Falling Green 2011 HAWP
#23157

HISTORIC PRESERVATION COMMISSION

Isiah Leggett
County Executive

Thomas Jester
Chairperson

Date: 2/10/11

MEMORANDUM

TO: Carla Reid, Director
Department of Permitting Services

FROM: Anne Fothergill
Planner Coordinator
Historic Preservation Section-Planning Department
Maryland-National Capital Park & Planning Commission

SUBJECT: Historic Area Work Permit #557967—addition and alterations to building

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The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP) and this application was **approved** by the HPC on February 9, 2011.

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Olney Boys and Girls Community Sports Association
Address: 4501 Olney-Laytonsville Road, Olney

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 to schedule a follow-up site visit.

RETURN TO: DEPARTMENT OF PERMITTING SERVICES
255 ROCKVILLE PIKE 2nd FLOOR ROCKVILLE MD 20850
240-777-6370

DPS - #8

HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Person: Kathy Lyons

Daytime Phone No.: 301-570-5577

Tax Account No.: 31047658

Name of Property Owner: Olney Boys and Girls Community Sports Association — Daytime Phone No.: 301-570-7049

Address: PO Box 2 (Street Number) Olney (City) MD (State) 20830 (Zip Code)

Contractor: _____ Phone No.: _____

Contractor Registration No.: _____

Agent for Owner: Craig Moloney, AIA, CEM Design Daytime Phone No.: 301-294-0682

LOCATION OF BUILDING/PREMISE

House Number: 4501 Street: Olney Laytonsville Road

Town/City: Olney Nearest Cross Street: Olney Mill Road

Lot: 5 Block: _____ Subdivision: Brooke Farm

Liber: _____ Folio: _____ Parcel: _____

PART ONE: TYPE OF PERMIT ACTION AND USE

1A. CHECK ALL APPLICABLE:

☐ Construct ☑ Extend ☑ Alter/Renovate

☐ Move ☑ Install ☐ Wreck/Raze

☐ Revision ☑ Repair ☐ Revocable

CHECK ALL APPLICABLE:

☑ A/C ☐ Slab ☑ Room Addition ☑ Porch ☐ Deck ☐ Shed

☐ Solar ☐ Fireplace ☐ Woodburning Stove ☐ Single Family

☐ Fence/Wall (complete Section 4) ☐ Other: _____

1B. Construction cost estimate: $ 250,000-300,000; Renovation of Main House $600,000-900,000.

1C. If this is a revision of a previously approved active permit, see Permit # 208287, 266785 23/57-00A, 379107

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS

2A. Type of sewage disposal: 01 ☑ WSSC 02 ☐ Septic 03 ☐ Other: _____

2B. Type of water supply: 01 ☑ WSSC 02 ☐ Well 03 ☐ Other: _____

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

3A. Height _____ feet _____ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

☐ On party line/property line ☐ Entirely on land of owner ☐ On public right of way/easement

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

Signature of owner or authorized agent — Date: 1/4/11

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: 2/10/11

Application/Permit No.: 557967 Date Filed: _____ Date Issued: _____

Edit 6/21/99

SEE REVERSE SIDE FOR INSTRUCTIONS

CEM DESIGN
520 Anderson Avenue, Rockville, MD 20850 301-294-0682

December 4, 2012

Anne Fothergill
Historic Preservation Section-Planning Department
Maryland-National Capital Park & Planning Commission
8787 Georgia Avenue
Silver Spring,, MD 20910

Re: Restoration and Addition to Falling Green Manor House
4501 Olney-Laytonsville Road, Olney, MD

Dear Ms. Fothergill,

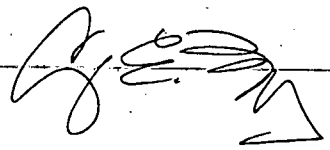
Built as a residence in the 1760's, Falling Green is a locally important property with an unparalleled degree of fabric integrity, both interior and exterior. The current owner, Olney Boys and Girls Community Sports Association (OBGC), has applied for a permit to restore the original building and build an addition to the rear. The first floor of the original building will be used as offices for OBGC. The addition will house the required restrooms, kitchen, new systems, and access to the second floor caretaker's apartment. One of the bedrooms on the second floor of the original building will be used as a living room for the caretaker's apartment, which is fire-separated from the balance of the original building. This work was approved by the Maryland Historic Trust Easement Committee and the Montgomery County Historic Preservation Commission.

In a pre-submission meeting with the Montgomery County Department of Permitting Services, it was agreed that the building could be re-used for business and residential use under certain conditions. One of those conditions is that the second floor of the existing building could not be permanently occupied by the business use, which precludes the need to rebuild the original stairs and rails to current code standards, eliminates the need to build a fire-separating wall in the foyer around the stairs, or to create a new door in the original masonry wall at the second floor level and build a new exterior fire exit stair. Neither the basement nor the attic is occupiable, and both will remain unfinished.

A second condition is that the building occupancy be limited to no more than 25-people, and that it be equipped throughout with an interconnected fire and smoke detection and alarm system with a battery backup. We were told these two provisions, and the support of the Easement Committee and the HPC, will preclude the need for a sprinkler system. Installation of an exposed sprinkler system will visually detract from the experience of the original building. Installation of a hidden sprinkler system will destroy the intact original goat-hair plaster on hand-split wood lath and wood trim, and may impair the integrity of the floor structural system. As the plans detail, the building has three means of egress from the business use on the first floor of the original building, one of which is accessible, and a fourth means of egress from the business use in the new addition, which is also accessible. We have provided the code required fire separation between uses.

The construction documents have been modified to comply with the Department of Permitting Services (DPS) requisite provisions as discussed above. The DPS suggested that we request a letter from the MHT Easement Committee and the HPC confirming the desire of each institution to preserve the integrity of this historic resource, and providing support for our approach to its restoration and re-use. We would appreciate if you could generate such a letter for OBGC. Thank you for your consideration.

Sincerely,



Craig Moloney, AIA, LEED AP
CEM Design

Fothergill, Anne

From: Fothergill, Anne
Sent: Monday, February 13, 2012 3:52 PM
To: kmhlyons@aol.com
Cc: OBGCDEAL@aol.com
Subject: RE: Civil Engineering Plans - Falling Green

The changes are consistent with the approved Historic Area Work Permit and do not need further review by our office or the HPC. You are all set to move forward. thanks, Anne

From: kmhlyons@aol.com [kmhlyons@aol.com]
Sent: Friday, February 10, 2012 12:48 PM
To: Fothergill, Anne
Cc: OBGCDEAL@aol.com
Subject: Civil Engineering Plans - Falling Green

Anne,
Hello, Elisabeth asked me to follow up with you on questions regarding OBGC's submission of civil engineering plans for Falling Green. I tried to reach you by phone, but must have hit lunch time as no one picked up the main number. To address your question from your email below regarding exterior changes; there will be no modifications to Craig s plans for the house, but in addition to the areas addressed in his plans, there will be excavation for a main plumbing/electrical line over the front lawn, the parking lot has had to be modified slightly and rain gardens have been added to meet county requirements and the geothermal wells will have plates/caps on them. There will be no fencing or other structural changes to the exterior other than those identified in CEM's plans. MHT required approval due to ground disturbance on easement property. I checked with Scott to ascertain whether HPC also needed to approve and he had thought you did, so we sent in the application. If we can include this civil engineering work under the previously approved HAWP, that would be wonderful. We just want to make sure nothing slips through the cracks as we prepare for construction.
By the way, should these plans have to have separate approval, will we need a representative from OBGC and/or the civil engineer to attend the February 22 meeting?
Thank you for your attention to this matter, Kathy Lyons

-Original Message-----
From: Fothergill, Anne
<Anne.Fothergill@montgomeryplanning.org<mailto:Anne.Fothergill@montgomeryplanning.org>>
To: CEM Design <cemdesign@mindspring.com<mailto:cemdesign@mindspring.com>>; obgcdeal
<obgcdeal@aol.com<mailto:obgcdeal@aol.com>>
Sent: Thu, Feb 9, 2012 1:56 pm
Subject: RE: Falling Green Review permit 557987

I received your packet and am thinking this may not need a new HAWP. In January 2011 the parking spaces were approved by the HPC. What other exterior changes are shown in this plan? Does the geothermal well have a wall around it or anything above ground? Please advise so I can understand what exactly has changed from the last review.
Thanks, Anne

DPS - #8

HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Email: OBGCDeal@AOL.com Contact Person: Elisabeth Deal

Daytime Phone No.: 301-570-7049

Tax Account No.: 23-7008610

Name of Property Owner: Olney Boys & Girls Comm Sports (OBGC) Daytime Phone No.: 301-570-7049

Address: PO Box 2 (Street Number) Olney (City) MD (State) 20830 (Zip Code)

Contractor: _____ Phone No.: _____

Contractor Registration No.: _____

Agent for Owner: Craig Moloney, AIA, CEM Design Daytime Phone No.: 301-294-0682

LOCATION OF BUILDING/PREMISE

House Number: 4501 Street: Olney-Laytonsville Rd

Town/City: Olney Nearest Cross Street: Olney Mill Rd

Lot: _____ Block: _____ Subdivision: _____

Liber: _____ Folio: _____ Parcel: _____

PART ONE: TYPE OF PERMIT ACTION AND USE

1A. CHECK ALL APPLICABLE:

☐ Construct ☐ Extend ☑ Alter/Renovate ☐ Move ☐ Install ☐ Wreck/Raze ☐ Revision ☐ Repair ☐ Revocable.

CHECK ALL APPLICABLE:

☐ A/C ☐ Slab ☐ Room Addition ☐ Porch ☐ Deck ☐ Shed ☐ Solar ☐ Fireplace ☐ Woodburning Stove ☐ Single Family ☐ Fence/Wall (complete Section 4) ☐ Other: Civil Engineering

1B. Construction cost estimate: $ _____

1C. If this is a revision of a previously approved active permit, see Permit # #557967

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS

2A. Type of sewage disposal: 01 ☐ WSSC 02 ☐ Septic 03 ☐ Other: _____

2B. Type of water supply: 01 ☐ WSSC 02 ☐ Well 03 ☐ Other: _____

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

3A. Height _____ feet _____ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

☐ On party line/property line ☐ Entirely on land of owner ☐ On public right of way/easement

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

Signature of owner or authorized agent

2/6/12
Date

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

Application/Permit No.: _____ Date Filed: _____ Date Issued: _____

Edit 6/21/99

SEE REVERSE SIDE FOR INSTRUCTIONS

HISTORIC AREA WORK PERMIT

CITY OF CHARLESTON

BOARD OF ARCHITECTURAL REVIEW

843/958-6408

SEE REVERSE SIDE FOR INSTRUCTIONS

THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

1. **WRITTEN DESCRIPTION OF PROJECT**

   a. Description of existing structure(s) and environmental setting, including their historical features and significance:

   See "Falling Green Rehabilitation Recommendations" dated 6/13/03 on file.

   b. General description of project and its effect on the historic resource(s), the environmental setting, and, where applicable, the historic district:

2. **SITE PLAN**

   Site and environmental setting, drawn to scale. You may use your plat. Your site plan must include:

   a. the scale, north arrow, and date;

   b. dimensions of all existing and proposed structures; and

   c. site features such as walkways, driveways, fences, ponds, streams, trash dumpsters, mechanical equipment, and landscaping.

3. **PLANS AND ELEVATIONS**

   You must submit 2 copies of plans and elevations in a format no larger than 11" x 17". Plans on 8 1/2" x 11" paper are preferred.

   a. ***Schematic construction plans***, with marked dimensions, indicating location, size and general type of walls, window and door openings, and other fixed features of both the existing resource(s) and the proposed work.

   b. Elevations (facades), with marked dimensions, clearly indicating proposed work in relation to existing construction and, when appropriate, context. All materials and fixtures proposed for the exterior must be noted on the elevations drawings. An existing and a proposed elevation drawing of each facade affected by the proposed work is required.

4. **MATERIALS SPECIFICATIONS**

   General description of materials and manufactured items proposed for incorporation in the work of the project. This information may be included on your design drawings.

5. **PHOTOGRAPHS**

   a. Clearly labeled photographic prints of each facade of existing resource, including details of the affected portions. All labels should be placed on the front of photographs.

   b. Clearly label photographic prints of the resource as viewed from the public right-of-way and of the adjoining properties. All labels should be placed on the front of photographs.

6. **TREE SURVEY**

   If you are proposing construction adjacent to or within the dripline of any tree 6" or larger in diameter (at approximately 4 feet above the ground), you must file an accurate tree survey identifying the size, location, and species of each tree of at least that dimension.

7. **ADDRESSES OF ADJACENT AND CONFRONTING PROPERTY OWNERS**

   For **ALL** projects, provide an accurate list of adjacent and confronting property owners (not tenants), including names, addresses, and zip codes. This list should include the owners of all lots or parcels which adjoin the parcel in question, as well as the owner(s) of lot(s) or parcel(s) which lie directly across the street/highway from the parcel in question. You can obtain this information from the Department of Assessments and Taxation, 51 Monroe Street, Rockville, (301/279-1355).

PLEASE PRINT (IN BLUE OR BLACK INK) OR TYPE THIS INFORMATION ON THE FOLLOWING PAGE.
PLEASE STAY WITHIN THE GUIDES OF THE TEMPLATE, AS THIS WILL BE PHOTOCOPIED DIRECTLY ONTO MAILING LABELS.

THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

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   ____

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   ____

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PLEASE STAY WITHIN THE GUIDES OF THE TEMPLATE, AS THIS WILL BE PHOTOCOPIED DIRECTLY ONTO MAILING LABELS.

HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFING
[Owner, Owner's Agent, Adjacent and Confronting Property Owners]

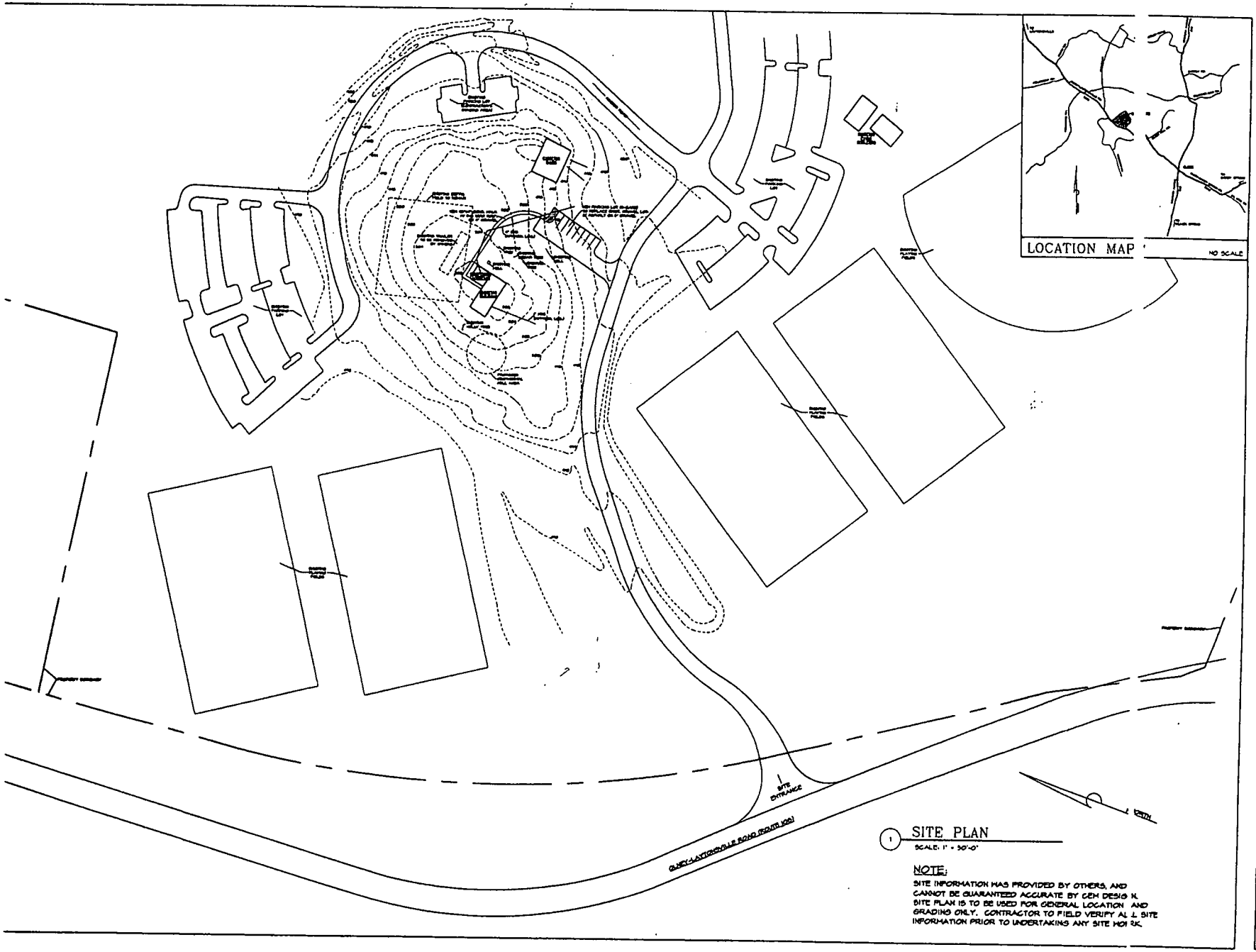
HPC Staff has information on addresses.

Owner's mailing address	**Owner's Agent's mailing address**
Adjacent and confronting Property Owners mailing addresses	

Adjacent and contiguous property owners mailing address	
Owner's mailing address	Owner's Agent's mailing address

HAWP APPLICATION: MAILING ADDRESSES FOR NOTICING

[Owner, Owner's Agent, Adjacent and Contiguous Property Owners]



LOCATION MAP

NO SCALE

1 SITE PLAN

SCALE: 1" = 50'-0"

NOTE:

SITE INFORMATION HAS PROVIDED BY OTHERS, AND CANNOT BE GUARANTEED ACCURATE BY GEM DESIG N. SITE PLAN IS TO BE USED FOR GENERAL LOCATION AND GRADING ONLY. CONTRACTOR TO FIELD VERIFY AL L SITE INFORMATION PRIOR TO UNDERTAKING ANY SITE WOR RK.

GEM DESIGN
120 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301.294.0262
20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

Revisions

Rev.	Date	Description
1		
2		
3		
4		
5		

Sheet Title
SITE PLAN

SP1.1
SHEET 1 OF 1

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Maryland Department of Planning
Maryland Historical Trust

Richard Eberhart Ha
Secretary
Matthew J. Power
Deputy Secretary

October 12, 2011

Elisabeth Deal
Executive Director, Olney Boys & Girls
P.O. Box 2
Olney, Maryland 20830

Re: Falling Green, Montgomery County – Change/Alteration
Maryland Historical Trust Preservation Easement

Dear Ms. Deal:

The Maryland Historical Trust (MHT) is in receipt of your application, dated September 27, 2011, requesting approval of the Civil Engineering Plans and scope of archeology as it relates to the new proposed geothermal well, asphalt parking lot, concrete sidewalks, rain gardens, and new water and sewer locations. The MHT Easement Committee (Committee) reviewed the application at its meeting on October 4, 2011.

Based upon the review and recommendation of the Committee, I approve of the Civil Engineering plans and scope of archeology as it relates to the new proposed geothermal well, asphalt parking lot, concrete sidewalk, rain gardens and new water and sewer locations conditioned upon compliance with the enclosed comments by Dr. Charlie Hall. This work is consistent with The Secretary of the Interior's *Standards for the Treatment of Historic Properties, General Rehabilitation Standard 8.*

Approval is valid for a period of six months from the date of this letter. Should you require additional time to complete the work, make any changes to the scope of work as approved, or have any questions regarding this letter, please contact Amy Skinner, Easement Administrator, at (410) 514-7632 or by email at askinner@mdp.state.md.us.

Sincerely,

Elizabeth Hughes for

J. Rodney Little
Director
Maryland Historical Trust

JRL/AMS

cc: Anne Raines, MHT

Falling Green
4501 Olney-Laytonsville Rd
Olney, MD 20832

Charles Hall
MHT

Review of *Scope-Of-Work, Archaeological Testing, Falling Green House Exterior Areas,* prepared by Paul Friedman (September 22, 2011) and considered by the Easement Committee on October 4, 2011.

The archeological investigation proposed is a Phase I identification survey utilizing small (.5 x .5 m) units excavated on a grid within the areas to be directly impacted by proposed sewer and water lines, rain garden areas, geothermal well, parking lot, and sidewalk. Excavation methods, documentation, laboratory analysis, and reporting are discussed. There are several issues that are either not presented, unclear, or problematic, however, and these are discussed below.

1. There is no discussion of background research in the proposal. While the research conducted by Hutchins and Fry (2000) is well done and useful, they recommended additional background research be conducted for the property.
2. The relationship between the grid used by Hutchins and Fry and that to be established during the proposed investigation is unclear. The use of metric unit for the proposed investigation, while Hutchins and Fry used English units, suggests that the two grids may be unrelated. If so, how will the proposed investigations take into account the work done by Hutchins and Fry? Why is the proposed test interval approximate ("about 5 meters")?
3. The proposal does not discuss the possible need for conservation of certain classes of artifacts that may be expected on historic sites (metal, leather, bone, etc.).
4. The proposal does not discuss the curation of the collection. Where will the collection be curated (MAC Lab?)?

It is most important that the neither investigators nor the Olney Boys and Girls Club evaluate or plan for the recovery of any identified archeological features or artifact concentrations that are identified during the Phase I effort without first consulting with the Maryland Historical Trust (MHT). Rather, while it is acceptable for features identified during the excavations to be exposed through expansion of the test excavation unit, they must be left in-place (not excavated/recovered) pending consultation with the MHT, and review by the Easement Committee of a formal plan.

My review of Hutchins and Fry (2000) follows, and contains recommendations offered to the OBGC at an on-site meeting March 10, 2011.

Falling Green
4201 Olney-Laytonsville Rd
Olney, MD 50835

Charles Hall
WHT

Review of Scobs-O-Hook Archaeological Testing, Falling Green Home Extension Addn.
prepared by Paul Friedman (September 25, 2011) and considered by the Research Committee on
October 4, 2011.

The archaeological investigation proposed is a Phase I identification survey utilizing small (2 x 2
m) units excavated on a grid within the areas to be directly impacted by proposed sewer and
water lines, rain garden areas, realignment work, parking lot, and sidewalk. Excavation methods,
documentation, laboratory analysis, and reporting are discussed. There are several issues that are
either not presented, unclear, or problematic, however, and these are discussed below.

1. There is no discussion of background research in the proposal. While the research conducted by Hutchins and Fry (2000) is very good and useful, they recommended additional background research be conducted for the property
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It is most important that the author investigators not the Olney Boys and Girls Club explains or bias for the recovery of any identified archaeological features or artifact concentrations that are identified during the Phase I effort without first consulting with the Maryland Historical Trust (MHT). Karpet, while it is acceptable for features identified during the excavations to be exposed through expansion of the test excavation unit, they must be left in-place (not excavated/recovered) pending consultation with the MHT and review by the Research Committee of a formal plan.

My review of Hutchins and Fry (2000) follows, and contains recommendations offered to the OBGC at an on-site meeting March 10, 2011.

Previous Archeology:

Review of *Archaeological Excavations at "Falling Green", Olney, Montgomery County, Maryland,* by Karen Hutchins and Sarah Fry in 2000. This report was written for a sophomore-level class taught by Dr. Eugenia Robinson at Montgomery College. The report is well written, and useful. It contains important historical information regarding the extent and organization of the working farm, and the results of a limited archeological survey. As a class project prepared by undergraduates, the report does not meet our Standards and Guidelines for Archeological Investigations in Maryland, and it is not comprehensive (does not consider the entire property).

Among the important information contained in the report are the results of background research (insurance documents and a narrative of a former Brooke family resident) that allowed the researchers to map the "putative locations" of 8 outbuildings. Many other outbuildings (including a detached kitchen and a brick clamp) were documented in either the narrative, or in the insurance documents.

Archeological investigations were conducted in two limited areas, immediately to the north and east of the house. The excavations, including 49 1x1 foot shovel test pits excavated on a 10 foot or 5 foot interval, and one 1x4 foot trench, revealed concentrations of artifacts and features indicative of outbuildings and activity areas.

The researchers themselves had three recommendations:

1. Continue digging. The research indicated the putative locations of former outbuildings, many of which are beyond the areas investigated, and nine of the forty-nine shovel test pits revealed evidence of archeological features which, while interesting, was not definitive in terms of functional attribution. Additional work extending the shovel test pit grid and further investigating the features was recommended.

2. Excavate the brickwork to attempt to identify its purpose. A brick or cobble feature was identified to the east of the house. Despite the excavation of two 1x1 foot shovel test pits five feet apart and an intervening 1 foot by four foot connecting trench, the function of the feature could not be identified. Additional work in this area was recommended.

3. Research remaining documentation on Falling Green and the Brooke family at the University of Maryland library. The researchers found reference to "The Brooke Family Papers" in the archives of the University of Maryland library, but did not have time to investigate the lead. They recommended research at the UM archives.

Based on the documentary and field research conducted, it is clear that the area surrounding the Falling Green house is archeologically rich. Large numbers of artifacts were recovered from many of the shovel test pits, and evidence of intact features was observed in many areas.

Proposed Property Alterations

Overlaying (see page 3 of this document) the proposed improvements and the archeologically investigated areas was somewhat complicated by a lack of precision in the either the fieldwork, or the reporting, or both; the house structure is not illustrated in the report to scale, resulting in the scaled southeast shovel test pit area being more distant from the standing structure than illustrated in the report. However, it is clear from this overlaying that most of the improvements are proposed for areas that were not investigated by Hutchins and Fry. Given the archeological potential of the property, as clearly demonstrated by the 2000 archeological work, the areas of proposed impacts (minimally the geothermal wells and trench connection to the house, new addition, ramp, sidewalk, and parking area) will require archeological survey.

Recommended Methods:

I would recommend that the additional fieldwork be preceded by additional archival research, including, but not limited to, the Brooke Family papers at the University of Maryland library archives. This research, coupled with that already conducted by Hutchins and Fry, should inform the fieldwork. Generally, however, I would recommend that the 10 foot grid used by Hutchins and Fry be extended to incorporate the entire historic core area surrounding the house, and that shovel test pits be excavated on this grid. The work must be directly supervised by a professional archeologist, and standard archeological methods must be followed (recovered soil must be screened through ¼" mesh, all artifacts must be kept separately by provenience, standard observations of soil color and texture must be recorded for each shovel test pit). It may be necessary to expand the grid, or to tighten the interval, in order to explore concentrations or suggestive features indentified during the fieldwork. Laboratory processing of the artifacts will require careful washing, cataloging, labeling, and bagging according to professional standards. Provisions for any needed artifact conservation and *in perpetuity* curation of the recovered collection should be considered. A report of the investigations must be written by the supervising professional archeologist, who should compare the results of the survey with the planned improvements, and should make recommendations. Avoidance of artifact concentrations and features should be the preferred option. If archeological resources must be impacted, a plan for their recovery must be presented to the Easement Committee for review and approval prior to any work being implemented.

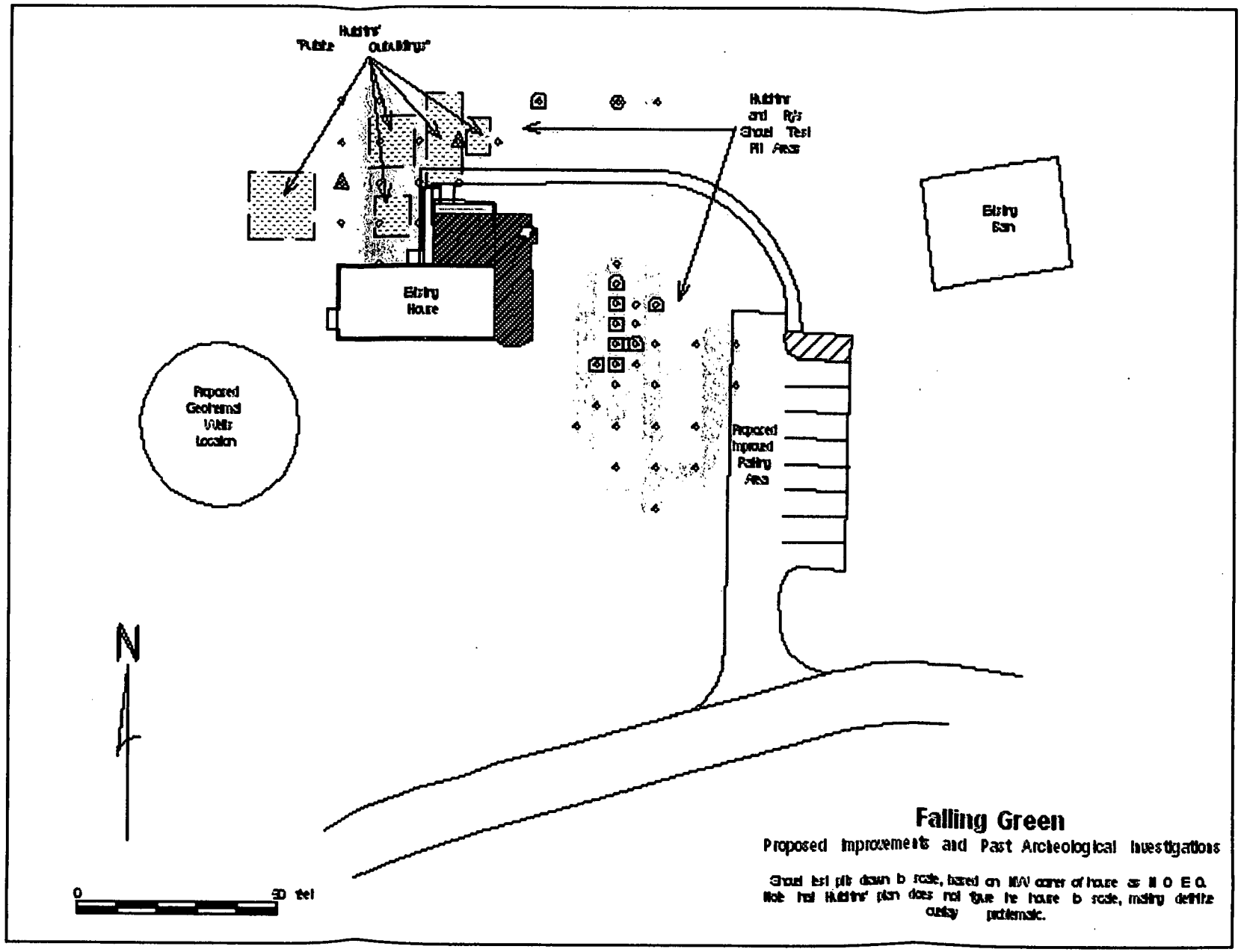
Based on the documentary and field research conducted, it is clear that the area surrounding the Falling Green house is archeologically rich. Large numbers of artifacts were recovered from many of the shovel test pits, and evidence of intact features was observed in many areas.

Proposed Property Alterations

Overlaying (see page 3 of this document) the proposed improvements and the archeologically investigated areas was somewhat complicated by a lack of precision in the either the fieldwork, or the reporting, or both: the house structure is not illustrated in the report to scale, resulting in the scaled southeast shovel test pit area being more distant from the standing structure than illustrated in the report. However, it is clear from this overlaying that most of the improvements are proposed for areas that were not investigated by Hutchins and Fry. Given the archeological potential of the property, as clearly demonstrated by the 2000 archeological work, the areas of proposed impacts (minimally the geothermal wells and trench connection to the house, new addition, ramp, sidewalk, and parking area) will require archeological survey.

Recommended Methods:

I would recommend that the additional fieldwork be preceded by additional archival research, including, but not limited to, the Brooke Family papers at the University of Maryland library archives. This research, coupled with that already conducted by Hutchins and Fry, should inform the fieldwork. Generally, however, I would recommend that the 10 foot grid used by Hutchins and Fry be extended to incorporate the entire historic core area surrounding the house, and that shovel test pits be excavated on this grid. The work must be directly supervised by a professional archeologist, and standard archeological methods must be followed (recovered soil must be screened through ¼" mesh, all artifacts must be kept separately by provenience, standard observations of soil color and texture must be recorded for each shovel test pit). It may be necessary to expand the grid, or to tighten the interval, in order to explore concentrations or suggestive features indentified during the fieldwork. Laboratory processing of the artifacts will require careful washing, cataloging, labeling, and bagging according to professional standards. Provisions for any needed artifact conservation and in perpetuity curation of the recovered collection should be considered. A report of the investigations must be written by the supervising professional archeologist, who should compare the results of the survey with the planned improvements, and should make recommendations. Avoidance of artifact concentrations and features should be the preferred option. If archeological resources must be impacted, a plan for their recovery must be presented to the Easement Committee for review and approval prior to any work being implemented.



Falling Green

Proposed Improvements and Past Archeological Investigations

Ground test pit drawn to scale, based on NW corner of house as N 0 E 0. Note that Hutchins' plan does not figure the house to scale, making definite overlay problematic.

Fothergill, Anne

From: Fothergill, Anne
Sent: Monday, January 30, 2012 10:19 AM
To: 'obgcdeal@aol.com'
Subject: RE: Falling Green Review

Sure, you can reference the approved permit #557967 (this is the most recent permit # from 2011 for the addition and alterations to the building) and you don't have to resubmit all the old info. But I am wondering if the work needs HPC approval—can you describe to me what it is and maybe in fact it won't need to go through the review process. Also, in terms of permit #557987 I have the approval paperwork here ready to go but I have not received the final plans to be stamped so when those are ready let me know. Thanks, Anne

Anne Fothergill
Planner Coordinator
M-NCPPC
Montgomery County Planning Department
Functional Planning and Policy Division
Historic Preservation Section
1400 Spring Street, Suite 500W
Silver Spring, MD 20910
(301) 563-3400 phone
(301) 563-3412 fax
anne.fothergill@montgomeryplanning.org
www.montgomeryplanning.org/historic

From: obgcdeal@aol.com [mailto:obgcdeal@aol.com]
Sent: Friday, January 27, 2012 12:17 PM
To: Fothergill, Anne
Subject: Re: Falling Green Review

Anne,
I was referred to you by Scott Whipple regarding Falling Green at the OBGC Community Park. As you may know, we have an active HAWP for the site (#379107), but it does not include the plans for the civil engineering, which has been approved by MHT. I'm filling out a new HAWP application and wondered if it would suffice to simply reference the already approved HAWP and provide information only related to the civil engineering element (as oppsed to re-filing everything related to the project once again)?

I appreciate your assistance.

Elisabeth Deal
Olney Boys & Girls Community Sports Assocation
301-570-7049
Begin forwarded message:

> **From:** "Whipple, Scott" <Scott.Whipple@montgomeryplanning.org>
> **Date:** January 24, 2012 11:54:26 AM EST
> **To:** Kathy Lyons <kmhlyons@aol.com>
> **Subject: RE: Falling Green Review**
>
> Anne Fothergill (anne.fothergill@montgomeryplanning.org) will be assigned this project.

301-563-3404 | scott.whipple@montgomeryplanning.org | www.montgomeryplanning.org/historic/
Join us on <image001.png> Facebook | Follow us on <image002.gif> Twitter

From: kmhlyons@aol.com [mailto:kmhlyons@aol.com]
Sent: Monday, January 23, 2012 1:23 PM
To: Whipple, Scott
Subject: Fwd: Falling Green Review

Hi Scott,
As we proceed with our restoration plans at Falling Green in the new year, wanted to follow up on our exchange of emails to seek clarification as to how we need to proceed with HPC.
Is there a determination as to whether OBGC needs to submit the MHG approved civil engineering plans and archeological proposal. The archeological assessment commenced after MHT approved and is now almost complete, would it be better to just submit the final report in the Spring? The civil engineering plan is just a plan, no implementation has commenced and will not until we commence our construction phase of the project. Should we submit the MHT approved proposed plans to HPC or await the completion of the archeological assessment and submit it along with civil engineering plans pre-construction?
Please advise.
Kathy Lyons
Falling Green Project Team

-----Original Message-----
From: kmhlyons <kmhlyons@aol.com>
To: Scott.Whipple <Scott.Whipple@montgomeryplanning.org>
Cc: OBGCDEAL <OBGCDEAL@aol.com>
Sent: Mon, Nov 21, 2011 5:28 am
Subject: Re: Falling Green Review

Scott,
According to the Archeologists, it involves both a Phase I and Phase II investigation according to the Maryland Historic Trust "Standards and Guidelines for Archeological Investigations in Maryland.". Limited shovel pit testing is being done. Does the existing HAWP we have on Falling Green cover this or is an additional one required? What do we need to do to receive this if needed? The civil engineering plan addresses areas of disturbance and plans that follow the approved architectural plans (CEM Design) There is one exception in that they address "rain gardens" required by the county. Both of these plans have been approved by MHT. Please let me know how we need to proceed.
Thanks,
Kathy

-----Original Message-----
From: Whipple, Scott <Scott.Whipple@montgomeryplanning.org>
To: kmhlyons <kmhlyons@aol.com>
Cc: OBGCDEAL <OBGCDEAL@aol.com>
Sent: Mon, Nov 21, 2011 3:36 am
Subject: RE: Falling Green Review

What is involved? If the archaeology is simply doing test pits/test units at several places around the property (Phase I archaeology), you do not need the HPC to approve a HAWP. Should you need to move from Phase I to Phase II archaeology (a more large scale investigation, recovery, etc.), a HAWP may be required.

Regarding the civil engineering, is this related to work the HPC has already approved, or new work?

Scott D. Whipple Supervisor | Historic Preservation Section
Functional Planning and Policy Division | Montgomery County Planning Department | M-NCPPC
Office: 1400 Spring Street, Suite 500 | Silver Spring | Mail: 8787 Georgia Avenue | Silver Spring MD 20910
301-563-3400 phone | 301-563-3412 fax |
scott.whipple@montgomeryplanning.org | www.montgomeryplanning.org/historic/

From: kmhlyons@aol.com [mailto:kmhlyons@aol.com]
Sent: Friday, November 18, 2011 4:51 PM
To: Whipple, Scott
Cc: OBGCDEAL@aol.com
Subject: Falling Green Review

Scott,
We received approval from MHT of the Civil Engineering plans and proposed archeological assessment (required by terms of the historic easement) in October. Is OBGC required to seek review and approval of either of these plans with HPC? Our next step is to complete the archeological assessment and then as we have had the architectural plans approved by MHT and HPC, prepare a bid for and hire a general contractor. Are there any other components of the project that require HPC review?
Thanks,
Kathy Lyons
Volunteer Project Team

EXPEDITED
MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	4501 Olney-Laytonsville Road, Olney	**Meeting Date:**	1/26/11
Resource:	*Master Plan* Site #23/57, **Falling Green**	**Report Date:**	1/19/11
Applicant:	Olney Boys and Girls Community Sports Association (Kathy Lyons, Agent)	**Public Notice:**	1/12/11
Review:	HAWP	**Tax Credit:**	Partial
Case Number:	23/57-11A	**Staff:**	Anne Fothergill
Proposal:	Removal of additions, construction of rear addition, and other alterations		

STAFF RECOMMENDATION

☑ **Approval**
☐ Approval with conditions

PROPERTY DESCRIPTION

SIGNIFICANCE: *Master Plan* Site #23/57, **Falling Green**
STYLE: Georgian
DATE: 1764

excerpt from Places in the Past:

Falling Green is a fine, well-preserved Georgian residence with a 150-year association with the Brooke family, one of the oldest and most illustrious in Montgomery County. James Brooke, Quaker settler, conveyed the land in 1745 to his son Basil who built the Georgian house in 1764. Like Norwood, Falling Green follows a traditional Georgian form and interior arrangement of space. The five-bay, single-pile dwelling has a center passage plan. Constructed of brick laid in Flemish bond, the structure features a beltcourse, molded watertable, and crenelated cornice molding.

PROPOSAL

This proposal has been reviewed by the Maryland Historical Trust and approved with six conditions (see Circles 6+7).

The applicants propose to repair and rehabilitate the building including restoring the windows and doors. They also propose to:

- remove the side and rear additions
- construct a new two-story addition at the rear of the building with wood siding and a standing seam metal roof, wood windows, and stone salvaged from removed additions
- construct front and east side entrance stoops with wood railings and steps
- replace the asphalt shingle roof with a cedar shingle roof

- replace the gravel parking lot at the east side of house with tar and chip with blonde stone or pea gravel
- install a 4' wide concrete walkway from parking area to rear of house

See photos of existing conditions in Circles 50-61 and proposed plans in Circles 8-49.

APPLICABLE GUIDELINES

Montgomery County Code; Chapter 24A-8

(a) The commission shall instruct the director to deny a permit if it finds, based on the evidence and information presented to or before the commission that the alteration for which the permit is sought would be inappropriate, inconsistent with or detrimental to the preservation, enhancement or ultimate protection of the historic site or historic resource within an historic district, and to the purposes of this chapter.

(b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:

(1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or

(2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or

(3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or

(4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or

(5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or

(6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

(c) It is not the intent of this chapter to limit new construction, alteration or repairs to any 1 period or architectural style.

(d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

STAFF RECOMMENDATION

Staff recommends that the Commission **approve** the HAWP application as being consistent with Chapter 24A-8(b), (1) and (2):

and with the general condition that the applicant shall present the **3 permit sets of drawings to Historic Preservation Commission (HPC) staff for review and stamping** prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make **any alterations** to the approved plans. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or anne.fothergill@mncppc-mc.org to schedule a follow-up site visit.

RETURN TO: DEPARTMENT OF PERMITTING SERVICES
255 ROCKVILLE PIKE 2nd FLOOR ROCKVILLE MD 20850
240 777 6370

DPS - #8

HISTORIC PRESERVATION COMMISSION
301/563-3400

APPLICATION FOR HISTORIC AREA WORK PERMIT

Contact Person: Kathy Lyons

Daytime Phone No.: 301-570-5577

Tax Account No.: 31047658

Name of Property Owner: Olney Boys and Girls Community Sports Association Daytime Phone No.: 301-570-7049

Address: PO Box 2 (Street Number) Olney (City) MD (State) 20830 (Zip Code)

Contractor: _____ Phone No.: _____

Contractor Registration No.: _____

Agent for Owner: Craig Moloney, AIA, CEM Design Daytime Phone No.: 301-294-0682

LOCATION OF BUILDING/PREMISE

House Number: 4501 Street: Olney Laytonsville Road

Town/City: Olney Nearest Cross Street: Olney Mill Road

Lot: 5 Block: _____ Subdivision: Brooke Farm

Liber: _____ Folio: _____ Parcel: _____

PART ONE: TYPE OF PERMIT ACTION AND USE

1A. CHECK ALL APPLICABLE:

☐ Construct ☑ Extend ☑ Alter/Renovate

☐ Move ☑ Install ☐ Wreck/Raze

☐ Revision ☑ Repair ☐ Revocable

CHECK ALL APPLICABLE:

☑ A/C ☐ Slab ☑ Room Addition ☑ Porch ☐ Deck ☐ Shed

☐ Solar ☐ Fireplace ☐ Woodburning Stove ☐ Single Family

☐ Fence/Wall (complete Section 4) ☐ Other: _____

1B. Construction cost estimate: $ 250,000-300,000; Renovation of Main House $600,000-900,000.

1C. If this is a revision of a previously approved active permit, see Permit # 208287, 266785 23/57-00A, 379107

PART TWO: COMPLETE FOR NEW CONSTRUCTION AND EXTEND/ADDITIONS

2A. Type of sewage disposal: 01 ☑ WSSC 02 ☐ Septic 03 ☐ Other: _____

2B. Type of water supply: 01 ☑ WSSC 02 ☐ Well 03 ☐ Other: _____

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

3A. Height _____ feet _____ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

☐ On party line/property line ☐ Entirely on land of owner ☐ On public right of way/easement

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

Signature of owner or authorized agent

1/4/11
Date

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

Application/Permit No.: 557967 Date Filed: _____ Date Issued: _____

Edit 6/21/99

SEE REVERSE SIDE FOR INSTRUCTIONS

3

THE FOLLOWING ITEMS MUST BE COMPLETED AND THE REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.

1. **WRITTEN DESCRIPTION OF PROJECT**

   a. Description of existing structure(s) and environmental setting, including their historical features and significance:

   See "Falling Green Rehabilitation Recommendations" dated June 15, 2003

   b. General description of project and its effect on the historic resource(s), the environmental setting, and, where applicable, the historic district:

   Same as above
   CEM Design project plans

2. **SITE PLAN**

   Site and environmental setting, drawn to scale. You may use your plat. Your site plan must include:

   a. the scale, north arrow, and date;

   b. dimensions of all existing and proposed structures; and

   c. site features such as walkways, driveways, fences, ponds, streams, trash dumpsters, mechanical equipment, and landscaping.

3. **PLANS AND ELEVATIONS**

   You must submit 2 copies of plans and elevations in a format no larger than 11" x 17". Plans on 8 1/2" x 11" paper are preferred.

   a. ***Schematic construction plans***, with marked dimensions, indicating location, size and general type of walls, window and door openings, and other fixed features of both the existing resource(s) and the proposed work.

   b. Elevations (facades), with marked dimensions, clearly indicating proposed work in relation to existing construction and, when appropriate, context. All materials and fixtures proposed for the exterior must be noted on the elevations drawings. An existing and a proposed elevation drawing of each facade affected by the proposed work is required.

4. **MATERIALS SPECIFICATIONS**

   General description of materials and manufactured items proposed for incorporation in the work of the project. This information may be included on your design drawings.

5. **PHOTOGRAPHS**

   a. Clearly labeled photographic prints of each facade of existing resource, including details of the affected portions. All labels should be placed on the front of photographs.

   b. Clearly label photographic prints of the resource as viewed from the public right-of-way and of the adjoining properties. All labels should be placed on the front of photographs.

6. **TREE SURVEY**

   If you are proposing construction adjacent to or within the dripline of any tree 6" or larger in diameter (at approximately 4 feet above the ground), you must file an accurate tree survey identifying the size, location, and species of each tree of at least that dimension.

7. **ADDRESSES OF ADJACENT AND CONFRONTING PROPERTY OWNERS**

   For **ALL** projects, provide an accurate list of adjacent and confronting property owners (not tenants), including names, addresses, and zip codes. This list should include the owners of all lots or parcels which adjoin the parcel in question, as well as the owner(s) of lot(s) or parcel(s) which lie directly across the street/highway from the parcel in question. You can obtain this information from the Department of Assessments and Taxation, 51 Monroe Street, Rockville, (301/279-1355).

PLEASE PRINT (IN BLUE OR BLACK INK) OR TYPE THIS INFORMATION ON THE FOLLOWING PAGE.
PLEASE STAY WITHIN THE GUIDES OF THE TEMPLATE, AS THIS WILL BE PHOTOCOPIED DIRECTLY ONTO MAILING LABELS.

OBGC Sports
ASSOCIATION

January 3, 2011

Historic Preservation Commission
c/o Department of Permitting Services
255 Rockville Pike, 2nd Floor
Rockville, MD 20850

RE: Application for Historic Area Work Permit

Dear HPC Commissioners:

Attached is an application made by the Olney Boys and Girls Community Sports Association (OBGC), for a Historic Area Work Permit allowing rehabilitation of the main, brick structure and construction of a new addition to the historic Falling Green. These materials are submitted in anticipation of the commission's January 26th meeting at which this matter will be discussed.

The attached HAWP Application includes the following documentation:

1. HPC Staff has previously been provided a copy of the Falling Green Rehabilitation Recommendations that serve as the Written Description of the Project.
2. A Site Plan of the OBGC Recreational Park.
3. HPC was provided copies of schematic construction plans and elevations for the proposed addition and rehabilitation of the main house by Architect, Craig Moloney of CEM Design. Two 11"x17" copies are attached
4. Materials Specifications are included in CEM's design drawings.
5. Diskette with photographic images.
6. Tree Survey.
7. HPC Staff has information on Addresses of Adjacent and Confronting Property Owners.

OBGC is also including a copy of the correspondence from the Maryland Historic Trust's Easement Committee approving the plans for the proposed addition and rehabilitation plans for the main brick structure.

Thank you for your favorable consideration of this application.

Sincerely,

Kathy Lyons
Falling Green Project Coordinator

(5)

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Maryland Department of Planning
Maryland Historical Trust

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

December 20, 2010

Kathy Lyons
Falling Green Volunteer Project Manager
Olney Boys and Girls Club
Post Office Box 2
Olney, Maryland 20830

Re: Falling Green, Montgomery County – Change/Alteration
Falling Green -Loan of 2009, Chapter No. 485
Maryland Historical Trust Preservation Easement

Dear Ms. Lyons:

The Maryland Historical Trust (MHT) is in receipt of your application, containing the requested additional information, dated December 6, 2010, for approval to rehabilitate and construct a proposed addition. The MHT Easement Committee (Committee) reviewed the application at its meeting on December 14, 2010. The MHT Project Review and Compliance (PR&C) division, has also reviewed the project to assess its effects on historic properties, pursuant to the Maryland Historical Trust Act of 1985, as amended (State Finance and Procurement Article § 5A-325 of the Annotated Code of Maryland).

Based upon the review and recommendation of the Committee, I approve of the proposed rehabilitation and construction of the proposed addition conditioned upon the following:

1.) Any ground area being disturbed (basement, sidewalk, geothermal area, trench, etc.) must address archeology. A preliminary archeological assessment is needed for all locations.
2.) All mortar and stucco must be removed by hand; no mechanical grinders may be used.
3.) Design details for the mounting of the transformer boxes at front and side entrances to the main building must be provided, including a description of any drilling through existing walls.
4.) The cedar roof must be installed in a historically accurate manner (over shingle lath, not over plywood which is covered with asphalt-impregnated paper) and there should be no ridge cap.
5.) The parking lot and walkway material must be tar and chip with blonde stone or pea gravel.
6.) All mortar must match the original mortar in color and composition based on an analysis of the original mortar.

This work is consistent with *The Secretary of the Interior's Standards for Rehabilitation, General Rehabilitation Standards 6, 7,* and *9.*

As provided by the Bond Bill, the Maryland Historical Trust has examined the proposed project to determine whether, prior to the issuance of the bonds, the grantee or owner of the property must convey a perpetual preservation easement to the Trust. After review of the documentation provided, the Trust has determined that:

1) The property is already subject to a perpetual historic preservation easement acceptable to the Trust.

Therefore, the Trust does **not** require the conveyance of a perpetual preservation easement on this property. PR&C has determined the proposed project will have no adverse effect on historic properties, including historic structures and archeological sites.

Approval is valid for a period of six months from the date of this letter. Should you require additional time to complete the project, make any changes to the scope of work as approved, or have any questions regarding this letter, please contact Amy Skinner, Easement Administrator, at (410) 514-7632 or by email at askinner@mdp.state.md.us.

By copy of this letter, we are notifying the Board of Public Works (BPW) that the project's historic preservation review and consultation have been completed. If you have questions or require further information regarding the Bond Bill review, please contact Beth Cole at 410-514-7631 or bcole@mdp.state.md.us. Thank you for providing us this opportunity to comment.

Sincerely,

J. Rodney Little
Director
Maryland Historical Trust

JRL/AMS

cc: Beth Cole, MHT
Sheila McDonald, BPW
Rehena Retuma, Comptroller
Fran Vehstedt, DGS

Falling Green

Restoration and Addition
4501 Olney-Laytonsville Road
Olney, Maryland 20832

Architect:
Craig Moloney, AIA, LEED AP
CEM Design
520 Anderson Avenue
Rockville, Maryland 20850
301-294-0682

Structural Engineer:
Jeffrey Overmiller, PE
Structura, Inc.
401 North Washington Street, Suite 900
Rockville, Maryland 20850
301-987-9234

Mechanical, Electrical, Plumbing Engineer:
Mendoza, Ribas, Farinas, & Associates
6265 Executive Blvd.
Rockville, Maryland 20852
301-468-8882

CODE ANALYSIS

Project Description:

Renovation and restoration of the 1764 Falling Green Manor House; demolition of inappropriate additions to the manor house; construction of a new 19.5' x 20' addition to the rear of the house; change of use of the first floor and a portion of the second floor from Residential use to Business (B) use to house offices for the Olney Boys and Girls Clubs, the balance of the space on the second floor is to remain Residential use (R-3) to house a caretaker for the property; installation of new mechanical, electrical, and plumbing systems.

Applicable Codes:

Building Code:
2009 IGC International Existing Building Code
2009 IGC International Building Code (w/ Amends.)
Electrical Code: 2008 NFPA National Electrical Code (w/ Amends.)
Mechanical Code: 2009 IGC International Mechanical Code (w/ Amends.)
2009 IGC International Fuel Gas Code
Plumbing and Gas Code: MPSC Plumbing Code
Life Safety Code: NFPA-101/2009 (w/ Amends.)
Fire Alarm Code: NFPA-72/2002 (w/ Amends.)
Sprinkler Code: NFPA-13/2002 (w/ Amends.)
Accessibility: COMAR 05.02.02, ADAAG, & FFHAG
Energy Conservation: 2009 IGC International Energy Conservation Code

Use and Occupancy Classification:
B (Business) - First floor exist. bldg.: 1134 s.f.
First floor new const.: 327 s.f.
First floor total: 1461 s.f.
Second floor exist. bldg.: 687 s.f.

R-3 (Residential) - First floor new const.: 70 s.f.
Second floor new const.: 344 s.f.
Second floor exist. bldg.: 446 s.f.
Total residential: 910 s.f.

Incidental Uses -
Furnace room - 1-hr. fire separation (Crawl space)
Storage rm. (400 s.f.) - No separation

Construction Type: VB
Fire ratings: Structural frame - 0
Exterior bearing walls - 0
Interior bearing walls - 0
Non-bearing walls - 0
Floor construction - 0
Roof construction - 0

Separation of Occupancies:
B to R-3 - 2-hour (nonsprinklered)

Height and Area Limitations:
B - 2-Story, (9000 s.f. (nonsprinklered)
R-3 - 3-Story, unlimited s.f. (nonsprinklered)

Highrise: No
Covered Mall: No
Sprinklered: No
Fire Alarm Provided: Yes

Occupants:
B - 100 s.f. Gross per occupant
x 1461 s.f. = 15 occupants (1st fl.)
x 687 s.f. = 7 occupants (2nd fl.)
B Total: 22 occupants

R-3 - 200 s.f. Gross per occupant
x 910 s.f. = 5 occupants

Finishes:
B - Exits - Class A walls & ceilings (nonsprinklered)
- Rooms - Class C walls & ceilings (nonsprinklered)
- Corridors - Class B walls & ceiling (nonsprinklered)

R-3 - Exits - Class C walls & ceiling (nonsprinklered)
- Rooms - Class C walls & ceilings (nonsprinklered)
- Corridors - Class C walls & ceiling (nonsprinklered)

Floor finishes - Class II

Egress:
Exit access travel distance - 1200' (nonsprinklered) (Common path - 75')
Required exits - 1 per use (<30 occup.) (accessible)
Exit stairs - Existing width/risers/treads (<50 occup.)
- No enclosure (1020), exp.1 (B use), exp.3 (R-3 use))
- Space under stairs - 1-hr. fire rated enclosure

Plumbing Fixtures:
Water Closets: 1 per 20 occupants (accessible)
Lavatory: 1-lav per wc.
1-Drinking fountain req.
1-Service sink req.

Parking:
Prof. Office: 3-spaces/ 1000 s.f. gross + 6-spaces.
Residential: 2-spaces required
Accessible spaces: 1-required (van accessible)

Maryland Building Rehabilitation Code

Change of Use or Occupancy - Yes

Single means of egress per floor
- Occupant load of 50 or less per floor. (COMAR 05.16.05.02C3)
- 75' Max. travel distance to exit.

Deadend corridor not to exceed 35'.

Stair handrail on one side (COMAR 05.16.05.10A).

SYMBOL LEGEND

SYMBOL	SYMBOL DESCRIPTION
	SECTION/ DETAIL SYMBOL
	ELEVATION SYMBOL
	DETAIL SYMBOL
	DETAIL WINDOW REFERENCE
	WALL TYPE SYMBOL
	DEMOLITION SYMBOL
WOMENS	ROOM/ AREA NAME
	KEYED ELEVATION REFERENCE
	REVISION SYMBOL
	REVISION CLOUD

DRAWING INDEX

SHT. #	SHEET DESCRIPTION
T1.1	TITLE SHEET & CODE ANALYSIS
T1.2	GENERAL REQUIREMENTS
T1.3	GENERAL REQUIREMENTS, cont.
T1.4	GENERAL REQUIREMENTS, cont.
T1.5	GENERAL REQUIREMENTS, cont.
SP1.1	SCHEMATIC SITE PLAN
D1.1	FIRST & SECOND FLOOR DEMOLITION PLANS
D1.2	BASEMENT & ATTIC FLOOR DEMOLITION PLANS
A1.1	FIRST FLOOR PLAN - PROPOSED
A1.2	SECOND & ATTIC FLOOR PLANS - PROPOSED
A1.3	BASEMENT FL. PLAN - PROPOSED, & SECTIONS
A2.1	FRONT (SOUTH) & WEST ELEVATIONS - PROPOSED
A2.2	NORTH AND EAST ELEVATIONS - PROPOSED
A3.1	BUILDING SECTIONS & WALL SECTIONS
A4.1	SCHEDULES & INTERIOR ELEVATIONS
A4.2	DETAIL SECTIONS & ELEVATIONS
S0.1	STRUCTURAL SPECIFICATIONS
S0.2	STRUCTURAL SPECIFICATIONS, cont.
S0.3	STRUCTURAL SPECIFICATIONS, cont.
S0.4	STRUCTURAL SPECIFICATIONS, cont.
S1.1	STRUCTURAL FRAMING PLANS
S1.2	STRUCTURAL FRAMING PLANS & DETAILS
M.01	BASEMENT HVAC PLAN
M.02	FIRST FLOOR HVAC PLAN
M.03	SECOND FLOOR HVAC PLAN
M.04	ATTIC HVAC PLAN
M.05	HVAC SCHEDULES, NOTES, DETAILS
M.06	GEOTHERMAL PERFORMANCE SPECIFICATION
E.01	ELECTRICAL NOTES, SCHEDULES & SYMBOLS
E.02A	BASEMENT LIGHTING PLAN
E.02B	BASEMENT POWER PLAN
E.03A	FIRST FLOOR LIGHTING PLAN
E.03B	FIRST FLOOR POWER PLAN
E.04	SECOND FLOOR POWER AND LIGHTING PLANS
E.05	ATTIC POWER AND LIGHTING PLANS
E.06	ELECTRICAL POWER RISER & PANEL SCHEDULES
P.01	BASEMENT PLUMBING PLAN
P.02	FIRST FLOOR PLUMBING PLAN
P.03	SECOND FLOOR PLUMBING PLAN
P.04	ATTIC PLUMBING PLAN
P.05	PLUMBING RISER DIAGRAMS
P.06	PLUMBING FIXTURE SCHEDULES & DETAILS

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301-294-0682 20850

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

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date: 11/30/10

Revisions

No.	Date	Description	By
1			
2			
3			
4			
5			

Sheet Title: COVER

T1.1

SHEET 1 OF 5

2

DIVISION 1 - GENERAL REQUIREMENTS

1. The work includes improvements and an addition to the historic Falling Green manse, for the corporate offices for the Olney Boys and Girls Club and a caretaker's apartment. Olney Boys and Girls Club is referred to herein as the Owner. The contract shall include the construction of this facility in its entirety, as outlined in this set of construction documents, and to secure and pay for any government or regulatory fees, licenses, and permits.
2. The General Contractor shall have successfully completed a minimum of (5) similar projects utilizing the Secretary of the Interior Standards for the restoration, rehabilitation, and addition to an historic resource. Evidence of such experience will be submitted to the Owner on the Contractor's and Sub-Contractor's Qualification Forms. All work on this project will be performed according to the Secretary of the Interior's Standards for Rehabilitation (http://www.nps.gov/history/hps/tps/tax/rhb/index.htm)
3. Contractors shall visit the premises while bidding and shall familiarize themselves with existing conditions & the requirements of the project prior to developing their bid. Material quantities shall be based on actual field conditions and measurements. Do not scale plans.
4. The General Contractor shall compare and coordinate the drawings and shall verify existing conditions. When, in the opinion of the Contractor, a discrepancy exists he shall promptly report it to the Architect for proper adjustment before proceeding with the work.
5. In areas where the drawings do not address methodology, the Contractor shall perform in strict compliance with the manufacturer's specifications and/or recommendations, and the Secretary of the Interior's Guidelines.
6. Unless specifically noted, the General Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, and other facilities and services necessary for proper execution and completion of the work. General Contractor shall furnish all required temporary facilities and temporary utilities immediately after receipt of the notice to proceed, for use of all those engaged in the project work.
7. The General Contractor shall purchase and maintain insurance coverage in accordance with the requirements of the Owner. Contractor shall maintain an active fire-extinguisher at the project throughout all phases of the construction. Verify and coordinate any additional requirements with the Owner.
8. The Contractor shall be responsible for compliance with the orders of any public authority bearing on the performance of the work.
9. All work shall be completed by the General Contractor unless noted. All references to the "Contractor" include the General Contractor and the Sub-contractors. The Contractor shall be responsible for and have control over all construction means, techniques, sequences and procedures, and for coordinating all portions of the work required by the Contract Documents. The Contractor shall be responsible for acts and omissions of the Contractor's employees, Sub-contractors and their agents and employees, and any other persons performing any of the work under a contract with the Contractor.
10. The General Contractor shall coordinate the work of the various trades and subcontractors to assure efficient and orderly installation, provide accommodation for items installed at a later date, verify that characteristics of elements of interrelated operating equipment are compatible, and coordinate the work of various sections which have interdependent responsibilities for installing, connecting to, and placing in service, such equipment. Coordinate space requirements and installation of mechanical and electrical work, which is indicated, detailed, or implied diagrammatically on the drawings.
11. Perform all work in accordance with the Secretary of Interior Standards for Preservation and Rehabilitation, and acceptable trade practice to ensure the highest quality finished product, expressed or implied. Perform all work by skilled mechanics in accordance with established standards of workmanship in each of the various trades.
12. Coordinate blocking requirements for secure attachment of any wall or ceiling mounted items, with adjacent or related trades, accessories equipment, and fixtures. Install required blocking at no additional cost to the Owner.
13. Contractors shall take care to protect all surfaces of the existing historic structure from dust and damage during the construction process. Maintaining dust barriers and protective walking surfaces are the responsibility of the General Contractor. All refuse shall be removed from the premises each day, and properly disposed of. Coordinate refuse removal with the Owner. Failure to maintain clean premises will result in the Owner cleaning and removing debris, restoring barriers, and all charges will be billed to the General Contractor.
14. Work damaged during the construction or not conforming to specified standards, tolerances or manufacturer's instructions for installation shall be replaced by the Contractor at no additional cost to the Owner.
15. Where requested by the Owner to certify conformance to trade standards or the project requirements, the Contractor shall enlist a testing laboratory at the Owner's cost. If the requested test shows non-compliance to generally accepted trade standards or the project requirements, the Contractor shall correct the deficiency at no additional cost to the Owner, and shall reimburse the Owner for all costs of the testing, unless the Contractor has used products incorrectly labeled by the manufacturer, or has made changes previously approved by the Owner.
16. The Contractor shall provide security of the work, including tools and uninstalled materials. Contractor shall protect the work, stored products, construction equipment, and the Owner's property from theft and vandalism, and the premises from entry by unauthorized personnel until final acceptance by the Owner.
17. The Owner or the Owner's Subcontractors may occupy portions of the project during construction. Coordinate and cooperate with the Owner to minimize conflict and facilitate the Owner's operation.
18. Notify the Owner when the work is substantially complete and ready for inspection. Upon inspection, provide to the Owner all manufacturer warranties, product literature, maintenance and operation requirements and maintenance schedules.
19. The Contractor shall warrant to the Owner that all materials and equipment furnished and installed under this contract shall be new, unless otherwise specified, and that all work shall be of good quality, free from faults and defects, and conforms with the Contract Documents. For a period of one year beginning at the date of Substantial Completion, the Contractor shall promptly correct work found not to be in accordance with the Contract Documents. The Contractor shall bear all costs of the corrections. This warranty is in addition to any specific warranties called for in the Contract Documents, or manufacturer's written warranties.
20. Provide final clean-up and damage repair at the project conclusion. Leave the premises neat, clean, and clear of tools, equipment, and surplus materials, unless requested by the Owner. Cleanup shall include but not be limited to:
A. Hand mopping and washing of all floors, walls, and ceilings as required.
B. Hand dusting and cleaning of all shelving, cabinetry, casework, glass and mirrors, both installed under this contract or existing.
C. Repair or replacement of property damaged during final completion of the project.
21. The Architect accepts no responsibility for changes or deviations from these plans unless made by prior signed letter or change order.
22. The Contract Documents are solely for bidding and construction of this project. Copyright 2010, Craig E. Maloney, A.I.A., CEM Design. All rights reserved.

GRADING AND LANDSCAPING
1. Erosion and sediment control shall comply with all requirements of State and local authorities
2. Fill depressed grade around existing foundation with topsoil to provide positive grade slope away from foundation. Stabilize with tall drought-resistant fescue seed and straw.

DIVISION 2 - DEMOLITION

1. On site verification of all existing conditions shall be the responsibility of the Contractor.
2. The demolition shall include removal and proper disposal of hazardous substances encountered in the course of the renovation, in strict accordance with applicable rules, regulations, and standards.
3. The Contractor assumes all responsibility and liability for shoring, framing and barriers required for demolition and building integrity.
4. Damage to the building which occurs during the demolition process, or demolition not called for in the drawings or specifications, shall be replaced or repaired by the Contractor at no additional cost to the Owner.

DIVISION 3 - CONCRETE

(See Structural Specifications)

DIVISION 4 - MASONRY

(See Structural Specifications for additional requirements)

BRICK
1. Contractor is to salvage existing unused brick from the site at several locations around the foundation, and all brick from demolition as noted on the plans. Salvaged brick is to be sorted by integrity, size, color, texture, and composition. Salvaged brick matching existing adjacent brick may be used for infill where shown on the plans.
2. If needed, Contractor is to provide samples of new brick proposed to be used as infill, repair, or to replace missing brick or molded watertable brick. New brick shall match existing in size, color, shape, texture, and composition. The brick is to be materially compatible with the existing historic brick and manufactured in a manner consistent with the original. New brick samples are to be laid in a sample panel 16 square feet using materials and methods specified, to establish workmanship, brick and mortar match, and tooling to be used. All installed materials shall conform to the Architect-approved sample.

MASONRY REPAIR & REPOINTING
3. The Contractor performing the masonry work shall be a Restoration Specialist with at least five years experience working on historic buildings and must be able to:
A. Apply measures to sustain the existing historic fabric, form, integrity and materials of the brickwork. Coursing and joint tooling must match the original.
B. Work such that new mortar blends with original fabric.
4. The Contractor must obtain the Architect's approval of all samples and mock-ups before proceeding.
5. The Contractor must obtain Architect's approval of removal of existing mortar, raking out the joints and preparation of surfaces before finishing joints.
6. The Contractor must obtain the Architect's approval of the extent of replacing damaged or missing bricks, and repairing and re-pointing the two chimneys.
7. The Contractor must submit proposed materials and techniques for removing paint, plaster, and cement plaster from existing brick where noted on the plans, for approval by the Architect. Materials and techniques which damage existing brick facing and mortar will not be considered.
4. Mortar and re-pointing mortar is to match existing in mix, consistency, and color. Portland cement mortar will not be considered for re-pointing. Contractor is to provide samples of proposed mortar, including mix data and color, prior to fabricating sample panels.
5. Do not damage brick when removing mortar. Remove mortar to a depth of twice the joint width.
6. Remove mortar by the following method:
A. For horizontal joints saw cut a kerf down the center of the joint with a 4" mechanical grinder. Make only one pass with grinder at each joint. Do not cut mortar to edge of joint. Carefully remove remaining mortar by hand with a chisel.
B. For head joints cut partially with grinder and finish work with hammer and chisel. Brush or vacuum joints to remove all loose mortar from joint.
7. Mortar should be pointed to the same depth as the existing. Pot not to????hack mortar into joints in layers of less than 1 inch. When mortar is firm, load joint to match original work as selected by Architect. Do not over-work faces of joint. Tool head joint first. Allow front edge of brick to stand clear of pointing mortar.
8. Contactor is responsible for protecting all existing adjacent materials during the execution of the work. Provide all necessary protection and work procedures to avoid damage to adjacent materials such doors, windows and exterior wood trim. The contractor shall repair all damage to adjacent materials caused by the execution of the work of this section at no expense to the Owner. Damaged materials shall be replaced by mechanics experienced in the trade involved.

MORTAR MATERIALS AND MIXES
9. Provide mortar mix based on sample analysis. Final mix shall match original mortar in texture, tooling, color, texture, strength and tooling. Final mix will be dependent on successful test panels as judged by the Architect and Owner.
10. Mix mortar in accordance with industry standards. Measure materials by volume or weight. Do not measure by shovel. Mix ingredients in clean mechanical batch mortar mixer 3-5 minutes. Let mortar sit 10 minutes prior to use. Do not re-temper partially hardened material

PROJECT CONDITIONS
11. Do not perform any masonry application unless weather conditions meet product specifications. Provide protection from sun and wind prior to beginning and throughout masonry work until the completion of curing. Keep all curing mortar damp and shaded.

REPAIRING CHIMNEYS, FIRPLACE SURROUNDS, AND HEARTHS
16. The extent of rebuilding of the chimney, fireplace surrounds, and hearths will be determined by field inspections performed by the Architect.
17. If re-building is required, the original masonry will be dismantled, cleaned and reinstalled to maintain consistent appearance on the gable ends of the building. Prior to dismantling any masonry, document existing conditions, recording bonding pattern and joint profiles and widths. Ensure that the rebuilt chimney, fireplace surrounds, and hearths are structurally sound.

DIVISION 5 - METALS

1. Provide all miscellaneous metal items including materials, fabrications, fastenings, and accessories required for finished installation as indicated and specified.
2. Where metal items are to be erected and in contact with dissimilar materials, provide contact surfaces with a coating of an approved material separator, or zinc chromate primer in manner to obtain minimum 1.0 mil dry film thickness.
3. Bolts shall be low carbon steel externally and internally threaded fasteners conforming with the requirements of ASTM A307. Include necessary nuts and plain hardened washers. For support of structural members, or connection thereto, use fasteners conforming to ASTM A325. For stainless steel and non-ferrous items, use Type 302 and 304 stainless steel fasteners.
4. Miscellaneous materials: Provide all incidental accessory materials, tools, methods, and equipment required for fabrication and installation of miscellaneous metal items as indicated on the drawings.
5. All ferrous metal items shall be shop finished. Touch-up or repair damaged areas prior to installation with the same finish material.
6. Provide surfaces in contact with concrete, masonry, or other dissimilar materials with a minimum 1.0 mil dry thickness of an approved zinc chromate primer.
7. Provide roll hat-shaped channels minimum 25 ga., 7/8" deep with 7" hemmed edges, hot dipped finish.
8. Provide blocking and framing for all wall mounted finish hardware and equipment

DIVISION 6 - WOOD AND PLASTICS

(See Structural Specifications for additional requirements)

1. Provide rough lumber & plywood in standard dimensions, moisture content not more than 19%.
2. Exterior pressure treated wood to be Ecolife, by Viance (website: www.treatedwood.com) Wood is to be used in above-ground applications only, and is to be prepared, primed, and painted per the manufacturer's written instructions. Colors selected by Architect.
3. Provide all necessary rough hardware in sizes and quantities required by local code or approved by the Architect.
4. Use finish or casing nails for exposed work. Fasteners for exterior pressure treated wood to be per pressure treated wood manufacturer's specifications.
5. Relieve backs of interior wood trim, kerf backs of members more than 5" wide and 1" nominal thickness. Ease all external corners.
6. Protect finished work from damage by other trades working adjacent to the installation. Replace damaged surfaces.
7. Install woods and plastics in conformance with the details, with the following considerations and requirements:
A. Install all materials with tight joints.
B. Miter facings and moldings.
C. All running trim are (1) piece up to 10'-0" Match grain and color piece to piece.
D. Use finish nails except where screws are called for or where screws do not show.
E. Where screw attachment is required, space screws at equal intervals, sink and putty in finished wood surfaces.
F. All members and lines shall be level and plumb.
G. Select and cut material to exclude damaged, marked, or defective areas.
H. Finish exposed surfaces smooth, free from tool and machine marks.
I. Ease all exposed wood edges.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

INSULATION
1. New ceilings under roof and floors over crawl spaces shall be insulated as noted on the drawings, per requirements of State and local building codes. Existing attic shall be insulated as noted on the drawings.
2. All new exterior stud walls shall receive insulation for full height of wall as noted on the drawings, per requirements of State and local codes.
3. Insulate new crawl space foundation walls as noted on the drawings, per applicable codes.
4. Provide sound insulation around all new toilet and bathrooms, including floors, ceilings, and walls common with inhabited spaces, and around plumbing risers adjacent to inhabited spaces. Provide sound insulation in new floor and new walls separating the caretakers apartment from the business use. Sound insulation shall consist of maximum 6" batt sound insulation.
5. Caulk and seal all floor and top plates, joints in sheathing, etc., in new construction prior to installation of batt insulation. Fill all shim spaces around new doors and windows with compressed batt insulation.
6. Insulation to be unfaced natural cotton fiber insulation batts as manufactured by Bonded Logic, Inc., 24035 S Arizona Ave, Chandler, AZ, 85248, (480) 812-9114, website: www.BondedLogic.com, or approved equal, with the following properties:
A. Unfaced batts made from post-consumer, thermally bonded natural cotton fibers
B. R-value: 3.5 inch=R13, 5.5 inch=R19, 7.5 inch=R21, & inch=R30
C. Fire Rating: Flame Spread - 5 (Class A), Smoke Developed - 35 (Class-A)
D. Mold/Mildew/Fungi Resistance: Pass-No Growth (ASTM C 739)
E. Corrosion Resistance: Pass (ASTM C 739)
F. Odor Emission: Pass (ASTM C 739)
G. Moisture Absorption: Pass - Less that 15% (ASTM C 739)
H. Retardant used also acts as excellent pest inhibitor.
7. References: ASTM E 84; ASTM C 518; ASTM C 423-40A; ASTM E795-93; ASTM E90-97; ASTM E 413-87; ASTM E 1552-40; ASTM C 739-4.0; ASTM C 739-11.0; ASTM C 739-15.00; ASTM C 739-12.
8. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying material name and manufacturer.
9. Store materials in a clean, dry area in accordance with manufacturer's instructions.
10. Verify on site conditions, insulation layout and dimensions. Install insulation in accordance with manufacturer's instructions at locations indicated on the drawings. Protect insulation from damage during construction.

NEW METAL ROOFING
11. This section includes new pre-finished standing seam metal roofing ove the addition.
12. Provide Tite-Loc Plus metal roof panels, including flashing and accessories, as manufactured by Petersen Aluminum Corporation, 1005 Tonne Road, Elk Grove Village, IL 60007, (800) 323-1960. Products to include the following:
A. Seam Height: 2"(50.2 mm) minimum seam height
B. Material: 24 ga G-90 Hot-dipped Galvanized Steel
C. Panel Dimension: 16in (406 mm) o.c.
D. Eave Notching: (Factory produced eave notching for trimmed eave panels)
E. Texture: Smooth, dull matte specular gloss 25 - 35% at 60°.
F. Rating: UL Classified 90 rated (wind uplift) panel assembly.
G. Flashing and Trim: 24 ga Steel
H. Fasteners: TITE-LOC PLUS galvanized steel, non-penetrating high performance clips for roofing application and UL Classified 90 rated (wind uplift) assemblies.
I. Sealant Bead: Factory applied sealant bead
J. Panel Finish: Panel Topside: PAC-CLAD finish color selected from Petersen Aluminum Corp. standard colors, full-strength fluoropolymer (70% Kynar 500 or Hylar resin) system of 1.0 mil (.025 mm) total dry film thickness. Panel Underside: Polyester washcoat with dry film thickness of 0.3 mils.
K. Flashing and Trim: Manufacturer's standard flashing and trim profiles, factory formed, gauge as recommended by manufacturer, color and finish to match metal roofing panels.
L. Substitutions: Manufacturers with identical products & specifications may be considered.
13. References: ASTM A653; ASTM 1592-95; UL 580; UL 790; SMACNA Architectural Sheet Metal Manual.

CEM DESIGN
830 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0582 20850

PROFESSIONAL CERTIFICATION. "I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO [illegible] EXPIRATION DATE"

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2			
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4			
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Sheet Title
GENERAL REQUIREMENTS

T1.2
SHEET 2 OF 5

14. Provide sheet metal roofing that has been manufactured, fabricated and installed to withstand structural and thermal movement, wind loading and weather exposure to maintain manufacturer's performance criteria without defects, damage, failure or infiltration of water. Roof panel assembly shall comply with UL Classification 580 for UL Classified 90 rated assemblies. Completed roof system shall have a maximum of .06 cfm/sf with 6.24 kPa air pressure differential as per ASTM E283/1680. No evidence of water penetration at an inward static air pressure differential of not less than 6.24 psf (43 kPa) and not more than 12.0 psf (83 kPa) as per ASTM E331/1646.
15. Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products. Submit certified test results by a recognized testing laboratory in accordance with specified test methods for each panel system. Submit selection and verification samples for finishes, colors and textures. Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical requirements. Submit, for owners acceptance, manufacturer's standard warranty document executed by authorized company official.
16 Manufacturer's warranty is in addition to and not limited of, other rights the owner may have under the contract documents. Warranty Period to be 20-years commencing on Date of Substantial Completion.
17. Installer is to be experienced in performing work of this section, and who has specialized in the installation of work similar to that required for this project.
18. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Identify fabricated components with UL 90 Classified label where appropriate.
19. Store materials protected from exposure to harmful conditions. Store material in dry, above ground location. Stack prefinished material to prevent twisting, bending, abrasion, scratching and denting. Elevate one end of each skid to allow for moisture to run off. Prevent contact with material that may cause corrosion, discoloration or staining. Do not expose to direct sunlight or extreme heat trim material with factory applied strippable film
20. Verify actual measurements/openings by field measurements before fabrication. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.
21 Metal roofing to be laid over one-layer ASTM D226, Type II No 30 asphalt saturated organic roofing felt, over 5/8" (16 mm) nominal thickness plywood deck.
22. Fabricate panels in one continuous length. Fabricate trim and flashings from same material as roof system material. Panels fabricated by portable roll former shall not be approved.
23. Comply with manufacturer's product data, recommendations and installation instructions for substrate verification, preparation requirements and installation. Verify substrate conditions are acceptable for project installation in accordance with manufacturer's instructions. Coordinate metal roofing with other work (drainage, flashing and trim, deck substrates, copings, walls) and other adjoining work to provide a non-corrosive and leak-proof installation. Prevent galvanic action of dissimilar metals.
24. Install metal roofing panels to profiles, patterns and drainage indicated and required for leak-proof installation. Provide for structural and thermal movement at work. Seal joints for leak-proof installation. Provide uniform, neat seams. Conceal fasteners where possible in exposed work. Cover and seal fasteners & anchors for watertight & leak-proof installation.
25. Owner reserves right to perform post installation testing of installed metal roofing.
26. Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with manufacturer's instructions.
27. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris. Protect installed product from damage during construction.

NEW CEDAR SHINGLE ROOFING
28. This section includes new cedar shingle roofing and underlayment on existing building.
29. References: ASTM D226; ASTM E84; PS1-95.
30. Provide Certigrade Number 1, Blue Label, FSC Certified, 16" (Five) x 4" clear heartwood cedar shingles, 100% edge grain, no defects. Submit manufacturer's product data, recommended installation instructions, and material and installation warranty.
31 Engage an installer with min. 10-years experience installing cedar shingle roofs, and has completed installations similar in material, design and extent to that indicated.
32. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
33. Accessories:
A. Optional manufacturer's prefabricated ridge cap shingles, quality and grade to match shingles, installed per manufacturer's written instructions.
B. Provide stainless steel ring-shanked fastener nails of sufficient length to penetrate roof sheathing a minimum 1/2 inch (12.7 mm). Size: 7d.
C. Provide asphalt impregnated building paper, ASTM D226, 30# Type II.
34. Contractor to confirm integrity of existing roof sheathing for installation of new roofing. Contractor to include min. 10 sq.ft. 1x wood sheathing replacement in his estimate. Contractor to provide a sq.ft. price for additional repair or replacement of roof sheathing. Commencing installation of the roof underlayment and shingles indicates acceptance of the integrity of the roof sheathing for this application.
35. Comply with the Cedar Shake and Shingle Bureau instructions and recommendations for installation of the cedar shingle roofing. Double first course; provide 5" exposure; alternate course spacing and provide 1/4" - 3/8" spacing between shingles, provide two nails per shingle.
36. Install 16-oz. copper step flashing and counter flashing at chimneys. Provide sealant per manufacturer's recommendations. Provide valley flashing at intersection of new standing seam metal roof per manufacturer's recommendation.
36. Protect Cedar Shingles from damage during construction.

FLASHING
37. Other than roof flashing, metal flashing, counter-flashing and coping shall be of not less than 26 ga. corrosion resistant metal.
38 Flash all new exterior openings and all building corners with approved waterproof building paper to extend at least 4" behind wall covering.
39 Flash and counter-flash at all roof to wall conditions. Flash and counter-flash all wood beams attached to exterior walls or roof surfaces.

GUTTERS AND DOWNSPOUTS
40. All gutters are to be 5" half-round titanium zinc, pre-weathered Graphite Gray, manufactured by Rheinzink, as shown on the drawings. Mount at 30" o.c. with manufacturer's recommended bracket. Provide system end caps and outlets.
41. All downspouts are to be 4" round titanium zinc, pre-weathered Graphite Gray, manufactured by Rheinzinc, as shown on the drawings, with elbows, anchors, and offsets as necessary for complete installation.
42. Provide cast concrete splash blocks at all downspouts.

SEALANTS AND CAULKING
43. Provide non-sag sealant complying with the requirements of Federal specifications TTS-1543 or TTS-250, type "II", class "B". Provide acoustical sealant which shall be non-hardening, synthetic rubber sealing compound with minimum 90% solids. Primer shall be made by or recommended by sealant manufacturer for the specific conditions and substrates
44. Provide backing material by Dow "Ethafoam", or approved equal. Apply sealant over backing to uniform thickness in continuous beads, filling all joints and voids solid. Superficial pointing with a skim bead will not be accepted.
45. All surfaces shall be adequately cleaned and prepared in accordance with the manufacturer's written instructions prior to installation.

SIDING AND TRIM
46. Siding to be vertical grain red spruce or white pine, #1 clear wood, 1x10 shiplapped with 5" exposure. Moisture content not to exceed 12%. Nailing to be 16" o.c. with ring-shanked, blunt stainless steel nails. Back prime before installation, and prime all cut ends. Color to be selected by Architect.
47. Window and door trim, rakes, corner boards, soffits etc. are also #1 clear red spruce or white pine wood, sizes as noted on the drawings. Moisture content not to exceed 12%. Back prime before installation, and prime all cut ends. Color to be selected by Architect.
48. Siding to be laid over Tyvek barrier wrap by Dupont, installed per manufacturer's written instructions. Provide seam tape, wrap caps, sealants and flashing as recommended by manufacturer for sealed installation.

DIVISION 8 - DOORS AND WINDOWS

EXISTING DOORS AND HARDWARE
1. Where noted on the drawings, existing doors and hardware are to remain, and all hardware restored to good working order.
2. This Section includes the survey and assessment, removal, restoration, glazing and re-installation of wood doors, including wood frames, hardware and accessories.
3. The Contractor performing the work shall be a Restoration Specialist with a minimum of five (5) years experience in comparable wood door restoration work on significant historic buildings and must be able to work in a manner to protect existing historic fabric, and blend new work with original fabric. In acceptance or rejection of the work of this Section, the Owner will make no allowance for the lack of skill on the part of the workmen.
4. It is the intent of the Wood Door Restoration Work that at the completion of the Work, all doors (including frames, trim, glass and glazing) shall be completely restored to their original profiles and first class visual condition and sound, operating condition in keeping with the Secretary of the Interior's Standards.
5. Where old glass survives intact, every effort shall be made to protect it during restoration, and return it to its use. Salvage original glass and hardware and mark for re-installation in original location.
6. Survey and Assessment: The Contractor shall provide all labor, supervision, materials, equipment, and services and perform all operations required for the survey, assessment and documentation of the condition of the wood doors as specified in this section, and as may be required by conditions and authorities. Survey and condition assessment of wood doors shall be performed on a unit-by-unit basis to determine the scope and class of repairs needed, and develop a plan for the repair and restoration of each unit. Provide graphic documentation, including drawings and/or photographs, of the physical condition of each door using a door schedule listing each door and part of each door, the existing conditions and instructions for repair or restoration Submit the Door Survey and graphic documentation to the Architect for review and approval.
7. Prior to commencing restoration, Contractor to provide and secure written approval from the Architect for samples or product data for the following materials:
A. Replacement (restoration) glass: Replace broken glass with Light Restoration Glass from S. A. Bendheim Company. Product data, technical specifications and ordering information is available at www.restorationglass.com/.
B Wood: species, grade, and profiles to match existing. Wood to be kiln-dried, clear, all-heart, dense growth.
C. Door hardware: all operable doors to be lockable.
D. Wood glue. DAP WELDWOOD Waterproof Resorcinol glue (See current Technical Bulletin).
E. Glazing sealant: Glaze-Ease 601, elastomeric glazing sealant, from Advanced Repair Technology, Inc. Product data and technical specifications at: http://www.advancedrepair.com/glazing/glazing.htm.
F. Chemical stripper: PEEL AWAY 7. Product data and technical specifications at http://www.dumondchemicals.com/.
G. Polyurethane adhesive. DAP Premium Polyurethane Adhesive Sealant or Polyurethane Caulk from Resource Conservation Technology, Inc. Color to be white.
H. Primer: ECO Primer/Undercoat.
I. Paint: ECOTM Satin, color as selected by Architect. Product data and technical specifications at: www.finepaintseurope.com/
8. Shop Drawings: For all exterior doors, submit shop drawings showing location of each repair, hardware, glazing details, and any other components necessary to complete the work. Show all required field dimensions.
9. Restoration. The Contractor shall provide all labor, supervision, materials, equipment, and services and perform all operations required for wood door restoration and related work as specified in this section, and as may be required by conditions and authorities. Wood door restoration shall include work on all of the doors and as indicated on the drawings. The work includes the repair and restoration of existing salvageable wood thresholds, frames, panels, trim, stops, jambs, etc., including all exterior trim, and replacement of incompatible and/or seriously deteriorated material to match the original. Contractor to strip exterior door panels to bare wood with steam, and frames to bare wood with chemical stripper, being careful not to damage wood or surrounding masonry. Replace rotted wood elements with parts milled to match the original dimensions and profile, and match original mortis and tenon joints. Splice new work into existing assemblies and secure with wood pins, wedges, and waterproof glue. Do not use wood fillers on exterior surface of window sash and frames. Repairs to all areas exposed to weather shall be made with wood Dutchmen patches. Interior doors, frames, trim, etc. to be cleaned, filled, sanded, and prepared for paint finish. Sand restored components with 120- grit sandpaper.
10. Glazing: Comply with manufacturers' written instructions for glass and glazing sealants. Glaze doors with salvaged glass in original location to the greatest extent possible. Use tempered Light Restoration Glass from S.A. Bendheim as needed. Bed glass in Glaze-Ease 601 elastomeric glazing sealant by Advanced Repair Technology, Inc. Seal glass with same.
11. Priming and Painting: All new or stripped wood components are to be back-primed before assembly. All wood door panels should be primed and finish painted in the shop before delivery to the job site. Apply one primer coat and two finish coats of paint to all wood surfaces that are cleaned and properly prepared in accordance with the manufacturers' written instructions. After installation, touch-up of minor damage in the field will be acceptable if the result is not visibly different from surrounding surfaces. Recoat entire surface where result is different in color, sheen, or texture.

NEW WOOD DOORS
12. Where noted on the drawings, provide new exterior and interior stile and rail wood doors and glazed transoms, manufactured in accordance with the latest National Woodwork

12. (cont.) Manufacturers Association Industry Standard NWMDA I.S.6, "Industry Standard for Wood Stile and Rail Doors." See Door Schedule. Door hardware shall be as noted on the Door Schedule, or approved equal
13. Provide Shop Drawings indicating location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data, including those for stiles, rails, panels, and moldings (sticking); and other pertinent data.
14. Individually package doors in plastic bags or cardboard cartons. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's written instructions.
15. Do not deliver or install doors until building is enclosed, wet-work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period. Allow door panels to acclimate in new space for period designated by door manufacturer prior to fitting.
16. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
A. Eggers Industries; Architectural Door Division.
B. Louisiana Pacific Corp.
C. Morgan Manufacturing.
D. Nicolai Door; a Morgan Products Ltd. Company.
E. Semling-Menke Co., Inc.
F. Simpson Door Company.
17. Assemble exterior doors and transoms with wet-use adhesives and comply with the NWMDA Design Group: I-3/4 Entrance Doors (Exterior), Standard Grade for Opaque Finish.
18. Interior doors are to comply with the NWMDA Design Group: I-3/8 Interior Panel Doors, Standard Grade for Opaque Finish.
19. Wood Species for Opaque Finish: Manufacturer's standard softwood species and cut for stiles and rails; with panels of same species or wood-base construction materials, as standard with manufacturer.
20. Glass for openings: Uncoated, clear, fully tempered float glass, 5.0 mm thick. Provide tempered glass in all glazed panels within 24" of door panels.
21. Panel design as indicated in the drawings, with minimum dimensions for stiles, rails, panels, mullions, and bars complying with NWMDA I.S.6.
22. Raised panel thickness and molding profile: Manufacturer's standard, but not less than that required by NWMDA I.S.6 for design group indicated
23. Fabricate stile and rail wood doors in sizes indicated for Project site fitting with the following clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/2 inch (13 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown, provide 5/8 inch (10 mm) from bottom of door to top of threshold. Demonstrate that doors open freely without binding and when closed, will latch properly.
24. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates. Hardware reinforcement and anchors (erection, floor and jamb) shall be as required for a secure installation and shall be in accordance with trade requirements for the specified hardware and intended use. Obtain templates from hardware manufacturer and confirm type, location, and special requirements at hardware for each door prior to cutting.
25. Door and transom panels shall be shop primed for field finishing. Color selected by Architect. Factory treat exterior doors after fabrication with water repellent to comply with NWMDA I.S.4.

DOOR AND WINDOW HARDWARE
26. All finish hardware for complete work shall be furnished and installed in accordance with the drawings and specifications. Quantities listed are for the Contractor's convenience only, and are not guaranteed. Items not specifically mentioned but necessary to complete the work must match in quality.
27. The Contractor shall be responsible for proper operation and fitting of hardware in locations specified. The Contractor must supply a room under lock and key to store all finish hardware until installation is made. The hardware supplier must mark each item of hardware as to description and location of installation in accordance with approved hardware schedule. Exposed surfaces of hardware shall be covered and well protected during installation, to avoid damage to finishes
28. Hardware supplier will provide approved schedule and paper templates to various other door and frame suppliers for hardware preparation
29. Each item of hardware shall be packaged separately with all necessary screws, bolts, lampins, keys, and installation templates. Deliver packages, clearly identified, with heading number as approved on hardware schedule.
30. Install each hardware item in accordance with the manufacturer's written instructions and recommendations, and locate in accordance with the recommended locations. Set items level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for a secure installation. Space fasteners and anchorage as indicated or in accordance with industry standards.
31. Make final adjustment and check of hardware during the week immediately prior to acceptance. Clean and lubricate operating items as necessary to restore proper functioning and finish of hardware and doors. Make final adjustment of locksets and closures to compensate for operation of heating and ventilation systems under the supervision of manufacturer's representative.
32. Lubricate all moving parts with graphite-type lubricant, unless otherwise recommended by manufacturer. Reinstall all hardware and adjust to operate freely and smoothly. Fabricate (2) keys each to existing locks and provide to Owner.

WOOD WINDOW RESTORATION
33. This Section includes the survey and assessment, removal, restoration, glazing and re-installation of wood windows, including wood sashes, frames, hardware and accessories.
34. The Contractor performing the work shall be a Restoration Specialist with a minimum of five (5) years experience in comparable wood window restoration work on significant historic buildings and must be able to work in a manner to protect existing historic fabric, and blend new work with original fabric. In acceptance or rejection of the work of this Section, the Owner will make no allowance for the lack of skill on the part of the workmen.
35. It is the intent of the Wood Window Restoration Work that at the completion of the Work, all windows (including frames, sash, trim, glass and glazing) shall be completely restored to their original profiles and first class visual condition and sound, operating condition in keeping with the Secretary of the Interior's Standards. All restored windows are to be returned to full operability.
36. Where old glass survives intact, every effort shall be made to protect it during restoration, and return it to its use. Salvage original glass and hardware and mark for re-installation in original location.
37. Survey and Assessment: The Contractor shall provide all labor, supervision, materials, equipment, and services and perform all operations required for the survey, assessment and documentation of the condition of the wood windows as specified in this section, and as may be required by conditions and authorities. Survey and condition assessment of wood windows shall be performed on a unit-by-unit basis to determine the scope and class of repairs needed, and develop a plan for the repair and restoration of each unit. In some cases, the scope of repairs needed may not be determined until the wood components are stripped and hardware and glass removed. Provide graphic documentation, including drawings and/or

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0863 20850

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO [illegible] EXPIRATION DATE: [illegible]

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

Revisions

Rev.	Date	Description	By
1			
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Sheet Title
GENERAL REQUIREMENTS cont.

T1.3
SHEET 5 OF 5

37. (cont.) photographs, of the physical condition of each window using a window schedule listing each window and part of each window, the existing conditions and instructions for repair or restoration. Submit the Window Survey and graphic documentation to the Architect for review and approval. (See National Park Service Preservation Brief 9, The Repair of Historic Wood Windows at www.nps.gov/history/hps/tps/briefs/brief09.htm)
38. Prior to commencing restoration, Contractor to provide and secure written approval from the Architect for samples or product data for the following materials:
A. Replacement (restoration) glass: Replace broken glass with Light Restoration Glass from S. A. Bendheim Company. Product data, technical specifications and ordering information is available at www.restorationglass.com/.
B. Wood: species, grade, and profiles to match existing. Wood to be kiln-dried, clear, all-heart, dense growth.
C. Window hardware: all operable sashes to be lockable.
D. Wood glue: DAP WELDWOOD Waterproof Resorchol glue (See current Technical Bulletin).
E. Glazing sealant: Glaze-Ease 601, elastomeric glazing sealant, from Advanced Repair Technology, Inc. Product data and technical specifications at: http://www.advancedrepair.com/glazing/glazing.htm.
F. Chemical stripper: PEEL AWAY 7. Product data and technical specifications at http://www.dumondchemicals.com/.
G. Polyurethane adhesive: DAP Premium Polyurethane Adhesive Sealant or Polyurethane Caulk from Resource Conservation Technology, Inc. Color to be white.
H. Primer: ECO Primer/Undercoat.
I. Paint: ECOTM Satin, color as selected by Architect. Product data and technical specifications at: www.finepaintseuropa.com/.
39. Shop Drawings: At the Architect's request, submit shop drawings for a typical window showing location of each repair, hardware, glazing details, and any other components necessary to complete the work. Show all required field dimensions.
40. Restored Window mock-up: Prepare one entire window unit, i.e., sash, frame and necessary hardware, as directed by the Architect. This work shall include restoration of the wood window sill, sash and frame, glazing and putty hardware, installation, weather stripping and painting. Work shall not commence until the Architect grants written approval of the mock-up. All approved mock-ups may be incorporated into the finished work.
41. Restoration: The Contractor shall provide all labor, supervision, materials, equipment, and services and perform all operations required for wood window restoration and related work as specified in this section, and as may be required by conditions and authorities. Wood window restoration shall include work on all of the windows and as indicated on the drawings. The work includes the repair and restoration of existing salvageable wood sills, frames, sash, trim, stops, jambs, etc., including all exterior trim, and replacement of incompatible and/or seriously deteriorated windows to match the original. Contractor to strip sash to bare wood with steam, and frames to bare wood with chemical stripper, being careful not to damage wood or surrounding masonry. Replace rotted wood elements with parts milled to match the original dimensions and profile, and match original mortis and tenon joints. Splice new work into existing assemblies and secure with wood pins, wedges, and waterproof glue. Do not use wood fillers on exterior surface of window sash and frames. Repairs to all areas exposed to weather shall be made with wood Dutchman patches. Sand restored components with 120-grit sandpaper.
42. Glazing: Comply with manufacturers' written instructions for glass and glazing sealants. Glaze windows with salvaged glass in original location to the greatest extent possible. Use Light Restoration Glass from S.A. Bendheim as needed. Bed glass in Glaze-Ease 601 elastomeric glazing sealant by Advanced Repair Technology, Inc. Seal glass with same.
43. Priming and Painting: All wood components are to be back-primed before assembly. All wood window sashes should be primed and finish painted in the shop before delivery to the job site. Apply one primer coat and two finish coats of paint to all wood surfaces that are cleaned and properly prepared in accordance with the manufacturers' written instructions. After installation, touch-up of minor damage in the field will be acceptable if the result is not visibly different from surrounding surfaces. Recoat entire surface where result is different in color, sheen, or texture.

NEW REPLICATE WOOD WINDOW FABRICATION
44. This Section includes the fabrication, glazing and installation of new replicate wood windows, including wood sashes, frames & window bars. Basement windows are fixed in place.
45. The Contractor performing the work shall be a Restoration Specialist with a minimum of five (5) years experience in comparable wood window restoration work on significant historic buildings and must be able to work in a manner to protect existing historic fabric, and blend new work with original fabric. In acceptance or rejection of the work of this Section, the Owner will make no allowance for the lack of skill on the part of the workmen.
46. Prior to commencing fabrication, Contractor to provide and secure written approval from the Architect for samples or product data for the following materials:
J. New glass: New glazing with Light Restoration Glass from S. A. Bendheim Company. Product data, technical specifications & ordering information available at www.restorationglass.com. New glass for basement windows only to be 1/4" clear tempered glass.
K. Wood: species, grade, and profiles to match existing. Wood to be kiln-dried, clear, all-heart, dense growth.
L. Window hardware: all operable sashes to be lockable.
M. Wood glue: DAP WELDWOOD Waterproof Resorchol glue (See current Technical Bulletin).
N. Glazing sealant: Glaze-Ease 601, elastomeric glazing sealant, from Advanced Repair Technology, Inc. Product data & technical specifications at: www.advancedrepair.com/glazing/glazing.htm.
O. Polyurethane adhesive: DAP Premium Polyurethane Adhesive Sealant or Polyurethane Caulk from Resource Conservation Technology, Inc. Color to be white.
P. Primer: ECO Primer/Undercoat.
Q. Paint: ECOTM Satin, color as selected by Architect. Product data and technical specifications at: www.finepaintseuropa.com/.
47. Shop Drawings: Submit shop drawings for replacement units showing location of each item, dimensional plans and elevations, large scale details, method of attachment, joining, anchoring, hardware and other components necessary to complete the work. Show all required field dimensions and glazing details. Work shall not commence until the Architect grants written approval of the shop drawings.
48. Fabricate new wood window sash, frames, trim, window bars, and other millwork components to be milled from clear heart wood to match existing. All joints to be secured by mortise and tenon with wood dowel pins and wedges. All joints to be glued with 2-part DAP WELDWOOD Waterproof Resorcinol glue. Back-prime all wood components.
49. Glazing: Comply with manufacturers' written instructions for glass and glazing sealants. Glaze basement windows only with 1/4" clear tempered glass. Use Light Restoration Glass from S.A. Bendheim as needed. Bed glass in Glaze-Ease 601 elastomeric glazing sealant by Advanced Repair Technology, Inc. Seal glass with the same.
50. Priming and Painting: All wood components should be back-primed before assembly. All wood window sashes, frames and window bars should be primed and finish painted in the shop before delivery to the job site. Apply primer and two finish coats of paint to surfaces that are clean and properly prepared in accordance with the manufacturers' written instructions. After installation, touch-up of minor damage in the field will be acceptable if the result is not visible different from surrounding surfaces. Recoat entire surface where result is different in color, sheen or texture.
51. Fasten wood window and bars frame in masonry opening using Tapcon concrete screws. Fill gap and joints between window frame and masonry wall with a polyurethane adhesive sealant (either DAP or Resource Conservation Technology, Inc.) in accordance with the manufacturers' written instructions. Minimum joint size should not be less than 1/4" wide by 1/4" deep; maximum joint size should not exceed 1/2" wide by 1/2" deep. If joint depth exceeds joint width, use cylindrical foam backer rod. Clean up before cure.
52. Contractor to submit Restoration Specialist's certification stating that the completed work complies with quality grades and other requirements indicated. Comply with requirements of "Architectural Woodwork Quality Standards" latest edition published by the Architectural Woodwork Institute (AWI), for Premium Grade materials and workmanship unless more stringent requirements are shown on the drawings or specified herein.
53. Warranty: Provide warranty signed by the fabricator. All jambs, frames and window sash shall be guaranteed against defects in materials and workmanship, including warping, boxing, cupping, twisting, or other such defects, for the specified warranty period.
54. The Contactor is responsible for protecting all existing adjacent materials during the execution of the work. Provide all necessary protection and work procedures to avoid damage to adjacent materials such as doors, windows, exterior wood trim and masonry. The Contractor shall repair all damage to adjacent materials caused by the execution of the work of this section at no expense to the owner. Damaged materials shall be replaced by mechanics experienced in the trade involved and approved by the Architect.
55. Secure attic and basement windows after installation with stainless steel wood screws.

INTERIOR STORM WINDOWS
56. On all windows in existing masonry building, including existing and reconstructed windows, install new interior storm windows as noted below, by Allied Window, Inc., 1111 Canal Road, Cincinnati, Ohio 45241 (800) 445-5411, website: www.alliedwindow.com, or approved equal.
57. Interior storm windows to be "operating magnetic one-lite", with lift-out frame, lite to be divided at intersection of existing upper and lower operable sashes. Bottom of interior storm to be operable, with operating interior screen, and shall be furnished with all necessary hardware, fasteners and miscellaneous equipment.
58. Storm window frames to be aluminum of commercial quality and of proper alloy for window construction free from defects impairing strength and durability. All extrusions shall be of sufficient strength to perform as designed.
59. All storm windows shall be assembled in a secure and workmanlike manner. The master frame and insert frames shall be of mitered head and sill. Frame rails and stiles shall be neatly joined together using extruded aluminum corner keys staked in place.
60. The operable bottom sash shall be removable and be equipped with a full bottom rail lift handle. Spring-loaded latches shall be provided for variable sash positions for ventilation.
61. The exposed surfaces of all aluminum members shall be clean and free from serious surface blemishes. Standard finishes shall be mill finish or electrostatically applied baked acrylic enamel in manufacturer's standard range, as selected by the Architect. Painted finish shall meet AAMA 603.6.
62. Provide extruded screen insert frame with extruded aluminum corner keys, and standard charcoal aluminum 18 x 16 screen mesh held in frame with vinyl spline.
63. Glass shall be standard factory glazing, "DSB" (1/8"). Provide tempered glass where required by size of panels or code requirements. Glass shall be held in place with removable and reusable vinyl glazing splines. Vinyl shall be manufactured from virgin polyvinyl chloride. All corners shall be neatly mitered.
64. Provide window film capable of blocking 99% of ultra-violet light, as manufactured by 3M or equal, adhered as recommended by the film manufacturer to all of the storm window glazing panels on the first and second floors of the existing building.
65. The installer shall securely fasten windows in place to a straight, plumb and level condition, without distortion of the windows and shall make final adjustments for proper operation in accordance with the manufacturer's instructions.
66. Manufacturer shall provide a five (5) year warranty against faulty materials, paint and workmanship.

NEW WOOD WINDOWS
67. New window sizes and locations are shown on the drawings
68. Provide wood ultimate double hung, transom, and picture windows complete with hardware, glazing, weather strip, insect screen, simulated divided lite, jamb extension, and specified anchors, trim, and attachments, as manufactured by Marvin Windows and Doors, Inc., Warroad, Minnesota, website www.marvin.com.
69. References:
A. American Society for Testing and Materials (ASTM): E 283; E 330; E 547; E 774; C 1036; as applicable.
B. WDMA I.S.4: Industry Standard for Water Repellent Preservative Treatment for Millwork.
C. American Architectural Manufactures Association / Window and Door Manufactures Association (AAMA / WDMA): ANSI / AAMA / NWWDA 101 / I.S.2-97 Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors, and 101 / I.S.2 / NAFS-02 Voluntary Performance Specification for Windows, Skylights and Glass Doors.
D. Window and Door Manufacturers Association (WMDA): 101 / I.S.2 WDMA Hallmark Certification Program.
E. Sealed Insulating Glass Manufactures Association / Insulating Glass Certification Council (SIGMA / IGCC).
F. National Fenestration Rating Council (NFRC). 101. Procedure for Determining Fenestration Product Thermal Properties.
G. Regulatory Requirements: Emergency Egress or Rescue: Comply with requirements for sleeping units of IBC International Building Code, 2009.
70. Submit shop drawings for review and approval by the Architect prior to ordering or fabrication, indicating window location, size, operation, rough opening, mounting, glazing, muntins design and type, finish, trim, hardware, accessories, and manufacturer's product data.
71. Windows are to be delivered in original packaging. Store window units in an upright position in a clean and dry storage area above ground and protect from weather until installed
72. Manufacturer to provide the following minimum warranty:
A. Windows shall be warranted to be free from defects in manufacturing, materials, and workmanship for a period of ten (10) years from purchase date.
B. Insulating glass shall be warranted against visible obstruction through the glass caused by a failure of the insulating glass air seal for a period of twenty (20) years from the date of original purchase.
73. Product Description:
A. Frame Construction. Provide finger jointed edge-glued clear pine, head and side jambs with interior clear veneer, finger jointed clear sill, kiln dried to a moisture content no greater than twelve (12) percent at the time of fabrication, and water repellent preservative treated in accordance with WDMA I.S.4. Frame thickness to be 11/16 inch head and side jambs, 1-7/16 inches at sill. Frame width to be 4-4/16 inches. Provide jamb extensions of identical material where required.
B. Sash Construction: Provide clear pine sash, kiln dried to a moisture content no greater than twelve (12) percent at the time of fabrication, and water repellent preservative treated in accordance with WDMA I.S.4 Sash thickness to be 1-5/8 inches for double hung, 1-5/8 inches or 2 inches for picture units, with removable exterior glazing stops.
C. Glazing: Provide insulated glass (altitude adjusted), clear, Low E II, Argon gas filled, with tempered glass where required by code.
D. Finish: Interior / Exterior: Latex prime coat, white.
E. Hardware: clance system: Coil spring block and tackle balance system with nylon cord and fiber filled nylon clutch; High pressure zinc die-cast cam lock and keeper, finish to be phosphate coated and electrostatically painted White.
F. Insect Screens: Provide factory installed full screen with aluminum frame finished to match window trim color. Screen mesh, 18 by 16: Charcoal fiberglass.
G. Simulated Divided Lites (SDL): 7/8 inch wide Pine adhered to glass with closed-cell acrylic foam tape, pattern as shown on the drawings, finish to match sash finish.
74. Before installation, verify openings are plumb, square, and of proper dimension. Beginning of installation confirms acceptance of existing conditions.
75. Assemble and install window unit according to manufacturer's instructions and reviewed shop drawings. Install sealant and related backing materials at perimeter of unit or assembly. Do not use expansive foam sealant. Install accessory items as required. Use finish nails to apply wood trim and mouldings.
76. Remove visible labels and adhesive residue according to manufacture's instructions. Leave windows and glass in a clean condition.
77. Protect windows from damage by chemicals, solvents, paint, or other construction operations that may cause damage.

DIVISION 9 - FINISHES

PLASTER
1. Existing plaster walls and ceilings are to remain where noted on the drawings. Plaster restoration is to include patching cracked plaster, repairing damaged or missing areas of plaster, and preparation of plaster surfaces to receive primer and paint.
2. Existing wood lath is to remain. Damaged areas smaller than 12"x12" are to be repaired with wood lath similar to existing, and 3-coat plaster. Larger damaged or missing areas are to be repaired with 1/2" gypsum lath and 2-coats plaster. Obtain gypsum lath and gypsum plaster from one source and by a single manufacturer.
3. Fire-Resistance Ratings: As indicated by design designations in UL "Fire Resistance Directory" or in the listing of another testing and inspecting agency acceptable to authorities having jurisdiction. Provide metal lath and plaster as required for UL design.
4. Deliver materials to Project site in original packages, containers, or bundles, labeled with manufacturer's name, product brand name, and lot number. Store materials inside, under cover, and dry, protected from weather, direct sunlight, surface contamination, aging, corrosion, and damage from construction traffic and other causes. Neatly stack gypsum lath flat to prevent deformation.
5. Comply with requirements of referenced plaster application standards and with recommendations of plaster manufacturer for environmental conditions before, during, and after plaster application. When ambient outdoor temperatures are below 40 deg F (4 deg C), maintain continuous uniform temperature of not less than 40 deg F (4 deg C) nor more than 80 deg F (27 deg C) for at least 7 days before beginning plaster application, during its application, and until plaster is dry but for at least 7 days after application is complete. Distribute heat evenly; prevent concentrated or uneven heat from contacting plaster near heat source. Ventilate building spaces as required to remove water in excess of that required for hydrating plaster. Begin ventilation immediately after plaster is applied and continue until it sets.
6. Protect contiguous work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
7. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
A. Expanded-Metal Lath:
a. Alabama Metal Industries Corp. (AMICO).
b. Dale/Incor Industries, Inc.
c. Dietrich Industries, Inc.
d. National Gypsum Co.
e. United States Gypsum Co.
f. Western Metal Lath Co.
B. Metal Accessories:
a. Alabama Metal Industries Corp. (AMICO).
b. Dale/Incor Industries, Inc.
c. Delta Star, Inc.
d. Flannery, Inc.
e. National Gypsum Co.
f. Pittcon Industries.
g. United States Gypsum Co
C. Gypsum Lath and Plasters:
a. National Gypsum Co
b. United States Gypsum Co.
8. Expanded-metal lath shall be zinc-coated (galvanized) steel sheet to produce self-furring 2.5 lb/sq. yd. (1.4 kg/sq. m) lath complying with ASTM C 847 for type, configuration, and other characteristics. Gypsum Lath shall conform to ASTM C 37, 1/2" plain or 5/8" Type X as noted on the drawings.
9. Provide galvanized steel accessories as necessary for finished installation, including metal cornerbeads and metal strip reinforcement.
10. Provide potable water for mixing and finishing plaster, free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
11. Provide steel drill screws complying with ASTM C 1002 for fastening metal or gypsum lath to wood members.
12. Base-Coat plaster shall be gypsum ready-mixed plaster with mill-mixed perlite aggregate conforming to ASTM C 28. Subject to compliance with requirements, provide one of the following:
A. Gypsolite; National Gypsum Co.
B. Structo-Lite; United States Gypsum Co
13. Finish-Coat plaster shall be gypsum ready-mixed finish plaster, manufacturer's standard mill-mixed gauged interior finish. Subject to compliance with requirements, provide one of the following:
A. Gold Bond Kal-Kote Smooth; National Gypsum Co.
B. Red Top Finish; United States Gypsum Co.
14. Install interior lathing and furring materials indicated for plaster to comply with ASTM C 841. Install supplementary framing, blocking, and bracing at terminations in Work and for support of fixtures, equipment services, heavy trim, and similar work. Miter or cope accessories at corners; install with tight joints and in alignment. Attach accessories securely to plaster bases to hold accessories in place and in alignment during plastering.
15. Prepare monolithic surfaces for bonded base coats and use bonding compound to comply with requirements of referenced plaster application standards for conditioning monolithic surfaces. Sequence plaster application with installation and protection of other work so that neither will be damaged by installation of other.
16. Apply plaster materials, composition, mixes, and finishes indicated to comply with ASTM C 842. Apply plaster of composition indicated, to comply with the following requirements:
A. Three Coats: Over metal lath.
B. Two Coats: Over gypsum lath, except for applications requiring 3 coats, and unit masonry.
C. Finish Coats: Apply floated finish coats. Leave plaster ready for painting.

CEM DESIGN
630 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0563 20850

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Falling Green
Restoration and Addition
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Revisions			
No.	Date	Description	By
1			
2			
3			
4			
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Sheet Title
GENERAL REQUIREMENTS cont.

T1.4
SHEET 4 OF 5

17. Cut, patch, replace, and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, excessive crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.
18 Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering. When plastering is completed, remove unused materials, containers, and equipment and clean floors of plaster debris.
19 Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensure plaster work is without damage or deterioration at the time of Substantial Completion.

GYPSUM WALL BOARD
1. Provide gypsum wall panels manufactured in accordance with the requirements of ASTM 336 Gypsum board thicknesses are noted on the drawings. Provide 5/8" thick type "X" fire-rated gypsum board where noted on the drawings.
2. Provide metal edge and corner beads at edges, ends, and corners
3. Water resistant gypsum board shall be 1/2" thick tapered and rounded edges, and shall be installed in all wet areas as indicated on the drawings.
4. Provide fasteners in accordance with ASTM C646, unless otherwise noted or indicated. Provide type "S" bugle head screws for attachment of wall board to framing.
5. Provide all incidental and accessory materials, tools, equipment, and methods required for satisfactory completion of gypsum wall board construction, including access doors and panels.
6. Apply pre-fill compound to joints in accordance with industry standards. Apply embedding compound reinforcing tape centered over joint Apply skim coat after taping and embedding compound is dry Apply second coat of filling and taper flush with surface Fire tape penetrations at demising walls, and other fire-rated assemblies.
7 Provide final finish that is smooth, without divots, bumps, bows, or any other surface blemish, ready to receive paint.

PAINTING
8. Provide paint finishes for building and other surfaces as scheduled on the drawings, or as specified herein No paint finish is defects if required on items having complete factory finish, except as specified herein: non-ferrous metals unless specifically mentioned in the painting schedule, stainless steel; exterior masonry of existing building; exterior stone foundation of building addition.
9. Protect work or other trades from damage and defacement caused by this work. Repair any damage caused by the work of this Section Remove electrical outlet and switch plates, mechanical diffusers, grilles, escutcheons, registers, surface hardware, fittings, and fastenings prior to commencing the work. Store, clean, and replace upon completion.
10. Paint Contractor shall notify the General Contractor if any surface to be painted or stained is found to be unsuitable to produce proper finish. Apply no finish material until the unsuitable surfaces have been made satisfactory.
11. Finish work shall be uniform, of approved color, smooth, and free from runs. Make ends of paint adjoining other materials or colors sharp and clean.
12. Provide all newly painted surfaces with (1) coat tinted primer and a minimum of (2) coats final color coat (unless recommended by manufacturer's specifications) to provide a solid, uniform, and durable finish. Allow manufacturer recommended drying time between coats.
13. Deliver all paint to job site in unopened containers bearing the manufacturer's label and showing the paint type, shoon, and color.
14 Paint types used shall be those specifically recommended by the manufacturer for the material to which they will be applied. Painting Contractor shall follow manufacturer's instructions for proper application of paint.
15. All surfaces to be painted shall be thoroughly cleaned and prepared for painting prior to application of paint. Provide ventilators as required to prevent build-up of fumes
16. Sandpaper all new wood to smooth and even surface and dust off. After priming coat has been applied, thoroughly fill all nail holes and other surface imperfections with putty tinted with primer or stain to match wood color. Sand all wood work between coats to a smooth surface.
17. Existing wood finishes that are alligatored, cracked, or peeling shall be stripped with chemical stripper: PEEL AWAY 7. Product data and technical specifications at http://www.dumonachemicals.com/. NOTE: Existing finishes in all existing built-in cabinets are to remain. DO NOT CLEAN, STRIP, SAND, PRIME, OR PAINT.
18 Pre-fill all surfaces which receive paint prior to application of final finish, in accordance with manufacturer's specifications.
19 Back prime all exterior wood siding and trim, and all cut joints, prior to installation Back prime all interior wood trim prior to installation. Thoroughly clean surfaces and apply no finish unless surfaces are dry and ready for application. Sandpaper surfaces of trim smooth and wipe clean after stain coat has been applied. Fill cracks and holes with plastic wood or putty. Prime backs of trim Prime bare wood scheduled to receive paint finish. Finish nail holes, cracks, and other imperfections with putty and sand smooth.
20. At completion, touch-up and restore finish where damaged, and leave all surfaces in good and clean condition. Provide for one touch-up trip for entire project prior to completion.
21. Paint, stain, primer, etc. is by Fine Paints of Europe. Other paint manufacturers may not be substituted.
22. Finish interior surfaces, as scheduled on drawings, except as modified and supplemented herein, and upon written Owner approval. In general, use flat sheen for plaster and gypsum board surfaces, and semi-gloss for wood trim and built-in casework.

CERAMIC TILE
25. Install tile in areas where indicated. Use setting adhesives and apply only as recommended by manufacturer and in accordance with industry standards
24. Installers must be specialists with a minimum of two (2) years experience.
25. All installation shall conform to the latest applicable Tile Council of America and ANSI standards. Do not commence installation until substrate has been made suitable for tile installation
27. Review all areas to receive tile flooring to determine the required extent of subfloor preparation Commencing tile installation implies acceptance of subfloor suitability for the installation.
28. Set and grout tile when ambient temperature is at least 50 degrees and rising. Align all joints and corners.
29. Install tile to cement board substrate per TCA standard F113-89 with uniformly spaced joints, to pattern indicated on the drawings. Verify layout and cuts with Project Manager prior to commencement of work. Cut tile at wall intersections for concealment by base where applicable
30. Close areas in which tile is being placed to traffic and other work. Keep area closed until tile is firmly set. Protect flooring from damage Replace damaged tile at no additional cost to the Owner
31 Grout flush with tile edges. Wipe tiles as recommended by grout manufacturer.
32. Damp cure per mortar and grout per manufacturer's recommendations.
33 Floor tile grout joints shall be 3/16" (1/4" max.).
34. Contractor shall install all tile and composite countertops throughout the project. Composite countertops are to have polished bullnose outside edges.
35. Contractor will supply all floor tile, wall tile, and composite countertops.

EXISTING WOOD FLOORING AND STAIRS
36 This Section includes restoration and preservation of the existing wood strip flooring, and stair treads and handrails at first and second floor stairs.
37. Submit product data including cleaning and finishing products, manufacturer's color charts showing the full range of finishes available for restoring the existing wood flooring, and sample wood to be used to patch the existing floor where noted.
38. Sample for Verification: Contractor to clean and condition a 12"x12" area of the existing wood floor as noted below, for review and approval by the Architect, prior to commencing cleaning and conditioning all of the existing wood floors.
39 The Contractor performing the wood flooring repair and restoration work shall be a Restoration Specialist with a minimum of five (5) years experience in comparable wood restoration work on significant historic buildings and must be able to work in a manner to protect existing historic fabric, and blend new work with original fabric In acceptance or rejection of the work of this Section, the Owner will make no allowance for the lack of skill on the part of the workman.
40. Wood species, grade, and profile used to patch existing flooring to match existing. Wood to be kiln-dried, clear, all-heart, dense growth.
41. Contractor to remove damaged, rotted, or otherwise deteriorated wood flooring to supporting members with straight cuts perpendicular to wood strips. Replacement wood is to be toothed into existing wood flooring. Bottom groove edge may be planed as necessary for installation Finished repair to be flush, smooth, & capable of supporting imposed live loads
42. Existing wood flooring, stair treads, and handrails, are to be thoroughly cleaned, vacuum and tack with a clean cloth.
43. Apply DURA SEAL Renovator Cleaner & Reconditioner per manufacturer's instructions. Clean floor with #3 steel wool. Wipe clean with clean cloth.
44. Apply DURA SEAL Paste wax per manufacturer's instructions. Buff with weighted buffer or polisher.

NEW WOOD FLOORING
45. This Section includes restoration and preservation of the existing wood strip flooring, and installation and finishing of new solid-wood strip flooring in the addition where noted.
46. Submit product data including manufacturer's color charts showing the full range of colors and finishes available for finishing new wood flooring
47 Obtain new wood flooring material from one source with resources to provide materials and products of consistent quality in appearance and physical properties. Comply with NOFMA grading rules for species, grade, and cut.
48. Deliver wood flooring materials in unopened cartons or bundles. Protect wood flooring from exposure to moisture. Do not deliver wood flooring until after concrete, masonry, plaster, ceramic tile, and similar wet-work is complete and dry. Store wood flooring materials in a dry, warm, well-ventilated, weathertight location.
49. Move wood flooring into spaces where it will be installed, at least seven days before installation. Maintain relative humidity planned for building occupants and an ambient temperature between 65 and 75 deg F (18 and 24 deg C) in spaces to receive wood flooring for at least seven days before installation, during installation, and for at least seven days after installation. After post-installation period, maintain relative humidity and ambient temperature planned for building occupants.
50. Close spaces to traffic during flooring installation and for time period after installation recommended in writing by flooring and finish manufacturers.
51. Subject to compliance with requirements, provide kiln-dried solid wood strip flooring:
A. Species: Red oak.
B. Grade: Clear
C. Cut: Plain sawn.
D. Thickness 3/4 inch (19 mm)
E. Face Width: 2-1/4 inches (57 mm)s work tre
F. Tongue and groove, end matched.
G. Chamfered (kerfed) for stress relief.
H. Provide random-length strips complying with applicable grading rules, none less than 36".
52. Finishing: Provide complete urethane finish system of compatible components that is recommended by finish manufacturer for application indicated.
A. Stain: Penetrating, nontading type, selected by Architect from manufacturer's full range.
B. Finish Coats: Formulated for multicoat application on wood flooring.
53. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
A. Dura Seal Division; Minwax Co., Inc.
B. Wood Filler: Formulated to fill and repair defects; compatible with finish system components and recommended by filler and finish manufacturers for use indicated. If required to match approved samples, provide pigmented filler.
C. Threshold: Wood species and finish to match wood floor, tapered on each side and routed as necessary to accommodate adjacent flooring
D. Wood air vents and grilles of same species and grade as wood flooring, finished to match adjacent wood flooring
54. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements, installation tolerances, and other conditions affecting performance of wood flooring. Proceed with installation only after unsatisfactory conditions have been corrected. Comply with flooring manufacturer's written instructions, but not less than recommendations in NOFMA's "Installing Hardwood Flooring," as applicable to flooring type. Blind nail or staple flooring to substrate according to NOFMA's written recommendations
55. Provide expansion space at walls and other obstructions and terminations of flooring of not less than 3/4 inch (19 mm).
56. Underlayment: Where strip flooring is nailed to plywood subfloor, install flooring over a layer of asphalt-saturated felt.
57. Nail baseboard to wall and nail shoe molding to baseboard; do not nail to flooring
58. Machine-sand new wood flooring to remove offsets, ridges, cups, and sanding-machine marks that would be noticeable after finishing. Vacuum and tack with a clean cloth immediately before applying finish. Fill and repair defects.
C. Apply stain to match approved Sample. Apply floor finish according to finish manufacturer's written instructions. Apply in number of coats recommended by finish manufacturer for application indicated, but not less than three.
59. Cover installed wood flooring to protect it from damage or deterioration, before and after finishing, during remainder of construction period. Use heavy kraft-paper or other suitable covering. Do not cover site-finished floors with kraft paper, or any other material, until finish reaches full cure, but not less than seven days after applying last coat. Do not use plastic sheet or film that could cause condensation.

RESILIENT FLOORING
60. This section includes homogeneous linoleum sheet flooring, adhesive and heat welded seams installation. (For Marmoleum Real, Fresco, Vivace, Piano, Mineral, Prisma, Graphic, Striato and Walton), Topshield finish.
61. References: ASTM F 2034; ASTM E 648; ASTM E 662; NFPA 253; NFPA 258.
62. Provide flooring which has been manufactured, fabricated and installed to performance criteria certified by manufacturer without defects, damage, or failure.
63. Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products. Submit selection and verification samples for finishes, colors, and textures. Submit operation and maintenance data for installed products, include methods for maintaining installed products, and precautions against cleaning materials and methods

63 (cont.) detrimental to finishes and performance. Submit warranty documents: warranty period: Five (5) year limited warranty commencing on Date of Substantial Completion.
64. Installer must be experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
65. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Material should be stored in areas that are fully enclosed, weathertight with the permanent HVAC system set at a uniform temperature of at least 68 degrees F (20 degrees C) for 48 hrs. prior to, during and after installation.
66. Verify actual measurements/openings by field measurements before fabrication Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays
67. Install tile flooring after finishing operations, including painting and ceiling operations, have been completed.
68. Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Furnish quantity of flooring units equal to 5% of amount installed.
69. Provide resilient linoleum sheet flooring, manufacturer: Forbo Flooring, Inc., Humboldt Industrial Park, P.O. Box 667, Hazleton, PA 18201; Telephone: 800 842 7839.
A. Pattern and Color: As selected by Architect from manufacturer's standard patterns and colors.
B. Adhesive: Forbo Flooring, Inc., L 910 Adhesive.
C Heat Welding Rod: Forbo Flooring, Inc., Marmoweld color-matched solid color or multi-color welding rod.
D. Topshield finish
70. Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.
71. Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions.
72. Prepare wood subfloor substrate to be rigid, double construction with a one inch minimum thickness, free from harmful movement and have at least 18 inches of well ventilated air space below
73 Remove temporary coverings and protection of adjacent work areas Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.
74. Protect installed product and finish surfaces from damage during construction. Remove and legally dispose of protective covering at time of Substantial Completion
75. Initial maintenance "Starter Kit" supplied by manufacturer. Initial maintenance to be conducted by flooring contractor.

DIVISION 10 - SPECIALTIES

1. Fire extinguishers (provided by General Contractor) shall be 10 pound capacity, U.L. labels enamel steel container with pressure indicating gauge for class A, B, or C fires. Install on wall mounted hooks as directed by the Fire Marshal, neatly fitting to finish surfaces Place fully charged extinguishers on hooks prior to occupancy
2. Provide the following bathroom and restroom accessories:
A. Tilt-able mirror: BOBRICK B-294 1650 stainless steel framed.
B. Fixed mirror: BOBRICK B-290 2456 welded stainless steel frame.
C. Grab bars: BOBRICK B-6806x36" and B-6806x42" satin stainless steel.
D. Toilet tissue dispenser: BOBRICK B-667 stainless steel.
E. Towel bars: BOBRICK B-76741 satin stainless steel, sizes as noted on the drawings.
F. Medicine cabnet: BOBRICK B-297
G. Shower curtain rod: BOBRICK B-207

DIVISION 11- EQUIPMENT

1. Provide BOSCH AXXIS WFL2090UC stacking automatic washer in drain pan with overflow drain. Provide required power, water, and drain connections.
2 Provide BOSCH AXXIS WTE86300US stacking condenser dryer. Provide required power and drain connections.
3. Owner to select and provide kitchen range, refrigerator, and combination MW/exhaust hood for installation by the Contractor.

DIVISION 12 - CASEWORK

1. Casework and counter top sizes, configuration and locations are shown on the drawings
2. Casework shall be by ARMSTRONG, or approved equal Style to be WAVERLY raised panel. Provide NATURAL CARAMEL GLAZE finish on all cabinets and trim in second floor kitchen, and on wall cabnets and trim in first floor Lunchroom. Provide ESPRESSO finish on base cabnets in first floor Lunchroom. See Interior Elevations for cabnet sizes, end panels, trim, function and fittings, etc. Composite countertops and backsplashes are by Silestone, or approved equal. Color to be ROSE GREY. Provide bullnose edge.
3. Field verify all dimensions prior to ordering or fabrication.

ACCESSIBILITY NOTES

1. It is the responsibility of the Owner for this facility to comply with the current Americans with Disabilities Act (ADA) standards for accessibility. The Owner must maintain compliance of the primary path of travel, restroom facilities, drinking fountains, and public facilities and telephones, etc. within the public space.
2 Ground floors and floor surfaces along accessible routes and in accessible rooms and spaces, including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, and slip resistant.
3. The highest operable part of all controls, dispensers, receptacles, and other operable equipment shall be placed within 48" of the floor, but not lower than 15".
4. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 pounds of force.
5. Faucet controls and operating mechanisms for sinks shall be operable with one hand and shall not require grasping, pinching, or twisting of the wrist. The force required to activate faucet controls and operating mechanisms for kitchen sinks shall be no greater than 5 pounds of force. Lever operated, push-type, and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10-seconds.
6. The space required for a wheelchair to make a 180 degree turn is a clear space of 60" diameter.
7. The center of the electrical and communication receptacle outlets shall be installed not less than 15" above the finished floor. The center grip of the operating handle of controls or switches intended to be used by the occupant of the room or area to control lighting and receptacle outlets, appliances, or cooling, heating, and ventilating equipment shall not be more than 48" above the floor or working platform. The center of the fire alarm initiating devices (pull stations) shall be located 48" above the finished floor or ground surface. The installation or the fire alarm equipment and systems in any occupancy within the scope of these regulations shall be in accordance with the provisions of the local fire code. Controls, receptacles, etc. in the historic portion of the building may not conform to ADA standards.

CEM DESIGN
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Revisions
Rev.	Date	Description	By
1			
2			
3			
4			
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Sheet Title
GENERAL REQUIREMENTS cont.

T1.5
SHEET 5 OF 5

21

(13)

1 SITE PLAN

SCALE: 1" = 30'-0"

NOTE:
SITE INFORMATION WAS PROVIDED BY OTHERS, AND CANNOT BE GUARANTEED ACCURATE BY CEM DESIGN. SITE PLAN IS TO BE USED FOR GENERAL LOCATION AND GRADING ONLY. CONTRACTOR TO FIELD VERIFY ALL SITE INFORMATION PRIOR TO UNDERTAKING ANY SITE WORK.

LOCATION MAP

NO SCALE

SP1.1

SHEET 1 OF 1

SITE PLAN

No.	Date	Description
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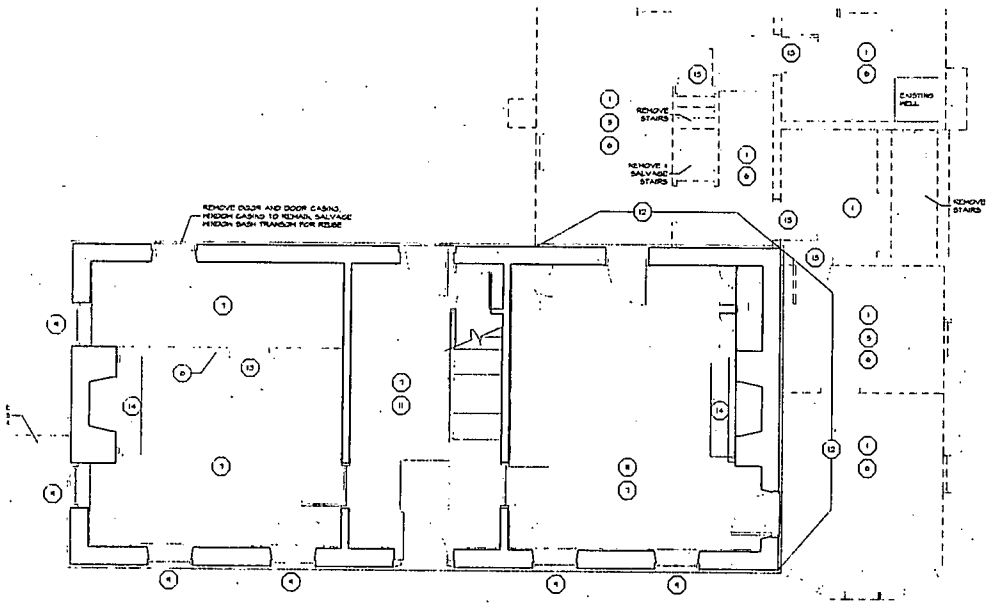
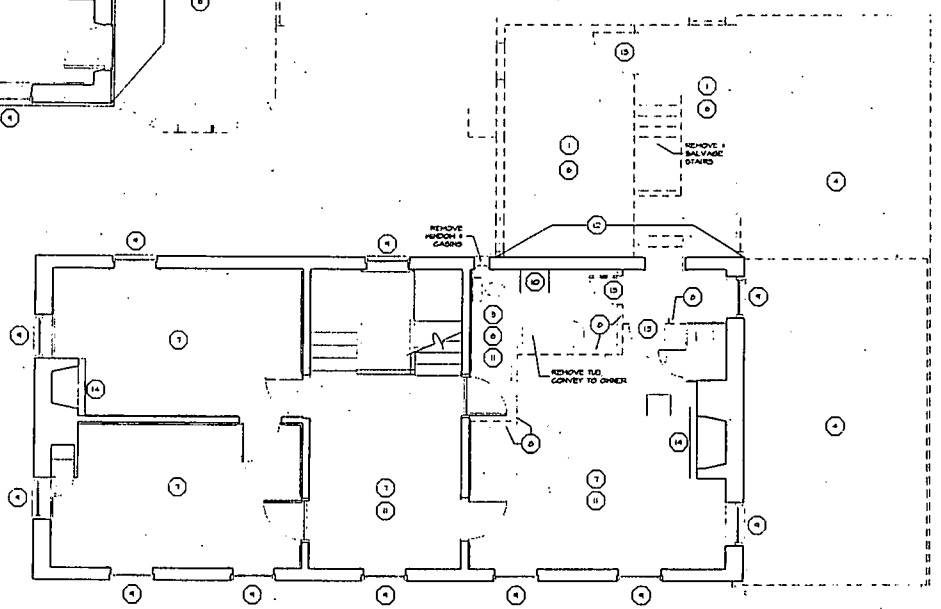
Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

CEM DESIGN



1 FIRST FLOOR PLAN – DEMOLITION

SCALE: 1/4" = 1'-0"



2 SECOND FLOOR PLAN – DEMOLITION

SCALE: 1/4" = 1'-0"

DEMOLITION SCHEDULE

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED

DEMOLITION NOTES

1. REMOVE FLOOR, WALLS, CEILING FINISHES AND FRAMING
2. REMOVE CMU, CONC., AND BRICK FOUNDATION
3. REMOVE AND SALVAGE STONE FOUNDATION FOR REUSE
4. REMOVE ROOFING AND ROOF FRAMING
5. REMOVE PLUMBING FIXTURES, SUPPLY, WASTE, AND VENT PIPING
6. REMOVE ELECTRICAL FIXTURES, DEVICES, AND CONDUIT.
7. REMOVE SURFACE MOUNTED ELEC., CONDUIT, BOXES AND DEVICES
8. REMOVE PARTITIONS WHERE SHOWN
9. REMOVE TEMPORARY MD. COVERS FROM WINDOWS
10. REMOVE AND SALVAGE PLUMBING FIXTURE FOR REUSE IN APARTMENT
11. REMOVE FLOOR FINISHES
12. REMOVE PLASTER, CEMENT PLASTER, OR PAINT FROM EXISTING BRICK
13. REMOVE DOOR AND FRAME
14. REMOVE FIREPLACE COVER. REMOVE DEBRIS

CEM DESIGN
630 ANDERSON AVENUE
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301 294-0867 20850

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Rev.	Date	Description	By
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Sheet Title
FIRST & SECOND FLOOR DEMOLITION PLANS

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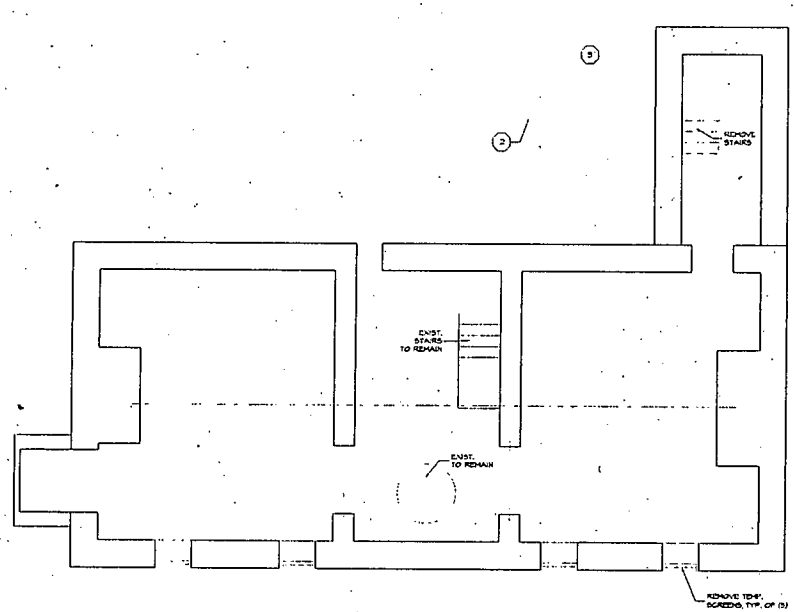
SHEET 1 OF 2

14



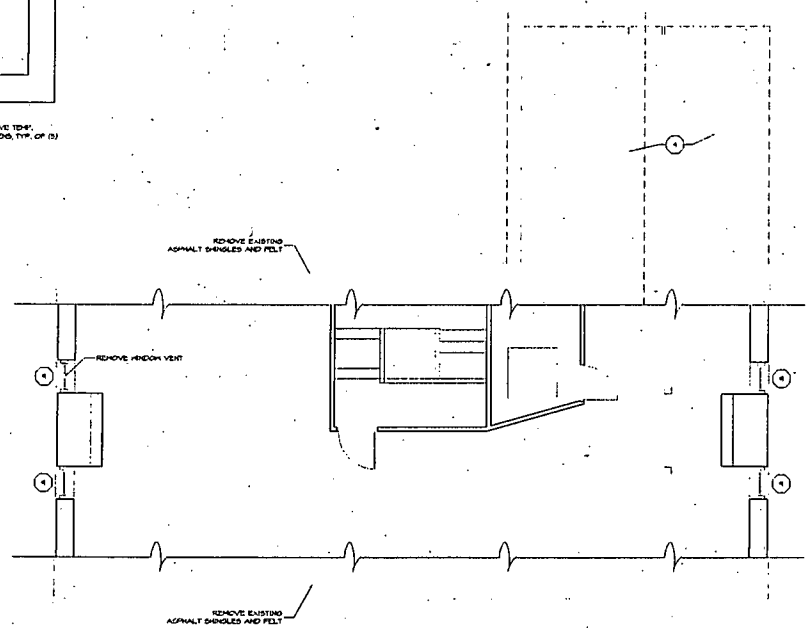
1 BASEMENT FLOOR PLAN – DEMOLITION
SCALE: 1/4" = 1'-0"

DEMOLITION SCHEDULE

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED

DEMOLITION NOTES

1. REMOVE FLOOR, WALLS, CEILING FINISHES AND FRAMING
2. REMOVE CMU, CONC., AND BRICK FOUNDATION
3. REMOVE AND SALVAGE STONE FOUNDATION FOR REUSE
4. REMOVE ROOFING AND ROOF FRAMING
5. REMOVE PLUMBING FIXTURES, SUPPLY, WASTE, AND VENT PIPING
6. REMOVE ELECTRICAL FIXTURES, DEVICES, AND CONDUIT.
7. REMOVE SURFACE MOUNTED ELEC. CONDUIT, BOXES AND DEVICES.
8. REMOVE PARTITIONS WHERE SHOWN
9. REMOVE TEMPORARY MD. COVERS FROM WINDOWS
10. REMOVE AND SALVAGE PLUMBING FIXTURE FOR REUSE IN APARTMENT
11. REMOVE FLOOR FINISHES
12. REMOVE PLASTER, CEMENT PLASTER, OR PAINT FROM EXISTING BRICK
13. REMOVE DOOR AND FRAME
14. REMOVE FIREPLACE COVER, REMOVE DEBRIS



2 ATTIC FLOOR PLAN – DEMOLITION
SCALE: 1/4" = 1'-0"

15

CEM DESIGN
620 ANDERSON AVENUE
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301 294 0882 20850

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Issue Date
11/30/10

Revisions

No.	Date	Description	By
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Sheet Title
BASEMENT & ATTIC FLOOR DEMOLITION PLANS

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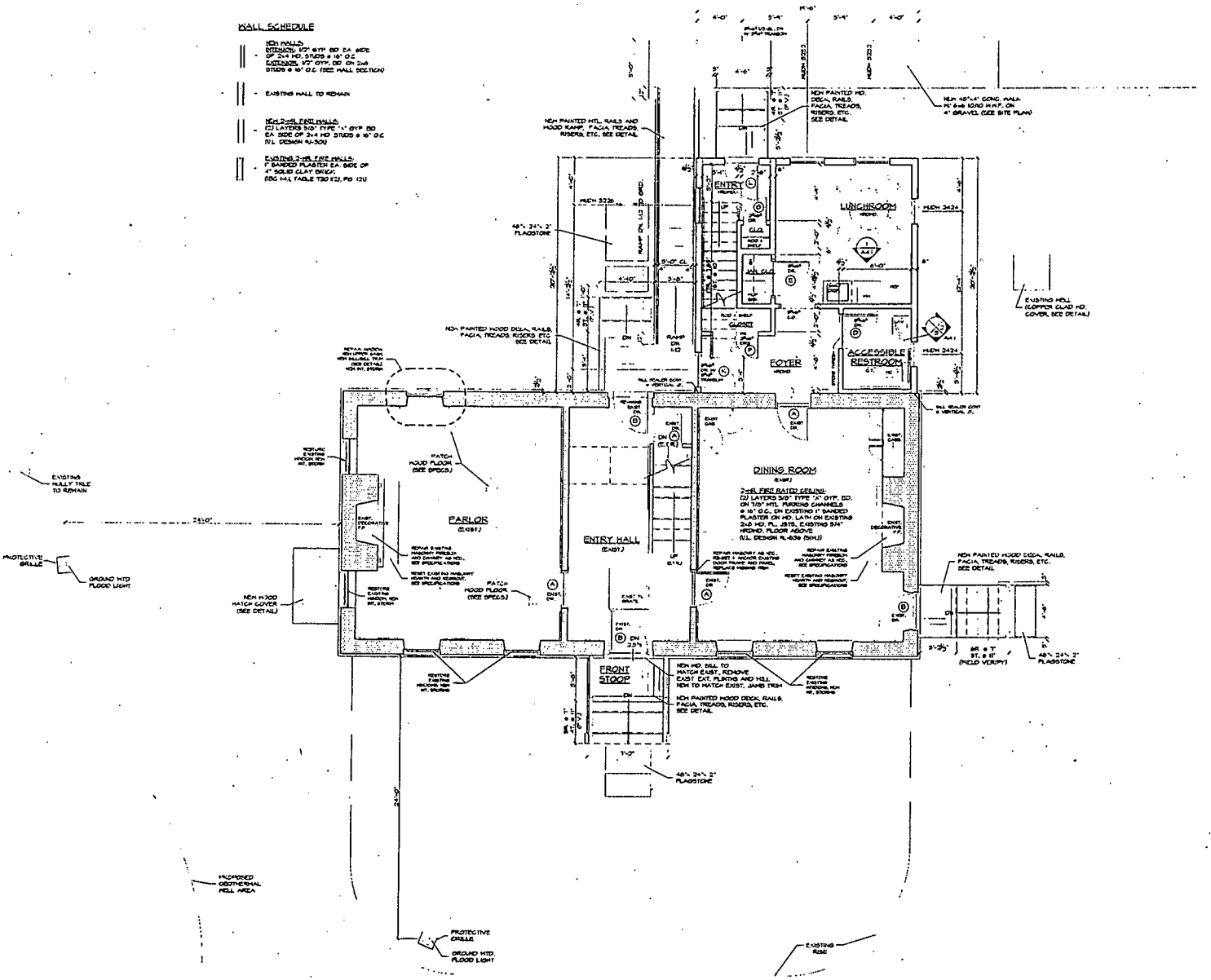
SHEET 2 OF 2



1 FIRST FLOOR PLAN – PROPOSED

SCALE: 1/4" = 1'-0"

GEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0882 20850

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11/30/10

Revisions

No.	Date	Description	By
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Sheet Title
PROPOSED FIRST FLOOR PLAN

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SHEET 1 OF 8

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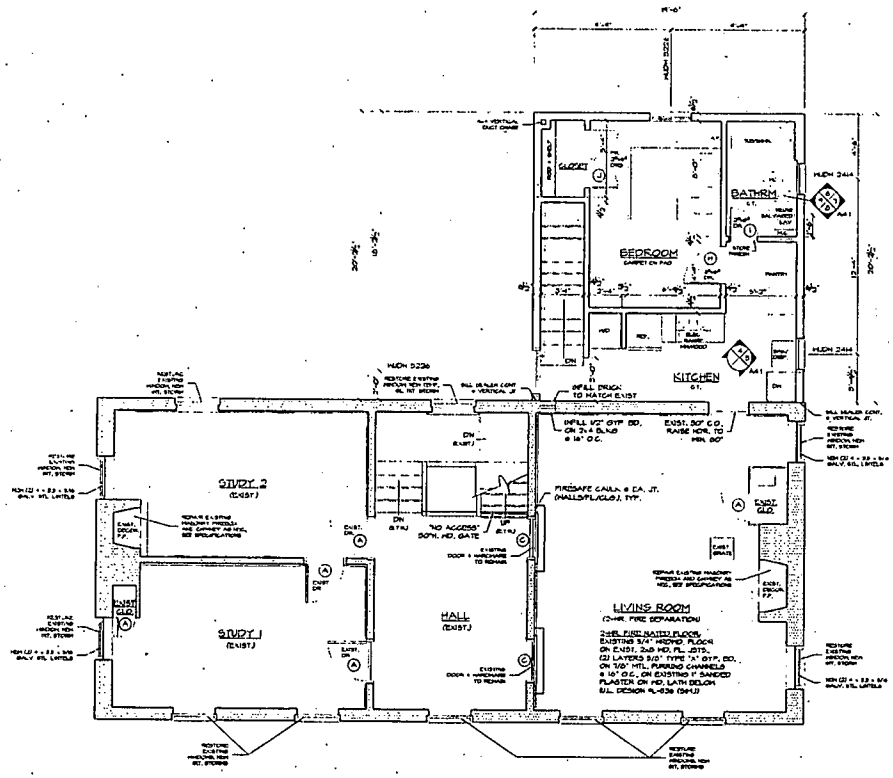


1 SECOND FLOOR PLAN – PROPOSED

SCALE: 1/4" = 1'-0"

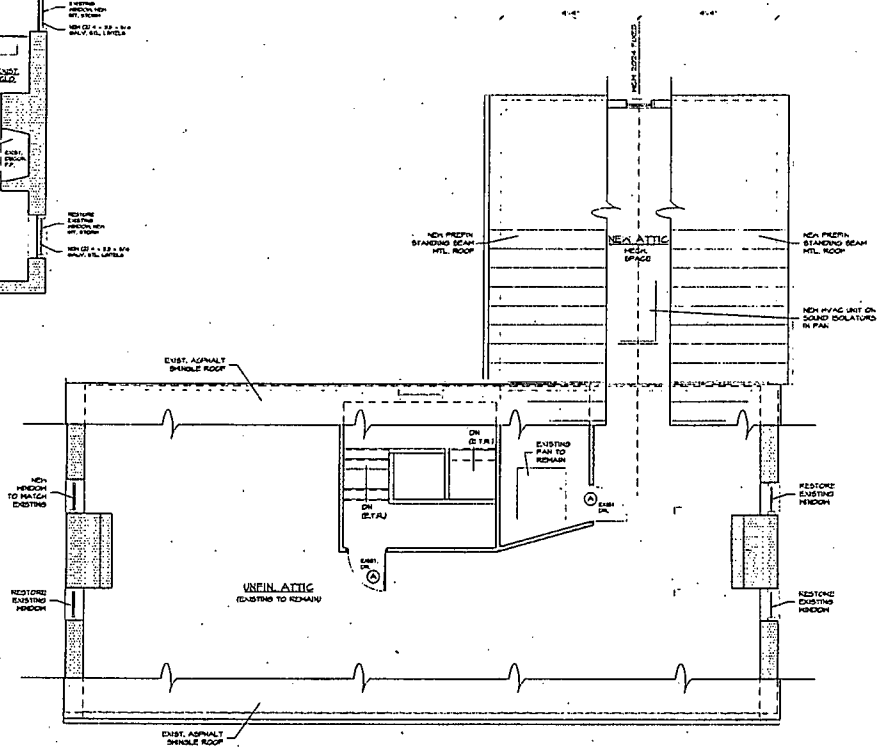
WALL SCHEDULE

NEW WALLS:
INTERIOR, 1/2" GYP. BD., EA. SIDE OF 2x4 WD. STUDS @ 16" O.C.
EXTERIOR, 1/2" GYP. BD., ON 2x6 STUDS @ 16" O.C. (SEE WALL SECTION)

EXISTING WALL TO REMAIN

NEW 2-HR. FIRE WALLS:
(2) LAYERS 5/8" TYPE "X" GYP. BD., EA. SIDE OF 2x4 WD. STUDS @ 16" O.C., B/L DESIGN WP-3001

EXISTING 2-HR. FIRE WALLS:
1" SANDED PLASTER EA. SIDE OF 4" SOLID CLAY BRICK
(SEC. 141, TABLE 720.1(2), FD, (2))



2 ATTIC FLOOR PLAN – PROPOSED

SCALE: 1/4" = 1'-0"

CEM DESIGN
820 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0560 20850

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

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

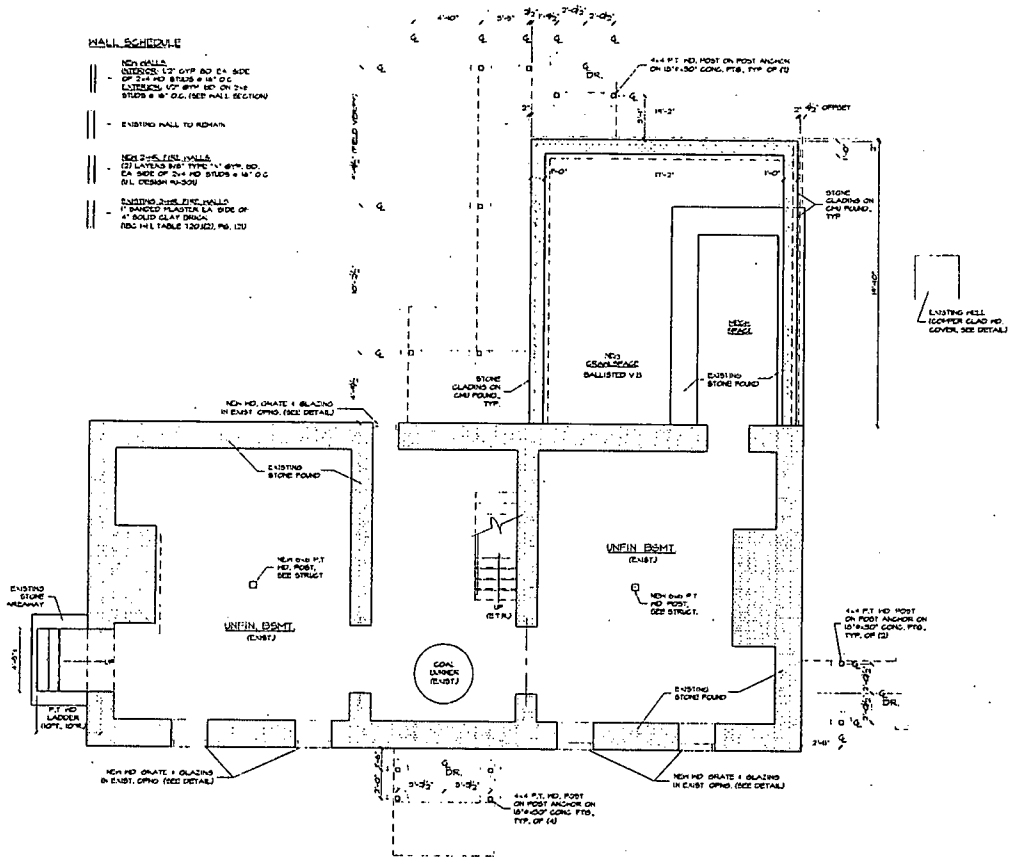
Revisions

Rev	Date	Description	By
1			
2			
3			
4			

Sheet Title
PROPOSED SECOND & ATTIC FLOOR PLANS

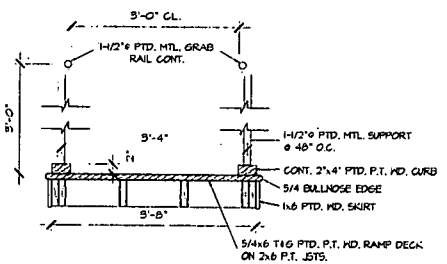
A1.2
SHEET 2 OF 8

17



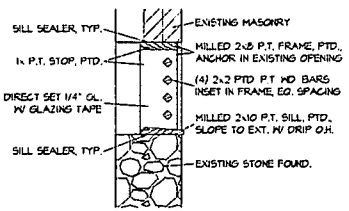
1 BASEMENT FLOOR PLAN – PROPOSED

SCALE: 1/4" = 1'-0"



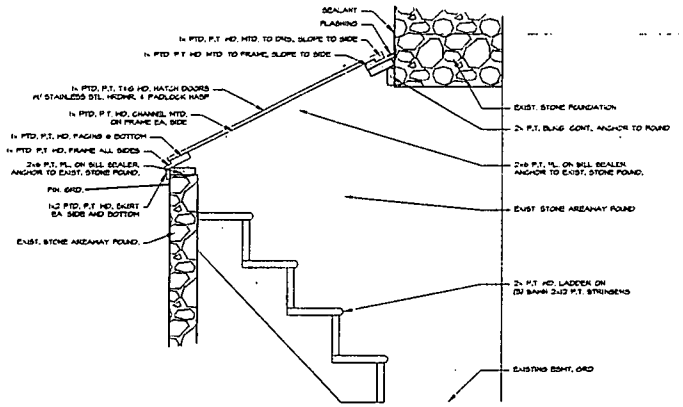
4 EXT. ACCESS RAMP SECTION

SCALE: 1" = 1'-0"



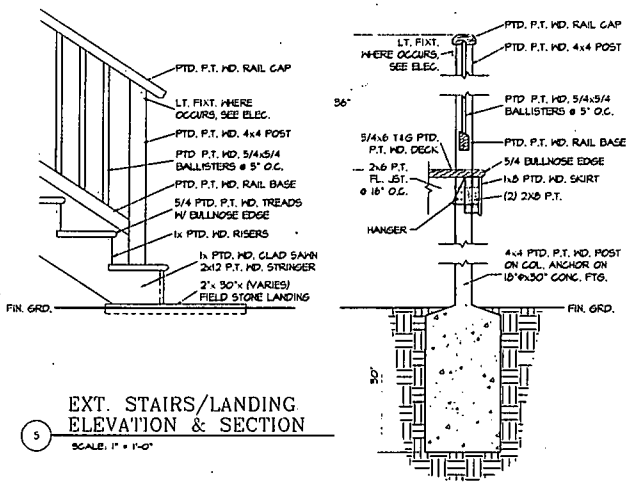
2 BASEMENT WINDOW GRATE DETAIL

SCALE: 1" = 1'-0"



3 BASEMENT AREAWAY DETAIL

SCALE: 1" = 1'-0"



5 EXT. STAIRS/LANDING ELEVATION & SECTION

SCALE: 1" = 1'-0"

CEM DESIGN
620 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0883 20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

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Revisions

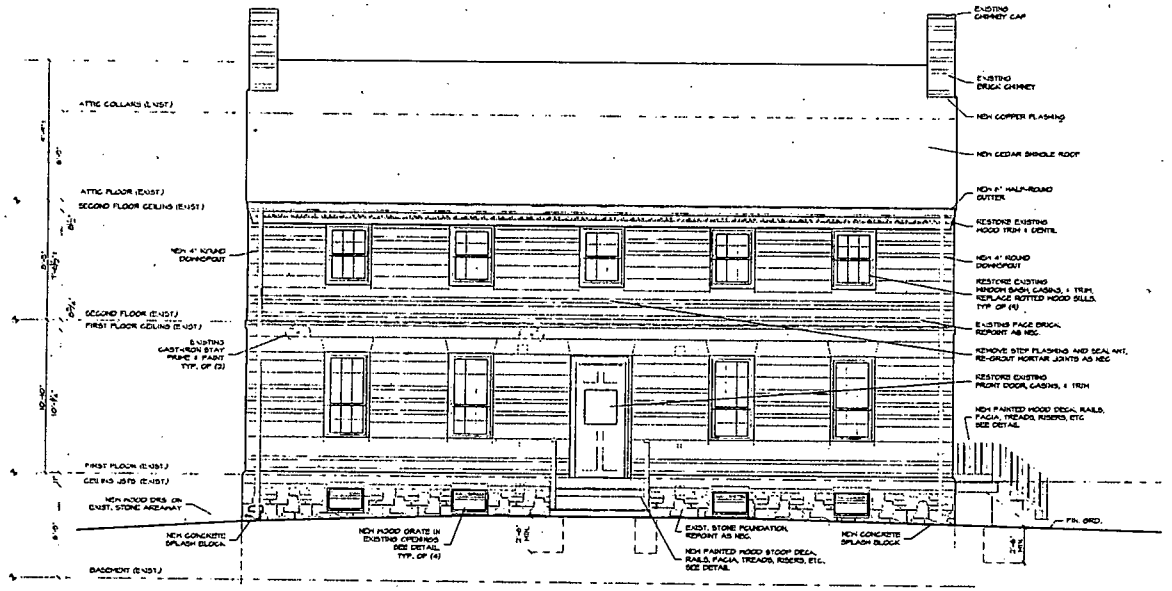
No.	Date	Description	By
1			
2			
3			
4			

Sheet Title: PROPOSED BASEMENT FLOOR PLAN & SECTIONS

A1.3

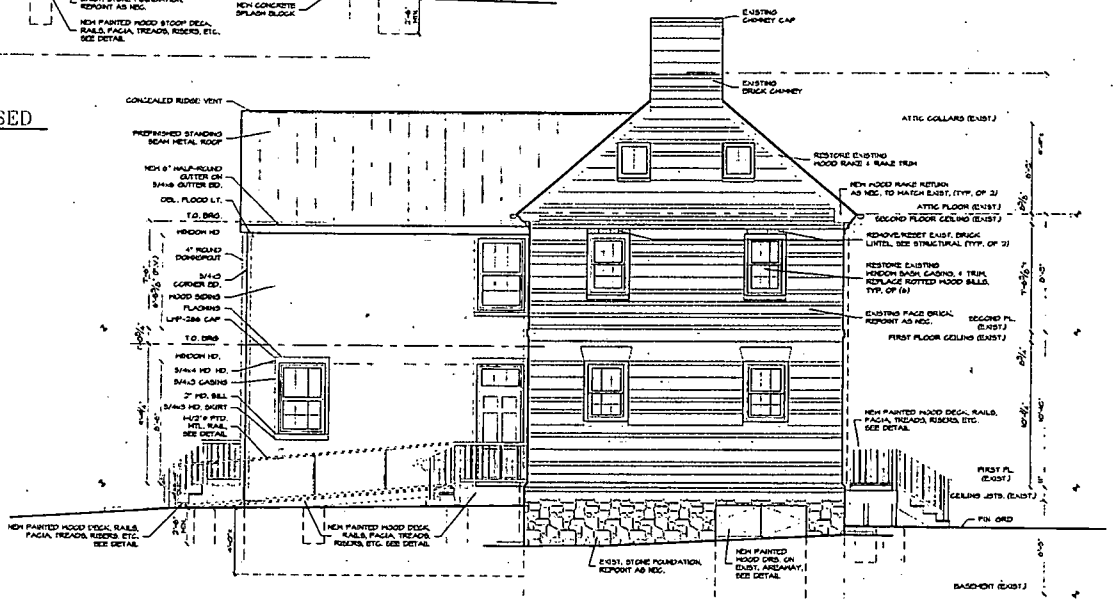
SHEET 5 OF 8

18



1 FRONT (SOUTH) ELEVATION – PROPOSED

SCALE: 1/4" = 1'-0"



2 SIDE (WEST) ELEVATION – PROPOSED

SCALE: 1/4" = 1'-0"

CEM DESIGN
620 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0983 20850

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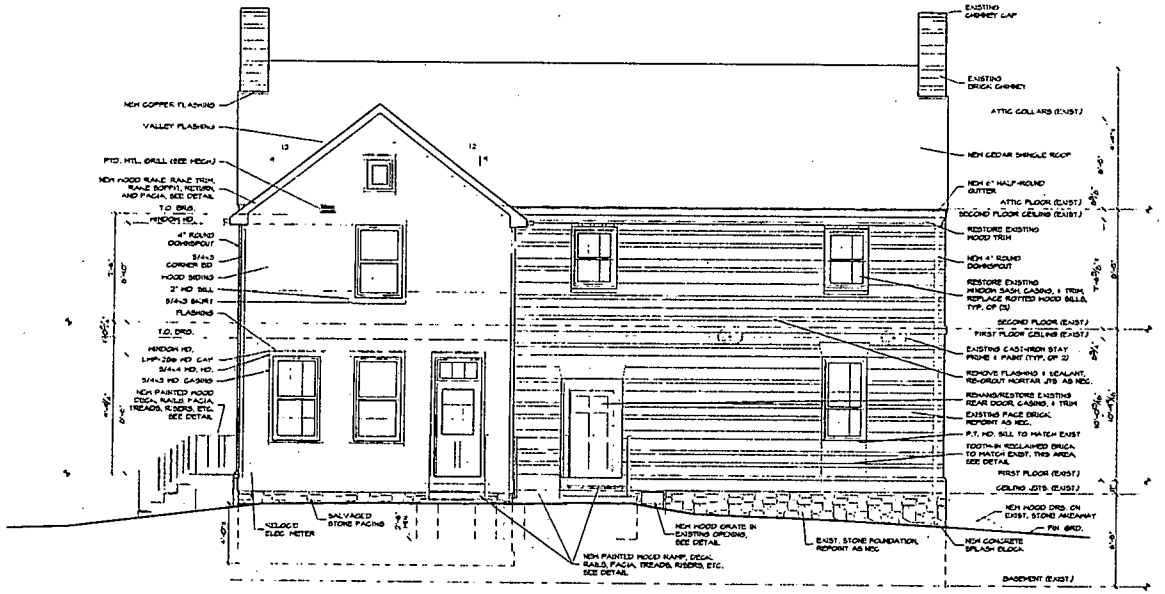
11/30/10

No. | Revisions | Date | Description | By

Sheet Title
PROPOSED EXTERIOR ELEVATIONS

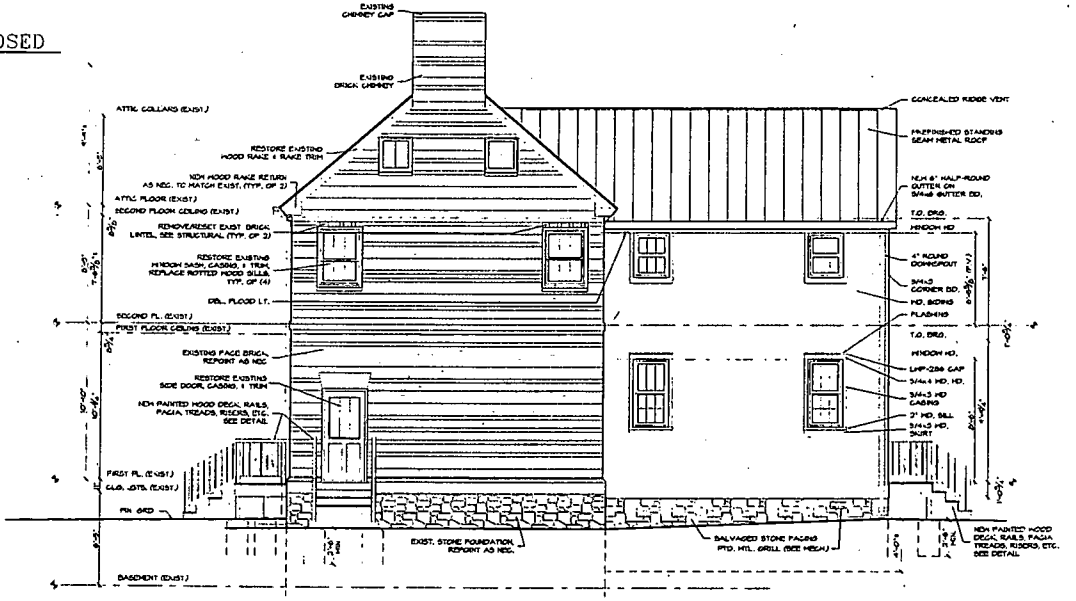
A2.1
SHEET 4 OF 8

19



1 REAR (NORTH) ELEVATION – PROPOSED

SCALE: 1/4" = 1'-0"



2 SIDE (EAST) ELEVATION – PROPOSED

SCALE: 1/4" = 1'-0"

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0863 20850

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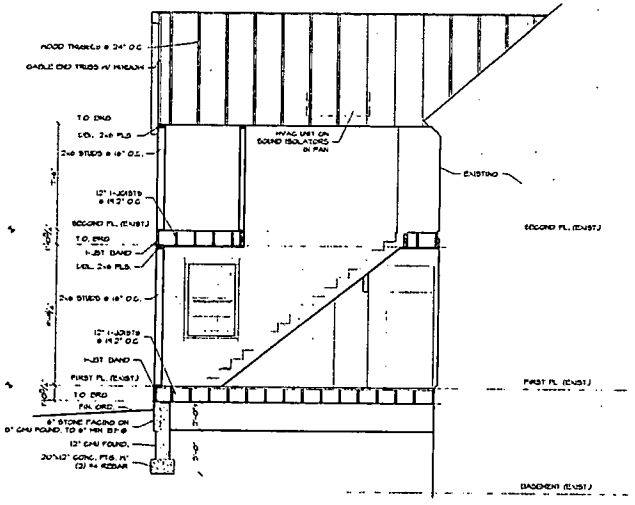
Revisions

No.	Date	Description
1		
2		
3		
4		
5		

Sheet Title
PROPOSED EXTERIOR ELEVATIONS

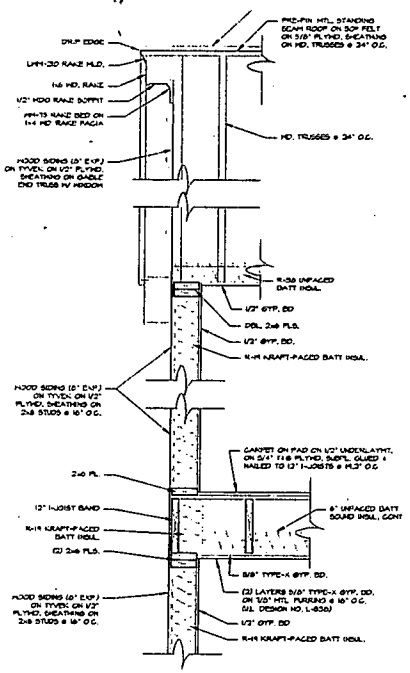
A2.2
SHEET 5 OF 8

02



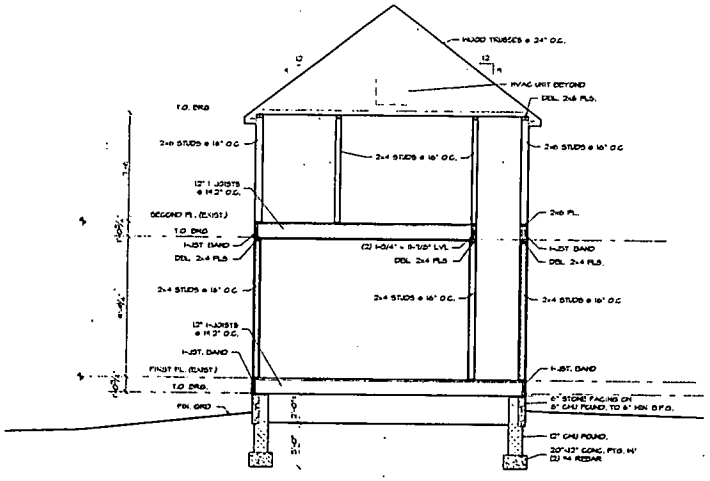
1 N/S SECTION THROUGH PROPOSED ADDITION

SCALE: 1/4" = 1'-0"



3 GABLE SECTION @ PROPOSED ADDITION

SCALE: 1" = 1'-0"



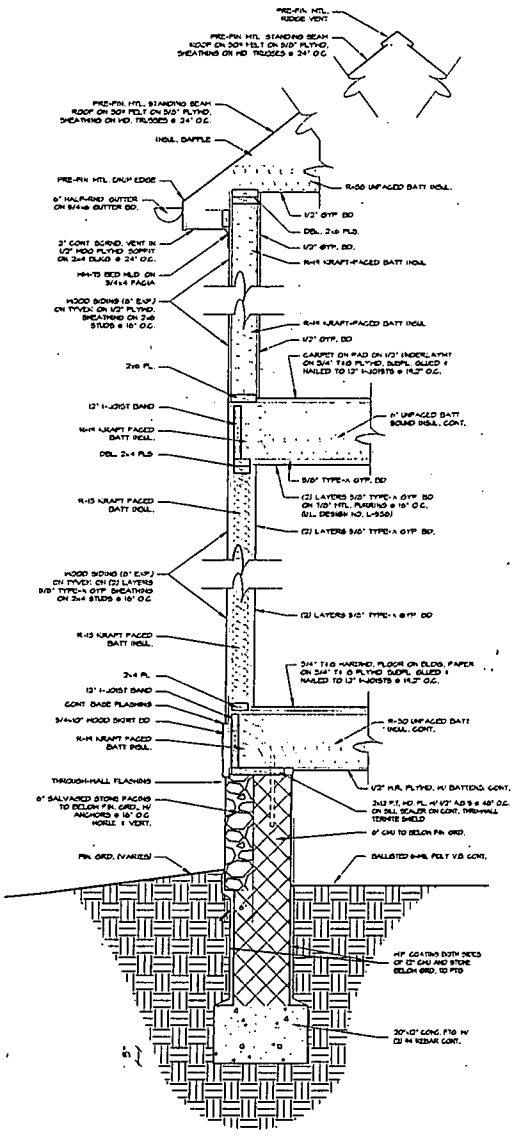
2 E/W SECTION THROUGH PROPOSED ADDITION

SCALE: 1/4" = 1'-0"

FIRE RATED FLOOR/WALL SCHEDULE

NON-2-HR. FIRE WALLS:
(2) LAYERS 5/8" TYPE "X" GYP. BD. EA. SIDE OF 2x4 MD. STUDS @ 16" O.C. (U.L. DESIGN U-305)

NON-2-HR. FIRE FLOORS:
(2) LAYERS 5/8" TYPE "X" GYP. BD. ON 7/8" MTL. FURRING CHANNELS @ 16" O.C., ON (1) LAYER 5/8" TYPE "X" GYP. BD. ON 12" "I" JSTS @ 19.2" O.C., 3/4" T&G PLYMD. SUBFL. GLUED & NAILED ABOVE (U.L. DESIGN FL-653)



4 WALL SECTION @ PROPOSED ADDITION

SCALE: 1" = 1'-0"

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0863 20850

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Restoration and Addition
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Revisions

Rev	Date	Description	By
1			
2			
3			
4			
5			

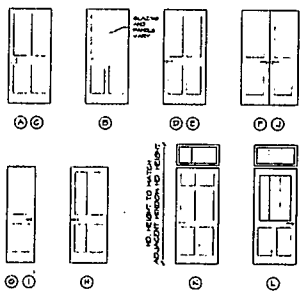
Sheet Title
BUILDING SECTIONS & WALL SECTIONS

A3.1
SHEET 6 OF 8

21

DOOR SCHEDULE

SYMBOL	TYPE	MATERIAL	SIZE	FRAME	HARDWARE	COMMENTS
A	EXISTING DOOR TO REMAIN	WOOD	VARIES	WOOD	1	ADJUST DOOR + HARDWARE AS NECESSARY TO CONFIRM OPERABILITY
B	EXISTING EXTERIOR DOOR TO REMAIN	WOOD	VARIES	WOOD	1	RE-HANG DOOR, ADJUST DOOR + HARDWARE AS NECESSARY TO CONFIRM OPERABILITY
C	EXISTING DOOR TO REMAIN	WOOD	VARIES	WOOD	1	DOORS TO BE CLOSET/CLOSED
D	(4) FLAT PANEL	WOOD	3'-0" x 6'-8"	WOOD	4	ADA COMPLIANT, W/ CLOSER
E	(4) FLAT PANEL	WOOD	3'-0" x 6'-8"	WOOD	8	ADA COMPLIANT
F	(2) FLAT PANEL	WOOD	(2) 3'-0" x 6'-8"	WOOD	3	
G	(2) FLAT PANEL	WOOD	3'-0" x 6'-8"	WOOD	3	
H	(4) FLAT PANEL	WOOD	3'-0" x 6'-8"	WOOD	4	
I	(2) FLAT PANEL	WOOD	3'-0" x 6'-8"	WOOD	4	
J	(2) FLAT PANEL	WOOD	(2) 3'-0" x 6'-8"	WOOD	3	
K	(4) RAISED PANEL	WOOD	3'-0" x 6'-8"	WOOD	2	W/ 3'-0"x1'-4" TRANSOM, SEE ELEV.
L	(2) RAISED PANEL	WOOD, W/GLASS	3'-0" x 6'-8"	WOOD	3	W/ 3'-0"x1'-4" TRANSOM, SEE ELEV



DOOR TYPES

HARDWARE:

NOTE:

ALL EXISTING LATCH/LOCK HARDWARE TO BE TAGGED PER LOCATION AND DESIGNATION, REMOVED, CLEANED, AND LUBRICATED, AND REINSTALLED AND ADJUSTED FOR SMOOTH OPERATION. PROVIDE KEYS FOR LOCKING HARDWARE. EXISTING HINGES ARE TO BE CLEANED, LUBRICATED, AND ADJUSTED TO CONFIRM SMOOTH OPERATION.

ALL NEW LATCH/LOCK HARDWARE IS TO BE ADA COMPLIANT, BOHLMAN 3-GERMES "FLAIR", 626-US, RUBBED BRONZE FINISH OR APPROVED EQUAL. DOOR CLOSERS ARE TO BE CONCEALED SINGLE ACTING WITH SWING ARM BY LCN OR APPROVED EQUAL. NEW HINGES ARE SQUARE 652-US, RUBBED BRONZE FINISH.

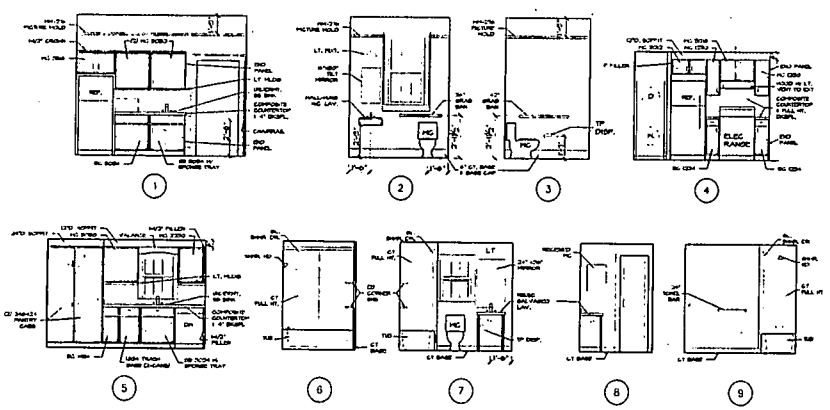
1 - EXISTING LATCH/LOCK HARDWARE TO REMAIN. CONFIRM OPERATION + LOCKABILITY.

2 - INTERCONNECTED ENTRANCE SET W/ KEYED DEADBOLT, ADA COMPLIANT

3 - DABBLE DUMMY TRIM (EACH PANEL), MAGNETIC JAMB CATCH (EACH PANEL)

4 - PRIVACY LOCK, ADA COMPLIANT.

5 - PASSAGE SET



1 INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"

FINISH SCHEDULE

ROOM	FLOOR	WALLS	BASE	TRIM	CEILING	NOTES
BASEMENT LEVEL						
Unfinished Basement	A	Exist.	X	X	X	
Mechanical Space	A	Exist.	X	X	X	Conc. pads, see Mech.
New Crawl Space	G	Exist.	X	X	X	Conc. pads, see Mech.
FIRST FLOOR LEVEL						
Entry Hall	B	P	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Stairs	F	P	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe at landings.
Parlor	B	P	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Dining Room	B	P	A	A	FCGB	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Foyer	H	GB, FCGB	B	B, C	FCGB	Stain grade oak MH-424 shoe.
Foyer Closet	H	GB, FCGB	B	B	FCGB	Stain grade oak MH-424 shoe.
Access. Restroom	C	HRGB, FCGB	B	B, C	FCGB	See rm. elevs.
Lunchroom	H	GB, FCGB	B	B, C, D	FCGB	Stain grade oak MH-424 shoe, See rm. elevs.
Janitor's Closet	E	GB, FCGB	B	B	FCGB	Stain grade oak MH-424 shoe.
Apartment Entry	H	GB, FCGB	B	B	GB	Stain grade oak MH-424 shoe.
Entry Closet	H	GB, FCGB	B	B	GB	Stain grade oak MH-424 shoe.
Apartment Stairs	I	GB, FCGB	B	B	GB	
SECOND FLOOR LEVEL						
Hall	B	P	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Study 1	B	P, MD	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Study 1 Closet	B	P, MD	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Study 2	B	P	A	A	A	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Living Room	B	P, FCGB, MD	A, B	A, B	GB	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Living Room Closet	B	P, MD	A	A	GB	Clean, tongue-and finish fl; MH-424 pkt. shoe where missing.
Kitchen	C	GB, FCGB, Exist.	B, X	B	GB	Stain grade oak MH-424 shoe at wood base.
Bedroom	D	GB, FCGB	B	B	GB	
Bedroom Closet	D	GB, FCGB	B	B	GB	
Bathroom	C	Note 1	D	B	HRGB	See rm. elevs.
ATTIC LEVEL						
Stairs	F	P, MD	A	A*	A	Clean, tongue-and finish fl; MH-424 pkt. shoe at landings
Existing Attic	X	Exist.	X	X	X	
New Attic	X	Exist.	X	X	X	

NOTES TO FINISH SCHEDULE

FLOOR: A - Existing dirt floor to remain.
B - Existing hardwood floor, patch/repair where noted.
C - Thin-set ceramic tile, selected by Owner, on 1/2" cement bd
D - Carpet on pad. (Carpet & pad will be selected/installed by Owner).
E - Sheet linoleum.
F - Existing hardwood treads, risers, & handrails; re-paint balusters
G - Ballisted 6-mil poly vapor barrier.
H - Stained 3/4" T&G oak hardwood.
I - Stained oak hardwood treads, risers, and handrails; painted balusters.
X - None (existing to remain).

WALLS: GB - 1/2" Gypsum board.
HRGB - 1/2" Water resistant gypsum board.
FCGB - 5/8" Fire rated Type "C" gypsum board.
Note 1 - HRGB, thin set ceramic tile on 1/2" cement bd.
MH height around tub.
Exist. - Existing walls to remain.
P - Existing plaster, patch/repair/prime/paint.
MD - Existing wood paneling, prime/paint.

BASE: A - Existing base to remain, patch/repair as nec., prime/paint.
B - Paint grade pine LMH-752 base
C - 6" Ceramic tile base, SM-60 painted base cap (placed as nec.)
D - 4" Ceramic tile cove base, bullnose top.
X - None (existing to remain).

TRIM: A - Existing trim/casing/chair/etc. to remain, patch/repair as nec., prime/paint.
(* - Replace missing window sill and casing)
B - Paint grade pine MH-733 casing & SM-60 backband.
C - Paint grade pine MH-276 picture mold, 15" B.F.C.
D - Paint grade pine A-4 chairrail & MH-733 backer, 30" A.F.F.
X - None (existing to remain).

CEILING: GB - 1/2" Gypsum board.
HRGB - 1/2" Water resistant gypsum board.
FCGB - 5/8" Fire rated Type "C" gypsum board.
A - Existing plaster to remain, patch/repair as nec., prime/paint.
X - None (existing to remain).

CEM DESIGN
620 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0860 20850

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Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

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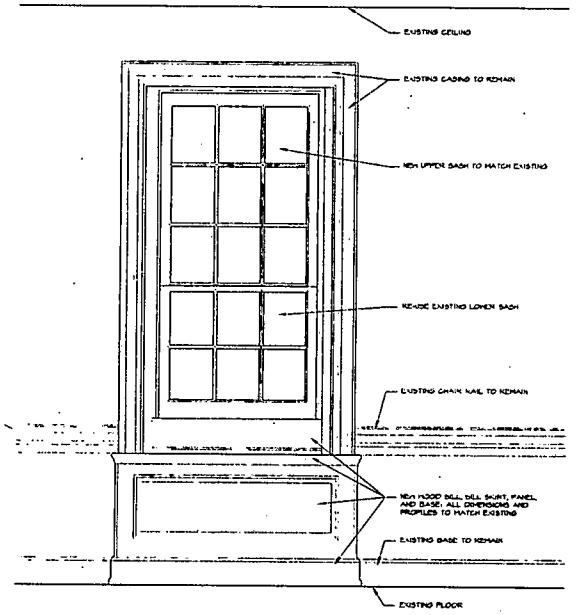
1			
2			
3			
4			
5			

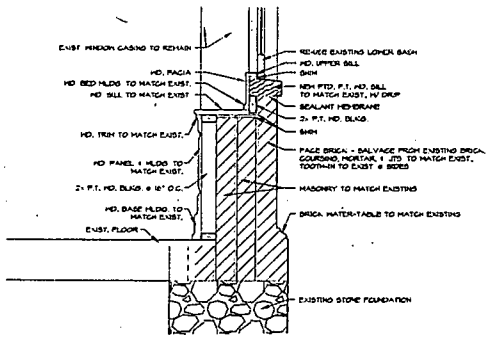
Sheet Title
SCHEDULES & INTERIOR ELEVATIONS

A4.1
SHEET 7 OF 8

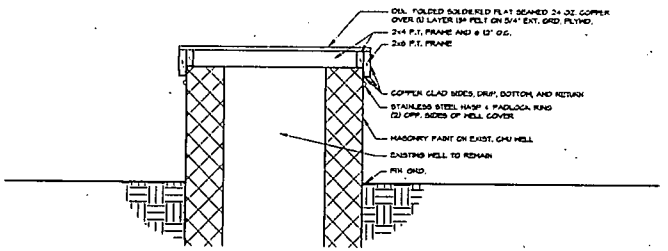
22



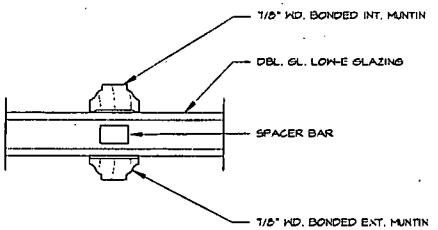
1 ELEVATION @ NEW SILL PANEL
SCALE: 1" = 1'-0"



2 SECTION @ NEW SILL PANEL
SCALE: 1" = 1'-0"



3 WELL CAP DETAIL SECTION
SCALE: 1" = 1'-0"



4 NEW WINDOW MUNTIN DETAIL
SCALE: 1" = 1"

(23)

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0883 20850

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1			
2			
3			
4			
5			

Sheet Title
SECTIONS AND DETAILS

A4.2
SHEET 8 OF 8

DESIGN CRITERIA

BUILDING CODE

INTERNATIONAL RESIDENTIAL CODE 2009 (IRC 2009)
INTERNATIONAL BUILDING CODE 2009 (IBC 2009)
MONTGOMERY COUNTY BUILDING CODE AMENDMENTS

DEAD LOADS

WOOD FRAMED FLOOR w/ PLYWOOD DECK + MEP	15 PSF
WOOD FRAMED ROOF w/ PLYWOOD DECK + SHINGLES + MEP	15 PSF

LIVE LOADS

MINIMUM LOADS:

ROOF	30 PSF
ALL INTERIOR WALLS AND PARTITIONS SHALL BE DESIGNED TO RESIST A MINIMUM HORIZONTAL LOAD.	5 PSF

OFFICE (TABLE 1607.1)

OFFICES	50 PSF

RESIDENTIAL (TABLE R301.5)

ATTICS WITH STORAGE	20 PSF.
ATTICS WITHOUT STORAGE	10 PSF
DECKS	40 PSF
EXTERIOR BALCONIES	60 PSF
FIRE ESCAPES	40 PSF
PASSENGER VEHICLE GARAGES	50 PSF
ROOMS OTHER THAN SLEEPING ROOMS	40 PSF
SLEEPING ROOMS	30 PSF
STAIRS	40 PSF

SNOW LOAD

Pg (GROUND SNOW LOAD)	= 25 PSF
Is	= 1.0
Ce	= 1.0
Ct	= 1.0
Pf (FLAT-ROOF SNOW LOAD)	= 20 PSF

HANDRAILS / GUARDRAILS

1. HANDRAILS AND GUARDRAILS SHALL BE DESIGNED TO RESIST A LOAD OF 50 PLF APPLIED IN ANY DIRECTION AT THE TOP AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE.
2. HANDRAIL AND GUARDRAIL ASSEMBLIES SHALL BE ABLE TO RESIST A SINGLE CONCENTRATED LOAD OF 200 LBS APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP, AND HAVE ATTACHMENT DEVICES AND SUPPORTING STRUCTURE TO TRANSFER THIS LOADING TO APPROPRIATE STRUCTURAL ELEMENTS OF THE BUILDING (THIS LOADING NEED NOT ACT CONCURRENTLY WITH THE LOADS SPECIFIED ABOVE).
3. INTERMEDIATE RAILS, BALUSTERS, AND PANEL FILLERS SHALL BE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 LBS.

WIND LOAD

V3s	= 90 MPH
I	= 1.0
EXPOSURE	= B
GCpi	= +/-0.18
MINIMUM WIND LOAD	= 20 PSF

EARTHQUAKE

Ie	= 1.0
Sds	= 0.191
SITE CLASS:	= D
SEISMIC DESIGN CATEGORY	= B

DETACHED ONE AND TWO FAMILY DWELLING LOCATED IN SEISMIC DESIGN CATEGORY C ARE EXEMPT FROM THE SEISMIC REQUIREMENTS OF THIS CODE

GENERAL

1. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCES TO ENSURE STABILITY AND SAFETY DURING CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO, THE ADDITION OF SHEETING, SHORING, TEMPORARAY BRACING, GUYS, AND TIEDOWNS. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING NECESSARY TO PROTECT EXISTING AND ADJACENT STRUCTURES.
2. STRUCTURAL DOCUMENTS SHALL BE USED WITH OTHER CONSTRUCTION DOCUMENTS, INCLUDING ARCHITECTURAL, M/E/P, AND SITE DOCUMENTS. COORDINATE WITH THESE DOCUMENTS, ALL FLOOR AND ROOF OPENINGS, DEPRESSIONS, DIMENSIONS, AND SLOPES, ETC. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LIMITING CONSTRUCTION LOADS SUCH THAT THESE LOADS DO NOT EXCEED THE DESIGN LIVE LOADS NOTED ABOVE. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AS REQUIRED DURING CONSTRUCTION TO SUPPORT CONSTRUCTION LOADS UNTIL SUCH TIME THAT THE STRUCTURE IS ABLE TO SUPPORT THE DESIGN LIVE LOADS NOTED.
4. SECTIONS AND DETAILS SHOWN ON THE STRUCTURAL DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS THAT DO NOT HAVE A SPECIFIC SECTION INDICATED.
5. TYPICAL DETAILS APPLY AT ALL APPROPRIATE LOCATIONS AND ARE NOT GENERALLY CUT ON PLANS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL TYPICAL DETAIL APPLICATIONS.
6. FOR INCONSISTENCIES BETWEEN GENERAL NOTES, SPECIFICATIONS AND CONSTRUCTION DOCUMENTS, THE STRICTER REQUIREMENT SHALL APPLY, AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
7. PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND MISCELLANEOUS ITEMS INCLUDING BUT NOT LIMITED TO CLIPS, INSERTS, TIES, ANCHOR STRAPS, HANGERS, BOLTS, AND OTHER FASTENERS REQUIRED TO COMPLETE THE WORK.

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED ON THE PRESCRIPTIVE VALUES OF THE INTERNATIONAL BUILDING CODE (IBC 2009) TABLE 1610.1 AND TABLE 1804.2 WITH ONE OF THE ASSUMED GROUP I SOIL TYPES OF EITHER SW, SP, SM, SC, GM OR GC. SOIL CLASSIFICATION SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER OR QUALIFIED SOILS TECHNICIAN PRIOR TO COMMENCMENT OF ANY FOUNDATION WORK. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCOUTERED IN THE FIELD DIFFERENT TO THOSE ASSUMED FOR THE DESIGN.
2. ASSUMED SOIL BEARING VALUE OF "1,500" PSF TO BE VERIFIED BY GEOTECHNICAL ENGINEER OR QUALIFIED SOILS TECHNICIAN.
3. FOUNDATION WALLS HAVE BEEN DESIGNED USING THE FOLLOWING PROPERTIES:

PASSIVE PRESSURE	150 PSF/F
AT-REST PRESSURE	60 PSF/F
ACTIVE PRESSURE	45 PSF/F
COEFFICIENT OF FRICTION	0.25
HORIZONTAL SURCHARGE	35 PSF

4. ONSITE SOILS TYPES OF EITHER OL, MH, CH, OH ARE NOT PERMITTED TO BE USED AS BACKFILL MATERIAL. BACKFILL FOR FOUNDATION WALLS AND SITE RETAINING WALLS SHALL BE PLACED IN MAXIMUM 8 INCH LOOSE HORIZONTAL LIFTS AND CONSIST OF GRANULAR (SP, SM, SC) SOIL TYPES. BACKFILL DENSITY SHOULD BE HELD WITHING THE RANGE OF 90 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557). SOILS USED IN COMPACTED FILLS SHOULD ALSO BE FREE OF DEBRIS AND FIBROUS ORGANIC MATERIAL. THEY SHOULD HAVE A LIQUIED LIMIT LESS THAN 45 AND A PLASITIC INDEX LESS THAN 20. PARTICLES LARGER THAN 4 INCHES IN DIAMTER SHOULD NOT BE INCLUDED IN THE COMPACTED FILL.
5. ALL FOOTINGS SHALL PROJECT AT LEAST 1'-0" INTO UNDISTURBED NATURAL SOIL OR COMPACTED CONTROLLED FILL HAVING A BEARING VALUE AT LEAST EQUAL TO THAT SPECIFIED ABOVE.
6. BOTTOMS OF ALL EXTERIOR FOOTINGS SHALL BE AT LEAST 2'-6" BELOW FINISHED GRADE OR AS REQUIRED BY LOCAL CODE REQUIREMENTS. FOOTING ELEVATIONS INDICATED ON DRAWINGS HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION PROVIDED BY OTHERS AND MAY NOT VIOLATE CRITERIA ESTABLISHED ABOVE. FOOTING ELEVATIONS SHALL BE LOWERED AS SITE CONDITIONS WARRANT FOR POOR SOIL CONDITIONS OR AS REQUIRED TO FACILITATE SITE UTILITIES OR EXISTING CONDITIONS.
7. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, WALL FOOTINGS SHALL BE 12" DEEP AND PROJECT 6" BEYOND EACH FACE OF WALL. WALL FOOTINGS SUPPORTING MASONRY WALLS ARE TO BE REINFORCED WITH 3#5 LONGITUDINAL CONTINUOUS BOTTOM BARS.
8. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, FOUNDATION DRAINS SHALL RUN THE ENTIRE BUILDING FOOTPRINT AND SHALL BE CONSTRUCTED USING A 4" DIA. PERFORATED PIPE WRAPPED WITH 12"x12" OF CRUSHED STONE AND FILTER FABRIC.
9. ALL DISTURBED EARTH UNDER FOOTINGS SHALL BE REPLACED WITH LEAN CONCRETE.
10. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE FOUNDATION CONCRETE IS PLACED.
11. NO EXCAVATION SHALL BE CLOSER THAN AT A SLOPE OF 2:1 (2 HORIZONTAL TO ONE VERTICAL) TO AN EXISTING FOOTING OR STRUCTURE U.O.N.
12. DO NOT PLACE CONCRETE OVER FROZEN SOIL.
13. CENTERLINE OF FOOTING SHALL MATCH CENTERLINE OF COLUMN, PEDESTAL AND/OR PIER UNLESS SHOWN OTHERWISE.

UNDERPINNING

1. METHOD OF UNDERPINNING SHALL BE DETERMINED AND INSTALLED BY A SPECIALTY CONTRACTOR EXPERIENCED IN THIS TYPE OF WORK.
2. UNDERPINNING SHALL BE PERFORMED AT EXISTING FOUNDATIONS AS REQUIRED BY SITE CONDITIONS TO LOWER EXISTING FOUNDATIONS. SPECIALTY CONTRACTOR SHALL DETERMINE EXTENT AND APPROPRIATE SEQUENCES BASED ON FIELD CONDITIONS AND PROPOSED CONSTRUCTION.
3. FIELD VERIFY ELEVATIONS OF EXISTING FOOTINGS, UTILITIES, ETC. PRIOR TO PREPARING UNDERPINNING PLAN, OR ADJUST IN FIELD DURING CONSTRUCTION AS FIELD CONDITIONS ARE EXPOSED.
4. UNDERPINNING PIERS SHALL EXTEND A MINIMUM OF 1'-0" BELOW BOTTOM OF NEW SLAB OR FOUNDATION ELEVATION OR AS INDICATED ON DRAWINGS. ALTERNATE METHODS OF UNDERPINNING MAY HAVE DIFFERENT CRITERIA.
5. UNDERPINNING PIERS SHALL BE INSTALLED IN 4'-0" ± ALTERNATE SECTIONS OR AS INDICATED ON UNDERPINNING DRAWINGS. NO OPEN UNDERPINNING PIT SHALL BE CLOSER THAN 12'-0" TO ANOTHER OPEN PIT. FULLY DRYPACK BETWEEN TOP OF PIER AND BOTTOM OF EXISTING FOUNDATION PRIOR TO EXCAVATION OF NEXT PIER IN SEQUENCE. OPEN EXCAVATION SHALL BE INSPECTED BY GEOTECHNICAL ENGINEER OR QUALIFIED SOILS TECHNICIAN PRIOR TO PLACING CONCRETE.
6. EXCEPT AS INDICATED OTHERWISE, UNDERPINNING CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH F'c = 2500 PSI.
7. UNDERPINNING SHOP DRAWINGS BEARING THE SEAL AND SIGNATURE OF THE RESPONSIBLE DESIGNER SHALL BE SUBMITTED FOR APPROVAL.

CONCRETE

1. ALL CONCRETE CONSTRUCTION INCLUDING DETAILING, FABRICATION, PLACEMENT OF REINFORCING, MIXING, HANDLING, PLACING, FINISHING, AND CURING SHALL CONFORM TO ACI "STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI-315), AND "ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI-318).
2. ALL CONCRETE SHALL CONFORM TO ASTM C94. MINIMUM COMPRESSIVE STRENGTH AND MAXIMUM WATER/CEMENT RATIO SHALL BE AS FOLLOWS:

CONCRETE PROPERTIES

STRUCTURE TYPE	F'c: 28 DAY MINIMUM COMPRESSIVE STRENGTH, PSI	WATER/CEMENT RATIO (AIR ENTRAINED)	AIR CONTENT (PERCENT)	WATER/CEMENT RATIO (NON-AIR ENTRAINED)
FOUNDATIONS	3,000	0.59	6% ± 1%	-
INTERIOR SLAB ON GRADE, INTERIOR WALLS & PIERS	3,000	0.59	4% ± 1%	0.68
EXTERIOR SLAB ON GRADE & PADS	4,500	0.45	6% ± 1%	-
EXTERIOR FOOTINGS, EXTERIOR WALLS, BASEMENT WALLS, GARAGE SLABS ON GRADE, & UNDERPINNING	3,500	0.50	6% ± 1%	-

NOTES:
A. CONCRETE TO RECIEVE A SMOOTH, DENSE, HARD-TROWLED FINISH SHALL NOT BE AIR ENTRAINED

3. CONTRACTOR SHALL PROVIDE CONCRETE MIX DESIGN DATA CONFORMING TO CHAPTER 5 OF ACI 318 FOR EACH TYPE AND STRENGTH OF CONCRETE SPECIFIED. MIX DESIGN DATA SHALL INCLUDE CONCRETE STRENGTH, SLUMP, AIR ENTRAINMENT, PROPOSED AGGREGATES, ADMIXTURES, POZZOLANS AND LABORATORY TEST DATA.
4. MATERIALS USED IN CONCRETE MIXES SHALL CONFORM TO THE FOLLOWING STANDARDS:
   - PORTLAND CEMENT CONFORMING TO ASTM C150
   - FLY ASH CLASS C & F CONFORMING TO ASTM C618. FLY ASH SHALL BE LIMITED TO A MAXIMUM OF 20% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT AND SHALL NOT BE USED IN COLD WEATHER AND EXTERIOR APPLICATIONS.
   - GROUND GRANULATED BLAST-FURNACE SLAG GRADE 100 & 120 CONFORMING TO ASTM C989. SLAG SHALL BE LIMITED TO A MAXIMUM OF 50% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT IN TYPICAL APPLICATIONS AND 25% IN COLD WEATHER AND EXTERIOR APPLICATIONS.
   - AIR-ENTRAINED ADMIXTURES CONFORMING TO ASTM C260
   - ADDITIONAL ADMIXTURES SHALL CONFORM TO ASTM C494 AND ASTM C1017
5. CONCRETE AGGREGATES SHALL CONFORM TO THE FOLLOWING:
   - AGGREGATES SHALL CONFORM TO ASTM C33
   - AGGREGATES USED IN LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C330
   - MAXIMUM AGGREGATE SIZE FOR CONCRETE 1 IN.
   - MAXIMUM AGGREGATE SIZE FOR PEA-GRAVEL CONCRETE ⅜ IN.
6. PROPORTION AND DESIGN MIXES TO RESULT IN CONCRETE SLUMP OF 3½ IN. ± 1 IN. AT THE POINT OF PLACEMENT. CONCRETE CONTAINING HIGH-RANGE WATER REDUCERS (HRWR) SHALL HAVE A SLUMP OF 4 IN. TO 8 IN.
7. PROVIDE 1 IN. MINIMUM VERTICAL EXPANSION JOINTS AT 100 FT. O.C. AND VERTICAL CONTROL JOINTS AT 25 FT. O.C. AT ALL EXPOSED CIP WALLS (EXCEPT BASEMENT WALLS). COORDINATE JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS.
8. OWNER SHALL RETAIN THE SERVICES OF A QUALIFIED TESTING AGENCY TO PROVIDE TESTING OF CONCRETE TO INCLUDE COMPRESSIVE STRENGTH, TEMPERATURE, SLUMP AND AIR ENTRAINMENT.
9. ALL STRUCTURAL MEMEBERS SHALL BE POURED TO THEIR FULL DEPTHS IN ONE OPERATION. CONTRACTOR SHALL PROVIDE LOCATIONS OF CONSTRUCTION JOINT LOCATIONS FOR REVIEW.

REINFORCEMENT STEEL

1. CONCRETE REINFORCING SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:
   - DEFORMED BARS ASTM A615, GRADE 60
   - DEFORMED BARS (WELDABLE) ASTM A706
   - DEFORMED BARS (EPOXY-COATED) ASTM A775 & A615, GR. 60
   - 6x6 WELDED WIRE MESH ASTM A185
2. FABRICATE AND PROVIDE STANDARD SUPPORTING ACCESSORIES IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 315.
3. UNLESS NOTED OTHERWISE, REINFORCING SHALL BE CONTINOUS WITH CLASS B LAP SPLICES. HOOKS SHALL BE STANDARD HOOKS, AND WALL INTERSECTIONS SHALL HAVE CORNER/L-BARS. LAP WELD WIRE MESH SUCH THAT THE OVERLAP OF THE OUTERMOST CROSS-WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS-WIRES PLUS 2 IN., UNO. REFER TO TYPICAL DETAILS FOR ADDITIONAL DETAILING REQUIREMENTS.
4. ALL TOP REINFORCING STEEL AND BEAM STIRRUPS IN BALCONIES, PARKING SLABS AND WEATHER-EXPOSED LOCATIONS SHALL BE EPOXY COATED.
5. CONCRETE PROTECTION FOR REINFORCEMENT:
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3 IN.
   - CONCRETE EXPOSED TO EARTH OR WEATHER
     - NO. 6 AND LARGER, 2 IN.
     - NO. 5 AND SMALLER 1½ IN.
   - FRAMED SLABS, PARKING SLAB TOP BARS W/ EPOXY COATING, AND JOISTS ¾ IN.
   - BEAM PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPRIALS 1½ IN.
   - INTERIOR FACES OF WALLS 1 IN
   - COLUMN PRIMARY REINFORCEMENT 2 IN.
   - SLABS ON GRADE TOP THIRD OF THICKNESS
6. CONTRACTOR MAY SUBSTITUTE WELDED WIRE MESH AT SLABS ON GRADE AND DECK SUPPORTED SLABS WITH SYNTHETIC FIBER, STEEL FIBER OR A BLENDED SYNTHETIC/STEEL FIBER MIX. CONTRACTOR SHALL SUBMIT PRODUCT DATA AND MAUNUFACTURER'S RECOMMENDATION FOR REVIEW AND APPROVAL. SUBSTITUTION IS NOT PERMITTED AT EXPOSED CONCRETE SURFACES AND SURFACES TO RECIEVE A HARD-TROWLED FINISH.

CEM DESIGN
320 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294-0283 20850

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

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

Revisions

No.	Date	Description	By
1			
2			
3			
4			
5			

Sheet Title
STRUCTURAL SPECIFICATIONS

S0.1
SHEET 1 OF 6

SLABS ON GRADE

1. EXCEPT WHERE OTHERWISE NOTED, SLAB ON GRADES SHALL HAVE THE FOLLOWING PROPERTIES:
   - THICKNESS — 4 IN
   - REINFORCING — 6X6 W1.4XW1.4 (TOP THIRD OF THICKNESS)
   - BASE COURSE SUBGRADE — 4 IN. WASHED GRAVEL
   - POLYETHYLENE VAPOR BARRIER — 6 MIL. (JOINTS LAPPED A MINIMUM OF 6 IN.)
2. PROVIDE CONTROL JOINTS AT MAXIMUM 15'-0" OC SPACING EACH WAY IN ALL SLABS ON GRADE. CONTROL JOINTS SHALL BE SAWCUT WITHIN 4 HOURS AFTER FINISHING OR SHALL BE A PRE-FABRICATED MECHANICAL JOINT.
3. PROVIDE ADDITIONAL (2) #5 x6'-0" REINFORCING AT ALL RE-ENTRANT CORNERS.
4. THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATIONS OF DEPRESSIONS, OPENINGS, HOUSEKEEPING SLABS AND FINISHES WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
5. REFER TO GEOTECHNICAL REPORT FOR RECOMMENDATIONS RELATIVE TO SUBGRADE PREPARATION.

CONCRETE MASONRY

1. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", ACI 530, AND "SPECIFICATIONS FOR MASONRY STRUCTURES", ACI 530.1
2. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY UNIT SHALL BE:
   A. TYPICAL: 1900 PSI (MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY, F'M SHALL BE 1500 PSI)
3. CONCRETE MASONRY SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C90.
4. METAL REINFORCEMENT AND ACCESSORIES SHALL CONFORM TO THE FOLLOWING STANDARDS:
   - A. DEFORMED BARS — ASTM A615, GRADE 60
   - B DEFORMED BARS (WELDABLE) — ASTM A706
   - C DEFORMED BARS (EPOXY COATED) — ASTM A775
   - D JOINT REINFORCEMENT — ASTM A951
   - E. DEFORMED WIRE — ASTM A496
   - F. WIRE FABRIC — ASTM A185
   - G ANCHORS, TIES AND ACCESSORIES
     - STRUCTURAL STEEL — ASTM A36
     - PLAIN STEEL WIRE — ASTM A82
     - COLD-ROLLED CARBON STEEL SHEET — ASTM A366
     - STAINLESS STEEL — ASTM A167, TYPE 304
5. WELDING, WELDING ELECTRODES, AND FLUXES SHALL CONFORM TO AWS D1.4 "STRUCTURAL WELDING CODE - REINFORCED STEEL"
6. GROUT SHALL CONFORM TO ASTM C476, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. TESTING SHALL CONFORM TO ASTM C1019. PROVIDE FINE AND COARSE GROUTS APPROPRIATE FOR SIZE OF VOID BEING FILLED. GROUT SHALL HAVE A MINIMUM SLUMP OF 8 INCHES PROVIDED BY SUFFICIENT WATER CONTENT. WATER-REDUCING ADMIXTURES ARE NOT PERMITTED.
7. MORTAR SHALL CONFORM TO ASTM C270, TYPE M OR S. PCL OR MORTAR CEMENT. MASONRY CEMENT IS NOT PERMITTED FOR CONCRETE MASONRY UNITS (CMU). MORTAR USED BELOW GRADE SHALL BE TYPE "M"
8. CONCRETE MASONRY SHALL BE LAID IN RUNNING BOND WITH 100% SOLID "FULL" MORTAR JOINTS (INCLUDING CROSS WEBS), UNO. PILASTERS SHALL BE BONDED, UNO. STACK BOND IS NOT PERMITTED.
9. REINFORCED CELLS, AND NON-REINFORCED CELLS SPECIFIED TO BE GROUTED SHALL BE FILLED SOLID WITH GROUT. STOP POURS 1½ INCHES BELOW THE BED JOINT TO FORM A KEY AT POUR JOINTS. CELLS TO RECEIVE REINFORCING SHALL BE CLEAN OF MORTAR DROPPINGS.
10. REFER TO TYPICAL DETAILS FOR REINFORCING MINIMUM LAP SPLICE LENGTHS. LAP DEFORMED BARS 50 DIA., UNO
11. HORIZONTAL LADDER-TYPE REINFORCEMENT SHALL BE FABRICATED FROM GALVANIZED COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A82 WITH 3/16" DIA SIDE RODS AND 9 GA. CROSS RODS. PROVIDE AS FOLLOWS:
    - A. TYPICAL — 16 INCHES ON CENTER, UNO
    - B. AT BELOW GRADE WALLS — 8 INCHES ON CENTER
    - C. AT PARAPETS — 8 INCHES ON CENTER
    - D. AT WALL OPENINGS — PROVIDE ADD'L REINF. NOT MORE THAN 8 INCHES ABOVE AND BELOW OPENING. TERMINATE 2 FT. BEYOND OPENING

    PROVIDE CONTINUITY AT INTERSECTIONS AND CORNERS USING PREFABRICATED T-SHAPED AND L-SHAPED UNITS. LAP JOINT REINFORCING A MINIMUM OF 6 INCHES.
12. TIES, ANCHORS, METAL ACCESSORIES AND JOINT REINFORCEMENT SHALL BE PROTECTED FROM CORROSION AS FOLLOWS:
    - A. JOINT REINFORCEMENT — GALVANIZED IN ACCORDANCE WITH ASTM A951
    - B. METAL ACCESSORIES IN EXTERIOR WALLS — HOT DIPPED GALVANIZED WITH 1.5 OUNCES PER SQ. FOOT MINIMUM COATING IN ACCORDANCE WITH ASTM A153
    - C. METAL ACCESSORIES IN INTERIOR WALLS — MILL GALVANIZED WITH 0.1 OUNCE PER SQ. FOOT MINIMUM COATING IN ACCORDANCE WITH ASTM A641
    - D. ALL SHEET METAL ANCHORS AND TIES — GALVANIZED CLASS G-60
    - E. ANCHORS, WALL TIES AND METAL ACCESSORIES — TYPE 304 STAINLESS STEEL COMPLYING WITH ASTM A167
13. VERTICAL CONTROL JOINTS IN CMU WALLS SHALL BE PROVIDED AT 30 FEET ON CENTER MAX, UNLESS NOTED OTHERWISE.
14. SIDES, TOPS AND BASES OF ALL LOAD BEARING AND NON-LOAD BEARING CMU WALLS SHALL BE ANCHORED TO STRUCTURE. REFER TO TYPICAL DETAILS AND SECTIONS FOR ADDITIONAL INFORMATION.

CONCRETE MASONRY

15. PROVIDE MINIMUM VERTICAL WALL REINFORCING AS FOLLOWS, UNO:
    - A. EXTERIOR WALLS — #5 @32 INCHES ON CENTER
    - B. INTERIOR BEARING WALLS — #4 @48 INCHES ON CENTER
    - C. STAIR AND ELEVATOR TOWER WALLS — #5 @32 INCHES ON CENTER

    REINFORCE THE FIRST CELL AT CORNERS, ENDS OF WALLS AND INTERSECTIONS WITH A MINIMUM OF (1) #5 VERTICAL.
16. PROVIDE A MINIMUM OF ONE COURSE 100% SOLID BLOCK, OR A CONTINUOUS BOND BEAM AT BEARING OF JOISTS, BEARING WALLS OR SUPPORTED SLABS. BOND BEAM UNITS SHALL BE OPEN CELL UNITS THAT PERMIT VERTICAL REINFORCING TO PASS THROUGH. WHERE BOND BEAMS COURSES STEP DUE TO SLOPING CONDITIONS, LAP REINFORCING A MINIMUM OF 4 FEET. PROVIDE MINIMUM BOND BEAM REINFORCING AS FOLLOWS, UNO:
    - A. EXTERIOR WALLS — (2) #4 xCONT BELOW EACH FRAMING LEVEL
    - B. INTERIOR BEARING WALLS — (1) #5 xCONT BELOW EACH FRAMING LEVEL
    - C. INTERIOR NON-LOAD BEARING WALLS — (2) #4 xCONT BELOW EACH FRAMING LEVEL
17. PROVIDE LINTELS AT ALL MASONRY OPENINGS LARGER THAN 12 IN. PROVIDE SLEEVES AT ALL PIPE PENETRATIONS. MULTIPLE SLEEVE PENETRATIONS SHALL BE SPACED A MINIMUM OF 24 IN. O.C. AND A MINIMUM OF 4 FT. FROM WALL ENDS.
18. PROVIDE DAMP-PROOFING ON EXTERIOR FACE OF MASONRY WALLS BELOW GRADE.
19. ALL PORTIONS OF BEARING WALLS HAVING A HORIZONTAL CROSS SECTION OF 4 SQUARE FEET OR LESS SHALL BE OF SOLID MASONRY DOWN TO FOOTINGS.
20. USE BUCKETS TO MEASURE MATERIALS FOR MIXING MORTAR. GROUT SHALL BE SAND AND CEMENT, 8 BAGS OF CEMENT PER CUBIC YARD.

STONE VENEER

1. REFER TO ARCHITECTURAL DRAWINGS FOR VENEER DETAILS INCLUDING, BUT NOT LIMITED TO STONE TYPE, LAYOUT, COURSING, SUPPORT ELEVATIONS, FLASHING, WATERPROOFING AND CONTROL JOINTS.
2. MORTAR SHALL CONFORM TO ASTM C270, TYPE N, PCL OR MORTAR CEMENT. PROVIDE FULL MORTAR BEDS AT ALL JOINTS.
3. GROUT USED IN COLLAR JOINTS SHALL BE, FINE TYPE, CONFORM TO ASTM C476, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
4. UNLESS OTHERWISE SPECIFIED, AT STONE OR FACE CMU VENEER, PROVIDE A STEEL ANGLE LINTEL AT ALL MASONRY OPENINGS FOR EACH 4 IN. OF WALL THICKNESS AS FOLLOWS.
   - L4x3½x5/16 (LLV) FOR OPENINGS UP TO 4'-0"
   - L5x3½x5/16 (LLV) FOR OPENINGS 4'-1" TO 6'-0"
   - L6x3½x5/16 (LLV) FOR OPENINGS 6'-1" TO 8'-0"

   PROVIDE 6 IN. OF BEARING EACH END. STEEL LINTELS USED IN EXTERIOR WALLS SHALL BE HOT DIPPED GALVANIZED.
5. THE DESIGN OF ARCHITECTURAL PRECAST ELEMENTS INTEGRATED WITH STONE VENEER INCLUDING LINTELS AND THEIR CONNECTIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONNECTIONS INCLUDED IN STRUCTURAL SECTIONS SHALL BE CONSIDERED SCHEMATIC CONCEPTS ONLY. CONTRACTOR SHALL SUBMIT PRECAST SHAPE DRAWINGS, CONNECTIONS AND DESIGN CALCULATIONS FOR REVIEW.
6. STONE VENEER SHALL BE ANCHORED TO STRUCTURAL BACKING SYSTEMS PER ACI 530 AND WITH THE FOLLOWING GUIDELINES:
   - A. MAXIMUM DISTANCE BETWEEN INSIDE FACE OF VENEER AND STRUCTURAL STUD OR CMU IS LESS THAN OR EQUAL TO 4½ IN.
     - ONE GALVANIZED ANCHOR PER 2⅔ SQ. FT OF WALL AREA
     - MAXIMUM VERTICAL SPACING OF 18 IN. O.C.
     - MAXIMUM HORIZONTAL SPACING OF 32 IN. O.C.
     - PLACE ANCHORS WITHIN 12 IN. OF OPENINGS
     - CONTRACTOR SHALL SUBMIT MANUF. PRODUCT DATA SUPPORTING THE ANCHORS MEET OR EXCEED DESIGN LOAD CRITERIA AND SPECIFICATIONS OF ACI 530
     - MASONRY TIE ASSEMBLIES SHALL BE SCREWED (NOT NAILED) TO WOOD AND LIGHTGAGE STUD BACKUP.
     - PROVIDE DOVETAIL ANCHOR SLOTS AT 24" O.C. WHERE MASONRY ABUTS CONCRETE.
   - B. MAXIMUM DISTANCE BETWEEN INSIDE FACE OF VENEER AND STRUCTURAL STUD OR CMU EXCEEDS 4½ IN.
     - CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT MANUFACTURER PRODUCT DATA INCLUDING SPACING CRITERIA, CALCULATIONS, TESTING DATA, AND INSTALLATION RECOMMENDATIONS THAT ANCHORS MEET OR EXCEED DESIGN LOAD CRITERIA.
7. CONTRACTOR SHALL COORDINATE EXPANSION JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS. REFER TO THE FOLLOWING GUIDELINES FOR EXPANSION JOINT PLACEMENT (EXPANSION JOINTS SHALL BE CONTINUOUS FOR FULL HEIGHT OF WALL):
   - MAXIMUM SPACING OF 20 FT. O.C. (SYMMETRICAL PLACEMENT AROUND OPENINGS)
   - WITHIN 2 FT. OF CORNERS
   - AT RE-ENTRANT CORNERS
   - AT OFFSETS AND SETBACKS
   - CHANGES OF WALL HEIGHTS
   - CHANGES IN SUPPORT ELEVATIONS
   - WALL INTERSECTIONS
   - TRANSITIONS FROM INTERIOR TO EXTERIOR CONDITIONS

WOOD I-JOISTS

1. I-JOISTS SHALL BE AN "I" SHAPED MEMBER PREFABRICATED USING SAWN OR STRUCTURAL COMPOSITE LUMBER FLANGES AND STRUCTURAL-USE PANEL WEBS BONDED TOGETHER WITH EXTERIOR ADHESIVES. I-JOISTS SHALL BE MANUFACTURED IN A PLANT ADHERING TO THE QUALITY STANDARDS OF ENGINEERED WOOD SYSTEMS (EWS), UNDER THE SUPERVISION OF A THIRD-PARTY INSPECTION AGENCY.
2. I-JOISTS AND CONNECTORS SHALL BE SELECTED BASED ON MANUFACTURER PRODUCT CAPACITIES MEETING THE SPECIFIED PERFORMANCE CRITERIA NOTED ON THE PLANS INCLUDING MEMBER DEPTH, SPACING, SPAN AND DESIGN LOADS. MEMBERS SHALL MEET THE FOLLOWING DEFLECTION CRITERIA:
   - A. ROOF RAFTERS: DEAD + LIVE L/240; LIVE L/360
   - B. FLOOR JOISTS: DEAD + LIVE L/360; LIVE L/480; LIVE (W/ STONE OR CERAMIC) L/720
3. SUBMIT SHOP DRAWINGS INDICATING MEMBER LAYOUTS, DESIGN SPANS, DESIGN LOADS AND DESIGN CATALOGUES PRIOR TO FABRICATION.
4. I-JOISTS SHALL BE SHIPPED AND STORED PER MANUFACTURERS' RECOMMENDATIONS.
5. I-JOISTS SHALL NOT BE USED IN APPLICATIONS PERMANENTLY EXPOSED TO WEATHER. I-JOISTS SHALL NOT BE INSTALLED WHERE THEY WILL REMAIN IN DIRECT CONTACT WITH CONCRETE OR MASONRY.
6. I-JOISTS INSTALLED BENEATH BEARING WALLS SHALL HAVE FULL DEPTH BLOCKING PANELS OR SQUASH BLOCKS TO TRANSFER WALL LOADS.
7. INSTALL WEB STIFFENERS AT ALL INTERIOR SUPPORTS, HANGERS, AND BEARING LOCATIONS PER MANUFACTURERS RECOMMENDATIONS.
8. PROVIDE CONTINUOUS SOLID BLOCKING OR CROSS-BRIDGING LINES AT 8'-0" OC MAX, ONE LINE MINIMUM. PROVIDE ADDITIONAL BRIDGING FOR MANUFACTURED WOOD PRODUCTS AS SPECIFIED BY MANUFACTURER.
9. ATTACH SOLID BLOCKING AT 4'-0" OC MAX (FOR 2 BAYS), AT ALL EXTERIOR/INTERIOR WALLS PARALLEL WITH FLOOR/ROOF FRAMING. MEMBERS DIRECTLY BENEATH WALLS PARALLEL WITH FLOOR/ROOF FRAMING SHALL BE SOLID MEMBERS MATCHING THE SPECIFIED DEPTH, I-JOISTS SHALL NOT BE USED.
10. PROVIDE SOLID BLOCKING OR CRIPPLE STUDS BELOW ALL COLUMNS/POSTS, TO TRANSFER LOAD DIRECTLY TO FRAMING.
11. PROVIDE DOUBLE I-JOISTS UNDER ALL PARTITIONS PARALLEL TO JOIST SPAN. PROVIDE DOUBLE JOISTS AROUND ALL FLOOR AND ROOF OPENINGS, UNO.
12. PENETRATIONS & NOTCHES IN JOISTS, ARE NOT PERMITTED WITHOUT APPROVAL OF MANUFACTURER.

GLUED LAMINATED STRUCTURAL MEMBERS

1. MATERIALS, MANUFACTURE, AND QUALITY CONTROL SHALL BE IN ACCORDANCE WITH THE PROPOSED COMMERCIAL STANDARD "STRUCTURAL GLUED LAMINATED TIMBER" OF THE AITC AND CURRENT WCLA GLUED LAMINATED STANDARDS.
2. ADHESIVE SHALL MEET THE REQUIREMENTS FOR WET SERVICE CONDITION. APPEARANCE OF MEMBERS SHALL BE "ARCHITECTURAL APPEARANCE GRADE".
3. A COAT OF END SEALER SHALL BE SUPPLIED TO ENDS OF ALL MEMBERS AS SOON AS PRACTICAL AFTER END TRIMMING.
4. SURFACES OF MEMBERS SHALL BE SEALED WITH PENETRATING SEALER AND MEMBERS SHALL BE INDIVIDUALLY WRAPPED.
5. THE FABRICATOR SHALL FURNISH CONNECTING AND SUPPORTING HARDWARE AND ALL OTHER ACCESORIES NECCESARY FOR THE SYSTEM TO PERFORM AS INDICATED.
6. SUBMIT COMPLETE SHOP DRAWINGS FOR APPROVAL.

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 984 0883 20850

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

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date 11/30/10

Revisions

No.	Date	Description	By
1			
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4			
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Sheet Title: STRUCTURAL SPECIFICATIONS, cont.

S0.2

SHEET 2 OF 6

25

STRUCTURAL WOOD FRAMING

1. STRUCTURAL LUMBER SHALL CONFORM TO APPA'S NDS 'NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION', WITH SUPPLEMENT 'DESIGN VALUES FOR WOOD CONSTRUCTION'. LUMBER GRADING AND IDENTIFICATION SHALL COMPLY WITH PROCEDURES OF DOC PS 20 . 'AMERICAN SOFTWOOD LUMBER STANDARD'

2. STRUCTURAL LUMBER SHALL HAVE 19% MAXIMUM MOISTURE CONTENT WITH THE FOLLOWING MINIMUM PROPERTIES:
   A. WALL PLATES: SOUTHERN PINE NO.2 (OR APPROVED ALTERNATE), VISUALLY GRADED, WITH THE FOLLOWING MINIMUM PROPERTIES:
      Fb = 1,500 PSI, E = 1,600,000 PSI, Fc (PERP) = 565 PSI, Fv = 175 PSI
   B. ALL OTHER CONDITIONS: SPRUCE PINE FIR NO.1/NO.2 (OR APPROVED ALTERNATE), VISUALLY GRADED, WITH THE FOLLOWING MINIMUM PROPERTIES:
      Fb = 875 PSI, E = 1,400,000 PSI, Fc = 1,150 PSI, Fv = 135 PSI

3. LAMINATED VENEER LUMBER (LVL) SHALL BE AS MANUFACTURED BY TRUS JOIST, OR EQUIVALENT. LVL'S SHALL NOT BE USED IN EXTERIOR APPLICATIONS AND SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
   Fb = 2,600 PSI, E = 1,900,000 PSI, Fv = 285 PSI.

4. PARALLEL STRAND LUMBER (PSL) SHALL BE AS MANUFACTURED BY TRUS JOIST, OR EQUIVALENT. PSL'S SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
   (BEAMS AND STRINGERS) Fb = 2,900 PSI, E = 2,000,000 PSI, Fv = 290 PSI
   (POSTS AND TIMBERS) Fb = 2,400 PSI, E = 1,800,000 PSI Fc = 2,500 PSI
   EXPOSED PSL'S SHALL BE WOLMANIZED (TREATED) TO MEET THE FOLLOWING APPLICATIONS
   A. SERVICE LEVEL 1: TREATED MATERIAL USED IN DRY SERVICE (16% MAXIMUM MOISTURE CONTENT).
   B. SERVICE LEVEL 2: EXTERIOR APPLICATION IN ABOVE GROUND SERVICE.
   C. SERVICE LEVEL 3: EXTERIOR APPLICATION IN CONTACT WITH GROUND OR SATURATED USE.

5. LAMINATED STRAND LUMBER (LSL) SHALL BE MANUFACTURED BY TRUS JOIST, OR EQUIVALENT. LSL'S SHALL BE USED IN DRY-USE NON-TREATED APPLICATIONS AND SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
   (1.3E TIMBERSTRAND) Fb = 1,700 PSI, E = 1,300,000 PSI, Fv = 400 PSI (BEAM ORIENTATION)
   Fv = 150 PSI (PLANK ORIENTATION)

6. PLYWOOD SHALL CONFORM TO APA'S 'PLYWOOD DESIGN SPECIFICATION', AND DOC PS 1 'CONSTRUCTION AND INDUSTRIAL PLYWOOD', UNLESS NOTED OTHERWISE. PANELS SHALL BE INSTALLED WITH THE LONG DIMENSION ACROSS SUPPORTS (INCLUDING EXTERIOR WALLS)
   A. PLYWOOD FLOOR SHEATHING SHALL BE ¾", STURD-I-FLOOR, EXPOSURE 1, WITH TONGUE AND GROOVE EDGES. GLUE AND ATTACH SHEATHING ALONG PANEL EDGES WITH 10d NAILS AT 6" OC AND ALONG INTERMEDIATE FRAMING MEMBERS AT 12" OC. FIELD-GLUE SHALL CONFORM TO APA SPECIFICATION AFG-01.
   B. PLYWOOD ROOF SHEATHING SHALL BE ⅜" STRUCTURAL 1, EXPOSURE 1. ATTACH SHEATHING ALONG PANEL EDGES WITH 8d NAILS AT 6" OC AND ALONG INTERMEDIATE FRAMING MEMBERS AT 12" OC. PROVIDE PANEL CLIPS AT UNSUPPORTED EDGES AT 12" OC. DO NOT PROVIDE PANEL CLIPS ON ROOFS TO RECEIVE A METAL FINISH. ROOF SHEATHING SHALL BE INSTALLED ON MAIN ROOF MEMBERS PRIOR TO THE INSTALLATION OF OVERFRAMING MEMBERS.
   C. PLYWOOD WALL SHEATHING SHALL BE ½", STRUCTURAL 1, EXPOSURE 1. EXTERIOR WALLS AND INTERIOR SHEAR WALLS SHALL HAVE 2x BLOCKING AT 4 FEET OC. (PANEL EDGES) ATTACH SHEATHING ALONG PANEL EDGES WITH 8d NAILS AT 6" OC AND ALONG INTERMEDIATE FRAMING MEMBERS AT 12" OC.
      - AT EXTERIOR WALLS, EXTEND A SINGLE PLYWOOD PANEL A MINIMUM OF 12" ABOVE AND BELOW DEPTH OF FLOOR ENVELOPE TO SERVE AS A TIE BETWEEN FLOORS.
      - PLYWOOD PANELS AT INTERIOR SHEAR WALLS SHALL HAVE SHEATHING THAT EXTENDS TO THE UNDERSIDE OF THE FLOOR SHEATHING ABOVE. 'TOOTH' PLYWOOD AROUND JOISTS/BLOCKING AS NECESSARY.

7. FASTENERS SHALL CONFORM TO THE FOLLOWING MINIMUM PROPERTIES:
   D. THRU BOLTS SHALL CONFORM WITH ANSI/ASME B18.2.1 WITH A MINIMUM BENDING YIELD STRENGTH Fyb = 45 KSI (OR ASTM A307)
   E. COMMON WIRE NAILS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1667

6d	0.113" SHANK DIA.	2" LONG	Fyb = 100 KSI
8d	0.131" SHANK DIA.	2½" LONG	Fyb = 100 KSI
10d	0.148" SHANK DIA.	3" LONG	Fyb = 90 KSI
12d	0.148" SHANK DIA.	3¼" LONG	Fyb = 90 KSI
16d	0.162" SHANK DIA.	3½" LONG	Fyb = 90 KSI
20d	0.192" SHANK DIA.	4" LONG	Fyb = 80 KSI
30d	0.207" SHANK DIA.	4½" LONG	Fyb = 80 KSI

   F. CUSTOM STEEL PLATE CONNECTIONS SHALL CONFORM TO ASTM A36, ¼ INCH MINIMUM THICKNESS, UNO.
   G. FASTENERS USED WITH PREFABRICATED CONNECTORS SHALL FOLLOW MANUFACTURER LITERATURE AND RECOMMENDATIONS.
   H. CUSTOM STEEL SHEET CONNECTIONS SHALL CONFORM TO ASTM A653, GRADE 33.
   I. WOOD SCREWS

6g	0.138" SHANK DIA.	Fyb = 100 KSI
7g	0.151" SHANK DIA	Fyb = 90 KSI
8g	0.164" SHANK DIA	Fyb = 90 KSI
9g	0.177" SHANK DIA.	Fyb = 90 KSI
10g	0.190" SHANK DIA.	Fyb = 80 KSI
12g	0.216" SHANK DIA	Fyb = 80 KSI
14g	0.242" SHANK DIA	Fyb = 70 KSI
16g	0.268" SHANK DIA	Fyb = 70 KSI
18g	0.294" SHANK DIA.	Fyb = 60 KSI
20g	0.320" SHANK DIA	Fyb = 60 KSI
24g	0.372" SHANK DIA	Fyb = 45 KSI

8. ALL FASTENERS AND PREFABRICATED CONNECTORS (HARDWARE) USED WITH PRESERVATIVE TREATED WOOD SHALL HAVE EITHER A HOT-DIP GALVANIZING G185 COATING ACCORDING TO ASTM A153 AND A123 OR SHALL BE STAINLESS STEEL TYPE 304 AND 316.

9. MINIMUM FASTENING SHALL CONFORM TO IRC TABLE R602.3(1), 'FASTENING SCHEDULE'.

10. WALL TOP AND BOTTOM PLATES ARE DESIGNED AS CONTINUOUS.
    A. STAGGER SPLICE LOCATIONS OF MULTIPLE MEMBER PLATES
    B. PLATES SHALL BE LAPPED AT ALL BEARING/SHEAR WALL CORNERS
    C. PROVIDE 16 GA COVER PLATES AT WALL INTERSECTIONS, CORNERS AND SPLICE LOCATIONS

STRUCTURAL WOOD FRAMING

11. PRESSURE TREATED LUMBER AND PLYWOOD SHALL BE IMPREGNATED WITH PRESERVATIVE SYSTEMS HAVING MINIMAL RETENTION LEVELS CONFORMING TO AMERICAN WOOD PRESERVERS ASSOCIATION AWPA STANDARD U1-06 (2006 BOOK OF STANDARDS). PRESERVATIVE PRESSURE TREATED (PT) MATERIAL SHALL CONFORM TO AWPA 'USE CATEGORY SYSTEM' (UC) AND SHALL BE USED IN THE FOLLOWING CONDITIONS:

A. SILL/TOP PLATES IN CONTACT WITH CONCRETE AND MASONRY:	UC3B - A
B. EXPOSED LUMBER NOT IN CONTACT WITH GROUND:	UC3B - A
C. EXPOSED LUMBER IN CONTACT WITH GROUND:	UC4A - A
D. EXPOSED POSTS:	UC4A - A
E. LUMBER AND PLYWOOD USED ABOVE CRAWL SPACES	UC2 - A & F
F. LUMBER & PLYWOOD WITH HEAVY HAZARD OF TERMITE DAMAGE:	UC2 - A & F
G. INTERIOR LUMBER & PLYWOOD INTENDED FOR FIRE PROTECTION:	UCFA - H
H. EXTERIOR LUMBER & PLYWOOD INTENDED FOR FIRE PROTECTION:	UCFB - H
I. LUMBER & PLYWOOD USED IN WOOD FOUNDATIONS:	UC4B - A

   PROVIDE END SEALER AT ALL PT LUMBER IN CONTACT WITH GRADE.

12. CONNECTIONS SHALL BE MADE USING PREFABRICATED CONNECTORS MANUFACTURED BY SIMPSON STRONG TIE OR APPROVED EQUIVALENT. INSTALL CONNECTIONS IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS. PROVIDE MINIMUM PREFABRICATED CONNECTORS AS FOLLOWS (UNLESS NOTED OTHERWISE ON DOCUMENTS):
    A. BEAM TO GIRDER CONNECTORS (FLUSH CONDITIONS): HEAVY DUTY CONNECTOR FOR REACTIONS SPECIFIED ON DOCUMENTS
    B. ROOF JOIST TO TOP PLATE: SIMPSON H2.5A CLIP
    C. FLOOR/ROOF JOISTS TO LEDGERS AND GIRDERS (FLUSH CONDITIONS): SIMPSON HANGERS TO MEMB MATCH SIZE & CAPACITY
    D. 2x TOP PLATE AND 2x WALL STUDS TO STEEL (MAX. STEL THICK 5/16"): SIMPSON TB14TSS SELF-TAPPING SCREW AT 16"O.C. (STAGGERED TO AVOID SPLITTING)
    E. COLUMN CAPS: SIMPSON CCQ & CCQO CAPS TO MATCH MEMB SIZE.
    F. EXTERIOR COLUMN BASES: SIMPSON ABU TO MATCH MEMB SIZE.
    G. SHEAR WALL TIES BETWEEN FLOORS (EA END): (2) SIMPSON H05A
    H. SHEAR WALL HOLDOWNS AT FOUNDATIONS (EA END): SIMPSON HDU5-SDS2.5 WITH ⅝" DIA SSTB ANCHOR

13. MULTIPLE PLY (BUILT-UP) MEMBERS SHALL BE ATTACHED TOGETHER (ENTIRE LENGTH) WITH THE MINIMUM FASTENER GUIDELINES
    A. (2 PLY) 2x STUDS: ONE ROW OF STAGGERED 10d NAILS, EACH FACE, AT 6" OC. (1" EDGE DISTANCE)
    B. (3 PLY) 2x STUDS TWO ROWS OF STAGGERED 30d NAILS, EACH FACE AT 8" OC. (1½" EDGE DISTANCE)
    C. (2 PLY) 2X BEAMS: TWO ROWS OF 10d NAILS AT 12" OC (2" EDGE DISTANCE)
    D. (3 PLY) 2x & LVL BEAMS: THREE ROWS OF 12d NAILS, EA FACE, AT 12" OC (2" EDGE DISTANCE)
    E. (2-3 PLY) 2x & LVL BEAMS LOADED SINGLE FACE: TWO ROWS OF ½" DIA THRU-BOLTS (2" EDGE DISTANCE)
    F. (3 PLY) LVL BEAMS: TWO ROWS OF ½" DIA THRU-BOLTS AT 12" (24") OC (2" EDGE DISTANCE)

14. PROVIDE CONTINUOUS SOLID BLOCKING OR CROSS-BRIDGING LINES AT 8'-0" OC MAX, ONE LINE MINIMUM. PROVIDE ADDITIONAL BRIDGING FOR MANUFACTURED WOOD PRODUCTS AS SPECIFIED BY MANUFACTURER.

15. ATTACH SOLID BLOCKING AT 4'-0" OC MAX (FOR 2 BAYS), AT ALL EXTERIOR/INTERIOR WALLS PARALLEL WITH FLOOR/ROOF FRAMING

16. PROVIDE SOLID BLOCKING OR CRIPPLE STUDS BELOW ALL COLUMNS/POSTS, TO TRANSFER LOAD DIRECTLY TO FRAMING.

17. PROVIDE DOUBLE JOISTS UNDER ALL PARTITIONS PARALLEL TO JOIST SPAN. PROVIDE DOUBLE JOISTS AROUND ALL FLOOR AND ROOF OPENINGS, UNO.

18. PENETRATIONS & NOTCHES IN JOISTS, STUDS, BEAMS AND HEADERS ARE NOT PERMITTED WITHOUT APPROVAL OF ENGINEER.

19. HEADERS AT NON LOAD BEARING PARTITIONS SHALL BE AS FOLLOWS:
    A. 2x4 WALLS
       OPENINGS UP TO 4'-0" (2) 2x8 w/ ½" PLYWOOD FILLER
       OPENINGS > 4'-0" TO 6'-0" (2) 2x10 w/ ½" PLYWOOD FILLER
       OPENINGS > 6'-0" TO 9'-0" (2) 2x12 w/ ½" PLYWOOD FILLER
    B. 2x6 WALLS
       OPENINGS UP TO 4'-0" (3) 2x8 w/ ½" PLYWOOD FILLER (2 LAYERS)
       OPENINGS > 4'-0" TO 6'-0" (3) 2x10 w/ ½" PLYWOOD FILLER (2 LAYERS)
       OPENINGS > 6'-0" TO 9'-0" (3) 2x12 w/ ½" PLYWOOD FILLER (2 LAYERS)

    PROVIDE A MINIMUM OF ONE 2x JACK STUD AT OPENINGS UP TO 6'-0" AND TWO 2x JACK STUDS AT OPENINGS UP TO 9'-0".

STRUCTURAL STEEL

1. STRUCTURAL STEEL FABRICATION, ERECTION AND CONNECTION DESIGN SHALL CONFORM TO: AISC'S 'SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS' MANUAL OF STEEL CONSTRUCTION (THIRTEENTH EDITION, 2005)

2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:

STRUCTURAL STEEL WF SHAPES	ASTM A992
PLATES, CHANNELS, ANGLES AND BARS	ASTM A36
ROUND PIPE	ASTM A53, GRADE B
HSS RECTANGULAR/SQUARE STRUCTURAL TUBING	ASTM A500, GRADE B - 46 KSI
HSS ROUND STRUCTURAL TUBINGASTM	A500, GRADE B - 42 KSI

3. BOLTED CONNECTIONS SHALL CONFORM TO RCSC'S 'SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.' BOLTS SHALL BE A MINIMUM ⅞ IN. DIAMETER AND SHALL CONFORM TO THE FOLLOWING DESIGNATIONS, UNO:

HIGH STRENGTH BOLTS	ASTM A325 OR ASTM A490
ANCHOR RODS	ASTM F1554, GRADE 55, WELDABLE.

4. WELDING, WELDING ELECTRODES, AND FLUXES SHALL CONFORM TO AWS D1.1 'STRUCTURAL WELDING CODE-STEEL'. WELDS SHALL BE INSTALLED BY WELDERS QUALIFIED IN ACCORDANCE WITH AWS PROCEDURES FOR WELDER QUALIFICATION.
   ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI (E70XX)
   FILLET WELDS SHALL BE 3/16" MINIMUM UNLESS NOTED OTHERWISE.

5. SHEAR CONNECTORS (HEADED STEEL STUDS) SHALL CONFORM TO ASTM A108, GRADES 1015 THROUGH 1020 (60 KSI TENSILE STRENGTH) AND CONFORM TO AWS D1.1. SHEAR CONNECTORS SHALL BE WELDED BY AUTOMATIC EQUIPMENT.

6. BOLTED CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES
   A. EXCEPT AS NOTED, BOLTS SHALL BE BEARING TYPE AND INSTALLED SNUG TIGHT.

7. STANDARD CONNECTIONS SHALL BE DETAILED IN ACCORDANCE WITH THE AISC 'MANUAL OF STEEL CONSTRUCTION'. CONNECTIONS SHALL BE DESIGNED BASED ON THE FOLLOWING CONTROLLING CRITERIA:
   A. SERVICE LOAD REACTIONS NOTED ON STRUCTURAL DRAWINGS. FOR STEEL MEMBERS WHOSE REACTIONS ARE NOT SHOWN, THE DESIGN REACTION SHOULD BE HALF OF THE ALLOWABLE BEAM LOAD FOUND IN AISC TABLES (MINIMUM OF 10K).
   B. MINIMUM LENGTH OF SHEAR CONNECTION SHALL BE 1/2 (WHERE T IS THE DISTANCE BTWN WEB TOES OF FILLETS AT TOP AND AT BOTTOM OF WEB, T=D-2K)
   C. FULL LENGTH SHEAR CONNECTIONS AT BEAM/GIRDER TO COLUMNS.
   D. REFERENCE TYPICAL DETAILS FOR ADDITIONAL CONNECTION CRITERIA

8. PRIOR TO DETAILING CONNECTIONS FOR THE STRUCTURAL STEEL, THE STEEL FABRICATOR SHALL SUBMIT FOR APPROVAL REPRESENTATIVE DETAILS AND CALCULATIONS FOR EACH TYPE OF STRUCTURAL STEEL CONNECTION TO BE UTILIZED. DETAILS SHALL INCLUDE DESIGN CAPACITIES.

9. GROUT UNDER STEEL PLATES SHALL BE NONMETALLIC, SHRINKAGE-RESISTANT GROUT CONFORMING TO ASTM C1107 HAVING A MINIMUM DESIGN COMPRESSIVE STRENGTH OF 5,000 PSI.

10. SPLICING AND PENETRATIONS OF STRUCTURAL STEEL MEMBERS IS NOT PERMITTED WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

11. STEEL SHALL BE FINISHED/PROTECTED AS FOLLOWS, UNO:
    A. HOT DIPPED GALVANIZED IN ACCORDANCE TO ASTM A123
       EXTERIOR STEEL EXPOSED TO WEATHER
       LINTELS IN EXTERIOR WALL CAVITIES
       BRICK RELIEF/SHELF ANGLES
    B. PAINT WITH ONE COAT OF STANDARD PRIMER PAINT ALL STRUCTURAL STEEL EXCEPT THOSE TO BE GALVANIZED, AREAS TO BE FIELD WELDED, AREAS TO RECEIVE FIRE-PROOFING AND AREAS TO BE EMBEDDED IN CONCRETE

12. PROVIDE COLUMN CAP PLATES AS FOLLOWS, UNO:
    FOR DECK BEARING: ¾" THICK (PROVIDE WHERE BEAMS DO NOT FRAME INTO BOTH SIDES OF WEB)
    FOR BEAM BEARING: SEE TYPICAL DETAILS, ¾" THICK MIN.
    MOMENT CONNECTIONS: SEE TYPICAL DETAILS

13. REFER TO ARCHITECTURAL DRAWINGS FOR FIREPROOFING REQUIREMENTS

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 984 0883 20850

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

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Revisions

Rev	Date	Description	By
1			
2			
3			
4			
5			

Sheet Title: STRUCTURAL SPECIFICATIONS, cont.

S0.3
SHEET 3 OF 6

92

POST INSTALLED MECHANICAL AND CHEMICAL ANCHORS

1. ALL MECHANICAL AND CHEMICAL ANCHORS INDICATED WITHIN THESE DOCUMENTS SHALL BE PROVIDED BY HILTI, POWERS, OR AN STRUCTURA-APPROVED EQUIVALENT. ALTERNATE ANCHORS SHALL SUBMITTED TO STRUCTURA FOR APPROVAL-SUBMITTAL MUST INCLUDE ALL RELEVANT TECHNICAL INFORMATION INCLUDING ALLOWABLE LOAD VALUES. THE FOLLOWING ANCHORS WERE ASSUMED DURING DESIGN UNLESS SPECIFICALLY NOTED OTHERWISE:

2. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANCHOR LOCATIONS AT ALL MASONRY WALLS. MASONRY WALLS SHALL BE GROUTED SOLID AT ALL ANCHOR LOCATIONS FOR A MINIMUM OF 12 INCHES IN ALL DIRECTIONS FROM ANCHOR CENTERLINE.

3. ALL ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S SPECIFICATIONS.

4. UON, ALL ANCHORS SHALL HAVE STANDARD EMBEDMENT DEPTH AS DEFINED BY THE ANCHOR MANUFACTURER.

5. WHEN ANCHORS ARE TO BE INSTALLED INTO EXISTING MASONRY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-TESTING THE ANCHORS PRIOR TO THE FABRICATION OF ANY MATERIALS TO VERIFY THAT THE ALLOWABLE LOADS AS PUBLISHED BY THE ANCHOR MANUFACTURER, OR THOSE INDICATED ON THE STRUCTURAL DRAWINGS, ARE OBTAINABLE. THE GC SHALL SUBMIT RESULTS OF THESE TESTS TO STRUCTURA FOR REVIEW AND APPROVAL. THE ANCHOR SIZES AND SPACINGS AS SHOWN IN THESE DOCUMENTS ARE SUBJECT TO CHANGE BASED ON THE RESULTS OF THE FIELD TESTS.

SUMP PUMPS

1. ARE TO BE PROVIDED DURING CONSTRUCTION AS REQUIRED TO CONTROL SURFACE WATER AND AFTER CONSTRUCTION AS PERMANENT MEANS OF CONTROLLING UNDERGROUND WATER. PUMP SIZE AND LOCATION TO BE DETERMINED BY PLUMBING ENGINEER.

BACKFILL

1. SHALL NOT BE PLACED AGAINST WALLS UNTIL TOP OF WALL IS EITHER TEMPORARILY BRACED OR PERMANENTLY BRACED WITH FLOOR SYSTEM. IF FLOOR SYSTEM IS A CONCRETE SLAB, THE FLOOR SYSTEM CONCRETE MUST HAVE ACHIEVED 75% OF DESIGN STRENGTH PRIOR TOPLACEMENT OF BACKFILL. WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF WALLS, BACKFILL BOTH SIDES SIMULTANEOUSLY.

EXISTING CONDITIONS

1. THE DRAWINGS MAY REFLECT INFORMATION PROVIDED BY OTHERS AND/OR EXISTING CONDITIONS THAT HAVE BEEN SURVEYED AND/OR DOCUMENTED TO THE GREATEST POSSIBLE EXTENT BUT NOT VERIFIED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FULLY COORDINATE THE WORK, INCLUDING, BUT NOT NECESSARILY LIMITED TO, THE VERIFICATION OF ALL EXISTING CONDITIONS SHOWN IN THE DRAWINGS, COORDINATION OF ALL NECESSARY BUILDING TRADES, ETC. ANY AND ALL CONDITIONS THAT ARE MIS-REPRESENTED IN THESE DOCUMENTS, OR ANY CONDITIONS THAT ARE NOT SHOWN BUT WARRANT THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER, SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER.

2. MEANS AND METHODS OF CONSTRUCTION AND TEMPORARY SHORING AND BRACING OF THE EXISTING STRUCTURE(S) ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER MAY INCLUDE PHASING, SEQUENCING, SHORING REQUIREMENTS, ETC. IN THE CONSTRUCTION DOCUMENTS TO ALERT, ASSIST, OR OTHERWISE DICTATE PROCEDURAL REQUIREMENTS THAT MAY BE NECESSARY TO PROPERLY IMPLEMENT THE STRUCTURAL PORTION OF THE WORK OR THAT MAY BE REQUIRED TO ENSURE BUILDING STABILITY; HOWEVER, THE CONTRACTOR SHALL PROPERLY COORDINATE THESE REQUIREMENTS AND SHALL REMAIN COMPLETELY AND SOLELY RESPONSIBLE FOR ERECTING THE BUILDING STRUCTURE IN A SAFE AND TIMELY MANNER.

3. UNLESS OTHERWISE INDICATED, IT HAS BEEN ASSUMED THAT THE EXISTING STRUCTURE(S) ARE IN SERVICEABLE CONDITION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY AND ALL AREAS OF STRUCTURAL DISTRESS (INCLUDING, BUT NOT LIMITED TO, CRACKS, SPALLING, ETC.) NOT INDICATED IN THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL NOT PROCEED WITH WORK IN SUCH AREAS WITHOUT DIRECTION FROM THE ENGINEER.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR CALCULATIONS TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO CONSTRUCTION. THE LIST OF REQUIRED SHOP DRAWING SUBMITTALS INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

   - UNDERPINNING, COMPLETE WITH SIGNED AND SEALED CALCULATIONS BY LICENSED ENGINEER
   - SHEETING AND SHORING, COMPLETE WITH SIGNED AND SEALED CALCULATIONS BY LICENSED ENGINEER
   - CONCRETE MIX DESIGNS FOR EACH APPLICATION, SIGNED AND SEALED BY LICENSED ENGINEER.
   - MORTAR MIX DESIGNS, SIGNED AND SEALED BY LICENSED ENGINEER
   - CONCRETE REINFORCEMENT STEEL
   - MASONRY REINFORCEMENT STEEL
   - STRUCTURAL STEEL SHOP DRAWINGS
   - WOOD I-JOISTS, COMPLETE WITH SIGNED AND SEALED CALCULATIONS BY LICENSED ENGINEER
   - GLU-LAMINATED STRUCTURAL MEMBERS

2. THE ENGINEER'S RESPONSIBILITIES RELATIVE TO SHOP DRAWING REVIEW ARE LIMITED TO REVIEW FOR DESIGN CONCEPT OF THE PROJECT AND INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS, SPECIFICALLY THE STRUCTURAL DRAWINGS AND THE STRUCTURAL PORTIONS OF THE PROJECT SPECIFICATIONS. THE ENGINEER WILL NOT REVIEW FOR DIMENSIONS, QUANTITIES, ETC.

3. SHOP DRAWING REVIEW NOTATIONS ARE DEFINED AS FOLLOWS:

   - 'APPROVED' AND 'NO EXCEPTION': INDICATES THAT FABRICATION, MANUFACTURE, OR CONSTRUCTION MAY PROCEED.
   - 'APPROVED AS CORRECTED' AND 'EXCEPTIONS AS NOTED': INDICATES THAT FABRICATION, MANUFACTURE, OR CONSTRUCTION MAY PROCEED PROVIDED THAT SUBMITTAL COMPLIES WITH ENGINEER'S NOTATIONS. IF, FOR ANY REASON, THE CONTRACTOR CANNOT COMPLY WITH THE ENGINEER'S NOTATIONS, THE SUBMITTAL SHALL BECOME 'REJECTED' OR 'DISAPPROVED' (REFER TO DEFINITION BELOW) AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY BOTH THE ARCHITECT AND ENGINEER.
   - 'APPROVED AS CORRECTED RESUBMIT FILE COPY' AND 'EXCEPTIONS AS NOTED RESUBMIT FILE COPY': INDICATES THAT FABRICATION, MANUFACTURE, OR CONSTRUCTION MAY PROCEED PROVIDED THAT SUBMITTAL COMPLIES WITH ENGINEER'S NOTATIONS. THE CONTRACTOR SHALL RETURN REVISED VERSIONS OF THE SUBMITTAL TO THE ARCHITECT AND ENGINEER FOR RECORD. IF, FOR ANY REASON, THE CONTRACTOR CANNOT COMPLY WITH THE ENGINEER'S NOTATIONS, THE SUBMITTAL SHALL BECOME 'REJECTED' OR 'DISAPPROVED' (REFER TO DEFINITION BELOW) AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY BOTH THE ARCHITECT AND ENGINEER.
   - 'DISAPPROVED' AND 'REJECTED': INDICATES THAT THE SUBMITTAL DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS AND THAT FABRICATION, MANUFACTURE, OR CONSTRUCTION SHALL NOT PROCEED. THE CONTRACTOR SHALL MAKE THE NECESSARY REVISIONS TO THE SUBMITTAL AND RESUBMIT IN A TIMELY FASHION SO AS TO NOT DELAY THE CONSTRUCTION SCHEDULE.
   - 'REVIEWED FOR INFORMATION': INDICATES THAT THE SUBMITTAL HAS BEEN RECEIVED BY THE ENGINEER FOR FILE ONLY; NO ADDITIONAL ACTION WILL BE TAKEN BY THE ENGINEER.
   - 'PRE-ENGINEERED SYSTEMS SUBMITTAL': INDICATES THAT THE SUBMITTAL HAS BEEN REVIEWED FOR GENERAL CONFORMITY WITH THE DESIGN INTENT AND GENERAL COMPLIANCE WITH THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS. COMMENTS AND/OR NOTATIONS MADE ON THE SUBMITTAL BY THE ENGINEER OF RECORD ARE INTENDED TO NOTIFY THE CONTRACTOR AND/OR THE RESPONSIBLE DESIGNER OF CONFLICTS BETWEEN THE SUBMITTAL AND THE DESIGN INTENT OR THE CONSTRUCTION DOCUMENTS. THESE COMMENTS AND/OR NOTATIONS DO NOT RELIEVE THE CONTRACTOR AND THE DESIGN ENGINEER OF SOLE RESPONSIBILITY FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES AND LAWS. SOLE RESPONSIBILITY FOR CORRECT DESIGN, DETAILS, AND DIMENSIONS SHALL REMAIN WITH THE CONTRACTOR AND THE DESIGN ENGINEER.

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301 984 0882 20850

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

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

Revisions

Rev	Date	Description	By
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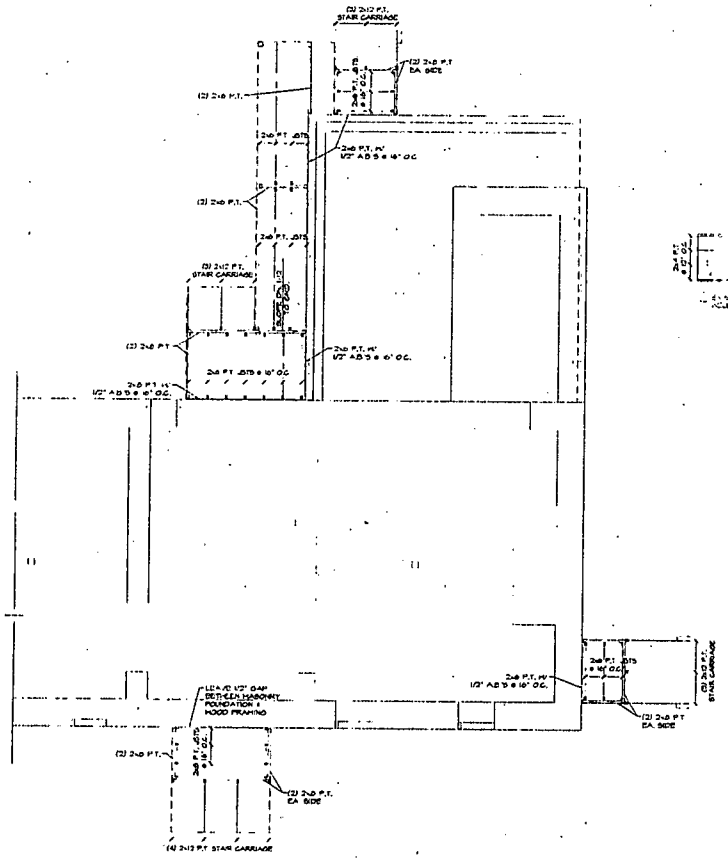
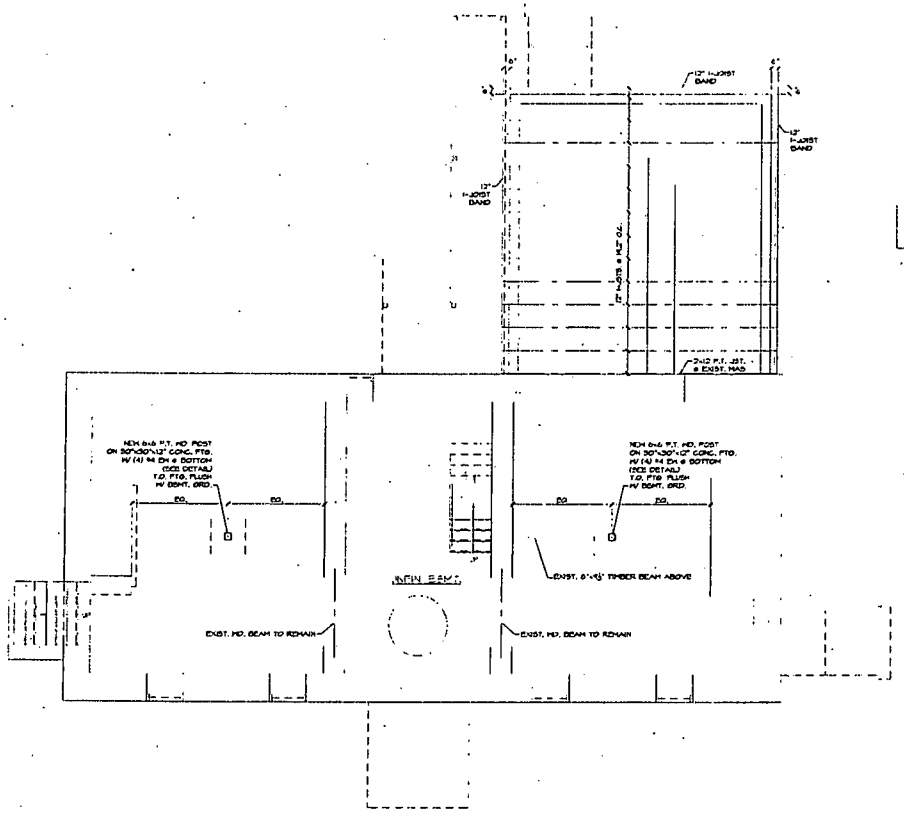
Sheet Title
STRUCTURAL SPECIFICATIONS, cont.

S0.4
SHEET 4 OF 6

(27)



1 FIRST FLOOR DECKS, STAIRS, & RAMP FRAMING PLANS
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

CEM DESIGN
820 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0867 20850

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

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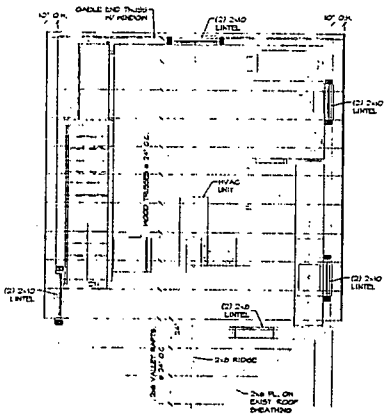
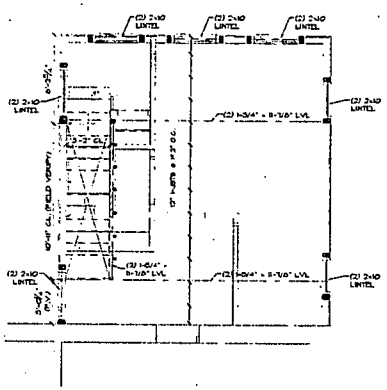
Sheet Title
FIRST FLOOR FRAMING PLANS

S1.1
SHEET 5 OF 6

28



1 ADDITION ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"



2 SECOND FLOOR ADDITION FRAMING PLAN
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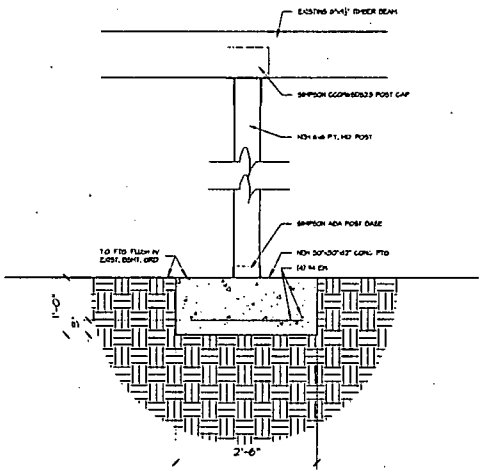
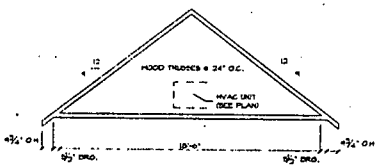
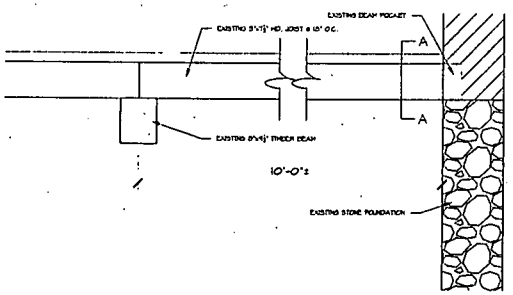


3 SECTION @ NEW COLUMN IN EXIST. BASEMENT
SCALE: 1/4" = 1'-0"



4 WOOD ROOF TRUSS DIAGRAM
SCALE: 1/4" = 1'-0"



5 SECTION @ EXISTING FIRST FLOOR JOIST REPAIR
SCALE: 1/4" = 1'-0"

CEM DESIGN
830 ANDERSON AVENUE
ROCKVILLE MARYLAND
301 294 0082 20850

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Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

Revisions

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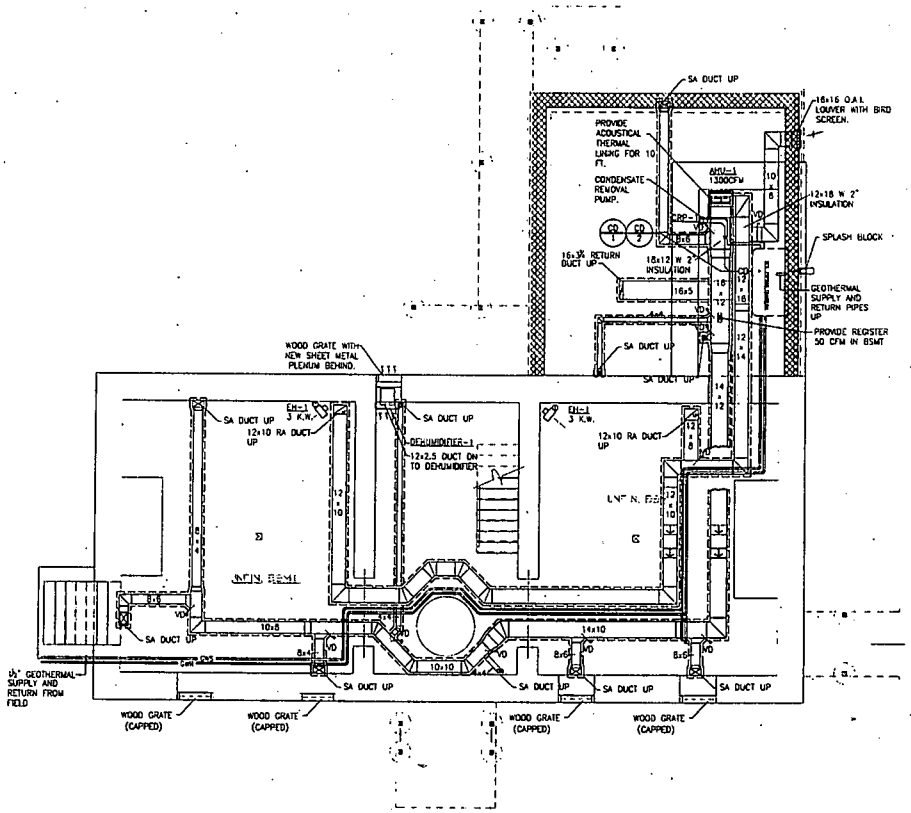
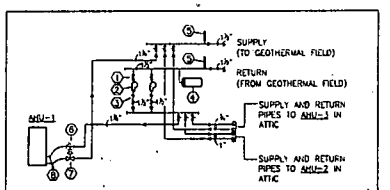
Sheet Title
SECOND FLOOR & ROOF FRAMING PLANS, DETAILS

S1.2
SHEET 6 OF 6



BASEMENT FLOOR PLAN HVAC

SCALE 1/4"=1'-0"



MECHANICAL ROOM PIPING LAYOUT
NOT TO SCALE

PIPING NOTES:

1. ISOLATION VALVES (TYPICAL)
2. PUMPS (TYPICAL)
3. TRIPLE DUTY VALVE (TYPICAL)
4. EXPANSION TANK
5. TEMPERATURE SENSOR (TYPICAL)
6. Y-STRAINER/BALL VALVE WITH PORT (MODEL UBY)-TYPICAL
7. FLOW CONTROLLER/BALL VALVE WITH PORT (MODEL AC)-TYPICAL
8. STAINLESS STEEL HOSE (TYPICAL)

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301.294.0863 20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

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11/30/10

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Sheet Title
BASEMENT FLOOR PLAN HVAC

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 7407, expiration date: 10/08/12.

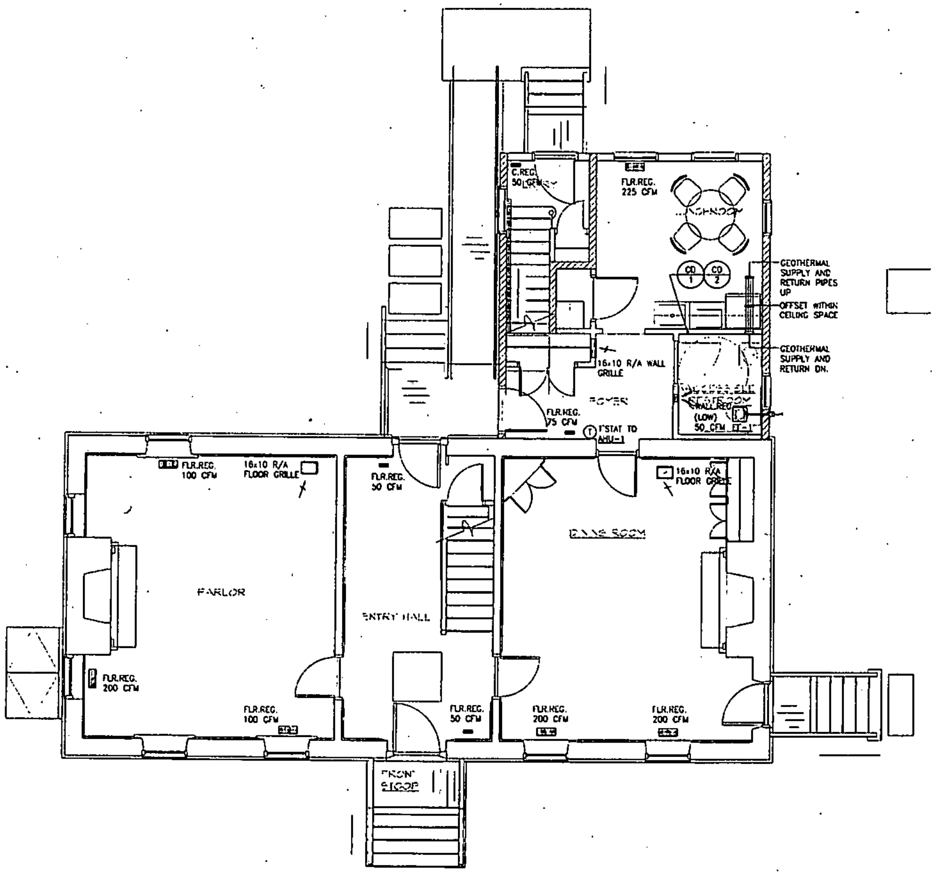
MENDOZA, RIBAS, FARINAS & ASSOC.
CONSULTING ENGINEERS
6265 Executive Boulevard, Rockville, Maryland 20852
(T)(301) 468-8863 (F)(301)770-2567 (E)MRFA@EP-A.Com

10-012

M-01

SHEET OF

30



GROUND FLOOR PLAN HVAC

SCALE 1/4"=1'-0"

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE MARYLAND
301.294.0662 20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

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GROUND FLOOR PLAN HVAC

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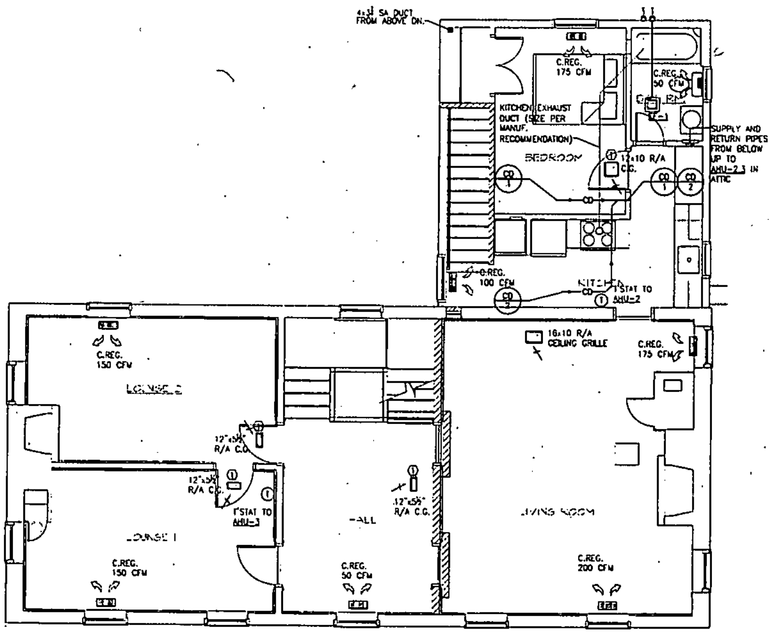
6265 Executive Boulevard, Rockville, Maryland 20852

10-012

M-02

SHEET OF

31



SECOND FLOOR PLAN HVAC

SCALE 1/4"=1'-0"

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CONSULTING ENGINEERS
6265 Executive Boulevard, Rockville, Maryland 20852

10-012

CEM DESIGN
620 ANDERSON AVENUE
ROCKVILLE, MARYLAND 20850
301.294.0662

Falling Green

Restoration and Addition

4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date: 11/30/10

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Rev	Date	Description	By
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Sheet Title: SECOND FLOOR PLAN HVAC

M-03

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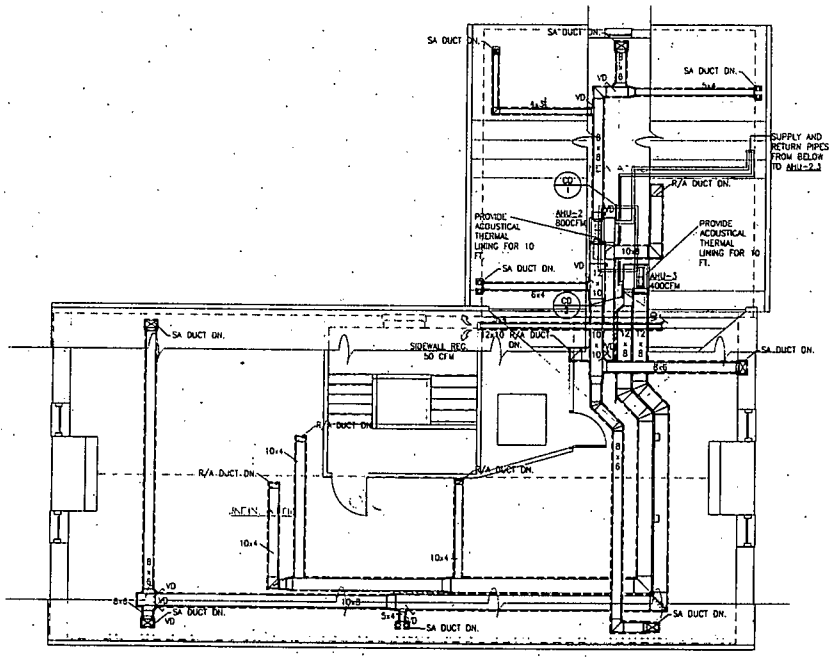

ATTIC FLOOR PLAN HVAC

SCALE 1/4"=1'-0"

CEM DESIGN
622 ANDERSON AVENUE
ROCKVILLE MARYLAND
301.294.0882 20850

Falling Green
Restoration and Addition
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Issue Date
11/30/10

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Sheet Title
ATTIC FLOOR PLAN HVAC

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10-012

M-04

SHEET OF

33

GEOTHERMAL WATER SOURCE HEAT PUMP SCHEDULE

TAG	Qty	MCQUAY Model	Unit: Electrical: Voltage	MCA (Amps)	Min. Rec Fuse (Amps)	Supply Fan: Airflow (CFM)	ESP (inH2O)	BHP (HP)	Motor Power (HP)	Condenser Coil: Fluid Flow Rate (gpm)	WPD (ft. H2O)	Glycol Type	Glycol (%)	Cooling: EWT (°F)	LWT (°F)	EAT: EDB (°F)	EAT: EWB (°F)	LAT: LDB (°F)	LAT: LWB (°F)	Total Capacity (Btu/hr)	Sensible Capacity (Btu/hr)	Heat of Reject. (Btu/hr)	CER	Heating: EWT (°F)	LWT (°F)	EAT: EDB (°F)	LAT: LDB (°F)	Total Capacity (Btu/hr)	Heat of Absorp. (Btu/hr)	COP	REMARKS
AHU-1	1	WVFC1036	208-230/60/1	25.90	40.0	1300	0.57	0.0	0.500	9.50	11.30	Water	0.0	85.0	95.4	80.0	67.0	56.7	56.6	41079	32217	48937	17.84	70.0	61.5	70.0	102.7	45630	37573	5.13	
AHU-2	1	WVFC1024	208-230/60/1	16.10	30.0	800	0.41	0.0	0.166	5.80	11.50	Water	0.0	85.0	95.0	80.0	67.0	57.2	56.8	24711	19388	29530	17.51	70.0	61.5	70.0	101.6	27214	22600	5.36	
AHU-3	1	WVFC1012	208-230/60/1	6.90	15.0	400	0.62	0.0	0.125	3.00	11.40	Water	0.0	85.0	95.0	80.0	67.0	58.8	57.1	12023	9000	14585	14.57	70.0	62.1	70.0	103.8	14553	11693	4.75	

PROVIDE UNITS WITH AS FOLLOWS ① 7 DAY PROGRAMMABLE THERMOSTAT TWO STAGE HEAT/COOL
② FLOW CONTROL SUPPLY AND RETURN WATER HOSES

ELECTRIC HEATER SCHEDULE

NO.	SERVING THE AREA	CAPACITY: BTUH	CAPACITY: KW	CFM	VOLTAGE	WT. IN LBS	TYPE	MFG. & MODEL NO.	
EH-1	BASEMENT	10236	3.0	250	208/1/60	42	UNIT HEATER	SENTINEL/SUHA-03041	①②⑦

ACCESSORIES: 1. RECESSED 2. TAMPER PROOF T'STAT 3. THERMAL CUT-OUT 4. DISCONNECT SWITCH 5. BUILT-IN T'STAT
6. SET AT 60F 7. SET @ 50F

PUMP SCHEDULE

TO BE DETERMINED ONCE GEOTHERMAL LOOP HAS BEEN DESIGNED

FAN SCHEDULE

NO.	AREA SERVED	TOTAL CFM	S.P. IN. W.G.	FAN RPM	HP (WATTS)	VOLTAGE	TYPE	SONES	WT. IN LBS.	CONTROL	DAMPER	OS SUPPLY	MFG.	CAT. MODEL NO.	
EF-1	BATHROOMS	75	0.125	1050	(35)	115/1/60	CLG CABINET	0.7	20	WALL SWITCH	B.D.D.	E	BROAN	QTXE110S	1-5
ACCESSORIES	1-BELT DRIVE 2-BACKDRAFT DAMPER 3-DRAIN CONNECTION 4. ENERGY STAR RATED 5. HUMIDISTAT														

DEHUMIDIFIER SCHEDULE

NO.	SERVING THE AREA	CFM	VOLTAGE	WATTS	TYPE	MFG. & MODEL NO.	
DEHUMIDIFIER 1	BASEMENT	178	110/1/60	33	TYPE	E-2 BREATHE MODEL 400	①②

IF NOT PROVIDED PROVIDE WITH 1 HUMIDISTAT SETTING SET AT 50% (ADJUSTABLE) 2. FAN SPEED CONTROLLER
FOR BEST RESULTS
- IN THE SUMMER, SET THE SPEED CONTROL ON MED - HIGH.
- IN THE WINTER, SET THE SPEED CONTROL TO MED - LOW.

SUPPLY AIR REGISTER SCHEDULE

NO.	CFM RANGE	INSIDE DIMENSION	OUTSIDE DIMENSION	MFG. & MODEL NO.
1	20-50	6"x6"	8"x8"	REGGIO GRILLE SCROLL TYPE WHITE FINISH FOR CEILINGS WOOD FINISH FOR FLOORS (TO MATCH FLR.)
2	51-100	8"x4"	10"x5½"	
3	101-125	10"x4"	12"x5½"	
4	126-150	10"x4"	12"x5½"	
5	151-175	10"x6"	12"x8"	
6	176-250	8"x8"	10"x10"	

RETURN AIR REGISTER GRILLE

NO.	CFM RANGE	INSIDE DIMENSION	OUTSIDE DIMENSION	MFG. & MODEL NO.
1	101-125	10"x4"	12"x5½"	REGGIO GRILLE SCROLL TYPE WHITE FINISH FOR CEILINGS WOOD FINISH FOR FLOORS (TO MATCH FLR.)
2	126-150	10"x4"	12"x5½"	
3	151-175	10"x6"	12"x8"	
4	176-250	8"x8"	10"x10"	
5	251-325	10"x8"	12"x10"	
6	326-400	12"x8"	14"x10"	
7	400+	12"x10"	16"x10"	

CONDENSATE DRAIN REMOVAL PUMP

CRP-1: BY LITTLE GIANT MODEL VMCMA-50ULST 65 GPH WITH SAFETY SWITCH AND TUBING 1/50 HP MOTOR

SYMBOLS & ABBREVIATIONS

- INSULATED DUCTWORK
- TRANSITION ROUND TO RECTANGULAR
- FLEXIBLE DUCTWORK
- 90° ELBOW WITH GUIDING TURNING VANES
- VD MANUAL VOLUME BALANCING DAMPER
- SUPPLY REGISTER
- RETURN AIR GRILLE
- ① THERMOSTAT
- EXHAUST FAN
- D CONDENSATE DRAIN
- CWS / CWR GEOTHERMAL WATER SUPPLY / GEOTHERMAL RETURN PIPES
- SPLASH BLOCK

- AHU — AIR HANDLING UNIT
- BDD — BACK DRAFT DAMPER
- CFM — CUBIC FEET PER MINUTE
- CR — CEILING REGISTER
- CRP — CONDENSATE REMOVAL PUMP
- EF — EXHAUST FAN
- ESP — EXTERNAL STATIC PRESSURE
- FLA — FULL LOAD AMPS
- HP — HORSE POWER OR HEAT PUMP
- MBH — THOUSANDS BTU PER HOUR
- MCA — MINIMUM CIRCUIT AMPS
- MOCP — MAXIMUM OVER CURRENT PROTECTION FUSE SIZE
- RA — RETURN AIR
- RAG — RETURN AIR GRILLE
- RLA — RATED LOAD AMPS
- RPM — REVOLUTION PER MINUTE
- SL — SOUNDLINING
- WT — WEIGHT

GENERAL NOTES HVAC

1. ALL HVAC DUCTS SHALL BE INSULATED WITH 2 INCH, 1 LB. DENSITY, U/L APPROVED FIBERGLASS WITH VAPOR BARRIER.
2. ALL DUCTS SHALL BE FABRICATED FROM FIELD TAKEN DIMENSIONS. DUCTWORK SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA RECOMMENDATIONS.
3. SUPPLY AND RETURN AIR DUCTWORK SHALL BE OF LOW PRESSURE SHEET METAL CONSTRUCTION. DUCT SIZES INDICATED ON DRAWINGS SHALL BE INCREASED TO COMPENSATE FOR THE THICKNESS OF LINING WHEN LINING IS SHOWN.
4. ALL THERMOSTATS SHALL BE OF THE HEAT PUMP TYPE. THERMOSTATS SHALL BE PROVIDED BY AIR CONDITIONING UNIT MANUFACTURER.
5. ALL AIR OUTLETS SHALL BE OF COLORS SPECIFIED AND VERIFIED WITH ARCHITECT . REGISTERS AND GRILLES SHALL BE REGGIO OR APPROVED EQUAL.
6. CONTRACTOR SHALL AIR BALANCE COMPLETE AIR CONDITIONING SYSTEM AND PROVIDE WRITTEN REPORT.
7. SUBMIT SIX (6) COPIES OF ALL HVAC EQUIPMENT FOR APPROVAL BY ENGINEER.
8. CONTRACTOR SHALL PROVIDE MESH WIRE SCREEN TO OUTSIDE AIR INTAKE LOUVERS AND DISCHARGE POINTS RESPECTIVELY.
9. RETURN AIR PLENUM AND RETURN AIR DUCTS SHALL HAVE 1" SOUND LINING EXTENDED 10 FT.
10. ALL DUCT DIMENSIONS SHOWN ARE INSIDE DIMENSIONS.
11. PROVIDE FLEXIBLE CONNECTION BETWEEN AIR CONDITIONING UNIT, FANS, ETC. AND DUCTWORK.
12. ALL NEW FLEXIBLE AIR DUCT CONNECTIONS TO EXISTING SHEET METAL DUCTS SHALL BE OF THE SPIN IN TYPE WITH MANUAL BALANCING DAMPER.
13. CONTRACTOR SHALL VISIT SITE TO FIELD VERIFY POINTS OF CONNECTIONS TO EXISTING FACILITIES AND SYSTEMS. DRAWINGS WERE PREPARED BASED ON EXISTING DRAWINGS AVAILABLE. FOR NOTE ON REMOVAL, CONSTRUCTION SCHEDULE AND ADDITIONAL REQUIREMENTS, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
14. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LANDLORD REQUIREMENTS.
15. LENGTH OF ALL NEW FLEXIBLE DUCTS SHALL NOT EXCEED 10 FEET.
16. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK TO BE DONE AND SHALL EXAMINE THE SITE AND CONSIDER THE CONDITIONS UNDER WHICH HE WILL BE OBLIGED TO OPERATE IN THE PERFORMANCE OF THE CONTRACT WORK. NO ALLOWANCES SHALL BE MADE SUBSEQUENTLY IN THIS CONNECTION, FOR ANY ERRORS THROUGH NEGLIGENCE ON HIS PART. THE CONTRACTOR IS HEREBY ADVISED THAT HE WILL BE REQUIRED TO OBSERVE ALL RECOMMENDED PRACTICES OF FIRE AND SAFETY PRECAUTIONS FOR THE PROTECTION OF THE NEW FACILITY.
17. ALL SUPPLY AND RETURN DUCT TURNS SHALL HAVE TURNING VANES.
18. PROVIDE PVC PIPE FOR CONDENSATE DRAIN FROM PUMP TO POINT OF DISCHARGE.
19. ALL NEW SUPPLY AND RETURN WATER PIPES SERVING HEAT PUMPS SHALL BE TYPE "L" COPPER WITH 95 5 SOLDER JOINTS. FLEXIBLE STAINLESS STEEL HOSE BY MANUFACTURER TO BE USED ALONG WITH FLOW CONTROLLER/BALL VALVE AT RETURN CONNECTION AND Y- STRAINER/BALL VALVE WITH PORT AT SUPPLY CONNECTION.
20. ALL PIPE PENETRATIONS THROUGH FLOORS OR WALLS SHALL BE CAULKED AND FIRE SEALED. THE CONTRACTOR SHALL NOT CUT STRUCTURAL COMPONENTS WITHOUT APPROVAL FROM STRUCTURAL ENGINEER.
21. PROVIDE PIPE BRACKETS AND SUPPORTS FOR ALL WALL MOUNTED HEATING/COOLING LINES. SUPPORTS SHALL BE PROVIDED EVERY 6 FEET FOR PIPES 3/4 INCH IN DIAMETER, 8 FEET FOR 1 INCH AND DIRECTION.
22. ALL WORK SHALL BE COORDINATED WITH OWNER TO MAINTAIN PREMISES IN ORDER AND CLEAN FROM DEBRIS. SWITCHOVER FOR HEATING FROM NEW MAINS SHALL BE DONE AT TIME TO MINIMIZE DURATION OF SWITCHOVER. OWNER SHALL BE NOTIFIED IN ADVANCE AND INTERRUPTION OF THE HEATING SYSTEM SHALL BE MINIMIZED.
23. COORDINATE LOCATION OF CEILING REGISTERS WITH LIGHTS.
24. PROVIDE COMPLETE TEMPERATURE CONTROLS WITH SUMMER/WINTER THERMOSTAT "AUTO ON OFF" BY MCQUAY.
25. ALL DUCTWORK SHALL BE FABRICATED FROM FIELD TAKEN DIMENSION AND NOT FROM DRAWING. CEILING CLEARANCES, PRIOR TO DUCT FABRICATION, SHALL BE VERIFIED WITH EXISTING STRUCTURE, PIPES, DUCTS, ELECTRICAL CONDUITS, ETC., AND ALL NEW ELECTRICAL, PLUMBING AND ARCHITECTURAL WORK. REVISIONS TO DUCTWORK WILL BE MADE AS REQUIRED PER ABOVE AT NO ADDITIONAL COST TO THE OWNER.
26. INASMUCH AS THE REMODELING OF AN EXISTING BUILDING REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS, AND BECAUSE SOME OF THESE ASSUMPTIONS CANNOT BE VERIFIED WITHOUT SPENDING LARGE SUMS OF MONEY, OR DESTROYING OTHERWISE ADEQUATE, OR SERVICEABLE PORTIONS OF THE BUILDING, IT MUST BE UNDERSTOOD THAT FIELD CONDITIONS MIGHT VARY FROM WHAT IS SHOWN ON THE PLANS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO UNDERTAKING ANY WORK, AND NOTIFY THE ARCHITECT IF THERE ARE SUBSTANTIAL DIFFERENCES THAT MIGHT REQUIRE DESIGN MODIFICATIONS.
27. ALL MECHANICAL PLAN DIMENSIONS AND DRAWING'S SCALES SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS.
28. PROVIDE FIRE DAMPERS WHERE DUCTS PENETRATE FIRE PARTITIONS.

CEM DESIGN
622 ANDERSON AVENUE
ROCKVILLE MARYLAND
301.294.0662 20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date 11/30/10

Revisions

No.	Date	Description	By
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Sheet Title: HVAC SCHEDULES, DETAILS & NOTES

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 7402, expiration date. 10/08/12.
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10-012

M-05

SHEET OF

PERFORMANCE SPECIFICATION FOR GROUND SOURCE HEAT PUMP

PERFORMANCE SPECIFICATION FOR GROUND SOURCE HEAT PUMP
SYSTEM
HEAT PUMPS
CONTENTS

100 Performance Objectives
200 Design Parameters
300 System Description
400 Scope Of Works
500 System Components
600 Installation
700 Painting
800 Fixing To Building Fabric
900 Identification Of Mechanical Services
1000 Testing And Commissioning
1100 Schedule Of Installer's Submissions

100 PERFORMANCE OBJECTIVES

To provide an energy efficient, low carbon means of generating heating and / or cooling for the purposes of maintaining the home's internal temperature requirements A specialist sub-contractor with extensive experience in designing and installing closed loop ground source heat pumps of this size and nature is to undertake the design, thesupply of the major components, the installation, testing, commissioning and setting to work of a closed loop, borehole based, ground source heat pump system
Taking into consideration the required thermal energy demand of the building, the site geology, the thermal conductivity of the ground, and the characteristics of the heat pump, the system design shall enable year on year ground thermal equilibrium and achieve the performance objectives.
In consideration of any potential congestion on the site, it is essential that the specialist sub-contractor works closely with the Main Contractor to ensure that the installation of the ground heat exchanger is correctly programmed into the overall work plan, so that it does not interfere with or delay any other construction activity

200 DESIGN PARAMETERS

This performance specification includes design parameters and standards for the ground loop heat exchanger, the heat pump(s) and associated equipment and controls' It does not include any heating/cooling distribution to the building.
The installation will comply fully with the edition (including amendments) of each of the following, current at the time of tender: -

- o BS EN 15450 - Heating systems in buildings - Design of heat pump heating systems
- o VDI4640 - Thermal use of the underground
- o IGSHPA - Closed loop geothermal heat pump systems
- o ARI330 - Standard for Ground source closed loop heat pumps
- o BS EN 378 Specification for refrigerating systems and heat pumps Safety and environmental requirements
- o BS EN 14511 Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling
- o BSRIA TN18/ 99 Ground source heat pumps: a technology review
- o CIBSE Guide B4 Refrigeration and heat rejection
- o HVCA TR30 Guide to good practice - heat pumps
- o ISO 13256 International Organization for Standardization (ISO) - Water Source Heat Pumps
- o BS 6880 Low temperature hot water heating systems of output greater than 45kW
- o Building Regulations
- o IEE 17th Edition
- o Pressure Equipment Regulations 1999 (SI 1999/2001)
- o BS EN 12201 Plastic Piping Systems for Water
- o WIS 4-32-17 Polyethylene Pressure Pipes For Pressurised Water Supply And Sewerage Duties

The ground loop should be designed using the appropriate ground thermal characteristics (conductivity and diffusivity) for the site These parameters may be determined from existing information or an in-situ thermal test. The thermal modeling of the ground loop heat exchanger must take into consideration the borehole diameter, the type of grout and the u-tube pipe diameter
The combined ground loop array and heat pump system shall be capable of delivering the specified peak output heating (and/or cooling) loads and the monthly energy, quantities specified in the demand profile assessment of thermal energy
The heat pump(s) shall be capable of delivering the specified output temperatures under all anticipated source side operating temperatures and able to achieve high average COPs (SPFs) commensurate with practical engineering constraints and cost effectiveness with a heating/chilled water distribution system designed for a temperature drop/rise of 5-7°C under source side EWT operating temperature limits at -5 to 15C in heating mode and 10C to 35°C in cooling mode.
The heat pump system shall be designed to avoid short cycling, the maximum number of start-up cycles per hour shall be limited to four.
The final number, depth and layout of boreholes, U-tube pipework diameter, length and diameter of horizontal pipework to be arranged to meet the following hydraulic requirements

- o Turbulent flow (i.e. Reynolds Number > 2100) to be achieved under maximum demand conditions in the borehole U-tubes.
- o Hydraulic pressure drop in total ground loop array (i.e. as seen by heat pump) to be <50kPa

Equal flow rates are to be achieved in each U-tube by the use of manifolds incorporating flow balancing valves.
Ground loop design to take account of the effects of the antifreeze on viscosity and hence Reynolds number in the hydraulic and thermal design and sizing calculations.

300 SYSTEM DESCRIPTION

A ground source heat pump specialist shall be employed for the design, supply, delivery, installation, testing, commissioning and setting to work of a closed loop ground coupled, borehole based, heat exchanger, generally comprising of the following:

- o Supply and installation of ground loop pipework including boreholes
- o Supply and installation of flow and return pipework between manifolds and mechanical room
- o Supply and installation of manifolds
- o Initial filling of system
- o Testing and commissioning

The ground loops shall be run back individually to manifolds which shall connect all loop pipes complete with isolating valves
The flow and return shall run underground and shall rise into the home where it shall be terminated with isolating valves.

400 SCOPE OF WORK

The ground source heat pump specialist shall include all elements considered necessary to affect a complete package, including the following:

- o Geological review of site conditions
- o Ground loop thermal modeling and hydraulic design
- o The drilling and grouting of boreholes (vertical system only)
- o The provision and installation of all ground heat exchanger pipework, terminating in the mechanical room of the home.

Work "by others" is generally envisaged to comprise of the following:
Main Contractor

- o Associated builder's work, including bases, making holes through walls or floors, provision of ducts for incoming ground loop pipework to mechanical room.
- o Removal of spoil from site
- o Site storage for materials
- o Provision of water supply on site for drilling and grouting activity
- o Off loading and dry storage of equipment, including heat pump.

500 SYSTEM COMPONENTS

Each system shall be a closed loop coupling to a water heat pump unit
The ground loop shall consist of vertical boreholes incorporating specialist 'geothermal' u-tubes (also known as 'geothermal probes')
The U-tubes will be factory fabricated, HDPE, SDR-11, and PE100, the OD will be 32mm or 40mm - depending on the hydraulics of the system U-tubes to be of continuous length (i.e. no joins/ welds) other than for U-bend. U-bend to be single moulded piece and to be factory welded to the pipe tails
Horizontal connecting pipework shall be black Medium Density Polyethylene PE 80 SDR-11.
Borehole grout will be specified by the ground source heat pump specialist according to the ground loop heat exchanger design. Typically this will either be bentonite/water mixture achieving 20-30% solids content or a specialist thermal grout.
The grout is required to achieve the low permeability (i.e. 1x10-7 - 1x10-9 cm/sec) required to resist the through-flow of ground water and yet retain a pumpable consistency for an adequate period of time. [Note: This is not the same as the materials used in making bentonite / water drilling mud. This is a grout not an API drilling fluid] Grout is to be injected over the full length of the boreholes, using tremmie pipes inserted to the bottom of the borehole, and withdrawn during grout injection
Antifreeze protection to be monoethylene glycol treated with inhibitors and biocide to prevent corrosion and biological growth Freeze protection to be to below the lowest temperature modeled by the specialist ground source heat pump company in the ground loop array and heat pump evaporator.

600 INSTALLATION

The ground source heat pump specialist will be required to submit a Method Statement and Risk Assessment for the installation and will be required to meet all the requirements of the Health and Safety Plan provided by the Main Contractor on this site
The ground source heat pump specialist will be required to produce drawings showing proposed borehole layout, associated horizontal pipework / manifold arrangements and flow /return pipework to mechanical room, together with mechanical room termination arrangements
Borehole drilling will be undertaken by competent specialist drillers operating drill rigs in compliance with BS EN 791 - Drill Rigs Safety, BS EN 12100 - Safety of machinery, and including fixed or interlocked guarding where required
The vertical alignment of a borehole is never perfect, however each borehole shall be in alignment to such an extent that the closed-loop piping can be placed to the entire borehole depth and such that the borehole does not intersect another nearby borehole. Boreholes shall be spaced at a minimum of 5m centres to mitigate the risk of intersection.
Polyethylene pipework in horizontal trenches is to be laid at a nominal depth of 900mm below finished level with a 100mm thick bed and surround of course sand in order to avoid pipe abrasion. Remainder of trench to be backfilled with suitable excavated material or imported fill.
All horizontal pipework to be marked using suitable detectable marker tape laid 200mm above buried pipework.
All sub-surface connections of the polyethylene (PE) pipework to be made using electrofusion welding, carried out to UK gas specification by competent operatives.
All plastic welding to be carried out in suitable weather / environmental conditions. No mechanical jointing shall be used for buried pipework connections.
All ground loop heat exchanger pipework above ground will be insulated with flexible, closed cell, elastomeric, nitrile rubber insulation specified by the specialist subcontractor. Insulation shall be fibre free and CFC free with an ODP of zero.

700 PAINTING

The following finishing paintwork shall be carried out by the specialist sub-contractor:
a) Bare steel tube and fittings - 1 coat oil based undercoat
Either exposed to atmosphere, or - 2 coats oil based gloss paint
within mechanicalrooms and service shafts
b) Internal bare Steel tube and - left red oxide primer
fittings concealed from view within
floor and ceiling voids
c) Bare Copper tube and fittings - cleaned of all flux and left unpainted.
Tube to be polished where exposed to view internally.
d) Cast Iron, Valves, and other - painted two coats oil based
items of equipment, gloss paint.
e) Mechanical items provided with - paint finish to be "touched up" manufacturers own final paint to maintain original finish as
finish necessary.

800 FIXING TO BUILDING FABRIC

The specialist sub-contractor shall fix pipes and fittings securely with fixings and fastenings appropriate to the location
All steel brackets and fixings shall be fabricated at works and painted one coat of zinc chromate before delivery to the site. All nuts and bolts shall be cadmium plated.

900 IDENTIFICATION OF MECHANICAL SERVICES

The specialist sub-contractor shall identify the ground loop heat exchanger within the mechanical room in accordance with BS 1710 and the CIBSE Guide to current practice. each pipe shall be provided with flow direction arrows.

1000 TESTING AND COMMISSIONING

The U-tubes for the boreholes are to be pressure tested, as a minimum, after installation in the boreholes and prior to grouting to maximum working pressure + 5 bar for a period of 0.5 hours, (refer to good practice guide HVCA TR6).
The U-tubes will be flow tested after installation in the boreholes and prior to grouting
Once the flow and return headers have been connected to the borehole U tubes, the entire ground heat exchanger pipework is to be pressure tested as above prior to backfilling of any trenches for a test period of 2 hours.
Visually examine the installation including the following: -

- o The piping is supported adequately
- o Piping is arranged and painted correctly
- o Hand wheels or levers are fitted to valves with clear indication of open/ closed position

1100 SCHEDULE OF INSTALLER'S SUBMISSIONS

Submit the following for the Design output : -

- o Ground modeling output
- o Hydraulics calculations
- o Schematic
- o Borehole layout drawing
- o Standard details drawing
- o Designers risk assessment

Submit the following construction information

- o Risk Assessments
- o Method Statements
- o operating and maintenance instructions

FUTURE GROUND SOURCE HEAT PUMP SYSTEM SCHEDULE

For future heating and cooling systems the heat pump arrangement will be required to operate as

- o Changeover system (ie either heating or cooling)*
- o Capable of delivering heating and cooling simultaneously using either*
- o Individual Heating and Cooling heat pumps*
- o Single mode Heat Pumps with external hot & cold buffer tanks*

(*delete as appropriate)
Design day heating/cooling loads
The ground water source closed loop is required to be able to provide the following
Design day heat loss: - - - - Total Load 77,813 btuh
Design day heat gain: - - - - Total Load 87,597 btuh
System Flow US gpm/ton: - -.3
Temperature Range Cooling: -10°F
Temperature Range Heating: -6°F
Supply Fluid Temperature Cooling: +20°F-30°F warmer than the undisturbed ground temperature
Supply Fluid Temperature Heating: +40°F-20°F cooler than the undisturbed ground temperatur

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PERFORMANCE SPECIFICATION GEOTHERMAL

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ELECTRICAL GENERAL NOTES:

1. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. CIRCUIT NUMBERS SHOWN ARE FOR IDENTIFICATION ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BALANCE ALL PHASES IN THE PANELBOARD. (BALANCE LOAD).
3. SEE MECHANICAL PLANS FOR EXACT LOCATION OF ALL MOTORS AND OTHER EQUIPMENT BEFORE ROUGH-IN.
4. WHERE WIRE SIZES ARE INDICATED ON THE PLANS FOR INDIVIDUAL CIRCUITS, THE INDICATED WIRE SIZE SHALL APPLY TO THE COMPLETE CIRCUIT UNLESS OTHERWISE NOTED.
5. CONTRACTOR SHALL VERIFY ALL EQUIPMENT NOT FURNISHED UNDER THIS SECTION BEFORE ROUGH-IN.
6. SEE ARCHITECTURAL PLANS FOR LOCATION OF BUILDING EQUIPMENT BEFORE ROUGH-IN.
7. CONDUIT RUNS ARE SHOWN SCHEMATICALLY. BUILDING CONDITIONS WILL DETERMINE THE ACTUAL CONDUIT RUN.
8. ALL ELECTRICAL SERVICE EQUIPMENT SHALL BE READILY ACCESSIBLE, AND HAVE A CLEAN AND DRY LOCATION. PROVIDE CLEAR WORKING SPACE AROUND EQUIPMENT.
9. COLOR CODE AND IDENTIFY ALL WIRES.
10. PANELBOARD SHALL HAVE LOCKING DOOR AND BE KEYED.
11. PROVIDE EXPANSION JOINTS FITTING WHERE RACEWAY CROSSES EXPANSION JOINTS (IF REQUIRED).
12. ALL JUNCTION BOXES SHALL BE OF CODE GAUGE AND OF THE SIZE REQUIRED TO ACCOMMODATE CONDUCTORS SHOWN.
13. CONTRACTOR SHALL VERIFY LOCATION OF ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTION BEFORE ROUGH-IN.
14. CONTRACTOR SHALL VERIFY WITH MANUFACTURER THE EXACT LOCATION OF CONNECTION BOX TO MECHANICAL EQUIPMENT BEFORE ROUGH-IN.
15. ALL MOTOR CONNECTIONS OUTSIDE SHALL BE DONE WITH FLEXIBLE SEALTITE CONDUIT.
16. THE CONTRACTOR MUST ASSURE EQUIPMENT GROUNDING SYSTEM CONTINUITY.
17. ALL WORKMANSHIP, MATERIALS AND EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF AREA BY OWNER.
18. PANELBOARD SHALL BE THE CIRCUIT BREAKER TYPE AS MANUFACTURED BY SQUARE D CO., CUTLER HAMMER/WESTINGHOUSE, OR SIEMENS.
19. ALL WIRE SHALL BE COPPER WITH 600 VOLT INSULATION, MINIMUM SIZE SHALL BE NO. 12 AWG.
20. ALL RACEWAY SHALL BE CONCEALED WHERE POSSIBLE. WHERE RACEWAY CANNOT BE CONCEALED IT SHALL BE INSTALLED IN WIREMOLD TO MATCH THE WALL COLOR.
21. PANELBOARD AND DISCONNECT SWITCHES SHALL HAVE COPPER BUS AND APPURTENANCES.
22. CONDUITS INSTALLED IN EARTH OR BELOW VAPOR BARRIERS SHALL BE PAINTED TWO COATS OF BLACK ASPHALTUM.
23. ALL RACEWAYS SHALL BE CAPPED UNTIL CONDUCTORS ARE INSTALLED.
24. ALL ELECTRICAL OUTLETS AND ACCESSORIES FURNISHED WITH EQUIPMENT SHALL BE CONNECTED AND ENERGIZED BY THE ELECTRICAL CONTRACTOR.
25. THE CONTRACTOR AND LUMINAIRE MANUFACTURER ARE RESPONSIBLE FOR PROVIDING PROPER TRIM, MOUNTINGS, ETC., TO SUIT ACTUAL ARCHITECTURAL CEILINGS INSTALLED.
26. THE CONTRACTOR SHALL RESTORE ALL AREAS AND SYSTEMS DISTURBED BY HIS WORK TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.
27. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION INCLUDING THE COST OF SAME IN HIS CONTRACT.
28. ALL MATERIALS FURNISHED FOR THIS PROJECT SHALL BE NEW AND SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC.
29. ALL BRANCH CIRCUITS 100 FEET OR LONGER SHALL BE A MINIMUM OF NO. 10 AWG.
30. ALL DISCONNECT SWITCHES FROM "30" AMPS TO "1200" AMPS SHALL BE "ONQB" TYPE. ALL DISCONNECT SWITCHES IN PUBLIC AREAS SHALL BE FURNISHED WITH PROVISIONS TO BE LOCKED IN CLOSED POSITION.
31. ALL PHOTOCELLS SHALL BE WEATHERPROOF, FLUSH MOUNTED WITH CORROSION PROOF PLATE AND SHALL BE MANUFACTURED BY CROUSE HINDS, BRYANT OR TORK CO.
32. THE GROUND SYSTEM SHALL BE CONTINUOUSLY IDENTIFIED THROUGHOUT THE SYSTEM TO AVOID ERROR CONNECTIONS.

LIGHTING FIXTURE SCHEDULE

FIXT. TYPE	DESCRIPTION	CATALOG NUMBER(S)	VOLTS	LAMP(S)	MOUNTING	LOCATION
A1	CERAMIC LAMPHOLDER	CERAMIC BASE, COMP., FL. (A-19) (25W)	120	COMP. FL.	SURFACE	BASEMENT, ATTIC
B1	FLUORESCENT	SEA GULL LIGHTING, 4986-15, WHITE.	120	(2) 17W T8	SURFACE	JANITOR'S CLOSET
C1	UNDERCABINET LIGHT	LIGHTOLIER: PC2W13T21QPTHW,WHITE	120	(1) 13W T2	SURFACE	LUNCHROOM
D1	VANITY FIXTURE	SEA GULL LIGHTING, 4901QLE-15, WHITE.	120	(2) 17W T8	WALL	BATHROOM
E1	BATTERY PACK LT.	LIGHTOLIER, E6-W	120	INCLUDED	WALL +7'-6"	BASEMENT
E2	EXIT SIGN	LIGHTOLIER, LI-W-U-R-W-2 W/ REMOTE CAPABILITY	120	LED	UNIVERSAL	THROUGHOUT
E3	EXIT SIGN/BATT. PACK	LIGHTOLIER, LLC-U-R-W	120	LED	UNIVERSAL	THROUGHOUT
P1		SELECTED BY ARCHITECT	120	---	SURFACE	DINING ROOM
P2		SELECTED BY ARCHITECT	120	---	SURFACE	ENTRY HALL
P3		SELECTED BY ARCHITECT	120	---	SURFACE	FOYER
R1	RECESSED DOWNLIGHT	LIGHTOLIER, 1005WH REFLECTOR TRIM LIGHTOLIER, 1004 F26ES FRAME IN KIT	120	(1) 26W TRIPLE TUBE CFL	RECESSED	FOYER, LUNCHROOM KITCHEN
S1	EXT. SCONCE	MINKA-LAVERY, "ANDRITA COURT FAMILY" 72022-170-PL	120	(1) 13W GU-24 SPIRAL	WALL +7'-6"	REAR PORCHES
S2	STAIR LIGHT	OUTDOOR LIGHTING, BU-08 LED, PROVIDE REMOTE WEATHERPROOF TRANSFORMER	120	LED	SURFACE	FRONT & SIDE PORCHES
W1	SPOT LIGHT	LITHONIA: WT250PCRUT	120	(2) 150W HALOGEN	WALL	ATTIC @ EXTERIOR SOFFIT
W2	SPOT LIGHT		120		IN-GROUND	EXTERIOR

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION
1	ELECTRIC HEATER (H-) 3.0 KW 208V 1ø PROVIDED WITH BUILT-IN DISCONNECT SWITCH
2	DEHUMIDIFIER-1 33 W 120V 1ø PROVIDE 120V 20 AMP CONVENIENCE OUTLET.
3	WATER SOURCE HEAT PUMP WSHP-1 - 208V 1ø SUPPLY FAN: 1/2 HP MCA: 25.9 AMPS MOCP: 40.0 AMPS PROVIDE 2P-60 AMP NEMA 1 FUSED DISCONNECT SWITCH WITH 40.0 AMP FUSES MOUNTED NEAR UNIT.
4	WATER SOURCE HEAT PUMP WSHP-2 - 208V 1ø SUPPLY FAN: 1/6 HP MCA: 18.1 AMPS MOCP: 30.0 AMPS PROVIDE 2P-30 AMP NEMA 1 FUSED DISCONNECT SWITCH WITH 30.0 AMP FUSES MOUNTED NEAR UNIT.
5	WATER SOURCE HEAT PUMP WSHP-3 - 208V 1ø SUPPLY FAN: 1/3 HP MCA: 8.9 AMPS MOCP: 15.0 AMPS PROVIDE 2P-30 AMP NEMA 1 FUSED DISCONNECT SWITCH WITH 15.0 AMP FUSES MOUNTED NEAR UNIT.
6	SUMP PUMP 1/2 HP 120V 1ø PROVIDE 120V 20 AMP CONVENIENCE OUTLET.

SYMBOL LIST

- LIGHTING FIXTURE.
- EXIT LIGHT (ARROWS AS REQUIRED)
- CEILING FAN WITH LIGHT (SELECTED BY OWNER)
- S — SINGLE POLE TOGGLE SWITCH 120V 20 AMP +48"A.F.F.
- S_3 — THREE WAY SWITCH 120V 20 AMP +48"A.F.F.
- S_{OC} — OCCUPANCY SENSOR SWITCH 120V 125V +48"A.F.F.
- DUPLEX RECEPTACLE 125V 20 AMP WITH BUILT-IN GROUND FAULT PROTECTION +44" A.F.F.
- DUPLEX RECEPTACLE 125V 20 AMP +18"A.F.F.
- DUPLEX RECEPTACLE 125V 20 AMP +48"A.F.F. U.O.N.
- DOUBLE DUPLEX RECEPTACLE 125V 20 AMP +18"A.F.F. U.O.N.
- DUPLEX RECEPTACLE 125V 20 AMP WITH BUILT-IN GROUND FAULT PROTECTION & WEATHER PROOF COVER 125V 20 AMP MOUNTED AT UNIT BASE OR +18"A.F.F.
- FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE 125V 20AMP
- SINGLE RECEPTACLE 125V 20 AMP +18" A.F.F. U.O.N.
- SINGLE RECEPTACLE 250V 50 AMP +18" A.F.F. U.O.N.
- TELEPHONE OUTLET +18"AFF U.O.N. PROVIDE 3/4" EMPTY CONDUIT WITH PULL WIRE TO CEILING SPACE TERMINATED W/ INSULATED BUSHING.
- DATA OUTLET +18"AFF U.O.N. PROVIDE 3/4" EMPTY CONDUIT WITH PULL WIRE TO CEILING SPACE TERMINATED W/ INSULATED BUSHING.
- TELEPHONE/DATA OUTLET +18"AFF U.O.N. PROVIDE 1" EMPTY CONDUIT WITH PULL WIRE TO CEILING SPACE TERMINATED W/ INSULATED BUSHING
- TV — CABLE TV OUTLET +18"A.F.F. U.O.N. PROVIDE 3/4" EMPTY CONDUIT WITH PULL WIRE TO CEILING SPACE TERMINATED W/ INSULATED BUSHING.
- J — JUNCTION BOX - SIZE AS REQUIRED.
- MOTOR STARTER/DISCONNECT SWITCH - SIZE AS REQUIRED.
- BUILT-IN MOTOR STARTER/DISCONNECT SWITCH - SIZE AS REQUIRED.
- CONDUIT TURNING UP.
- CONDUIT TURNING DOWN.
- BRANCH CIRCUIT CONCEALED IN WALL OR CEILING.
- HOMERUN TO PANEL BOARD, ARROWHEADS DENOTE NUMBER OF CIRCUITS, CROSS MARKS DENOTE NUMBER OF CONDUCTORS WHEN MORE THAN TWO. X DENOTE EXPLOSION PROOF SEAL.
- (1) — MECHANICAL EQUIPMENT DESIGNATION - SEE SCHEDULE.
- (F) — FAN MOTOR CONNECTION
- (S) — NON-ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR. 120V W/ BATTERY BACK-UP AND TANDEM CONNECTION.
- (M) — MOTORIZED DAMPER CONNECTION
- WEATHERPROOF REMOTE TRANSFORMER
- WP — WEATHER PROOF
- A.F.F. — ABOVE FINISHED FLOOR
- U.O.N. — UNLESS OTHERWISE NOTED

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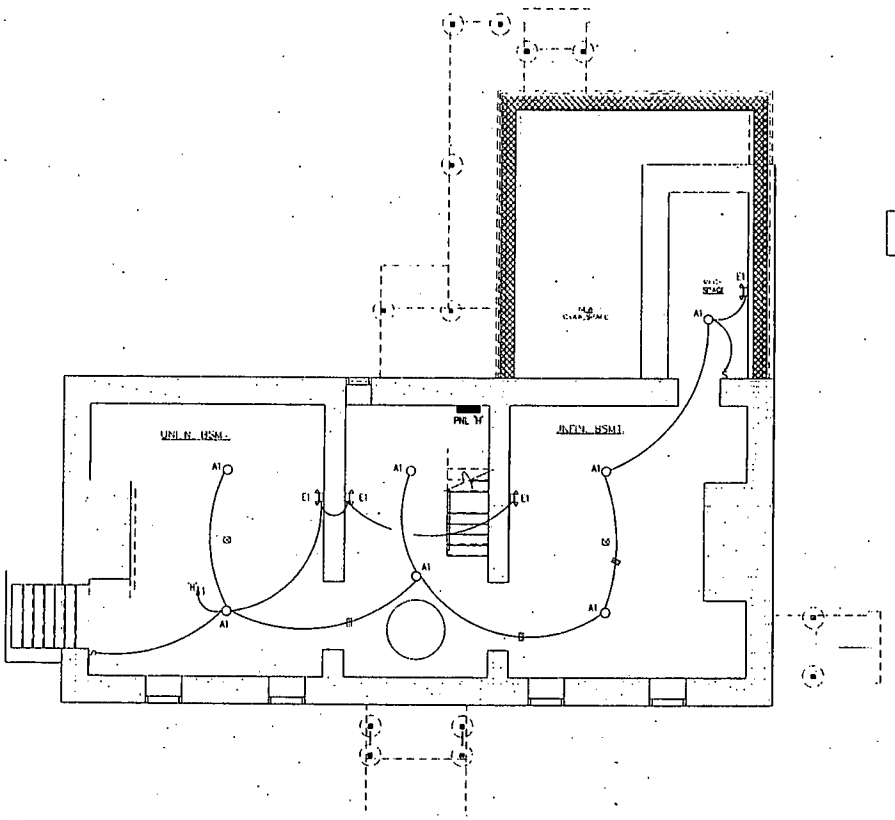

BASEMENT FLOOR PLAN – LIGHTING
SCALE: 1/4" = 1'-0"

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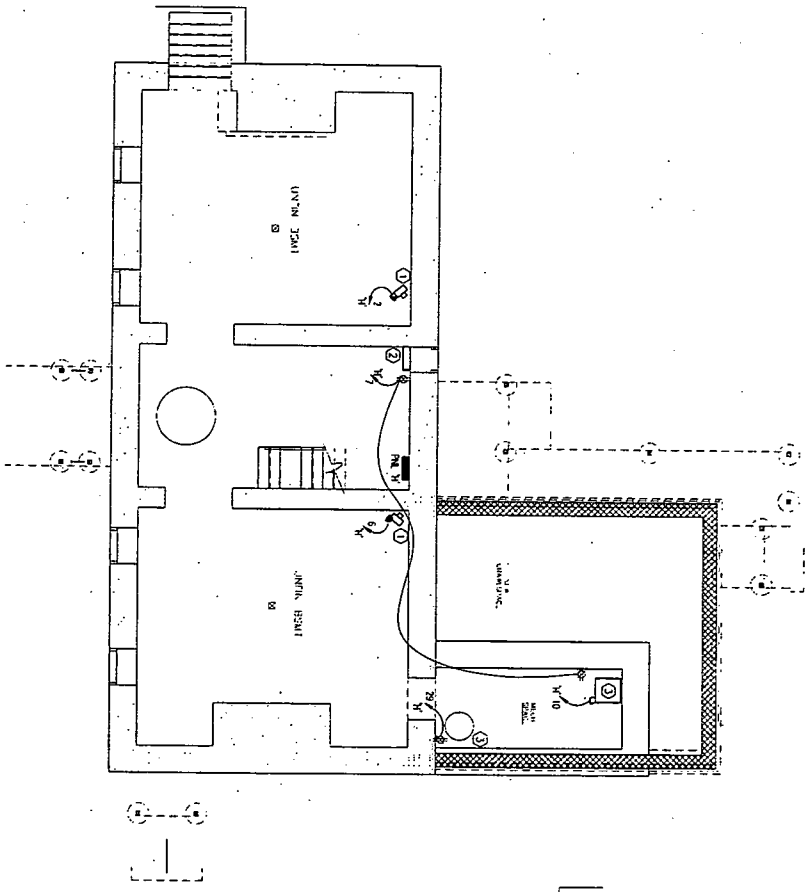

BASEMENT FLOOR PLAN – POWER
SCALE: 1/4" = 1'-0"

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ROCKVILLE, MARYLAND

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BASEMENT FLOOR PLAN – POWER

Issue Date: 11/30/10

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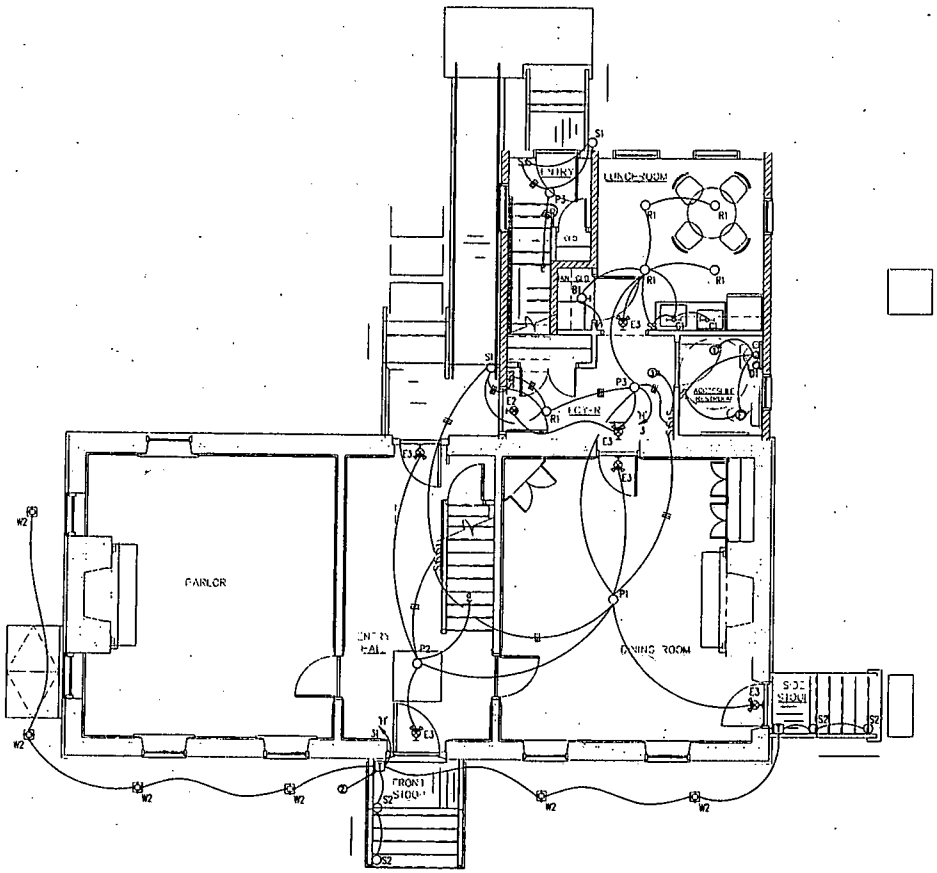

GROUND FLOOR PLAN – LIGHTING
SCALE: 1/4" = 1'-0"

DRAWING NOTES
① CONNECTION TO BATHROOM CIRCUIT #5 IN PANEL 'H'.
② REMOTE WEATHERPROOF TRANSFORMER LOCATED BELOW PORCH STOOP.
③ CONNECTION TO THE W1 LIGHT FIXTURES LOCATED AT ATTIC EXTERIOR SOFFIT.

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Sheet Title
GROUND FLOOR PLAN – LIGHTING

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CONSULTING ENGINEERS
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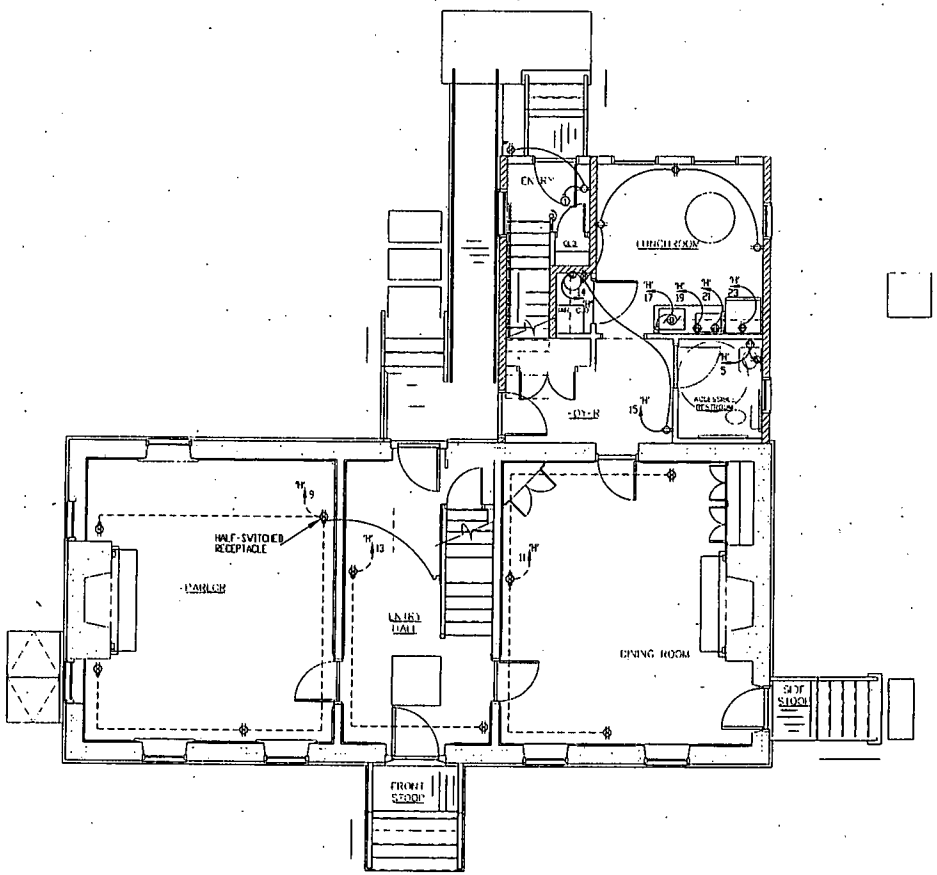
10-012

E-03A

SHEET OF

39



GROUND FLOOR PLAN - POWER
SCALE: 1/4" = 1'-0"

DRAWING NOTES:
① CONNECTION TO RECEPTACLE CIRCUIT #3 IN PANEL 'A'.

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301 294 0863 20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

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Rev.	Date	Description	By
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GROUND FLOOR PLAN - POWER

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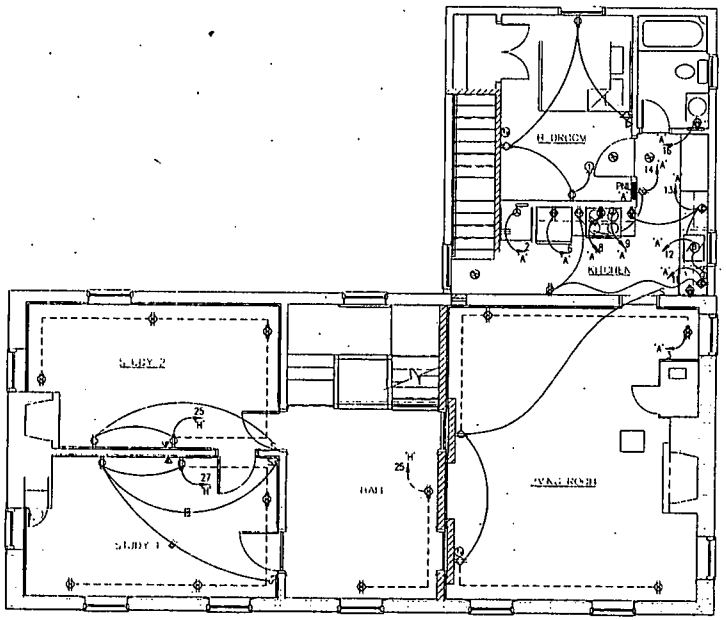
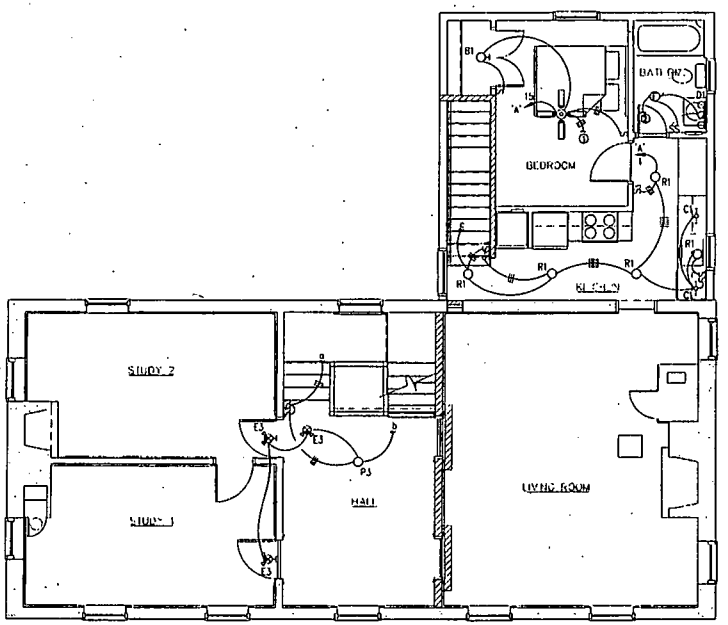


SECOND FLOOR PLAN - POWER
SCALE: 1/4" = 1'-0"

DRAWING NOTES:
① CONNECTION TO CIRCUIT #15 IN PANEL 'A' SERVING THIS BEDROOM. RECEPTACLES SHALL NOT BE CONTROLLED VIA THE WALL LIGHT SWITCH.



SECOND FLOOR PLAN - LIGHTING
SCALE: 1/4" = 1'-0"

DRAWING NOTES:
① CONNECTION TO RECEPTACLES IN THIS BEDROOM. RECEPTACLES SHALL NOT BE CONTROLLED VIA WALL LIGHT SWITCH.

② CONNECTION TO THE BATHROOM CIRCUIT #16 IN PANEL 'A'.

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SECOND FLOOR PLANS - ELECTRICAL

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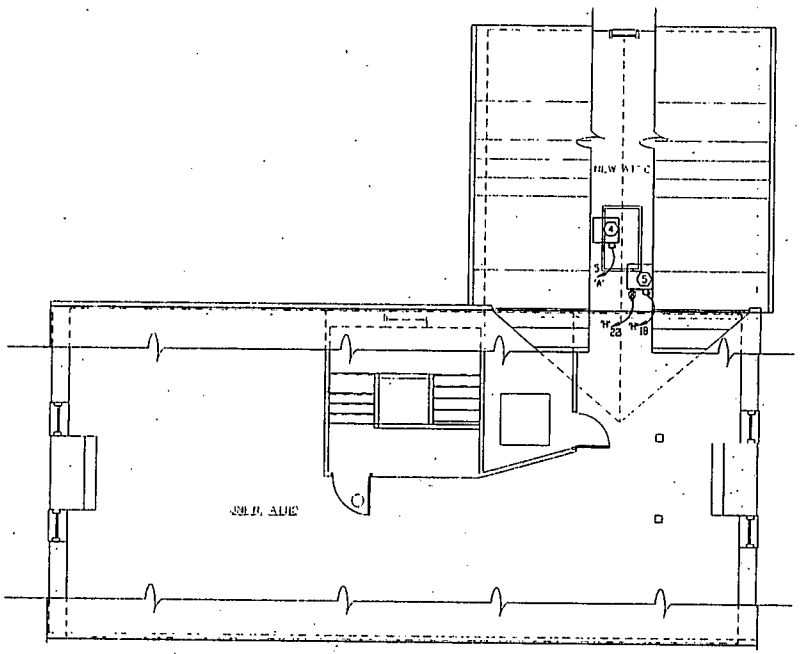
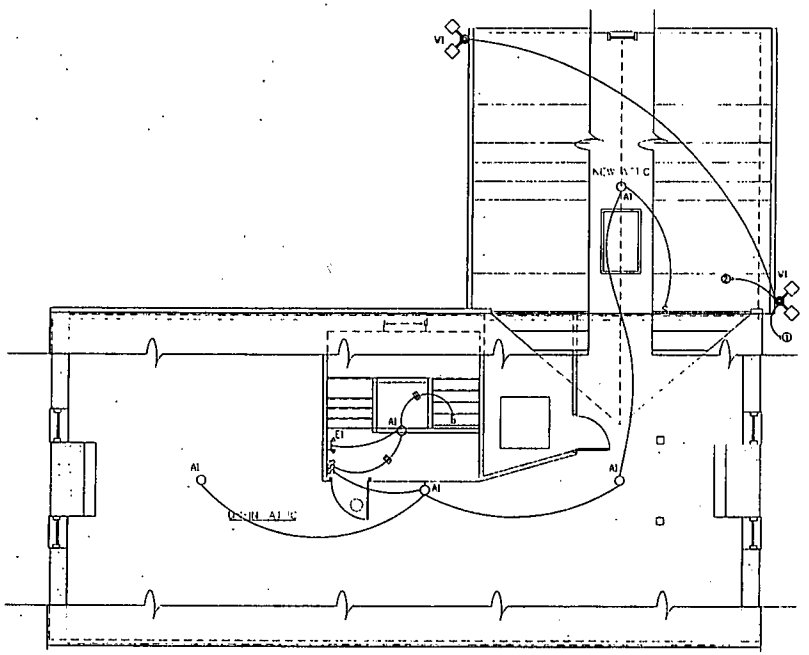
11



ATTIC PLAN - POWER
SCALE: 1/4" = 1'-0"



ATTIC PLAN - LIGHTING
SCALE: 1/4" = 1'-0"

DRAWING NOTES:
①CONNECT TO EXTERIOR LIGHTING CIRCUIT #31 IN PANEL 'H'.
②CONNECTION TO THE WALL SWITCH LOCATED IN GROUND FLOOR FOYER.

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ATTIC PLANS - ELECTRICAL

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E-05
SHEET OF

24

PANEL NO.: H (BASEMENT)
PANEL TYPE: 120/240V 1ø 3W
NO. OF POLES: 42

AIC RATING: 22,000
MAIN: 400 AMP M.C.B.
PANEL MOUNTING: SURFACE

DESCRIPTION	WIRE/CABLE	CONNECTED LOAD A	CONNECTED LOAD B	CKT. BRK. FRAME	CKT. BRK. TRIP	CKT. NO.	A	B	CKT. NO.	CKT. BRK. TRIP	CKT. BRK. FRAME	CONNECTED LOAD A	CONNECTED LOAD B	WIRE/CABLE	DESCRIPTION
BASEMENT LIGHTING	#12/2 MC	0.70		100	20	1			2	20	100	1.50		#12/2 MC	EH-1
1ST FLOOR LIGHTING	#12/2 MC		1.10	100	20	3			4	↑	↑		1.50	↑	↑
RESTROOM	#12/2 MC	0.80		100	20	5			6	20	100	1.50		#12/2 MC	EH-1
BASEMENT RECS.	#12/2 MC		0.54	100	20	7			8	↑	↑		1.50	↑	↑
PARLOR RECS.	#12/2 MC	1.08		100	20	9			10	40	100	2.69		#8/2 MC	WSHP-1
DINING ROOM RECS.	#12/2 MC		0.72	100	20	11			12	↑	↑		2.69	↑	↑
ENTRY HALL RECS.	#12/2 MC	0.54		100	20	13			14	30	100	2.25		#10/2 MC	ELEC. WATER HEATER
FOYER RECS.	#12/2 MC		0.72	100	20	15			16	↑	↑		2.25	↑	↑
GARBAGE DISPOSAL	#12/2 MC	1.66		100	20	17			18	15	100	0.72		#12/2 MC	WSHP-3
SMALL APPLIANCES	#12/2 MC		1.50	100	20	19			20	↑	↑		0.72	↑	↑
SMALL APPLIANCES	#12/2 MC	1.50		100	20	21			22	20	100	0.36		#12/2 MC	ATTIC RECS.
REFRIGERATOR	#12/2 MC		1.20	100	20	23			24	20	100		0.36	#12/2 MC	HALL RECS.
OFFICE RECS.	#12/2 MC	0.90		100	20	25			26	125	200	10.05		#1/3 SER	PANEL A
OFFICE RECS.	#12/2 MC		0.90	100	20	27			28	↑	↑		10.05	↑	↑
SUMP PUMP	#12/2 MC	1.18		100	20	29			30	20	100	--		---	SPARE
EXTERIOR LIGHTING *	#10/2 MC		0.80	100	20	31			32	20	100	--	--	---	SPARE
SPARE	---	--		100	20	33			34	20	100	--		---	SPARE
SPARE	---		--	100	20	35			36	20	100		--	---	SPARE
SPACE ONLY	---	--		100	-	37			38	-	100	--		---	SPACE ONLY
SPACE ONLY	---		--	100	-	39			40	-	100		--	---	SPACE ONLY
SPACE ONLY	---	--		100	-	41			42	-	100	--		---	SPACE ONLY
SUB-TOTAL		8.38	7.48									19.07	19.07		SUB-TOTAL

LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAND FACTOR	TOTAL
LIGHTS	2,600	@ 125%	3,250 VA
RECEPTACLES	11,120	1ST 10 KVA @ 100%	10,000 VA
		REMAINING @ 50%	560 VA
HVAC	12,822	@ 100%	12,822 VA
MISCELLANEOUS	27,429	@ 100%	27,429 VA
	53,971		54,061 VA
			(225.3 AMPS)

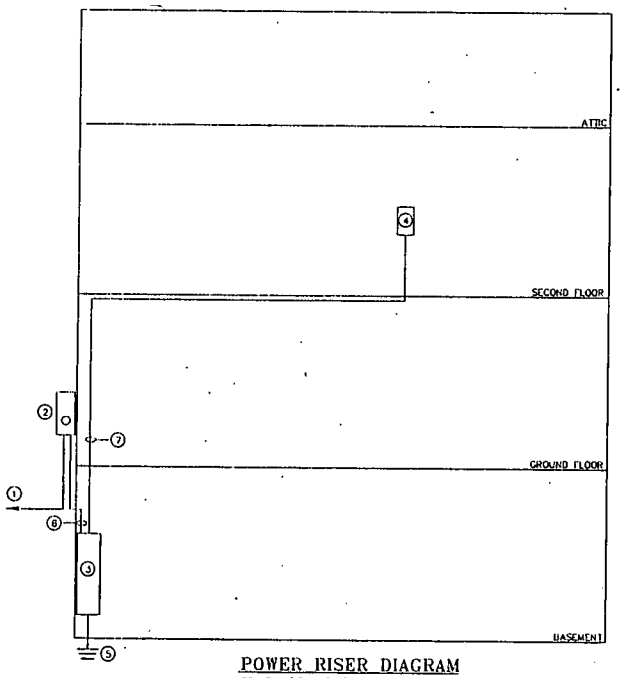
* CIRCUIT CONTROLLED TO TURN ON/OFF VIA ASTRONOMIC TIMECLOCK.

PANEL NO.: A (SECOND FLOOR)
PANEL TYPE: 120/240V 1ø 3W
NO. OF POLES: 20

AIC RATING: 10,000
MAIN: 125 AMP M.L.O.
PANEL MOUNTING: FLUSH

DESCRIPTION	WIRE/CABLE	CONNECTED LOAD A	CONNECTED LOAD B	CKT. BRK. FRAME	CKT. BRK. TRIP	CKT. NO.	A	B	CKT. NO	CKT. BRK. TRIP	CKT. BRK. FRAME	CONNECTED LOAD A	CONNECTED LOAD B	WIRE/CABLE	DESCRIPTION
LIGHTING (AFCI)	#12/2 NM	0.80		100	15	1			2	30	100	2.50		#10/3 MC	WASHER/DRYER
LIVING ROOM RECS. (AFCI)	#12/2 NM		1.26	100	15	3			4	↑	↑		2.50	↑	↑
WSHP-2	#10/2 MC	1.88		100	30	5			6	20	100	1.20		#12/2 NM	REFRIGERATOR
↑	↑		1.88	↑	↑	7			8	50	100		4.00	#8/3 MC	ELECTRIC RANGE
RANGE HOOD/ MICROWAVE	#12/2 NM	1.20		100	20	9			10	↑	↑	4.00		↑	↑
DISHWASHER	#12/2 NM		1.20	100	20	11			12	20	100		1.66	#12/2 NM	GARBAGE DISPOSAL
SMALL APPLIANCES	#12/2 NM	1.50		100	20	13			14	20	100	1.50		#12/2 NM	SMALL APPLIANCES
BEDROOM (AFCI)	#12/2 NM		1.20	100	15	15			16	20	100		0.80	#12/2 NM	BATHROOM
SPARE	---	--		100	15	17			18	15	100	0.20		#12/2 NM	SMOKE DETECTORS
SPARE	---		--	100	15	19			20	15	100		--	---	SPARE
SUB-TOTAL		5.38	5.54									9.40	8.96		SUB-TOTAL

LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAND FACTOR	TOTAL
GENERAL LIGHTING	25,320	1ST 10 KVA @ 100%	10,000 VA
		REMAINING @ 40%	6,128 VA
HVAC	3,765	@ 100%	3,765 VA
MISCELLANEOUS	200	@ 100%	200 VA
	29,285		20,093 VA
			(83.7 AMPS)



POWER RISER DIAGRAM
SCALE: 1/4" = 1'-0"

POWER RISER SCHEDULE

ITEM	DESCRIPTION
1	NEW 400 AMP 120/240V 1ø 3W UNDERGROUND INCOMING ELECTRICAL SERVICE. REUSE EXISTING 4" PVC CONDUIT PRESENTLY SERVING THIS BUILDING. THE EXISTING 200 AMP 120/240V 1ø 3W ELECTRIC SERVICE IS TO BE REMOVED. CONTRACTOR SHALL FULLY COORDINATE NEW ELECTRIC SERVICE WITH PEPCO PRIOR TO COMMENCEMENT OF WORK.
2	NEW 120/240V 1ø 3W 400 AMP TRANSOCKET IN NEMA 3R ENCLOSURE. REMOVE AND REPLACE THE EXISTING 200 AMP 120/240V 1ø 3W METER IN SAME LOCATION.
3	NEW 400 AMP 120/240V 1ø 3W PANEL "H" WITH 400 AMP MCB. REFER TO PANEL SCHEDULE. PANEL SHALL BE LISTED AND LABELED FOR USE AS SERVICE EQUIPMENT.
4	NEW 125 AMP 120/240V 1ø 3W LOADCENTER 'A'. REFER TO LOADCENTER SCHEDULE.
5	GROUND PER NEC - PROVIDE #1/0 AWG COPPER TO TWO 5/8" X 10' GROUND RODS. BOND WITH #1/0 AWG COPPER TO INCOMING WATER SERVICE.
6	3/#500 KCM THHW/THWN IN 3" CONDUIT
7	#1/3 SER CABLE

CEM DESIGN
3.0 ANNAPOLIS AVENUE
ROCKVILLE, MARYLAND
301 294 0662 20850

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date: 11/30/10

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1			
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Sheet Title: PANEL SCHEDULES & POWER RISER DIAGRAM

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CONSULTING ENGINEERS
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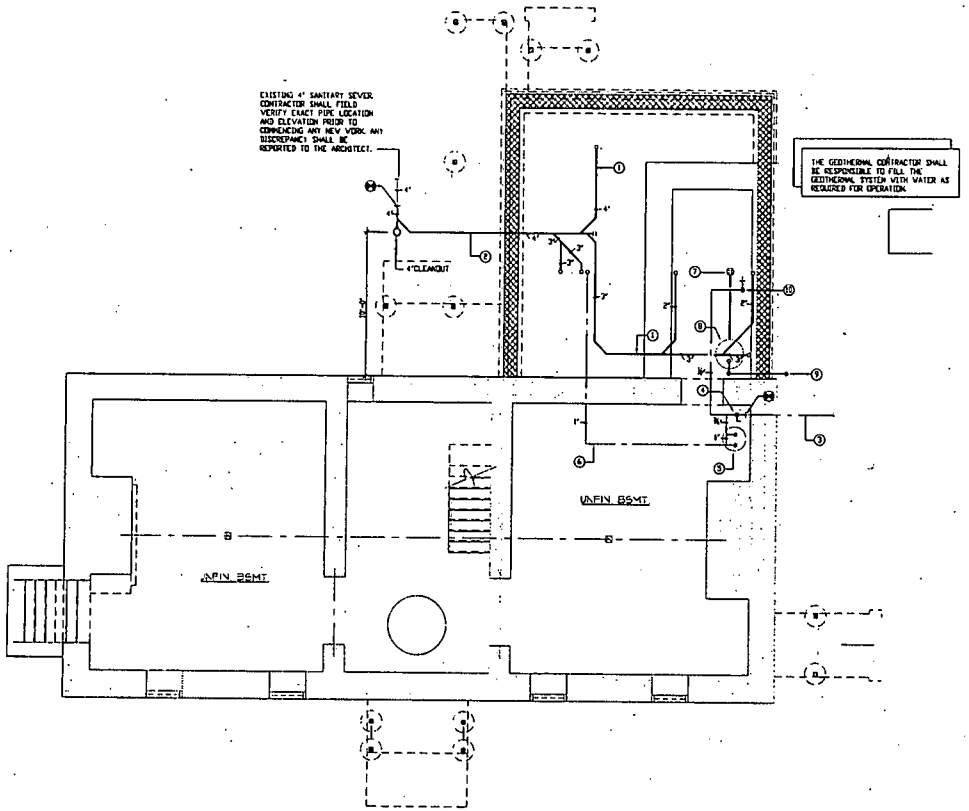
10-012

E-06

SHEET OF



BASEMENT FLOOR PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

PLUMBING NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS.
2. CONTRACTOR SHALL VISIT SITE TO ASCERTAIN CONDITIONS WHICH MAY AFFECT HIS BID.
3. CONTRACTOR SHALL VERIFY ALL POINTS OF CONNECTIONS BEFORE COMMENCING WORK.
4. ALL SOIL, WASTE AND VENTS SHALL BE PVC SCHEDULE 40.
5. DOMESTIC WATER PIPING SHALL BE COPPER TYPE 'L'. INSULATE COLD, HOT AND TEMPERED WATER PIPING WITH 1/2 INCH FIBERGLASS INSULATION WITH ASJ.
6. PROVIDE STOP VALVES AT ALL FIXTURE AND EQUIPMENT SUPPLIES. ALL EXPOSED FIXTURE CONNECTIONS SHALL BE CHROME PLATED. PROVIDE VACUUM BREAKERS WHERE REQUIRED BY CODE.
7. ALL PIPING SHALL RUN CONCEALED ABOVE CEILING OR IN WALL CHASES UNLESS OTHERWISE INDICATED. EXPOSED PIPING SHALL BE 3/4 INCH MINIMUM FROM ANY WALL SURFACE.
8. FLOOR DRAIN SHALL BE JOSAM MODEL NO. 30002-50-A

DRAWING NOTES

1. SANITARY PIPE SHALL BE RUN AS TIGHTLY AS POSSIBLE TO STRUCTURE ABOVE AT 2% SLOPE.
2. SANITARY PIPE SHALL BE RUN BELOW GRADE OR 6" MINIMUM OF GRADE COVERED AT 2% SLOPE.
3. EXISTING ¾" DOMESTIC COLD WATER SERVICE.
4. PROVIDE NEW ¾" SHUT-OFF VALVE TO EXISTING DOMESTIC WATER SERVICE.
5. RELOCATED EXISTING PNEUMATIC TANK.
6. COLD WATER PIPE SHALL BE RUN AS TIGHTLY AS POSSIBLE TO STRUCTURE ABOVE. PIPE SHALL BE INSULATED WITH 1-INCH FIBERGLASS INSULATION
7. 3" FLOOR DRAIN.
8. SUMP PUMP. SEE DETAIL ON SHEET NO. P-06
9. ¾" INTERMIXER DRAIN PIPE TO SPILL OVER GRADE. PROVIDE SPLASH BLOCK.
10. ¾" COLD WATER PIPE 30CM TO HOSE BIB WITH VACUUM BREAKER 12"ABOVE FINISHED FLOOR.

CEM DESIGN
620 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301-294-0882 20850

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6265 Executive Blvd
Rockville, MD 20852
Tel: (301) 468-0882
Fax: (301) 770-2567

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Sheet Title
BASEMENT PLAN - PLUMBING

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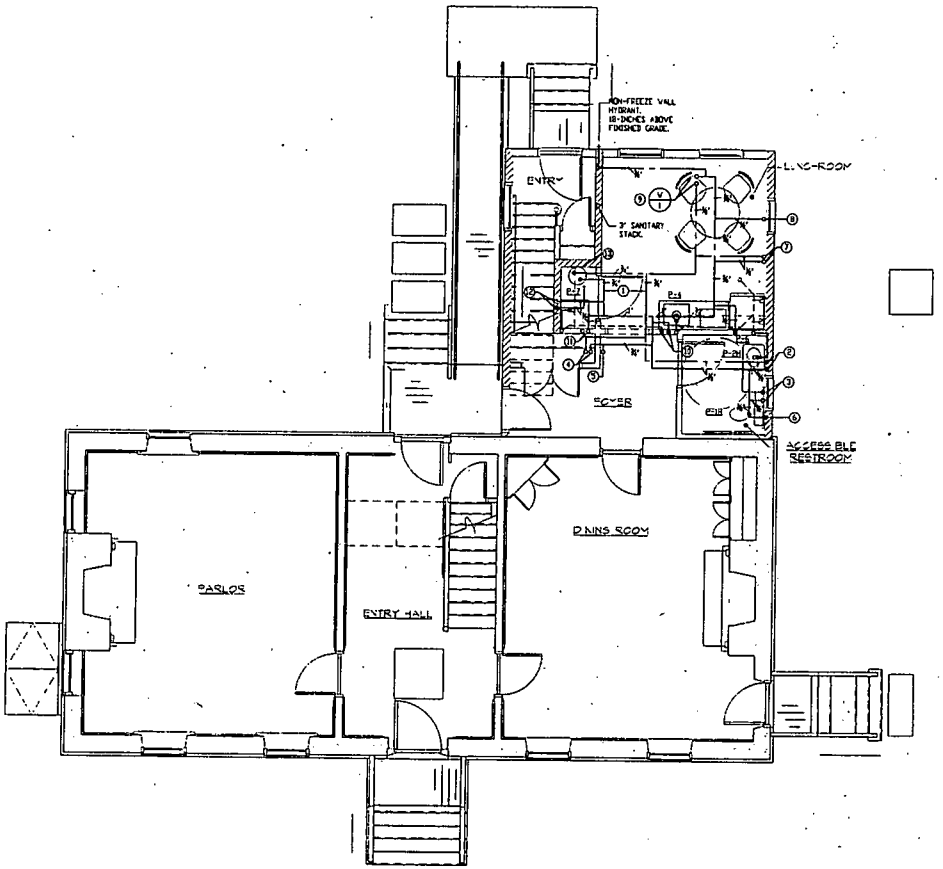
P-01

SHEET OF

5/4



FIRST FLOOR PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

DRAWING NOTES

1. COLD AND HOT WATER PIPES SHALL BE RUN ABOVE CEILING. COORDINATE PIPES LOCATION WITH MECHANICAL AND ELECTRICAL EQUIPMENT.
2. ¾" COLD AND HOT WATER PIPES DOWN TO LAVATORY.
3. ¾" COLD AND HOT WATER PIPES UP. TO KITCHEN SINK AND EXTEND ¾" HOT WATER PIPE TO DISHWASHER. SEE WATER RISER DIAGRAM FOR DISTRIBUTION.
4. ¾" COLD AND HOT WATER PIPES UP TO WASHER CONNECTION BOX.
5. ½" COLD WATER PIPE UP TO ICE-MAKER
6. ½" COLD WATER PIPE DOWN TO WATER CLOSET.
7. ¾" COLD AND HOT WATER PIPES UP TO LAVATORY.
8. ½" COLD WATER PIPE UP TO WATER CLOSET.
9. ¾" COLD AND HOT WATER PIPES UP TO SHOWER.
10. ¾" COLD AND HOT WATER PIPES DOWN TO KITCHEN SINK.
11. 1" MAIN COLD WATER PIPE FROM BELOW.
12. ¾" COLD AND HOT WATER PIPES DOWN TO MOP SINK.
13. WALL SUPPORTED ELECTRIC WATER HEATER. REFER TO DETAIL IN SHEET P-06

CEM DESIGN
670 ANDERSON AVENUE
ROCKVILLE MARYLAND
301.294.0882 20850

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Sheet Title: GROUND FLOOR PLAN - PLUMBING

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P-02

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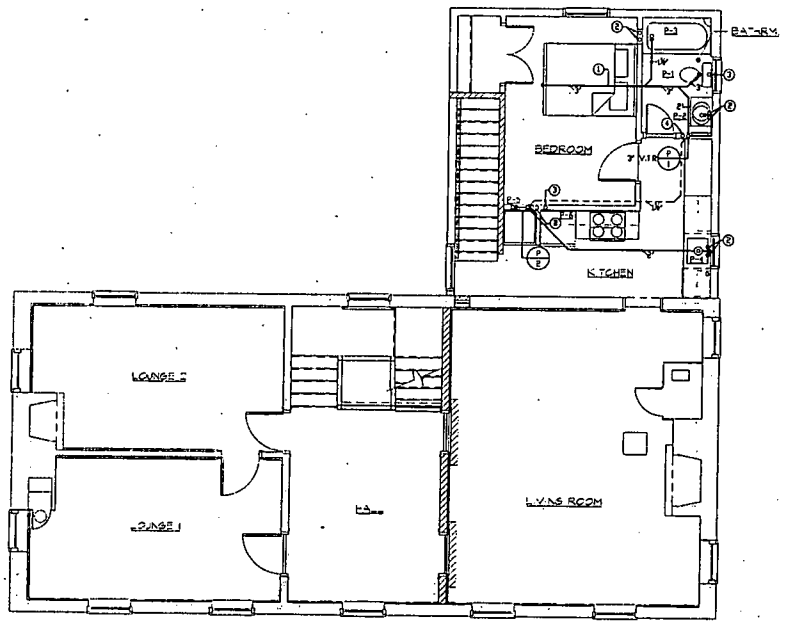
45



SECOND FLOOR PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

DRAWING NOTES

1. SANITARY PIPE SHALL BE RUN BELOW FLOOR SLAB AT IR SLOPE.
2. ¾" COLD AND HOT WATER PIPES FROM BELOW.
3. ¾" COLD WATER PIPE FROM BELOW.
4. VENT PIPE FROM BELOW.

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301.294-0682 20850

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Fax (301) 770-2567

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SECOND FLOOR PLAN - PLUMBING

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6265 Executive Boulevard, Rockville, Maryland 20852
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P-03

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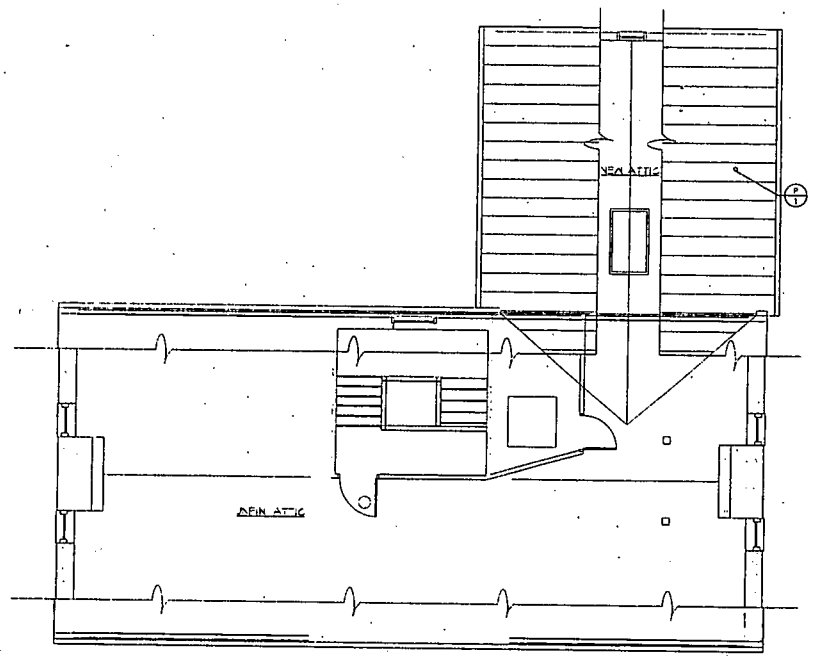
46



ATTIC FLOOR PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

CEM DESIGN
820 ANDERSON AVENUE
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301.294.0083 20850

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2			
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ATTIC FLOOR PLAN - PLUMBING

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P-04

SHEET OF

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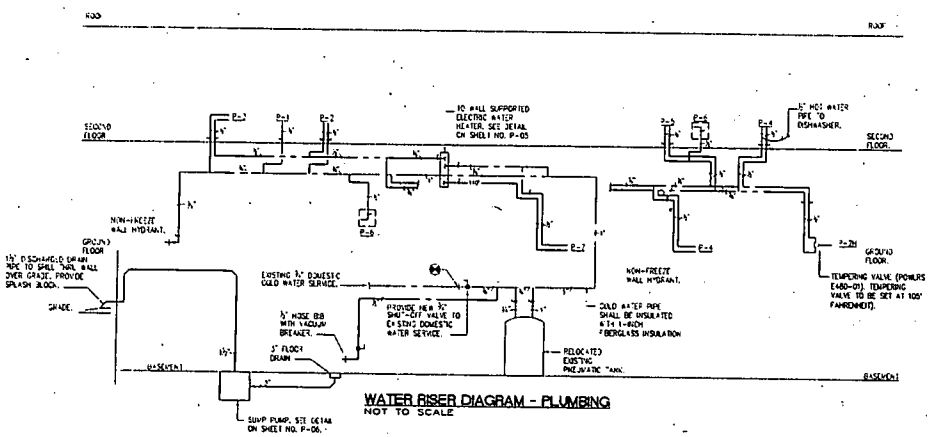
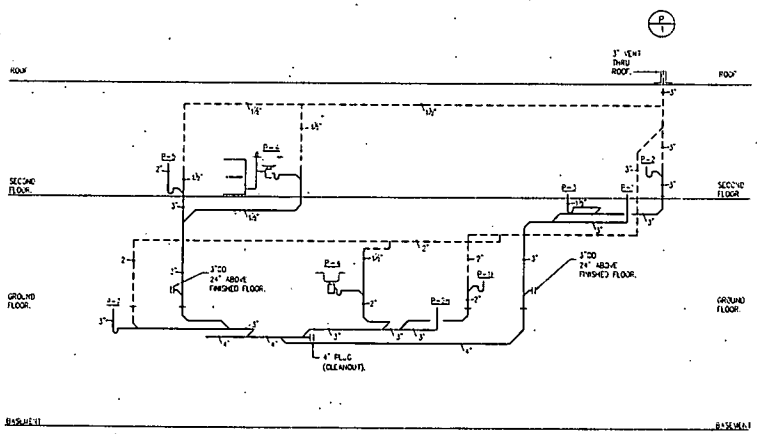


WATER RISER DIAGRAM - PLUMBING
NOT TO SCALE



SANITARY RISER DIAGRAM - PLUMBING
NOT TO SCALE

CEM DESIGN
620 ANDERSON AVENUE
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301 294-0082 20850

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RISERS

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CONSULTING ENGINEERS
6265 Executive Boulevard, Rockville, Maryland 20852

10-012

P-05
SHEET OF

PLUMBING FIXTURE CONNECTION

ITEM	DESCRIPTION	DRAINAGE		WATER		REMARKS
		WASTE	VENT	COLD	HOT	
P-1	WATER CLOSET FLUSH TANK	4"ø 3"	2"	¾"	---	
P-1H	WATER CLOSET FLUSH TANK HANDICAPPED	4"ø 3"	2"	¾"	---	
P-2	LAVATORY COUNTER	1½"	1¼"	½"	½"	
P-2H	LAVATORY WALL HUNG HANDICAPPED	1½"	1¼"	½"	½"	
P-3	BATHTUB (60"x 32"x19")	1½"	1¼"	½"	½"	
P-4	KITCHEN SINK (25"x 22")	1½"	1½"	½"	½"	
P-5	WASHER CONNECTION BOX	2"	1¼"	½"	½"	
P-6	ICE MAKER CONNECTION BOX	---	---	½"	---	
P-7	MOP SINK	3"	1½"	½"	½"	

PLUMBING FIXTURE SPECIFICATIONS

RESIDENTIAL AREAS

P-1 WATER CLOSET:-
DUAL FLUSH CRANE ECO GALAXY NO. 3108B ELONGATED RIM BOWL WITH CHURCH NO. 2190TL SEAT WITH COVER; PROVIDE 3/8" ANGLE SUPPLY WITH STOP.

P-1H WATER CLOSET, HANDICAPPED:-
DUAL FLUSH CRANE ECO GALAXY NO. 3109 ELONGATED RIM BOWL WITH CHURCH NO. 2190TL SEAT WITH COVER; PROVIDE 3/8" ANGLE SUPPLY WITH STOP.

P-2 LAVATORY, COUNTERTOP:- RELOCATED EXISTING LAVATORY
RELOCATED EXISTING LAVATORY; PROVIDE NEW TWO HANDLE AMERICAN STANDARD NO. 6508.175 CO-INCH ON CENTERS WITH POP-UP DRAIN; PROVIDE ⅜" ANGLE SUPPLIES WITH STOPS AND 1¼ "P" TRAP.

P-2H LAVATORY, WALL HUNG HANDICAPPED:-
CRANE MARVIEW NO. 1412V (4" CENTERSET) WITH AMERICAN STANDARD SENSER TYPE FAUCET NO. 6006.295 WITH TEMPERING VALVE AND PLUG-IN TRANSFORMER; PROVIDE ⅜" ANGLE SUPPLIES WITH STOPS AND 1¼ "P" TRAP. INSULATE SUPPLIES AND "P" TRAP UNDER LAVATORY.

P-3 BATHTUB (60"X32"X19"):-
CRANE CONFORTUB NO. 2618 RH/LH WITH DELTA NO. 1348 PRESSURE BALANCED SINGLE HANDLE MIXING BATH VALVE.

P-4 KITCHEN SINK (25"X22"):-
ELKAY NO. CR2522 SINGLE BOWL STAINLESS STEEL W/LK2321BMS FAUCET AND PRO SS EM-SINK-ERATOR 3/4 HP-120V-1 PH AND LKD 35 DISPOSER FLANGE. PROVIDE 3/8" ANGLE SUPPLIES WITH STOP AND 1-1/2" CAST BRASS "P" TRAP.

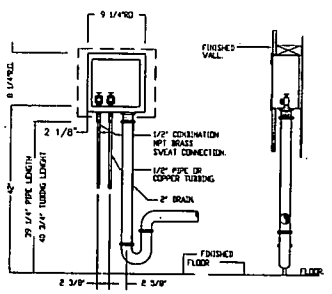
P-5 WASHER CONNECTION BOX:-
GUY GRAY NO. B-200 FOR 2" DRAIN PIPE.-

P-6 ICE MAKER CONNECTION BOX:-
ICE MAKER CONNECTION BOX SHALL BE GATEY ICE MAKER CONNECTION BOX.

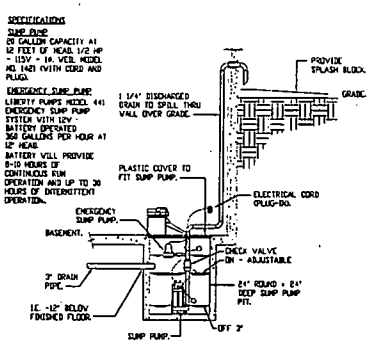
P-7 MOP SINK:-
MOLDED-STONE MOP SERVICE SINK BASIN FIAT NO. MSB-2424 WITH SERVICE FAUCET MODEL NO. 830-AA W/ VACUUM BREAKER, MOP HANGER MODEL NO. 889-QE MOP HANGER, HOSE & BRACKET MODEL NO. 832-AA AND STRAINER MODEL NO. 1453-BX.

PLUMBING SYMBOL LIST

SYMBOLS	DESCRIPTIONS
	WASTE OR SOIL
	VENT PIPE.
	COLD WATER (C.W.)
	HOT WATER (H.W.)
	SHUT-OFF VALVE.
	WALL HYDRANT (W.H.) OR HOSE BIBB (H.B.)
	CLEANOUT (C.O.)
	FLOOR DRAIN (F.D.)
	OPEN SITE DRAIN (O.S.D.)
F.F.EL.	FINISHED FLOOR ELEVATION
INV. EL.	INVERT ELEVATION
A.F.F.	ABOVE FINISHED FLOOR.
SP	SANITARY RISER DESIGNATION
WR	WATER RISER DESIGNATION.



WASHER CONNECTION BOX DETAIL.
NOT TO SCALE



SUMP PUMP DETAIL.
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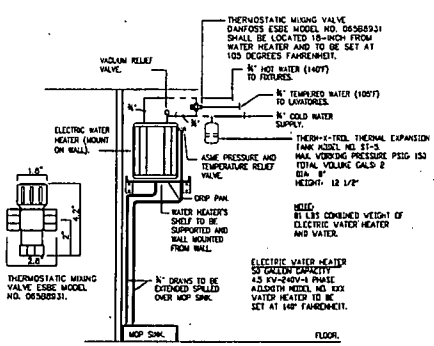


ELECTRIC WATER HEATER DETAIL
NOT TO SCALE

CEM DESIGN
520 ANDERSON AVENUE
ROCKVILLE, MARYLAND
301.294.0062 20850

Mendoza, Ribas, Farinas and Assoc.
6265 Executive Blvd
Rockville, MD 20852
Tel (301) 468-8883
Fax (301) 770-2567

Falling Green
Restoration and Addition
4501 Olney-Laytonsville Road, Olney, MD 20832

Issue Date
11/30/10

Revisions

Rev	Date	Description	By
1			
2			
3			
4			
5			

Sheet Title
SCHEDULES & DETAILS

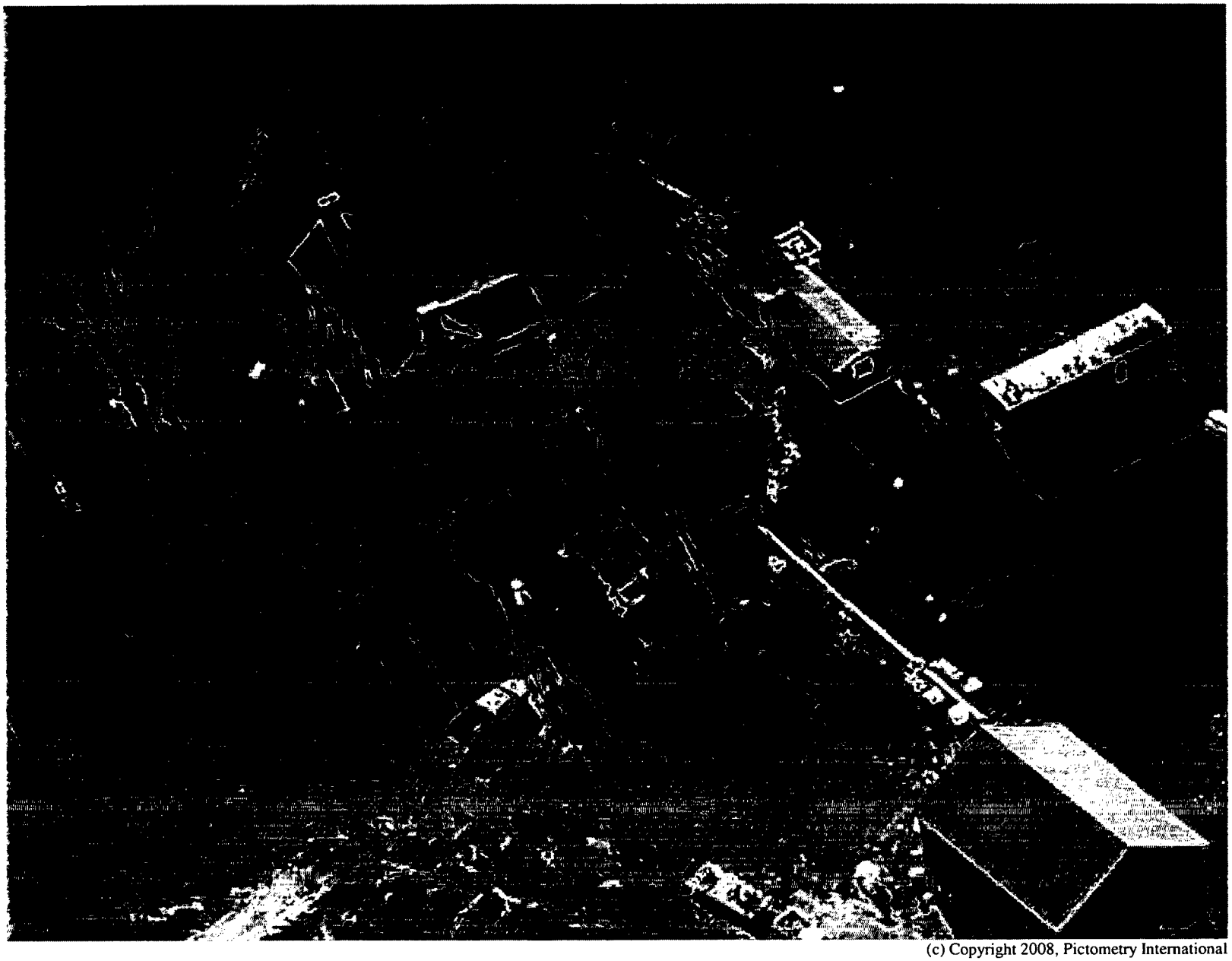
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 7407, expiration date: 10/09/12.

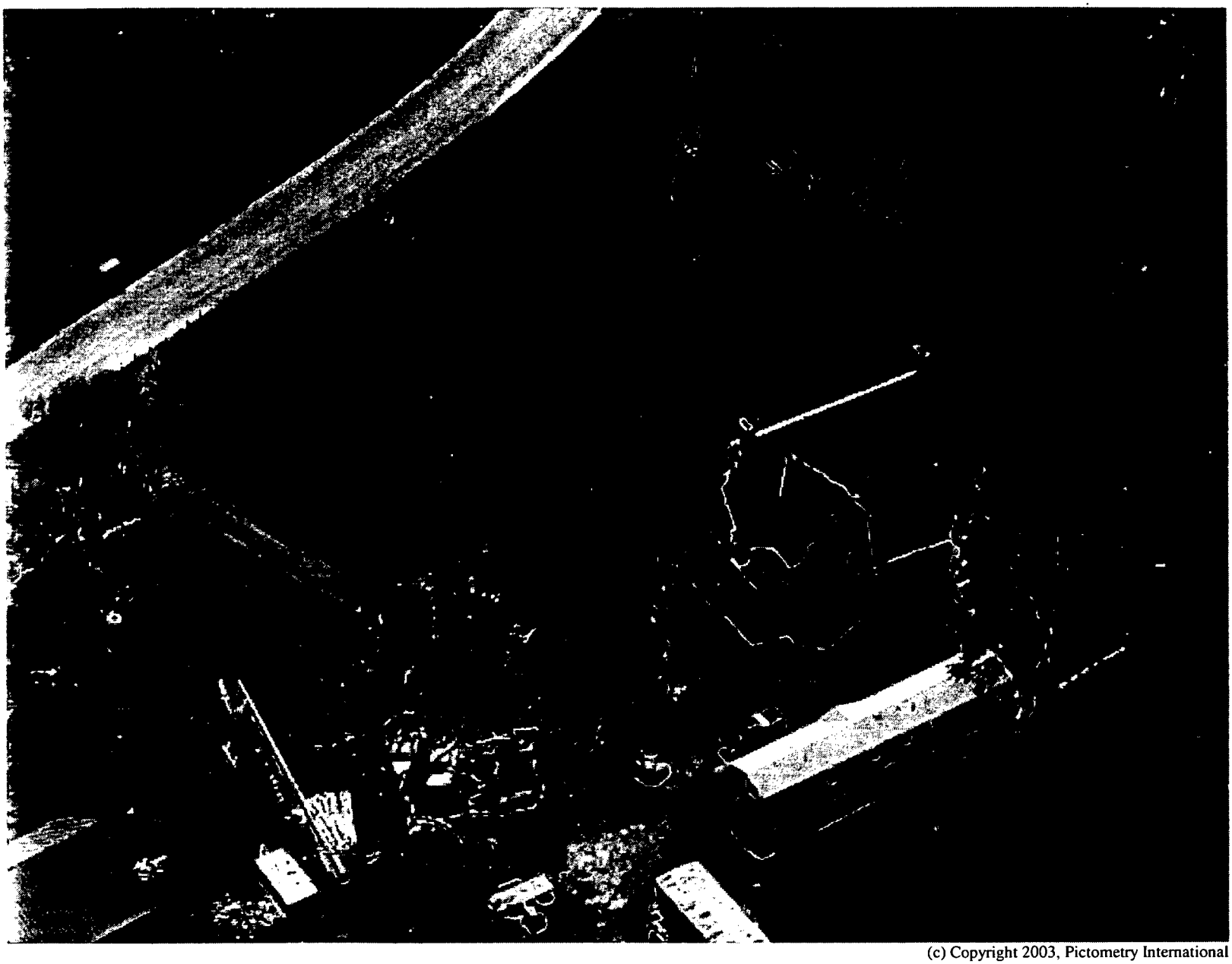
MENDOZA, RIBAS, FARINAS & ASSOC.
CONSULTING ENGINEERS
6265 Executive Boulevard, Rockville, Maryland 20852
(V)(301) 468-8883 (F)(301)770-2567 (E)MEP@MEP-A.Com

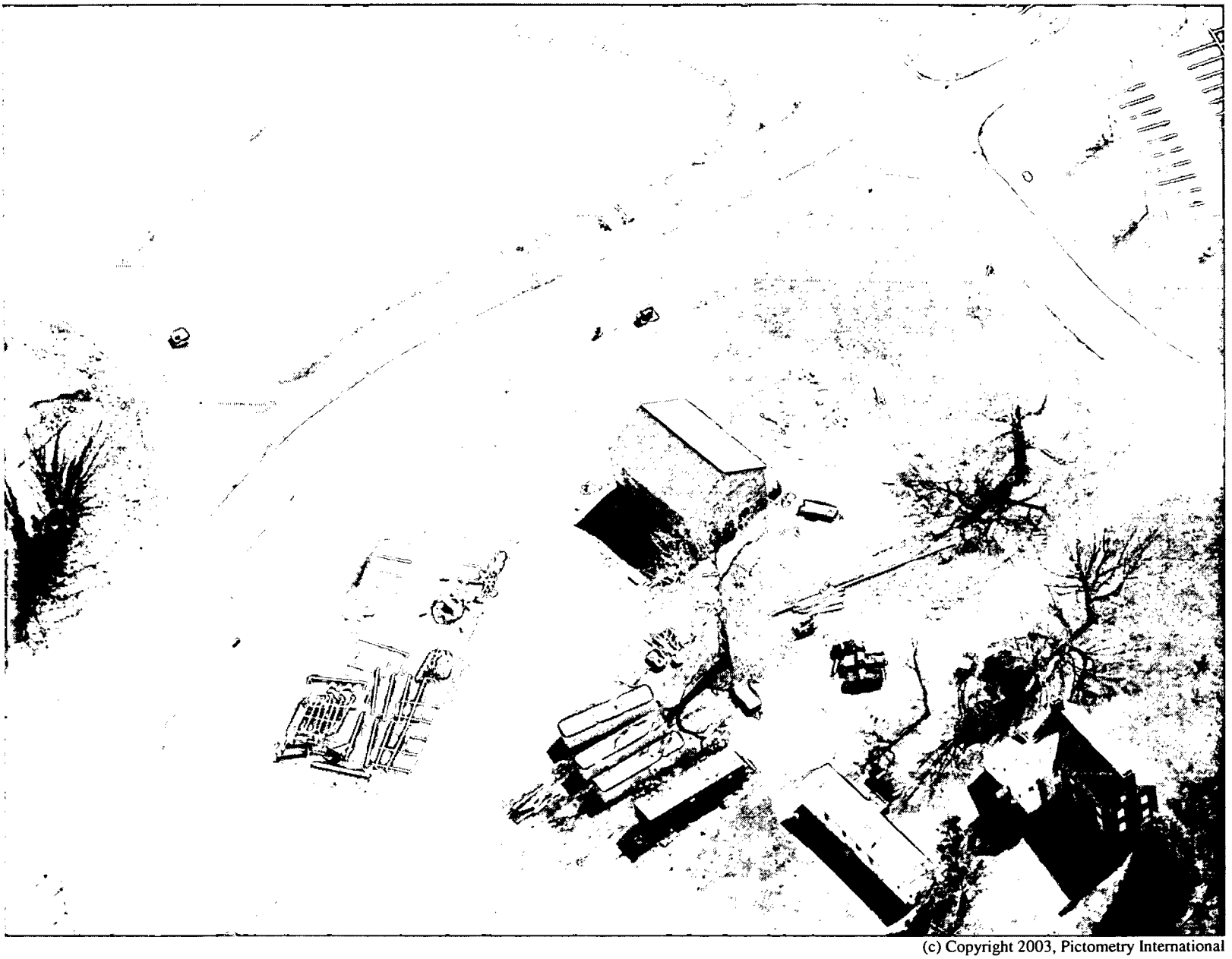
10-012

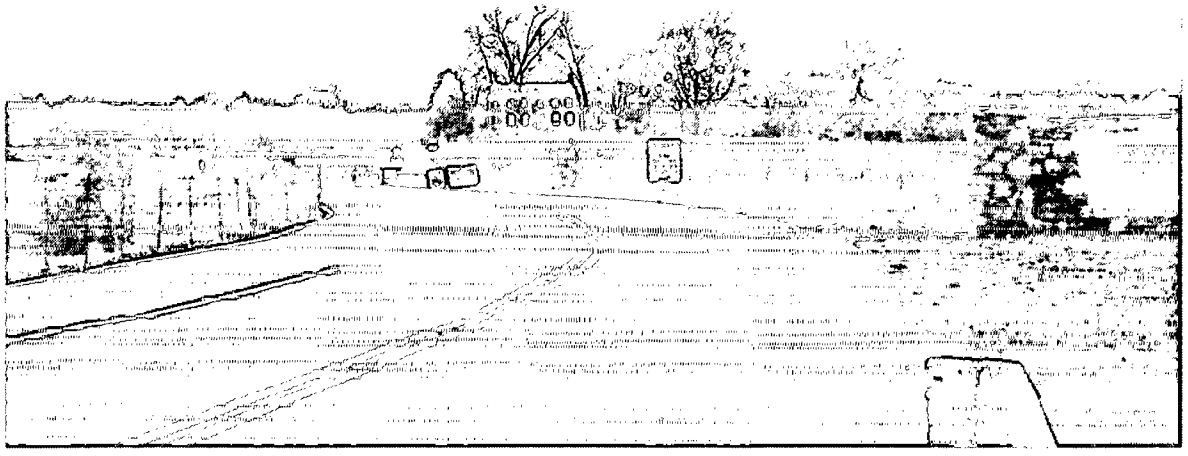
P-06

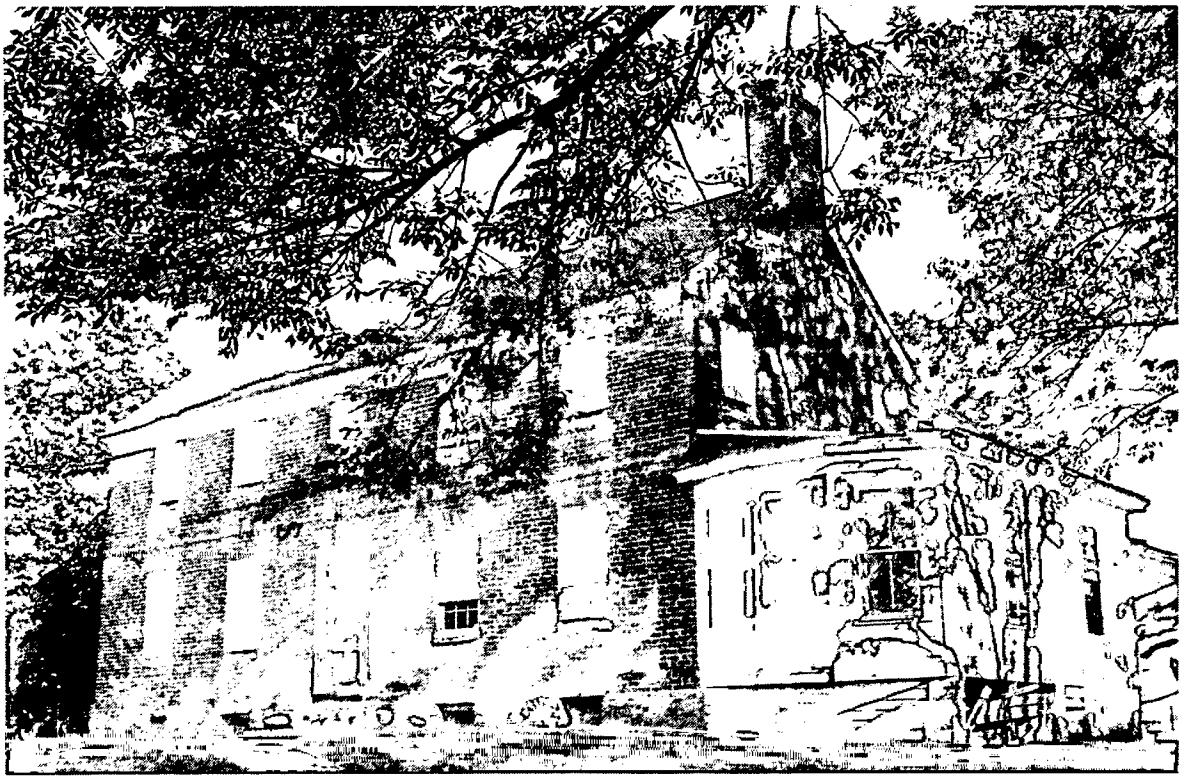
SHEET OF

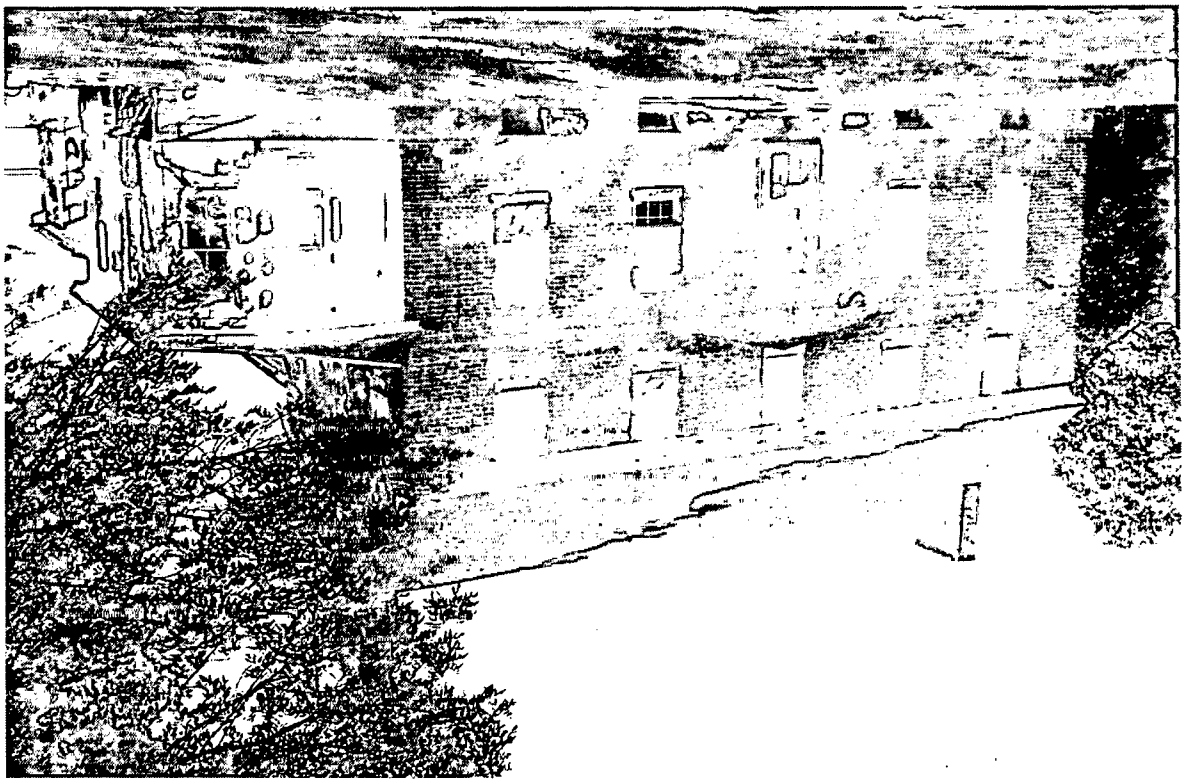


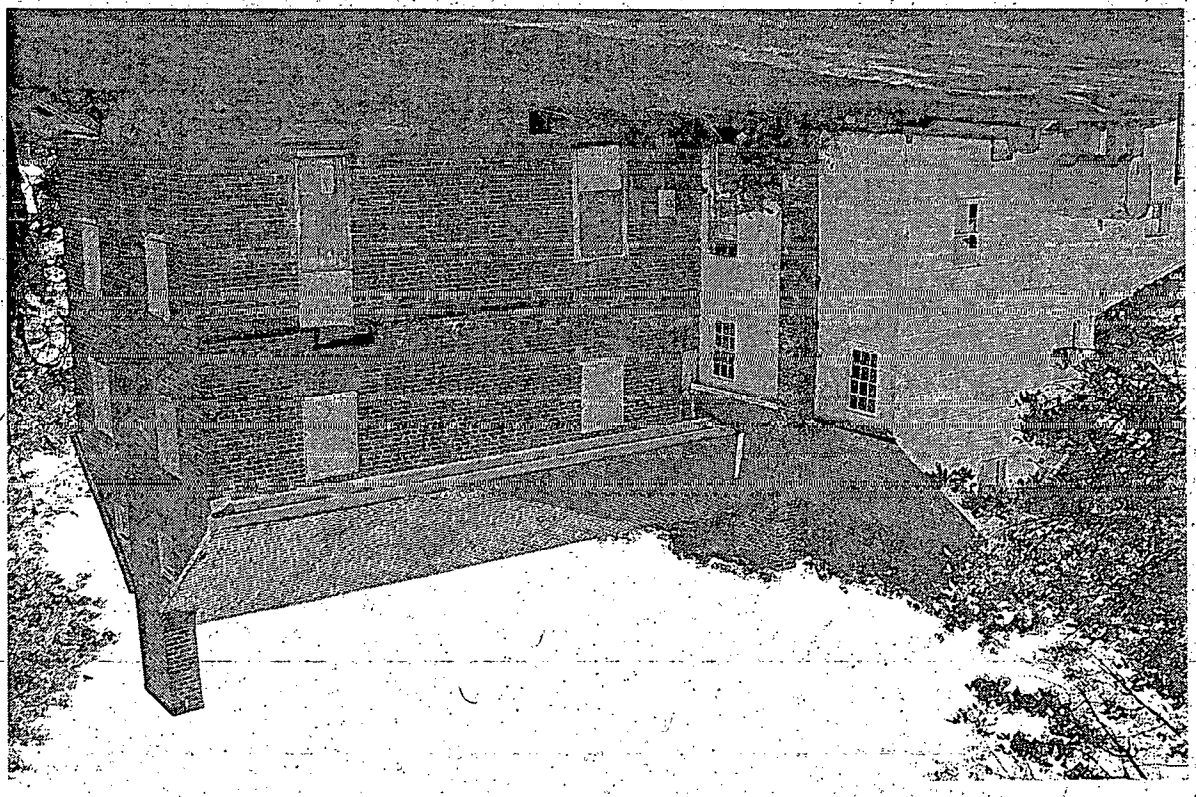












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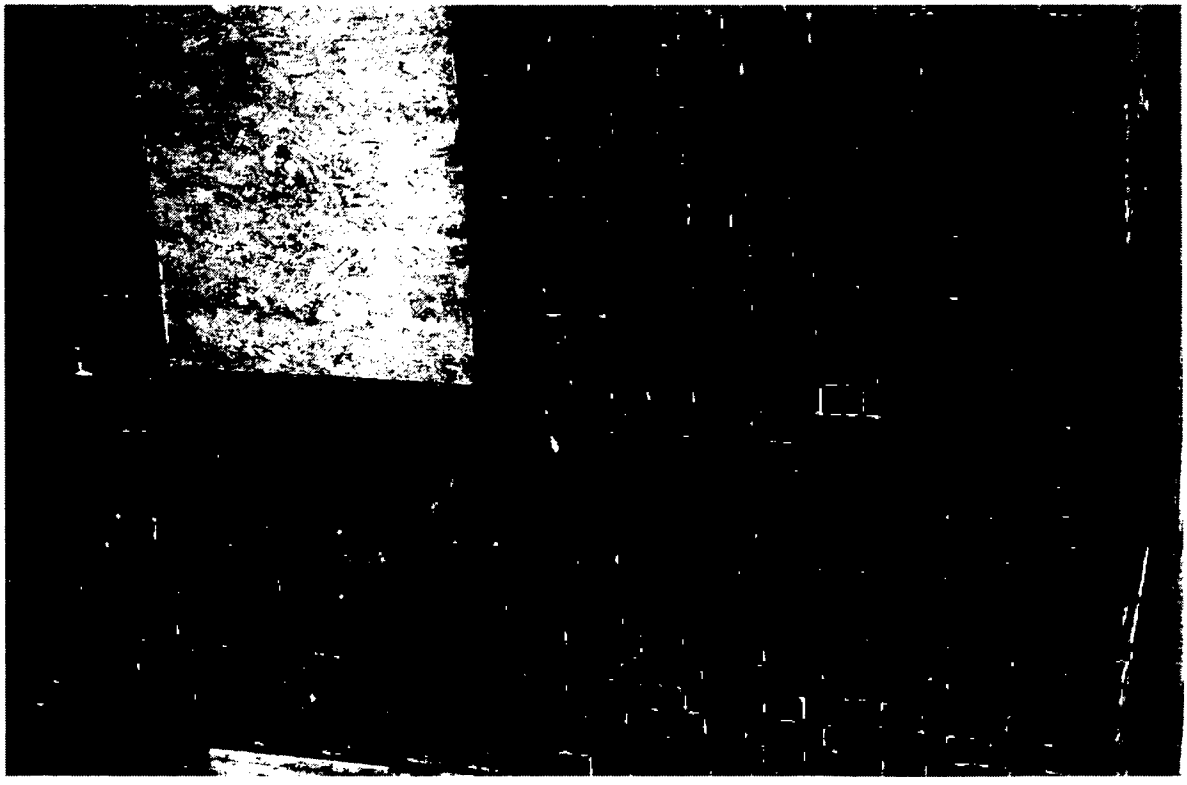

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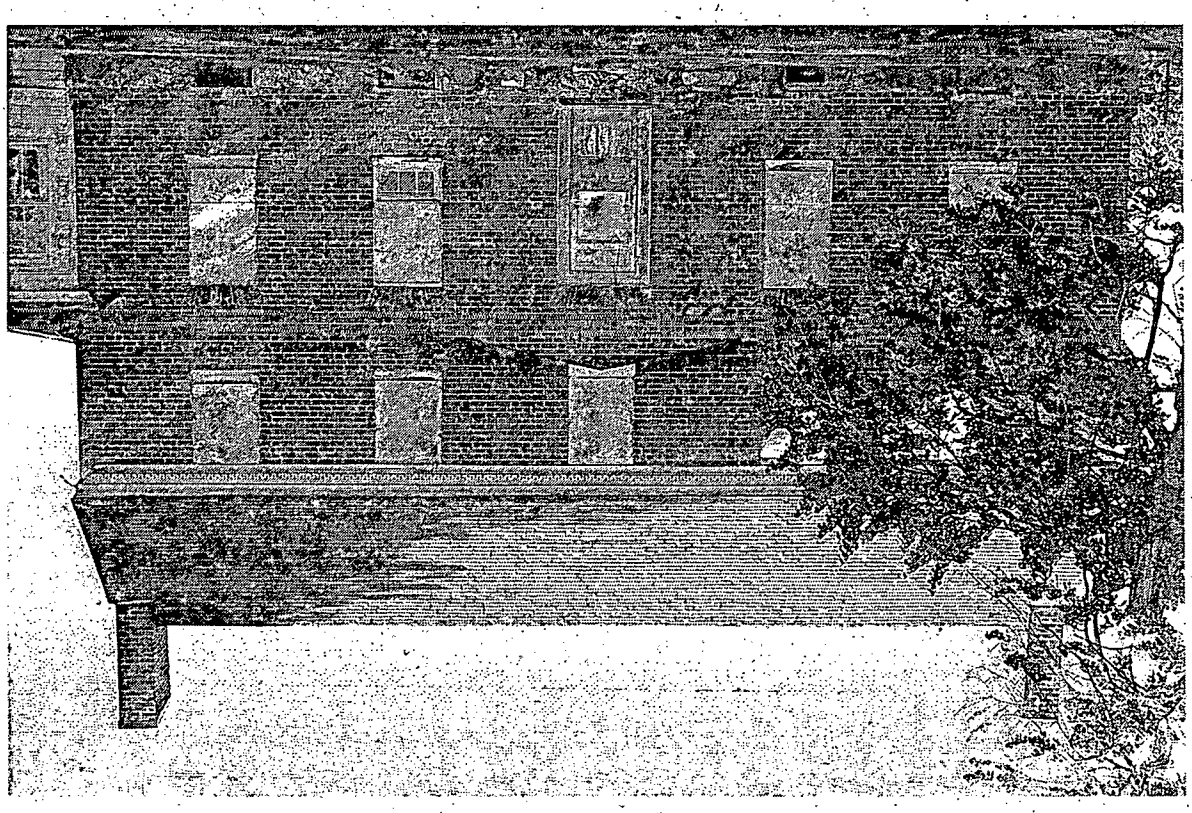

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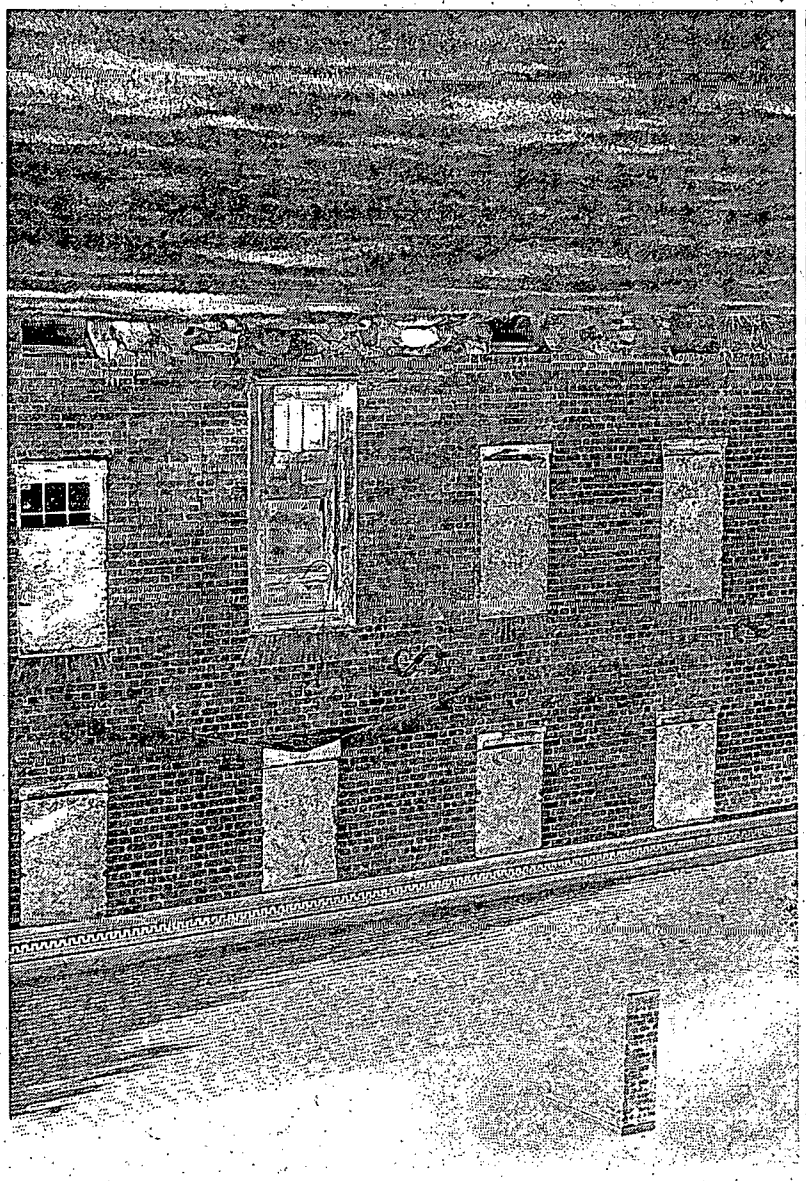
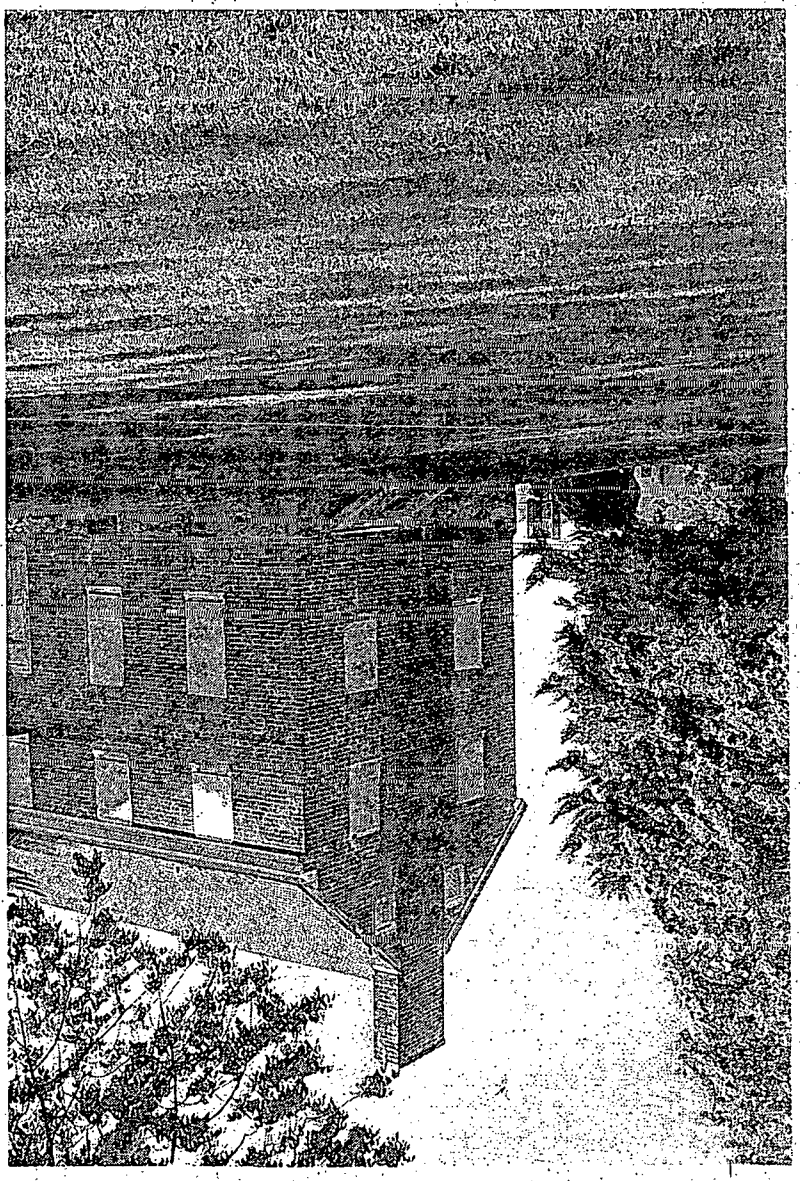




Lew Bloch
Bloch Consulting Group

April 1, 2005

Ms. Kathy Lyons
Olney boys and Girls Club
16301 Batchellors Forest Road
Olney, Md. 20832

RE: Tree Study at Olney boys and Girls Club Community Park

As you requested, I made a site visit inspection at the above mentioned property at 4501 Olney-Laytonsville Road, Olney, Md. The purpose of this inspection was to ascertain the health and condition of the trees around the existing old house, to measure the size of them and locate them on a plan that you provided to me, and to comment on any impact to them from the proposed new construction that you described to me.

I am enclosing the plan that you provided with the trees marked A through L and have listed them below with their species, size and condition.

A	Red maple	29"	Very poor
B	Norway maple	45"	Fair
C	American holly	24"	Good
D	Norway spruce	12"	Fair
E	Norway maple	32"	Poor
F	Norway maple	20"	Poor
G	Red maple	21"	Poor
H	Sycamore	60"	Very poor
I	Red cedar	13"	poor
J	Norway maple	22"	poor
K	Norway maple	12"	Fair
L	Norway maple	35"	Poor

As you can see, most of the trees in this area are in poor or very poor condition. There is a considerable amount of dead and weak wood in them and they need a thorough crown cleaning and crown thinning. Furthermore, there is a lot of trunk damage and root damage in many of them. As to the large sycamore, I submitted a report on this tree on September 20, 2003.

It is my opinion that none of these trees will be affected adversely enough to cause serious problems from the proposed new construction as it was described to me.

10916 Bells Ridge Drive, Potomac, MD 20854
Fax: (301) 983-2579 ▪ Phone: (301) 983-2781 ▪ Email: lewbloch@aol.com

I certify that the statements made in this report to be true and correct to the best of my knowledge. The opinions expressed are my personal, unbiased professional opinions and conclusions, and I have no present or prospective interest in the vegetation that is the subject of this report. I have no personal interest or biases with respect to the parties involved, and have based my report on the situation as I have seen it.

My compensation is not contingent on the reporting, the attainment of a stipulated result, or the occurrence of a subsequent event.

My opinions and conclusions were developed, and this report prepared in conformity with standard arboricultural practices, and my expertise and experience as a consulting arborist.

I further certify that I made a personal inspection of the property, and no one provided any significant professional assistance to this report.

As an arborist, I am a tree specialist and use my knowledge, education, training and experience to examine trees, recommend measures to enhance their beauty and health, and attempt to reduce the risk of living near trees. As the client, you may choose to accept or disregard these recommendations, or seek additional advice.

An arborist cannot detect every condition that could possibly lead to a tree or limb failure. Trees are living organisms that may fail in many ways we do not fully understand. Conditions are often hidden within the trees and below the ground. As arborists, we cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Sometimes trees may appear "healthy," but may be structurally unsound. Likewise, remedial treatment, like any medicine, cannot be guaranteed.

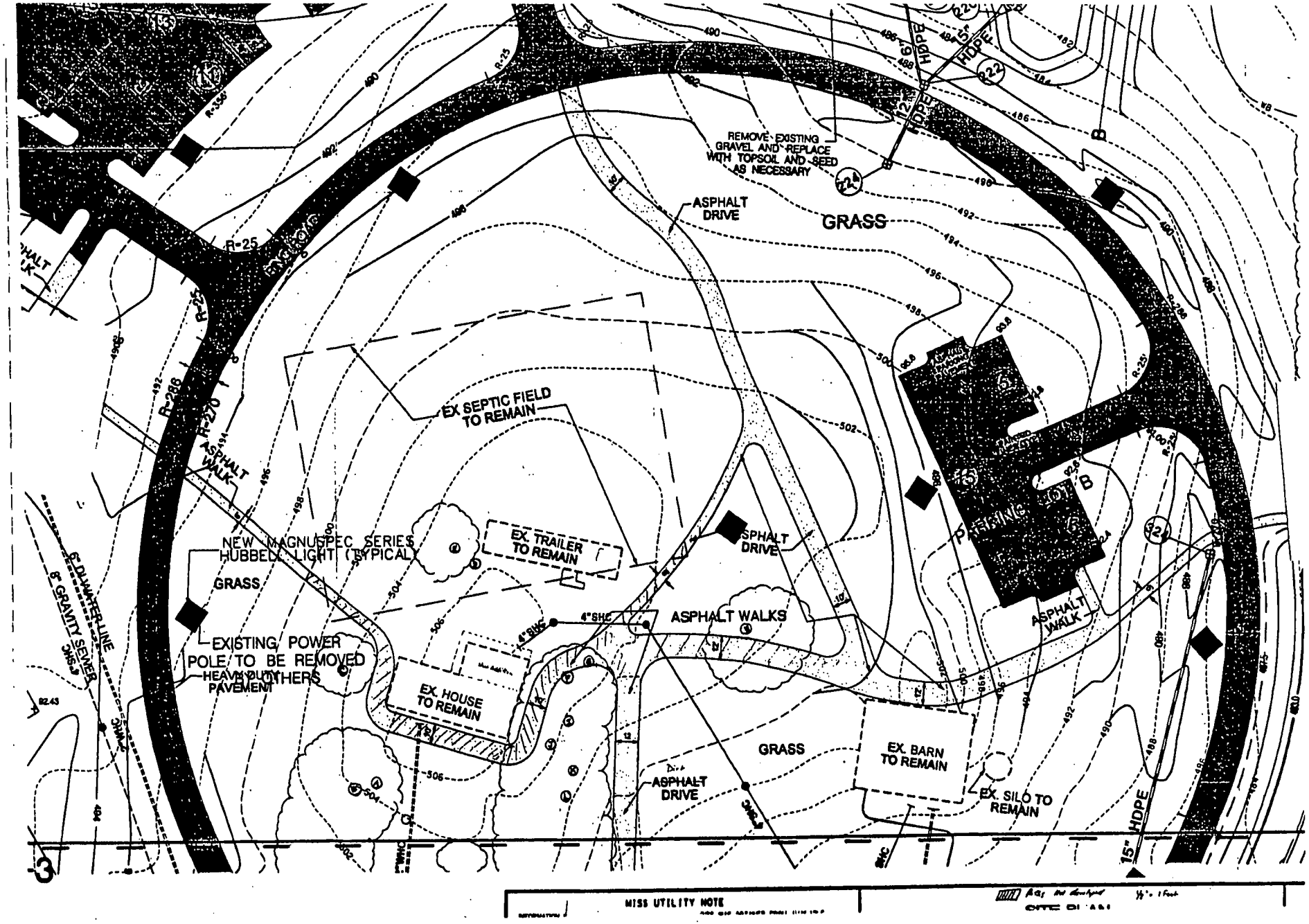
Furthermore, certain trees are borderline cases as to whether they should remain or be removed. Also conditions change, and a tree may need further monitoring in the future to determine its health and structure. Of course the only really safe option is removal.

Trees can be managed, but they cannot be controlled, and to live near a tree is to accept some degree of risk. The only way to eliminate all risks is to remove all trees.

Thank you for the opportunity to be of service and if you have any questions do not hesitate to call.

Sincerely,

Lew Bloch, Registered Consulting Arborist


REMOVE EXISTING GRAVEL AND REPLACE WITH TOPSOIL AND SEED AS NECESSARY
ASPHALT DRIVE
GRASS
R-25
ENG. ROAD
EX SEPTIC FIELD TO REMAIN
ASPHALT WALK
NEW MAGNUSPEC SERIES HUBBELL LIGHT (TYPICAL)
EX. TRAILER TO REMAIN
ASPHALT DRIVE
PARKING
B
GRASS
EXISTING POWER POLE TO BE REMOVED
HEAVY DUTY PAVEMENT
6" DI WATER LINE
8" GRAVITY SEWER
4"SHC
ASPHALT WALKS
ASPHALT WALK
EX. HOUSE TO REMAIN
GRASS
EX. BARN TO REMAIN
ASPHALT DRIVE
EX. SILO TO REMAIN
15" HDPE
MISS UTILITY NOTE

(64)

June 15, 2003

Mr. J. Rodney Little
Director
Maryland Department of Housing and Community Development
Division of Historical and Cultural Programs
100 Community Place
Crownsville, Maryland 21032

Dear Mr. Little:

In accordance with your letter dated January 16, 2003 to Mr. Douglas Datt, and under the terms of the Maryland Historical Trust Historic Preservation Easement, enclosed is The Olney Boys and Girls Community Sports Association's Rehabilitation Plans for Falling Green. These are being submitted within the extended timeframe allowed and prior to the deadline of July 16, 2003.

We hope that the submission meets with your approval. The plans were drafted in a format recommended by Mr. Richard Brand of your office, who assisted OBGC in completing the renovation of the 1880's barn on the property.

My name is Kathy Lyons. I am the OBGC volunteer who drafted the recommendations. I am a former business executive who is also a member, and prior Board Member of Montgomery Preservation. In 1996, I defined and oversaw the renovation of historic Willow Grove, circa 1850, in Montgomery County. Willow Grove is my home. A complete renovation was undertaken as well as an addition added in the rehabilitation of the home. Since that time, the house and its addition as well as a renovated hay barn and springhouse on the property have won Montgomery County Historic Preservation Awards. I am an advocate for preservation and have volunteered my time to OBGC to assist them in this wonderful and significant preservation project.

Please advise me as to the next steps in the process and whether any additional information is required by The Trust's Easement Committee in order for these recommendations to be acceptable under the terms and conditions of the easement. I will be on travel out of the country from June 19 through July 3, if something significant is required before my return, please contact Elizabeth Deal in the OBGC offices.

Sincerely,

Kathy Lyons
OBGC Volunteer Preservationist

Falling Green
Rehabilitation Recommendations

Olney Boys and Girls Community Sports Association
P.O. Box 2
Olney, Maryland 20832
301-570-3990

Submission Prepared By:
Kathy Lyons, OBGC Volunteer Preservationist
301-570-5577
KMHLyons@aol.com

June 15, 2003

In accordance with the Deed of Preservation Easement, Section 3(D)(vii)(b) between the Maryland Historic Trust and the Olney Boys and Girls Community Sports Association (OBGC), "Grantor shall supply Grantee with plans and specifications for the rehabilitation of the main house acceptable to the Director..." and as per a letter dated January 16, 2003, from J. Rodney Little, Director, extending the deadline for said rehabilitation plans to July 16, 2003; contained in this document are OBGC's recommendations to meet these requirements. The content of these recommendations was defined based on a conversation between OBGC and Mr. Richard Brand of the Maryland Historic Trust.

INTRODUCTION

More than ten years ago, OBGC in an effort to accommodate their expanding membership, began an extensive search for a "Field of Dreams." OBGC has offered after-school sports and recreational programs since 1969 to thousands of children, and has been a member of the Olney community longer than the vast majority of its residents, businesses, and local services. The OBGC Board's diligence paid off with the purchase of Falling Green, a 118-acre parcel of land that was well suited to the construction of youth athletic fields and facilities, while preserving a key part of Montgomery County's historic past. The original owners of this property, the Brooke family, have a long and prestigious history in Olney, Montgomery County and the State of Maryland. The property includes the original Brooke Family estate built in circa 1770, and a barn originally constructed in 1880. The barn was recently restored in keeping with building methods employed in the late 1800's and its craftsmanship and renovation techniques were recognized with a 2003 Montgomery County Award for Historic Preservation.

OBGC is in the process of incorporating the history associated with this site into its usage for the future - "Preserving Our Past, Preparing Our Future" - which it believes embodies all that it represents as an organization. Retaining the historic home and barn on this site is critical to keeping the rich history of OBGC and the community alive.

From the beginning, OBGC has been working closely with the state and local agencies, local businesses and community leaders, and OBGC members to help ensure the project's success and design a recreational park that meets environmental, historic and community demands. OBGC retained the services of a highly regarded engineering and development firm and a design and architecture firm to assure minimal impact on the environment while maintaining the property's historic significance. This philosophy was carried forward in the barn restoration and in this proposal for rehabilitation of the house.

The property known as Falling Green is a remnant of an 18th-century farm located in northeastern Montgomery County, Maryland, west of Olney. The property, including the two-story, pre-Revolutionary brick dwelling, was owned by several generations of the Brooke family, having been passed down from James Brooke, a Quaker and founding member of the Sandy Spring Meeting. The house, in its present condition, has not been occupied for some eight to ten years. The structure sited at the top of a gently sloping hill and facing south towards Route 108, was named Falling Green in the early 19th century by Mary Briggs Brooke, wife of Richard Brooke. Falling Green is a large and gracious two-story, five-bay, brick dwelling constructed circa 1770. The dwelling sits upon a rubble stone

foundation, has brick walls laid in Flemish bond and a gable roof with slab end chimneys. The windows have original 9/6 and 6/6 sash with gauged and rubbed brick jack arches on the first story. An early 20th century single-story wood frame addition projects from the east side of the house, while a two-story, gable-roofed frame wing, a product of several building campaigns, projects from the rear. A shed-roof porch addition extends this wing and connects to the east side projecting bay (for purposes of this document, this addition is considered part of the "Side Addition.) The brick structure survives as an excellent example of its type, with refined brickwork, high-quality craftsmanship, and sophisticated interior detailing.

In addition to the complete restoration/rebuilding of the circa 1880 barn, the house has had remedial work done to include repair of openings between the exterior wall and fascia boards; windows boarded up to protect them from vandalism; attic window replaced with vented insert to provide adequate airflow; basement support beams scraped of old insect damage and mildew and treated with a Timbor solution to stave off further deterioration; perimeter treatment to prevent termite infestation; repair of side addition roofing that came loose with winter snows; and a general cleaning of the house to remove debris and items that might attract unwanted rodents or other varmints. All work performed to date on the house has been provided by OBGC volunteers or on a pro bono basis from professionals in the trades.

The structure of this report will be as follows: OBGC's Plan for Usage of the House, Recommendations for Rehabilitation of the structure - - Disposition of the two additions to the brick structure, and Scope of Work/General Rehabilitation to bring the house back to full usage.

OBGC'S PLAN FOR USAGE OF THE HOUSE

Noting the historic significance of the brick structure and the survival through the years of many period details on the interior of the house, OBGC would like to preserve the structure to maintain an appearance and usage similar to that of its history. The organization would like to preserve these significant features and make minimal changes to the interior of the structure.

OBGC Offices on the first floor - It is suggested in the Annals of Sandy Spring, vol. IV., p. 278, that Edith Brooke, and her husband, Dr. William F. Green, closed their home in Brookeville and after making some alterations on the west side, moved to Falling Green in 1917. It is thought that Dr. Green saw patients and operated his practice from the home for a period of time after they moved and prior to his death. In keeping with this use of the home, OBGC would like to use the downstairs portion of the house as offices for the several staff members that it employs and to have meeting space for the Board. It would be OBGC's intent to have all office furniture as standalone pieces with standalone partitions if needed. No office furniture would attach to the walls or floor of the structure.

Rented living space for caretaker on second floor - The usage of this home as a residence is well documented and long-standing. The Brooke family lived in the dwelling for more than 200 years beginning with Basil Brooke, his wife Elizabeth, and their family, and ending with the two sisters Edith Brooke Green and Mary Brooke, who after selling the farm in 1949 remained as tenants, sometimes along with other renters, well into this century. OBGC has identified that it will need a caretaker on site to maintain the property and to groom the facility's many recreational fields as well as to provide a presence on the property to deter trespassing and potential property damage. At the present time, a caretaker leases the mobile home/trailer on site. The movement of the caretaker into rental space on the second floor would continue this concept that has already been employed.

RECOMMENDATIONS FOR THE ADDITIONS TO FALLING GREEN

OBGC recommends that both the side and rear additions to Falling Green be removed. It is further recommended that a new 1 1/2 to 2 story addition be constructed to the back of the brick dwelling to house a kitchen for the home and bathroom for the office workers downstairs and a full bathroom/laundry room upstairs for the caretaker. The addition would also serve the purpose of creating viable space to run plumbing for the house and serve as the area of origin to run other whole house systems. It would be intended that a sufficient crawl space be designed for this service. It is recommended that the new addition either be designed and built so as not to be seen when facing the historic brick home (a porch or some other structure did previously attach to the back - see Attachment 1) or to salvage the remaining foundation from the rear addition and rebuild it to serve as the foundation for the new addition; thereby rebuilding using the same approximately 16 by 17 foot blueprint as this 20th century addition (see Attachment 2 - floor plan of Falling Green.) Architectural renderings and/or design and layout documents have not been developed pending Maryland Historic Trust's concurrence with this recommendation.

In discussions with Montgomery County Historic Preservation Staff in the early stages of the Park's development, there was concurrence on removal of the rear addition and agreement that if a period style addition were constructed, that the side addition did not possess historical significance to merit its remaining a part of the structure.

The recommendation to remove both the side and rear additions is supported when performing a structural analysis. Both of the additions to the brick dwelling have severely compromised structural integrity. Both have been assessed by a structural engineer and a building inspector whose conclusions were the same as Attachment 3 - Home-Tech Residential Inspection Summary. Additionally, a local building contractor who specializes in preservation and restoration work has encouraged the removal of the additions and construction of a new structure to house systems, a kitchen and bathrooms.

As the building inspector and structural engineer's report indicates, the side addition's main floor joist support beam is cracked in two and the brick footers that serve as the structure's foundation are deteriorating. The interior flooring falls away at a grade that is not conducive to supporting kitchen appliances and would have to be greatly reinforced to level it off. A verbal assessment made by Insulators of Maryland roofing company, indicates that the roof is pulling away from the ledger board along the house on the side addition resulting in water seepage into the walls and ceiling of the structure. As mentioned in the introduction, a temporary fix was made to this problem, but the roofer has indicated that the entire roofing system is compromised and would have to be completely replaced.

The rear addition is recommended for removal as the structural integrity is so greatly compromised that it is a safety hazard. As the attached report indicates and is supported by the structural engineer's assessment, the foundation of the structure is severely deteriorated and undermined. The exterior of the structure is severely damaged and covered in asbestos shingles. The chimney on the west side of the structure has become detached and is deteriorating. The interior of the rear addition is severely deteriorated due to openings in the wall and has extensive rotted wood.

Kim Prothro Williams, formerly of the Montgomery County Historic Preservation Commission staff and current HPC Commissioner and Architectural Historian and Preservation Consultant, who prepared a Historic Architectural Assessment Report on Falling Green, has also recommended the removal of both the side and back additions to preserve the historic integrity of the brick house. Attachment 4 is a letter containing her assessment and professional perspective.

In her report, Ms. Williams indicates that in December 1882, a frame conservatory was built to the dwelling house. This serves as the side addition today. Based upon historic photographs, (see Attachment 5) the conservatory was a shed-roof frame structure located on the east side of the house. This conservatory was replaced, probably around 1917-1918 by the present single-story projecting bay wing with 2/2 windows. According to Ms. Williams the side addition's one-story height and overall dimensions are not compatible with side wings commonly found attached to 18th and 19th-century dwellings. She purports that stylistically, the additions evokes a different period of construction outside of the period for which Falling Green is significant - - the side addition is clearly a 20th-century period addition to an 18th-century building. The side addition she contends, therefore, lacks historic integrity.

In her discussion of the rear addition, Ms. Williams recounts that the structure, originally built in 1863, but raised in 1891 and significantly reworked in 1917/1918, is a product of numerous building campaigns. She remarks that the interior, in particularly deteriorated condition, has exposed studs and ceiling joists that reveal 20th-century construction details, namely circular saw marks and machine cut wood lathe. The finishes, including vinyl tile floors are also a product of the 20th century. She stresses that the rear kitchen wing lacks historic integrity, as described in the *National Register of Historic Places, Bulletin 16A.* The rear addition, Ms. Williams comments, no longer retains the physical materials, design features or aspects of construction for which the property has gained significance. She further assesses that the rear addition lacks the workmanship, feeling, association, materials and design qualities that give the property its integrity.

Ms. Williams has encouraged OBGC to retain the enclosed stair found in the rear addition and to reuse it in a new addition. OBGC would salvage whatever materials to include flooring and recycle it to use it in the newly constructed addition as well.

Due to the extent and severity of damage and deterioration to the structural integrity of the side and rear addition, it is OBGC's contention that building a period style addition that complements the historic nature of the brick structure is the recommended proposal.

SCOPE OF REHABILITATION

As OBGC is recommending the removal of both the side and rear additions, this scope of rehabilitation work to bring the house back to full usage pertains to the brick structure only; assuming construction of a new addition. The specific plans for the new addition, other than the usage discussed above, will be addressed once approval of the recommendations is granted. However, the structure will be period style frame construction 1 1/2 - 2 story, designed not to compete with the brick structure. The foundation will be cement block faced with stone from the raised rear addition foundation. Windows in the structure will be 6/6 wood, divided light, with mullions the same size as on the brick structure. Roofing materials will differ from, but compliment the historic nature of the home. Where possible, materials salvaged from the two additions, including windows, will be reused in the addition. A specific effort will be made to reuse the existing staircase that is housed in the rear addition.

Structural Systems

Basement Floor Joists and Support Beams - A structural engineer has indicated that the beams in the basement will need to be reinforced due to old insect damage and to support office use on the first floor. Depending on code requirements, OBGC understands that support columns may also be required in the basement.

Foundation Sill - There is some rot of the sill in the basement over the windows. These areas will need to be replaced or reinforced.

Fireplace Chimneys - The chimneys from the attic up appear to have been rebuilt at some point in time. Repointing of brick as required would be done to the exterior and attic revealed portions of the chimneys. OBGC does not intend to use the fireplaces for wood fires. The fireplaces, however, need the fireboxes repaired, especially the main parlor/living room one, to patch or replace deteriorating brick. The hearths would also be repaired in similar manner, as would any structural problems detected by a certified Chimney Sweep.

Whole House Systems - Falling Green has not been occupied for at least 8 - 10 years and, therefore, none of the systems in the house are functional and/or do not meet present code requirements.

Electrical System - Although there is electrical service to the house with a 150 Amp panel box that meets present code requirements, a Master Electrician's assessment of the wiring in the house is that none of it is up to County code requirements and the interior would have to be completely rewired. His assessment is Attachment 6. To make installation easier, he recommends removal of the first floor ceiling. OBGC would replace the ceiling with wall board and skim coat it with plaster, if this recommendation is employed.

HVAC System - There is no heating or air conditioning system in existence at Falling Green. The original heat source, a coal burner in the basement, is not an option for heating the home. OBGC would propose installing a new heating and/or air conditioning system. The system would be one designed to be retrofitted into old homes with minimal if any duct work. The system would either originate from the new addition or be housed in either or both the attic and basement.

Plumbing System - The plumbing is not functional in the house. The brick dwelling does have a connection to the WSSC water line that was installed for the Park and sewer access is within a short distance of the home on the Park property. The house will need to be replumbed. It is recommended that all plumbing be laid through the new addition with the kitchen and bathrooms contained within that new structure. This will eliminate or minimize the need for plumbing going through the historic home.

Exterior Renovation

Roofing System - The roofing system and asphalt shingles are structurally sound. OBGC does not recommend replacing the roof in the initial restoration.

Brick Exterior Structure - The brickwork on the exterior of the structure is in good repair. OBGC does not recommend repointing or any other work be done to the exterior. Depending on where the new addition is sited, paint may need to be removed from the exterior brick that presently create an interior wall of the rear addition.

Gutter System - The house at present does not have a gutter and downspout system. Gutters and downspouts will need to be installed to prevent damage to the stone foundation. Additionally, the entire perimeter will require regrading to assist in moving water away from the house's foundation.

Soffit and Fascia Boards - All soffit and fascia boards as well as the original dental molding will need to be repaired and repainted.

Entrance Doors - All entrance doors will have to be rehung to close securely and be repainted to endure the weather.

Front Porch - OBGC would plan to rebuild the front porch as it would have existed originally, per the architectural historian's assessment: a single-bay wood porch with a gable roof to grace the front entrance. See

picture as Attachment 7.

Interior Renovation

The interior originally offered a central-passage, single-pile plan with two rooms on the first floor and four rooms above. In addition to the rear wing that was added for the kitchen service area, and the side wing that was originally the conservatory, several partition walls were built to accommodate a bathroom and to divide one room into two rooms. OBGC intends to retain the craftsmanship and sophisticated interior detailing that exists in this historic structure. Minimal modification will be made to the present layout; in fact, the only modifications being recommended are designed to restore the structure to its original floor plan.

Whole House Renovations

Flooring - All old vinyl will be stripped from the floors and the original tongue and groove hardwood floors will be cleaned, sanded and refinished.

Walls and ceilings (plasterwork) - Unless otherwise stipulated, all walls and ceilings will be preserved. Any channels created to aid in rewiring the house or for other whole house system accommodation will be repaired with drywall board and skim coated with plaster. The wallpaper that remains is in very poor condition and would either be repapered over or be stripped and the walls skim coated and painted. The Master Electrician recommended removing the entire ceiling from the downstairs to provide free access for rewiring and possibly running ductwork for HVAC system. OBGC intends to defer a recommendation on this possibility until a determination is made as to what form of HVAC system will be employed. Should the ceilings be torn down, they would be replaced with drywall board and skim coated with plaster.

Original trim work, doors, baseboards and moldings - Throughout the house all original embellishments will be retained and repaired. They and all doors will be scraped, sanded and painted with two coats of oil-based paint for lead abatement.

Windows - All windows throughout the house will be reglazed as needed and panes will be replaced. They will be repainted using oil-based paint as a lead abatement measure.

First Floor/OBGC Office Space

Entry Hall - The main, central entry door opens into a wide entry passage. The eight-paneled front door will be reworked to close and lock securely. The six-paneled rear door will either become the entrance to the new addition (if "hidden" behind the house) or will be used for OBGC staff entry. The straight flight, closed stringer stair built against the east interior wall will be preserved and carefully cleaned. The treads and risers will be refinished in a fashion similar to the flooring throughout the house. There is a door behind this main staircase, originally leading to cellar stairs (now missing.) New cellar stairs will be installed to restore access to the basement from the main house.

Dining Room (Parlor to the right/eastside of the main hall) - This room will be used for either office space or a conference/meeting room. Other than as addressed heretofore in whole house renovations, no additional renovations are planned for this room.

Parlor (Left/Westside of main hall) - OBGC is recommending the removal of the partition wall to the back of the room. This will restore the room to its original size and character and allow more light into a room that will be used for either office space or a conference/meeting room. The fireplace would have the remnants of a wood burning stove opening removed and be restored to reveal the hearth as in all other fireplaces in the house.

Basement - The basement will be kept as a dirt floored cellar. If the HVAC system is not placed in the basement, an appropriate dehumidifier will be installed to remove moisture from the area. OBGC plans to leave the large furnace located in the center room in its place. It is inscribed:

NO. 500

LYON CONKLIN & CO., INC.
LYON HEATER ONE PIPE
BALTIMORE & WASHINGTON
1921

Second Floor/Caretaker Rental Space

Eastside Bedroom - It is recommended that this room be retained as it is. It is likely that the bathroom built to the back of the room will be converted into a large closet and passageway from the hall into the bathroom/laundry room that will be on the second level of the addition. The late 19th century clawfoot tub will be reused in the main bathroom or in the downstairs bathroom as decoration.

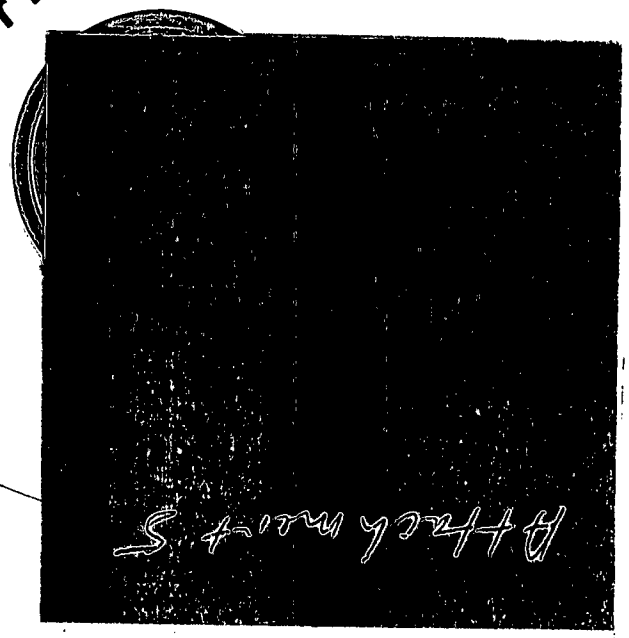
Westside Bedrooms - The wall separating these rooms needs to be reinforced, but will be retained to keep the two room design and additional options for use by the caretaker. The door opening will be retained unless it is determined that it needs to be closed off to provide greater structural support for the wall. The wood stove hole apparent in the front bedroom will be patched over.

Attic - The attic is unfinished space and may be used for the HVAC system. It will be retained in its present state. The rafter and roofing systems that will be impacted by the removal of the rear addition will be replaced and the roofline restored as needed. As recommended in the Home Inspector's report, the rafters near the chimney will be reinforced or repaired.

SUMMARY

OBGC's recommendations/plans for the renovation of Falling Green contain minimal changes to the original character and integrity of the historic home. The need for a new structure to house a kitchen and bathrooms/laundry room and serve as access for major systems is apparent. We request Maryland Historic Trust's consideration and concurrence with these recommendations.

OBGC Falling Green
Manor House



Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Maryland Department of Planning
Maryland Historical Trust

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

December 20, 2010

Kathy Lyons
Falling Green Volunteer Project Manager
Olney Boys and Girls Club
Post Office Box 2
Olney, Maryland 20830

Re: Falling Green, Montgomery County – Change/Alteration
Falling Green -Loan of 2009, Chapter No. 485
Maryland Historical Trust Preservation Easement

Dear Ms. Lyons:

The Maryland Historical Trust (MHT) is in receipt of your application, containing the requested additional information, dated December 6, 2010, for approval to rehabilitate and construct a proposed addition. The MHT Easement Committee (Committee) reviewed the application at its meeting on December 14, 2010. The MHT Project Review and Compliance (PR&C) division, has also reviewed the project to assess its effects on historic properties, pursuant to the Maryland Historical Trust Act of 1985, as amended (State Finance and Procurement Article § 5A-325 of the Annotated Code of Maryland).

Based upon the review and recommendation of the Committee, I approve of the proposed rehabilitation and construction of the proposed addition conditioned upon the following:

1.) Any ground area being disturbed (basement, sidewalk, geothermal area, trench, etc.) must address archeology. A preliminary archeological assessment is needed for all locations.
2.) All mortar and stucco must be removed by hand; no mechanical grinders may be used.
3.) Design details for the mounting of the transformer boxes at front and side entrances to the main building must be provided, including a description of any drilling through existing walls.
4.) The cedar roof must be installed in a historically accurate manner (over shingle lath, not over plywood which is covered with asphalt-impregnated paper) and there should be no ridge cap.
5.) The parking lot and walkway material must be tar and chip with blonde stone or pea gravel.
6.) All mortar must match the original mortar in color and composition based on an analysis of the original mortar.

This work is consistent with *The Secretary of the Interior's Standards for Rehabilitation, General Rehabilitation Standards 6, 7,* and *9.*

As provided by the Bond Bill, the Maryland Historical Trust has examined the proposed project to determine whether, prior to the issuance of the bonds, the grantee or owner of the property must convey a perpetual preservation easement to the Trust. After review of the documentation provided, the Trust has determined that:

1) The property is already subject to a perpetual historic preservation easement acceptable to the Trust.

Therefore, the Trust does **not** require the conveyance of a perpetual preservation easement on this property. PR&C has determined the proposed project will have no adverse effect on historic properties, including historic structures and archeological sites.

Approval is valid for a period of six months from the date of this letter. Should you require additional time to complete the project, make any changes to the scope of work as approved, or have any questions regarding this letter, please contact Amy Skinner, Easement Administrator, at (410) 514-7632 or by email at askinner@mdp.state.md.us.

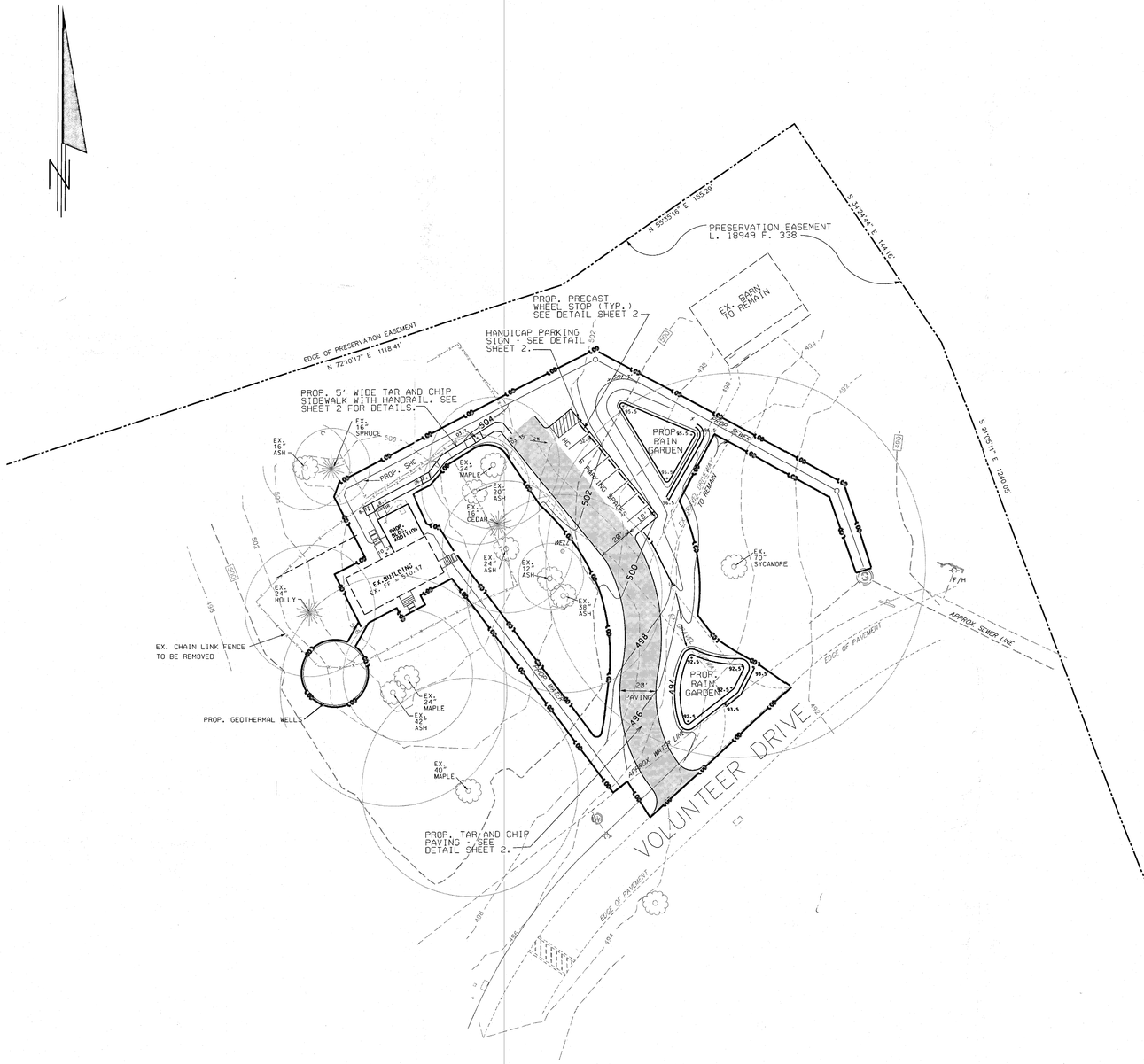
By copy of this letter, we are notifying the Board of Public Works (BPW) that the project's historic preservation review and consultation have been completed. If you have questions or require further information regarding the Bond Bill review, please contact Beth Cole at 410-514-7631 or bcole@mdp.state.md.us. Thank you for providing us this opportunity to comment.

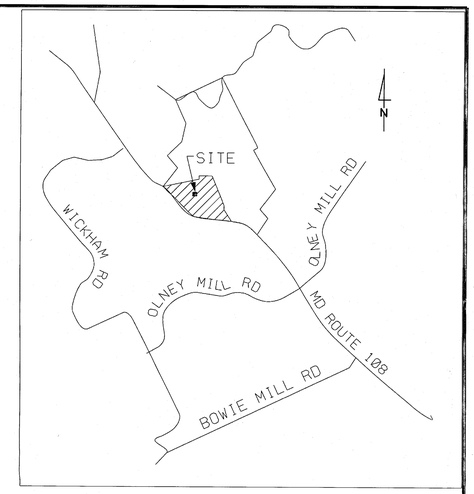
Sincerely,

J. Rodney Little
Director
Maryland Historical Trust

JRL/AMS

cc: Beth Cole, MHT
Sheila McDonald, BPW
Rehena Retuma, Comptroller
Fran Vehstedt, DGS





VICINITY MAP

SCALE 1" = 2000'

GENERAL NOTES:

1. THE SUBJECT PROPERTY IS SHOWN AS LOT 5 BROOKE FARM ON RECORDED PLAT # 19584 THE SITE AREA IS 118.18 AC.
2. ZONING IS RDT, RURAL DENSITY TRANSFER. THE MINIMUM LOT SIZE IS 40,000 SF
3. BOUNDARY INFORMATION IS FROM RECORDED RECORD PLAT NO. 19584 DATED JAN 1995.
4. TOPOGRAPHIC INFORMATION IS FROM A FIELD SURVEY BY POTOMAC VALLEY SURVEYS IN JUNE 2011. THE CONTOUR INTERVAL IS TWO- FOOT.
5. LOT IS SERVED BY AN ON SITE WATER AND SEWER SYSTEM.
6. THERE IS NO 100 YEAR FLOODPLAIN OR CONSERVATION EASEMENT WITHIN THE HISTORIC PRESERVATION EASEMENT.
7. MINIMUM SETBACKS MAIN BUILDING:
   MINIMUM LOT WIDTH - MEASURED ALONG FRONT BUILDING LINE --- 125'
   MINIMUM LOT WIDTH - MEASURED ALONG FRONT STREET LINE --- 25'
   MINIMUM FROM A STREET --- 50'
   SIDE YARD --- 20' MINIMUM, 40' TOTAL
   REAR YARD --- 35'
   MINIMUM SETBACKS ACCESSORY BUILDING:
   MINIMUM FROM A STREET --- 80'
   SIDE YARD --- 15' MINIMUM.
   REAR YARD --- 10'
8. MAX. LOT COVERAGE - BY BUILDING - 10%.
   MAX. BUILDING HEIGHT - 50'
9. THIS LOT IS SUBJECT TO A DEED OF PRESERVATION EASEMENT AS RECORDED IN LIBER 18949 AT FOLIO 338
10. THIS SITE IS SUBJECT TO APPROVED SPECIAL EXCEPTION S-2385
11. THIS SITE IS LISTED IN THE OLNEY MASTER PLAN AND THE MASTER PLAN FOR HISTORIC PRESERVATION AS SITE NUMBER: 23/57-00 FALLING GREEN.
12. A CERTIFIED ARBORIST WILL EVALUATE THE EXISTING TREES AND PROVIDE MEASURES TO LIMIT IMPACT TO THE TREES SUCH AS ROOT PRUNING.
13. PARKING PROPOSED: 7 STANDARD SPACES @ 8.5' X 18'
    1 VAN ACCESSIBLE HANDICAP SPACE @ 8.5' X 18' WITH AN 8' WIDE AISLE.

LEGEND

- LIMITS OF DISTURBANCE
- EX. TREE TO REMAIN
- DRIVEWAY PAVING
- PARKING AND SIDEWALK PAVING

MISS UTILITY NOTE

INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND UTILITY CROSSINGS BY DIGGING TEST PITS BY HAND. WELL IN ADVANCE OF THE START OF EXCAVATION.
CONTACT "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION. CLEARANCES LESS THAN NOTED MAY REQUIRE REVISIONS TO THIS PLAN.

OWNER/DEVELOPER
OBGC COMMUNITY CENTER
OLNEY BOYS AND GIRLS CLUB
C/O DANIEL DIONISIO
17400 ASHTON GREEN
SANDY SPRING, MD 20860
301-259-2065

PRINTED ON AUG 15 2011 PETRA ENGINEERING LLC

PETRA ENGINEERING LLC
5840 BANNEKER ROAD, SUITE 100
COLUMBIA, MARYLAND 21044
OFFICE (443) 276-0310
FAX (443) 276-0319

NO.	REVISION	BY	DATE
1			

DATE JULY 2011
DESIGNED DJW
TECHNICIAN DJW
CHECKED MMF
PLAN LOCATION P:/1011/ENG/SEDCON/ ISECCON.SHT
PEN TABLE X LEVEL SYMBOLOGY
SCALE 1"=30'
JOB NO. 1046

SITE GRADING PLAN

SITE GRADING PLAN
BROOKE FARM
OBGC FALLING GREEN
8TH (OLNEY) ELECTION DISTRICT
MONTGOMERY COUNTY, MARYLAND

SHEET 1 OF 2

TOTAL SHEETS IN SET 2