <th>APPROVED DATE</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>		APPROVED DATE	DATE			<table border="1"> <tr> <td>SCALE: 1"=40'</td> <td>SHADY REST RD S.E.C. PLAN</td> </tr> <tr> <td>DRAWN BY: ACM 9/07</td> <td>SHADY REST ROAD SANITARY SEWER EXTENSION</td> </tr> <tr> <td>CHECKED BY: RDP 9/07</td> <td>LOCATED OFF SHADY SIDE ROAD SOUTH OF SNUG HARBOR ROAD</td> </tr> <tr> <td>SHEET NO.: 7 OF 11</td> <td></td> </tr> <tr> <td>PROJECT NO.: S-0024</td> <td></td> </tr> <tr> <td>CONTRACT NO.: S-002409</td> <td></td> </tr> </table>		SCALE: 1"=40'	SHADY REST RD S.E.C. PLAN	DRAWN BY: ACM 9/07	SHADY REST ROAD SANITARY SEWER EXTENSION	CHECKED BY: RDP 9/07	LOCATED OFF SHADY SIDE ROAD SOUTH OF SNUG HARBOR ROAD	SHEET NO.: 7 OF 11		PROJECT NO.: S-0024		CONTRACT NO.: S-002409	
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