TE ANALYSIS DATA CHART

GENERAL SITE DATA

- a. PRESENT ZONING: PSC (PLANNED SENIOR COMMUNITY)
- b. APPLICABLE DPZ FILE REFERENCES: SDP-08-075 c. PROPOSED USE:
- d. EXISTING USE: VACANT/OVERFLOW PARKING FOR EVENTS

ASSISTED LIVING COMMUNITY FOR RESIDENTS 55 YEARS

- e. PROPOSED WATER: PUBLIC f. PROPOSED SEWER: PRIVATE
- g. ANY OTHER RELEVANT INFORMATION: N/A
- h. AREA OF STEEP SLOPES 15% AND GREATER: N/A
- i. AREA OF HIGHLY ERODIBLE SOIL: 0.00 Ac.
- AREA OF ONSITE FLOODPLAIN AND ITS BUFFER: N/A k. AREA OF ONSITE WETLANDS AND THEIR BUFFERS: N/A
- I. AREA OF FORESTS: N/A m. AREA OF ERODIBLE SOILS: N/A

- AREA TABULATION
- a. TOTAL SITE AREA: 49.67 ac.± b. TOTAL LIMIT OF DISTURBED AREA: 5.27 ac.±
- c. ONSITE LIMIT OF DISTURBED AREA: 5.27 ac.± d. OFFSITE LIMIT OF DISTURBED AREA: N/A
- e. TOTAL IMPERVIOUS AREA: 2.64 ac.±
- f. BUILDING COVERAGE OF SITE: 1.22 ac.± g. GREEN OPEN AREA: 1.41 AC.±
- . DURING CONSTRUCTION THIS PLAN SHALL MEET THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL **EROSION & SEDIMENT CONTROL.**
- APPROVAL OF THIS ECP BY THE HOWARD SOIL CONSERVATION DISTRICT DOES NOT PROVIDE APPROVAL OF THE SHOWN SEDIMENT CONTROLS.
- . APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF ANY SUBSEQUENT SUBDIVISION OR SITE DEVELOPMENT PLAN APPROVAL FURTHER COMMENTS WILL BE GENERATED WITH SITE PLAN REVIEW IN ACCORDANCE WITH THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE APPLICANT SHOULD EXPECT ADDITIONAL AND MORE SUBSTANTIAL REVIEW COMMENTS INCLUDING THOSE THAT CAN IMPACT OVERALL SITE DESIGN AS THE PROJECT PROCEEDS THROUGH THE REVIEW PROCESS.

### ENVIRONMENTAL SITE DESIGN (ESD) CONCEPT AND IMPLEMENTATION SUMMARY

The stormwater management (SWM) practices shown on the Environmental Concept Plan, as required in Chapter 5 of the Maryland Department of the invironment (MDE) Stormwater Design Manual and Volume 1, Chapter 5 of the Howard County Design Manual, have been designed to the Maximum Extent Practical (MEP). For this project, the ESD strategy included:

- Use of existing water quality practices
- Natural Resource protection
- Maintenance of natural flow patterns
- Reduction of impervious areas
- Integration of erosion and sediment controls into the SWM strategy
- Implementation of ESD planning and practices to the MEP

The stormwater study is defined by a limit of disturbance (LOD) for each area of mprovement (LOD A-Health Care Center, LOD B-Performing Arts Addition, and LOD C-Apartments). The limit of disturbance for the pond expansion was not ncluded in the stormwater study or requirements since the area will remain a vegetated practice. A hydrological analysis was performed for the drainage area each proposed SWM practice. The required ESDv was calculated for the LOD or each area of improvement and for each ESD facility.

### **USE OF EXISTING WATER QUALITY PRACTICES**

wet pond facilities. Within the approved analysis, the proposed development manage the difference for the required storm events." area within the ring road was considered 85% impervious and treatment volume provided accordingly. The proposed development area was not limited in the **EXTREME FLOOD MANAGEMENT** proposed ESD practices for the remaining treatment volume will be provided SWM facility, it is not included in the SWM computations and we are of the within the central campus near the sources of runoff.

### NATURAL RESOURCE PROTECTION AND ENHANCEMENT

The Phase 2 improvements will occur within the central portion of the existing campus currently used as grass areas or pedestrian walkways. The surrounding natural resources are protected as no impacts are proposed for those areas. The modeled as woods in good condition, while modeling the remaining, already expansion of the existing pond volume for quantity management will be limited developed drainage area (Phase 1) to Pond #2 as commercial and residential to areas within the pond with limited disturbance to the existing wet pool land uses. The existing Phase 1 development is modeled consistent with the footprint to minimize impacts to established habitats. Grading will be limited to original approved SWM report prepared by Christopher Consultants for the areas outside of the existing wetland buffer. New planting areas are proposed Phase 1 development, dated 2/25/2013.

### MAINTENANCE OF NATURAL FLOW PATTERNS

SWM facility Pond 2 which then discharges into the Plumtree Branch. In the (see section Extreme Flood Analysis in this report). proposed state, runoff from LOD A, LOD B, and LOD C will continue to be directed into the existing storm drain system and outfall into Pond 2.

### **REDUCTION OF IMPERVIOUS AREAS**

The proposed parking areas, buildings, and hardscape amenities have been methodology used in the approved report (dated 2/25/20130 for developed impervious cover was assumed to be 85%. Under the Phase 2 proposed report). conditions within the limits of disturbance impervious cover ranges from 55%-68%. The build-out provides significantly less impervious area to maximize green space within the campus.

contain sediment within the limits of disturbance.

New Development - LOD A = 1.13 ac.±

Proposed Impervious Area = 0.62 ac.± or 27,001 sf±

 $ESDv = Pe \times Area \times Rv/12$ 

 $ESDv = 2.00 \times 1.13 \times 0.59 / 12 = 0.11 \text{ ac.-ft.} \pm \text{ or } 4,815 \text{ cf} \pm$ Approved SDP WQv provided = 0.077 ac.-ft.± or 3,346 cf± Remaining ESDv to be provided = 0.034 ac.-ft.± or 1,469 cf±

PROPOSED STORMWATER MANAGEMENT REQUIREMENTS

New Development - LOD B = 0.49 ac.±

Proposed Impervious Area = 0.33 ac.± or 14,618 sf± ESDv = Pe x Area x Rv/12 $ESDv = 2.20 \times 0.49 \times 0.68 / 12 = 0.06 \text{ ac.-ft.} \pm \text{ or } 2,663 \text{ cf} \pm$ Approved SDP WQv provided = 0.033 ac.-ft.± or 1,460 cf±

Remaining ESDv to be provided = 0.027 ac.-ft.± or 1,204 cf±

New Development - LOD C = 2.87 ac.  $\pm$ Proposed Impervious Area = 1.75 ac. $\pm$  or 76,397 sf $\pm$ ESDv = Pe x Area x Rv/12

 $ESDv = 1.80 \times 2.87 \times 0.64 / 12 = 0.28 \text{ ac.-ft.} \pm \text{ or } 12,010 \text{ cf} \pm$ Approved SDP WQv provided = 0.20 ac.-ft.± or 8,548 cf± Remaining ESDv to be provided = 0.08 ac.-ft.± or 3,461 cf±

Total ESDv Required = 0.45 ac.-ft.± or 19,488 cf± Total Approved SDP WQv Provided = 0.31 ac.-ft.± or 13,354 cf± Remaining ESD To Be Provided = 0.14 ac.-ft.± or 6,134 cf±

### IMPLEMENTATION OF ESD PLANNING AND PRACTICES TO THE MEP

Micro-scale practices are being proposed while also using the quality treatment

provided within the existing wet pool in Pond 2. The proposed practices are sized to receive and provide the required ESDv.

### DESIGN MANUAL AND WAIVER PETITION

Methods and design strategies used in Phase 2 of Lutheran Village at Miller's Grant conform to the regulations and guidelines as specified in Volume I, Chapter 5 (stormwater management) of the Howard County Design Manual and CR#123-2019, as well as being in accordance with the State of Maryland's Stormwater Management Act of 2007. A Design Manual and Waiver Petition for environmental and stormwater design will not be required.

### **QUANTITY STORMWATER REQUIREMENTS**

On October 7, 2019, years following the Phase 1 buildout, Howard County passed and implemented regulations for development within the Plumtree Branch and the Tiber Branch watersheds. Part of the regulations state: "The ounty reserves the right, on a case-by-case basis, to require that management measures be provided as necessary to maintain the post-development peak discharges for the 24-hour, 1-year, 10-year, 25-year, 100-year storm events; and 3.55-hr, 6.6" storm events at a level that is equal to or less than the respective...pre-development peak discharge rates, through stormwater management practices that control volume, timing and rate of runoff." Based on previous communications with the Howard County Development Engineering Division, the analysis of the pre-development storm events will consist of the proposed Phase 2 developed areas being modeled as woods in good condition. The intention is that by managing these large storm events for any new development within the watersheds, the potential for increased flooding will be mitigated and that the developed land would function as if it were covered by

Based on correspondence, pertaining specifically to the Lutheran Village site, petween DMW and Chad Edmondson, Division Chief, Development Engineering Division in Howard County on April 22, 2020, we were provided the following, which guided our stormwater management analysis of the Phase 2

24-hour at 8.51" and the 3.55-hour 6.6" storm, then these areas need to be designed to those storm events. Additionally, all impervious area must meet ESD to the MEP. The only allowance, can be overcompensation for these areas The computations within the approved SWM report dated 2/25/2013, for SDP within an existing or proposed facility. For example, compute the change in 08-075, provide quality treatment for the first 1" of rainfall within the existing runoff between the existing conditions (managed) and ultimate conditions and

approved SWM report to LOD for the Phase 1 improvements; therefore, the The proposed Phase 2 improvements are located within the drainage area to treatment for the first 1" of rainfall for the original LOD area of Phase 2 existing Pond #2, which ultimately outfalls to Plumtree Branch. The proposed improvements has already been provided within the existing wet pool in Pond 2. improvements have been divided into three limits of disturbance associated The originally required water quality volume (WQv) has been calculated for the with each of the three (3) proposed building additions (LOD A-Health Care current LODs (assuming 85% impervious as provided in the approved report Center, LOD B-Performing Arts Addition, and LOD C-Apartments). Pond #2 will computations). This existing volume is deducted from the required volume to be have an area of disturbance for re-grading to provide additional quantity provided with Phase 2 improvements (see ESD Computations section). The storage capacity. Since this area will be returned to its current condition as an opinion that it should be excluded by the County from stormwater

> As the intent of CR#123-2019 is to return the proposed site to woods in good condition, for an existing analysis, the limits of the Phase 2 improvements were

onsite that will provide habitat and greenery for the disturbed area. The The TR-55 and TR-20 inputs for Pond #2 were recreated from the approved treatment of impervious surface runoff by on-site structural micro-scale practices. Phase 1 SWM report. An as-built was completed for Pond #2 and the riser protects surrounding downstream areas by filtering out pollutants that structure components and current pond volumes were used in the TR-20 input potentially may be harmful to aquatic life and vegetation. The Micro-Scale in place of the "as-designed" structure table. The "existing" pond discharge for practice (M-6) micro-bioretention areas will provide habitat and greenery the 100-year storm event was determined by routing the combined hydrograph produced by analyzing the Phase 2 LOD areas using a rainfall depth of 8.51" and a rainfall depth of 7.2" for the remainder of the drainage area (Phase 1). The "existing" pond discharge for the 3.55-hr. storm was determined by Under existing conditions, runoff within the areas of proposed disturbance analyzing the pond drainage area (Phases 1 and 2) using a 6.6" rainfall depth. sheetflows into the existing storm drain system which outfalls into the existing. These discharges are used as the limits for the permitted proposed discharges

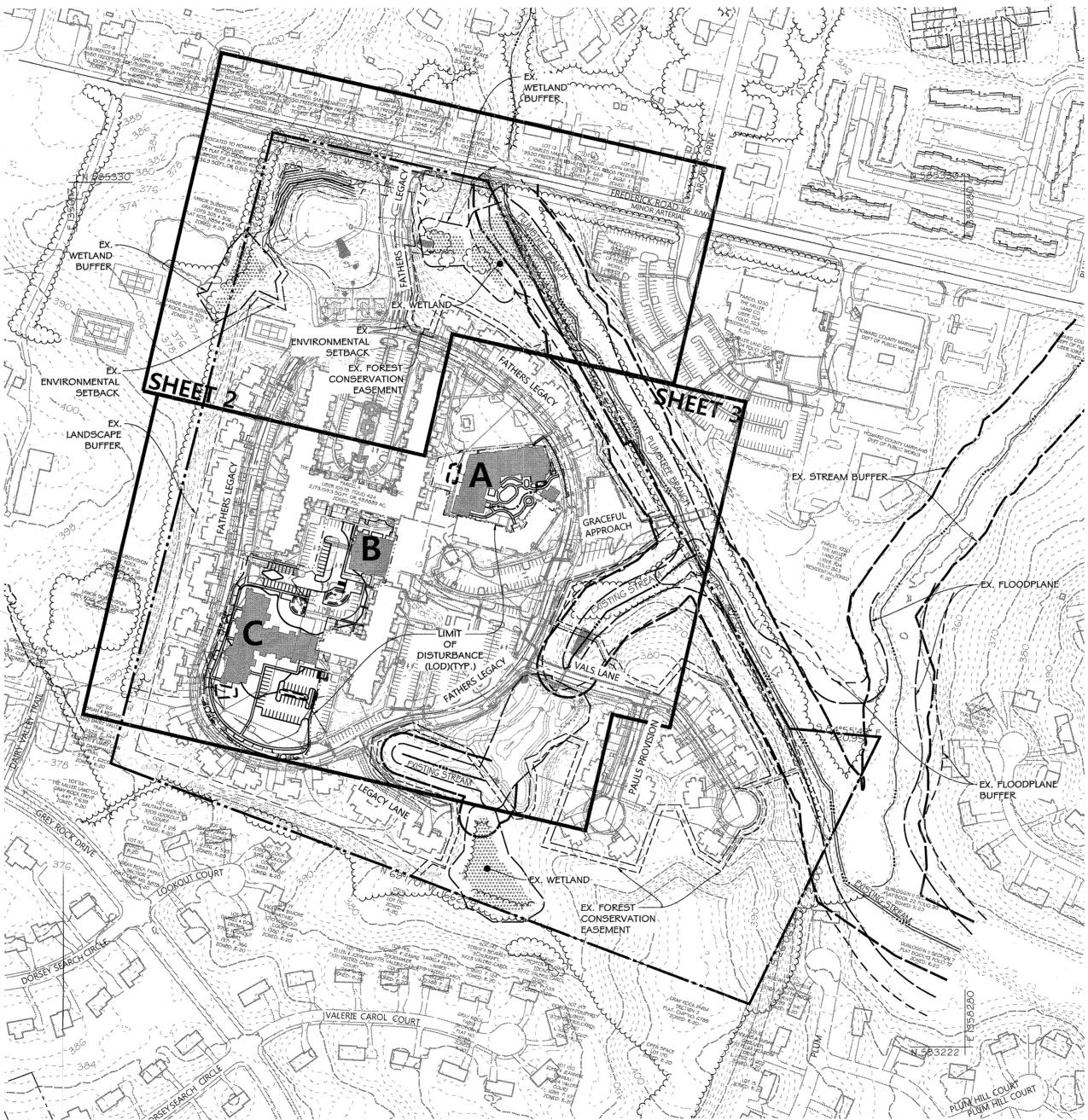
The model for the proposed conditions uses the same TR-55 input as existing conditions, except the LODs are analyzed using proposed impervious cover and green space with a minimum time of concentration as is consistent with the efficiently laid out within the existing campus setting to minimize the overall conditions. The proposed condition TR-20 analyzed both the 100-year impervious area as much as practical and meet parking and building use (7.2"/8.51") and 3.55-hr, 6.6" storms using the same methodology as was used requirements. Under the approved SWM design SDP 08-075, the proposed in the existing conditions analyses (see section Extreme Flood Analysis in this

Pond #2 as constructed cannot manage the proposed 100-year (7.2"/8.51") and 3.55-hr., 6.6" storm events to pre-development conditions. Pond #2 will be expanded to the northwestern side, above the benches and permanent pool INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER elevations to minimize disturbance to the existing habitat. The openings in the existing riser structure will be modified to reduce the discharges for the extreme flows to below the allowable release rates as well as maintain design high water Perimeter silt fence, super silt fence, and inlet protection will be implemented to elevations at or below the level of the embankment core (as designed Elev. 369.04). The approved design parameters for the 1-, 10-, and 100-year storms were also used to route the proposed conditions through the modified riser structure and the discharge rates and elevations are consistent with the

# ENVIRONMENTAL CONCEPT PLAN FOR LUTHERAN VILLAGE AT MILLER'S GRANT

PLANNED SENIOR COMMUNITY - PHASE 2

PARCEL 'A' HOWARD COUNTY ECP-21-031 MARYLAND



**PLAN** 

## **BENCHMARK**

HORIZONTAL: MAYLAND NAD83 (Adj 2011) VERTICAL: NAVD88 USE GEOID 12b 3. SFT = U.S. SURVEY FEET

**EODETIC SURVEY CONTROL: 24BC** 

IORTHING: 178326.1619 EASTING: 414014.4336 GEODETIC SURVEY CONTROL: 24BD ELEVATION: 118.5364

## SEQUENCE OF CONSTRUCTION FOR (SEC)

- OBTAIN A GRADING PERMIT FOR THE PROPOSED WORK. NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES (DILP) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. (2 DAYS)
- 2. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE (SCE) AND SUPER SILT FENCE (SSF) . (5 DAYS)
- AN ONSITE STOCKPILE AREA, IF APPLICABLE, WILL BE LOCATED WITHIN THE LIMIT OF DISTURBANCE WITH THE COORDINATION AND DISCRETION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND THE GENERAL CONTRACTOR, ALSO REFER TO PLAN VIEW FOR POTENTIAL STOCKPILE FEATURES. (1 DAY)
- WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN GRADING OPERATIONS. PROVIDE POSITIVE DRAINAGE TO ALL SEDIMENT CONTROL DEVICES. (35 DAYS)
- BRING SITE AND BUILDING PADS TO SUBGRADE. (35 DAYS)
- INSTALL ALL NEW UTILITY CONNECTIONS (IF APPLICABLE), NEW CURB AND GUTTER AND PAVING OPERATIONS (40 DAYS)
- BEGIN CONSTRUCTION OF BUILDINGS (220 DAYS)
- 8. INSTALL NEW STORMWATER MANAGEMENT FACILITIES AND ANY MODIFICATIONS TO EXISTING SWM FEATURES. (40 DAYS)
- ONCE SITE HAS BECOME STABILIZED WITH ESTABLISHED INSPECTOR REMOVE ALL SEDIMENT CONTROL PRACTICES. STABILIZE THOSE AREAS PER THIS REMOVAL PROCESS. (5 DAYS)
- 10. MAKE ALL NEW STORMWATER MANAGEMENT FACILITIES ACTIVE AND

# STANDARD SEDIMENT CONTROL NOTE

A PRE- CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE CLEARLY MARKED IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

a. PRIOR TO THE START OF EARTH DISTURBANCE b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT. d. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED. TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH this plan. With the permission of the sediment control inspector, BEGIN MASS GRADING OPERATIONS. PROVIDE POSITIVE DRAINAGE TO ALL

| SHEET INDEX                          |        |  |  |  |  |
|--------------------------------------|--------|--|--|--|--|
| SĤEĖT                                | NUMBER |  |  |  |  |
| COVER SHEET (KEY MAP)                | 1:     |  |  |  |  |
| OND 2 REVISION                       | 2      |  |  |  |  |
| DITE PLAN                            | 3      |  |  |  |  |
| PRAINAGE AREA MAPS, DETAILS \$ NOTES | 4      |  |  |  |  |
| PRAINAGE AREA MAPS, DETAILS \$ NOTES | 5      |  |  |  |  |

**VICINITY MAP** 

ADC # 21007249

HOWARD COUNTY MAP PAGE 20 GRID D-8

PROPERTY BOUNDARY

### **LEGEND**

|  | ADJACENT LOT LINE                     |
|--|---------------------------------------|
|  | RIGHT OF WAY                          |
|  | EX. BUILDING                          |
| , , 120                                | EX. MAJOR CONTOUR                     |
| 120                                    | EX. MINOR CONTOUR                     |
| 118                                    | PROP. MAJOR CONTOUR                   |
| 1 1 1                                  | PROP. MINOR CONTOUR PROP. BUILDING    |
| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | EX. TREELINE                          |
| FCE                                    |                                       |
|  | FOREST CONSERVATION STREAM CENTERLINE |
|  | STREAM EDGE                           |
|  | STREAM BUFFER                         |
|  | FLOODPLAIN                            |
|  | FLOODPLAIN BUFFER                     |
|  | LIMIT OF DISTURBANCE                  |
| 0                                      | EX. WETLAND                           |
| X                                      |                                       |
|  | EX. WETLAND BUFFER                    |
| KV2                                    | EV TREE                               |

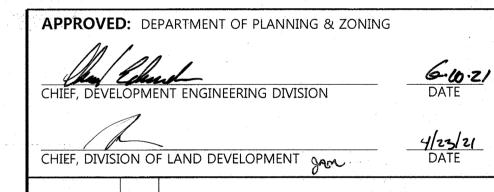
# **ENVIRONMENTAL DATA SOURCES**

- FLOODPLAIN INFORMATION HEREON REFLECTS THE RESULT OF A STUDY PERFORMED BY PATTON, HARRIS, RUST AND ASSOCIATES, INC.
- CHRISTOPHER CONSULTANTS, LTD. DATED: SEPTEMBER 29, 2005.
- SOIL SURVEY INFORMATION SHOWN HEREON REFLECTS HOWARD COUNTY SOILS INFORMATION OBTAINED FROM NRCS DATED: 11/02/2007.

### DATA SOURCES:

DATE BY

EXISTING TOPOGRAPHIC INFORMATION SHOWN HEREON REFLECTS THE RESULT OF A TOPOGRAPHIC SURVEY PERFORMED BY DMW INC ON OCTOBER 2020, HOWARD COUNTY GIS & APPROVED SDP-08-075.

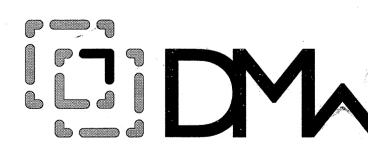


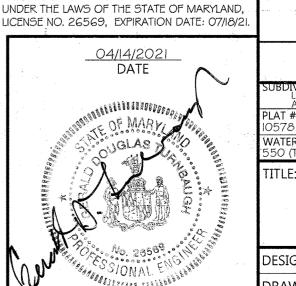
## LUTHERAN VILLAGE AT MILLER'S GRANT 9000 FATHERS LEGACY

**REVISIONS** 

ELLICOTT CITY, MD 21042 ELECTION DISTRICT 02. C1 OWNER / DEVELOPER:

LUTHERAN VILLAGE AT MILLER'S GRANT C/O CARROLL LUTHERAN VILLAGE CONTACT: ROY CHIAVACCI 300 ST LUKE CIRCLE WESTMINSTER MD 21158





ROFESSIONAL ENGR. NO. 26569

PROFESSIONAL CERTIFICATION

PREPARED OR APPROVED BY ME, AND THAT I AM

A DULY LICENSED PROFESSIONAL ENGINEER

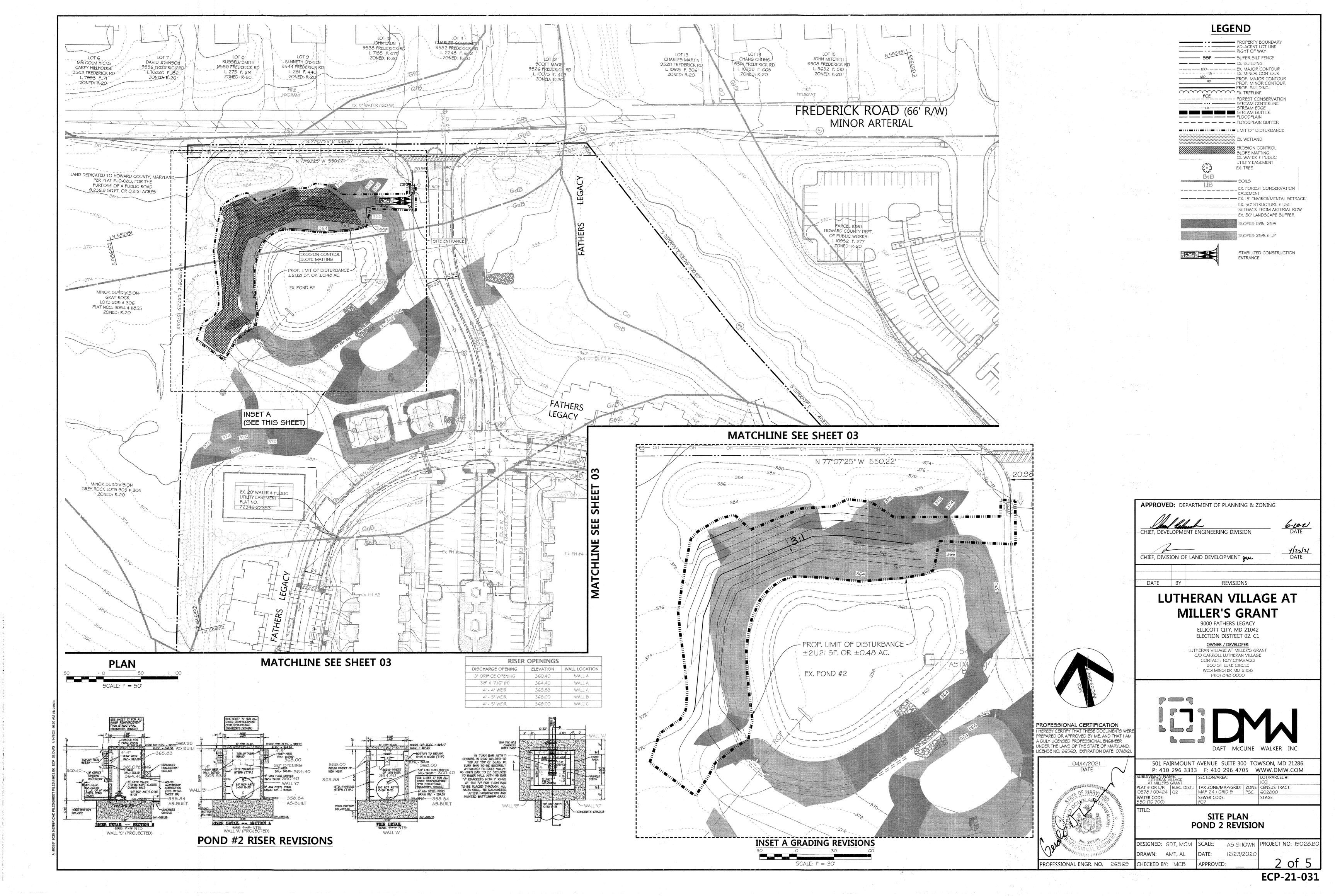


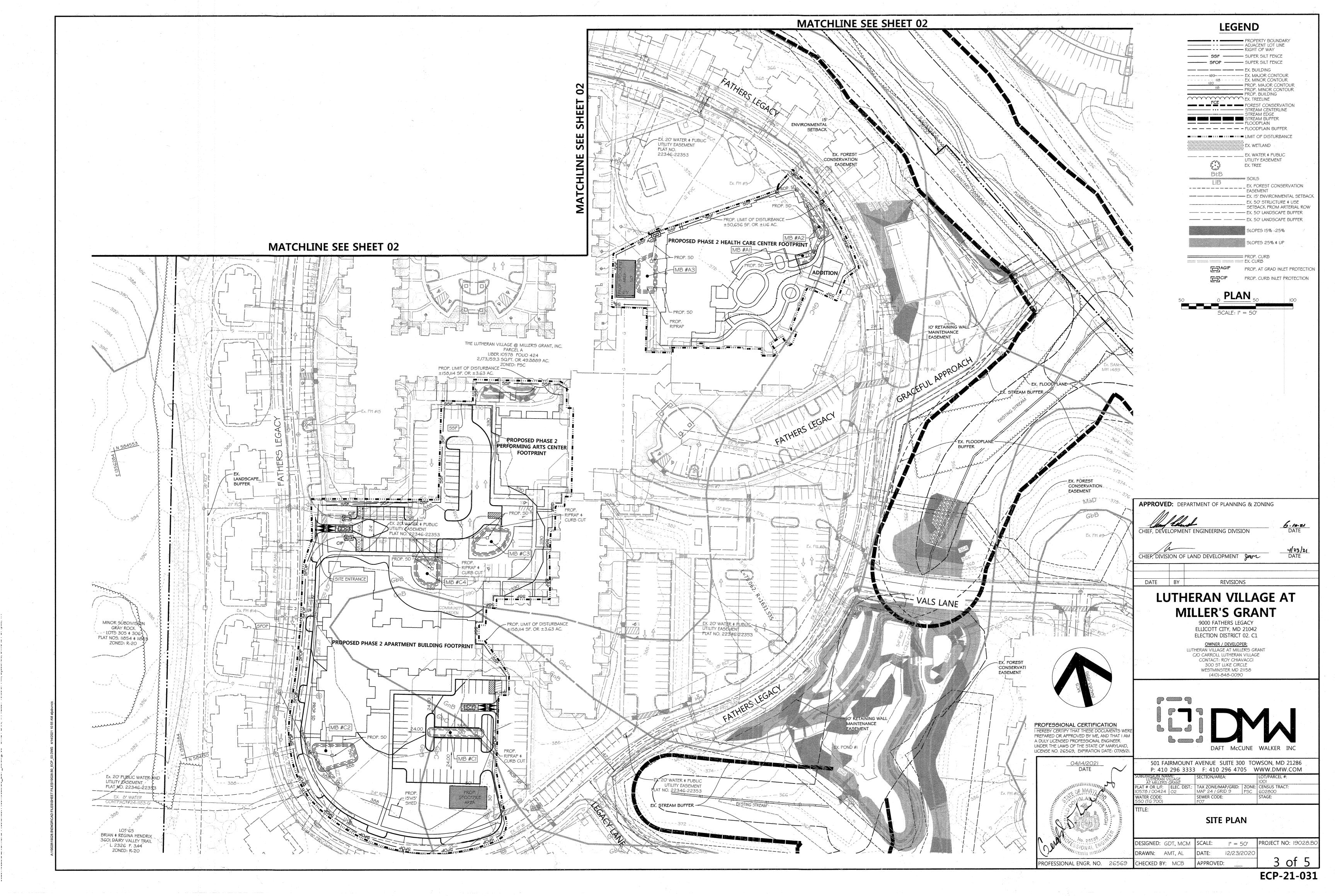
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286 P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM **COVER SHEET** (KEYMAP)

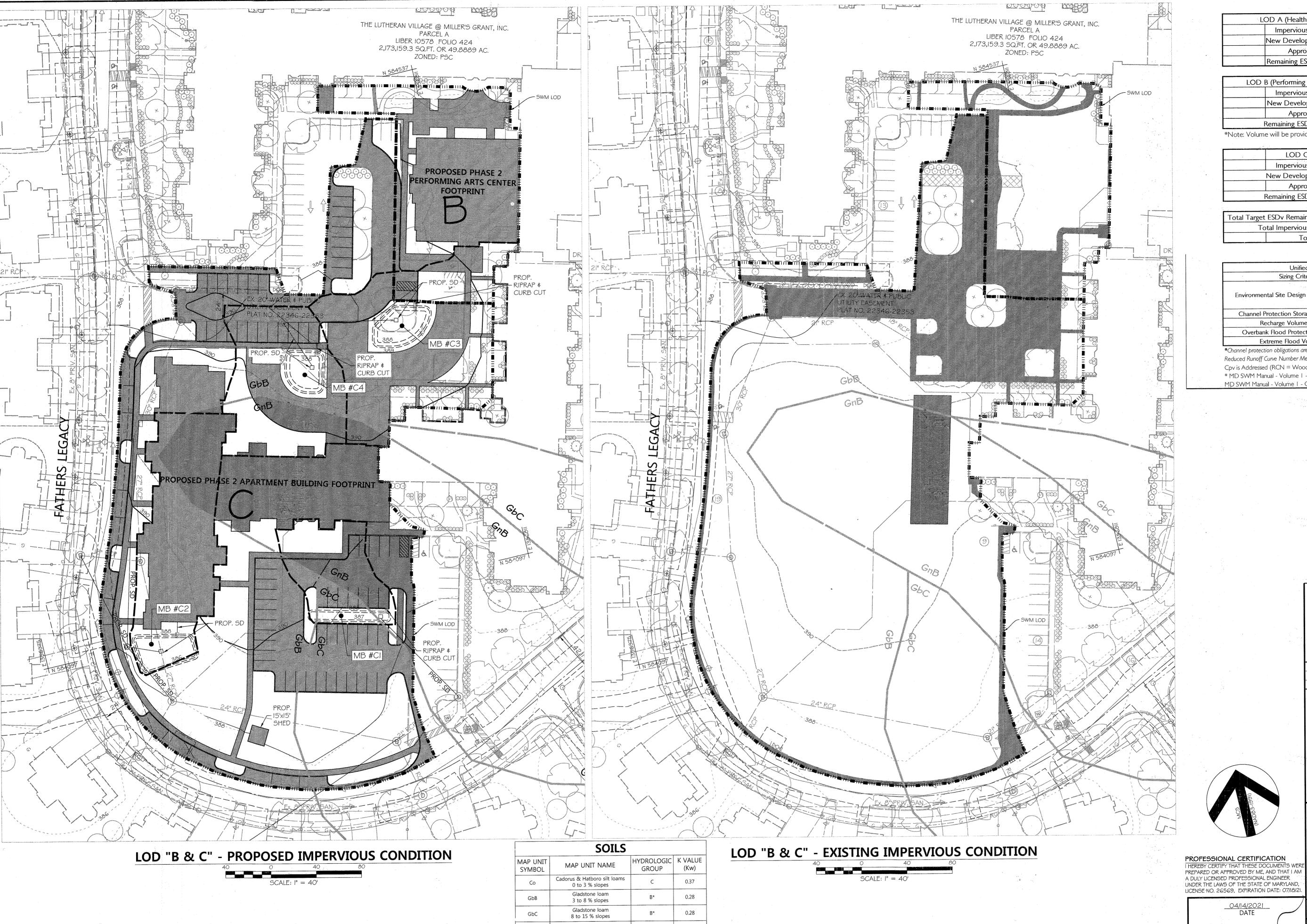
CHECKED BY: MCB APPROVED:

ESIGNED: GDT, MCM SCALE: PROJECT NO: 19028.B0 I'' = 200'12/23/202

> of 5 ECP-21-031







dstone-Urban land complex 0 to 8 % slopes

ladstone-Urban land complex 8 to 15 % slopes Glenville-Baile silt loams 0 to 8 % slopes

15 to 25 % slopes Urban land-Udorthents complex

0 to 8 percent slopes

\* HYDROLOGIC SOIL GROUP BASED ON WEB SOIL SURVEY ACCESSED 11/02/2007 PER APPROVED HYDROLOGY.

| - |      | f . |                        |               |        |         |  |
|---|------|-----|------------------------|---------------|--------|---------|--|
|   | 0.28 |     |                        | -             |        |         |  |
|   |      |     | FACILITY NAME & NUMBER | PRACTICE TYPE | PUBLIC | PRIVATE |  |
|   | 0.43 |     | MB #C1                 | MICRO-BIO     | N/A    | YES     |  |
| _ |      |     | MB #C2                 | MICRO-BIO     | N/A    | YES     |  |
| _ | 0.28 | ,   | MB #C3                 | MICRO-BIO     | N/A    | YES     |  |
|   | 0.37 | er. | MB #C4                 | MICRO-BIO     | N/A    | YES     |  |

|                        | -             |        |         |       |
|------------------------|---------------|--------|---------|-------|
| FACILITY NAME & NUMBER | PRACTICE TYPE | PUBLIC | PRIVATE | MISC. |
| MB #C1                 | MICRO-BIO     | N/A    | YES     |       |
| MB #C2                 | MICRO-BIO     | N/A    | YES     |       |
|                        | MICDO DIO     | NI/A   | VEC     |       |

|   | LOD A (Health Care Center) = | 48,970 | s.f. |
|---|------------------------------|--------|------|
|   | Impervious Area to Treat =   | 27,001 | s.f. |
| , | New Development A ESDv =     | 4,815  | c.f. |
|   | Approved SDP WQv =           | 3,346  | c.f. |
|   | Remaining ESDv to Provide =  | 1,469  | s.f. |

| LC  | OD B (Performing Arts Addition) = | 21,364 | s.f. |  |
|-----|-----------------------------------|--------|------|--|
| 5 1 | Impervious Area to Treat =        | 14,618 | s.f. |  |
|     | New Development B ESDv =          | 2,663  | c.f. |  |
|     | Approved SDP WQv =                | 1,460  | c.f. |  |
|     | Remaining ESDy to Provide* =      | 1 204  | s f  |  |

\*Note: Volume will be provided within facilities associated with LOD C.

| , , | LOD C (Apartments) =         | 125,099 | s.f. |
|-----|------------------------------|---------|------|
|     | Impervious Area to Treat =   | 76,397  | s.f. |
|     | New Development C ESDv =     | 12,010  | c.f. |
|     | Approved SDP WQv =           | 8,548   | c.f. |
|     | Remaining ESDv to Provide* = | 3,461   | s.f. |

|   | • ,                                      |         |      |  |
|---|--|---------|------|--|
| , | Total Target ESDv Remaining to Provide = | 6,134   | c.f. |  |
|   | Total Impervious Area to Treat =         | 118,016 | s.f. |  |
|   | Total Study LOD =                        | 195,433 | s.f. |  |

| Sizing Criteria   | Required | Provided |
|---|----------|----------|
| Environmental Site Design Volume (ESD <sub>V</sub> ) (cf) | 6,134    | 6,341    |
| Channel Protection Storage Volume (Cp <sub>V</sub> )*     | NA       | NA       |
| Recharge Volume (Re <sub>V</sub> ) (cf)                   |          |          |
| Overbank Flood Protection Volume (Qp)                     | NA       | NA       |
| Extreme Flood Volume (Q <sub>f</sub> )                    | NA       | NA .     |

\*Channel protection obligations are met when ESD practices are designed according to the Reduced Runoff Curve Number Method.

Cpv is Addressed (RCN = Woods in Good Condition)

\* MD SWM Manual - Volume 1 - Chapter 5 - Section 5.2.1 (Page 5.17 Supp. 1)
MD SWM Manual - Volume 1 - Chapter 5 - Section 5.2.4 Table 5.3 (Pages 5.21 and 5.22 Supp. 1)

# **LEGEND** FACILITIES DRAINAGE AREAS PROPERTY BOUNDARY ADJACENT LOT LINE

|  | RIGHT OF WAY                       |  |
|--|------------------------------------|--|
| 55F  | SUPER SILT FENCE                   |  |
|  | EX. BUILDING                       |  |
| <u>120</u>   |                                    |  |
| 120  |                                    |  |
| <br>116  | PROP. MAJOR CONTOUR                |  |
|  | PROP. MINOR CONTOUR PROP. BUILDING |  |
| $\sim$ | EX. TREELINE                       |  |
| FCE  | FOREST CONSERVATION                |  |
| • • •  | - STREAM CENTERLINE                |  |
| 000  | - STREAM EDGE                      |  |
|  | STREAM BUFFER                      |  |

FLOODPLAIN ■ | | ■ | | ■ | | ■ | | ■ | | ■ SWM LIMIT OF DISTURBANCE

PROPOSED IMPERVIOUS B SOILS PROP. CURB

APPROVED: DEPARTMENT OF PLANNING & ZONING 6-10-21 DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

**REVISIONS** DATE **LUTHERAN VILLAGE AT** 

> **MILLER'S GRANT** 9000 FATHERS LEGACY ELLICOTT CITY, MD 21042 ELECTION DISTRICT 02. C1

OWNER / DEVELOPER:
LUTHERAN VILLAGE AT MILLER'S GRANT
C/O CARROLL LUTHERAN VILLAGE CONTACT: ROY CHIAVACCI 300 ST LUKE CIRCLE WESTMINSTER MD 21158 (410)-848-0090



LICENSE NO. 26569, EXPIRATION DATE: 07/18/21.

| + |   |                         |                                       |              |                         |
|---|---|-------------------------|---------------------------------------|--------------|-------------------------|
| / |   |                         | AVENUE SUITE 30<br>F: 410 296 470     |              |                         |
|   | SUBDIVISION NAM<br>LUTHERAN V<br>AT MILLERS | VIE:<br>ILLAGE<br>GRANT | SECTION/AREA:                         |              | LOT/PARCEL #:           |
|   | PLAT # OR L/F:<br>10578 / 00424             | ELEC. DIST.:<br>02      | TAX ZONE/MAP/GRID:<br>MAP 24 / GRID 9 | ZONE:<br>PSC | CENSUS TRACT:<br>602800 |
|   | WATER CODE:                                 |                         | SEWER CODE:                           |              | STAGE:                  |

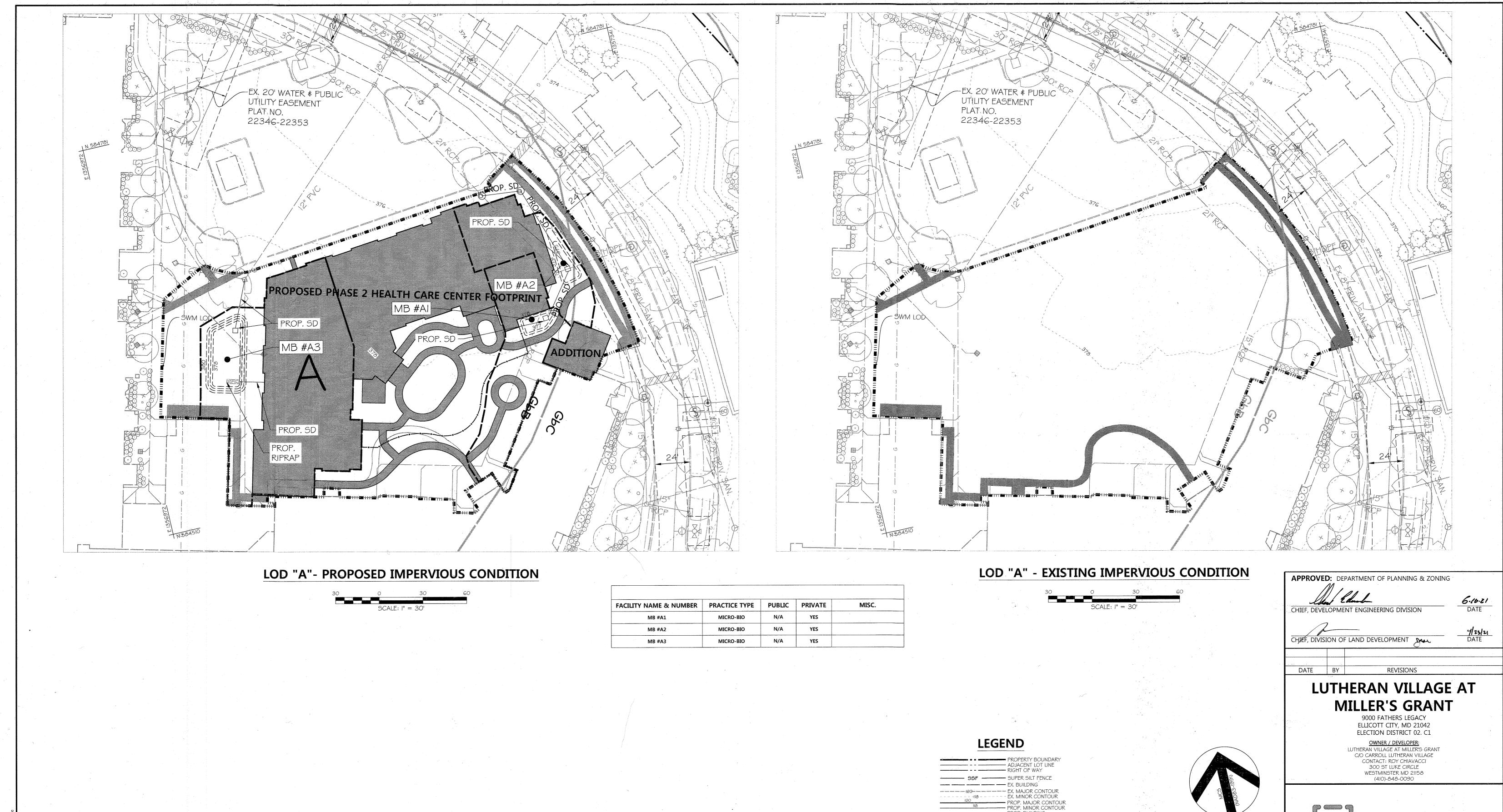
DRAINAGE AREAS, NOTES & DETAILS

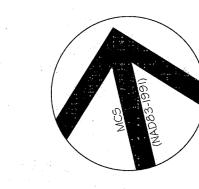
| DRAWN:    | AMT, AL  | DATE:  | 12/23/2020 |
|-----------|----------|--------|------------|
| DESIGNED: | GDT, MCM | SCALE: | AS SHOWN   |
| <u> </u>  |          |        |            |

PROFESSIONAL ENGR. NO. 26569 CHECKED BY: MCB APPROVED:

4 of 5 ECP-21-031

PROJECT NO: 19028.B0





PROP. BUILDING EX. TREELINE

BtB

FCE — FOREST CONSERVATION — STREAM CENTERLINE — STREAM EDGE

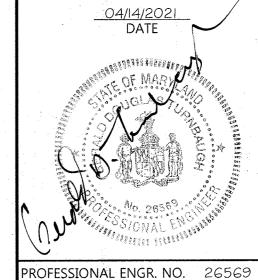
MIII III III III III III III III SWM LIMIT OF DISTURBANCE

FACILITIES DRAINAGE AREAS

IMPERVIOUS,



UNDER THE LAWS OF THE STATE OF MARYLAN LICENSE NO. 26569, EXPIRATION DATE: 07/1



501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286 P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

PLAT # OR L/F: ELEC. DIST.: TAX ZONE/MAP/GRID: ZONE: CENSUS TRACT: 10578 / 00424 02 MAP 24 / GRID 9 PSC 602800

WATER CODE: SEWER CODE: STAGE: WATER CODE: 550 (TG 700)

DRAINAGE AREAS, NOTES & DETAILS

DESIGNED: GDT, MCM | SCALE: |' = 30|'PROJECT NO: 19028.BC DATE: 12/23/2020 DRAWN: AMT, AL 5 of 5 CHECKED BY: MCB APPROVED:

ECP-21-031