

| QUANTITIES | | | | |
|--|------------|------------|-----------------|----------------------------|
| NAME OF UTILITY CONTRACTOR: | | | | |
| SURVEY AND DRAFTING DIVISION AS-BUILT: | | | | |
| ITEMS | QUANTITIES | | AS-BUILT | |
| | ESTIMATED | QUANTITIES | TYPE | MANUFACTURER/SUPPLIER |
| 8" D.I.P. WATER | 1,806 LF | 1,806 LF | DIP | MCWANE / FERGLUSON |
| 8"x8" TEE | 3 EA | 3 EA | DIP | TYLER UNION / FERGLUSON |
| 16"x8" TS & VALVE | 1 EA | 1 EA | STAINLESS STEEL | SMITH / FERGLUSON |
| 8" VALVE | 5 EA | 5 EA | DIP | MUELLER / FERGLUSON |
| FIRE HYDRANT, TEE & VALVE | 4 EA | 4 EA | DIP | MUELLER / FERGLUSON |
| 8" CAP & BUTRESS | 1 EA | 1 EA | DIP | TYLER UNION / FERGLUSON |
| 1.5" WHC | 1,438 LF | 1,438 LF | COPPER | (SEE PLAN) / FERGLUSON |
| 1" METER VAULT | 65 EA | 65 EA | CONCRETE | HORNE CONCRETE / FERGLUSON |
| 8" PVC SEWER (SDR-35) | 1,989 LF | 1,989 LF | PVC | NATIONAL PIPE / FERGLUSON |
| 8" PVC SEWER (C-900) | 403 LF | 403 LF | PVC | NATIONAL PIPE / FERGLUSON |
| 8" DIP SEWER | 373 LF | 373 LF | DIP | MCWANE / FERGLUSON |
| DROP MH CONNECTION (TYPE B) | 1 EA | 1 EA | CONCRETE | ATLANTIC |
| SEWER MANHOLE | 16 EA | 16 EA | CONCRETE | ATLANTIC |
| 4" SHC | 1,409 LF | 1,409 LF | PVC | NATIONAL PIPE / FERGLUSON |
| DROP HOUSE CONNECTION | 17 EA | 17 EA | DIP | MCWANE / FERGLUSON |

| Lot Frontage Chart | |
|--------------------|-----------------|
| Lot Number | Distance (feet) |
| 1 | 39.29 |
| 2 | 30.01 |
| 3 | 30.07 |
| 4 | 39.12 |
| 5 | 39.00 |
| 6 | 30.00 |
| 7 | 30.00 |
| 8 | 39.06 |
| 9 | 39.01 |
| 10 | 30.00 |
| 11 | 30.00 |
| 12 | 30.00 |
| 13 | 39.00 |
| 14 | 30.00 |
| 15 | 30.00 |
| 16 | 39.00 |
| 17 | 39.00 |
| 18 | 30.00 |
| 19 | 30.00 |
| 20 | 39.00 |
| 21 | 39.00 |
| 22 | 30.00 |
| 23 | 30.00 |
| 24 | 39.00 |
| 25 | 39.00 |
| 26 | 30.00 |
| 27 | 30.00 |
| 28 | 30.00 |
| 29 | 37.36 |
| 30 | 41.06 |
| 31 | 30.00 |
| 32 | 30.00 |
| 33 | 30.00 |
| 34 | 39.00 |
| 35 | 27.30 |
| 36 | 30.01 |
| 37 | 31.67 |
| 38 | 43.00 |
| 39 | 30.00 |
| 40 | 30.00 |
| 41 | 30.00 |
| 42 | 37.00 |
| 43 | 37.36 |
| 44 | 30.04 |
| 45 | 30.03 |
| 46 | 30.21 |
| 47 | 43.78 |

| Lot Frontage Chart | |
|--------------------|-----------------|
| Lot Number | Distance (feet) |
| 95 | 39.56 |
| 96 | 30.09 |
| 97 | 30.00 |
| 98 | 39.00 |
| 99 | 38.00 |
| 100 | 30.00 |
| 101 | 38.00 |
| 102 | 39.00 |
| 103 | 30.00 |
| 104 | 30.00 |
| 105 | 39.00 |
| 106 | 83.54 |
| 107 | 38.00 |
| 108 | 30.00 |
| 109 | 38.00 |
| 110 | 38.00 |
| 111 | 30.00 |
| 112 | 38.00 |

| Sewer Structure Schedule | | | | | |
|--------------------------|------------------------|---------------|-------------|------------|-------------------------------|
| Manhole | Location (NAD '83) | Rim Elevation | Invert In | Invert Out | Howard County Standard Detail |
| 101 | N 592239.9 E 1347368.0 | 410.76 | 395.18 | 395.08 | G-5.12 |
| 102 | N 592123.8 E 1347647.7 | 407.10 | 388.59 (N5) | 398.49 | G-5.12 |
| 103 | N 592090.8 E 1347791.5 | 406.50 | 399.48 | 399.38 | G-5.12 |
| 104 | N 592111.1 E 1347973.9 | 405.20 | 400.53 | 400.43 | G-5.12 |
| 105 | N 592306.8 E 1348059.7 | 406.30 | 401.69 | 401.59 | G-5.12 |
| 106 | N 592393.5 E 1348001.7 | 416.80 | 406.58 | 406.48 | G-5.12 |
| 107 | N 592602.7 E 1348093.4 | 424.62 | 409.29 | 409.19 | G-5.12 |
| 108 | N 592633.8 E 1348197.2 | 424.88 | 409.93 | 409.83 | G-5.12 |
| 109 | N 592822.9 E 1348518.8 | 428.76 | NA | 414.71 | G-5.12 |
| 110 | N 592256.6 E 1347705.9 | 417.80 | 401.88 | 401.78 | G-5.12 |
| 111 | N 592239.4 E 1347745.4 | 416.95 | 402.93 | 402.83 | G-5.12 |
| 112 | N 592248.5 E 1347768.8 | 416.14 | 403.59 | 403.49 | G-5.12 |
| 113 | N 592525.9 E 1347890.5 | 426.30 | 412.63 | 407.67 | G-5.12, G-5.16, S-1.32 |
| 114 | N 592697.4 E 1347971.1 | 432.92 | 419.37 | 419.27 | G-5.12 |
| 115 | N 592892.3 E 1348089.6 | 437.12 | 421.75 | 421.65 | G-5.12 |
| 116 | N 593026.2 E 1348119.6 | 434.65 | - | 422.74 | G-5.12 |

- Notes:
- Top elevations for precast manholes are to the center top of manhole cover
 - Slope of structures to conform to slope of paving/ground.
 - Location coordinates are center of structure for manholes

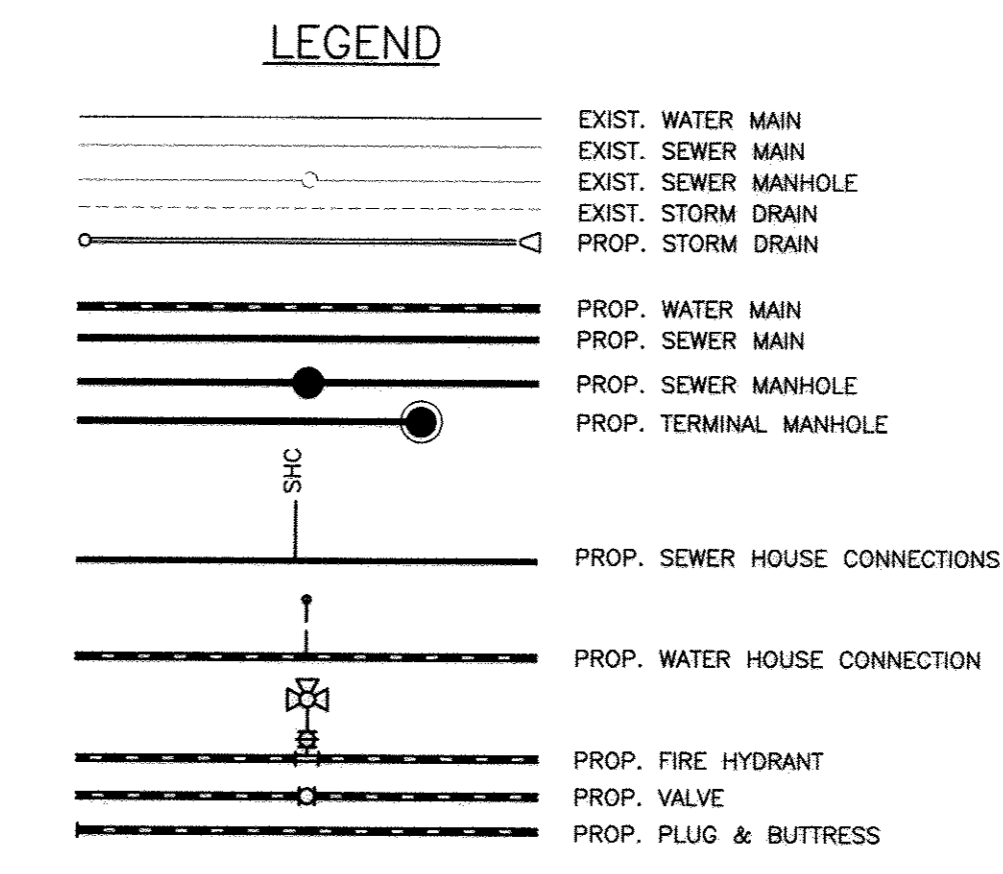
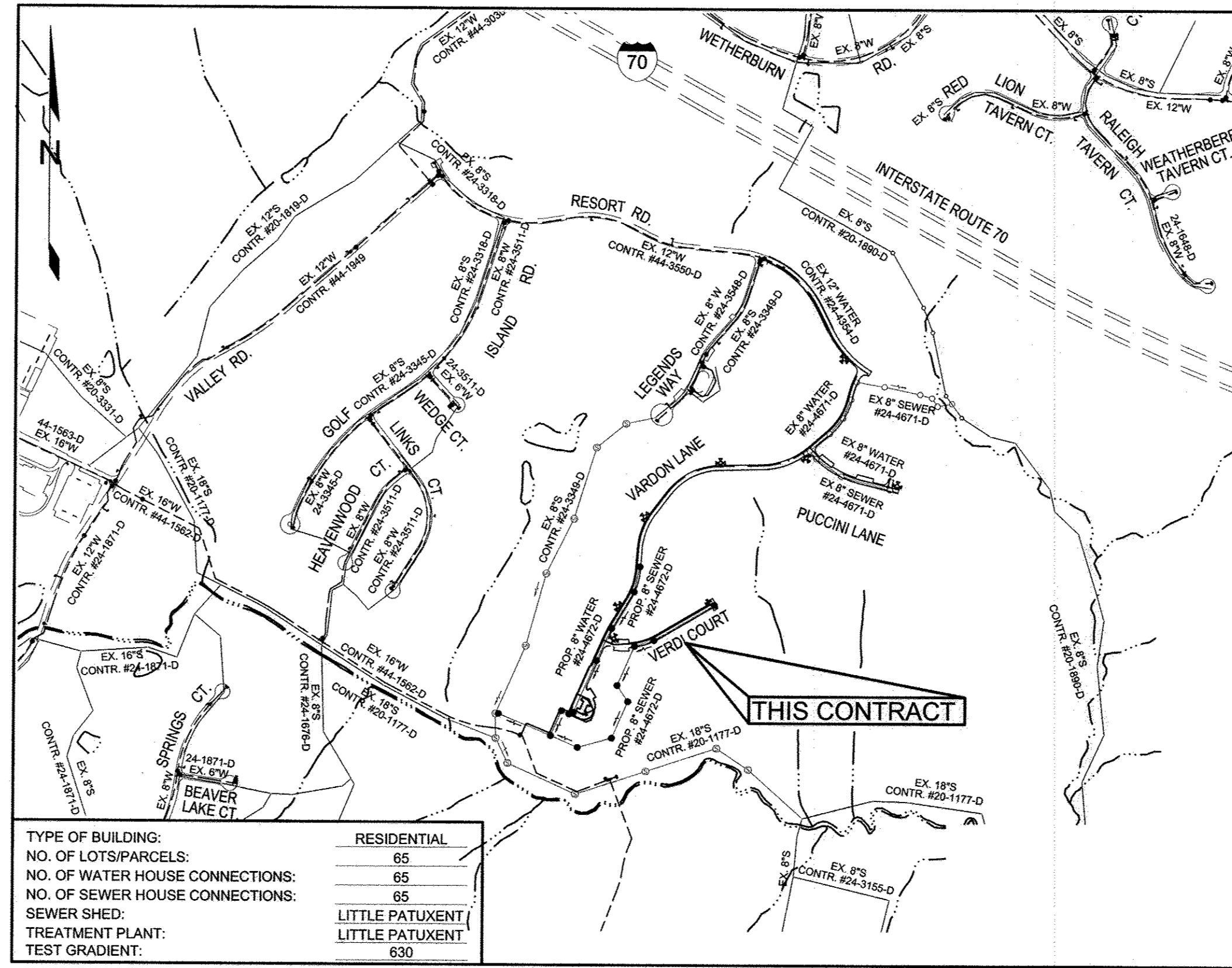
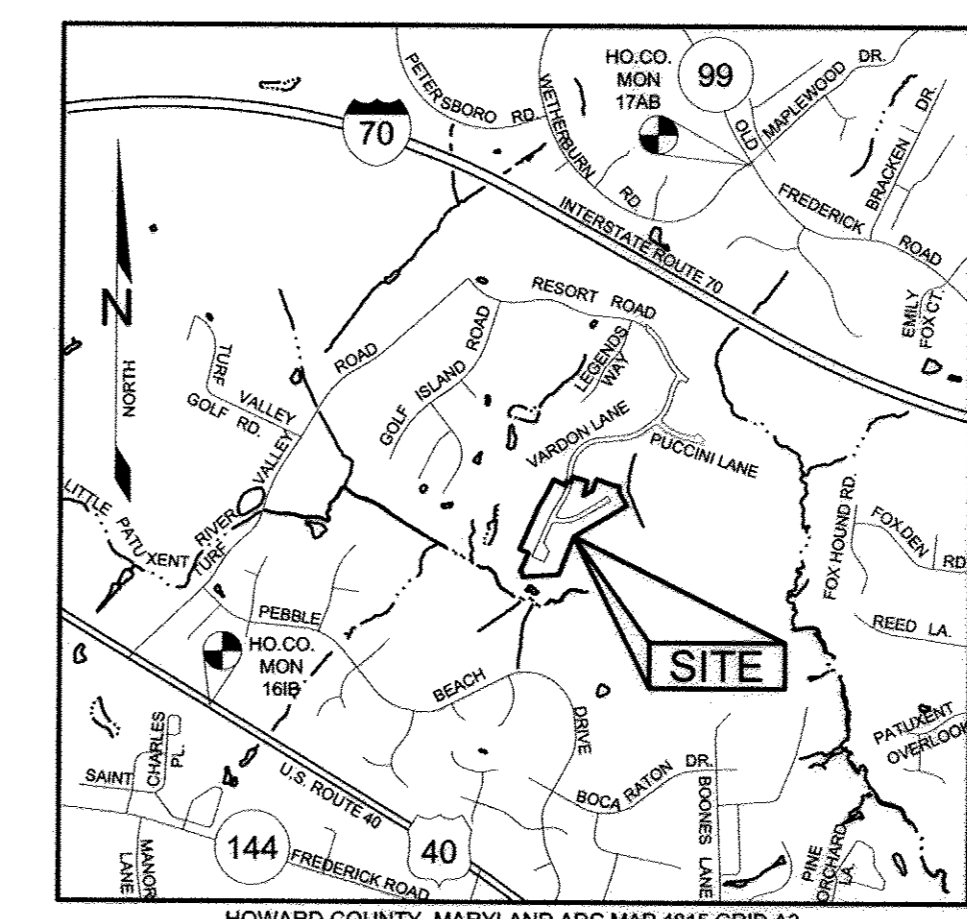
PUBLIC WATER AND SEWER PLAN

FAIRWAYS AT TURF VALLEY

PHASE 3: LOTS 1-47 AND 95-112;
 OPEN SPACE LOTS 48, 49, 113-115; GOLF SPACE LOT 116
 PODS 'F' AND PART OF 'H' SECTION IV : RESIDENTIAL PHASE IV D
 HOWARD COUNTY, MARYLAND
CONTRACT NO. #24-4672-D

| BENCHMARKS | | | | |
|------------|--------------|----------------|-----------|---|
| NUMBER | NORTHING | EASTING | ELEVATION | DESCRIPTION |
| 161B | 590,475.2538 | 1,344,763.9350 | 469.892 | 11.5' SOUTHWEST OF WBL RT. 40, 20.8' WEST OF PK NAIL IN SHOULDER, 66.4' SOUTH OF LAST POST IN GUARDRAIL |
| 17AB | 598,435.249 | 1,348,615.2482 | 508.469 | SE OF INTERSECTION OF RTE. 99 AND WETHERBURN ROAD, 14.8' WEST OF FENCE POST, 35' NE OF MANHOLE |

- ### GENERAL NOTES
- #### PART I
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN JANUARY, 2006 BY WINGS AERIAL MAPPING CO., INC.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS:
 THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 161B AND NO. 17AB.
 ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 0012 AND 16E1.
 ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OF NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T.....1-800-252-1133
 BGE (CONTRACTOR SERVICES).....410-637-8713
 BGE (EMERGENCY).....410-685-0123
 BUREAU OF UTILITIES AND METALS.....410-313-4900
 COLONIAL PIPELINE CO.....410-785-1390
 MISS UTILITY.....1-800-257-7777
 STATE HIGHWAY ADMINISTRATION.....410-331-5533
 VERIZON.....1-800-743-0033
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR ROAD FOR WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 16.114(g) OF THE HOWARD COUNTY CODE.



NOTE:
 ALL WATER HOUSE CONNECTIONS SHALL BE 1.5" WITH A 1" METER (OUTSIDE SETTING).
 ALL SEWER HOUSE CONNECTIONS SHALL BE 4" PVC.

| SHEET INDEX | |
|-------------|----------------------|
| NO. | DESCRIPTION |
| 1 | COVER SHEET |
| 2 | WATER AND SEWER PLAN |
| 3 | WATER PROFILES |
| 4 | WATER PROFILES |
| 5 | WATER PROFILES |

THIS SHEET REPLACES THE PREVIOUS SHEET 1 SIGNED ON 11-22-2010

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. 22390, Expiration Date: 6-30-2017.

OWNER/DEVELOPER:
 MANGIONE ENTERPRISES OF TURF VALLEY, LP
 1205 YORK ROAD, PENTHOUSE
 LUTHERVILLE, MARYLAND 21093
 410-825-8400

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

 HOWARD SOIL CONSERVATION DISTRICT
 DATE: 5/14/17

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER F-10-086.

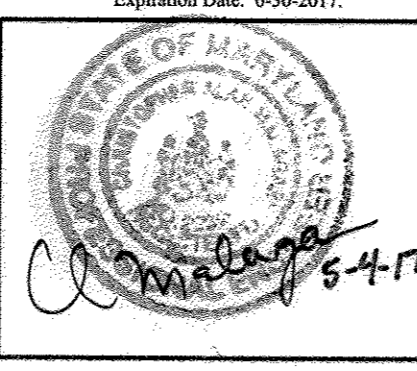
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

 CHIEF, DEVELOPMENT ENGINEERING DIVISION

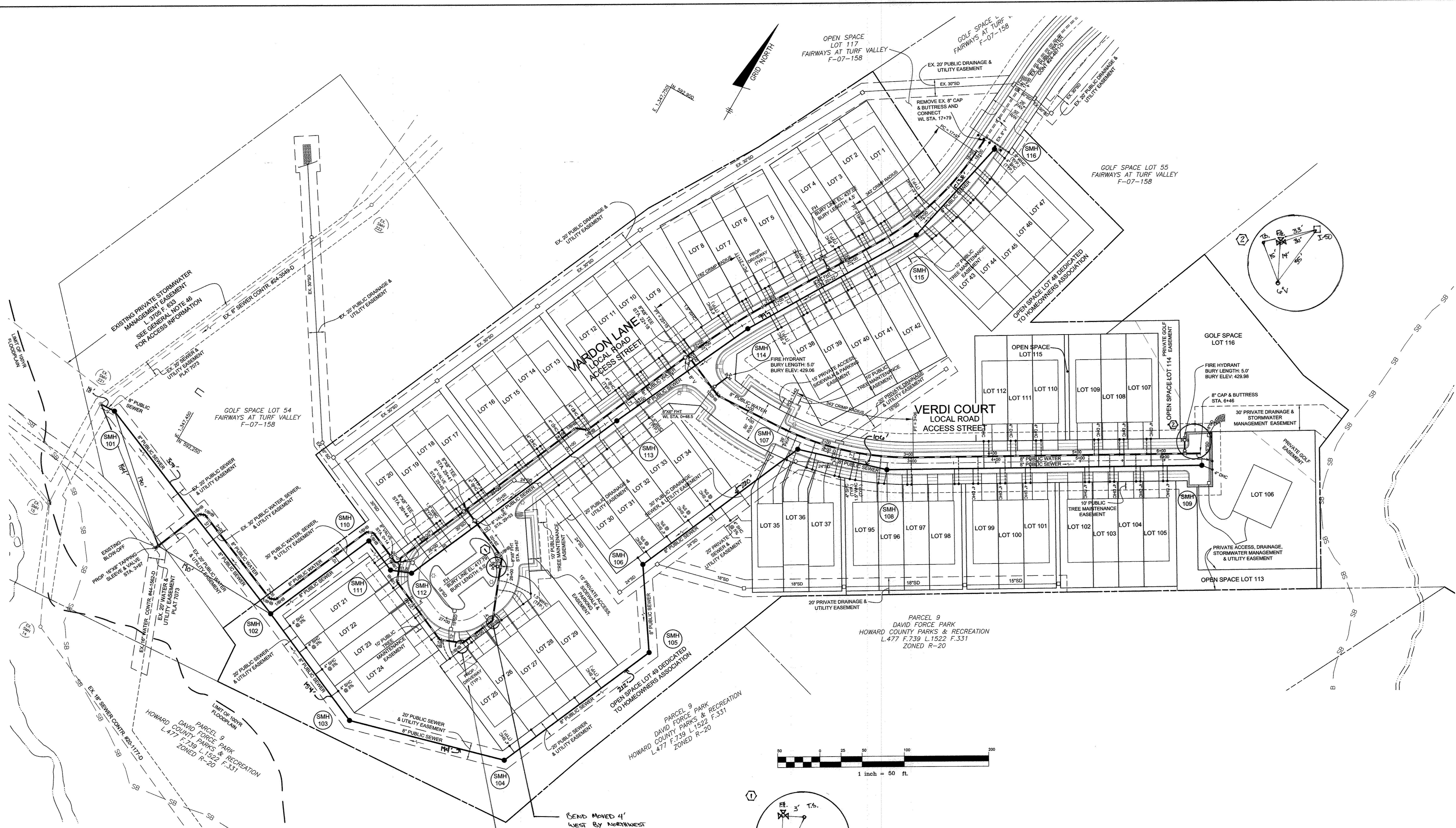
BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315 A ELICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-8844
 WWW.BEI-ENGINEERING.COM



| | | | | | |
|--------|--------|-----|-----|--|-----------|
| DES: | DBT | KCI | 5 | AS-BUILTS | 12-7-17 |
| DRAFT: | DBT | BEI | 2 | RELOCATE LOTS 1-47, A PORTION OF VARDON LANE, REMAINDER OF VERDI COURT AND ASSOCIATED WATER AND SEWER FROM CONTRACT 24-4671-D TO THIS CONTRACT. UPDATE QUANTITIES, LOT FRONTAGE CHART, SEWER SCHED., LOCATION MAP AND TITLE BLOCK. | 5-5-2017 |
| CHK: | CAM | BEI | 1 | REVISE LOT NUMBERS. CORRECT FILE # IN HSCD SIG BLOCK | 8-26-2016 |
| DATE: | 2/2017 | BY: | NO. | REVISIONS | DATE |

COVER SHEET

FAIRWAYS AT TURF VALLEY
 PHASE 3
 LOTS 1-47 AND 95-112;
 OPEN SPACE LOTS 48, 49, & 113-115; AND GOLF SPACE LOT 116
 TAX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 706 - ZONED: PGCC - ELECTION DISTRICT: 2
CONTRACT NO. 24-4672-D
 SCALE: AS SHOWN
 SHEET NO. 1 OF 5



OWNER/DEVELOPER:
MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

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. 22390, Expiration Date: 6-30-2017.



BENCHMARK ENGINEERING, INC.
REGISTERED LAND SURVEYORS, ENGINEERS
8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043
(P) 410-485-8105 (F) 410-485-8844
WWW.BE-CVENGINEERING.COM

| | | | | | |
|--------|--------|-----|-----|---|-----------|
| DES: | DBT | KCI | 5 | AS-BUILT | 12-7-17 |
| DRAFT: | DBT | BEI | 2 | RELOCATE LOTS 1-47, A PORTION OF VARDON LANE, REMAINDER OF VERDI COURT AND ASSOCIATED WATER AND SEWER FROM CONTRACT 24-4671-D TO THIS CONTRACT. | 5-5-2017 |
| CHK: | CAM | BEI | 1 | REVISE LOT NUMBERS, REMOVE LOT AREAS, REVISE FRONT LOT DIMENSIONS, DELETE 3" WATER, SEWER & UTILITY EASEMENT. | 8-26-2016 |
| DATE: | 2/2017 | BY | NO. | REVISIONS | DATE |

WATER AND SEWER PLAN

600 SCALE MAP # 16 & 17 BLOCK: 12 & 9

FAIRWAYS AT TURF VALLEY
PHASE 3
LOTS 1-47 AND 95-112;
OPEN SPACE LOTS 48, 49, & 113-115; AND GOLF SPACE LOT 116
TAX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 706 - ZONED: PGCC - ELECTION DISTRICT: 2
CONTRACT NO. 24-4672-D

SCALE:
AS SHOWN
SHEET NO.
2 OF 5

THIS SHEET REPLACES THE PREVIOUS SHEET 2 SIGNED ON 11-22-2010

| LOT | ADDRESS | LOCATION DIMENSION 1 | LOCATION DIMENSION 2 |
|-----|-------------|----------------------|----------------------|
| 1 | VARDON LANE | W/HC LOT 1 | MH 115 44' |
| 2 | VARDON LANE | W/HC LOT 2 | MH 115 44' |
| 3 | VARDON LANE | W/HC LOT 3 | MH 115 68' |
| 4 | VARDON LANE | W/HC LOT 4 | FH VALVE 20+22 22' |
| 5 | VARDON LANE | W/HC LOT 5 | FH VALVE 20+22 21' |
| 6 | VARDON LANE | W/HC LOT 6 | MH 114 50' |
| 7 | VARDON LANE | W/HC LOT 7 | MH 114 52' |
| 8 | VARDON LANE | W/HC LOT 8 | MH 114 36' |
| 9 | VARDON LANE | W/HC LOT 9 | 8" VALVE 22+18 19' |
| 10 | VARDON LANE | W/HC LOT 10 | 8" VALVE 22+18 32' |
| 11 | VARDON LANE | W/HC LOT 11 | 8" VALVE 22+18 60' |
| 12 | VARDON LANE | W/HC LOT 12 | MH 115 32' |
| 13 | VARDON LANE | W/HC LOT 13 | MH 115 43' |
| 14 | VARDON LANE | W/HC LOT 14 | MH 115 69' |
| 15 | VARDON LANE | W/HC LOT 15 | MH 115 100' |
| 16 | VARDON LANE | W/HC LOT 16 | 8" VALVE 21+53 82' |
| 17 | VARDON LANE | W/HC LOT 17 | 8" VALVE 21+53 51' |
| 18 | VARDON LANE | W/HC LOT 18 | 8" VALVE 25+45 7' |
| 19 | VARDON LANE | W/HC LOT 19 | 8" VALVE 21+53 45' |
| 20 | VARDON LANE | W/HC LOT 20 | 8" VALVE 21+53 74' |
| 21 | VARDON LANE | MH 102 26' | |
| 22 | VARDON LANE | MH 102 55' | |
| 23 | VARDON LANE | MH 103 63' | |
| 24 | VARDON LANE | MH 103 55' | |
| 25 | VARDON LANE | MH 104 20' | |
| 26 | VARDON LANE | MH 104 48' | |
| 27 | VARDON LANE | MH 104 78' | |
| 28 | VARDON LANE | MH 104 111' | |
| 29 | VARDON LANE | MH 104 145' | |
| 30 | VARDON LANE | MH 104 18' | |
| 31 | VARDON LANE | MH 104 18' | |
| 32 | VARDON LANE | MH 106 40' | |
| 33 | VARDON LANE | MH 106 40' | |
| 34 | VARDON LANE | MH 106 75' | |
| 35 | VARDON LANE | MH 106 110' | |
| 36 | VERDI COURT | MH 107 30' | |
| 37 | VERDI COURT | MH 107 52' | |
| 38 | VARDON LANE | MH 114 52' | |
| 39 | VARDON LANE | W/HC LOT 39 | FH VALVE 20+22 68' |
| 40 | VARDON LANE | W/HC LOT 40 | FH VALVE 20+22 59' |
| 41 | VARDON LANE | W/HC LOT 41 | FH VALVE 20+22 55' |
| 42 | VARDON LANE | W/HC LOT 42 | FH VALVE 20+22 58' |
| 43 | VARDON LANE | W/HC LOT 43 | MH 115 22' |
| 44 | VARDON LANE | W/HC LOT 44 | W/HC LOT 44 5' |
| 45 | VARDON LANE | MH 116 20' | |
| 46 | VARDON LANE | W/HC LOT 45 | W/HC LOT 44 6' |
| 47 | VARDON LANE | MH 116 14' | |

| LOT | ADDRESS | LOCATION DIMENSION 1 | LOCATION DIMENSION 2 |
|-----|-------------|----------------------|----------------------|
| 95 | VERDI COURT | SMH 108 44' | SMH 108 20' |
| 96 | VERDI COURT | SMH 108 21' | SMH 97 46' |
| 97 | VERDI COURT | SMH 108 51' | SMH 98 58' |
| 98 | VERDI COURT | SMH 108 84' | SMH 99 22' |
| 99 | VERDI COURT | SMH 108 106' | SMH 100 52' |
| 100 | VERDI COURT | SMH 108 137' | SMH 101 80' |
| 101 | VERDI COURT | SMH 108 167' | SMH 102 61' |
| 102 | VERDI COURT | SMH 109 155' | SMH 103 85' |
| 103 | VERDI COURT | SMH 109 106' | SMH 104 86' |
| 104 | VERDI COURT | SMH 109 77' | SMH 105 80' |
| 105 | VERDI COURT | SMH 109 51' | I-51 51' |
| 106 | VERDI COURT | SMH 109 16' | I-51 17' |
| 107 | VERDI COURT | SMH 109 72' | I-50 75' |
| 108 | VERDI COURT | SMH 109 100' | SMH 107 54' |
| 109 | VERDI COURT | SMH 109 128' | SMH 108 32' |
| 110 | VERDI COURT | SMH 108 150' | SMH 109 78' |
| 111 | VERDI COURT | SMH 108 178' | SMH 110 84' |
| 112 | VERDI COURT | SMH 108 117' | SMH 111 82' |

| LOT | ADDRESS | LOCATION DIMENSION 1 | LOCATION DIMENSION 2 |
|-----|-------------|----------------------|----------------------|
| 95 | VERDI COURT | SMH 108 38' | W/HC LOT 96 28' |
| 96 | VERDI COURT | SMH 108 18' | W/HC LOT 97 40' |
| 97 | VERDI COURT | SMH 108 35' | W/HC LOT 98 58' |
| 98 | VERDI COURT | SMH 108 28' | W/HC LOT 99 22' |
| 99 | VERDI COURT | SMH 108 111' | W/HC LOT 100 52' |
| 100 | VERDI COURT | SMH 108 142' | W/HC LOT 101 30' |
| 101 | VERDI COURT | SMH 108 172' | W/HC LOT 102 68' |
| 102 | VERDI COURT | SMH 109 140' | W/HC LOT 103 24' |
| 103 | VERDI COURT | SMH 109 111' | W/HC LOT 104 51' |
| 104 | VERDI COURT | SMH 109 79' | W/HC LOT 105 31' |
| 105 | VERDI COURT | SMH 109 45' | I-51 55' |
| 106 | VERDI COURT | SMH 109 17' | I-50 28' |
| 107 | VERDI COURT | SMH 109 76' | I-50 71' |
| 108 | VERDI COURT | SMH 109 96' | W/HC 107 86' |
| 109 | VERDI COURT | SMH 109 150' | W/HC 108 52' |
| 110 | VERDI COURT | SMH 108 155' | W/HC 109 61' |
| 111 | VERDI COURT | SMH 108 183' | W/HC 110 80' |
| 112 | VERDI COURT | SMH 108 125' | W/HC 111 55' |

| Lot Number | Drop Connection | Invert @ main | DHC standpipe length/height | Invert @ RW or smt line | Minimum Cellar Elevation | Basement Floor |
|------------|-----------------|---------------|-----------------------------|-------------------------|--------------------------|----------------|
| 95 | - | 409.80 | 0 | 410.16 | 414.66 | 417.76 |
| 96 | - | 410.26 | 0 | 410.62 | 415.12 | 418.43 |
| 97 | - | 410.41 | 0 | 410.77 | 415.27 | 418.43 |
| 98 | - | 411.12 | 0 | 411.48 | 415.98 | 419.10 |
| 99 | yes | 411.41 | 4.0 | 415.77 | 420.27 | 422.26 |
| 100 | yes | 411.82 | 4.0 | 416.18 | 420.68 | 422.93 |
| 101 | yes | 412.20 | 4.0 | 416.56 | 421.06 | 423.60 |
| 102 | yes | 413.10 | 4.0 | 417.46 | 421.96 | 424.80 |
| 103 | yes | 413.54 | 4.0 | 417.90 | 422.40 | 424.80 |
| 104 | yes | 413.94 | 4.0 | 418.30 | 422.80 | 424.80 |
| 105 | yes | 414.35 | 4.0 | 418.71 | 423.21 | 424.13 |
| 106 | yes | 415.04 | 4.0 | 419.32 | 423.82 | 424.34 |
| 107 | yes | 414.11 | 4.0 | 418.75 | 423.25 | 424.13 |
| 108 | yes | 413.70 | 4.0 | 418.34 | 422.84 | 424.80 |
| 109 | yes | 413.31 | 4.0 | 417.95 | 422.45 | 424.80 |
| 110 | yes | 412.37 | 4.0 | 417.01 | 421.51 | 423.80 |
| 111 | yes | 411.98 | 4.0 | 416.62 | 421.12 | 423.13 |
| 112 | yes | 411.57 | 4.0 | 416.21 | 420.71 | 422.46 |

All SHCs are at 2.0% slope unless otherwise noted.
All Drop connections are HoCoStd S-2.12 Type 'A'

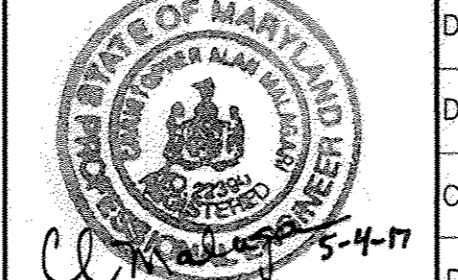
| | | | |
|----------------|----------------|----------------|------|
| MH 108 | MH 107 | SMH LOT 87 | 52' |
| MH 107 | MH 106 | MH 108 | 106' |
| MH 106 | MH 105 | MH 107 | 226' |
| MH 105 | MH 104 | MH 106 | 108' |
| MH 104 | MH 103 | MH 105 | 212' |
| MH 103 | MH 102 | MH 104 | 198' |
| MH 102 | MH 221 | MH 102 | 507' |
| 8" VALVE 21+53 | FH VALVE 25+45 | MH 116 | 55' |
| MH 116 | MH 115 | 8" VALVE 17+50 | 35' |
| MH 115 | MH 114 | MH 114 | 258' |
| FH 20+22 | FH VALVE 20+22 | SMH LOT 5 | 15' |
| FH VALVE 20+22 | FH 20+22 | MH 115 | 99' |
| MH 114 | MH 115 | FH 0+48 | 65' |
| 8" VALVE 21+53 | 8" VALVE 0+48 | SMH LOT 7 | 19' |
| 8" VALVE 21+53 | FH VALVE 0+48 | 8" VALVE 22+18 | 41' |
| FH VALVE 21+53 | FH 0+48 | 8" VALVE 0+48 | 41' |
| MH 115 | MH 114 | MH 112 | 309' |
| 8" VALVE 21+53 | 8" VALVE 21+53 | SMH LOT 18 | 71' |
| FH VALVE 21+53 | FH 28+87 | 8" VALVE 25+45 | 12' |
| FH VALVE 21+53 | FH 28+87 | 8" VALVE 21+53 | 64' |

THIS SHEET REPLACES THE PREVIOUS SHEET 3 SIGNED ON 11-22-2010

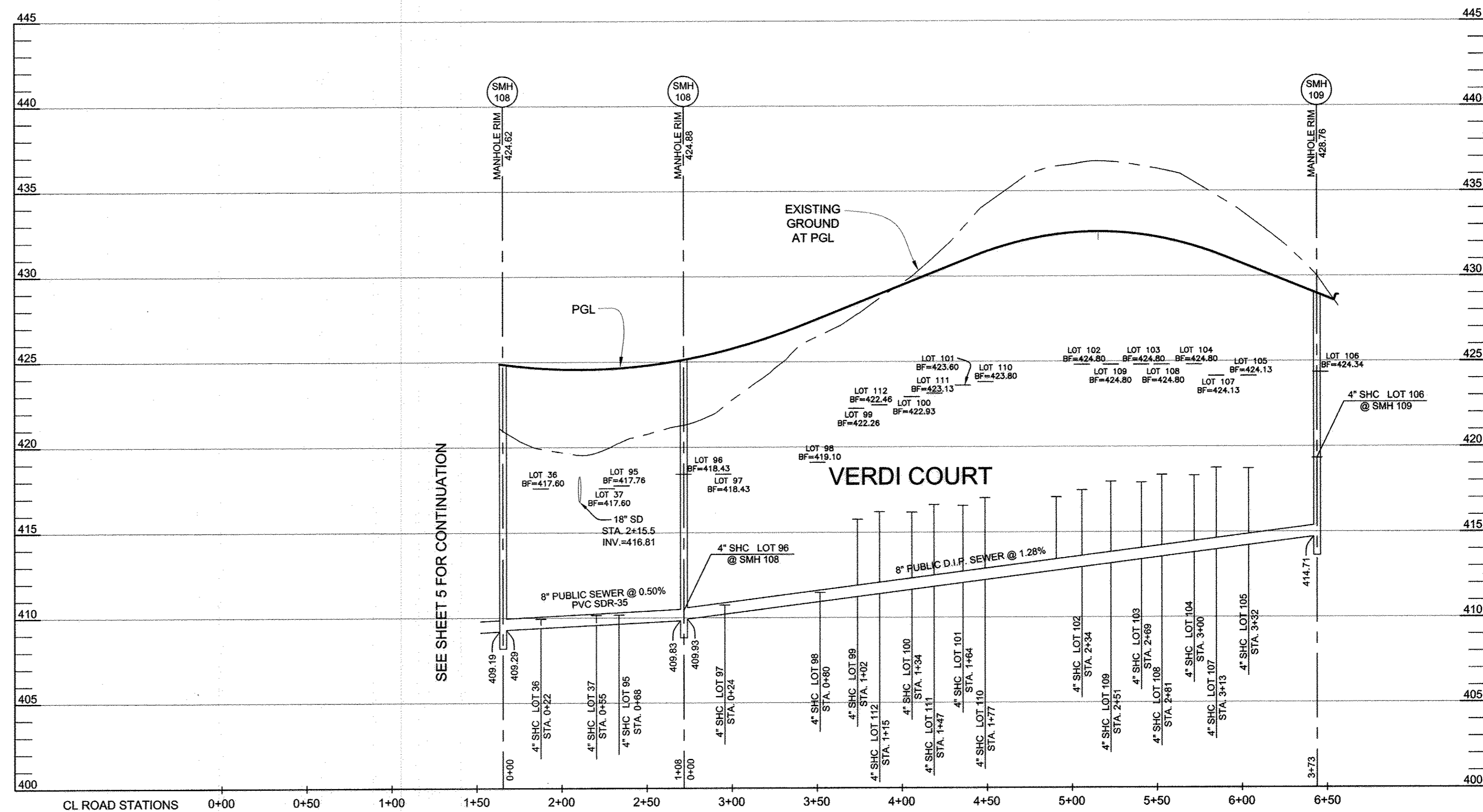
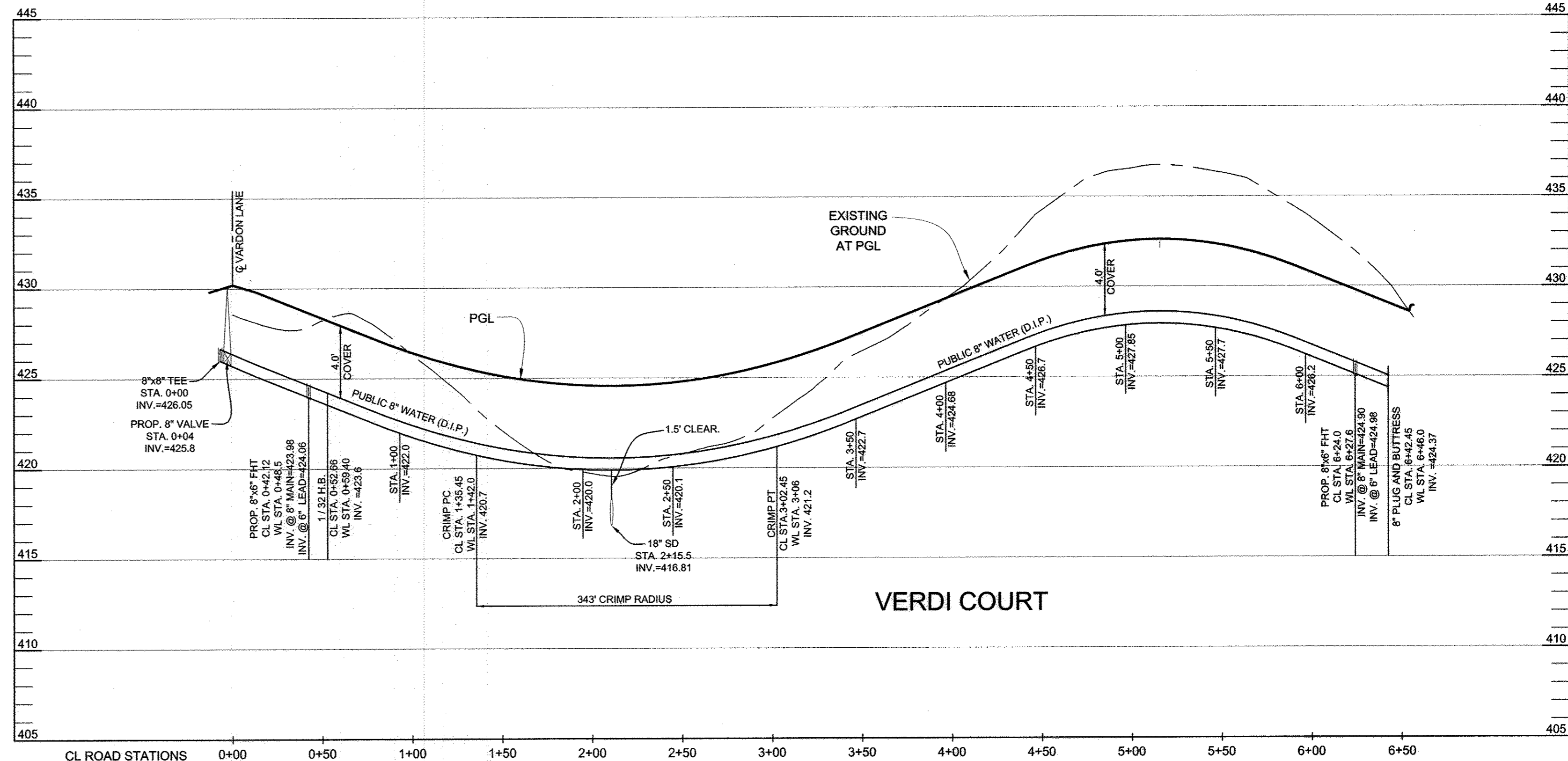
OWNER/DEVELOPER:
MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

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. 23390, Expiration Date: 6-30-2017.

BENCHMARK ENGINEERING, INC.
3480 BALTIMORE NATIONAL PIKE & SUITE 315 ELLICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-8644
WWW.BC-ENGINEERING.COM



| DES: | DBT | 2-1 | 3 | AS-BUILT | 12-7-17 |
|--------|--------|-----|-----|--|-----------|
| DRAFT: | DBT | BEI | 2 | ADD AS-BUILT CHART FOR LOTS 1-47. UPDATE SHC CHART FOR LOTS 95-112. REVISE PROFILES OF VERDI COURT TO BE ALL PROPOSED UNDER THIS CONTRACT. | 5-5-2017 |
| CHK: | CAM | BEI | 1 | REVISE LOT NUMBERS. REMOVE LOT AREAS. REVISE FRONT LOT DIMENSIONS. DELETE 3" WATER, SEWER & UTILITY EASEMENT. | 8-26-2016 |
| DATE: | 2/2017 | BY | NO. | REVISIONS | DATE |



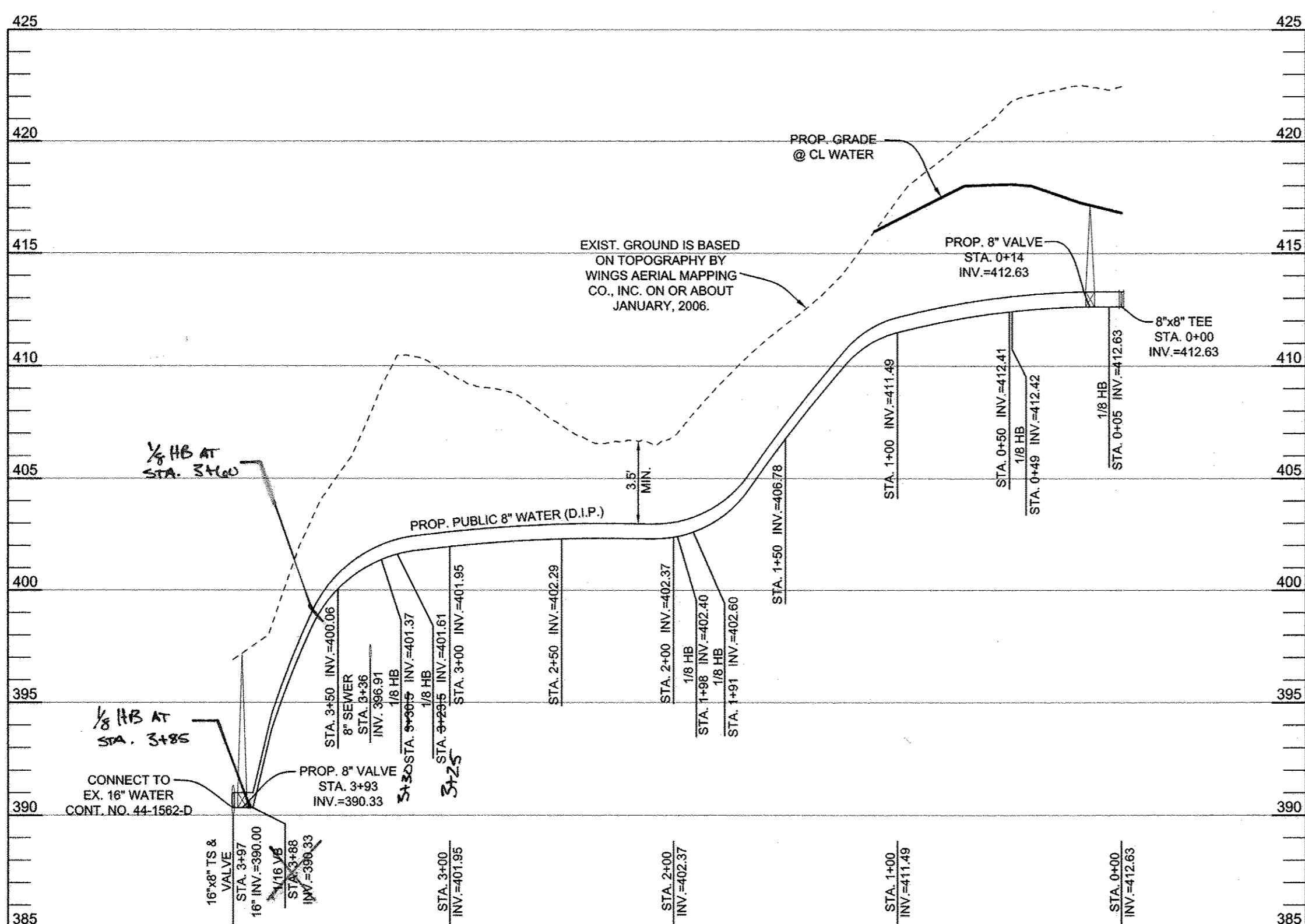
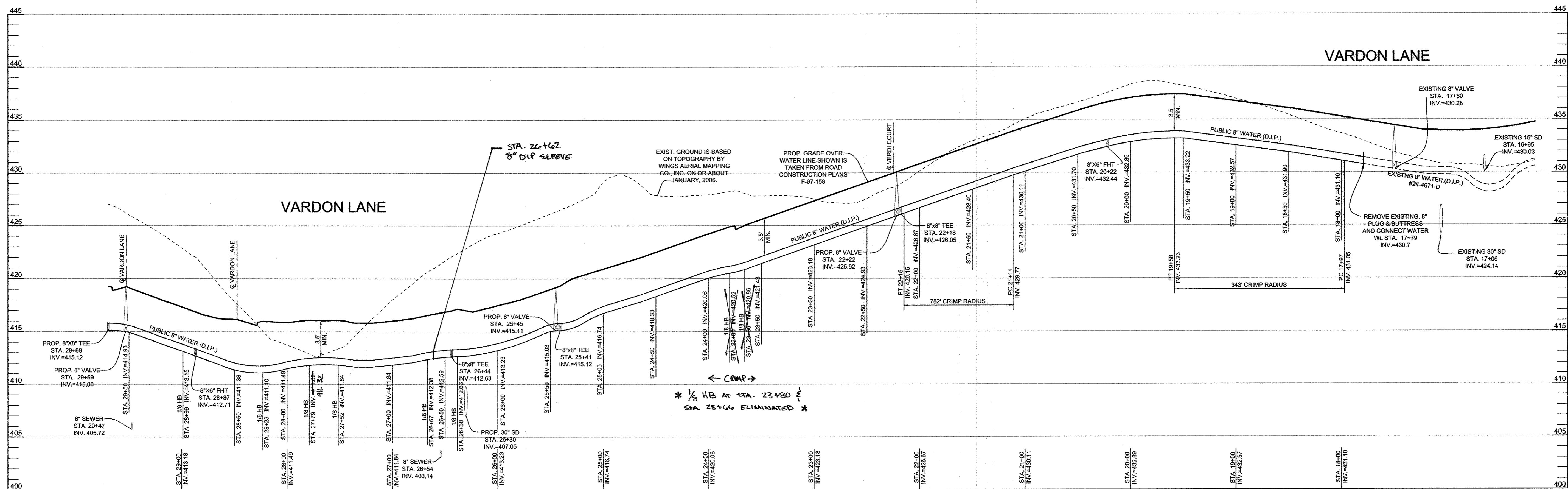
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES
DATE: 5.19.17

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5.19.17

WATER AND SEWER PLAN

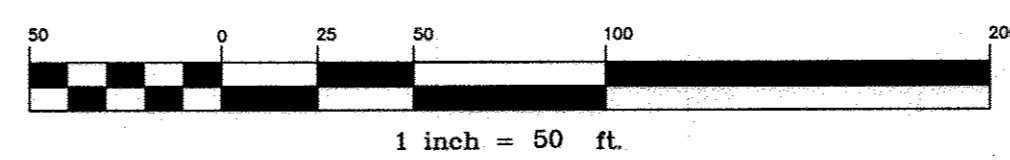
FAIRWAYS AT TURF VALLEY
PHASE 3
LOTS 1-47 AND 95-112;
OPEN SPACE LOTS 48, 49, & 113-115; AND GOLF SPACE LOT 116
TAX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 708 - ZONED: PGCC - ELECTION DISTRICT: 2
CONTRACT NO. 24-462-D

SCALE:
AS SHOWN
SHEET NO.
3 OF 5



OWNER/DEVELOPER:
 MANGIONE ENTERPRISES OF TURF VALLEY, LP
 1205 YORK ROAD, PENTHOUSE
 LUTHERVILLE, MARYLAND 21093
 410-825-8400

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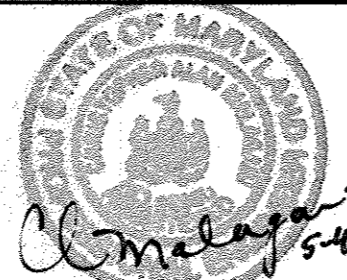


THIS IS A NEW SHEET
 ADDED TO THIS
 CONTRACT

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

BENCHMARK
 ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.
 8450 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6844
 WWW.BEI-CVLENGINEERING.COM



| | | | | |
|--------|--------|--------|--|----------|
| DES: | DBT | | | |
| DRAFT: | DBT | | | |
| CHK: | CAM | KCI 2 | AS-BUILT | 12-7-17 |
| DATE: | 5/2017 | BEI 1 | THIS IS A NEW SHEET ADDED TO THIS CONTRACT TO SHOW THE WATER MAIN ALONG VARDON LANE FROM STATION 17+79 TO END. | 5-5-2017 |
| | | BY NO. | REVISIONS | DATE |

WATER AND SEWER
 PROFILE

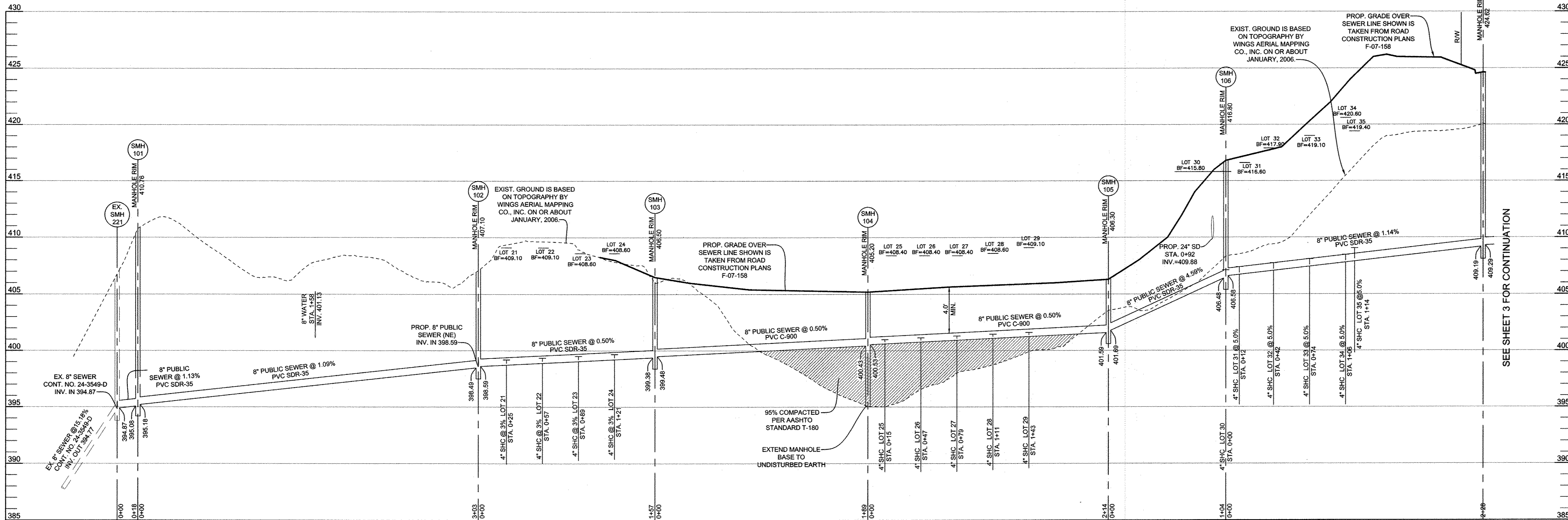
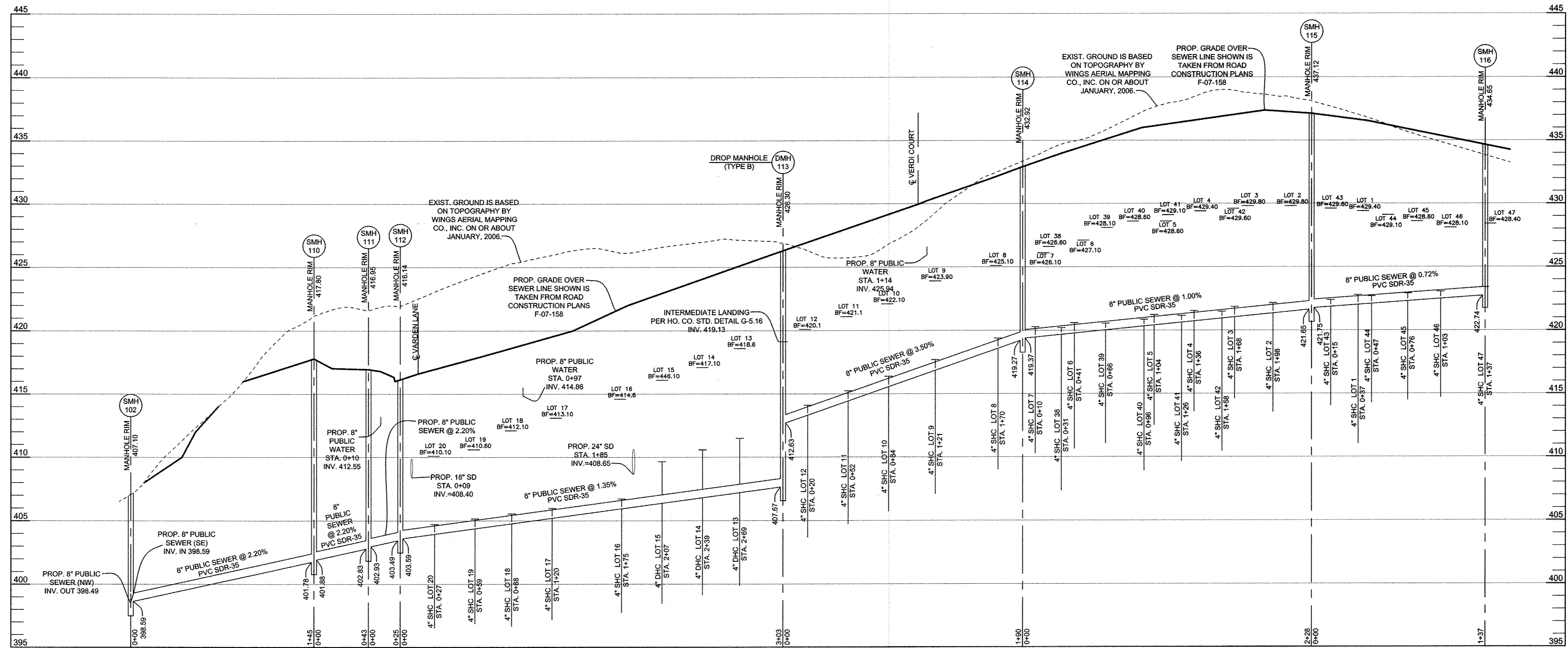
FAIRWAYS AT TURF VALLEY
 PHASE 3
 LOTS 1-47 AND 95-112;
 OPEN SPACE LOTS 48, 49, & 113-115; AND GOLF SPACE LOT 116
 TAX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 706 - ZONED: PGCC - ELECTION DISTRICT: 2
CONTRACT NO. 24-4672-D

SCALE:
 AS SHOWN
 SHEET NO.
 4 OF 5

600 SCALE MAP # 16 & 17 BLOCK: 12 & 9

| SHC CHART | | | | | | |
|------------|-----------------|---------------|-----------------------------|---------------------------|--------------------------|----------------|
| Lot Number | Drop Connection | Invert @ main | DHC standpipe length/height | Invert @ R/W or esmt line | Minimum Cellar Elevation | Basement Floor |
| 1 | - | 422.19 | - | 422.79 | 427.29 | 430.00 |
| 2 | - | 421.52 | - | 422.16 | 426.66 | 430.40 |
| 3 | - | 421.22 | - | 421.86 | 426.36 | 430.40 |
| 4 | - | 420.90 | - | 421.54 | 426.04 | 430.00 |
| 5 | - | 420.58 | - | 421.22 | 425.72 | 428.60 |
| 6 | - | 419.95 | - | 420.59 | 425.09 | 427.10 |
| 7 | - | 419.64 | - | 420.28 | 424.78 | 426.10 |
| 8 | - | 418.75 | - | 419.39 | 423.89 | 425.10 |
| 9 | - | 417.04 | - | 417.70 | 422.20 | 423.90 |
| 10 | - | 415.74 | - | 416.38 | 420.88 | 422.10 |
| 11 | - | 414.82 | - | 415.24 | 419.74 | 421.10 |
| 12 | - | 413.50 | - | 414.10 | 418.60 | 420.10 |
| 13 | yes | 407.39 | 3.5 | 411.49 | 415.99 | 418.60 |
| 14 | yes | 406.98 | 3.0 | 410.58 | 415.08 | 417.10 |
| 15 | yes | 406.55 | 2.5 | 409.65 | 414.15 | 416.10 |
| 16 | - | 406.12 | - | 406.72 | 411.22 | 414.60 |
| 17 | - | 405.38 | - | 405.98 | 410.48 | 413.10 |
| 18 | - | 404.95 | - | 405.55 | 410.05 | 412.10 |
| 19 | - | 404.56 | - | 405.16 | 409.66 | 410.60 |
| 20 | - | 404.12 | - | 404.72 | 409.22 | 410.10 |
| 21 | - | 398.89 | - | 399.19 | 404.84 | 409.10 |
| 22 | - | 399.05 | - | 399.35 | 405.00 | 409.10 |
| 23 | - | 399.21 | - | 399.51 | 405.16 | 408.60 |
| 24 | - | 399.37 | - | 399.67 | 405.32 | 408.60 |
| 25 | - | 400.78 | - | 400.98 | 405.58 | 408.40 |
| 26 | - | 400.94 | - | 401.14 | 405.74 | 408.40 |
| 27 | - | 401.10 | - | 401.30 | 405.90 | 408.40 |
| 28 | - | 401.26 | - | 401.46 | 406.06 | 408.60 |
| 29 | - | 401.41 | - | 401.61 | 406.21 | 409.10 |
| 30 | - | 406.25 | - | 406.45 | 411.05 | 415.80 |
| 31 | - | 406.89 | - | 407.39 | 415.14 | 416.60 |
| 32 | - | 407.23 | - | 407.73 | 415.48 | 417.50 |
| 33 | - | 407.59 | - | 408.09 | 415.84 | 417.10 |
| 34 | - | 407.96 | - | 408.46 | 416.21 | 420.60 |
| 35 | - | 408.05 | - | 409.05 | 415.95 | 419.40 |
| 36 | - | 408.57 | - | 409.95 | 414.79 | 417.60 |
| 37 | - | 409.74 | - | 410.16 | 414.86 | 417.60 |
| 38 | - | 419.85 | - | 420.21 | 424.71 | 426.60 |
| 39 | - | 420.20 | - | 420.56 | 425.06 | 428.10 |
| 40 | - | 420.50 | - | 420.86 | 425.36 | 428.60 |
| 41 | - | 420.80 | - | 421.16 | 425.66 | 429.10 |
| 42 | - | 421.12 | - | 421.48 | 425.98 | 429.60 |
| 43 | - | 422.03 | - | 422.39 | 426.99 | 429.60 |
| 44 | - | 422.26 | - | 422.68 | 427.28 | 429.10 |
| 45 | - | 422.47 | - | 422.91 | 427.51 | 428.60 |
| 46 | - | 422.65 | - | 423.05 | 427.65 | 428.10 |
| 47 | - | 423.07 | - | 423.39 | 427.99 | 428.40 |

All Drop connections are HoCoStd S-2.12 Type 'A'



THIS IS A NEW SHEET
ADDED TO THIS
CONTRACT

OWNER/DEVELOPER:
MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

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BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8490 BALTIMORE NATIONAL PIKE & SUITE 315 ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BE-CIVILENGINEERING.COM



| | | | |
|--------|--------|--|----------|
| DES: | DBT | | |
| DRAFT: | DBT | | |
| CHK: | CAM | | |
| DATE: | 5/2017 | | |
| BY NO. | | REVISIONS | DATE |
| BEI 1 | | THIS IS A NEW SHEET ADDED TO THIS CONTRACT TO SHOW THE SEWER PROFILES SERVING LOTS 1-47. | 5-5-2017 |

SEWER PROFILES

FAIRWAYS AT TURF VALLEY
PHASE 3
LOTS 1-47 AND 95-112;
OPEN SPACE LOTS 48, 49, & 113-115; AND GOLF SPACE LOT 116
TAX MAP: 16 - BLOCK: 16 - PARCEL: P/O 8 AND 706 - ZONED: PGCC - ELECTION DISTRICT: 2
CONTRACT NO. 24-4672-D

SCALE:
AS SHOWN
SHEET NO.
5 OF 5