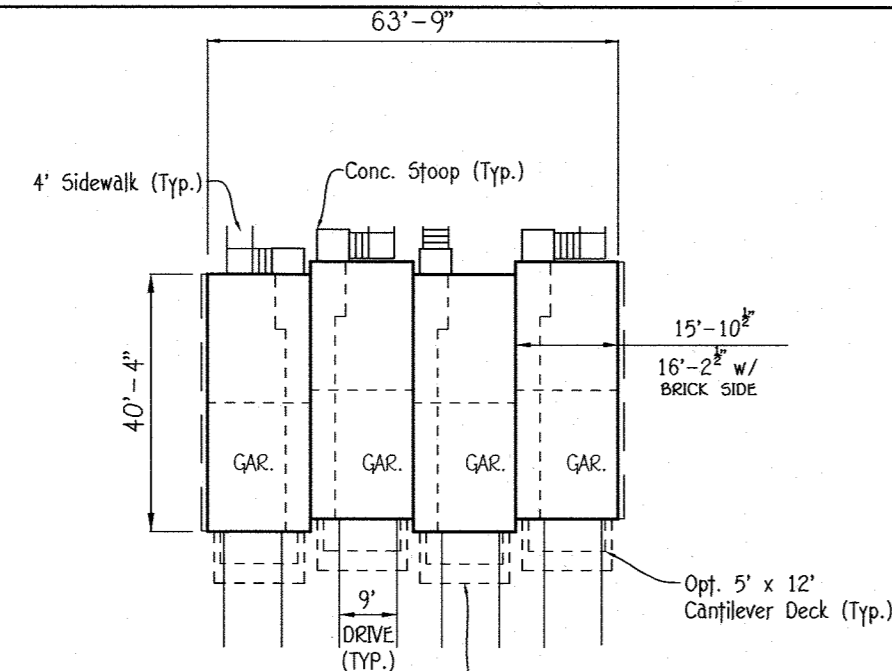
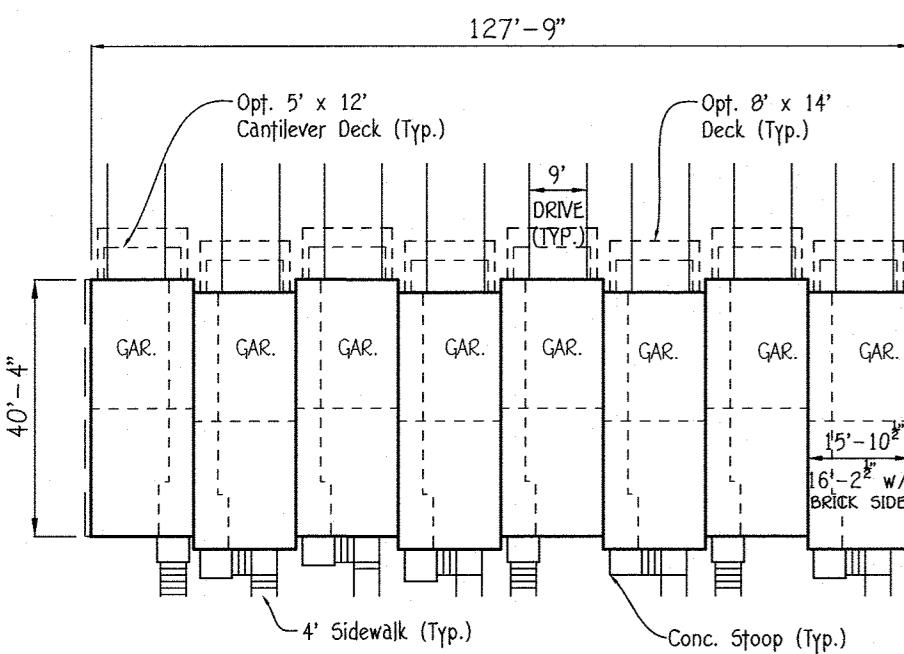


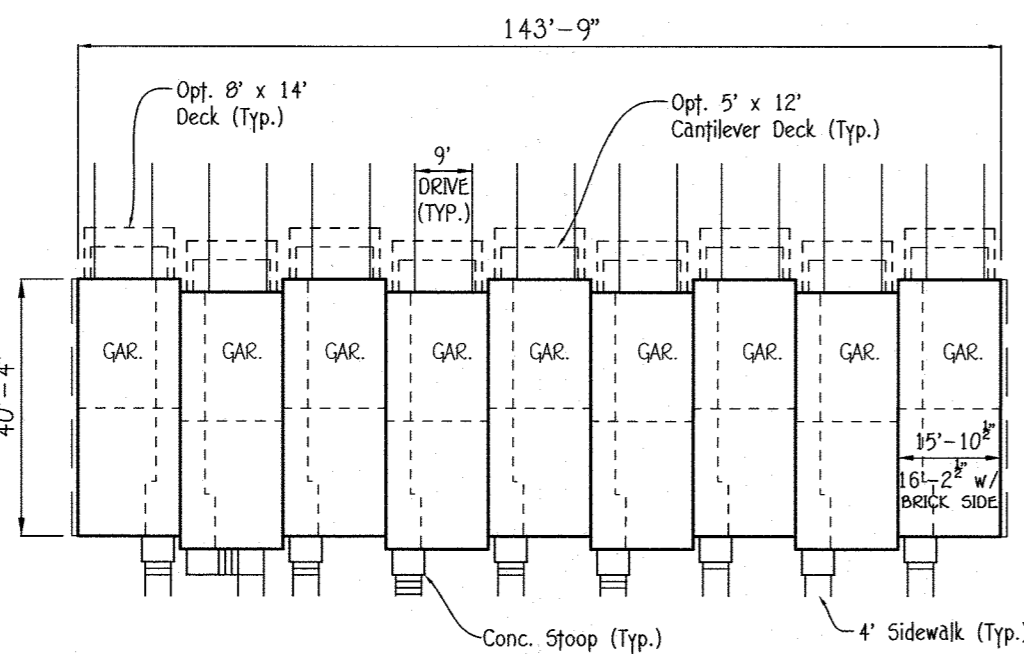
Lots 41 Thru 45 (5-Unit)



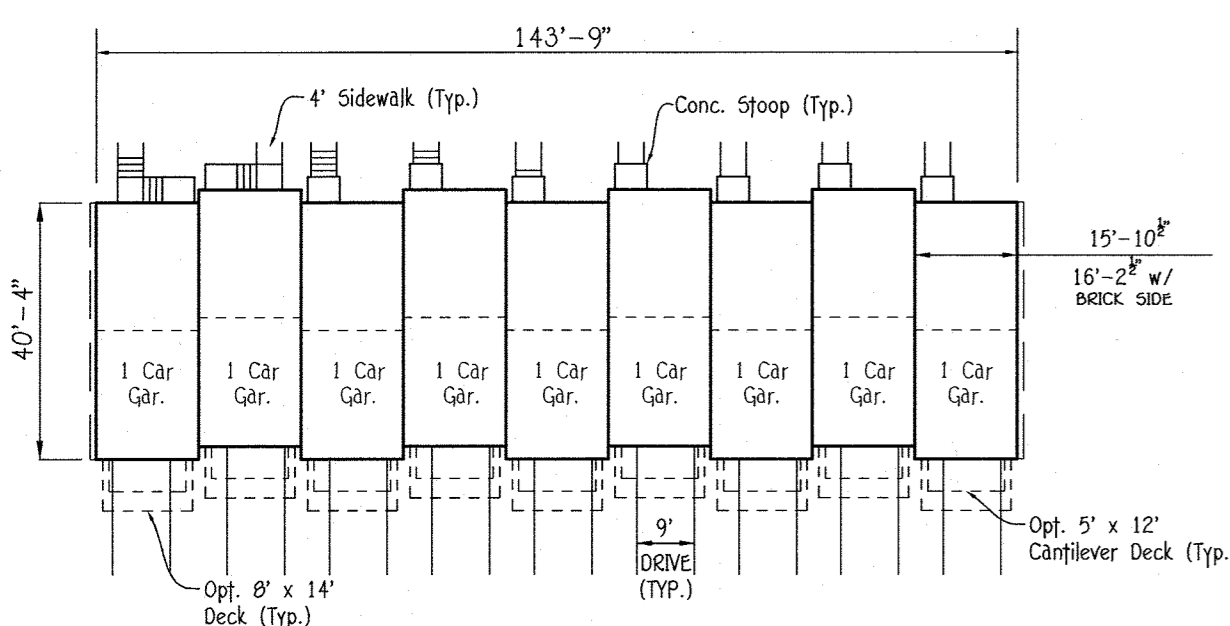
Lots 46 Thru 49 (4-Unit)



Lots 50 Thru 57 (8-Unit)

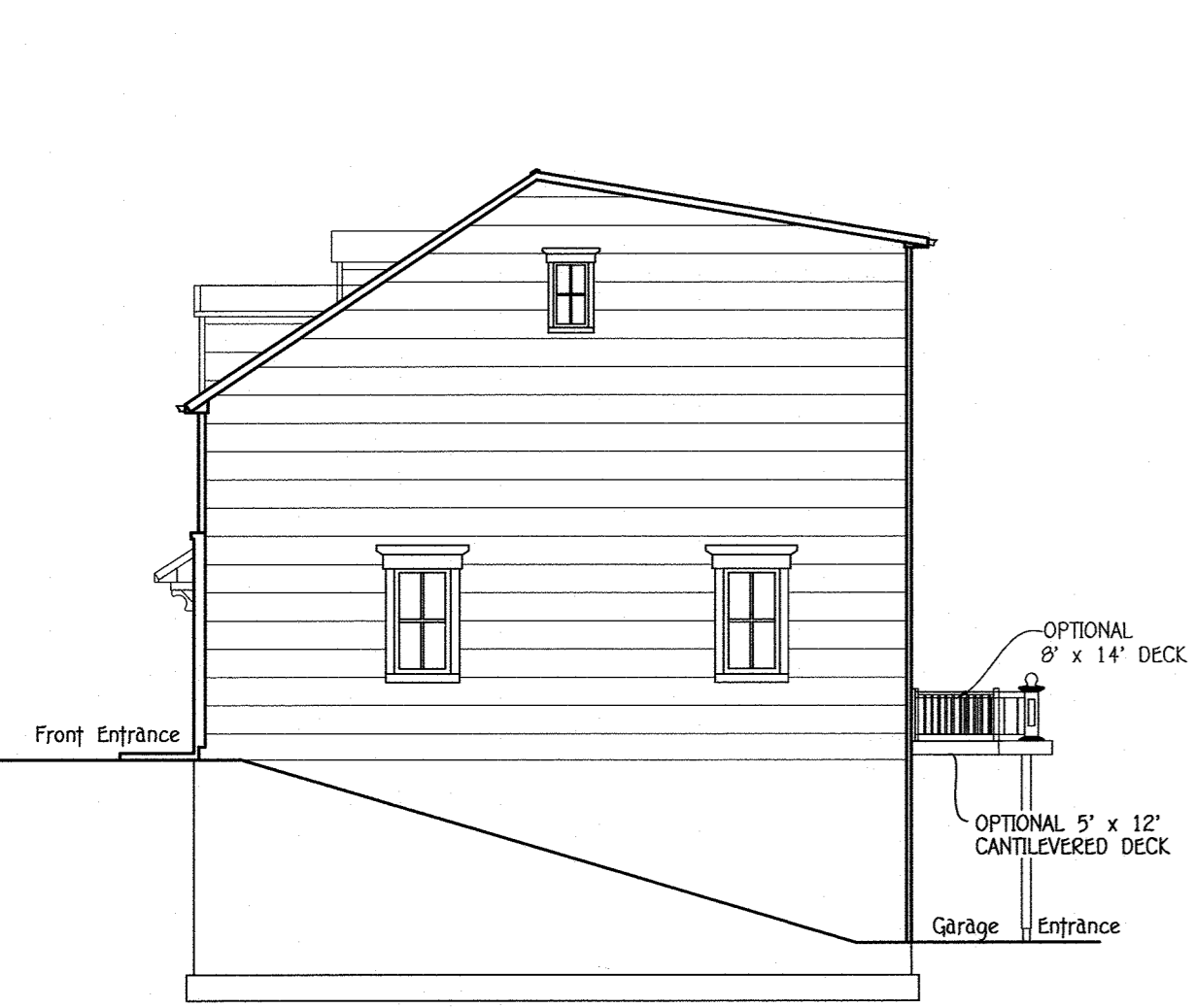


Lots 58 Thru 66 (9-Unit)

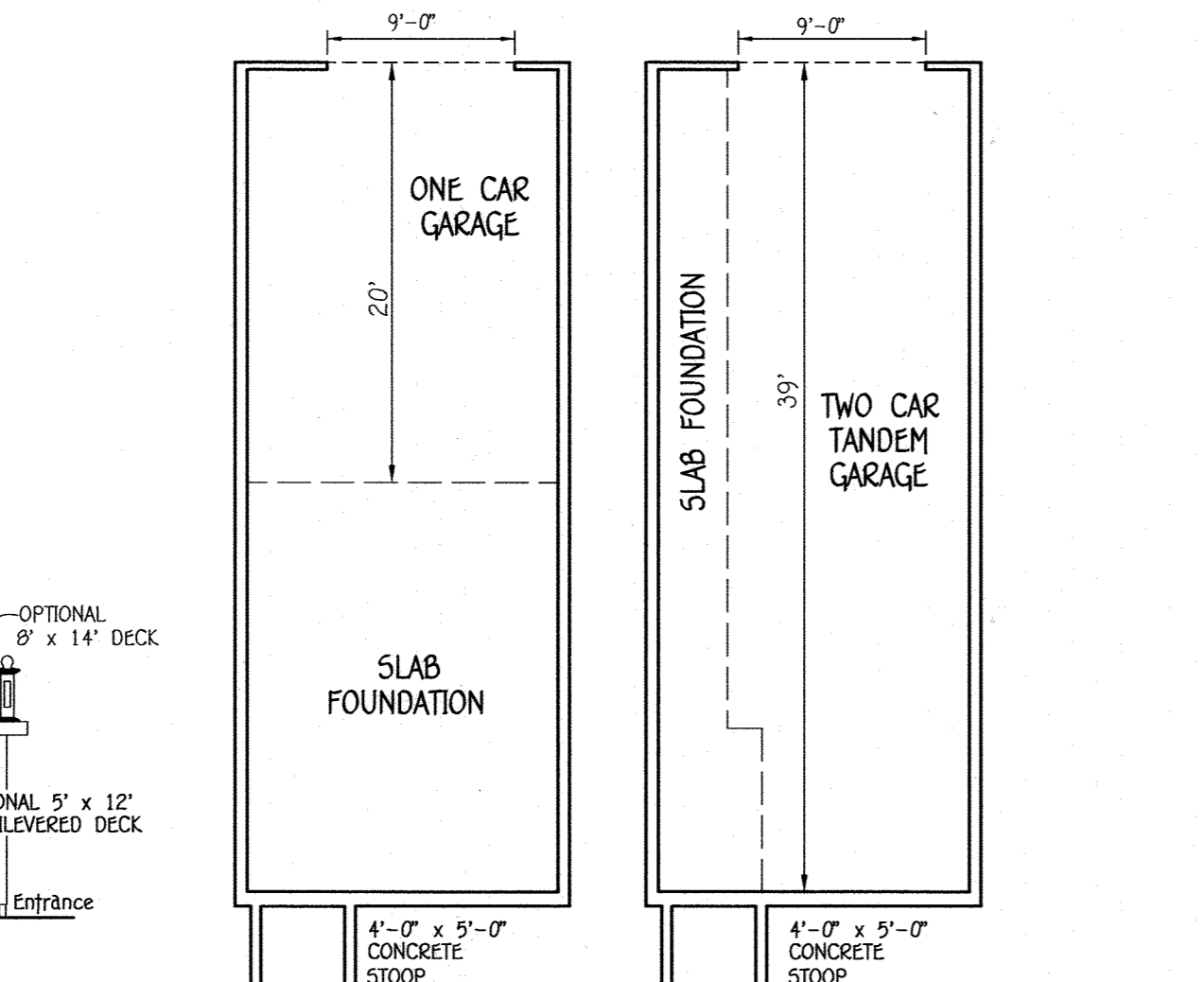


Lots 67 Thru 75 (9-Unit)

NOTE: EACH TOWNHOUSE ON LOTS 41-66 HAS THE OPTION FOR A ONE CAR (SINGLE) GARAGE. FINAL PARKING COUNT TO BE REDLINED AT BUILD OUT.



(Walk-Out Condition) SIDE ELEVATION
NO SCALE



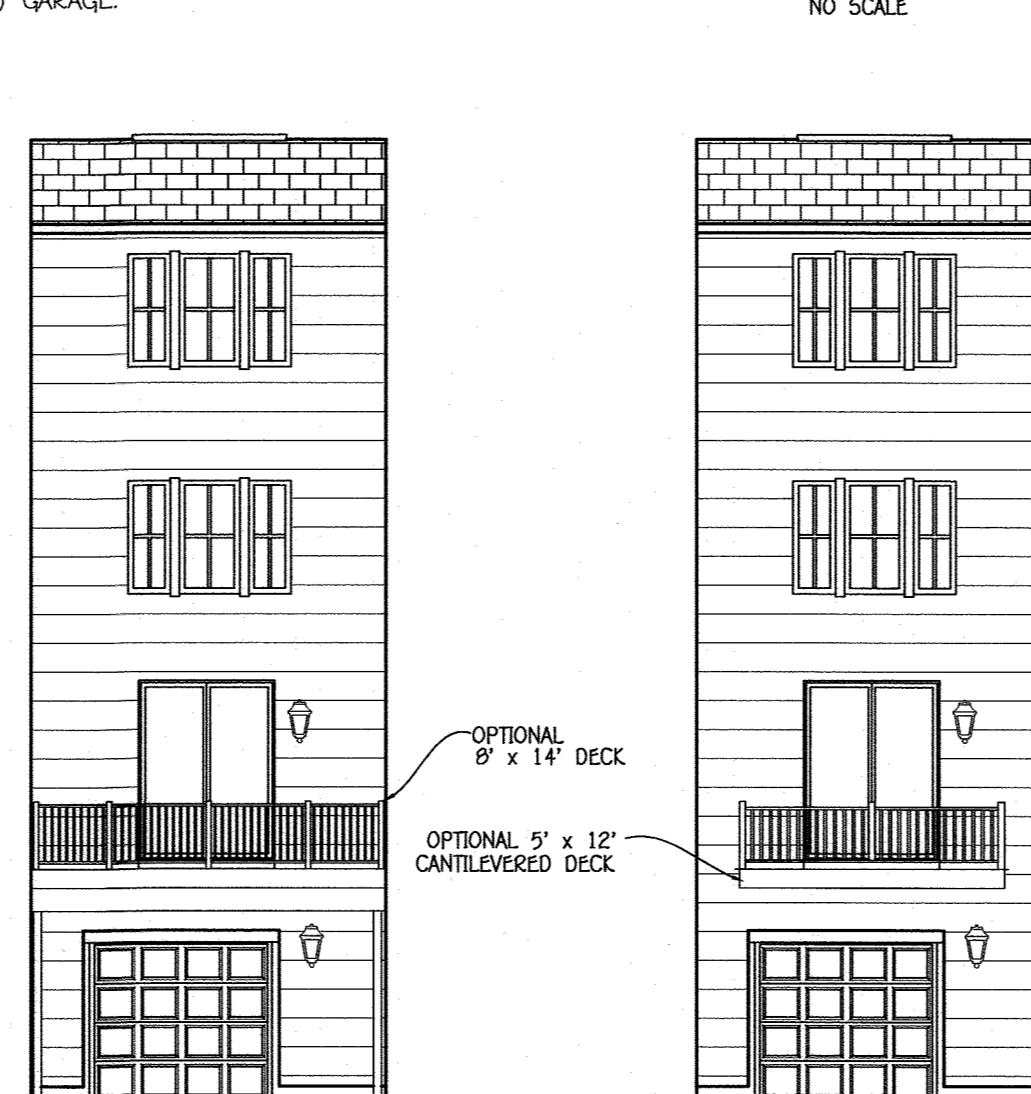
FOUNDATION PLAN (GARAGE OPTIONS)
NO SCALE



"A" "B" "C" "D" "E"
(Clarendon) FRONT ELEVATION
NO SCALE



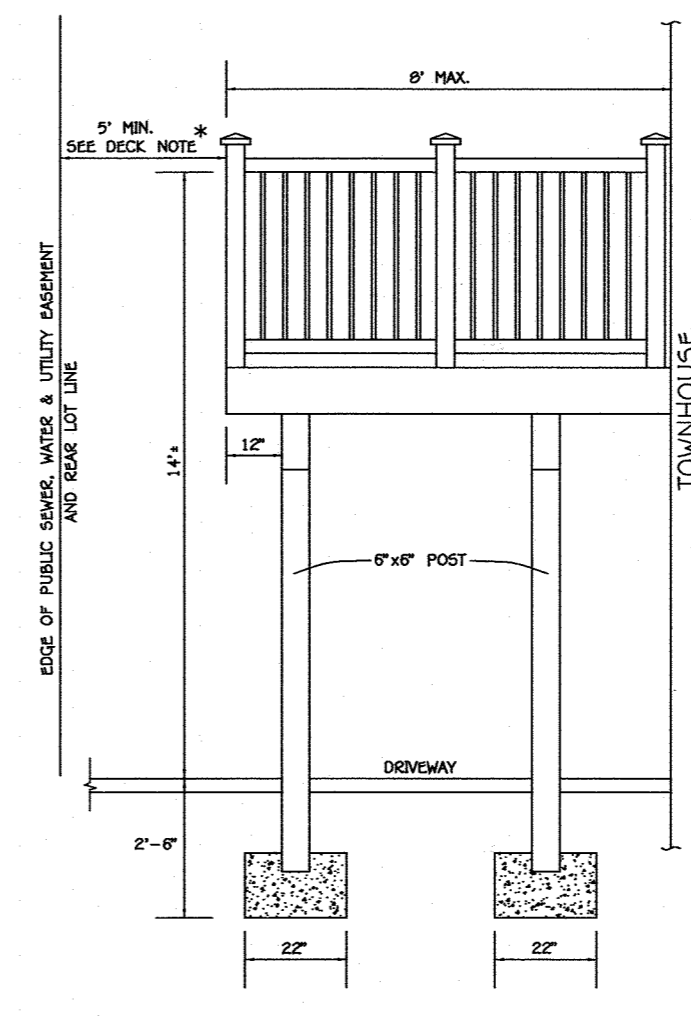
"N" "M" "P" "A" "B" "D" "C" "E"
(Clarendon: Walk-Out Condition) FRONT ELEVATION
NO SCALE



(Clarendon) TYP. REAR ELEVATION
NO SCALE

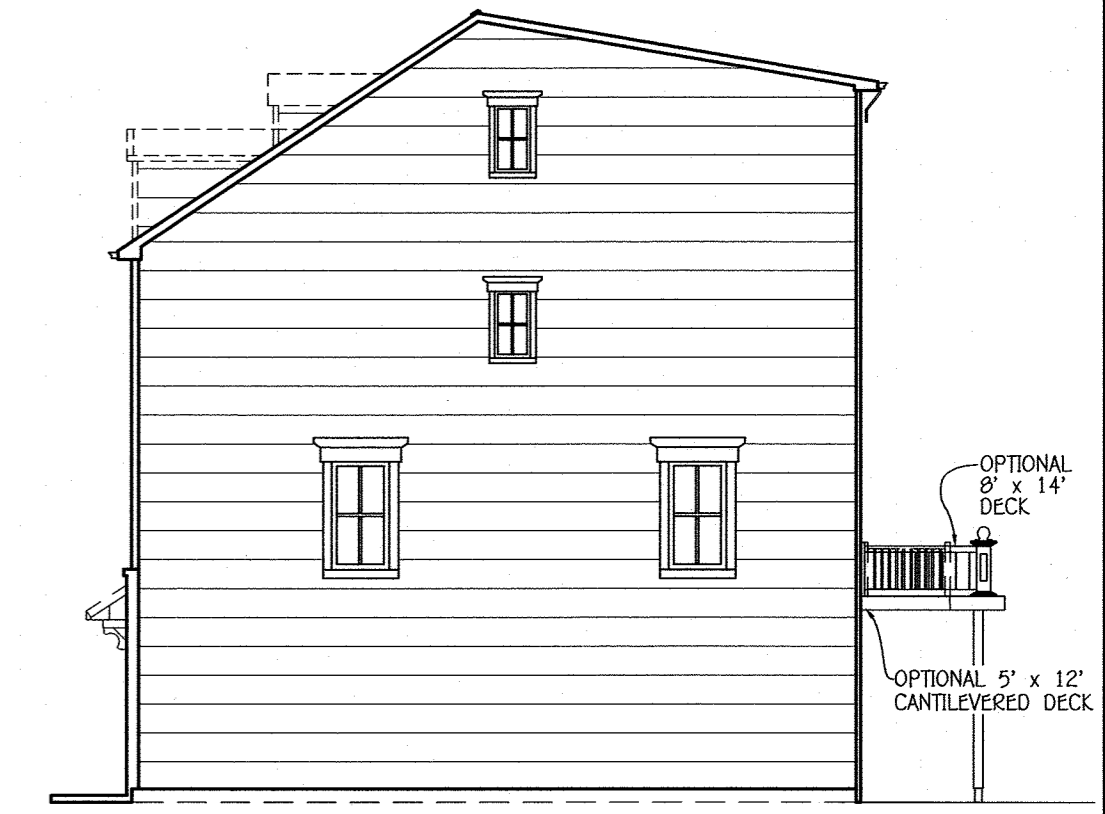


"M" "N" "P"
(Clarendon) FRONT ELEVATION
NO SCALE



DECK DETAIL ELEVATION SIDE VIEW
NO SCALE

- *DECK NOTE: A DESIGN MANUAL WAIVER (DMV2-21-022) IS APPROVED, DATED MAY 26, 2021, ALLOWING DECKS WITHIN 5- FEET OF A PUBLIC UTILITY EASEMENT PER THE FOLLOWING CONDITIONS:
1. DECKS (MAXIMUM DEPTH THEREOF) SHALL BE SUCH THAT THE APPROVED DECK PLAN (PERMIT APPROVED) ALLOWS THAT ANY STRUCTURAL POST, FOOTING AND OR OVERHANG LIMITS SHALL BE A MIN. OF FIVE (5) FEET FROM ANY WATER VALVE, SEWER CLEANOUT OR WATER/SEWER APPURTENANCE (E.G. METER).
 2. THE CONSTRUCTION OF ACCESS STEPS TO/FROM EXTERIOR GRADE FOR DECKS SHALL NOT BE PERMITTED.
 3. THE DECK CONDITIONS AND SIZE LIMITATIONS APPROVED HEREON SHALL BE NOTED AND DOCUMENTED ON THE WATER AND SEWER CONTRACT DRAWINGS, SITE DEVELOPMENT PLANS AND ELSEWHERE AS MAY BE DIRECTED BY DEVELOPMENT ENGINEERING.

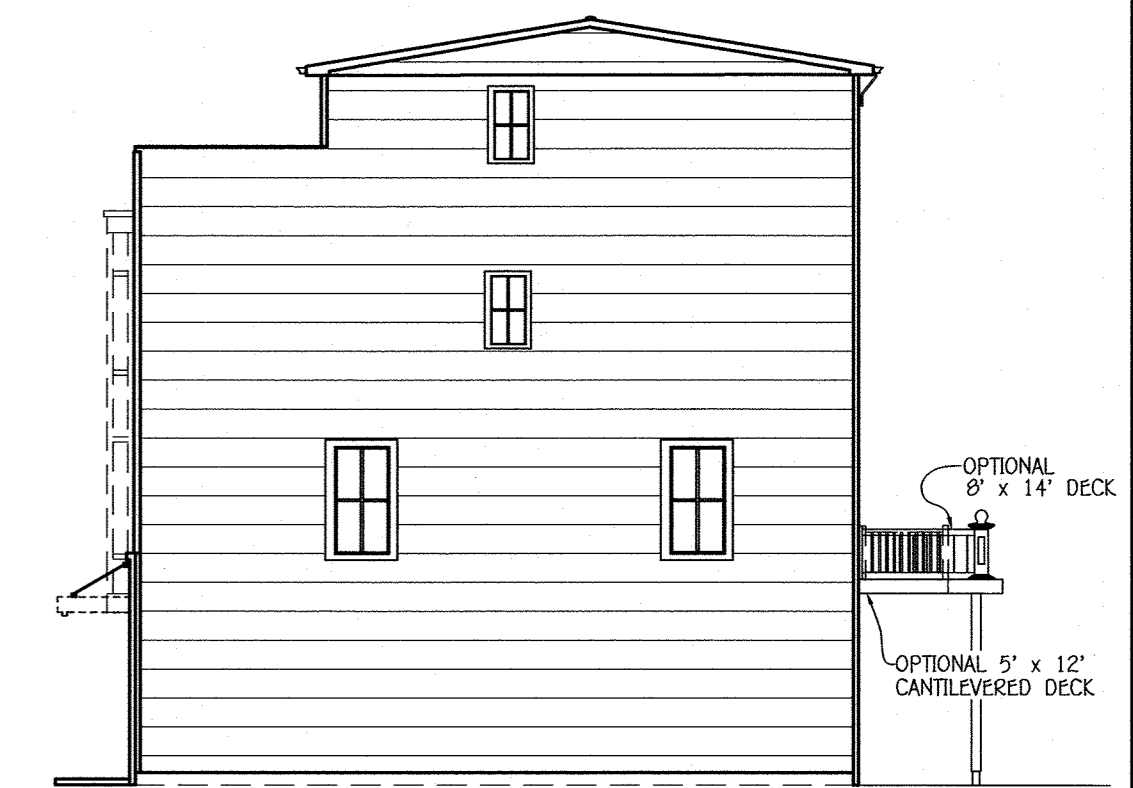


ELEVATION SHOWN: SIDING VENEER ALSO AVAILABLE IN FULL BRICK VENEER & PARTIAL BRICK SIDE

(Clarendon "A" - "E") SIDE ELEVATION
NO SCALE



SHOWN W/ 4TH FLOOR SUITE/TERRACE
PARTIAL SIDE ELEVATION
NO SCALE



ELEVATION SHOWN: SIDING VENEER ALSO AVAILABLE IN FULL BRICK VENEER & PARTIAL BRICK SIDE

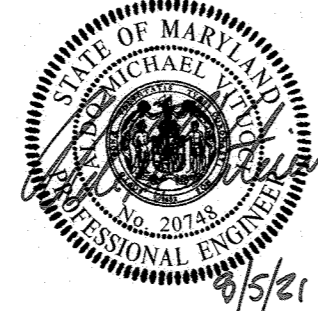
(Clarendon "M", "N" & "P") SIDE ELEVATION
NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development Date: 10/19/21

Chief, Development Engineering Division Date: 10-19-21

Director - Department of Planning and Zoning Date: 10-19-21



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
410.461.2999

Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELLCOTT CITY, MARYLAND 21046
443-295-3602

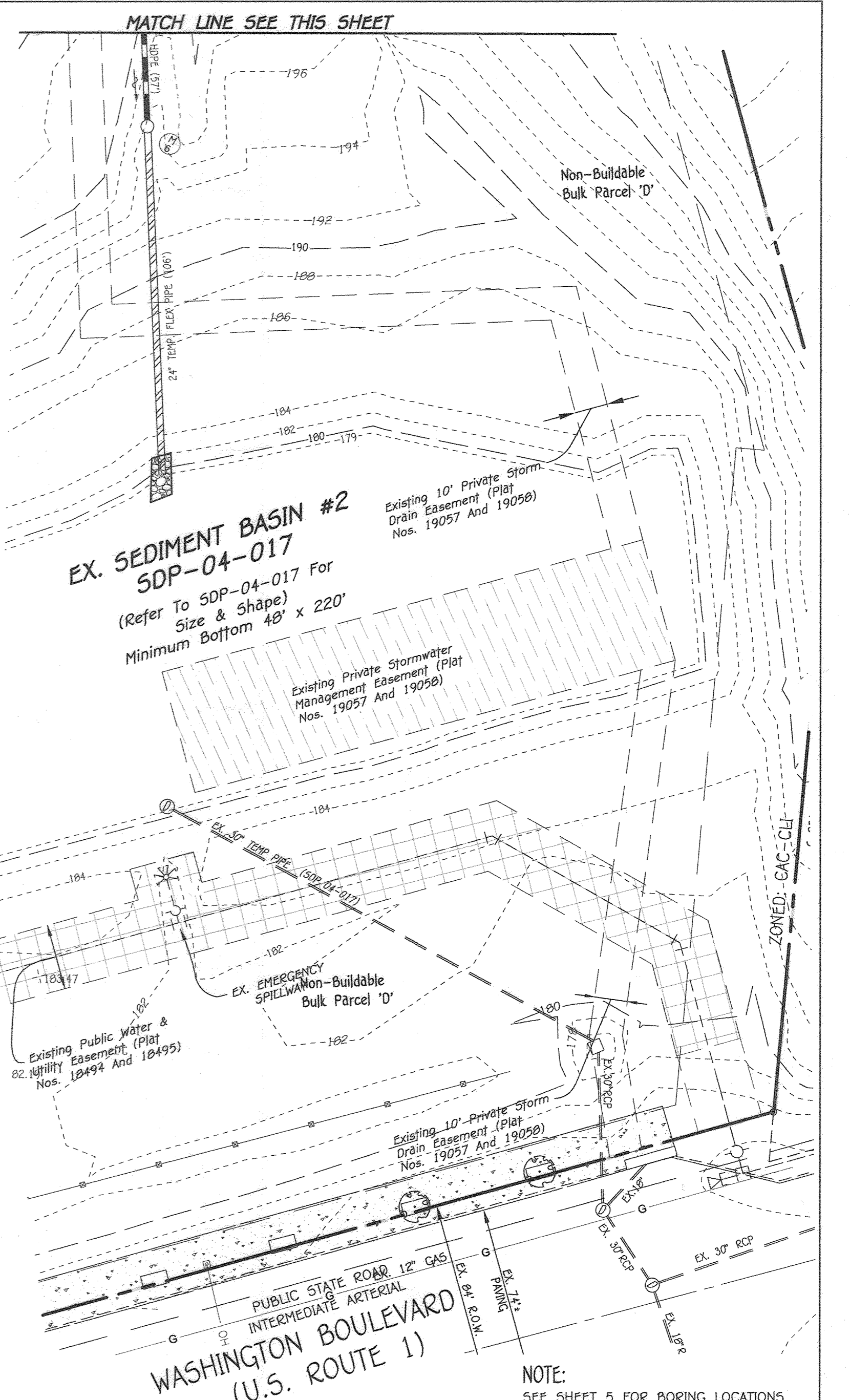
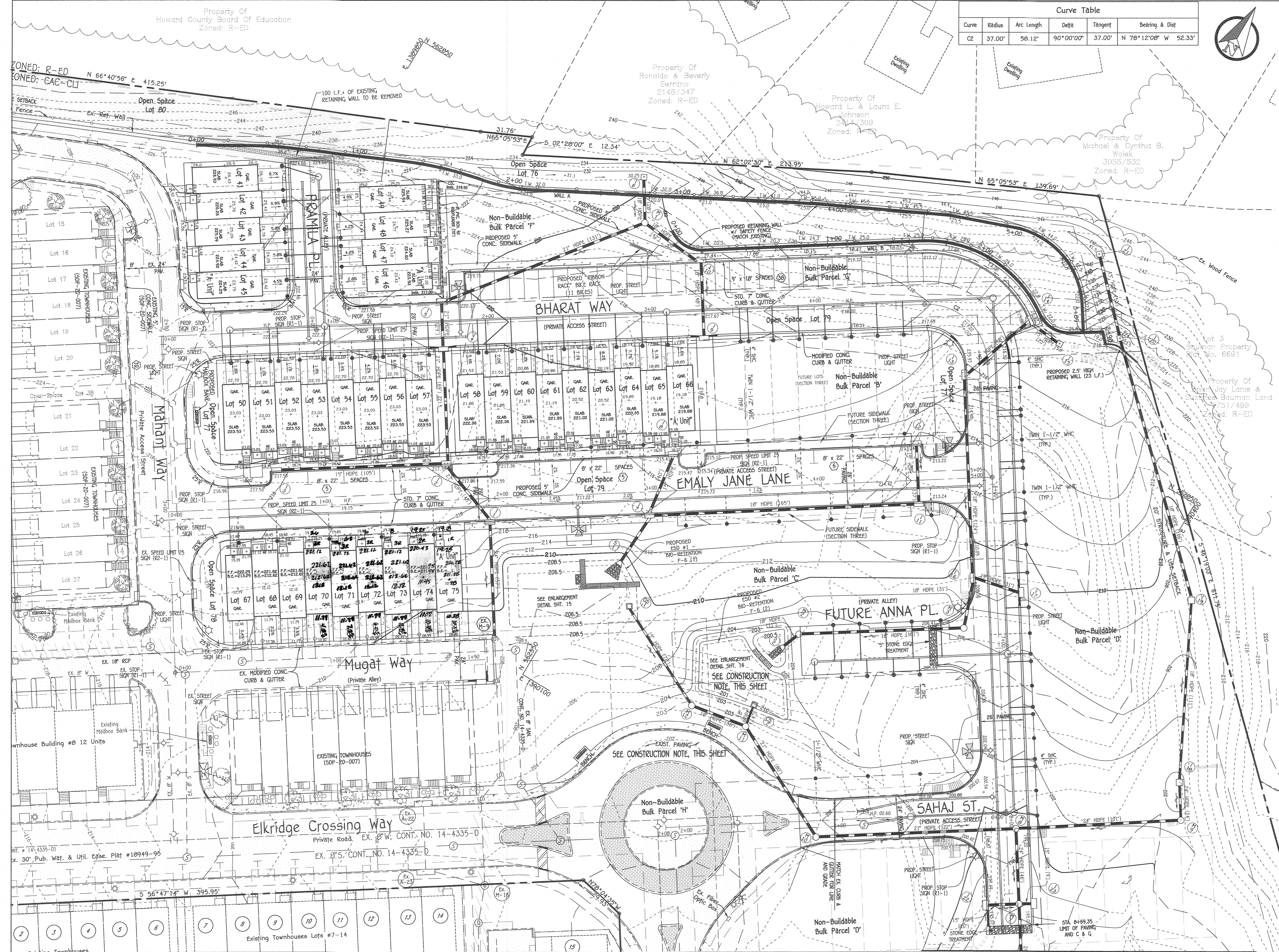
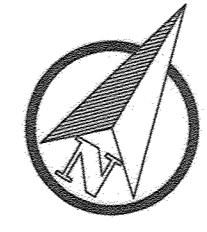
Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLCOTT CITY, MD 21046
443-295-9563

NO.		REVISION		DATE
SUBDIVISION	ELKRIDGE CROSSING II	SECTION	TWO	LOT Nos. 41-75
PLAT NO.	25897-25991	BLOCK NO.	N/A	ZONE
		TAX/ZONE	CAC-CL1	3B
		ELEC. DIST.	1st.	CENSUS TR.
				601101

BUILDING ELEVATIONS
ELKRIDGE CROSSING II
SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A' - PLAT Nos. 25572 - 25576)
Zoned: CAC-CL1
Tax Map No.: 3B Grid No.: 20 Parcel No.: 3B
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 2 of 25

Property Of
Howard County Board Of Education
Zoned: R-ED

Curve	Radius	Arc Length	Delta	Tangent	Bearing & Dist
C2	37.00'	58.12'	90°00'00"	37.00'	N 78°12'08" W 52.33'



NOTE:
SEE SHEETS 23-25 FOR THE UNDERGROUND S.W.M. PLAN AND DETAILS. UNDERGROUND S.W.M. SHALL BE BONDED WITH THIS SECTION TWO SOP AND CONSTRUCTED FOLLOWING THE REMOVAL OF THE EXISTING SEDIMENT TRAP WITH THE SECTION FOUR SOP.

PRIVATE UTILITY NOTE:
THE COUNTY SHALL BEAR ABSOLUTELY NO RESPONSIBILITY FOR THE RECONSTRUCTION, REPAIR OR REMEDIAL MAINTENANCE REQUIRED DUE TO ANY DAMAGE TO THE PRIVATE UTILITIES INCLUDING, BUT NOT LIMITED TO STORM DRAINS, STORM DRAIN STRUCTURES (E.G. INLETS AND MANHOLES), MICRO BIO-RETENTION FACILITIES AND OTHER PRIVATE SYSTEMS OR FEATURES RESULTING FROM OR INCURRED DURING MAINTENANCE AND/OR REPAIR OF THE PUBLIC WATER, SEWER OR UTILITIES. ANY COSTS INCURRED BY THE COUNTY THAT IS ASSOCIATED WITH RECONSTRUCTION OF PRIVATE UTILITIES BY THE COUNTY, SHALL BE THE RESPONSIBILITY OF THE OWNER OR ITS SUCCESSORS OR ASSIGNS. THE AFORESAID INCLUDES PRIVATE UTILITIES AND OR STRUCTURES PERMITTED WITHIN THE EASEMENT OR WITHIN THE 10 FOOT EASEMENT SETBACK VIA APPROVED WAIVER FROM THE DEPARTMENT OF PUBLIC WORKS.

SHC & WHC NOTE:
SEE SHEET 4 FOR SHC & WHC LABELS. ALL SHC'S ARE 4" AND ALL WHC'S ARE 1-1/2" (SINGLE OR TWIN) AS NOTED.

CONSTRUCTION NOTE:
ELKRIDGE CROSSING II, SECTION THREE WILL REPLACE AND REDESIGN ESD No. 2 & REMOVE THE TRAFFIC CIRCLE AND REPLACE IT WITH A STANDARD "TEE" INTERSECTION.

NOTE:
SEE SHEET 5 FOR BORING LOCATIONS.

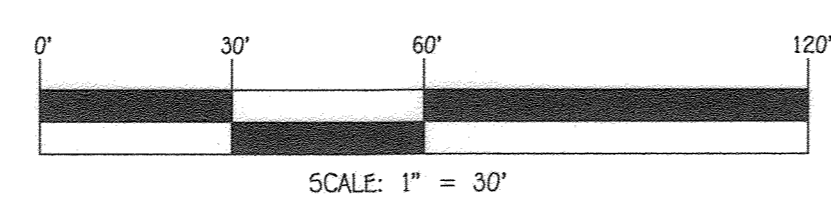
LEGEND	
---100---	EXISTING CONTOUR 10' INTERVAL
---102---	EXISTING CONTOUR 2' INTERVAL
---100---	PROPOSED CONTOUR 10' INTERVAL
---102---	PROPOSED CONTOUR 2' INTERVAL
+14.72	PROPOSED SPOT SHOT
~~~~~	EXISTING TIE LINE
~~~~~	65 DBA NOISE LINE (Unmitigated)
ZONING LINE	
○	STORM DRAIN
☆	STREET LIGHT (existing)
☆	STREET LIGHT (proposed)
▬	PROPOSED BENCH
○	TREE (proposed)
○	TREE (existing)
▬	PROPOSED MAILBOX BANK
○	PROP. 1-1/2" or TWIN 1-1/2" WHC
○	PROP. 4" SHC
▬	5' CURB AND GUTTER TRANSITION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10-13-21

Chief, Development Engineering Division *[Signature]* Date: 10-19-21

Director, Department of Planning and Zoning *[Signature]* Date: 10-19-21



Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELICOTT CITY, MARYLAND 21046
443-289-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELICOTT CITY, MD 21046
443-289-9563

SUBDIVISION		ELKRIDGE CROSSING II		SECTION TWO		LOT Nos. 41-75	
PLAT NO.		2597		2597		2597	
BLOCK NO.		N/A		CAC-CL1		38	
ZONE		CAC-CL1		38		ELEC. DIST. 1st.	
CENSUS TR.		601101		601101		601101	

SITE DEVELOPMENT PLAN

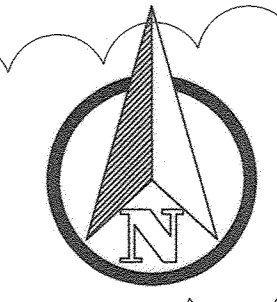
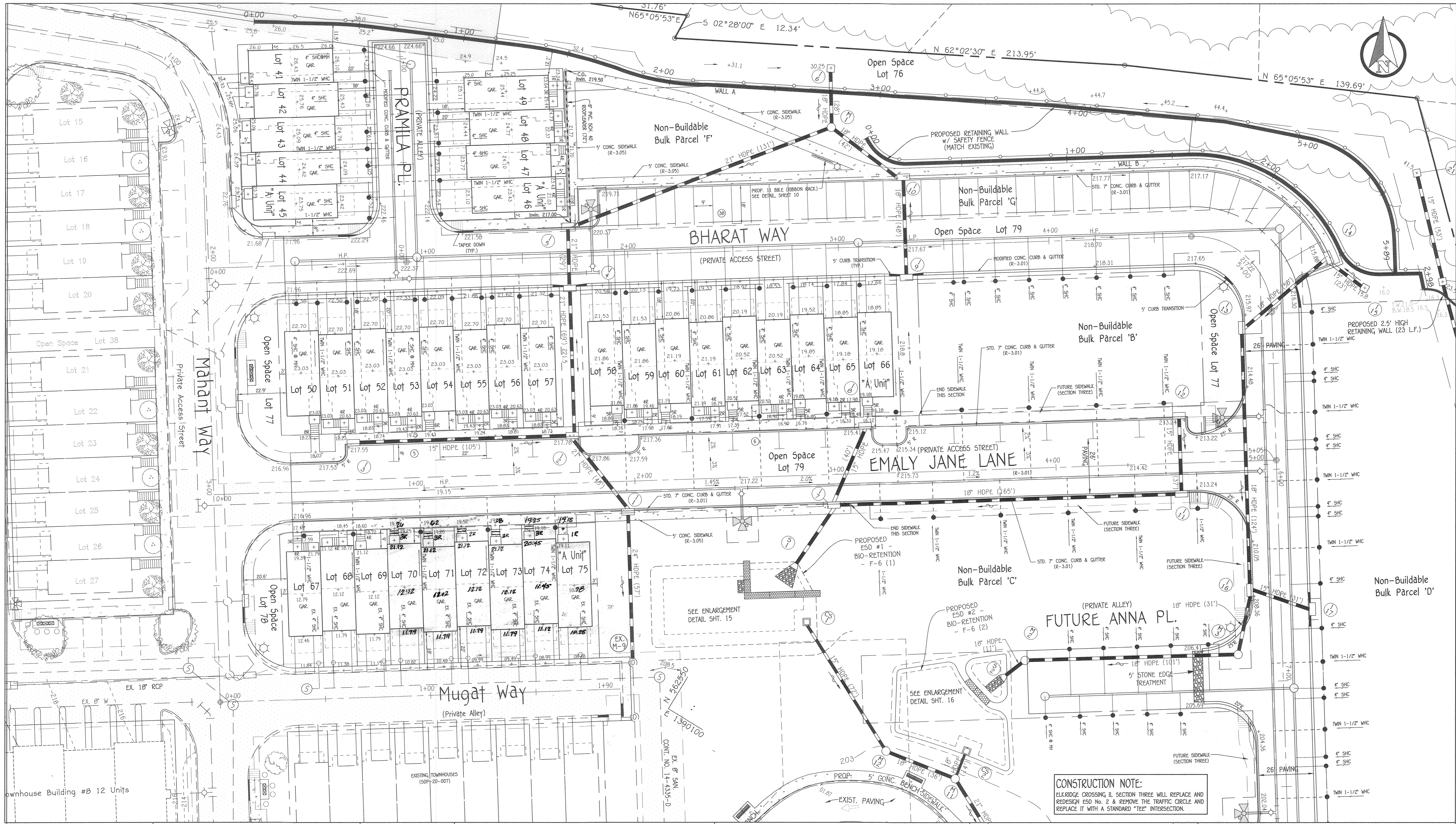
ELKRIDGE CROSSING II

SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A' - PLAT Nos. 22572 - 22576)

Zoned: CAC-CL1
Tax Map No: 38 Grid No: 20 Parcel No: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 3 of 25



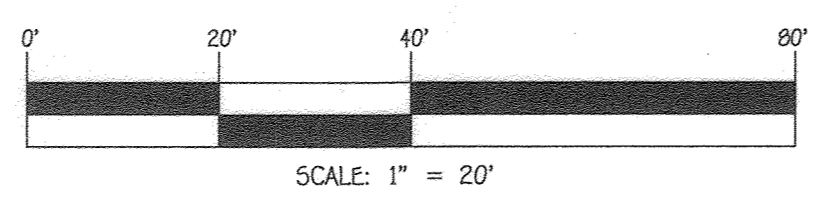
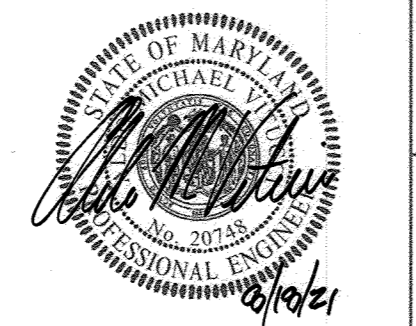
CONSTRUCTION NOTE:
 ELKRIDGE CROSSING II, SECTION THREE WILL REPLACE AND REDESIGN ESD NO. 2 & REMOVE THE TRAFFIC CIRCLE AND REPLACE IT WITH A STANDARD "TEE" INTERSECTION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development
 Date: 10-13-21

Chief, Development Engineering Division
 Date: 10-19-21

Director - Department of Planning and Zoning
 Date: 10-19-21



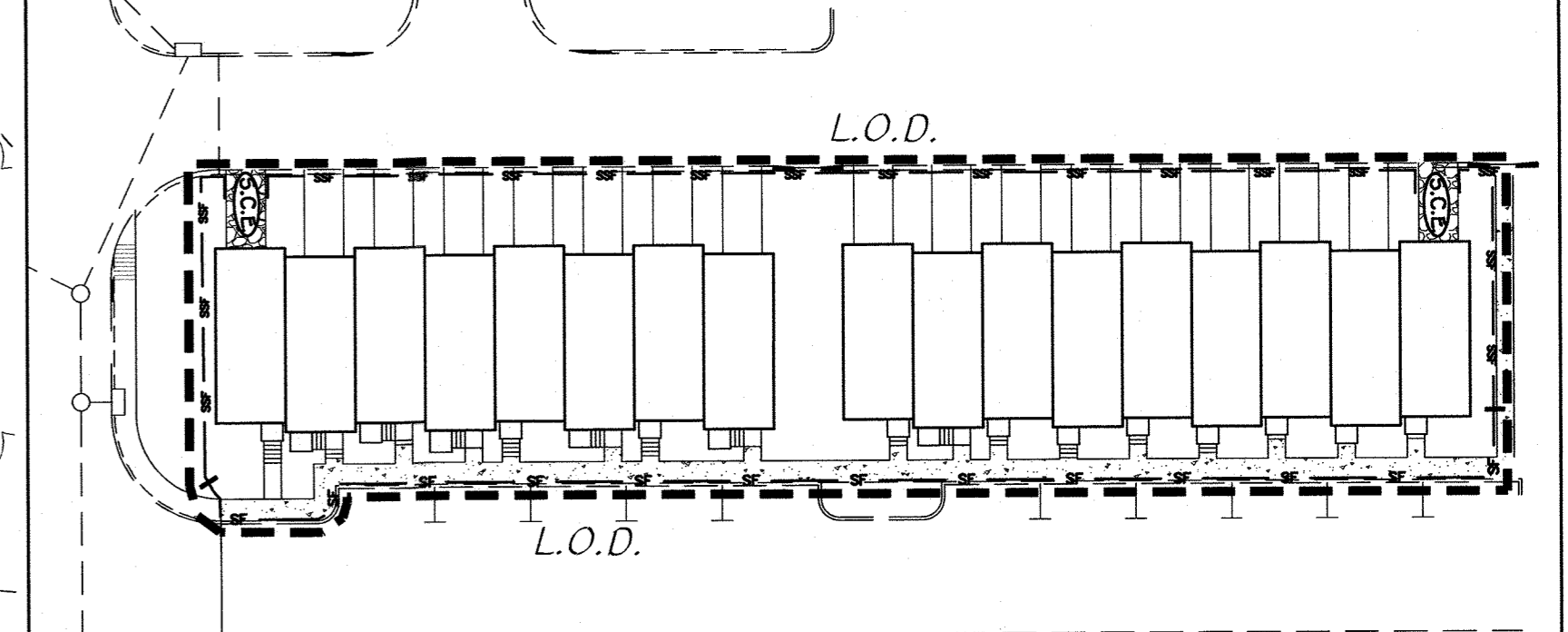
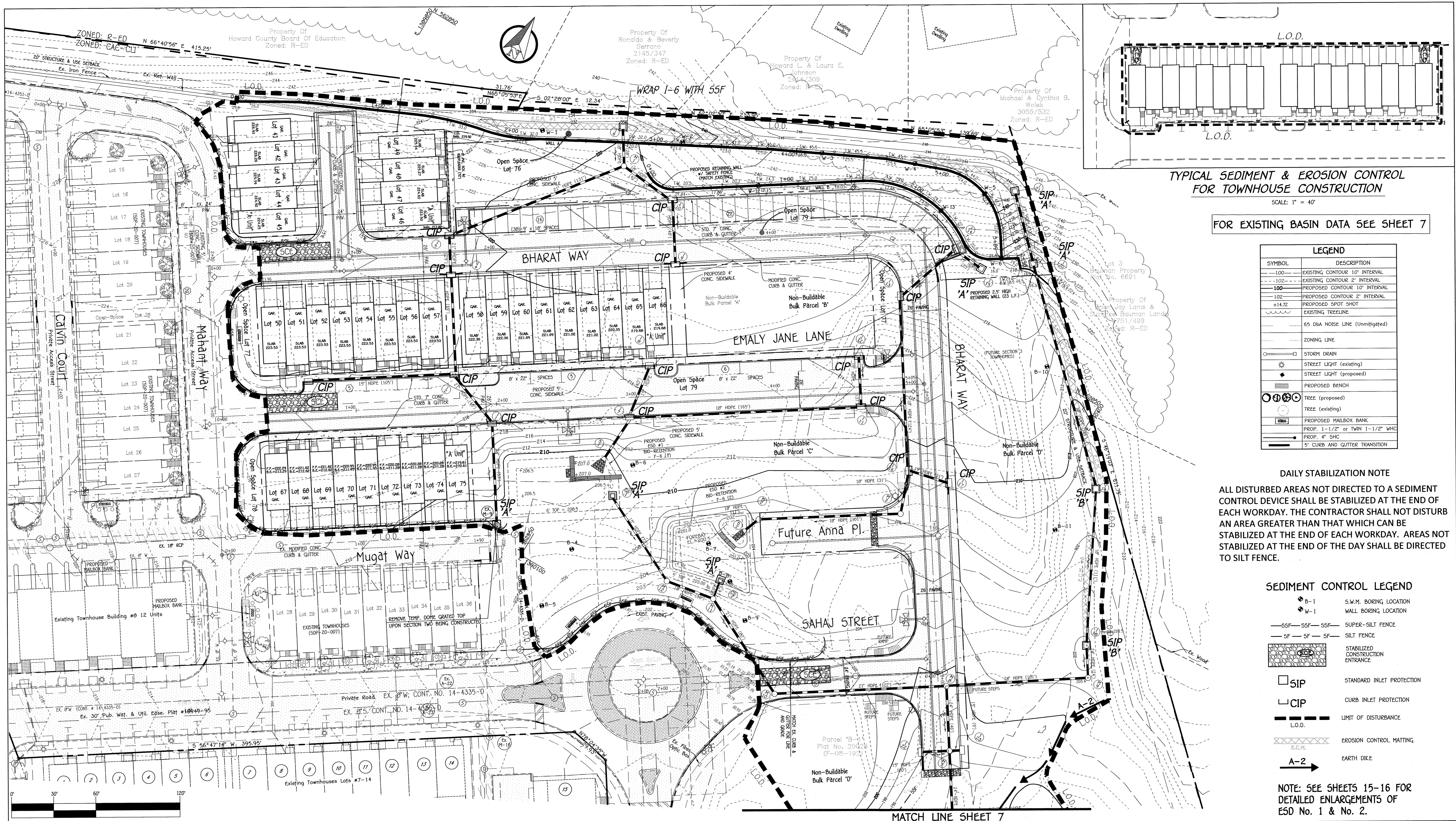
Owner
 CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
 5192 TALBOTS LANDING
 ELLICOTT CITY, MARYLAND 21046
 443-285-3602

Developer
 ELKRIDGE DEVELOPERS, LLC
 5192 TALBOTS LANDING
 ELLICOTT CITY, MD 21046
 443-285-9563

LOT ENLARGEMENT
ELKRIDGE CROSSING II
SECTION TWO
 LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
 (BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A'", PLAT NOS. 25572 - 25576)
 Zone: CAC-CL1
 Tax Map No: 36 Grid No: 20 Parcel No: 36
 First Election District: Howard County, Maryland
 Scale: As Shown
 Date: August 5, 2021
 Sheet 4 of 25

SUBDIVISION		SECTION	LOT Nos.		
ELKRIDGE CROSSING II		TWO	41-75		
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
25877 - 25911	N/A	CAC-CL1	36	1st.	601101

I:\2018\18017\Engineering\Drawings\SDP (residential)\SDP 2SDP - Allow place 202110017 Sheet 3-4 Site Plan.dwg, C:\4_SDP-26_8\182021 11:21:54 AM, 1:1



TYPICAL SEDIMENT & EROSION CONTROL FOR TOWNHOUSE CONSTRUCTION
SCALE: 1" = 40'

FOR EXISTING BASIN DATA SEE SHEET 7

LEGEND	
SYMBOL	DESCRIPTION
-100	EXISTING CONTOUR 10' INTERVAL
-102	EXISTING CONTOUR 2' INTERVAL
-100	PROPOSED CONTOUR 10' INTERVAL
-102	PROPOSED CONTOUR 2' INTERVAL
+14.72	PROPOSED SPOT SHOT
---	EXISTING TREELINE
---	65 DBA NOISE LINE (Unmitigated)
---	ZONING LINE
---	STORM DRAIN
---	STREET LIGHT (existing)
---	STREET LIGHT (proposed)
---	PROPOSED BENCH
---	TREE (proposed)
---	TREE (existing)
---	PROPOSED MAILBOX BANK
---	PROP. 1-1/2" or TWIN 1-1/2" WHC
---	PROP. 4" SHC
---	5" CURB AND GUTTER TRANSITION

DAILY STABILIZATION NOTE

ALL DISTURBED AREAS NOT DIRECTED TO A SEDIMENT CONTROL DEVICE SHALL BE STABILIZED AT THE END OF EACH WORKDAY. THE CONTRACTOR SHALL NOT DISTURB AN AREA GREATER THAN THAT WHICH CAN BE STABILIZED AT THE END OF EACH WORKDAY. AREAS NOT STABILIZED AT THE END OF THE DAY SHALL BE DIRECTED TO SILT FENCE.

SEDIMENT CONTROL LEGEND

B-1	S.W.M. BORING LOCATION
W-1	WALL BORING LOCATION
SSS	SUPER-SILT FENCE
SF	SILT FENCE
SCB	STABILIZED CONSTRUCTION ENTRANCE
SIP	STANDARD INLET PROTECTION
CIP	CURB INLET PROTECTION
L.O.D.	LIMIT OF DISTURBANCE
E.C.M.	EROSION CONTROL MATTING
A-2	EARTH DIKE

NOTE: SEE SHEETS 15-16 FOR DETAILED ENLARGEMENTS OF ESD No. 1 & No. 2.

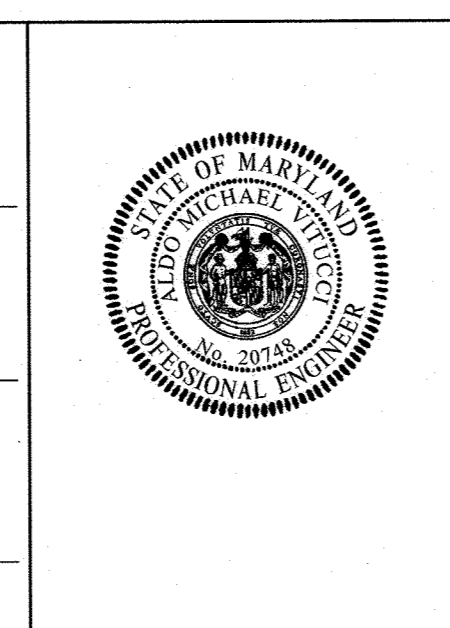
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21046
(410) 461-2295

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development Date: 10/19/21

Chief, Development Engineering Division Date: 10-19-21

Director - Department of Planning and Zoning Date: 10-19-21



ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer (print name below signature): *Michael J. Mendenhall* Date: 7/28/21

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer (print name below signature): *B. Mendel* Date: 7/28/21

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD Date: 08/02/21

Owner: CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA REVOCABLE TRUST, 5192 TALBOTS LANDING, ELLICOTT CITY, MARYLAND 21046, 443-285-3802

Developer: ELK RIDGE DEVELOPERS, LLC, 5192 TALBOTS LANDING, ELLICOTT CITY, MD 21046, 443-285-9563

NO.	REVISION	DATE			
NO.	SUBDIVISION	ELK RIDGE CROSSING II			
NO.	SECTION	TWO			
NO.	LOT Nos.	41-75			
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
2-5877-2-5877-1	N/A	CAC-CL1	38	1st.	601101

SEDIMENT & EROSION CONTROL PLAN

ELK RIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELK RIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT Nos. 25972 - 25976)

Zoned: CAC-CL1
Tax Map No: 38 Grid No: 20 Parcel No: 38
Fire Election District: Howard County, Maryland
Scale: As Shown
Date: June 11, 2021
Sheet 5 of 25

I:\2018\18017\Engineering\Drawings\SDP (residential)\SDP 2\SDP - Areas phase 202118017 Sheet 5-7.ed con Plan and details.dwg, C:\6_SDP-206_729\20211223:57 PM, 1:1

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. Soil Preparation**
1. Temporary Stabilization
 - a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be allowed to be compacted or to be trampled in the roughened condition. Seeds or fertilizer or other material to be broadcast with ridges running parallel to the contour of the slope.
 - b. Apply fertilizer and lime as prescribed on the plan.
 - c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 2. Permanent Stabilization
 - a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetation establishment are:
 - i. Soil pH between 6.0 and 7.0.
 - ii. Soluble salts less than 200 parts per million (ppm).
 - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capability to hold a moderate amount of moisture. An exception: if longgrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - iv. Soil contains 1.5 percent minimum organic matter by weight.
 - v. Soil contains sufficient pore space to permit adequate root penetration.
 - b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and boulders, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Tread slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- B. Topsoiling**
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soil concerns have low moisture content, low nutrient levels, low pH, moderate toxic to phytic, and/or unacceptably soil depth.
 2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 3. Topsoiling is limited to grades having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.
 4. Areas having slopes steeper than 2:1 require special consideration and design.
 5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - a. Topsoil must be loam, sandy loam, clay loam, silt loam, silty clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textures and subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, dikes, rocks, trash, or other materials larger than 1 1/2 inches in diameter.
 - b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 6. Topsoil Application
 - a. Erosion and sediment control practices must be maintained when applying topsoil.
 - b. Uniformly distribute topsoil in a 3 to 6 inch layer and lightly compact to a minimum thickness of 4 inches. Grading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the lime resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - c. Topsoil must not be placed in the topsoil or subsoil in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

- C. Soil Amendments (Fertilizer and Lime Specifications)**
1. Soil tests must be performed to determine the exact nitrate and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Mixtures may be substituted for fertilizer prior approval from the appropriate approval authority. Fertilizers must be all delivered to the site fully labeled according to the applicable laws and must bear the name, trademark or trademark and warranty of the producer.
 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxide (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass through a #200 mesh sieve.
 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

TEMPORARY SEEDING NOTES (B-4-4)

Definition
To stabilize disturbed soils with vegetation for up to 6 months.

Purpose
To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3) and enter them in the Temporary Seeding Summary table along with application rates, seeding dates and seeding depths. If this summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for temporary seeding.
3. When stabilization is required outside of a seeding season, seed and mulch or straw mulch done as prescribed in Section B-4-3A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardness Zone (from Figure B.3):	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)	Lime Rate (Seed Mixture (from Table B.1):)
B	TALL FESCUE	100	Mar. 1 - May 15 Aug. 1 - Oct. 15	1/4 - 1/2 in. (1.0 lb/1000 sf) (1000 sf)	45 lb/acre (1.0 lb/1000 sf) (1000 sf)	90 lb/acre (2 lb/1000 sf) (1000 sf)

PERMANENT SEEDING NOTES (B-4-5)

- A. Seed Mixtures**
1. General Use
 - a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - b. Additional plantings appropriate for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 - c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the testing agency. Soil tests are not required for permanent seeding.
 - d. For areas receiving low maintenance, apply urea from fertilizer (46-0-0) at 1 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
 2. Turfgrass Mixtures
 - a. Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which require a medium to high level of maintenance.
 - b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management, irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - ii. Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Cultivars: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 50 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 50 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet. One or more cultivars may be blended.
 - iv. Kentucky Bluegrass/Tall Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf areas, include Certified Kentucky Bluegrass Cultivars 20 to 40 percent and Certified Tall Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Permanent Seeding Summary

Hardness Zone (from Figure B.3):	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	N	P ₂ O ₅	K ₂ O	Lime Rate (Seed Mixture (from Table B.1):)
B	TALL FESCUE	100	Mar. 1 - May 15 Aug. 1 - Oct. 15	1/4 - 1/2 in. (1.0 lb/1000 sf) (1000 sf)	45 lb/acre (1.0 lb/1000 sf) (1000 sf)	90 lb/acre (2 lb/1000 sf) (1000 sf)	90 lb/acre (2 lb/1000 sf) (1000 sf)	2 tons/acre (1000 sf)

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY SEEDING MUST BE COMPLETED WITHIN:

- a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, TRENCHES, SLOPES AND ALL SLOPES STEEPER THAN 3:1 HORIZONTAL TO 1 VERTICAL (3:1); AND
- b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA (B-4-8)

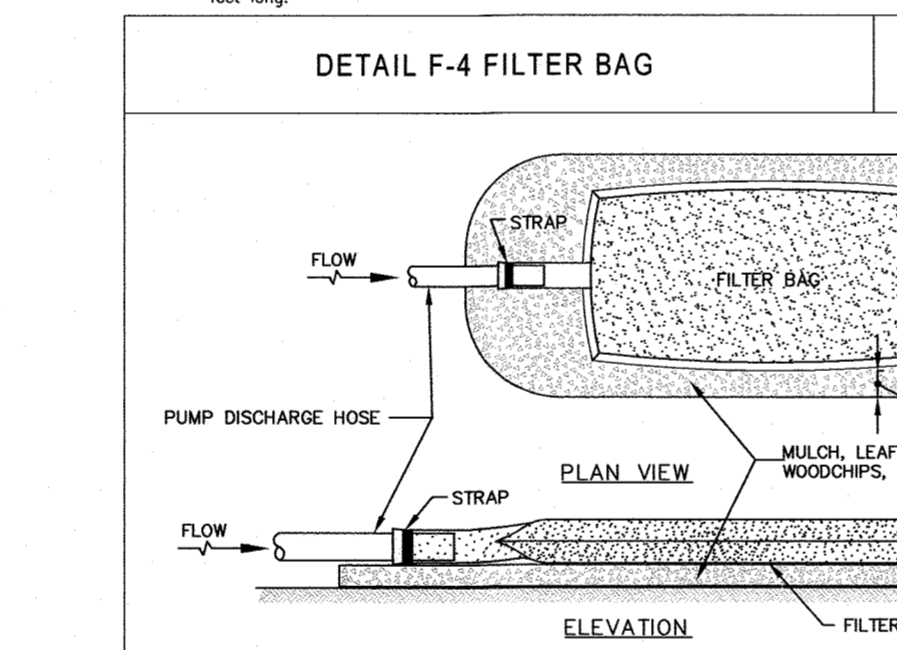
- Definition**
The mound or pile of soil protected by appropriately designed erosion and sediment control measures.
- Purpose**
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and discharge to stream channels.
- Conditions Where Practice Applies**
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
- Criteria**
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-4-3 Land Grading.
 3. Runoff from the stockpile area must drain to a suitable sediment control practice.
 4. Access the stockpile area from the up-slope side.
 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth ditch, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impervious sheeting.
- The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING (B-4-3)

- Definition**
The application of seed and mulch to establish vegetative cover.
- Purpose**
To protect disturbed soils from erosion during and at the end of construction.
- Conditions Where Practice Applies**
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.
- Criteria**
1. All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of seeding such material on any project. Refer to Table B.4 regarding the quality of seed. Seed lots must be available upon request to the inspector to verify type of seed and seeding rate.
 2. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 3. Inoculants: The inoculant for treeing species seed in the seed mixture must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used unless later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant cool as possible until placed on soil which has been treated with soil sterilants or chemicals used for weedcontrol not sufficient soil which has been treated with soil sterilants or chemicals used for weedcontrol.
 4. Application
 - i. Dry Seeding: This includes use of conventional drop or broadcast spreaders. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or area-specific seeding summaries. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - ii. Drill or Calibrator Seeding: Mechanized seeders that apply and cover seed with soil. Calibrator seeders are required to bury the seed such that it is in contact with soil to provide at least 1/4 inch of soil coverage. Seedbed must be firm after planting.
 - iii. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - iv. Lime: Use only ground agricultural limestone (not dolomite) to 3 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - v. Mix seed and fertilizer on site and seed immediately and without interruption.
 - vi. When hydroseeding do not incorporate seed into the soil.

- B. Mulching**
- a. Materials (in order of preference)
 - i. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not moldy, matted, coated, decayed, or excessively dirty. Note: Use only straw mulch in areas where one species of grass is desired.
 - ii. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical state.
 - i. WCFM is to be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity spread slurry.
 - ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
 - iii. WCFM material is to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a batter-like ground cover, on application, having moisture absorption and porosity properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - iv. WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeter diameter approximately 1 millimeter; dry weight of 4.0 to 6.0, with a maximum of 1.6 percent maximum and water holding capacity of 90 percent minimum.
 - b. Apply mulch to all seeded areas immediately after seeding.
 - c. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
 - d. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to create a mixture with a minimum of 50 pounds of wood cellulose fiber per 100 gallons of water.

- 3. Anchoring**
- a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
 - i. mulch anchoring tool or a top-down implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely.
 - ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water to a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - iii. Synthetic binders such as Acrylic DER (Aqua-Tack), DOW-Tack, Permatack, Terra-Tack II, Terra-Tack All or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of bays. Use of asphalt binders is strictly prohibited.
 - iv. Lightweight netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.



- CONSTRUCTION SPECIFICATIONS**
1. TIGHTLY SEAL SLEEVE ALONG THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
 2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
 3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
 4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
 5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MANY) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	100 GPM/FT	ASTM D-4831
PERMITTIVITY (SEC ²)	1.2 SEC ²	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4385
APPARENT OPENING SIZE (AOS)	4.75-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632
 6. REPLACE FILTER BAG IF BAG CLOSOS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE SEDGING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE
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ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Oliver M. Vitvitski
Signature of Engineer (print name below signature) **7/28/21** Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

B. Mena
Signature of Developer (print name below signature) **7/28/21** Date

DETAIL C-1 EARTH DIKE

CROSS SECTION
2:1 SLOPE OR FLATTER
FLOW
GRADE TO PROVIDE REQUIRED FLOW WIDTH AND FLOW DEPTH

PLAN VIEW
CONTINUOUS GRADE
DIKE MAX. SLOPE
FLOW
DIKE TYPE

A - DIKE HEIGHT	18 IN. MIN.	30 IN. MIN.
B - DIKE WIDTH	24 IN. MIN.	36 IN. MIN.
C - FLOW WIDTH	4 FT. MIN.	6 FT. MIN.
D - FLOW DEPTH	12 IN. MIN.	24 IN. MIN.

FLOW CHANNEL STABILIZATION

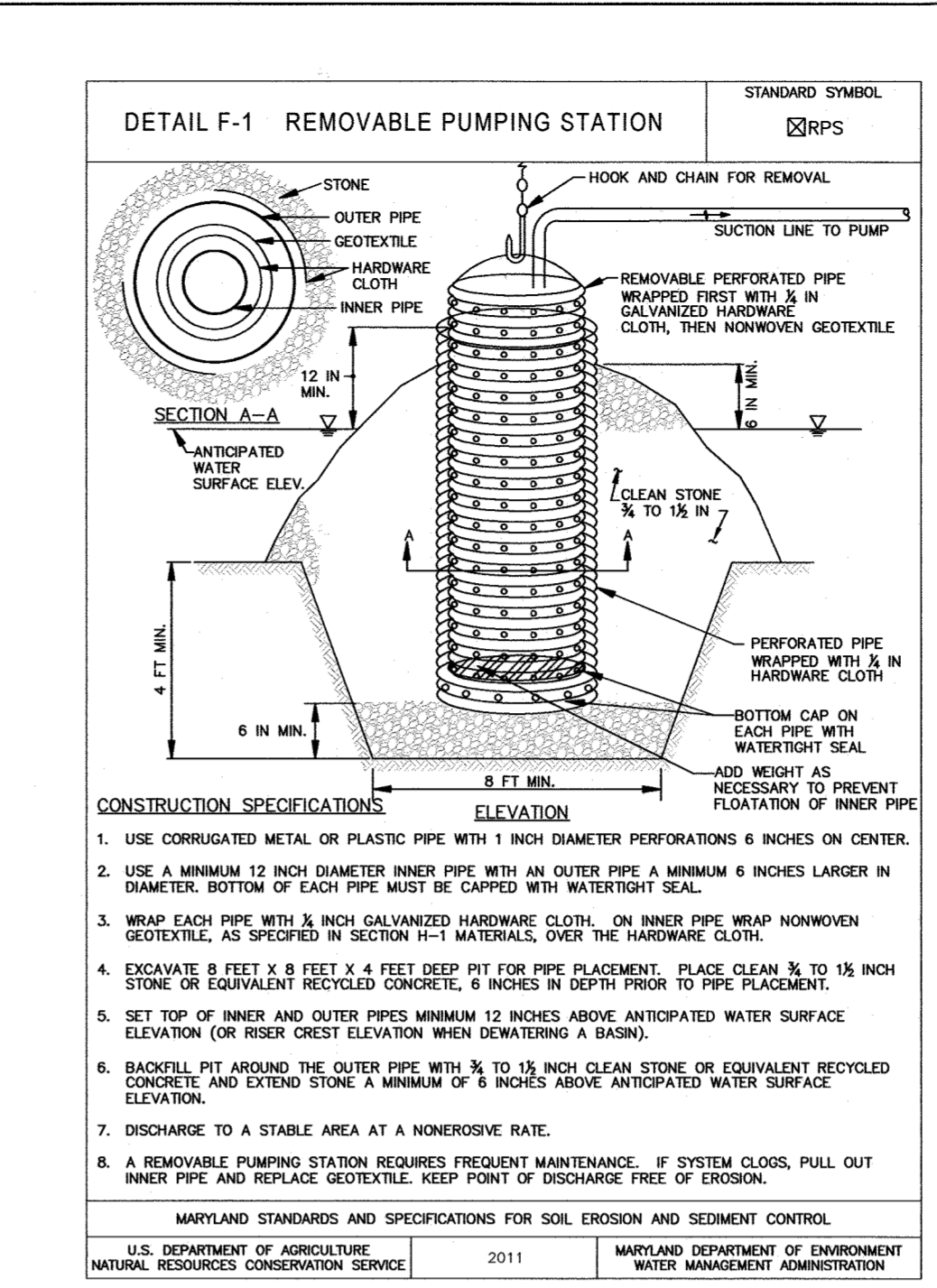
- A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER FLOW)
- A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
- A-3/B-3 A MINIMUM OF 7 INCHES OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBSTRUCTIONAL MATERIAL. SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. COMPACT FILL.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROTECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
5. COMPACT FILL.
6. CONSTRUCT FLOW CHANNEL ON AN UNINTERFERRED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
7. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
8. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
9. MAINTAIN LINE, GRADE AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
10. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL, STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMITS. (2 WEEKS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1870 AT LEAST 24-HOURS BEFORE STARTING ANY WORK.
3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCES, PERIMETER SUPER SILT FENCE AND EXTERNAL EARTH DIKES AS SHOWN ON THE PLANS. CLEAR AND GRUB REPAIRER OF L.O.D. (2 WEEKS)
4. INSTALL WATER & SEWER MAINS. INSTALL STORM DRAINS ALONG WITH THE TEMPORARY 24" FLEX PIPE FROM H-6 TO THE EXISTING SEDIMENT BASIN #2 (SEE SHEET 7 FOR PLAN). INSTALL INLET PROTECTION. (3 WEEKS)
5. GRADE SITE TO MASS GRADING CONTOURS FOR THE PRIVATE ROADS AND BUILDING PADS. THE CONTRACTOR SHALL HAVE THE OPTION TO GRADE SOME AREAS PRIOR TO OTHERS TO ALLOW FOR FLEXIBILITY ON WHICH PORTION OF THE PRIVATE ROADS BE CONSTRUCTED FIRST.
6. OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED. INSTALL CONCRETE CURB AND GUTTER, BASE & INTERGRADE PAVING COURSES. (1 MONTH)
7. BEGIN CONSTRUCTION OF THE TOWNHOUSES. SEE "TYPICAL SEDIMENT & EROSION CONTROL FOR TOWNHOUSE CONSTRUCTION DETAIL", SHEET 5. DRIVEWAY FRONTAGE SHALL HAVE SUPER SILT FENCE PROTECTION. (6 MONTHS)
8. INSTALL SIDEWALKS AND FINAL SURFACE COURSE FOR ROADWAYS. (1 MONTH)
9. STABILIZE ALL REMAINING AREAS DISTURBED AREAS ON-SITE WITH PERMANENT SEEDING OR OPTIONAL SODDING. (1 WEEK)
10. SEDIMENT CONTROL MEASURES SHALL NOT BE REMOVED UNTIL PERMISSION IS RECEIVED FROM THE INSPECTOR.

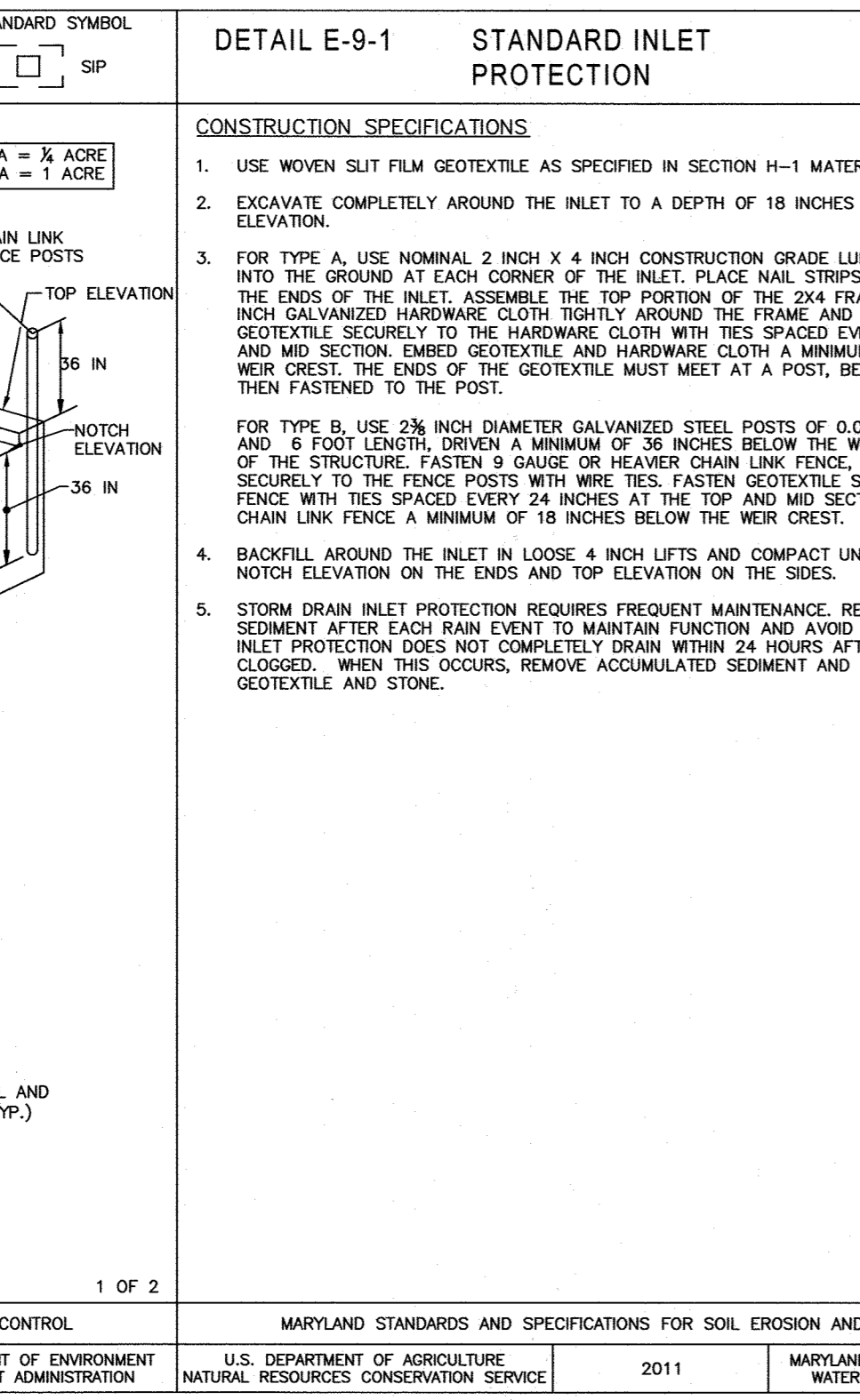
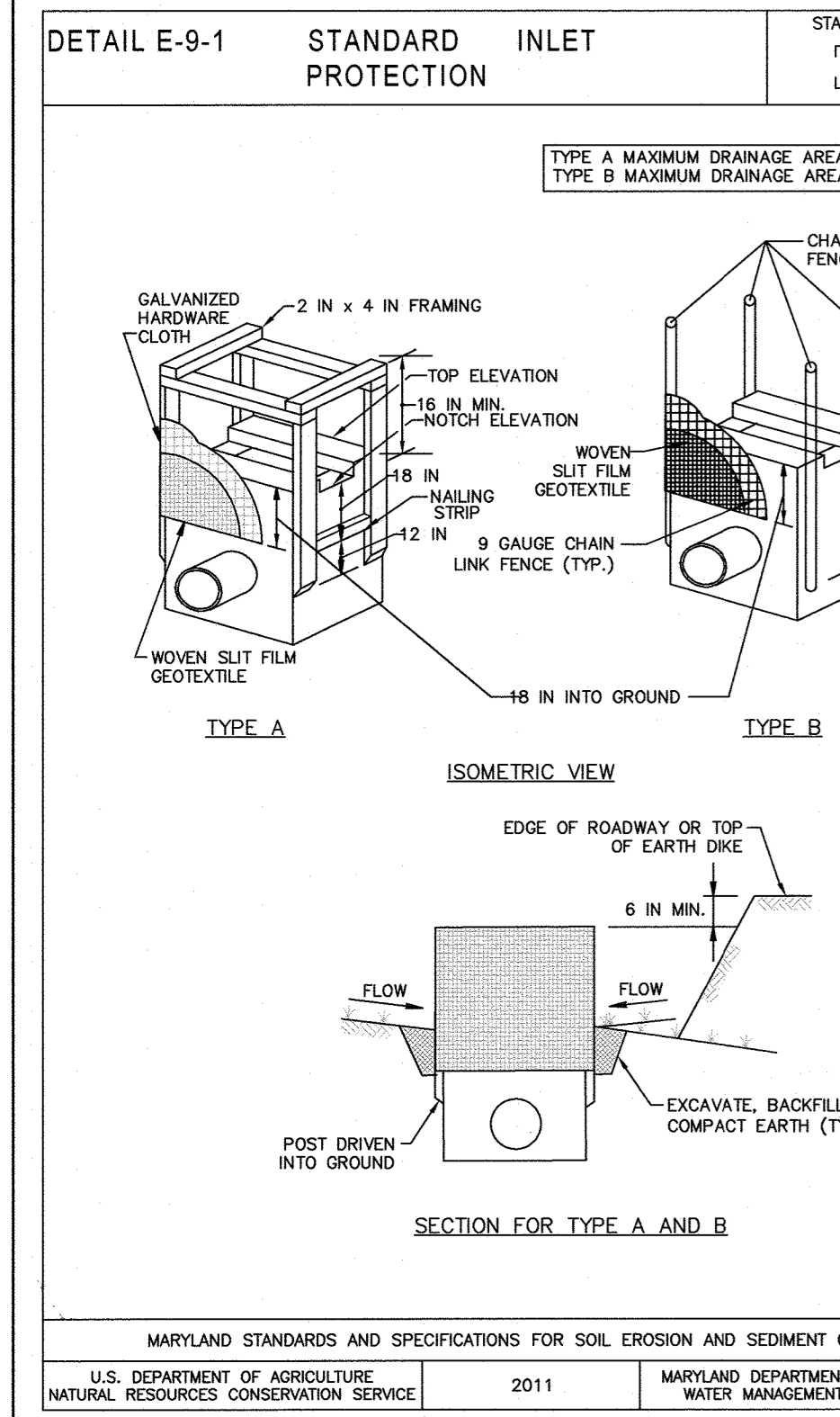
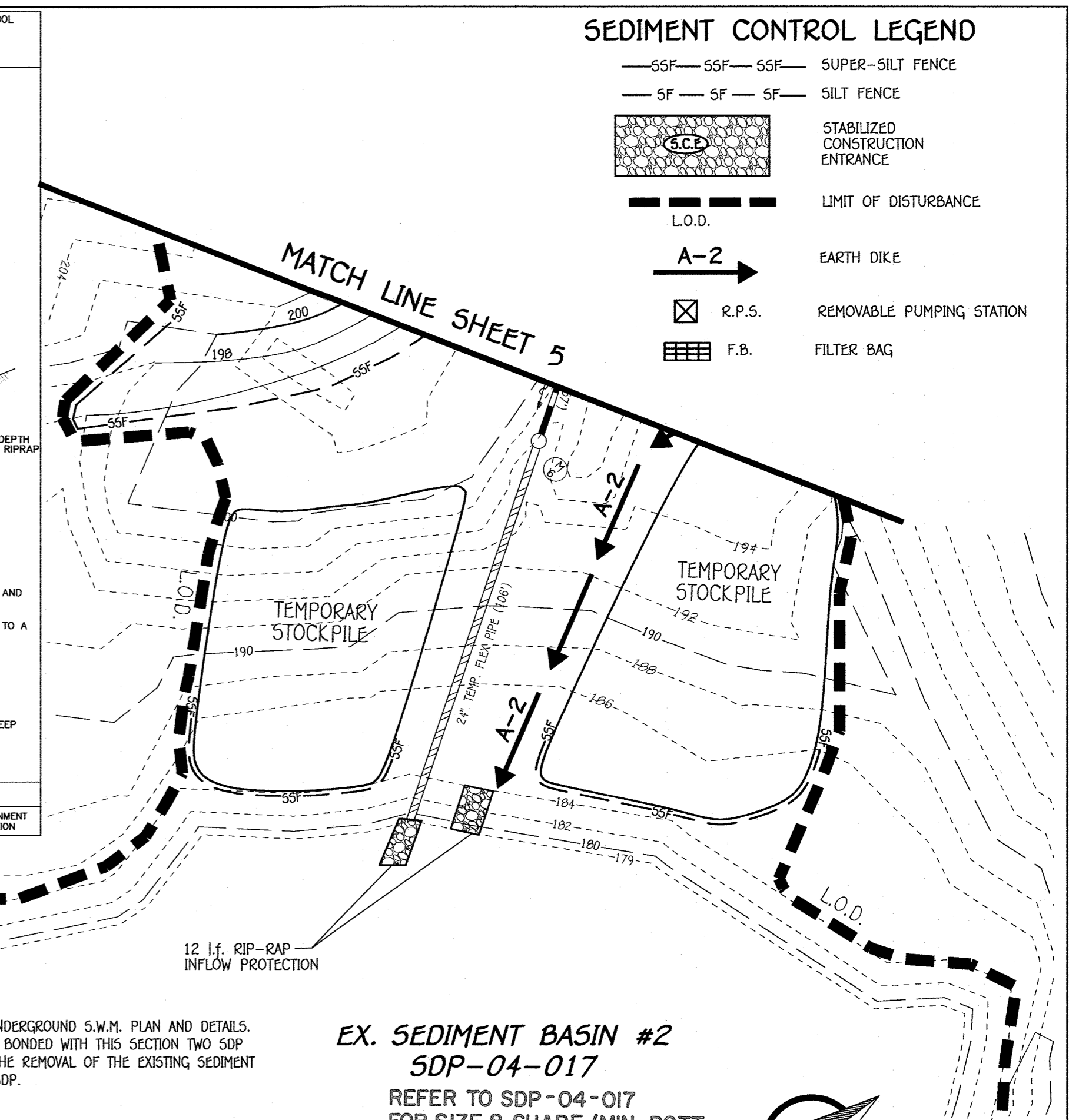
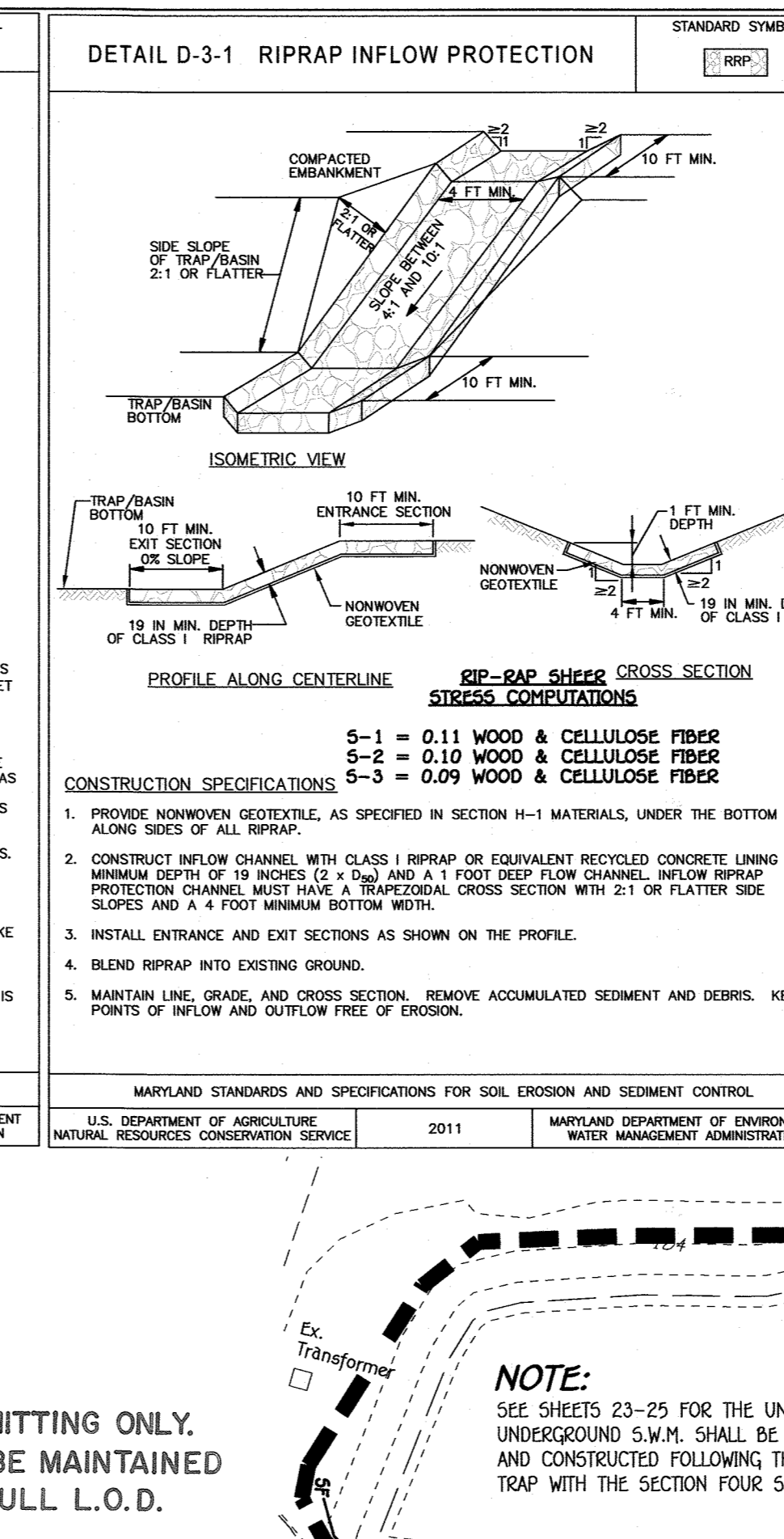
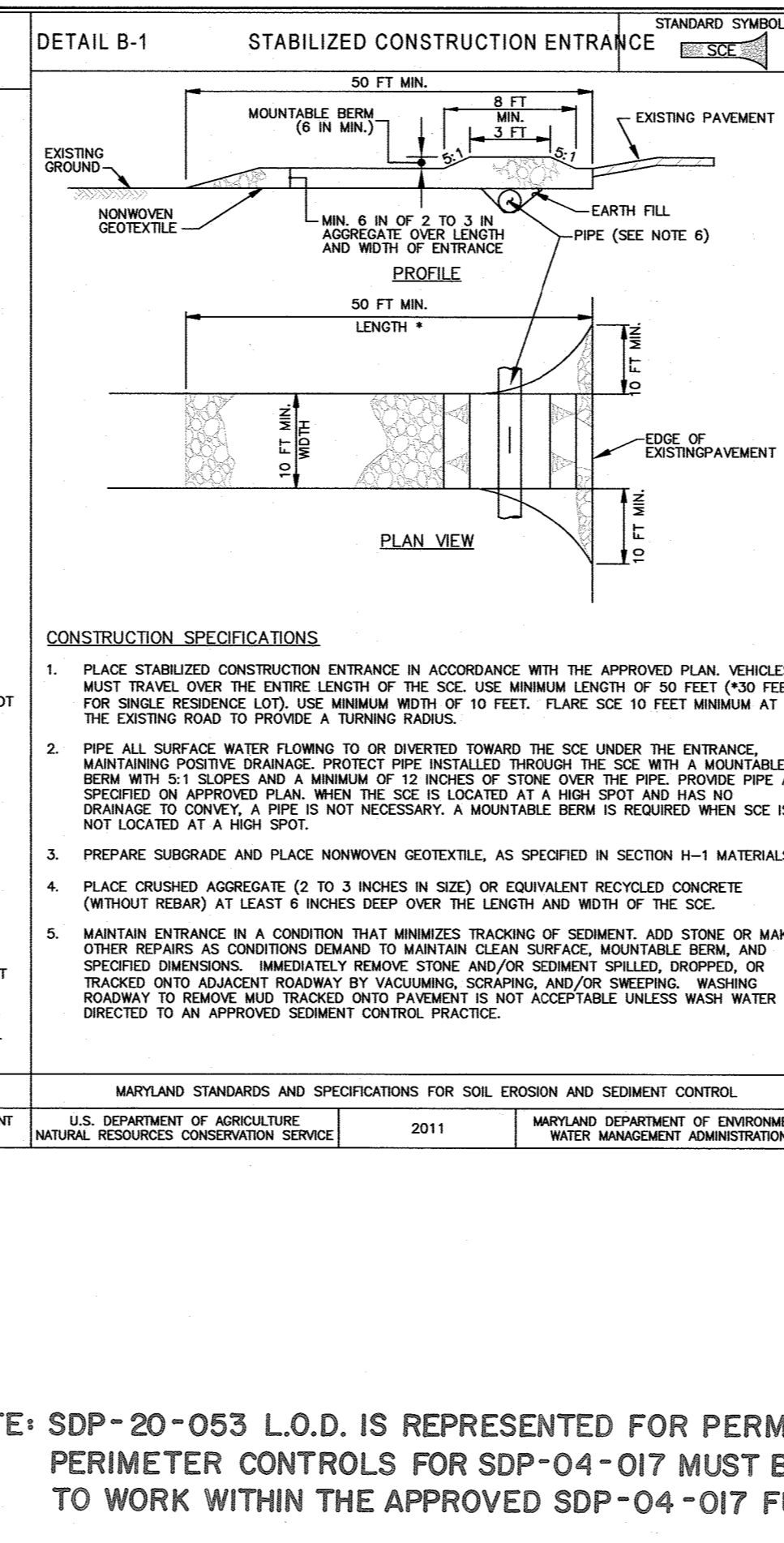
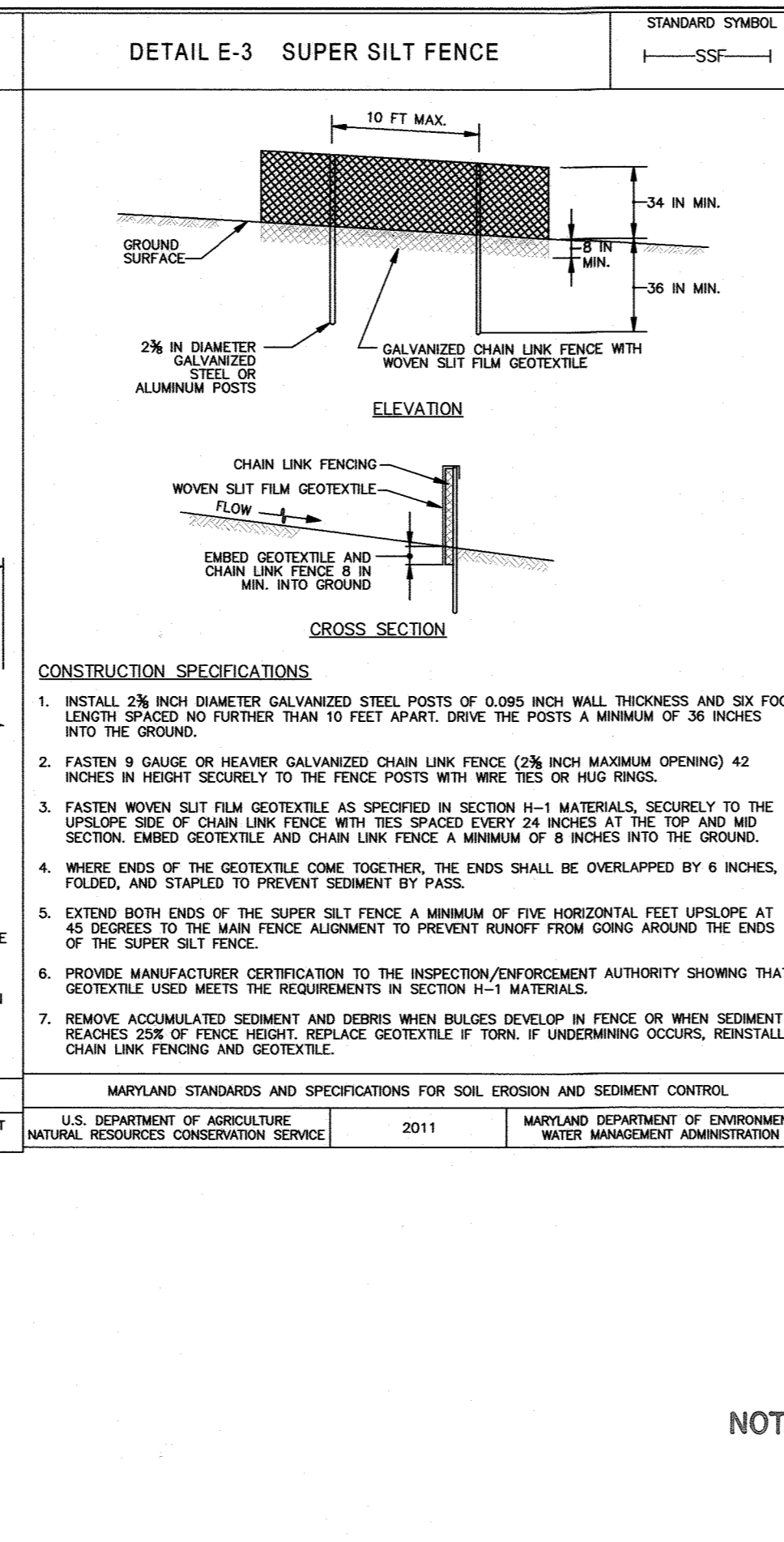
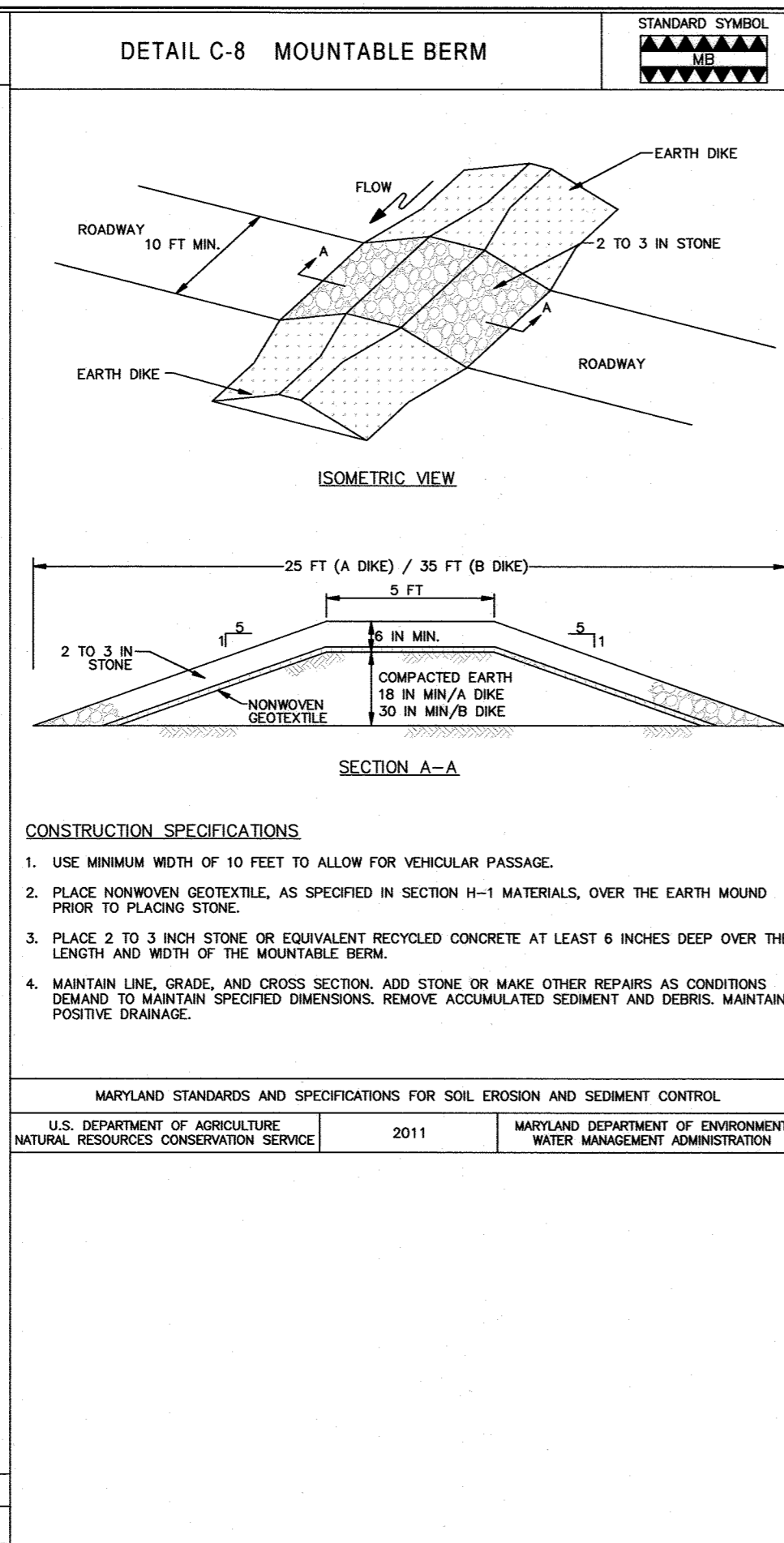
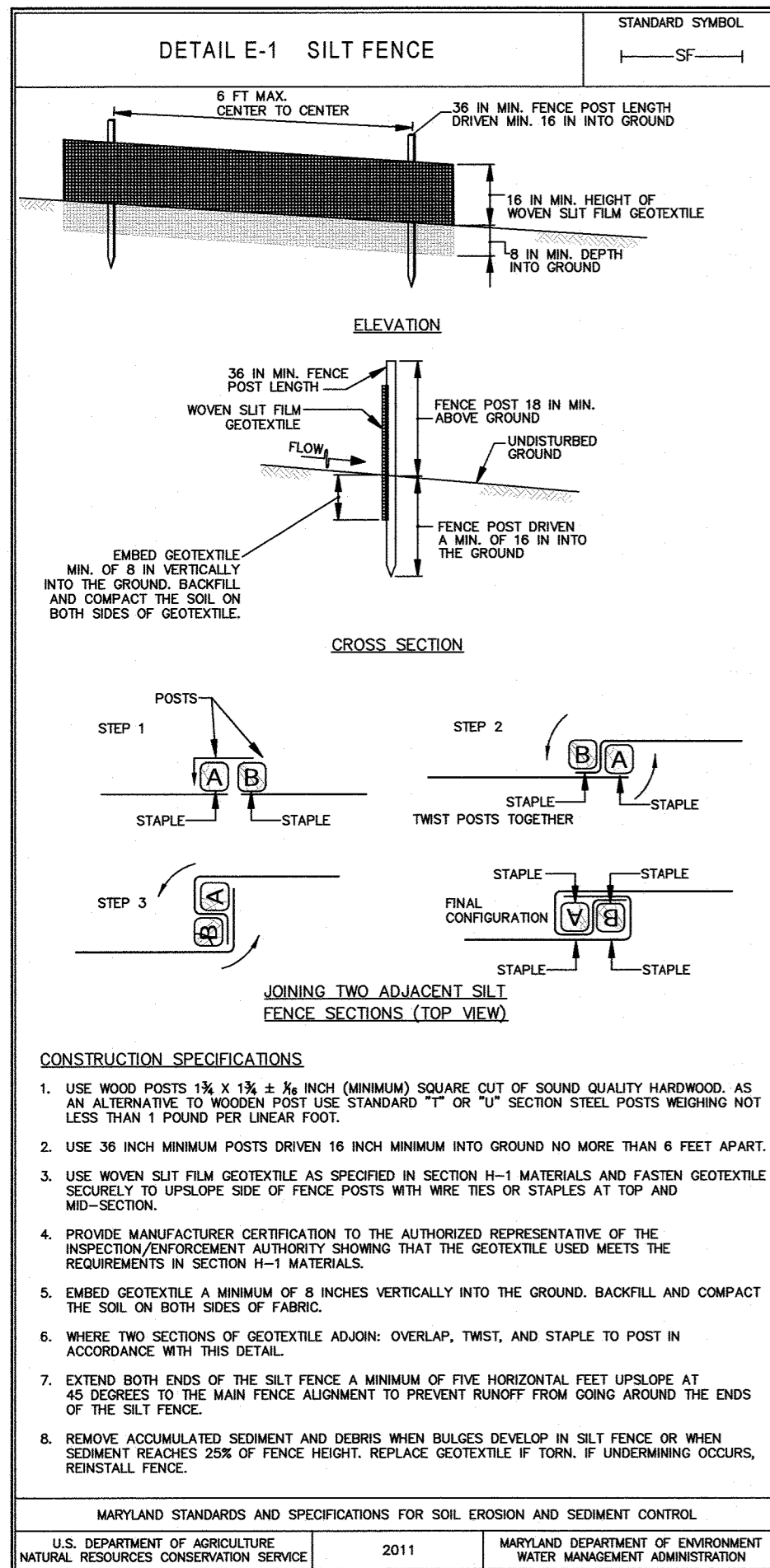
NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR IN REGARDS TO THE REQUIREMENTS. THE CONTRACTOR SHALL NOT REMOVE MORE THAN 20% DEGS OF COVER GRADING. SHEETS BE DISTURBED AT ANY GIVEN TIME, IF PRACTICED, THIS SECTION TWO AND ASSOCIATED L.O.D. IS LESS THAN 24 IN. IN SIZE.
2. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL MEASURES AFTER EACH RAINFALL AND ON A DAILY BASIS INCLUDING THE EXISTING SEDIMENT TRAP.
3. THE PERIMETER CONTROLS INCLUDED FOR TOWNHOUSE CONSTRUCTION MAY BE REMOVED FOLLOWING LOT STABILIZATION AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

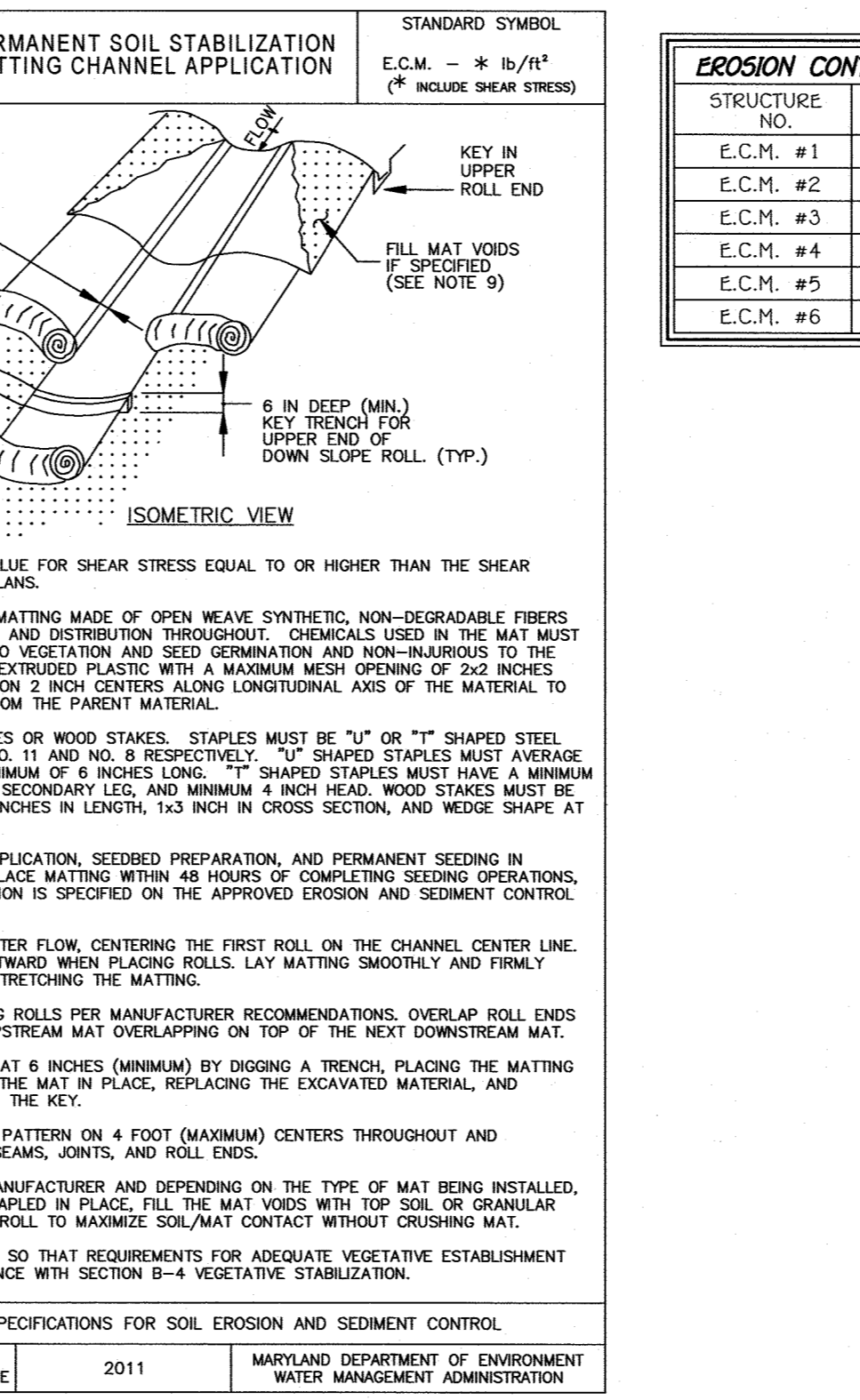
1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1899 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
 - a. Prior 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 grading 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 their plan.
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for Topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization practices may be used in accordance with the plan and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Section B-4-8) in excess of 20' in height must be benched with stable outlet. All concentrated flow, steep slopes, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
6. Site Analysis:

Total Area of Site:	6.51 Acres
Area Disturbed:	7.21 Acres (APPROX. 1.5 AC. OF L.O.D. IS THE EXISTING TRAP)
Area to be roofed or paved:	2.45 Acres
Area to be vegetatively stabilized:	4.31 Acres
Total Out:	3,000 Cu. Yds.
Total Fill:	3,000 Cu. Yds.
waste/borrow area location:	ON-SITE
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report to the contractor, made available upon request, is part of every inspection and should include:
 - Inspection date
 - Inspection time (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - Brief description of project's status (e.g., pre-completed and/or current activities)
 - Evidence of sediment discharges
 - Identification of problem areas
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Non-compliance items
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NRCS, NPS)
9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (minimum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
 - Use I and IP March 1 - June 15
 - Use III and IIIP October 1 - April 30
 - Use IV March 1 - May 31
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved water structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be benched at 25' minimum intervals, with lower ends curved up by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):



EROSION CONTROL MATTING DATA

STRUCTURE NO.	DRAINAGE AREA	SHEAR STRESS
E.C.M. #1	0.59 AC.	0.31 lb/ft ²
E.C.M. #2	0.23 AC.	0.65 lb/ft ²
E.C.M. #3	0.14 AC.	0.17 lb/ft ²
E.C.M. #4	0.07 AC.	1.45 lb/ft ²
E.C.M. #5	0.40 AC.	0.87 lb/ft ²
E.C.M. #6	0.11 AC.	0.19 lb/ft ²



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10/18/21

Chief, Development Engineering Division *[Signature]* Date: 10-13-21

Director - Department of Planning and Zoning *[Signature]* Date: 10-19-21

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FIC
ELICOTT CITY, MARYLAND 21102
(410) 461 - 2955

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

[Signature] 7/28/21
Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

[Signature] 7/28/21
Signature of Developer (print name below signature) Date

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

[Signature] 08/02/21
Howard SCD Date

Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELICOTT CITY, MD 21046
443-295-3822

Developer
ELK RIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELICOTT CITY, MD 21046
443-295-9563

NO.	REVISION	DATE
1	ELK RIDGE CROSSING II	41-75
2	TWO	41-75
3	LOT Nos.	41-75
4	SECTION	41-75
5	LOT Nos.	41-75
6	SECTION	41-75
7	LOT Nos.	41-75
8	SECTION	41-75
9	LOT Nos.	41-75
10	SECTION	41-75

SEDIMENT AND EROSION CONTROL NOTES & DETAILS

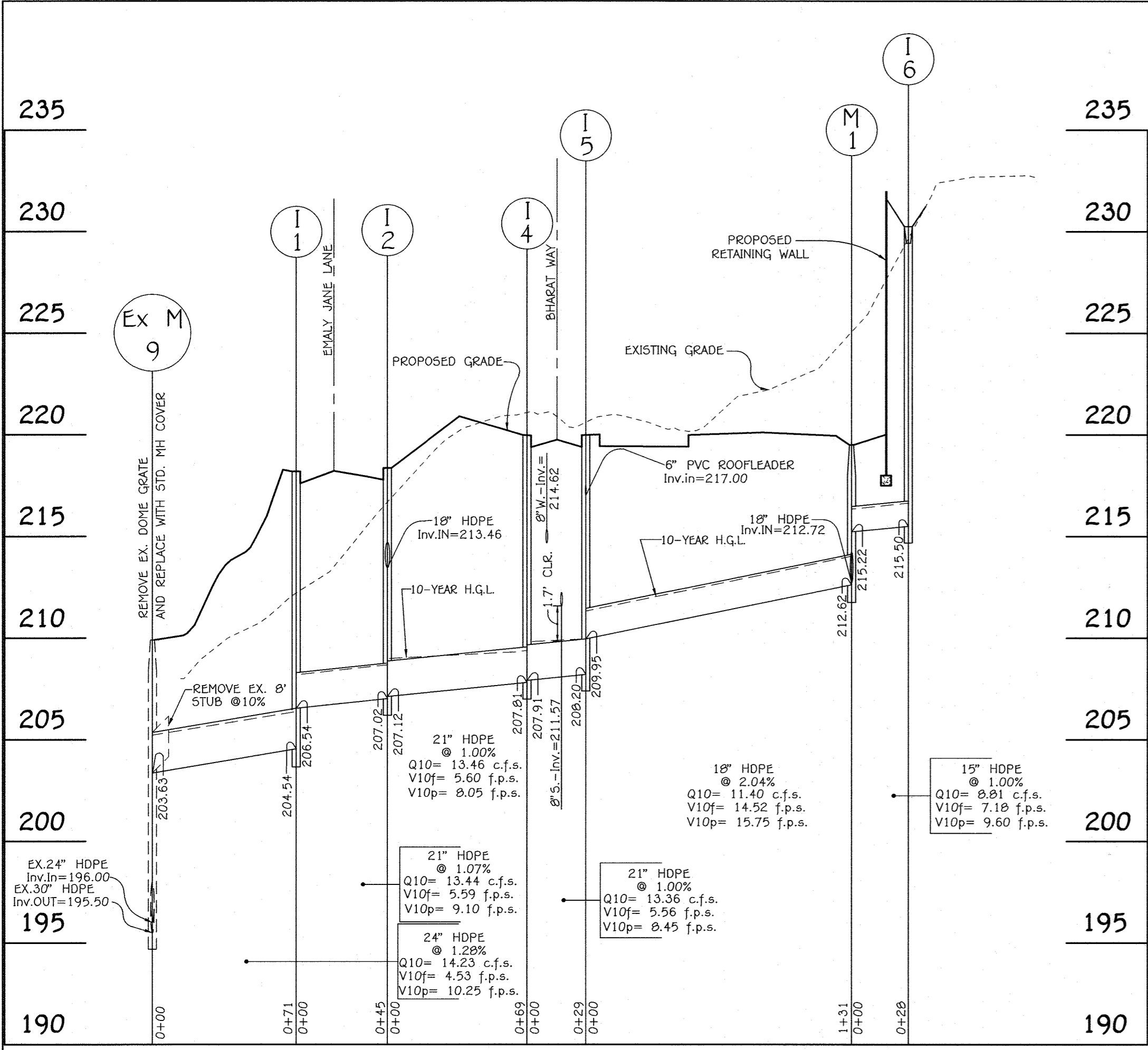
ELK RIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

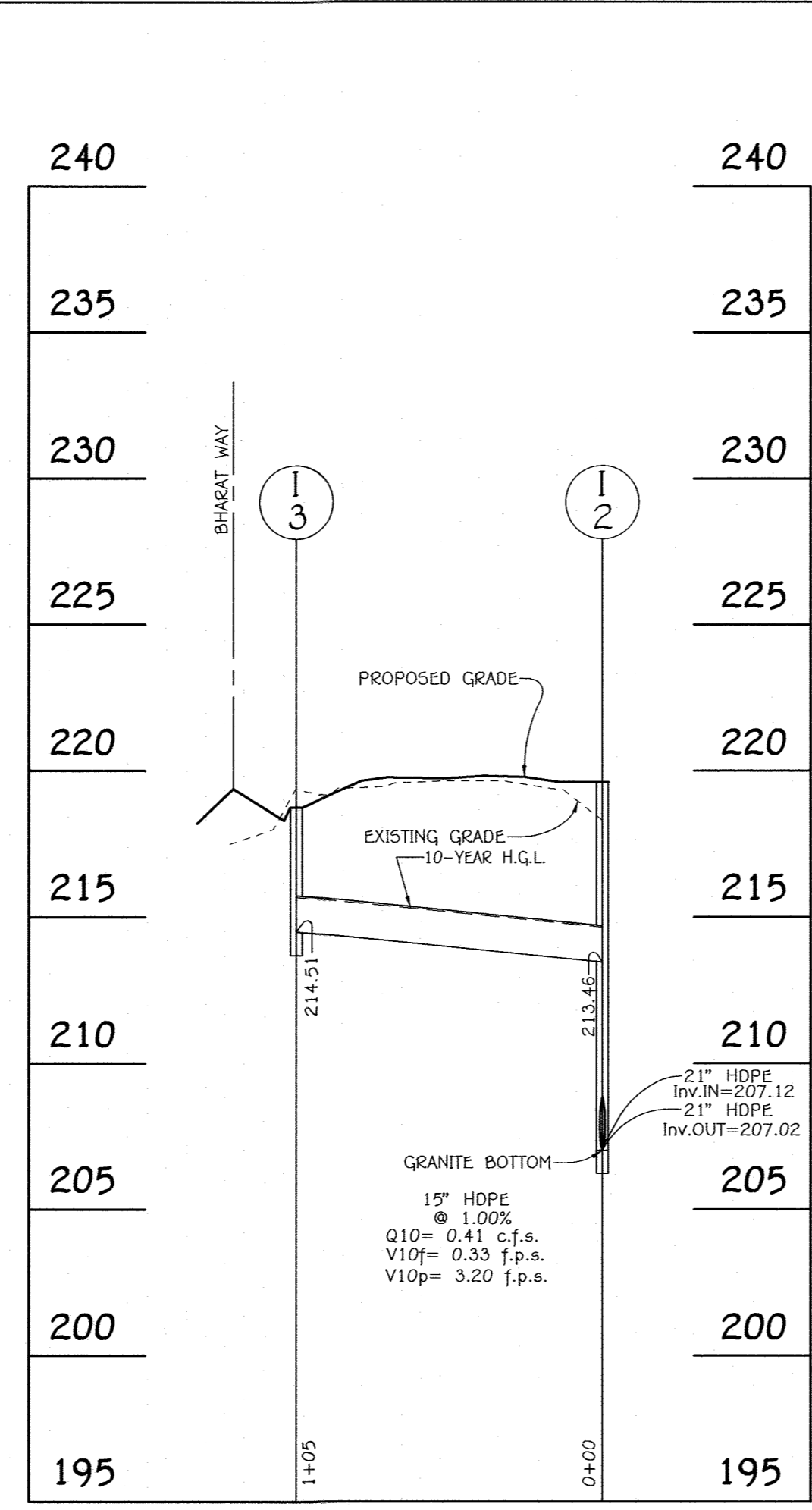
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELK RIDGE CROSSING II SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A' - PLAT Nos. 29572 - 29576)

Zoned: CAC-CL1
Tax Map No.: 36 Grid No.: 20 Parcel No.: 36
First Election District: Howard County, Maryland

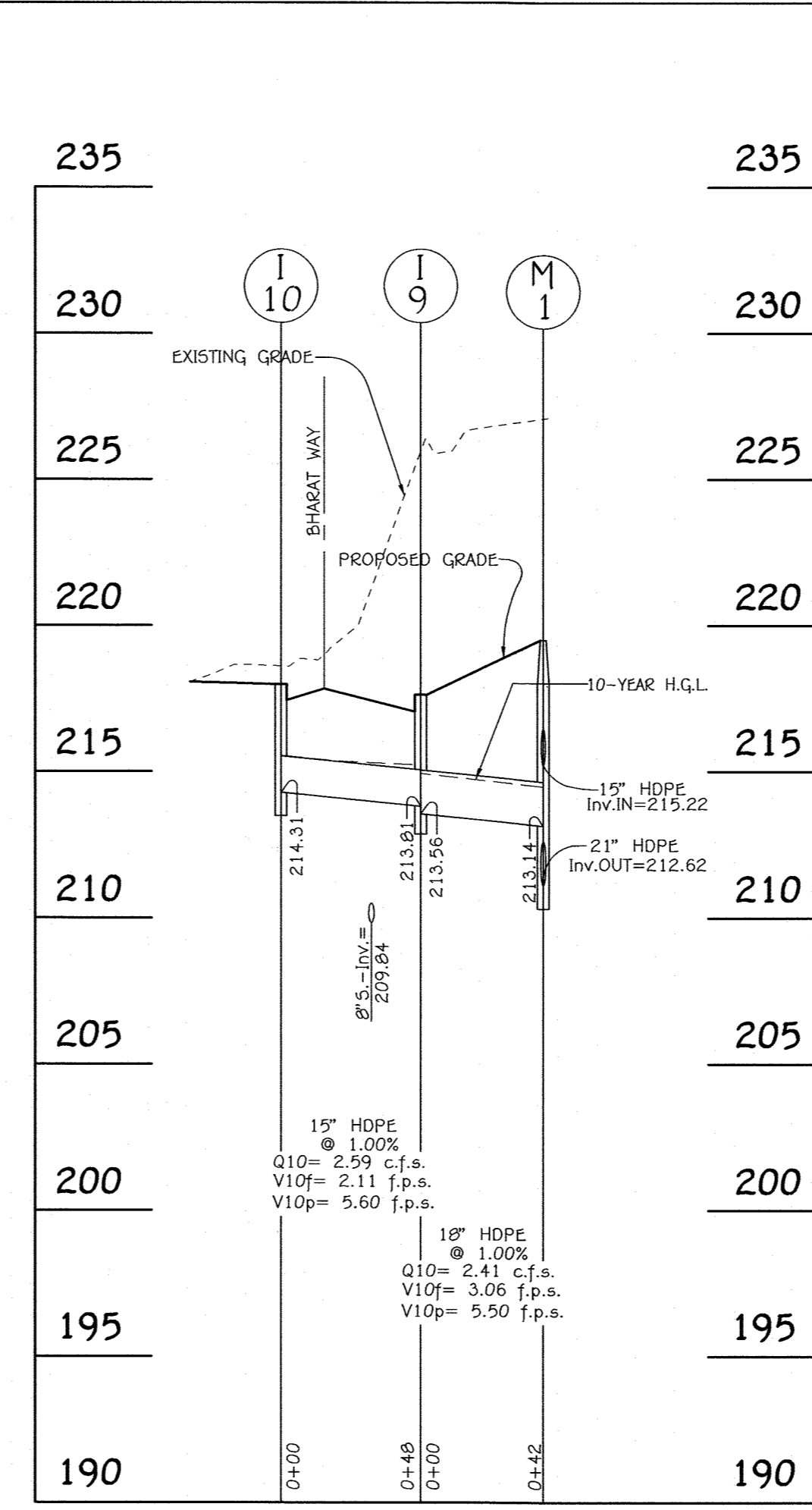
Scale: As Shown
Date: June 11, 2021
Sheet 7 Of 25



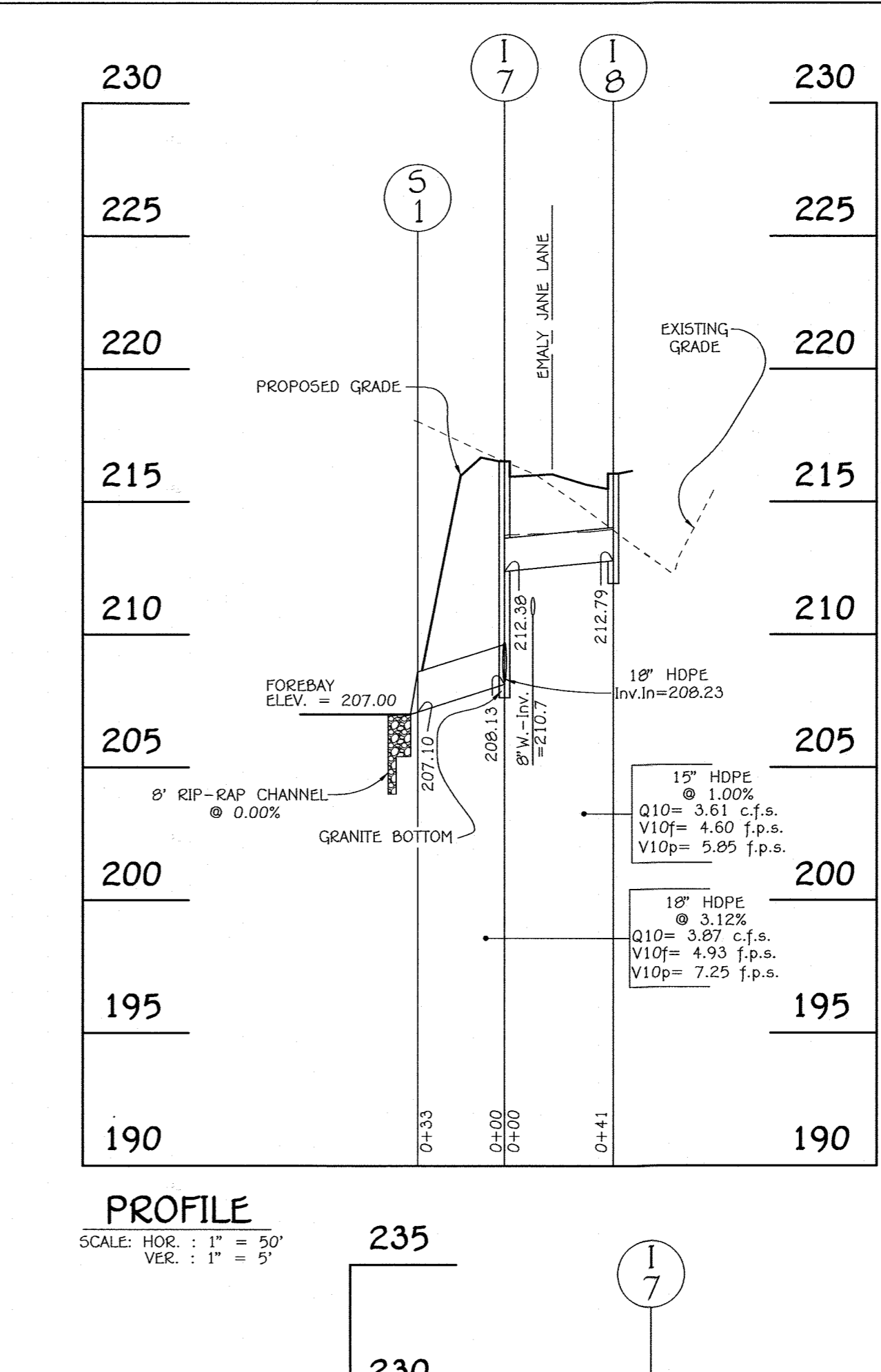
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



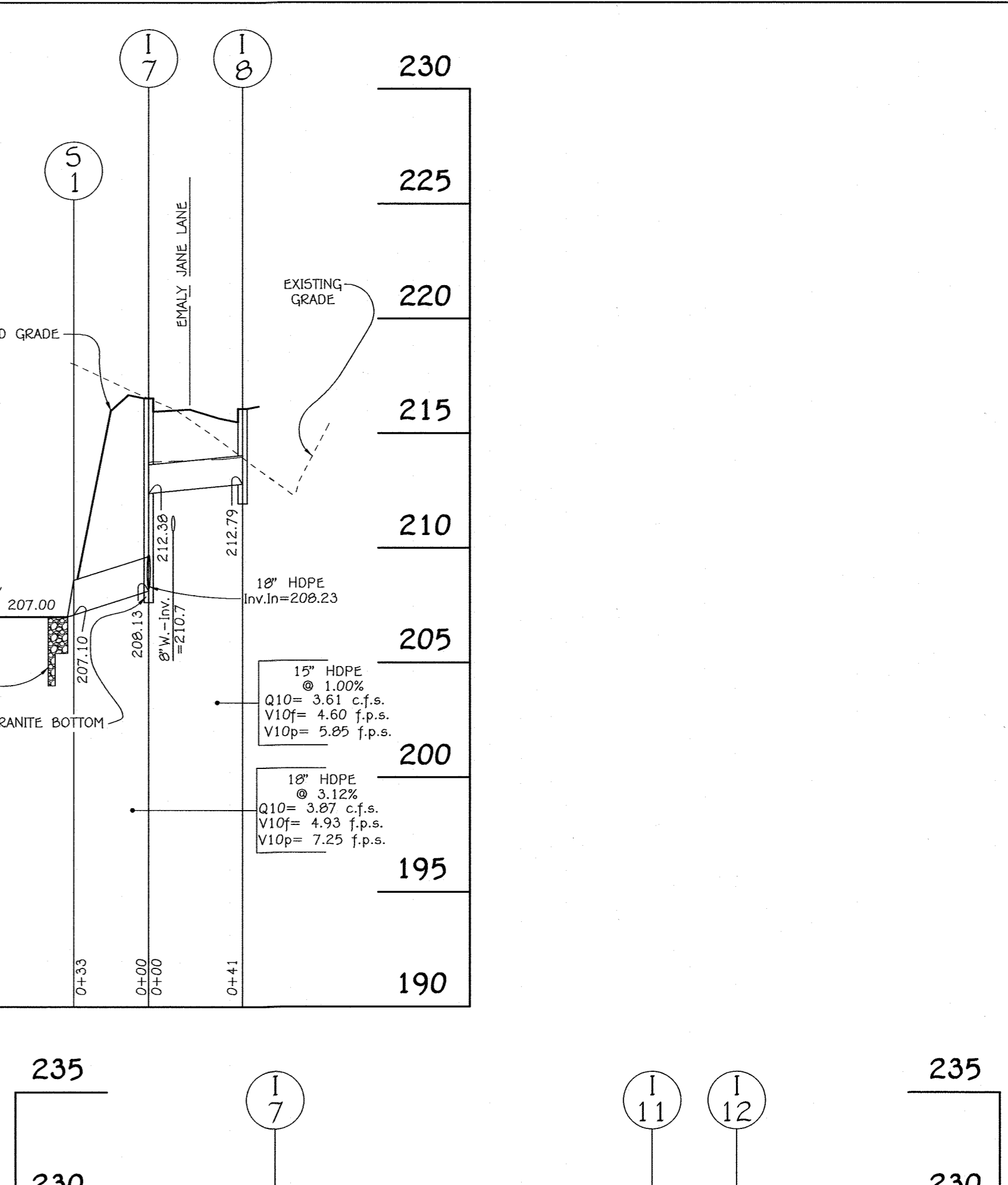
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SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



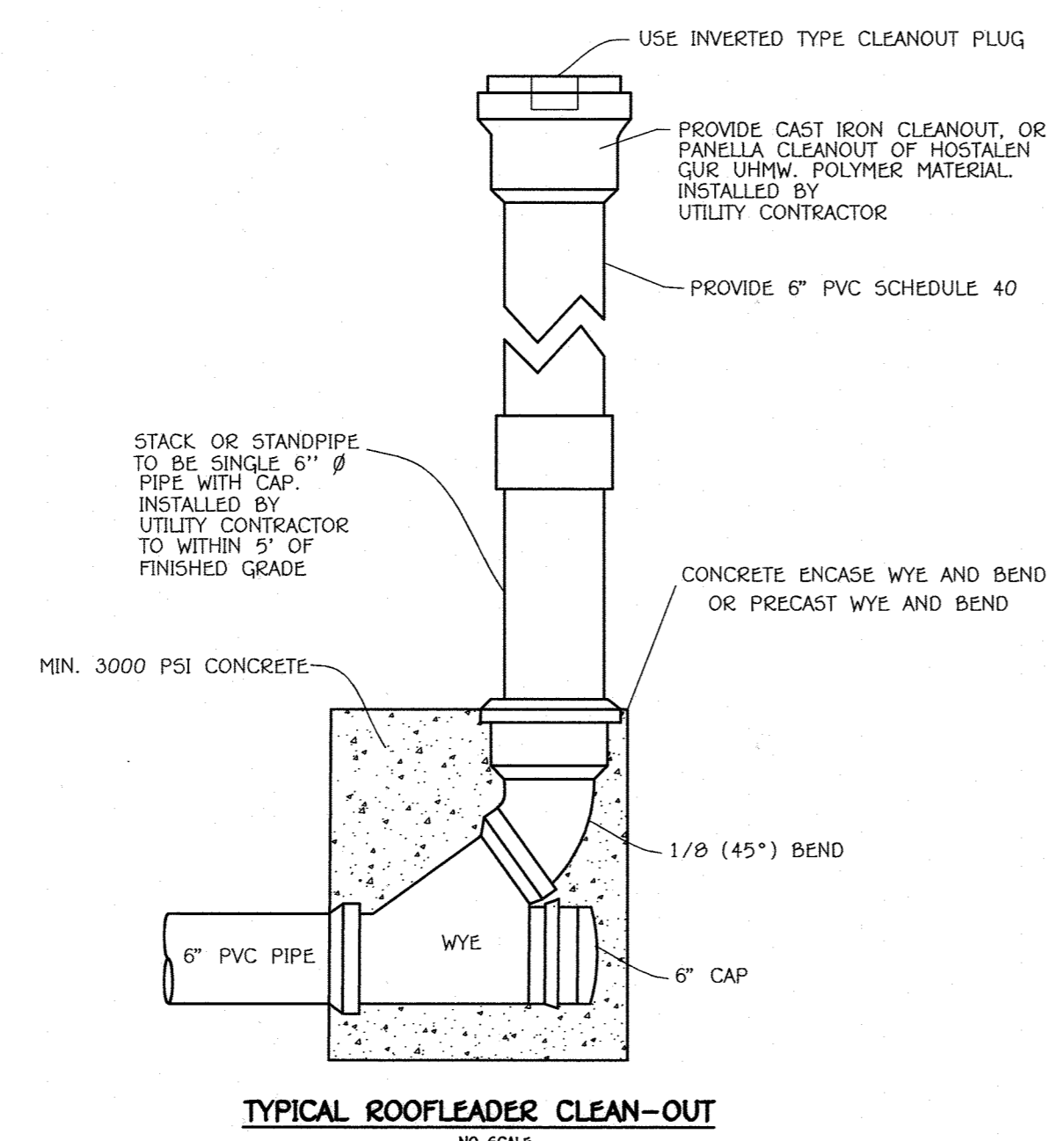
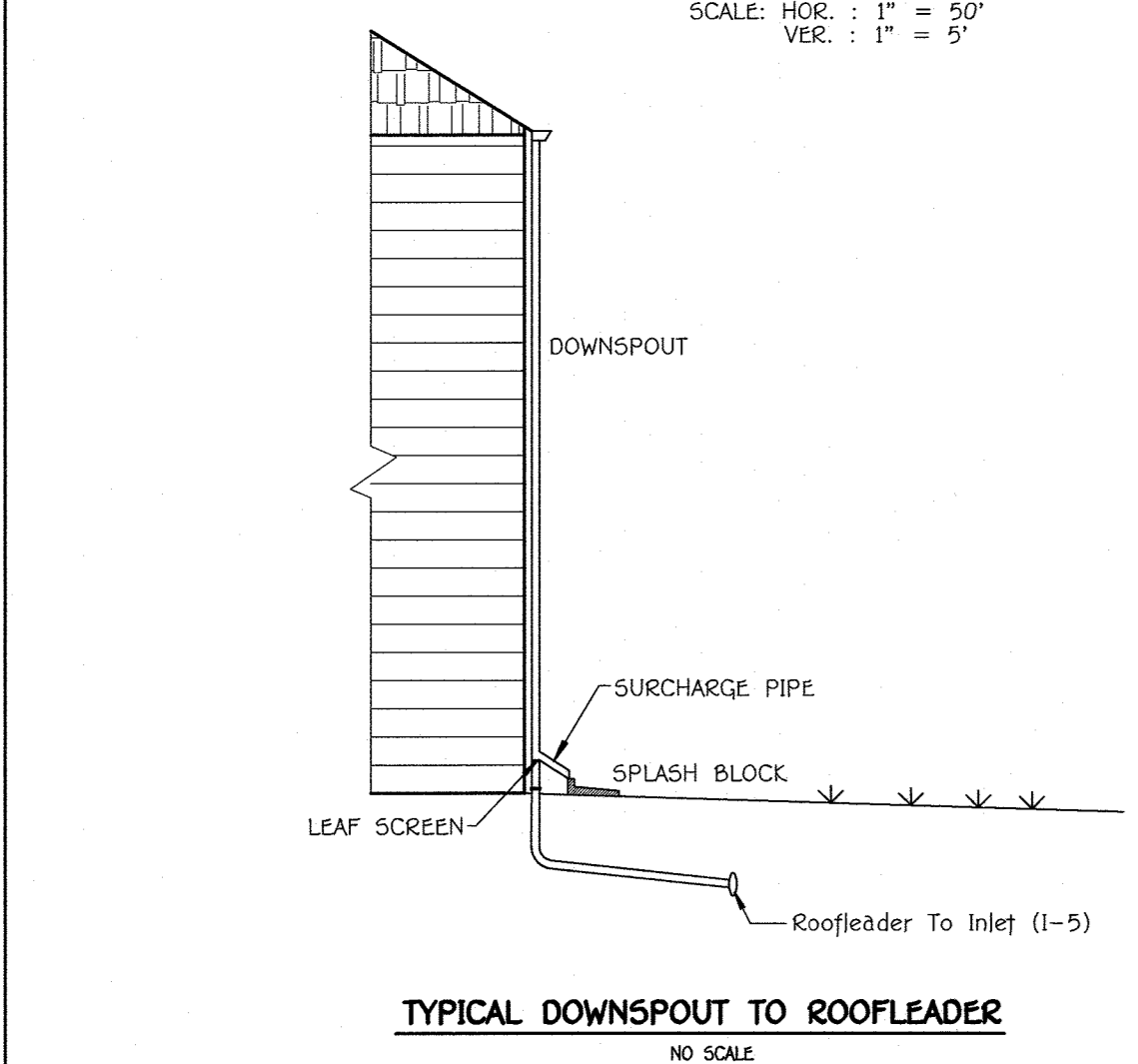
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VER. : 1" = 5'



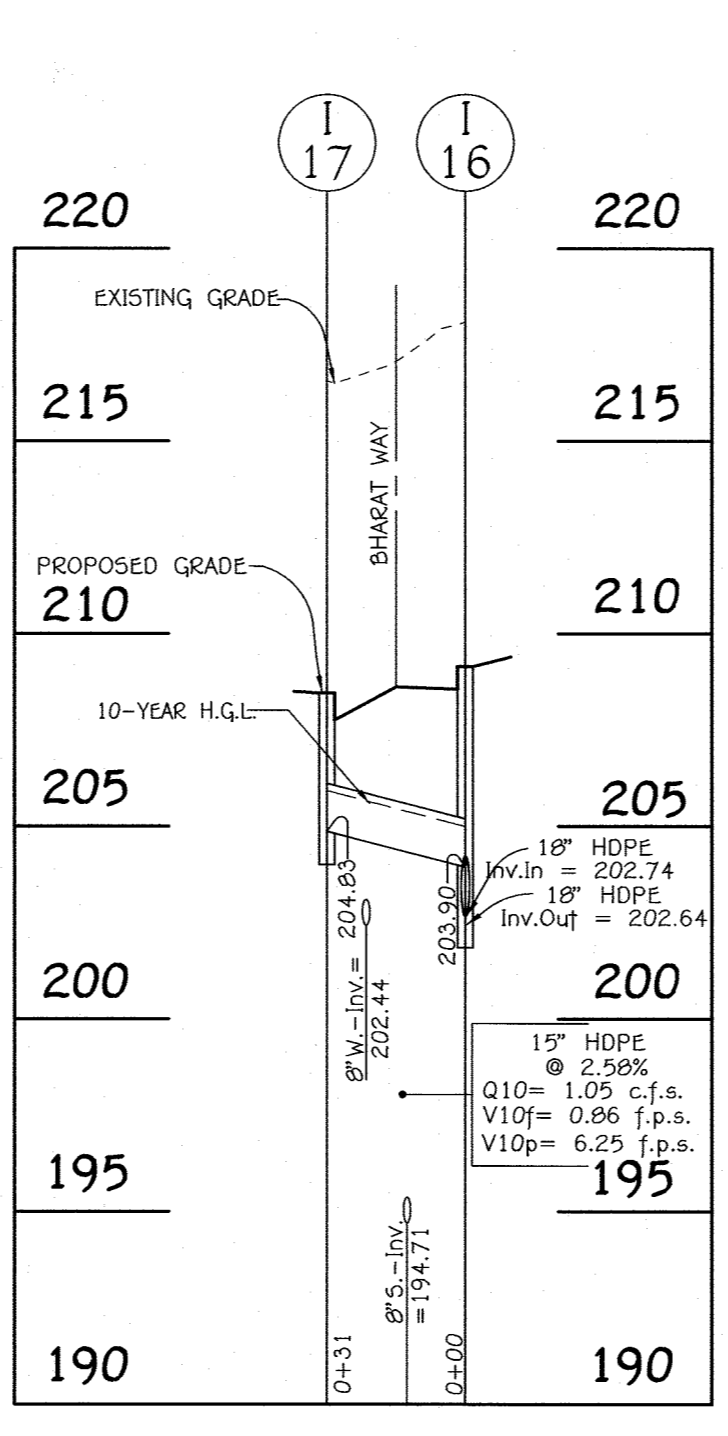
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VER. : 1" = 5'



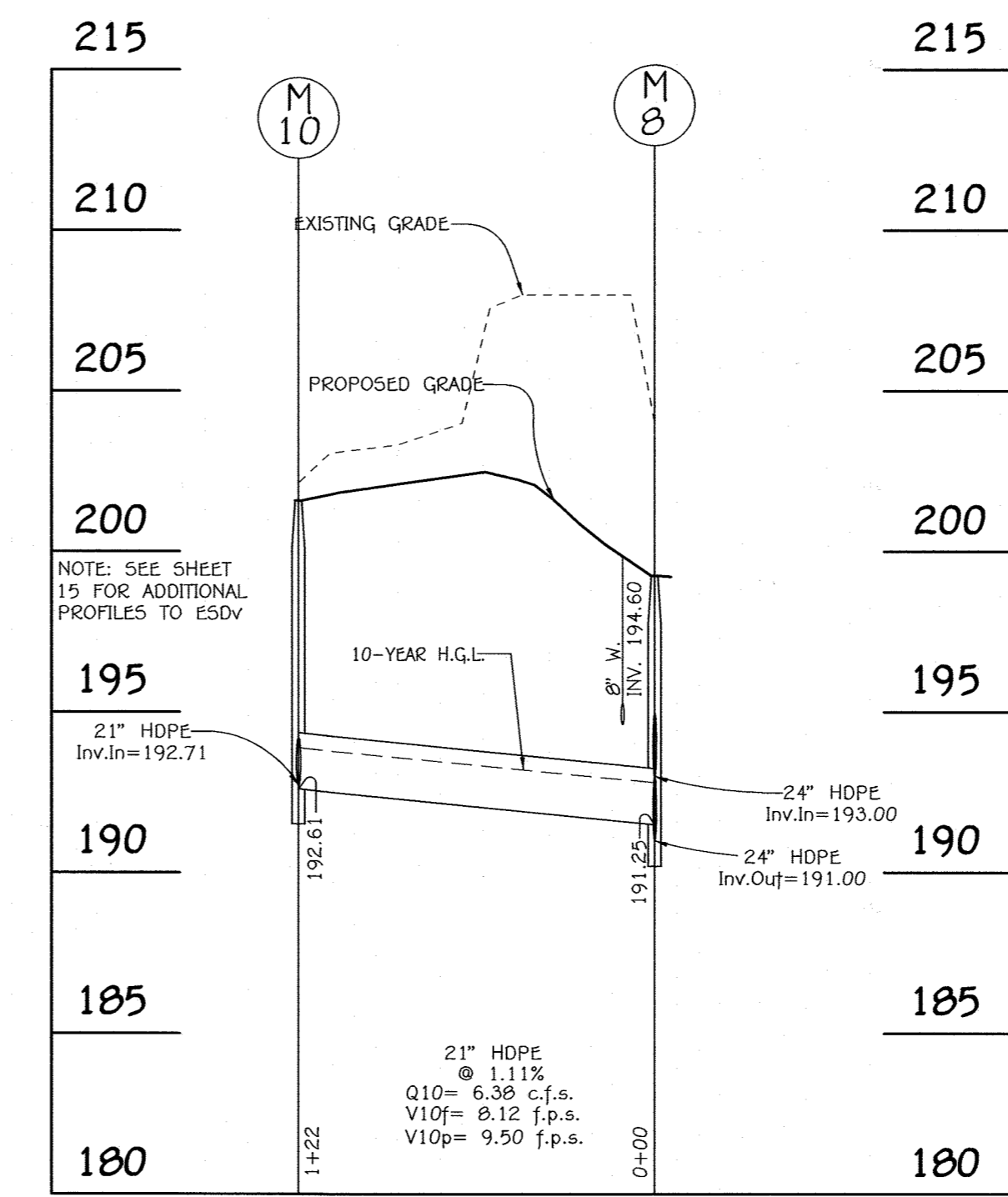
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



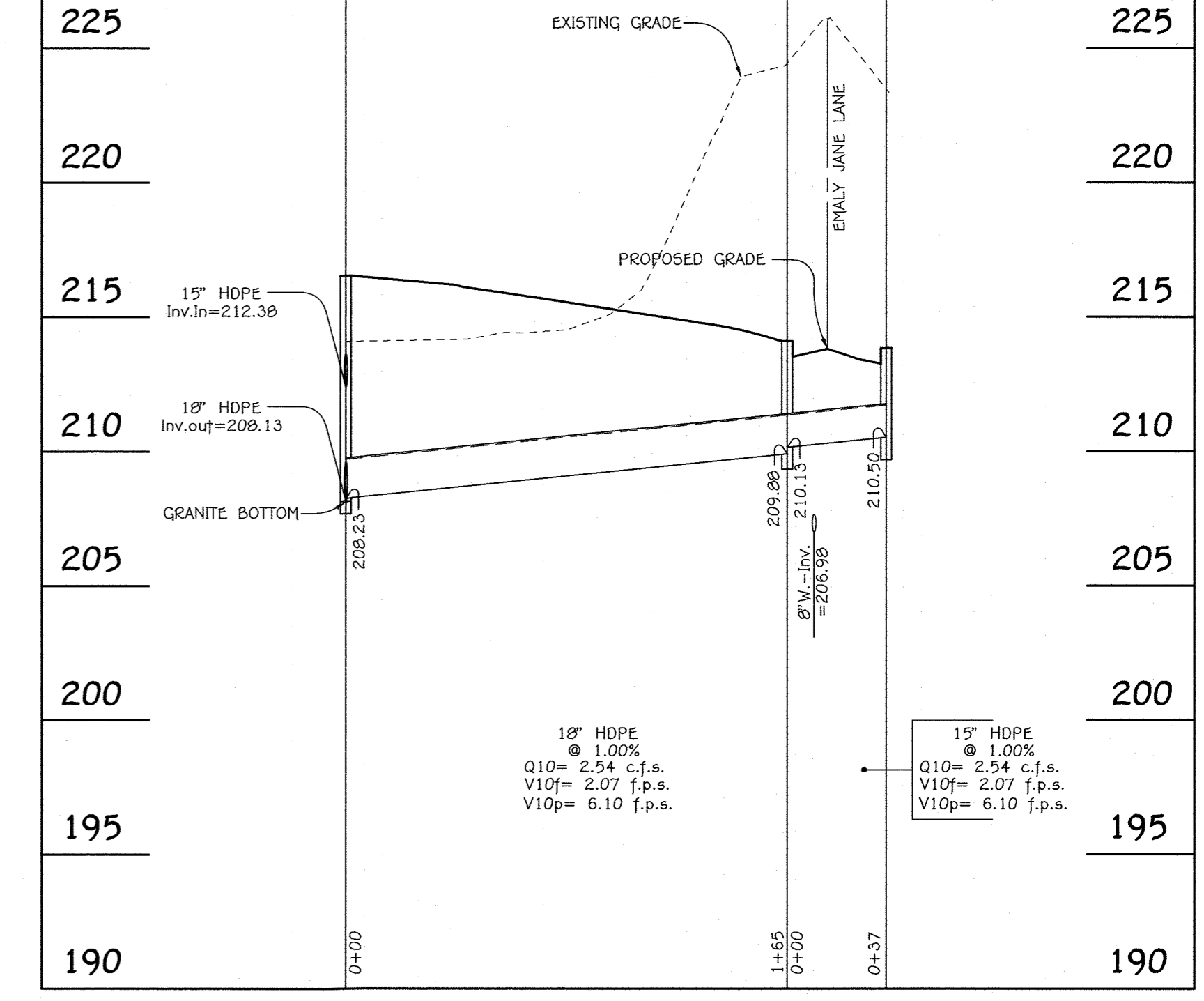
SIZE	CLASS	LENGTH
10"	HDPE	12'
15"	HDPE	431'
18"	HDPE	240'
21"	HDPE	336'
24"	HDPE	364'
4" SOLID	PVC SCH. 40	4'
4" PERF.	PVC SCH. 40	216'



PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



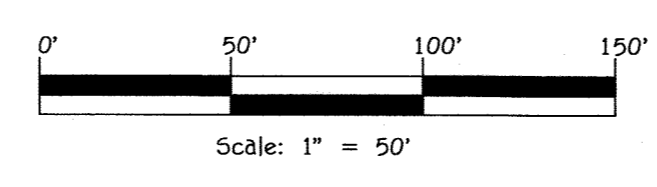
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10-18-21

Chief, Development Engineering Division *[Signature]* Date: 10-17-21

Director - Department of Planning and Zoning *[Signature]* Date: 10-19-21



Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA REVOCABLE TRUST
5192 TALBOTS LANDING
ELLCOTT CITY, MARYLAND 21046
443-295-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLCOTT CITY, MD 21046
443-295-9563

NO.	REVISION	DATE

SUBDIVISION	SECTION	LOT Nos.
ELKRIDGE CROSSING II	TWO	41-75
PLAT NO.	BLOCK NO.	ZONE
25877-25878	N/A	CAC-CL1
TAX/ZONE	ELEC. DIST.	CENSUS TR.
38	1st	601101

STORM DRAIN PROFILES

ELKRIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

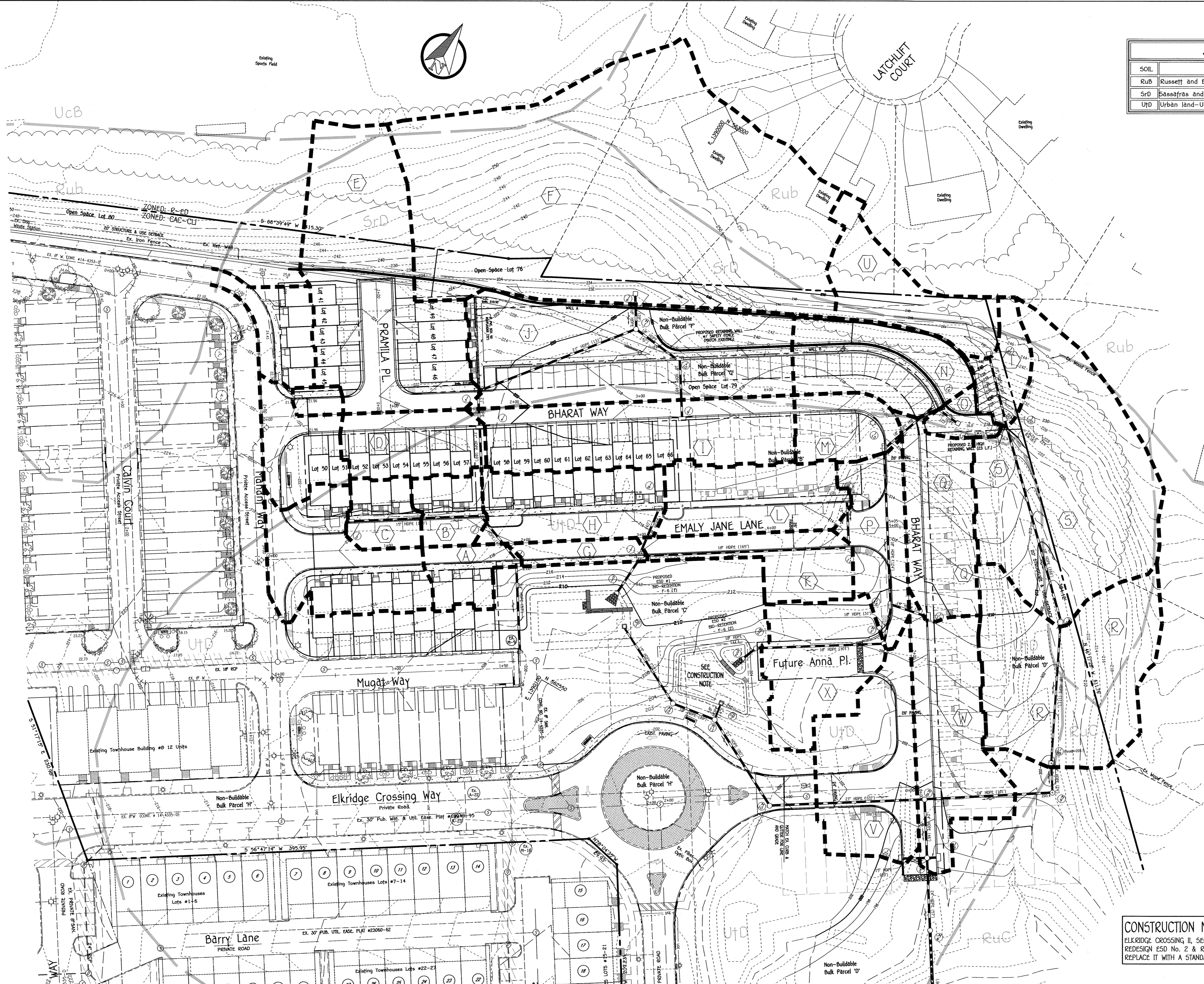
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED 'ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCELS 'A' - PLAT Nos. 29572 - 29576)

Zone: CAC-CL1

Tax Map No.: 38 Grid No.: 20 Parcel No.: 38

First Election District: Howard County, Maryland

Scale: As Shown Date: August 5, 2021 Sheet 11 Of 25



SOILS LEGEND			
SOIL	NAME	CLASS	Kw
RuB	Russett and Belleville soils, 5 to 10 percent slopes	C	0.43
SrD	Sassafras and Croom soils, 5 to 10 percent slopes	C	0.32
UPD	Urban land-Udorhents complex, 0 to 15 percent slopes	A	0.24

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 10' INTERVAL
- - -	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
- - -	PROPOSED CONTOUR 2' INTERVAL
+	PROPOSED SPOT SHOT
~	EXISTING TREELINE
---	65 DBA NOISE LINE (Unmitigated)
---	ZONING LINE
---	STORM DRAIN
☼	STREET LIGHT (existing)
☼	STREET LIGHT (proposed)
---	PROPOSED BENCH
○	TREE (proposed)
○	TREE (existing)
☐	PROPOSED MAILBOX BANK
---	PROP. 1-1/2" or TWIN 1-1/2" WHC
---	PROP. 4" SHC
---	5' CURB AND GUTTER TRANSITION

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA	"C"	ZONED	% IMP.
I-1	A	0.07 AC.	0.87	CAC-CL1	89%
I-2	B	0.07 AC.	0.83	CAC-CL1	83%
I-3	C	0.07 AC.	0.89	CAC-CL1	91%
I-4	D	0.13 AC.	0.83	CAC-CL1	83%
I-5	E	0.30 AC.	0.63	CAC-CL1	53%
I-6	F	1.23 AC.	0.62	CAC-CL1	76%
I-7	G	0.06 AC.	0.95	CAC-CL1	100%
I-8	H	0.20 AC.	0.83	CAC-CL1	84%
I-9	I	0.43 AC.	0.61	CAC-CL1	52%
I-10	J	0.29 AC.	0.82	CAC-CL1	81%
I-11	K	0.11 AC.	0.24	CAC-CL1	87%
I-12	L	0.15 AC.	0.40	CAC-CL1	88%
I-13	M	0.09 AC.	0.78	CAC-CL1	76%
I-14	N	0.19 AC.	0.80	CAC-CL1	50%
I-15	O	0.02 AC.	0.25	CAC-CL1	0%
I-16	P	0.12 AC.	0.78	CAC-CL1	76%
I-17	Q	0.20 AC.	0.83	CAC-CL1	82%
I-18	R	0.40 AC.	0.73	CAC-CL1	76%
I-19	S	0.53 AC.	0.73	CAC-CL1	76%
I-20	T	0.07 AC.	0.73	CAC-CL1	62%
I-21	U	0.16 AC.	0.73	CAC-CL1	62%
I-22	V	0.21 AC.	0.70	CAC-CL1	62%
I-23	W	0.25 AC.	0.72	CAC-CL1	64%
I-24	X	0.27 AC.	0.88	CAC-CL1	90%

CONSTRUCTION NOTE:
ELKRIDGE CROSSING II, SECTION THREE WILL REPLACE AND REDESIGN ESD NO. 2 & REMOVE THE TRAFFIC CIRCLE AND REPLACE IT WITH A STANDARD "TEE" INTERSECTION.

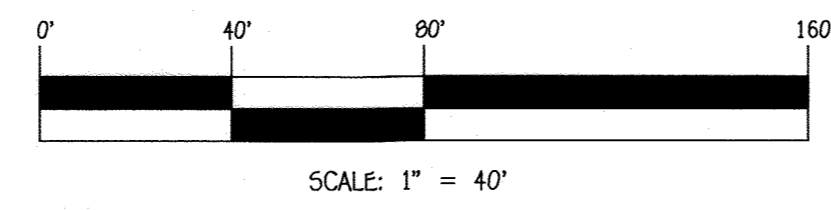
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FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21046
 (410) 451 - 2925

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development
 Chief, Development Engineering Division
 Director - Department of Planning and Zoning

Date: 10-13-21
 Date: 10-19-21
 Date: 10-19-21

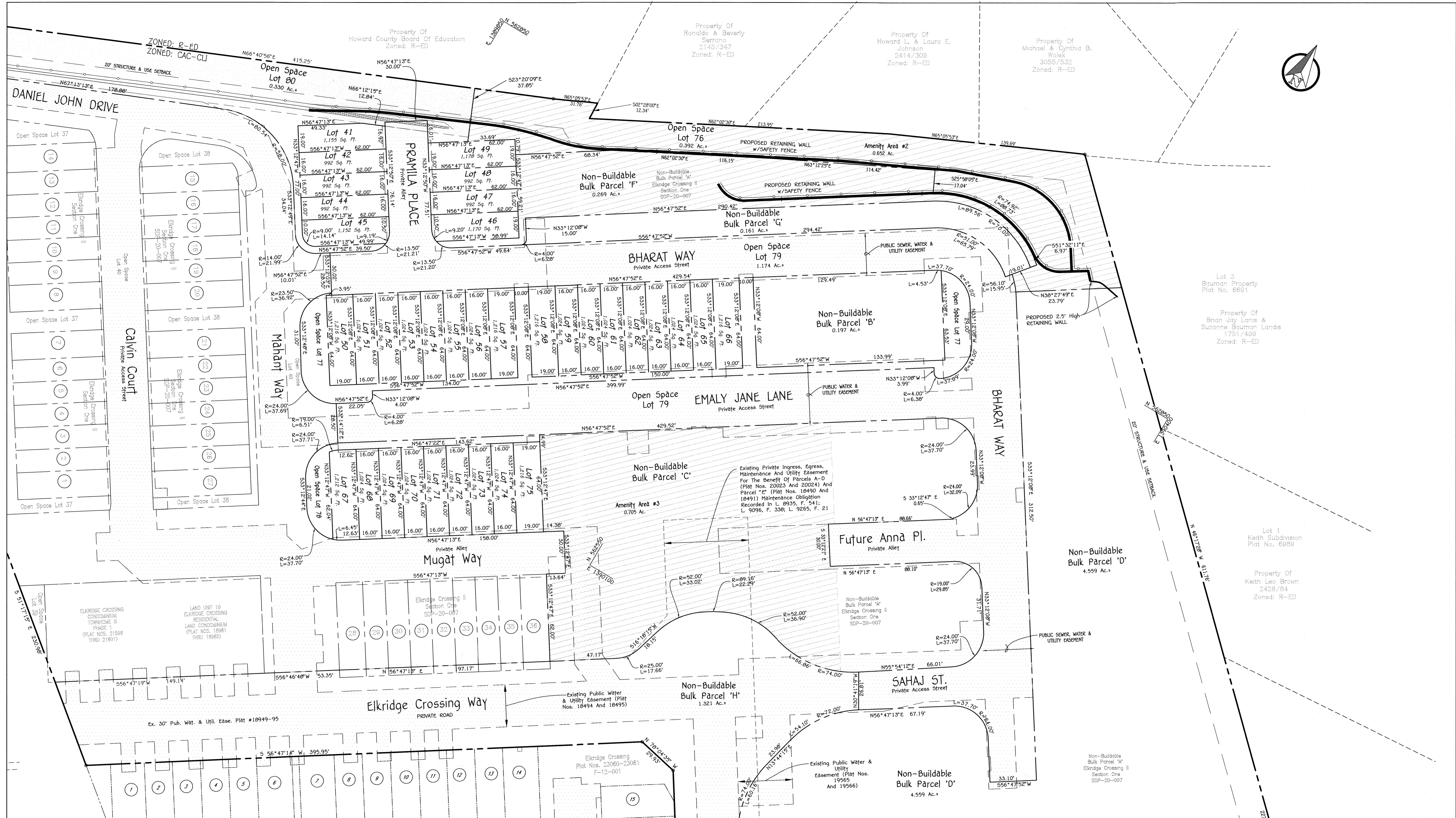
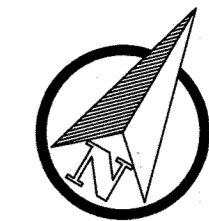


Owner
 CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
 5192 TALBOTS LANDING
 ELLICOTT CITY, MARYLAND 21046
 443-295-3802

Developer
 ELKRIDGE DEVELOPERS, LLC
 4192 TALBOTS LANDING
 ELLICOTT CITY, MD 21046
 443-295-9563

NO.	REVISION	DATE
1	ELKRIDGE CROSSING II	SECTION TWO
2	LOT NOS. 41-75	
3	BLOCK NO. N/A	ZONE CAC-CL1
4	TAX/ZONE 3B	ELEC. DIST. 1st
5	CENSUS TR. 601101	

STORM DRAIN DRAINAGE AREA MAP
ELKRIDGE CROSSING II
SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80
& NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
 (BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A' ", PLAT NO. 25972 - 25976)
 Zoned: CAC-CL1
 Tax Map No: 3B Grid No: 20 Parcel No: 3B
 First Election District: Howard County, Maryland
 Scale: As Shown
 Date: August 5, 2021
 Sheet 13 of 25



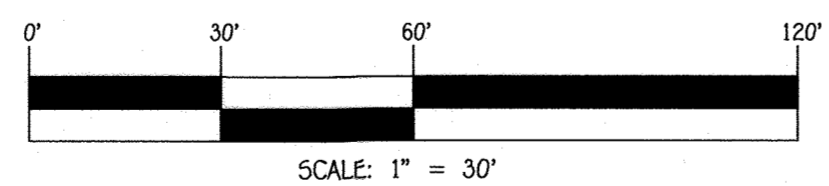
I:\2018\18077\Engineering\Drawings\SDP-25DP-Annex place 20211107T Sheet 14 metes and bounds.dwg, C-14, SDP-25, 8/18/2021 1:21:46 PM, 1:1

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10/13/21

Chief, Development Engineering Division *[Signature]* Date: 10-13-21

Director - Department of Planning and Zoning *[Signature]* Date: 10-13-21



Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA REVOCABLE TRUST
5192 TALBOTS LANDING
ELLCOTT CITY, MARYLAND 21046
443-285-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLCOTT CITY, MD 21046
443-285-9563

NO.		REVISION		DATE	
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
25777 - 25791	N/A	CAC-CL1	3B	1st	601101

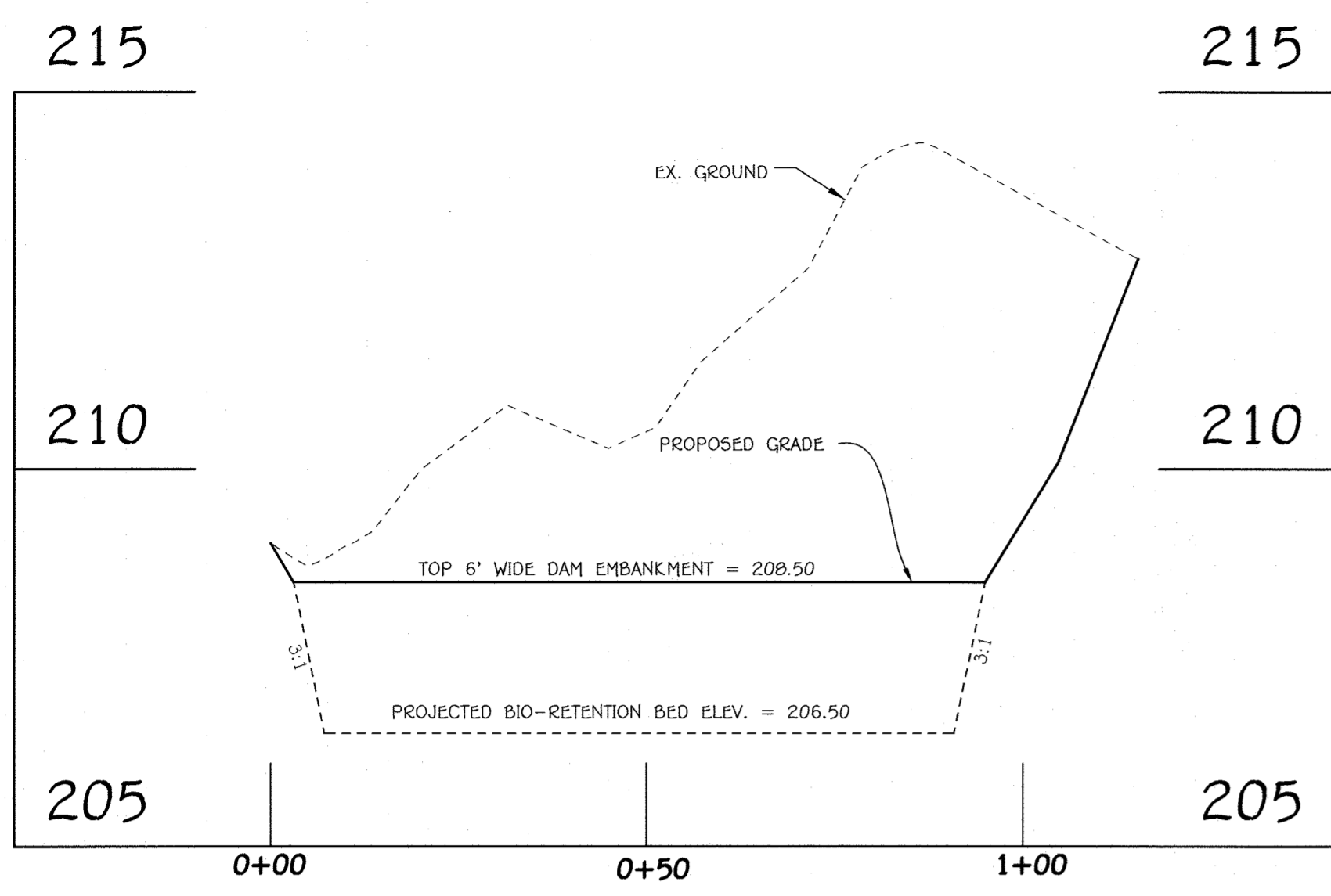
METES & BOUNDS PLAN

ELKRIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A' - PLAT NOS. 25572 - 25576)

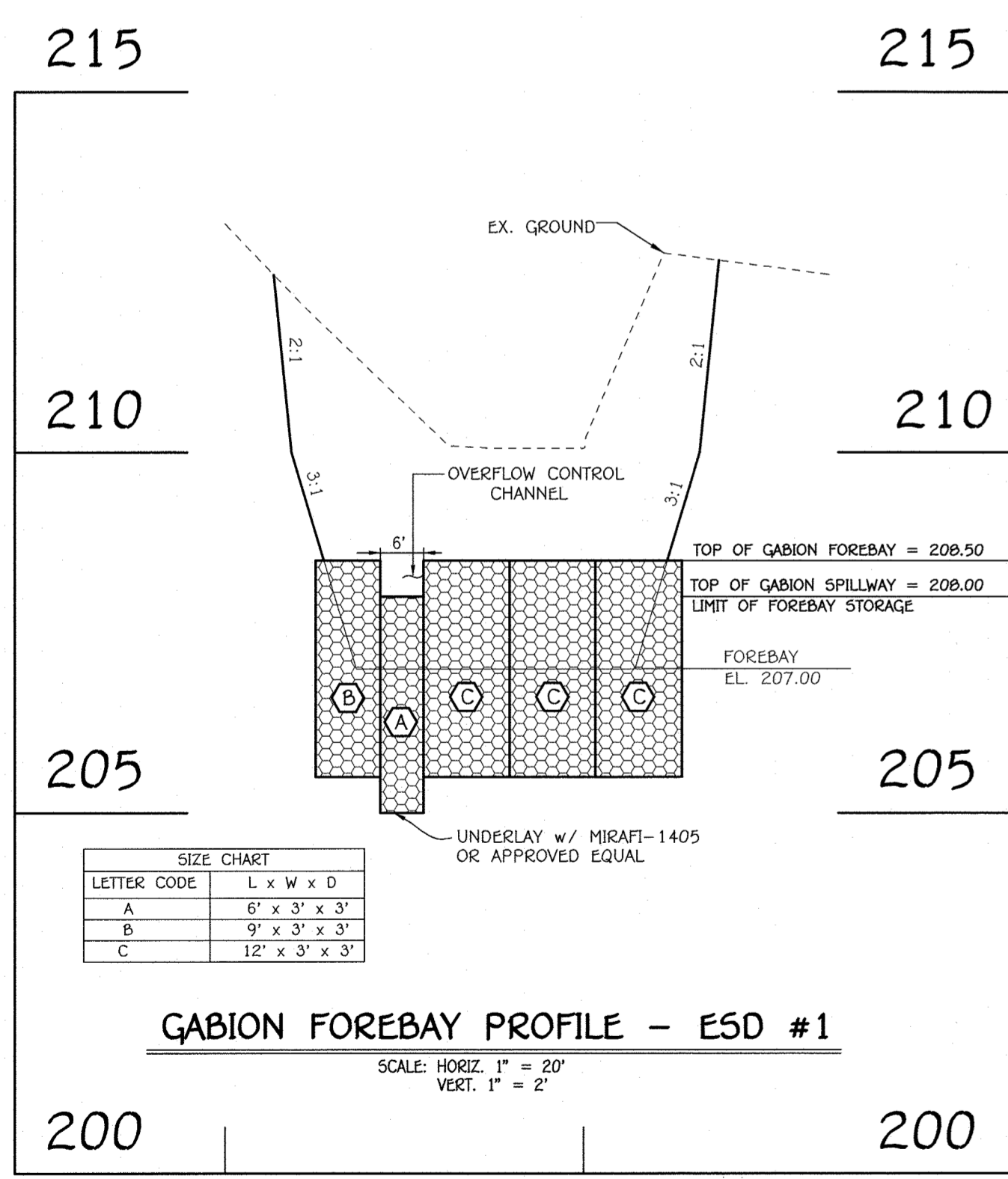
Tax Map No.: 38 Grid No.: 20 Parcel No.: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 14 Of 25



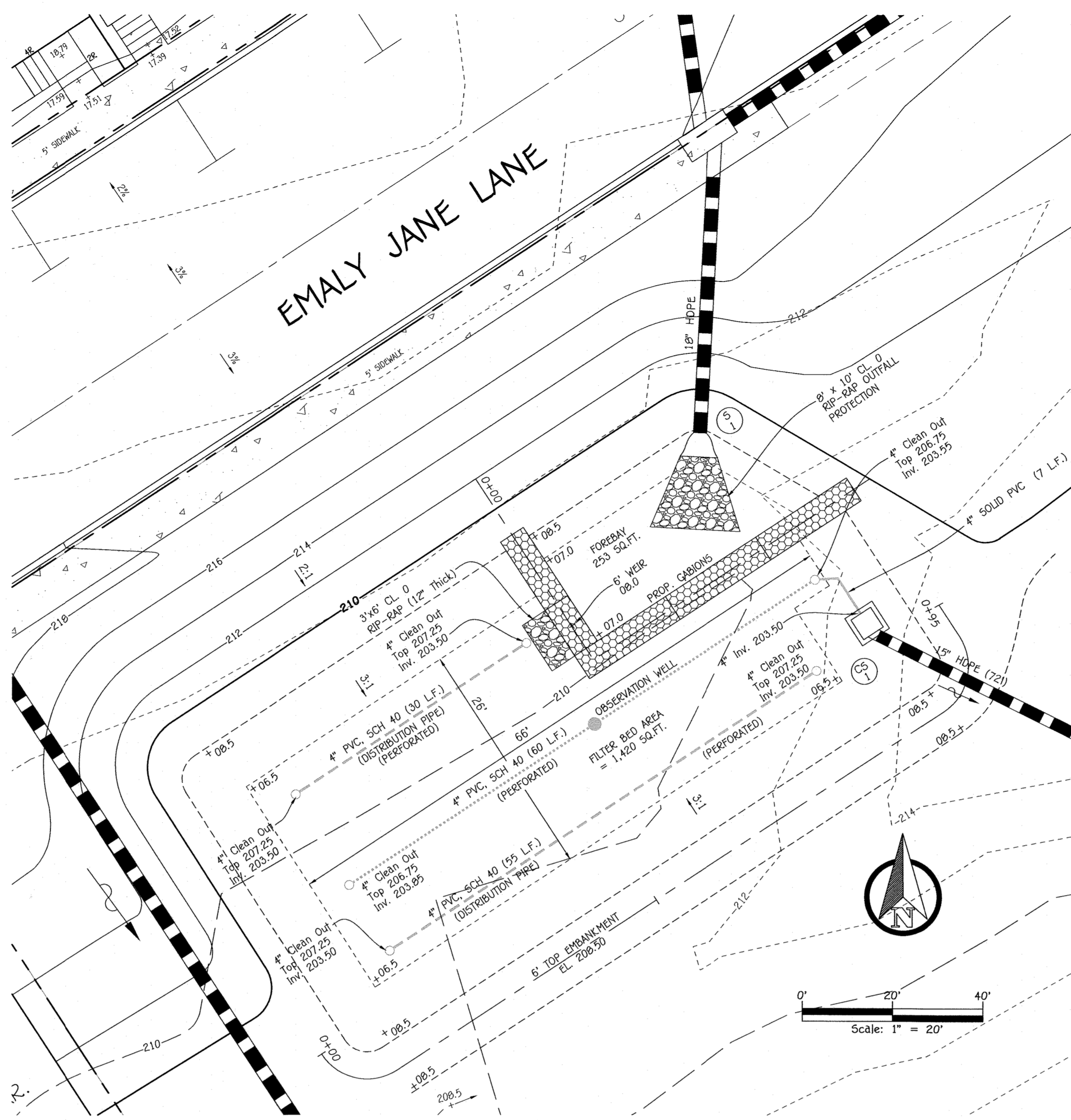
PROFILE ALONG TOP OF EMBANKMENT-ESD #1
SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'

Operation And Maintenance Schedule For Homeowners Association Owned & Maintained Bio-Retention Areas (M-6)

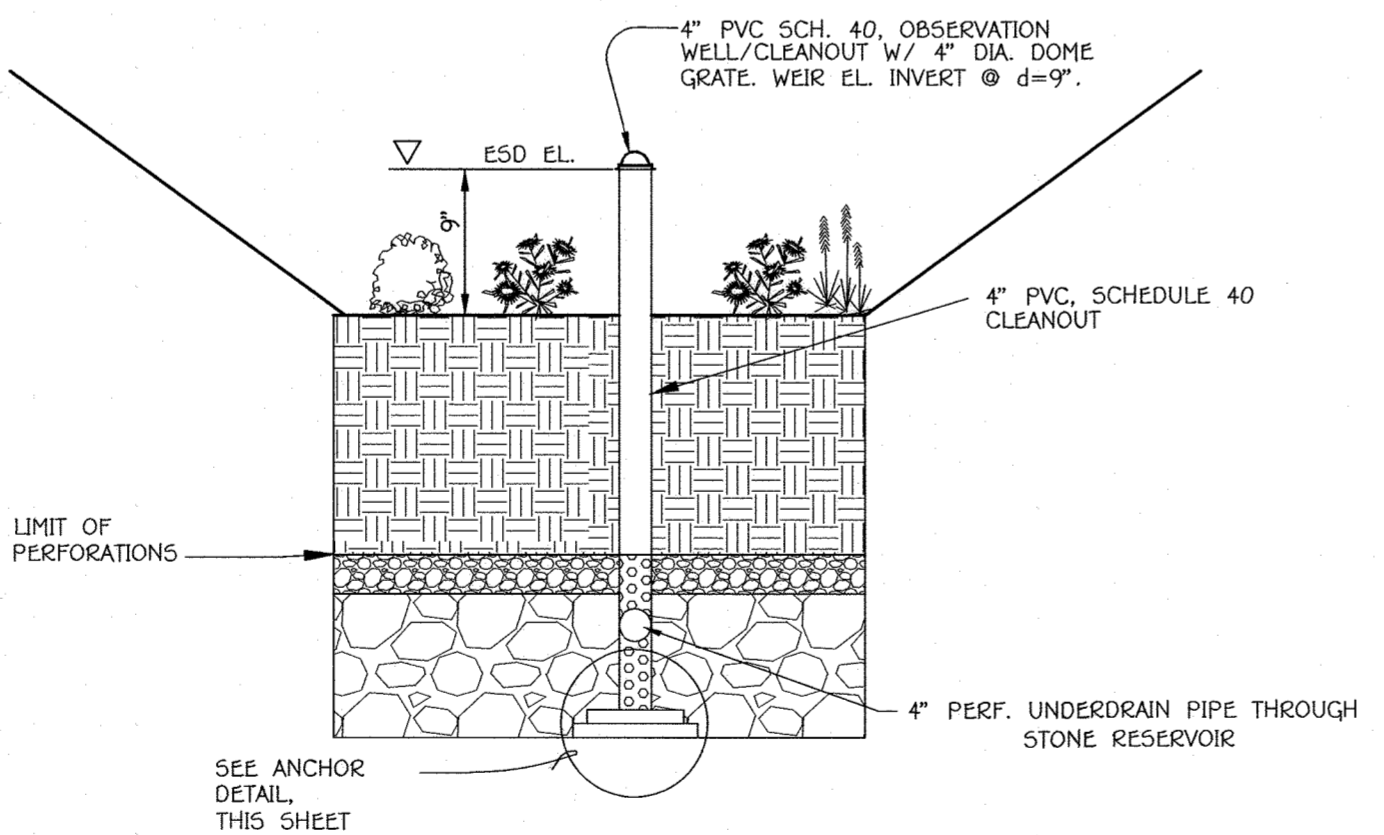
- The owner shall maintain the plant material, mulch layer and soil layer annually, maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A.4.1 and 2.
- The owner shall perform a plant in the spring and in the fall each year. During the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material. Treat diseased trees and shrubs and replace all deficient stakes and wires.
- The owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
- The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy
- The owner shall maintain all observation wells, clean-outs and perforated underdrains.
- Filter material must be replaced when water remains on the surface of the filter bed for more than 24 hours following a 1 or 2 year storm event or more than 48 hours following a 10 year storm event.



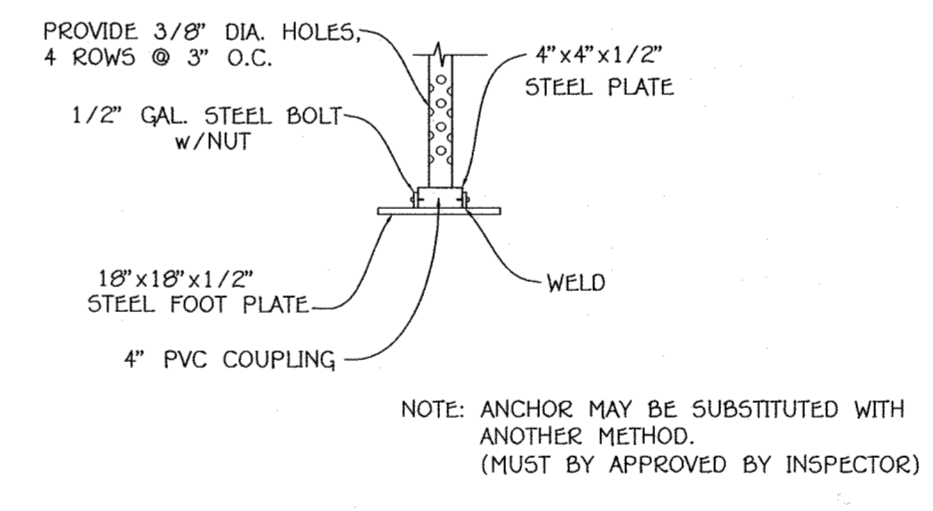
GABION FOREBAY PROFILE - ESD #1
SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



PROPOSED BIO-RETENTION (F-6)
ESD No. 1 PLAN VIEW
SCALE: 1" = 10'

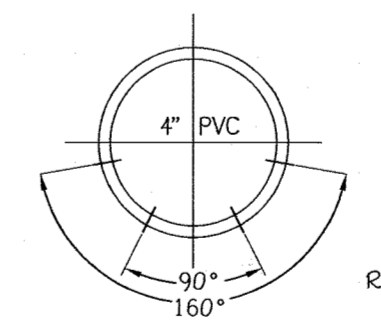


Section @ Observation Well Location
NO SCALE

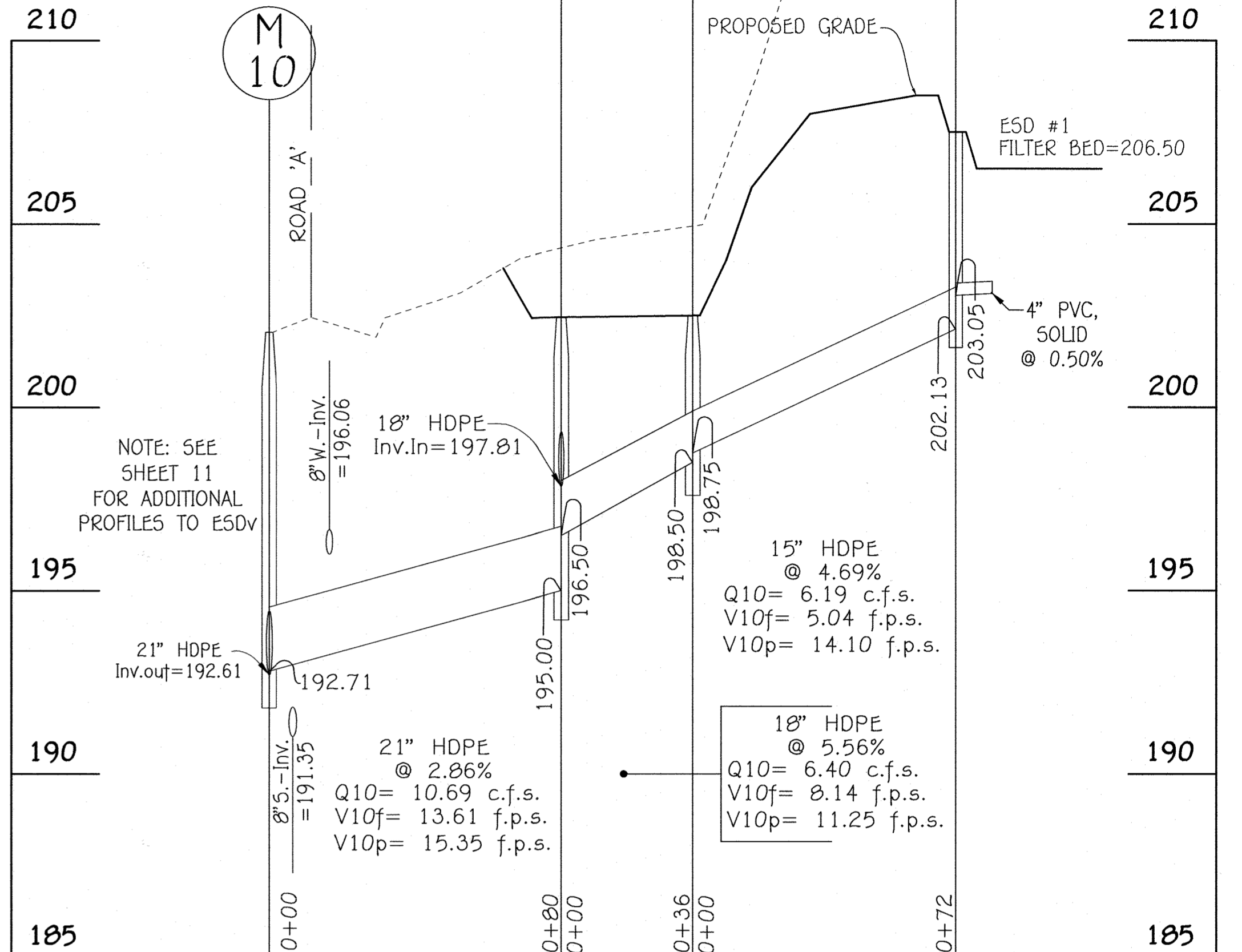


Anchor Detail
NO SCALE

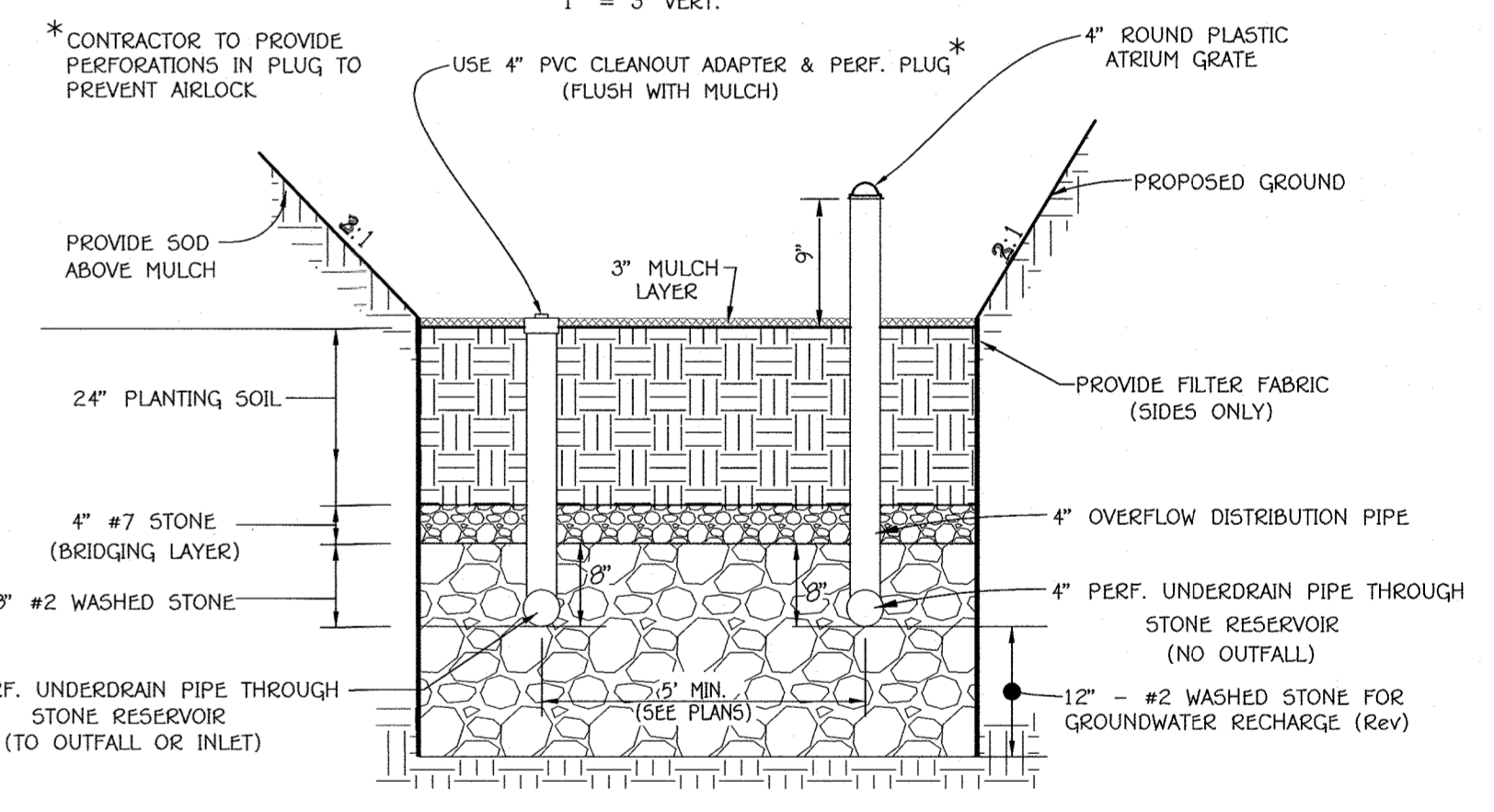
NOTES:
UNDERDRAIN PIPE SHALL BE 4" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 750, TYPE PS 20 OR AASHTO-M- 270) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HDPE).
PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (No. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.
GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
A RIGID, NON PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".



Sch 40 Pvc Perforated Underdrain Pipe Detail For Horizontal Drain Pipe
NO SCALE



SWM OUTFALL PROFILE - ESD #1
SCALE: 1" = 30' HOR.
1" = 3' VERT.



ESD #1 & #2 Bio-Retention (F-6) Section With 4" Overflow Distribution Pipe
NO SCALE

STORMWATER MANAGEMENT COUNTY MAINTENANCE NOTE

ALL STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS'S ASSOCIATION. THE STREET TREES, PERFORATED UNDERDRAINS, FEEDERS, PLANTINGS AND SWALES WILL ALSO BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A. HOWARD COUNTY WILL ONLY MAINTAIN THE INLET STRUCTURE WITHIN THE MICRO BIO-RETENTION FACILITIES ADJACENT TO THE PUBLIC RIGHT-OF-WAY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] Chief, Division of Land Development Date: 10/18/21

[Signature] Chief, Development Engineering Division Date: 10-17-21

[Signature] Director - Department of Planning and Zoning Date: 10-17-21

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SOURCE OFFICE PARK - 10772 BALTIMORE NATIONAL PARK
ELICOTT CITY, MARYLAND 21042
(410) 461-2899



Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELICOTT CITY, MARYLAND 21046
443-295-3802

Developer
ELK RIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELICOTT CITY, MD 21046
443-295-9563

SUBDIVISION		REVISION		DATE	
ELK RIDGE CROSSING II		SECTION TWO		LOT Nos. 41-75	
PLAT NO. 2577-2581	BLOCK NO. N/A	ZONE CAC-CL1	TAX/ZONE 3B	ELEC. DIST. 1st.	CENSUS TR. 601101

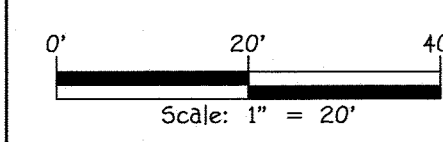
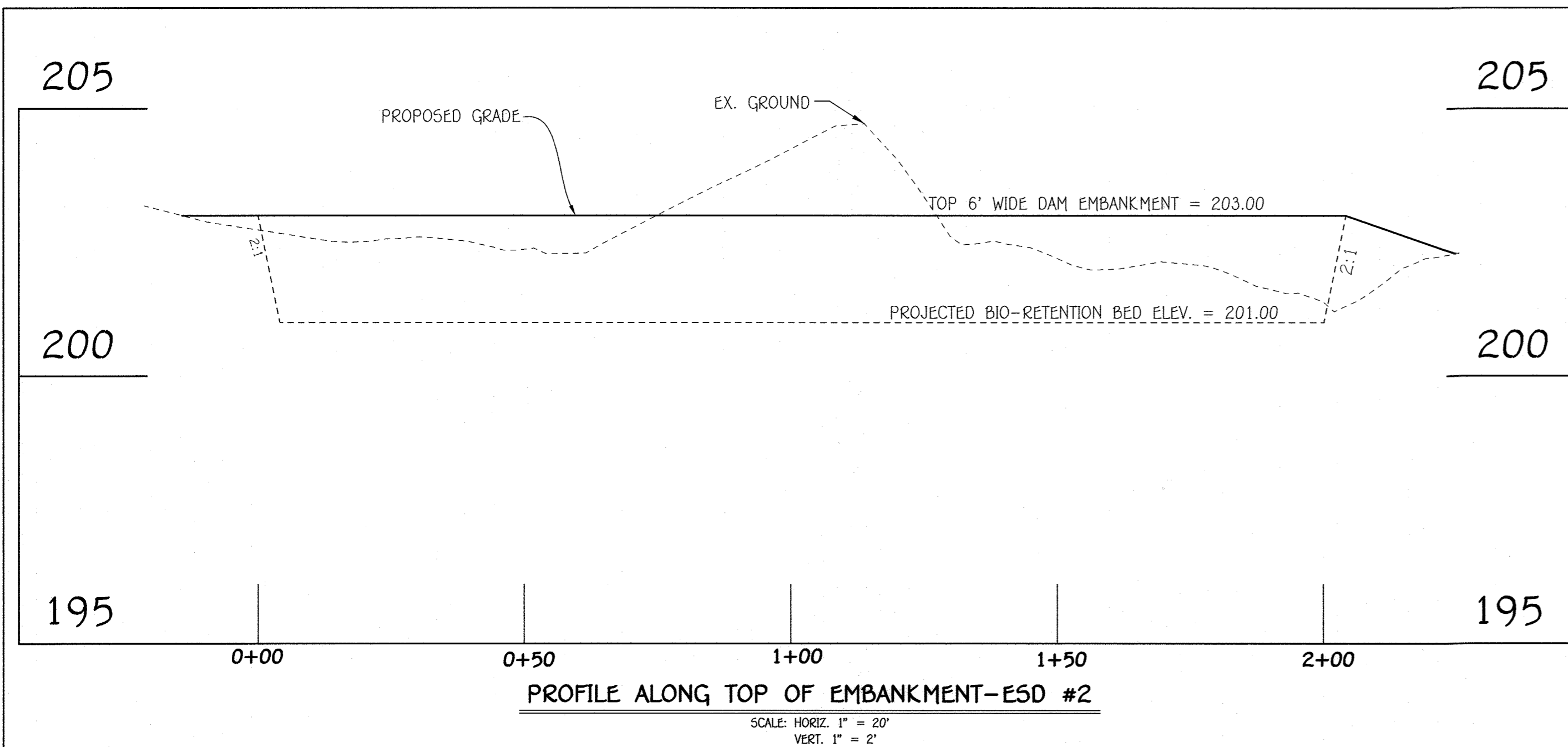
SWM PLAN VIEWS AND PROFILES-ESD #1

ELK RIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

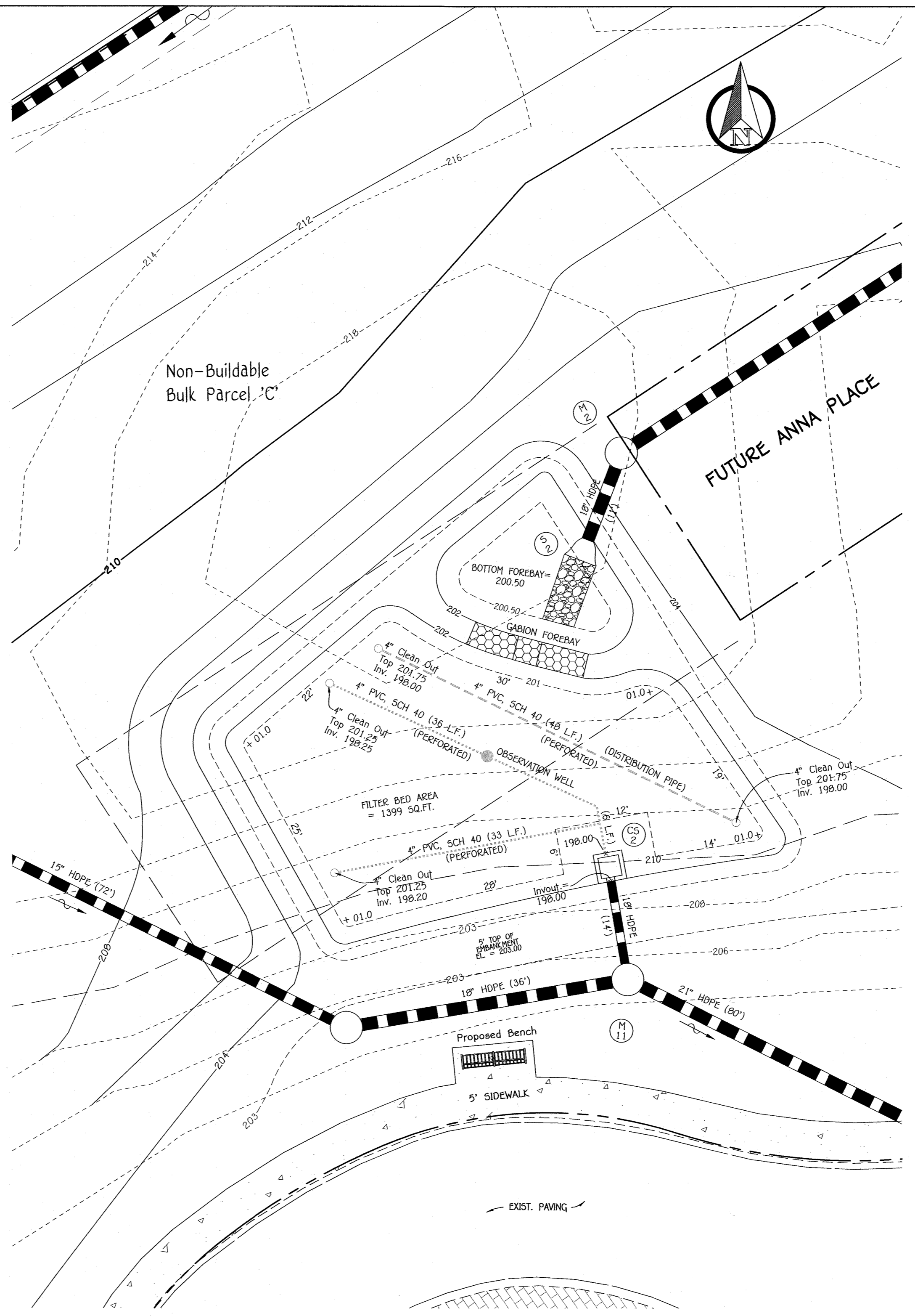
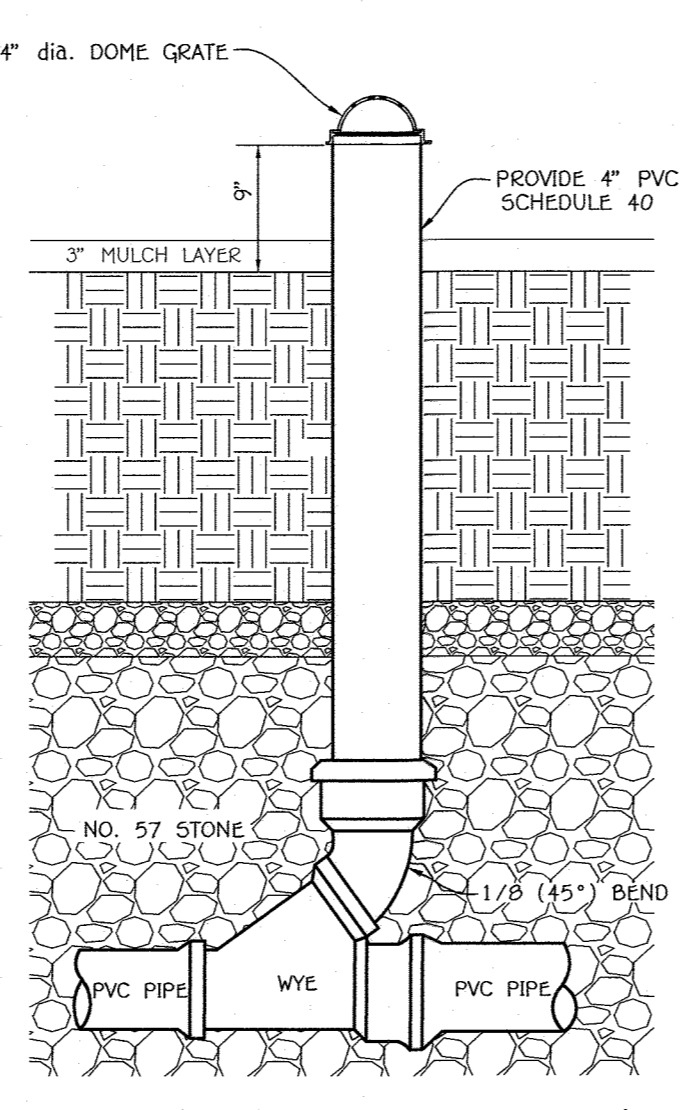
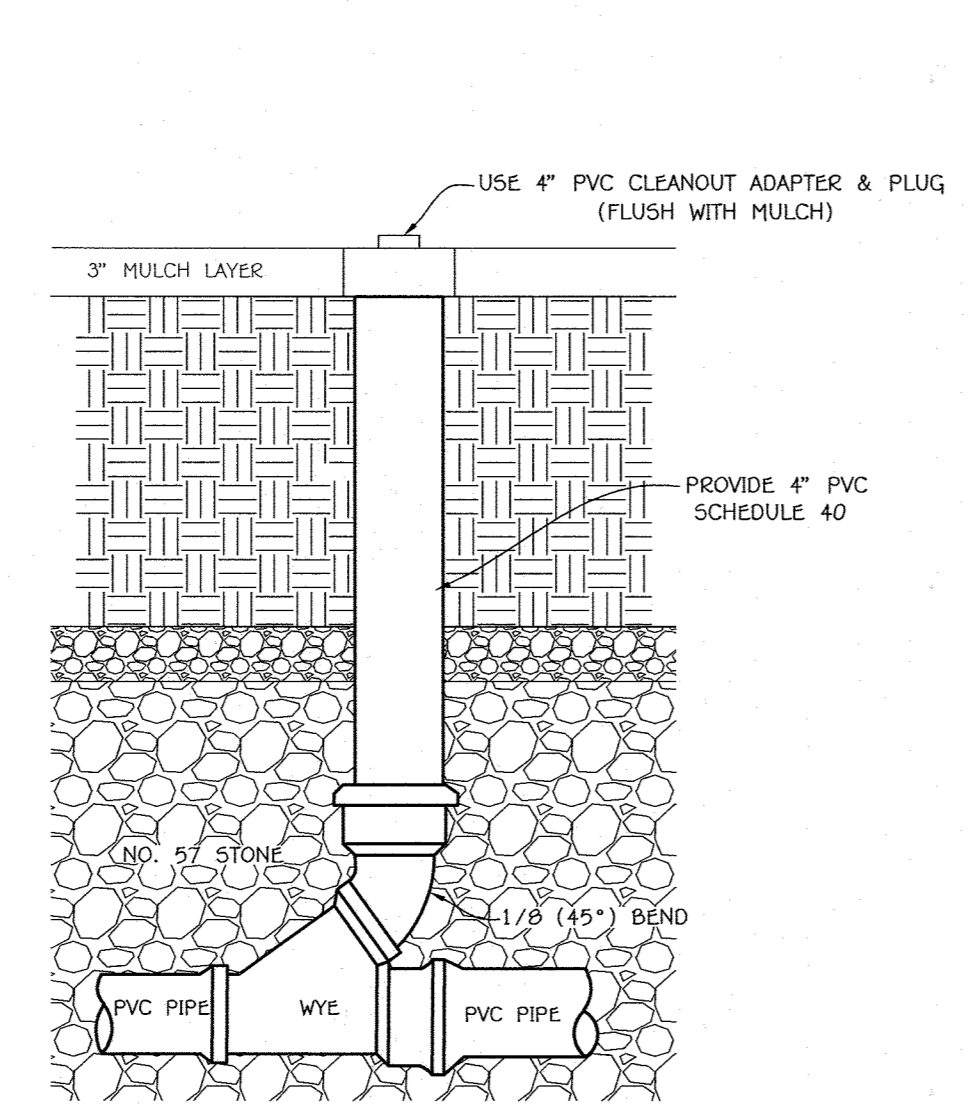
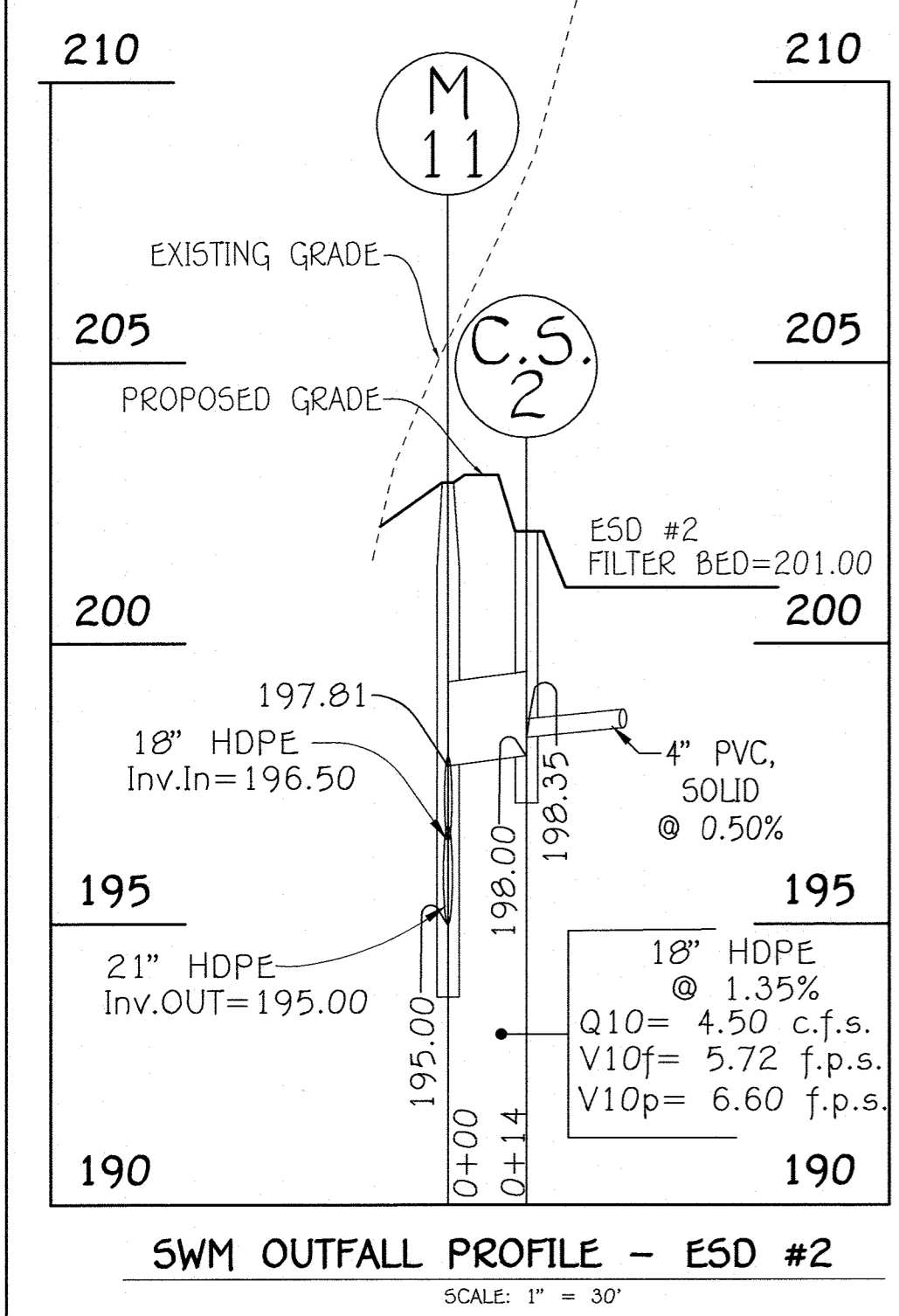
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELK RIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT Nos. 25572 - 25576)

Zoned: CAC-CL1
Tax Map No.: 3B
Grid No.: 20
Parcel No.: 3B
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 15 of 25

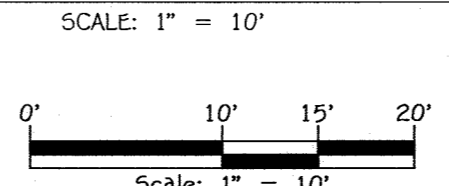


Operation And Maintenance Schedule For Homeowners Association Owned & Maintained Bio-Retention Areas (M-6)

1. The owner shall maintain the plant material, mulch layer and soil layer annually, maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A-4.1 and 2.
2. The owner shall perform a plant in the spring and in the fall each year. during the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material. Treat diseased trees and shrubs and replace all deficient stakes and wires.
3. The owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
4. The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy
5. The owner shall maintain all observation wells, clean-outs and perforated underdrains.
6. Filter material must be replaced when water remains on the surface of the filter bed for more than 24 hours following a 1 or 2 year storm event or more than 48 hours following a 10 year storm event.

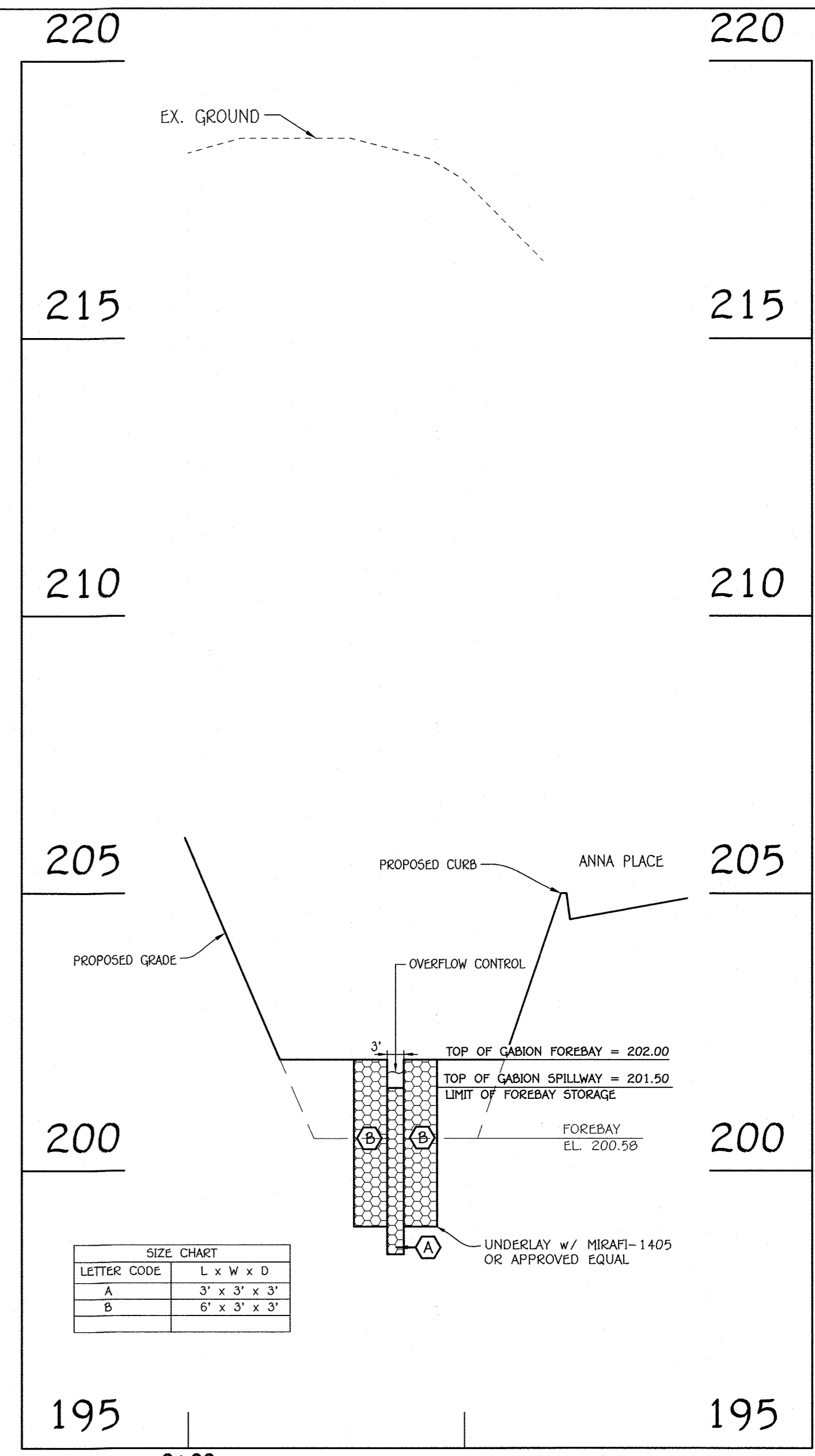


PROPOSED BIO-RETENTION (F-6) ESD No. 2 PLAN VIEW

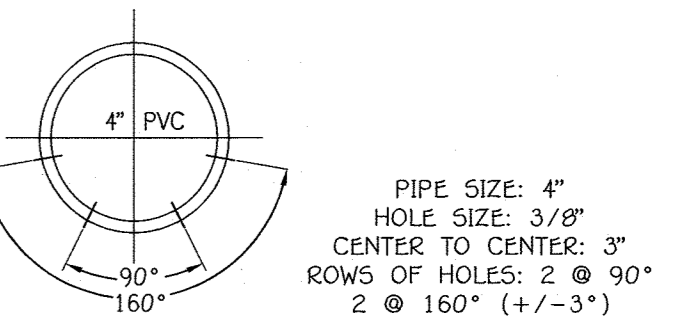


CONSTRUCTION NOTE:
ELKRIDGE CROSSING II, SECTION THREE (SDP-20-060) WILL REPLACE & REDESIGN ESD No. 2.

STORMWATER MANAGEMENT COUNTY MAINTENANCE NOTES
ALL STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE STREET TREES, PERFORATED UNDERDRAINS, FEEDERS, PLANTINGS AND SWALES WILL ALSO BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A. HOWARD COUNTY WILL ONLY MAINTAIN THE INLET STRUCTURE WITHIN THE MICRO BIO-RETENTION FACILITIES ADJACENT TO THE PUBLIC RIGHT-OF-WAY.



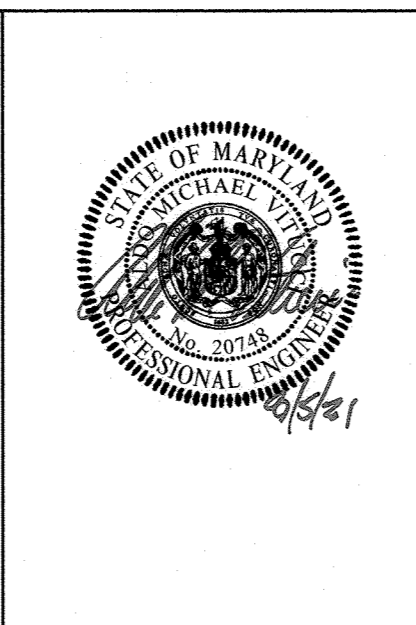
LETTER CODE	SIZE CHART	L x W x D
A	3' x 3' x 3'	
B	6' x 3' x 3'	



Sch 40 Pvc Perforated Underdrain Pipe Detail For Horizontal Drain Pipe
NO SCALE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
10722 BALTIMORE NATIONAL PIKE
ELKRIOT CITY, MARYLAND 21042
(410) 461-2855

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development
Chief, Development Engineering Division
Director - Department of Planning and Zoning
Date: 10-19-21



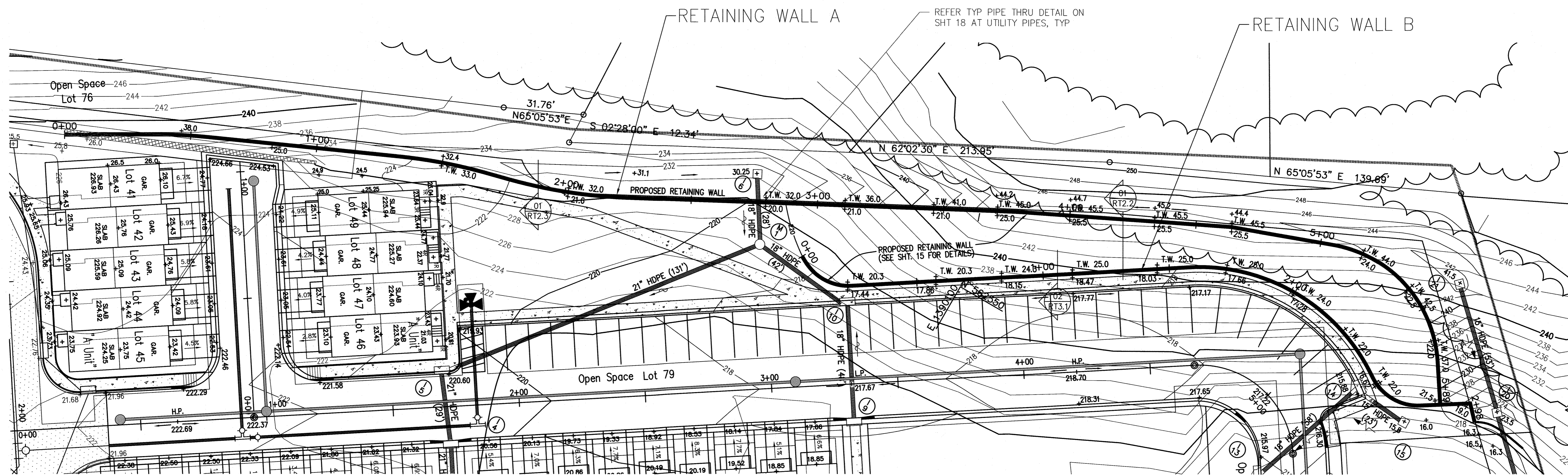
Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELKRIOT CITY, MARYLAND 21046
443-285-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELKRIOT CITY, MD 21046
443-285-9563

NO.	REVISION	DATE
1	SUBDIVISION ELKRIDGE CROSSING II	
2	SECTION TWO	
3	LOT Nos. 41-75	
4	PLAT NO. 25 #87 - 25891	
5	BLOCK NO. N/A	
6	ZONE CAC-CL1	
7	TAX/ZONE 3B	
8	ELEC. DIST. 1st	
9	CENSUS TR. 601101	

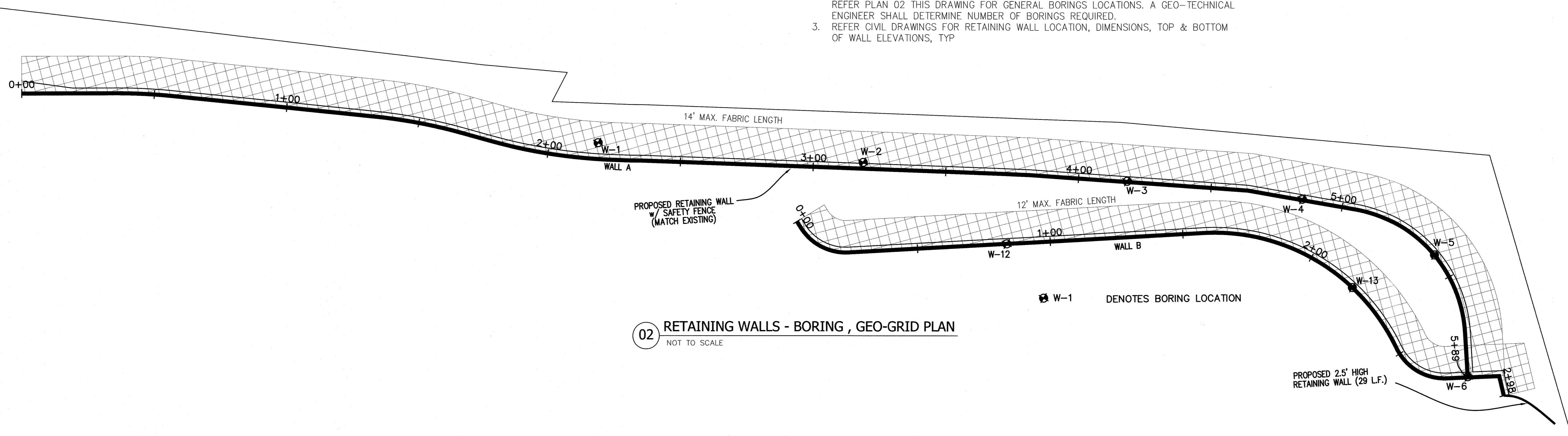
NO.	REVISION	DATE
1	SUBDIVISION ELKRIDGE CROSSING II	
2	SECTION TWO	
3	LOT Nos. 41-75	
4	PLAT NO. 25 #87 - 25891	
5	BLOCK NO. N/A	
6	ZONE CAC-CL1	
7	TAX/ZONE 3B	
8	ELEC. DIST. 1st	
9	CENSUS TR. 601101	

SWM PLAN VIEWS AND PROFILES - ESD #2
ELKRIDGE CROSSING II SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A'", PLAT Nos. 25572 - 25576)
Zone: CAC-CL1
Tax Map No.: 3B Grid No.: 20 Parcel No.: 3B
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 16 Of 25



01 RETAINING WALLS LOCATION PLAN
NOT TO SCALE

- NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A MARYLAND LICENSED STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION BEGINS. COORDINATE WITH OWNER FOR SUBMISSION AND APPROVAL.
 2. OWNER SHALL ORDER A GEO-TECHNICAL REPORT FOR FOUNDATION OF THE WALL PRIOR TO CONSTRUCTION AND SHOP DRAWINGS SUBMISSION BY A CONTRACTOR. REFER PLAN 02 THIS DRAWING FOR GENERAL BORINGS LOCATIONS. A GEO-TECHNICAL ENGINEER SHALL DETERMINE NUMBER OF BORINGS REQUIRED.
 3. REFER CIVIL DRAWINGS FOR RETAINING WALL LOCATION, DIMENSIONS, TOP & BOTTOM OF WALL ELEVATIONS, TOP



02 RETAINING WALLS - BORING , GEO-GRID PLAN
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
Chief, Division of Land Development Date

[Signature]
Chief, Development Engineering Division Date 10-13-21

[Signature]
Director Department of Planning and Zoning Date 10-19-21

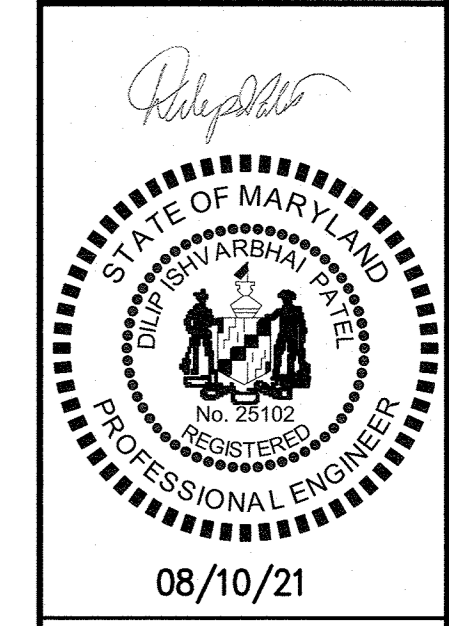
Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELLCOTT CITY, MARYLAND 21046
443-285-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLCOTT CITY, MD 21046
443-285-9563

ELKRIDGE CROSSING II SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 79 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A REASSIGNMENT OF NON-BUILDABLE BULK PARCELS 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A'"; PLAT Nos. 25572 - 25578)
Town: GAC-CU

Town Map No.: 38 Grid No.: 20 Parcel No.: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet: 17 of 25

CLIENT:
ELKRIDGE DEVELOPERS, LLC
5192 TALBOT LANDING
ELLCOTT CITY MD 21043



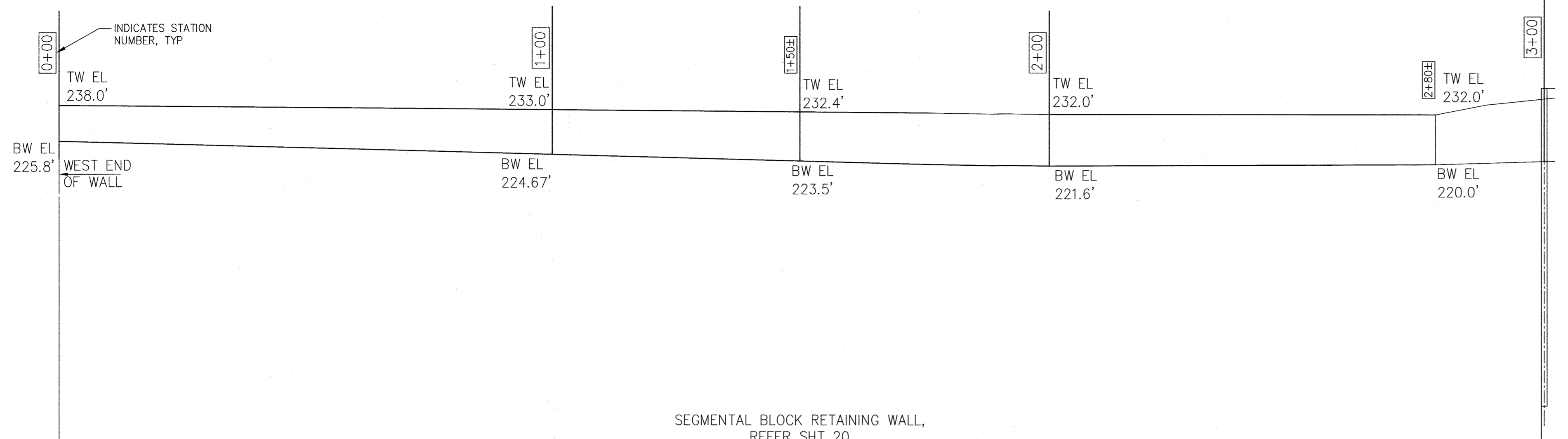
CONSULTING ENGINEERS:
ENCO Structural Engineers, Inc.
7226 Lee DeForest Drive
Suite 202 MD 21046
P: 410-953-8181
E: enco@encoengineers.com
www.encoengineers.com

SHEET TITLE:
RETAINING WALLS LOCATION PLAN
PROJECT:
ELKRIDGE CROSSING II
SITE RETAINING WALLS

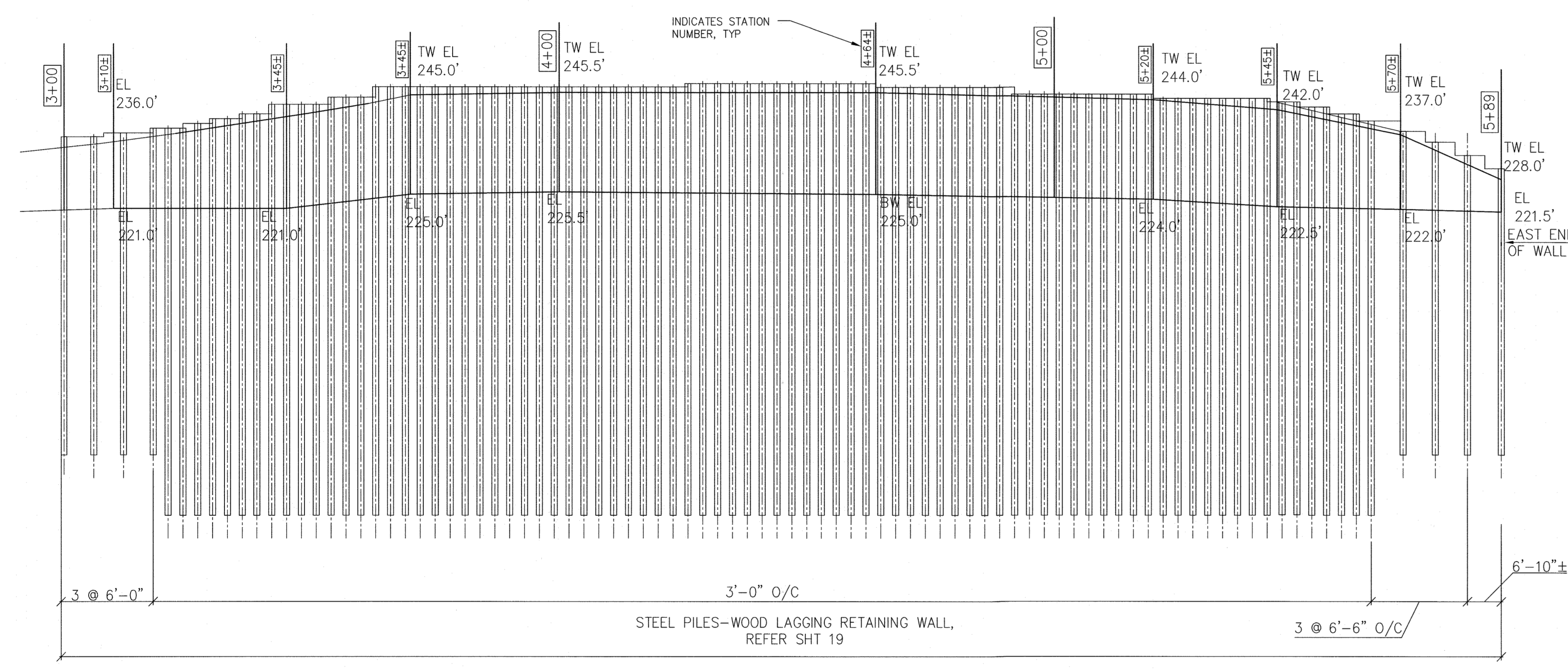
SUBMISSION	NO	DATE
CLIENT REVIEW		06/04/20
REV 1 CO COMMENTS		12/01/20
REV 2 CO COMMENTS		12/10/20

PROJECT NO: 19864
ISSUE DATE: 08/10/21
DWG NO: 17 of 25

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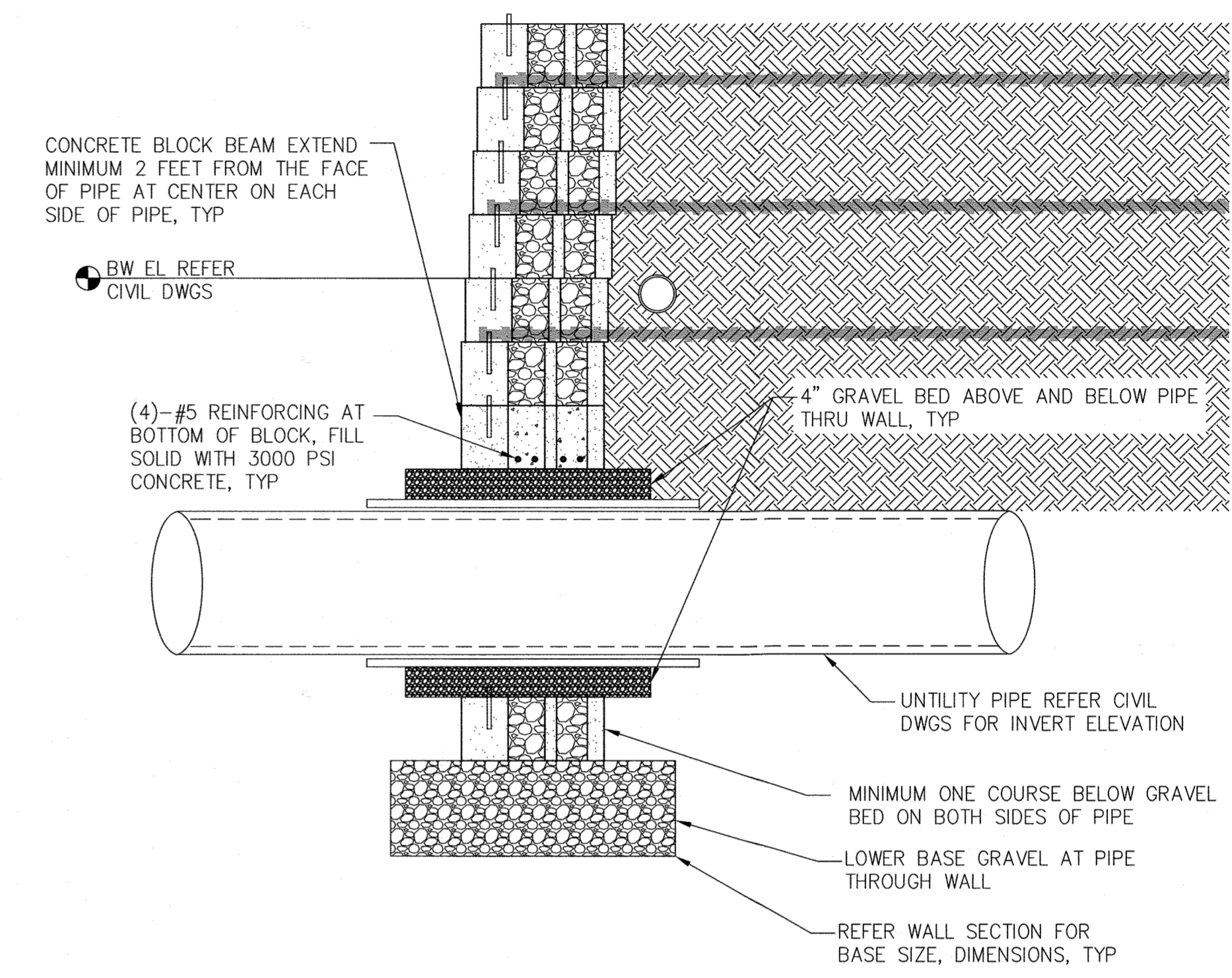


SEGMENTAL BLOCK RETAINING WALL,
REFER SHT 20



01 RETAINING WALL A ELEVATION
NOT TO SCALE

- NOTES:
- DO NOT USE THIS ELEVATION TO CONSTRUCT RETAINING WALL. NO DIMENSIONS SHALL BE USED ON THIS PLAN TO CONSTRUCT A RETAINING WALL, TYP
 - REFER CIVIL DRAWINGS FOR RETAINING WALL LOCATION, DIMENSIONS, TOP & BOTTOM OF WALL ELEVATIONS, TYP



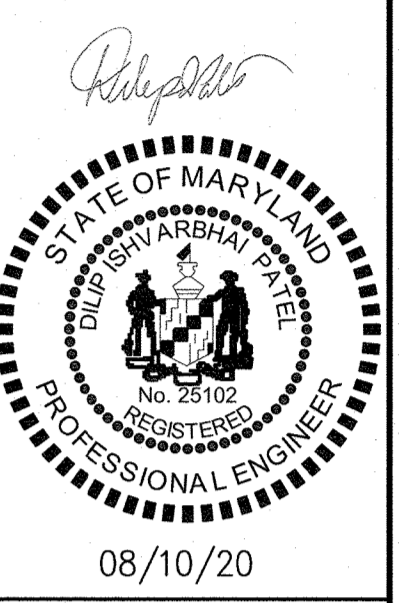
02 TYPICAL PIPE THRU WALL

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
	Date
Chief, Division of Land Development	
	10-13-21
Chief, Development Engineering Division	Date
	10-19-21
Director, Department of Planning and Zoning	Date

Owner	Developer
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST 5192 TALBOTS LANDING ELLICOTT CITY, MARYLAND 21046 443-285-3692	ELKRIDGE DEVELOPERS, LLC 5192 TALBOTS LANDING ELLICOTT CITY, MD 21046 443-285-9563

ELKRIDGE CROSSING II
SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 79 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT NO. 25572 - 25576)
Zone: CAC-CL
Tax Map No: 38 Ord No: 20 Parcel No: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 19 Of 25

CLIENT:
ELKRIDGE DEVELOPERS, LLC
5192 TALBOT LANDING
ELLICOTT CITY MD 21043



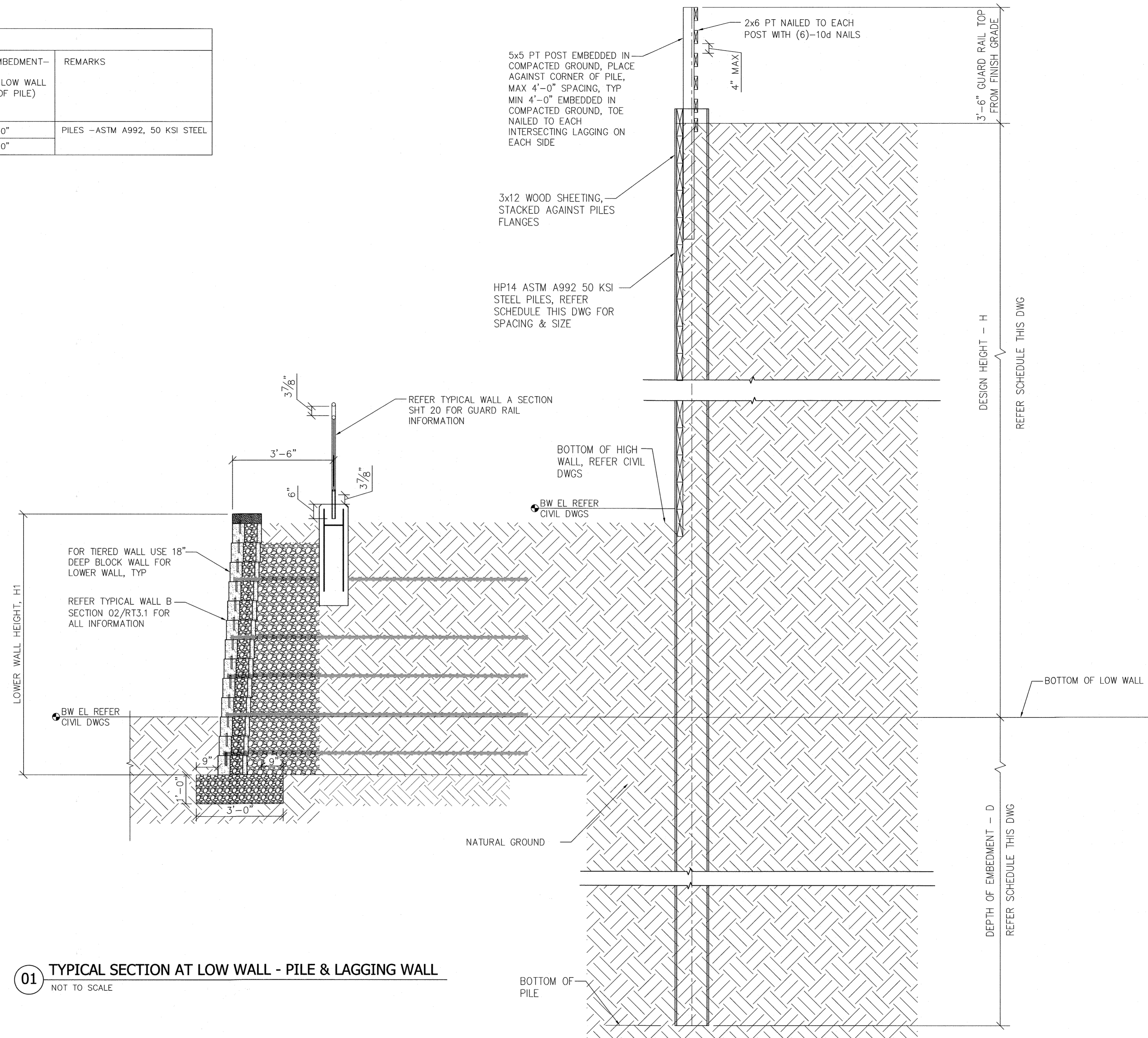
CONSULTING ENGINEERS:
ENCO Structural Engineers, Inc.
7226 Lee DeForest Drive
Suite 202
Columbia, MD 21046
P: 410-953-8181
EMAIL: enco@encoengineers.com
www.encoengineers.com

SHEET TITLE:
RETAINING WALL A ELEVATION,
TYPICAL DETAIL
PROJECT:
ELKRIDGE CROSSING II
SITE RETAINING WALLS

SUBMISSION	NO	DATE
CLIENT REVIEW	06/04/20	
REV 1 CO COMMENTS	12/01/20	
REV 2 CO COMMENTS	12/10/20	
REV 3 PILE-LAGGING WALL	05/10/21	
WALL E	06/02/21	
PROJECT NO: 19864		
ISSUE DATE: 08/10/21		
DWG NO: 18 of 25		

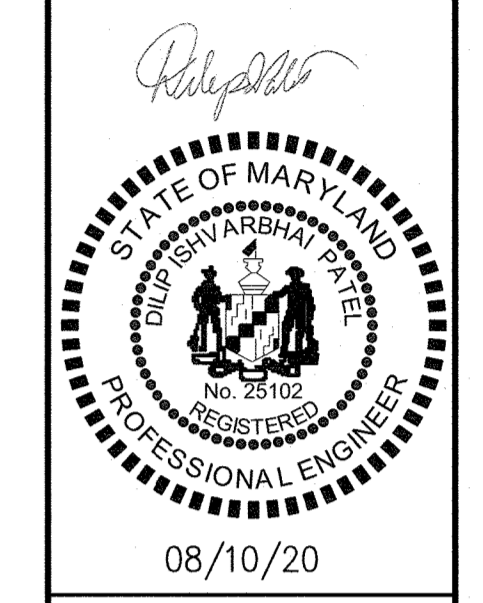
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PILE EMBEDMENT DEPTH SCHEDULE				
DESIGN HEIGHT - H, FT (TOP OF HIGH WALL TO BOTTOM OF LOW WALL)	PILE SIZE	PILES SPACING ON CENTERS, FT-IN	DEPTH OF EMBEDMENT - D, FT (BOTTOM OF LOW WALL TO BOTTOM OF PILE)	REMARKS
20±	HP14x89	6'-0" TO 6'-6"	55'-0"	PILES - ASTM A992, 50 KSI STEEL
27±	HP14x102	3'-0"	48'-0"	



01 TYPICAL SECTION AT LOW WALL - PILE & LAGGING WALL
NOT TO SCALE

CLIENT:
ELKRIDGE DEVELOPERS, LLC
5192 TALBOT LANDING
ELLCOTT CITY MD 21043



CONSULTING ENGINEERS:
ENCO Structural Engineers, Inc.
7226 Lee DeForest Drive
Columbia, MD 21046
Tel: 410-953-8181
Email: enco@encoengineers.com
www.encoengineers.com

SHEET TITLE:
LOW WALL & PILE-LAGGING WALL, SCHEDULE
PROJECT:
ELKRIDGE CROSSING II SITE RETAINING WALLS

DATE	NO	DESCRIPTION
06/04/20	1	CLIENT REVIEW
12/01/20	2	REV 1 CO COMMENTS
12/10/20	3	REV 2 CO COMMENTS
05/10/21	4	REV 3 PILE-LAGGING WALL
06/02/21	5	WALL E

PROJECT NO: 19864
ISSUE DATE: 08/10/21
DWG NO: 19 of 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/18/21
Chief, Division of Land Development
Date

[Signature] 10-17-21
Chief, Development Engineering Division
Date

[Signature] 10-17-21
Director - Department of Planning and Zoning
Date

Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELLCOTT CITY, MARYLAND 21046
443-285-3802

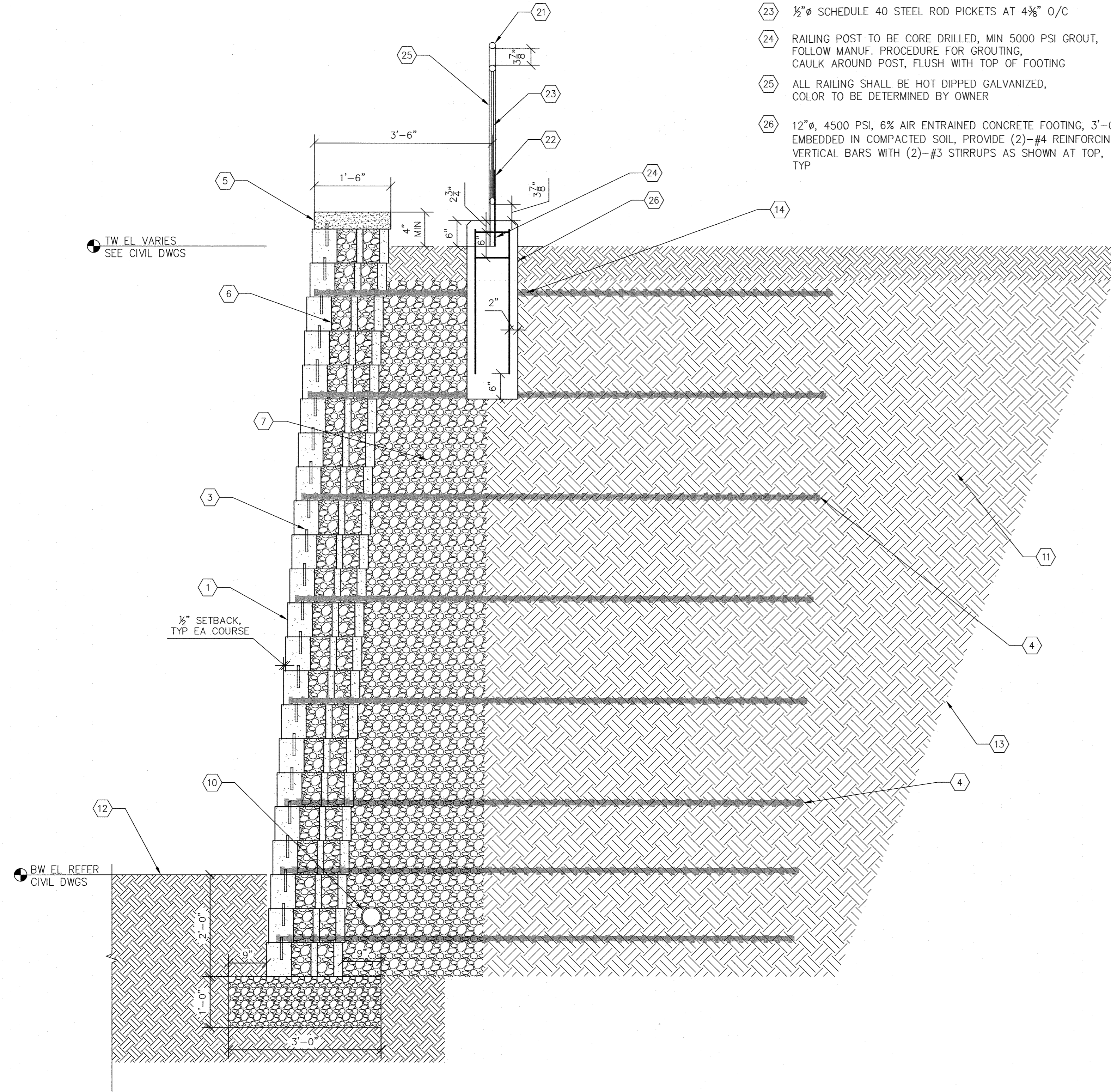
Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLCOTT CITY, MD 21046
443-285-9563

ELKRIDGE CROSSING II SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 79 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCELS 'A' AS SHOWN ON PLATS ENTITLED 'ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT No. 25572 - 25576)
Zone: CAC-CU
Tax Map No: 38 Grid No: 20 Parcel No: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 19 Of 25

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GUARD RAIL TAG NOTES:

- 21 1 1/4" SCHEDULE 40 STEEL PIPE HORIZONTAL RAILS, AT TOP AND BOTTOM, TYP
- 22 1 1/4" SCHEDULE 40 STEEL POSTS WITH 1" x 16" LONG SCHEDULE 40 INSERT AT BASE AT 6'-0" O/C
- 23 1/2" SCHEDULE 40 STEEL ROD PICKETS AT 4 3/8" O/C
- 24 RAILING POST TO BE CORE DRILLED, MIN 5000 PSI GROUT, FOLLOW MANUF. PROCEDURE FOR GROUTING, CAULK AROUND POST, FLUSH WITH TOP OF FOOTING
- 25 ALL RAILING SHALL BE HOT DIPPED GALVANIZED, COLOR TO BE DETERMINED BY OWNER
- 26 12" x 12", 4500 PSI, 6% AIR ENTRAINED CONCRETE FOOTING, 3'-0" EMBEDDED IN COMPACTED SOIL, PROVIDE (2)-#4 REINFORCING VERTICAL BARS WITH (2)-#3 STIRRUPS AS SHOWN AT TOP, TYP



01 RETAINING WALL A TYPICAL SECTION
NOT TO SCALE

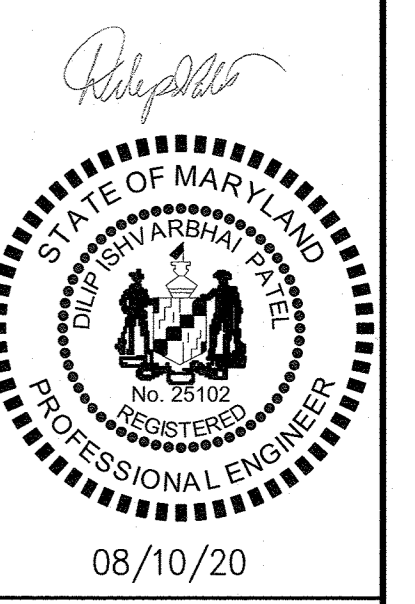
RETAINING WALL TAG NOTES:

- 1 TYP 8" THICK, KEYSTONE STANDARD II, 18" DEEP BLOCK WITH 1/2" SETBACK EACH COURSE AS SHOWN, TYP
- 2 KEYSTONE STANDARD UNITS OR APPROVED EQUAL; COLOR, TEXTURE TO BE DETERMINED BY OWNER
- 3 INTERLOCKING FIBERGLASS PINS INTO EACH COURSES
- 4 MIRAGRID 5XT GEO GRID CONNECTED TO WALL PIN AT TOP OF COURSE, REFER SCHEDULE, TYP
- 5 SOLID CAP STONE WITH INTERLOCKING FIBREGLASS PINS OF HEIGHT EQUAL TO HALF OF UNIT HEIGHT
- 6 FILL GRAVEL INTO EACH COURSE OF UNIT
- 7 2'-0" WIDE GRAVEL FILL BEHIND WALL, MAX 3/4" & MIN 1/2" IN SIZE.
- 8 2" x PVC PIPE DRAIN AT 10'-0" ± O/C, DRILL HOLE INTO A BLOCK AS REQUIRED
- 9 COMPACTED GRAVEL BED
- 10 4" PERFORATED DRAIN PIPE TO DAYLIGHT, 1/2" PER FT SLOPE
- 11 COMPACTED SOIL TO 95% OF MAX DRY DENSITY
- 12 COORDINATE WALL/GRADE ELEVATIONS WITH CIVIL DWGS, TYP
- 13 SLOPED EXCAVATION AS REQUIRED, CONTRACTOR TO DETERMINE SLOPE STABILITY DURING CONSTRUCTION & EMPLOY SUITABLE METHODS OF PROTECTION
- 14 DO NOT OVERCUT FABRIC AT FENCE POST FOOTING, TAUT FABRIC TOGETHER ON EACH SIDE OF FOOTING BY MAKING A JUST HOLE THE SIZE OF FOOTING, TYP

WALL HEIGHT	LAYER FROM BOTTOM OF WALL	HEIGHT FROM BOTTOM OF WALL	LENGTH OF FABRIC	REMARKS
12.33	5	10.67	9.00	REINFORCING FABRIC SHALL BE MIRAFI 5XT, TYP WALL, FABRIC DIMENSIONS ARE IN FEET
	4	8.67	9.00	
	3	6.33	9.00	
	2	4.00	9.00	
	1	1.33	9.00	
13.00	5	11.33	10.00	
	4	8.67	10.00	
	3	6.00	10.00	
	2	3.33	10.00	
	1	0.67	10.00	
15.00	6	14.00	11.00	
	5	11.33	11.00	
	4	8.67	11.00	
	3	6.00	11.00	
	2	3.33	11.00	
	1	0.67	11.00	
17.00	7	15.33	12.00	
	6	14.00	12.00	
	5	11.33	12.00	
	4	8.67	12.00	
	3	6.00	12.00	
	2	3.33	12.00	
	1	0.67	12.00	
14.33	6	12.67	10.00	
	5	11.33	10.00	
	4	8.67	10.00	
	3	6.00	10.00	
	2	3.33	10.00	
1	0.67	10.00		

WALL HEIGHT	LAYER FROM BOTTOM OF WALL	HEIGHT FROM BOTTOM OF WALL	LENGTH OF FABRIC	REMARKS
15.67	7	14.33	11.00	REINFORCING FABRIC SHALL BE MIRAFI 5XT, TYP WALL, FABRIC DIMENSIONS ARE IN FEET
	6	13.00	11.00	
	5	10.33	11.00	
	4	7.67	11.00	
	3	5.00	11.00	
	2	3.00	11.00	
	1	0.67	11.00	
18.33	8	17.33	14.00	
	7	14.67	13.00	
	6	12.00	13.00	
	5	9.33	13.00	
	4	6.67	13.00	
	3	4.00	13.00	
21.00	9	19.33	14.00	
	8	16.67	14.00	
	7	14.00	14.00	
	6	11.33	14.00	
	5	8.67	14.00	
	4	6.00	14.00	
	3	4.00	14.00	
	2	2.67	14.00	
	1	1.33	14.00	
20.33	8	18.67	14.00	
	7	16.00	14.00	
	6	13.33	14.00	
	5	10.67	14.00	
	4	8.00	14.00	
	3	5.33	14.00	
	2	2.67	14.00	
	1	1.33	14.00	
16.33	7	15.33	12.00	
	6	12.67	12.00	
	5	10.00	12.00	
	4	7.33	12.00	
	3	4.67	12.00	
	2	2.67	12.00	
	1	0.67	12.00	

CLIENT:
ELKRIDGE DEVELOPERS, LLC
5192 TALBOT LANDING
ELLICOTT CITY MD 21043



CONSULTING ENGINEERS:
ENCO Structural Engineers, Inc.
7226 Lee DeForest Drive
Suite 202 MD 21046
P: 410-953-8181
F: 410-953-8181
EMAIL: enco@encoengineers.com
www.encoengineers.com

SHEET TITLE:
RETAINING WALL A ELEVATION, SECTION, & SCHEDULE
PROJECT:
ELKRIDGE CROSSING II SITE RETAINING WALLS

NO	DATE	DESCRIPTION
1	06/04/20	CLIENT REVIEW
2	12/01/20	REV 1 CO COMMENTS
3	12/10/20	REV 2 CO COMMENTS
4	05/10/21	REV 3 PILE-LAGGING WALL
5	06/02/21	WALL E

PROJECT NO:
19864

ISSUE DATE:
08/10/21

DWG NO:
20 of 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10/19/21

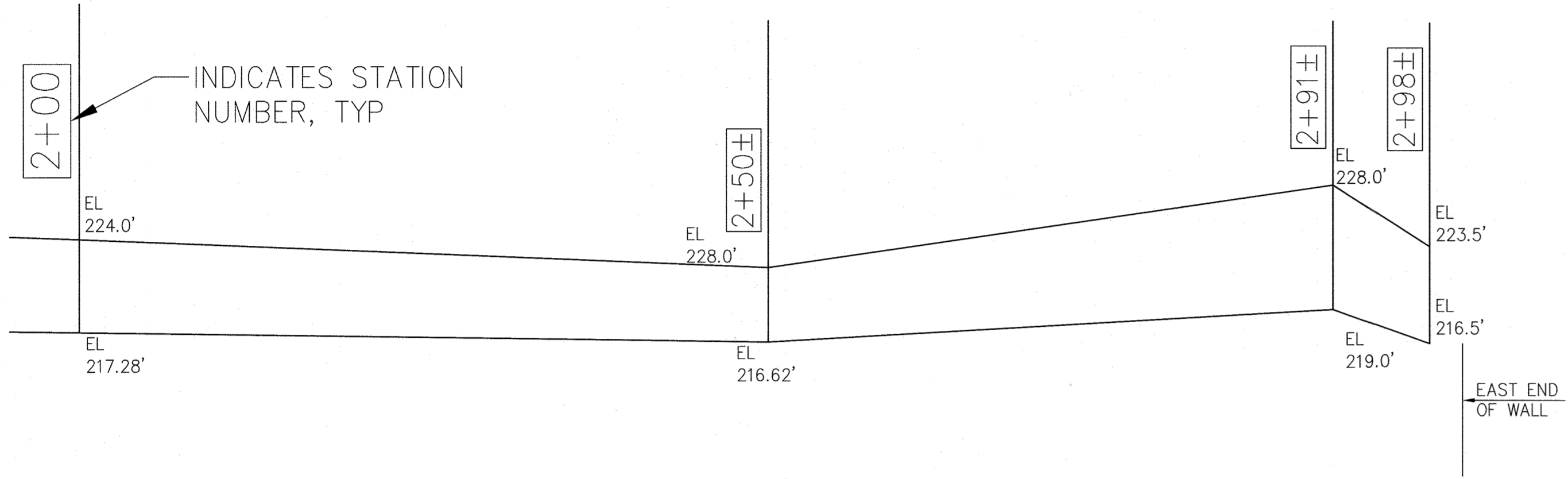
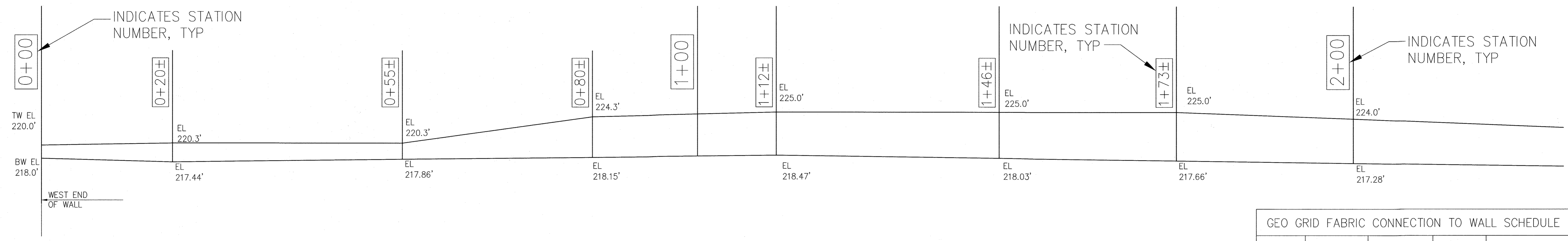
Chief, Development Engineering Division *[Signature]* Date: 10-19-21

Director - Department of Planning and Zoning *[Signature]* Date: 10-19-21

Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELLICOTT CITY, MARYLAND 21046
443-285-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLICOTT CITY, MD 21046
443-285-9563

ELKRIDGE CROSSING II SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 79 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT Nos. 25572 - 25578)
Zone: GAO-CU
Tax Map No: 38 Grid No: 29 Parcel No: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 20 Of 25

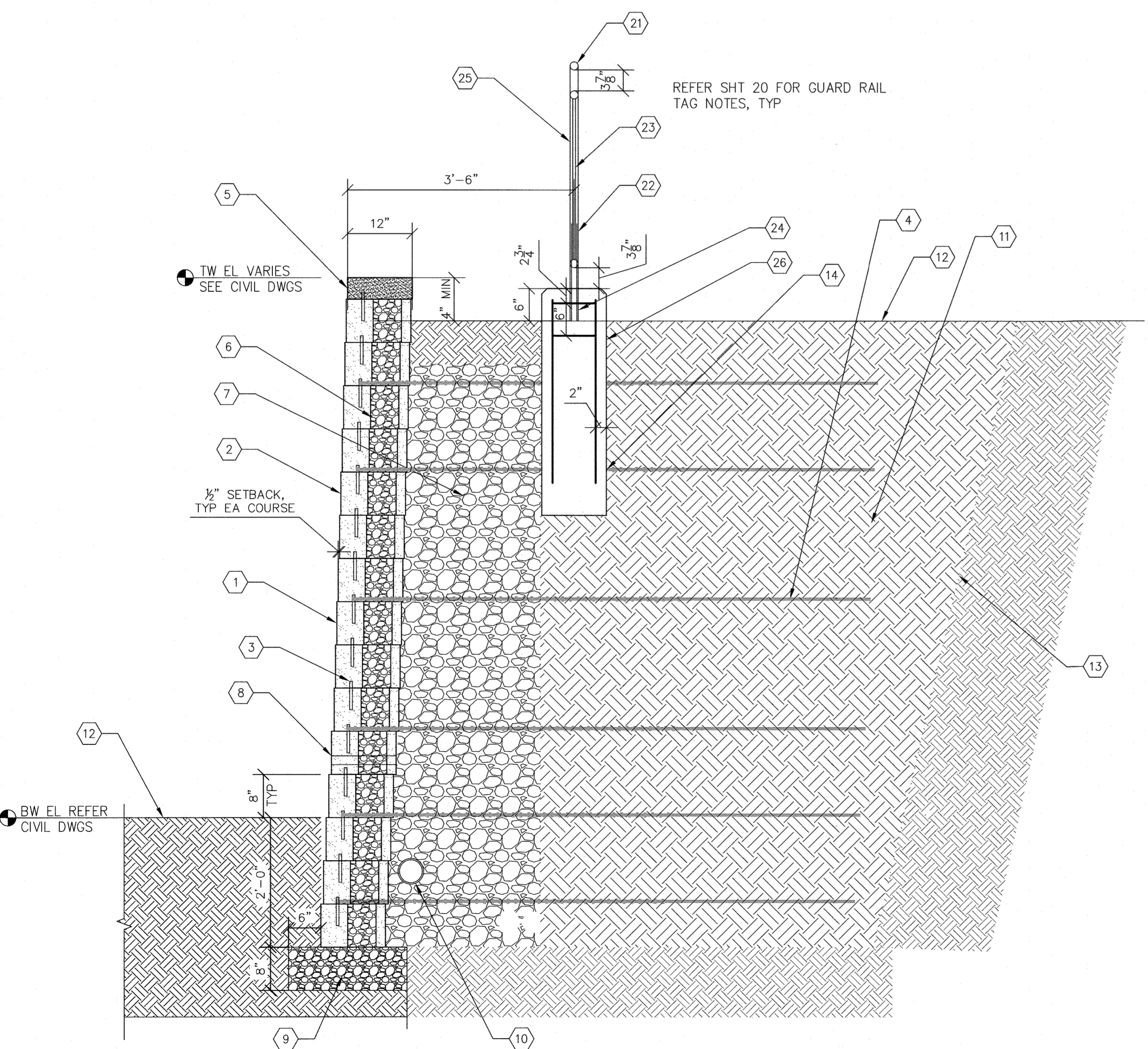


01 RETAINING WALL B ELEVATION
NOT TO SCALE

- NOTES:
- DO NOT USE THIS ELEVATION TO CONSTRUCT RETAINING WALL. NO DIMENSIONS SHALL BE USED ON THIS PLAN TO CONSTRUCT A RETAINING WALL, TYP
 - REFER CIVIL DRAWINGS FOR RETAINING WALL LOCATION, DIMENSIONS, TOP & BOTTOM OF WALL ELEVATIONS, TYP

GEO GRID FABRIC CONNECTION TO WALL SCHEDULE

WALL HEIGHT	LAYER FROM BOTTOM OF WALL	HEIGHT FROM BOTTOM OF WALL	LENGTH OF FABRIC	REMARKS
9.67	5	8.67	8.00	<ul style="list-style-type: none"> REINFORCING FABRIC SHALL BE MIRAFIT 3XT, TYP WALL FABRIC DIMENSIONS ARE IN FEET
	4	6.67	7.00	
	3	4.67	7.00	
	2	2.67	7.00	
	1	0.67	7.00	
11.67	6	10.00	12.00	
	5	8.67	8.00	
	4	6.67	8.00	
	3	4.67	8.00	
	2	2.67	8.00	
11.00	6	9.33	8.00	
	5	8.67	8.00	
	4	6.67	8.00	
	3	4.67	8.00	
	2	2.67	8.00	
10.33	5	8.67	7.00	
	4	6.67	7.00	
	3	4.67	7.00	
	2	2.67	7.00	
	1	0.67	7.00	
12.33	6	10.67	9.00	
	5	8.67	9.00	
	4	6.67	9.00	
	3	4.67	9.00	
	2	2.67	9.00	
8.33	4	6.67	6.00	
	3	4.67	6.00	
	2	2.67	6.00	
	1	0.67	6.00	



- RETAINING WALL TAG NOTES:
- TYP 8" THICK, KEYSTONE COMPAQ III, 12" DEEP BLOCK WITH 1/2" SETBACK EACH COURSE AS SHOWN, TYP. FOR TIERED WALL USE 18" DEEP BLOCK, KEYSTONE COMPAQ UNITS, OR APPROVED EQUAL; COLOR, TEXTURE TO BE DETERMINED BY OWNER
 - INTERLOCKING FIBERGLASS PINS INTO EACH COURSES
 - MIRAFIT 3XT GEO GRID CONNECTED TO WALL PIN AT TOP OF COURSE, REFER SCHEDULE, TYP
 - SOLID CAP STONE WITH INTERLOCKING FIBERGLASS PINS OF HEIGHT EQUAL TO HALF OF UNIT HEIGHT
 - FILL GRAVEL INTO EACH COURSE OF UNIT
 - 2'-0" WIDE GRAVEL FILL BEHIND WALL, MAX 3/4" & MIN 1/2" IN SIZE.
 - 2" x PVC PIPE DRAIN AT 10'-0" ± O/C, DRILL HOLE INTO A BLOCK AS REQUIRED
 - COMPACTED GRAVEL BED
 - 4" PERFORATED DRAIN PIPE TO DAYLIGHT, 1/8" PER FT SLOPE
 - COMPACTED SOIL TO 95% OF MAX DRY DENSITY
 - COORDINATE WALL/GRADE ELEVATIONS WITH CIVIL DWGS, TYP
 - SLOPED EXCAVATION AS REQUIRED, CONTRACTOR TO DETERMINE SLOPE STABILITY DURING CONSTRUCTION & EMPLOY SUITABLE METHODS OF PROTECTION
 - DO NOT OVERCUT FABRIC AT FENCE POST FOOTING, TAUT FABRIC TOGETHER ON EACH SIDE OF FOOTING BY MAKING A JUST HOLE THE SIZE OF FOOTING, TYP

02 RETAINING WALL B TYPICAL SECTION
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10/19/20

Chief, Development Engineering Division *[Signature]* Date: 10-17-20

Director - Department of Planning and Zoning *[Signature]* Date: 10-17-20

Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELLCOTT CITY, MARYLAND 21046
443-285-3802

Developer
ELKRIDGE DEVELOPERS, LLC
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ELKRIDGE CROSSING II SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 79 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H' (BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED 'ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT Nos. 25572 - 25576) Zone: CAC-01

First Election District: Parcel No: 38 Grid No: 20 Howard County, Maryland
Scale: As Shown Date: August 5, 2021 Sheet 21 Of 25

RETAINING WALL B ELEVATION, SECTION, & SCHEDULE

ELKRIDGE CROSSING II SITE RETAINING WALLS

DATE	NO	DESCRIPTION
06/04/20	1	ISSUED FOR PERMIT
12/01/20	2	REV 1 CO COMMENTS
12/10/20	3	REV 2 CO COMMENTS
05/10/21	4	REV 3 PILE-LAGGING WALL
06/02/21	5	WALL E

PROJECT NO: 19864

ISSUE DATE: 08/10/21

DWG NO: 21 of 25

CLIENT: ELKRIDGE DEVELOPERS, LLC
5192 TALBOT LANDING
ELLCOTT CITY MD 21043

CONSULTING ENGINEERS: ENCO Structural Engineers, Inc.
7226 Lee DeForest Drive
Columbia, MD 21046
Tel: 410-953-8181
Email: encoengineers.com
www.encoengineers.com

STATE OF MARYLAND
DIVISION OF PROFESSIONAL REGULATION
No. 25102
REGISTERED PROFESSIONAL ENGINEER
08/10/20

GENERAL STRUCTURAL NOTES

- THE RETAINING WALL SHALL BE DESIGNED AND CONSTRUCTED IN FULL COMPLIANCE WITH ALL APPLICABLE SECTIONS OF 2018 INTERNATIONAL BUILDING CODE
- THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADS UNDER NO SURROUNDING SOILS. CONTRACTOR OR OWNER ENGINEER CONSTRUCTION PRACTICE OR WALL USE THAT WILL EXCEED THESE LOADS WITHOUT FIRST GAINING APPROVAL FROM THE ENGINEER.
- THE RETAINING WALL IS DESIGNED BASED ON THE FOLLOWING PARAMETERS:
UNIT WEIGHT : 120 PCF
ACTIVE EQUIVALENT FLUID PRESSURE : 45 PSF (IBC TABLE 1610.1)
ALLOWABLE SOIL PRESSURE: 1500 PSF (IBC TABLE 1806.2)
FACTOR OF SAFETY AGAINST OVERTURNING: 2.0
FACTOR OF SAFETY AGAINST SLIDING: 1.5
FRICTIONAL RESISTANCE COEFFICIENT : 0.35
- THE GUARD RAIL DESIGN LOADS:
CONCENTRATED LOAD = 200 LBS AT THE TOP OF GUARD RAIL ANYWHERE
UNIFORM LOAD = 50 PSF ON HORIZONTAL RAILS AND PICKETS
- WIND LOADS:
BASIC DESIGN WIND SPEED $V = 115$ MPH
WIND IMPORTANCE FACTOR $I_w = 1.0$
WIND EXPOSURE: B
- DETAILS DESIGNATED AS "TYPICAL" SHALL BE UNDERSTOOD TO APPLY AT ALL OCCURRENCES OF THE CONDITION INDICATED IN THE DETAIL TITLE, WHETHER THE DETAIL IS EXPLICITLY CALLED ON THE PLAN OR NOT.
- SCALES NOTED ON THE DRAWINGS ARE FOR GENERAL INFORMATION ONLY. NO DIMENSIONAL INFORMATION SHALL BE OBTAINED BY DIRECT SCALING OF THE DRAWINGS.
- THE CONTRACTOR SHALL ESTABLISH THE METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION SUBJECT TO COMPLIANCE WITH ALL PROJECT REQUIREMENTS. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
- REFER TO CIVIL AND OTHER DIVISIONS OF THE CONTRACT DOCUMENTS FOR ADDITIONAL PROJECT REQUIREMENTS, WHICH DEFINE THE SCOPE, NATURE AND EXTENT OF STRUCTURAL WORK.
- THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE LOCATION OF ANY UTILITIES IN THE IMMEDIATE VICINITY OF CONSTRUCTION SO AS TO PREVENT DAMAGE TO THEM. SHOULD ANY DAMAGE TO SUCH UTILITIES OCCUR, THE CONTRACTOR SHALL REPAIR SUCH DAMAGE AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER.
- PRIOR TO PLACING FOOTINGS AND BACK FILLING, REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS FOR ADDITIONAL UNDERGROUND OR EMBEDDED WORK AND OTHER PROJECT REQUIREMENTS.

KEYSTONE CONCRETE RETAINING WALL

PART 1: GENERAL

1.01 DESCRIPTION

- WORK SHALL CONSIST OF DESIGNING, FURNISHING AND CONSTRUCTION OF A KEYSTONE HARDCAPE STANDARD III UNIT RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLE CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON THE PLANS. NO ALTERNATE WALL SYSTEMS WILL BE CONSIDERED.
- WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT FACING SYSTEM, UNIT DRAINAGE FILL AND REINFORCED BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
- WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION AND LENGTHS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

1.02 RELATED SECTIONS

- SECTION 31 00 00 - EARTHWORK

1.03 REFERENCE DOCUMENTS

- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
 - AASHTO M 252 CORRUGATED POLYETHYLENE DRAINAGE PIPE
 - AASHTO M 288 GEOTEXTILE SPECIFICATION FOR HIGHWAY APPLICATIONS
- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - ASTM C140 SAMPLING AND TESTING CONCRETE MASONRY UNITS
 - ASTM C1372 SPECIFICATION FOR DRY-CAST SEGMENTAL RETAINING WALL UNITS
 - ASTM D442 PARTICLE SIZE ANALYSIS OF SOILS
 - ASTM D698 LABORATORY COMPACTION CHARACTERISTICS OF SOIL - STANDARD EFFORT
 - ASTM D1556 STANDARD TEST METHOD FOR DENSITY AND UNIT WEIGHT OF SOIL IN PLACE BY THE SAND CONE METHOD
 - ASTM D1557 LABORATORY COMPACTION CHARACTERISTICS OF SOIL - MODIFIED EFFORT
 - ASTM D2487 STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
 - ASTM D2922 STANDARD TEST METHODS FOR DENSITY OF SOIL AND SOIL-AGGREGATE IN PLACE BY NUCLEAR METHODS (SHALLOW DEPTH)
 - ASTM D3034 STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS
 - ASTM D4318 LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS
 - ASTM D4475 HORIZONTAL SHEAR STRENGTH OF PULTRUDED REINFORCED PLASTIC RODS
 - ASTM D4476 FLEXURAL PROPERTIES OF FIBER REINFORCED PULTRUDED PLASTIC RODS
 - ASTM D4595 STANDARD TEST METHOD FOR TENSILE PROPERTIES OF GEOTEXTILES BY WIDE-WIDTH STRIP METHOD
 - ASTM D4873 STANDARD GUIDE FOR IDENTIFICATION, STORAGE AND HANDLING OF GEOSYNTHETICS
 - ASTM D5262 STANDARD TEST METHOD FOR EVALUATING THE UNCONFINED TENSION CREEP BEHAVIOR OF GEOSYNTHETICS
 - ASTM D5322 STANDARD TEST METHOD FOR DETERMINING THE COEFFICIENT OF SOIL AND GEOSYNTHETIC OR GEOSYNTHETIC AND GEOSYNTHETIC FRICTION BY THE DIRECT SHEAR METHOD
 - ASTM D5818 STANDARD PRACTICE FOR OBTAINING SAMPLES OF GEOSYNTHETICS FROM A TEST SECTION FOR ASSESSMENT OF INSTALLATION DAMAGE
 - ASTM D6637 STANDARD TEST METHOD FOR DETERMINING TENSILE PROPERTIES OF GEORGRIDS BY THE SINGLE OR MULTI-RIB METHOD
 - ASTM D6638 STANDARD TEST METHOD FOR DETERMINING CONNECTION STRENGTH BETWEEN GEOSYNTHETIC REINFORCEMENT AND SEGMENTAL CONCRETE UNITS
 - ASTM D6706 STANDARD TEST METHOD FOR MEASURING GEOSYNTHETIC PULLOUT RESISTANCE IN SOIL
 - ASTM D6916 STANDARD TEST METHOD FOR DETERMINING THE SHEAR STRENGTH BETWEEN SEGMENTAL CONCRETE UNITS
- NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
 - NCMA SRWU-1 TEST METHOD FOR DETERMINING CONNECTION STRENGTH OF SRW
 - NCMA SRWU-2 TEST METHOD FOR DETERMINING SHEAR STRENGTH OF SRW

1.04 DEFINITIONS

- MODULAR UNIT - A DRY-STACKED CONCRETE RETAINING WALL UNIT MACHINE MADE FROM PORTLAND CEMENT, WATER, AGGREGATES, MANUFACTURED BY A LICENSED MANUFACTURER OF KEYSTONE.
- STRUCTURAL GEOGRID - A POLYMERIC MATERIAL FORMED BY A REGULAR NETWORK OF CONNECTED TENSILE ELEMENTS WITH APERTURES OF SUFFICIENT SIZE TO ALLOW INTERLOCKING WITH SURROUNDING SOIL, ROCK OR EARTH AND FUNCTION PRIMARILY AS REINFORCEMENT.
- UNIT DRAINAGE FILL - DRAINAGE AGGREGATE THAT IS PLACED WITHIN AND IMMEDIATELY BEHIND THE KEYSTONE CONCRETE UNITS.
- REINFORCED BACKFILL - COMPACTED SOIL THAT IS PLACED WITHIN THE REINFORCED SOIL VOLUME AS OUTLINED ON THE PLANS.
- RETAINED SOIL - THE SOIL MASS BEHIND THE REINFORCED BACKFILL.
- FOUNDATION SOIL - THE SOIL MASS BELOW THE LEVELING PAD AND REINFORCED BACKFILL.
- LEVELING PAD - CRUSHED STONE, SAND AND GRAVEL OR UNREINFORCED CONCRETE MATERIAL PLACED TO PROVIDE A LEVEL SURFACE FOR PLACEMENT OF THE KEYSTONE CONCRETE UNITS.
- GEOSYNTHETIC REINFORCEMENT - POLYMERIC MATERIAL DESIGNED SPECIFICALLY FOR SOIL REINFORCEMENT.

1.05 SUBMITTALS AND CERTIFICATION

- CONTRACTOR SHALL SUBMIT A MANUFACTURER'S CERTIFICATION, PRIOR TO THE START OF WORK, THAT THE RETAINING WALL SYSTEM COMPONENTS MEET THE REQUIREMENTS OF THIS SPECIFICATION AND THE STRUCTURE DESIGN.

- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE RETAINING WALL SYSTEM. THE SHOP DRAWINGS SHALL INCLUDE THE LENGTH, HEIGHT, PANELS WIDTH, A TYPICAL SECTION, ALL PROPOSED MATERIALS TO USED WITH MATERIALS SPECIFICATIONS. THE SHOP DRAWINGS SHALL BE APPROVED BY THE ENGINEER OF THE RECORD BEFORE PROCEEDING WITH THE WORK. CONTRACTOR TO REFER CIVIL DRAWINGS TO OBTAIN WALL LOCATION, LENGTH, HEIGHT, ETC.
 - 1.06 QUALITY ASSURANCE
 - CONTRACTOR SHALL SUBMIT A LIST OF FIVE (5) PREVIOUSLY CONSTRUCTED PROJECTS OF SIMILAR SIZE AND MAGNITUDE BY THE WALL INSTALLER WHERE THE STANDARD OR COMPACT RETAINING WALL SYSTEM HAS BEEN CONSTRUCTED SUCCESSFULLY. CONTACT NAMES AND PHONE NUMBERS SHALL BE LISTED FOR EACH PROJECT.
 - OWNER SHALL/MAY PROVIDE QUALITY ASSURANCE INSPECTION AND TESTING DURING EARTHWORK AND WALL CONSTRUCTION OPERATIONS. CONTRACTOR SHALL PROVIDE ALL QUALITY CONTROL TESTING AND INSPECTION NOT PROVIDED BY THE OWNER. OWNER'S QUALITY ASSURANCE PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL AND WALL PERFORMANCE.
 - 1.07 DELIVERY HANDLING AND STORAGE
 - CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAVE BEEN RECEIVED.
 - CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOBSITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.
- PART 2: PRODUCTS
 - 2.01 KEYSTONE CONCRETE RETAINING WALL UNITS
 - KEYSTONE RETAINING WALL UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS
 - FACE COLOR - CONCRETE GRAY, UNLESS OTHERWISE SPECIFIED. THE OWNER MAY SPECIFY STANDARD MANUFACTURER'S COLOR.
 - FACE FINISH - HARD SPLIT IN ANGULAR TRI-PLANE OR STRAIGHT FACE CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.
 - BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT IN VERTICALLY ADJACENT UNITS.
 - EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 20 FEET (6 M) UNDER DIFFUSED LIGHTING.
 - KEYSTONE CONCRETE UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.
 - KEYSTONE CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH ASTM C140 SAMPLING AND TESTING CONCRETE MASONRY UNITS:
 - COMPRESSIVE STRENGTH: 3000 PSI (21 MPA).
 - ABSORPTION: 8 % FOR STANDARD WEIGHT AGGREGATES.
 - DIMENSIONAL TOLERANCES: ± 1/8" (3 MM) FROM NOMINAL UNIT DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE.
 - UNIT SIZE: 8" (203 MM) (H) X 18" (457 MM) (W) X 18 TO 21.5" (457 TO 546 MM)(D) MINIMUM.
 - KEYSTONE CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING CONTRACTIBILITY REQUIREMENTS:
 - VERTICAL SETBACK: 1/8 INCH (3 MM) ± PER COURSE (NEAR VERTICAL) OR 1 1/8 INCH (28 MM) ± PER COURSE, PER THE DESIGN.
 - ALIGNMENT AND GRID ATTACHMENT MECHANISM - FIBERGLASS PINS, TWO PER UNIT.
 - MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE 1/2 INCH (13 MM).
 - 2.02 SHEAR AND REINFORCEMENT PIN CONNECTORS
 - SHEAR AND REINFORCEMENT PIN CONNECTORS SHALL BE 1/2-INCH (12 MM) DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN PULTRUDED FIBERGLASS REINFORCEMENT RODS TO PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTALLY ADJACENT UNITS AND GEOSYNTHETIC REINFORCEMENT, WITH THE FOLLOWING REQUIREMENTS:
 - FLEXURAL STRENGTH IN ACCORDANCE WITH ASTM D4476: 128,000 PSI (882 MPA) MINIMUM.
 - SHORT BEAM SHEAR IN ACCORDANCE WITH ASTM D4475: 6,400 PSI (44 MPA) MINIMUM.
 - SHEAR AND REINFORCEMENT PIN CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.
 - 2.03 BASE LEVELING PAD MATERIAL
 - MATERIAL SHALL CONSIST OF A COMPACTED CRUSHED STONE BASE, SAND AND GRAVEL OR UNREINFORCED CONCRETE, AS SHOWN ON THE CONSTRUCTION DRAWINGS.
 - 2.04 UNIT DRAINAGE FILL
 - UNIT DRAINAGE FILL SHALL CONSIST OF CLEAN 1 INCH (25 MM) MINUS CRUSHED STONE OR CRUSHED GRAVEL MEETING THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422:

SIEVE SIZE	PERCENT PASSING
1 INCH (25 MM)	100
3/4-INCH (19MM)	75 -100
NO. 4 (4.75 MM)	0 -10
NO. 50 (300 UM)	0 -5
 - DRAINAGE FILL SHALL BE PLACED WITHIN THE CORES OF, BETWEEN, AND BEHIND THE UNITS AS INDICATED ON THE DESIGN DRAWINGS. NOT LESS THAN 1.2 CUBIC FOOT (0.033 M3) OF DRAINAGE FILL SHALL BE USED FOR EACH SQUARE FOOT (0.093 M2) OF WALL FACE UNLESS OTHERWISE SPECIFIED.
 - 2.05 REINFORCED BACKFILL
 - REINFORCED BACKFILL SHALL BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422:

SIEVE SIZE	PERCENT PASSING
1 1/2 INCH (38 MM)	100
3/4-INCH (19 MM)	75 -100
NO. 40 (425 UM)	0 -60
NO. 200 (75 UM)	0 -35
- PLASTICITY INDEX (PI) < 15 AND LIQUID LIMIT < 40, PER ASTM D4318
- THE MAXIMUM AGGREGATE SIZE SHALL BE LIMITED TO 3/4 INCH (19 MM) UNLESS INSTALLATION DAMAGE TESTS HAVE BEEN PERFORMED TO EVALUATE POTENTIAL STRENGTH REDUCTIONS TO THE GEOGRID DESIGN DUE TO INCREASED INSTALLATION DAMAGE DURING CONSTRUCTION.
- MATERIAL CAN BE SITE-EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. SOILS NOT MEETING THE ABOVE CRITERIA, INCLUDING HIGHLY PLASTIC CLAYS AND ORGANIC SOILS, SHALL NOT BE USED IN THE BACKFILL OR REINFORCED BACKFILL SOIL MASS.
- CONTRACTOR SHALL SUBMIT REINFORCED FILL SAMPLE AND LABORATORY TEST RESULTS TO THE ARCHITECT/ENGINEER FOR APPROVAL, PRIOR TO THE USE OF ANY PROPOSED REINFORCED BACKFILL MATERIAL.

2.06 GEOGRID SOIL REINFORCEMENT

- GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEORGRIDS MANUFACTURED FOR SOIL REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN OR HIGH DENSITY POLYETHYLENE. POLYESTER GEOGRID SHALL BE MADE FROM HIGH TENACITY POLYESTER FILAMENT YARN WITH A MOLECULAR WEIGHT EXCEEDED 25,000 G/M AND WITH A CARBOXYL END GROUP VALUE LESS THAN 30. POLYESTER GEOGRID SHALL BE COATED WITH AN IMPREGNATED PVC COATING THAT RESISTS PEELING, CRACKING AND STRIPPING.
- TA - LONG TERM ALLOWABLE TENSILE DESIGN LOAD. TA OF THE GEOGRID MATERIAL SHALL BE DETERMINED AS FOLLOWS: TA = TULT/(RFCR * RFD * RFD * FS). TA SHALL BE EVALUATED BASED ON A 75 YEAR DESIGN LIFE.
 - TULT - SHORT TERM ULTIMATE TENSILE STRENGTH. TULT SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D4595 OR ASTM D6637. TULT IS BASED ON THE MINIMUM AVERAGE ROLL VALUES (MARV).
 - RFCD - REDUCTION FACTOR FOR LONG TERM TENSION CREEP. RFCD SHALL BE DETERMINED FROM 10,000 HOUR CREEP TESTING PERFORMED IN ACCORDANCE WITH ASTM D5262. RFCD = 1.45 MINIMUM.

- RFCD - REDUCTION FACTOR FOR DURABILITY. RFCD SHALL BE DETERMINED FROM POLYMER SPECIFIC DURABILITY TESTING COVERING THE RANGE OF EXPECTED SOIL ENVIRONMENTS. RFCD = 1.10 MINIMUM.
- RFID - REDUCTION FACTOR FOR INSTALLATION DAMAGE. RFID SHALL BE DETERMINED FROM PRODUCT SPECIFIC CONSTRUCTION DAMAGE TESTING PERFORMED IN ACCORDANCE WITH ASTM D5818. TEST RESULTS SHALL BE PROVIDED FOR EACH PRODUCT TO BE USED WITH PROJECT SPECIFIC OR MORE SEVERE SOIL TYPES. RFID = 1.05 MINIMUM.
- FS - OVERALL DESIGN FACTOR OF SAFETY. FS SHALL BE 1.5 UNLESS NOTED FOR THE MAXIMUM ALLOWABLE WORKING STRESS CALCULATION.
- THE MAXIMUM DESIGN TENSILE LOAD OF THE GEOGRID SHALL NOT EXCEED THE LABORATORY TESTED ULTIMATE STRENGTH OF THE GEOGRID/FACING UNIT CONNECTION DIVIDED BY A FACTOR OF SAFETY OF 1.5. THE CONNECTION STRENGTH TESTING AND COMPUTATION PROCEDURES SHALL BE IN ACCORDANCE WITH ASTM D6638 CONNECTION STRENGTH BETWEEN GEOSYNTHETIC REINFORCEMENT AND SEGMENTAL CONCRETE UNITS OR NCMA SRWU-1.
- CI - COEFFICIENT OF SOIL INTERACTION. CI VALUES SHALL BE DETERMINED PER ASTM D6706 AT A MAXIMUM 0.75 INCH (19 MM) DISPLACEMENT.
- THE GEOGRID MANUFACTURER SHALL HAVE A MANUFACTURING QUALITY CONTROL PROGRAM THAT INCLUDES QC TESTING BY AN INDEPENDENT LABORATORY. THE QC TESTING SHALL INCLUDE TENSILE STRENGTH TESTING, MELT FLOW INDEX TESTING FOR HDPE GEORGRIDS AND MOLECULAR WEIGHT TESTING FOR POLYESTER GEORGRIDS.

2.07 DRAINAGE PIPE

- IF REQUIRED, DRAINAGE PIPE SHALL BE PERFORATED OR SLOTTED PVC PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D3034 OR CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH AASHTO M252.
- GEOTEXTILE FILTER FABRIC
 - WHEN REQUIRED, GEOTEXTILE FILTER FABRIC SHALL BE A NEEDLE-PUNCHED NONWOVEN FABRIC THAT MEETS THE REQUIREMENTS OF AASHTO M268.

PART 3: EXECUTION

3.01 EXCAVATION

- CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. THE OWNER OR CONTRACTOR'S QA/QC REPRESENTATIVE SHALL INSPECT THE EXCAVATION AND TEST THE FOUNDATION SOILS AND APPROVE PRIOR TO PLACEMENT OF THE LEVELING PAD MATERIAL OR FILL SOILS. ANY OVER-EXCAVATION REQUIRED TO REMOVE UNSUITABLE SOILS SHALL BE OVERSIZED FROM THE FRONT OF THE LEVELING PAD AND BACK OF THE GEOGRID REINFORCEMENT.
- OVER-EXCAVATION AND REPLACEMENT OF UNSUITABLE SOILS AND REPLACEMENT WITH APPROVED COMPACTED FILL WILL BE COMPENSATED AS AGREED UPON WITH THE OWNER.

3.02 BASE LEVELING PAD

- LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS TO A MINIMUM THICKNESS OF 6 INCHES (150 MM) AND EXTEND LATERALLY A MINIMUM OF 6 INCHES IN FRONT AND BEHIND THE KEYSTONE WALL UNIT.
- SOIL LEVELING PAD MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY PER ASTM D697 OR 92% MODIFIED PROCTOR DENSITY PER ASTM D1557.
- LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT WITH THE BASE SURFACE OF THE CONCRETE UNITS.

3.03 KEYSTONE UNIT INSTALLATION

- FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.
- PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- INSTALL SHEAR/CONNECTING PINS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT REINFORCED BACKFILL SOIL BEHIND DRAINAGE FILL.
- MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED TWO COURSES.

3.04 STRUCTURAL GEOGRID INSTALLATION

- GEOGRID SHALL BE INSTALLED WITH THE HIGHEST STRENGTH DIRECTION PERPENDICULAR TO THE WALL ALIGNMENT.
- GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS AND ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE ENGINEER.
- THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE KEYSTONE WALL UNIT PINS AND WITHIN 1 INCH OF THE FACE OF THE UNITS. PLACE THE NEXT COURSE OF KEYSTONE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.
- GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS GREATER THAN 2 INCHES BETWEEN ADJACENT PIECES OF GEOGRID ARE NOT PERMITTED.

3.05 REINFORCED BACKFILL PLACEMENT

- REINFORCED BACKFILL SHALL BE PLACED, SPREAD AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE TO THE GEOGRID.
- REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES (150 MM) WHERE HAND OPERATED COMPACTION EQUIPMENT IS USED, OR 8-10 INCHES (200 TO 250 MM) WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY, AS NEEDED.
- REINFORCED BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY PER ASTM D697 OR 92% MODIFIED PROCTOR DENSITY PER ASTM D1557. THE MOISTURE CONTENT OF THE REINFORCED BACKFILL MATERIAL DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE DRY OF OPTIMUM BY 0 TO 3 PERCENTAGE POINTS OF MOISTURE.
- ONLY HAND OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET (1 M) FROM THE BACK OF THE KEYSTONE CONCRETE UNITS.
- TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES (150 MM) IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING OR DISPLACING THE KEYSTONE UNITS OR GEOGRID.
- RUBBER Tired EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND TURNING SHALL BE AVOIDED.
- AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM THE WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

3.06 CAP INSTALLATION

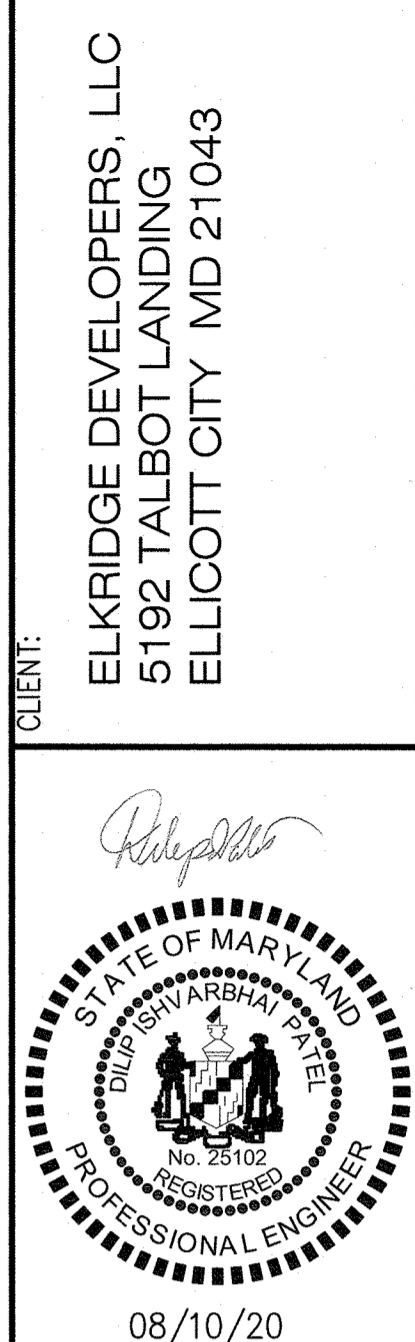
- PRIOR TO PLACEMENT OF THE CAP UNITS, THE UPPER SURFACE OF THE TOP COURSE OF WALL UNITS SHALL BE CLEANED OF SOIL AND ANY OTHER MATERIAL.
- CAP UNITS SHALL BE ADEQUATELY GLUED TO THE UNDERLYING WALL UNITS WITH AN ALL-WEATHER EXTERIOR CONSTRUCTION ADHESIVE.

3.07 AS-BUILT CONSTRUCTION TOLERANCES

- VERTICAL ALIGNMENT: ± 1.5 INCHES (40 MM) OVER ANY 10 FOOT (3 M) DISTANCE.
- WALL BATTER: WITHIN 2 DEGREES OF DESIGN BATTER. OVERALL WALL BATTER SHALL BE ? 0 DEGREES.
- HORIZONTAL ALIGNMENT: ± 1.5 INCHES (40 MM) OVER ANY 10 FOOT (3 M) DISTANCE.
- CORNERS AND CURVES: ± 1 FOOT (300 MM) TO THEORETICAL LOCATION.
- MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE ? 1/2 INCH (13 MM).

3.08 FIELD QUALITY CONTROL

- QUALITY ASSURANCE - THE OWNER SHALL/MAY ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION. THIS DOES NOT RELIEVE THE CONTRACTOR FROM SECURING THE NECESSARY CONSTRUCTION QUALITY CONTROL TESTING.
- QUALITY ASSURANCE SHOULD INCLUDE FOUNDATION SOIL INSPECTION AND TESTING AND VERIFICATION OF THE GEOTECHNICAL DESIGN PARAMETERS AND VERIFICATION THAT THE CONTRACTOR'S QUALITY CONTROL TESTING IS ADEQUATE AS A MINIMUM. QUALITY ASSURANCE SHALL ALSO INCLUDE OBSERVATION OF THE CONSTRUCTION FOR GENERAL COMPLIANCE WITH THE DESIGN DRAWINGS AND PROJECT SPECIFICATIONS. QUALITY ASSURANCE IS USUALLY BEST PERFORMED BY THE SITE GEOTECHNICAL ENGINEER.
- QUALITY CONTROL - THE CONTRACTOR SHALL ENGAGE INDEPENDENT INSPECTION AND TESTING SERVICES TO PERFORM THE MINIMUM QUALITY CONTROL TESTING DESCRIBED IN THE RETAINING WALL DESIGN PLANS AND SPECIFICATIONS. ONLY QUALIFIED AND EXPERIENCED TECHNICIANS AND ENGINEERS SHALL PERFORM QUALITY CONTROL TESTING AND INSPECTION SERVICES.
- QUALITY CONTROL TESTING SHALL INCLUDE SOIL AND BACKFILL TESTING TO VERIFY SOIL TYPES AND STRENGTHS, COMPACTION AND MOISTURE CONDITIONS AND VERIFICATION THAT THE RETAINING WALL IS BEING CONSTRUCTED IN ACCORDANCE WITH THE DESIGN PLANS AND SPECIFICATIONS.



CONSULTING ENGINEERS:
ENCO Structural Engineers, Inc.
7226 Lee DeForest Drive
Columbia, MD 21046
Tel: 410-955-8181
Email: info@encoengineers.com
www.encoengineers.com

SHEET TITLE: **GENERAL NOTES**
PROJECT: **ELKRIDGE CROSSING II SITE RETAINING WALLS**

NO	DATE	REVISION
1	06/04/20	CLIENT REVIEW
2	12/01/20	REV 1 CO COMMENTS
3	12/10/20	REV 2 CO COMMENTS
4	05/10/21	REV 3 PILE-LAGGING WALL
5	06/02/21	WALL E

PROJECT NO: 19864
ISSUE DATE: 08/10/21
DWG NO: 22 of 25

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* Date: 10/18/21

Chief, Development Engineering Division *[Signature]* Date: 10-18-21

Director - Department of Planning and Zoning *[Signature]* Date: 10-18-21

Owner
CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
5192 TALBOTS LANDING
ELLICOTT CITY, MARYLAND 21046
443-285-3802

Developer
ELKRIDGE DEVELOPERS, LLC
5192 TALBOTS LANDING
ELLICOTT CITY, MD 21046
443-285-9563

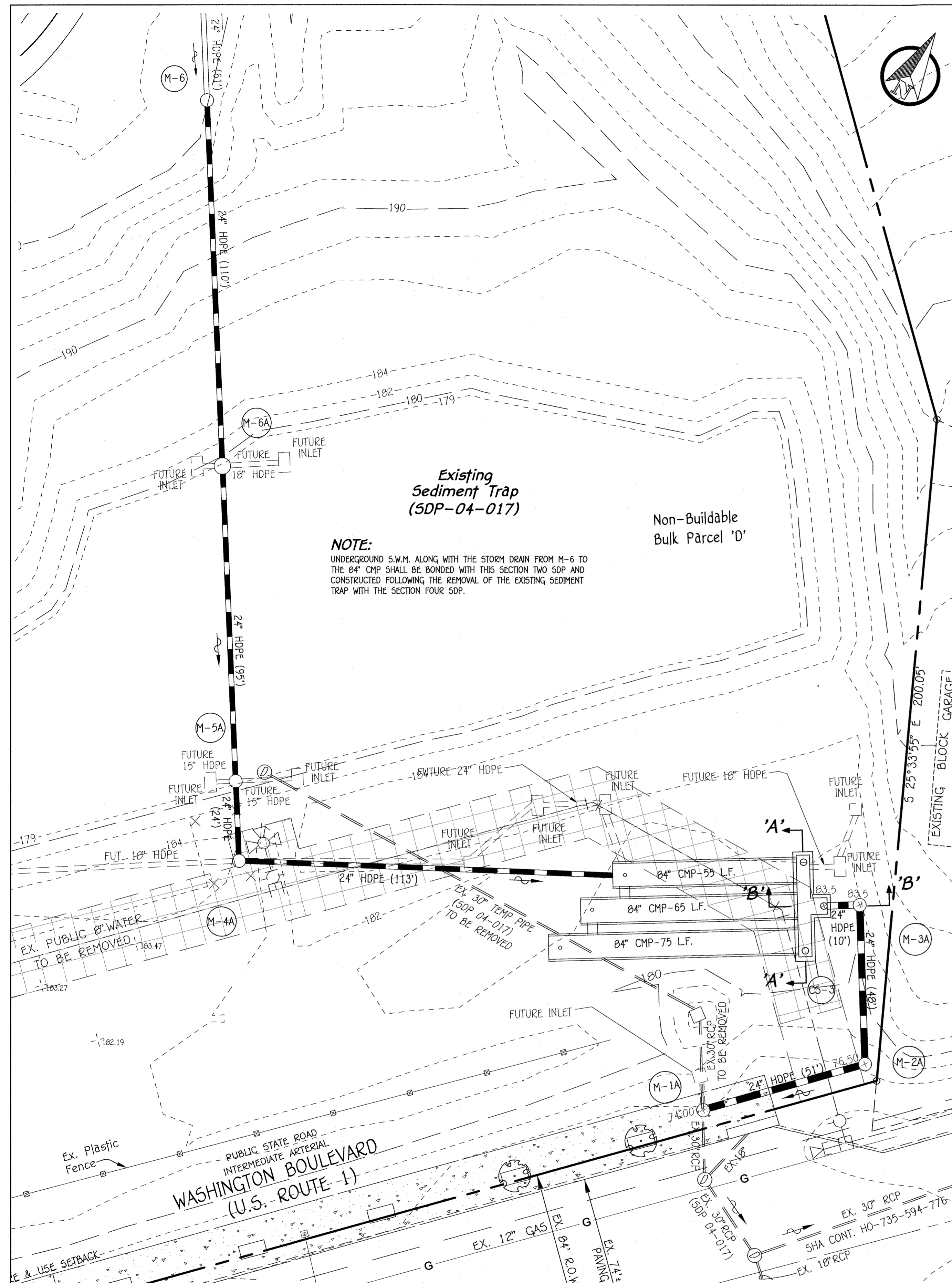
ELKRIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 79 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

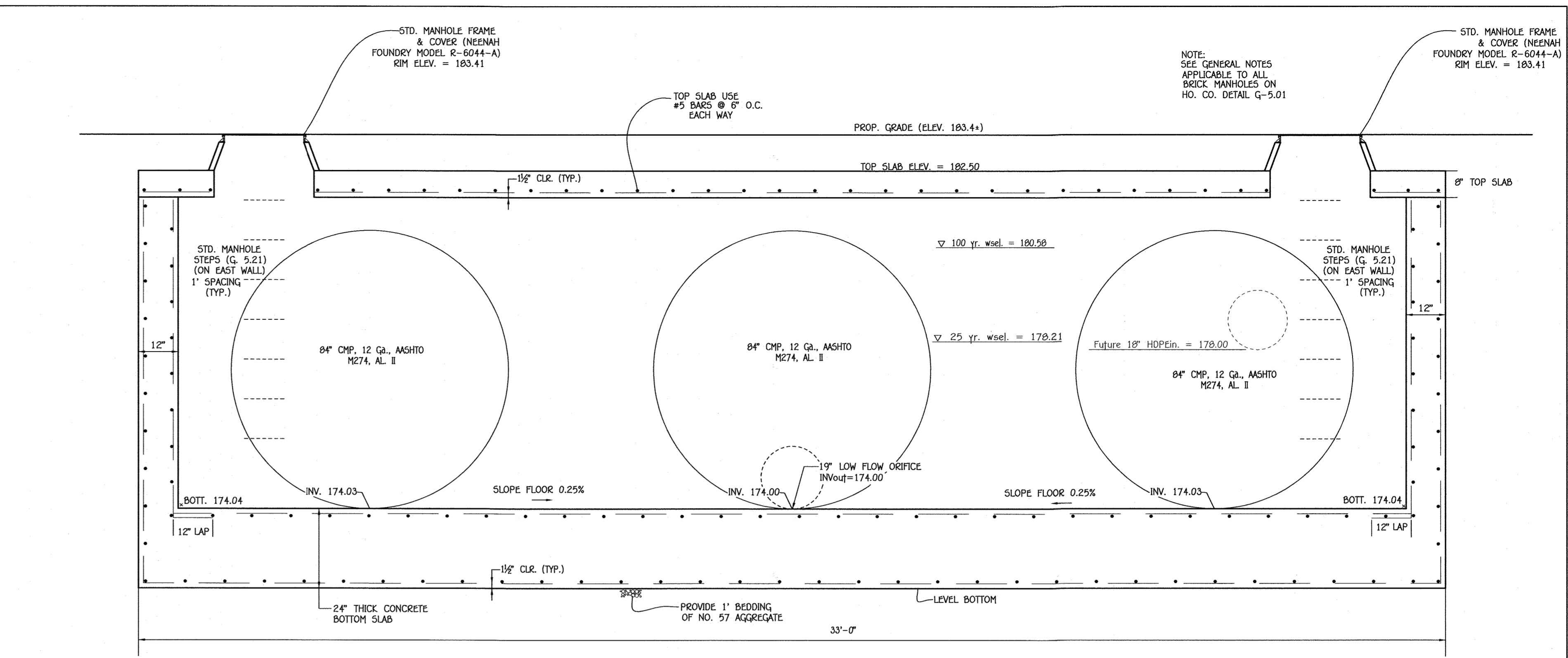
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCELS 'A' ", PLAT Nos. 25572 - 25576)

Zone: CAC-CU
Tax Map No: 38 Grid No: 20 Parcel No: 38
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 22 OF 25

I:\2018\1807\Engineering\Drawings\SDP (residential)\SDP-25DP-Name plate 2021\1807\Sheet 17-23 wall sheet.dwg, Model: 8/17/2021 12:18:22 PM, 11



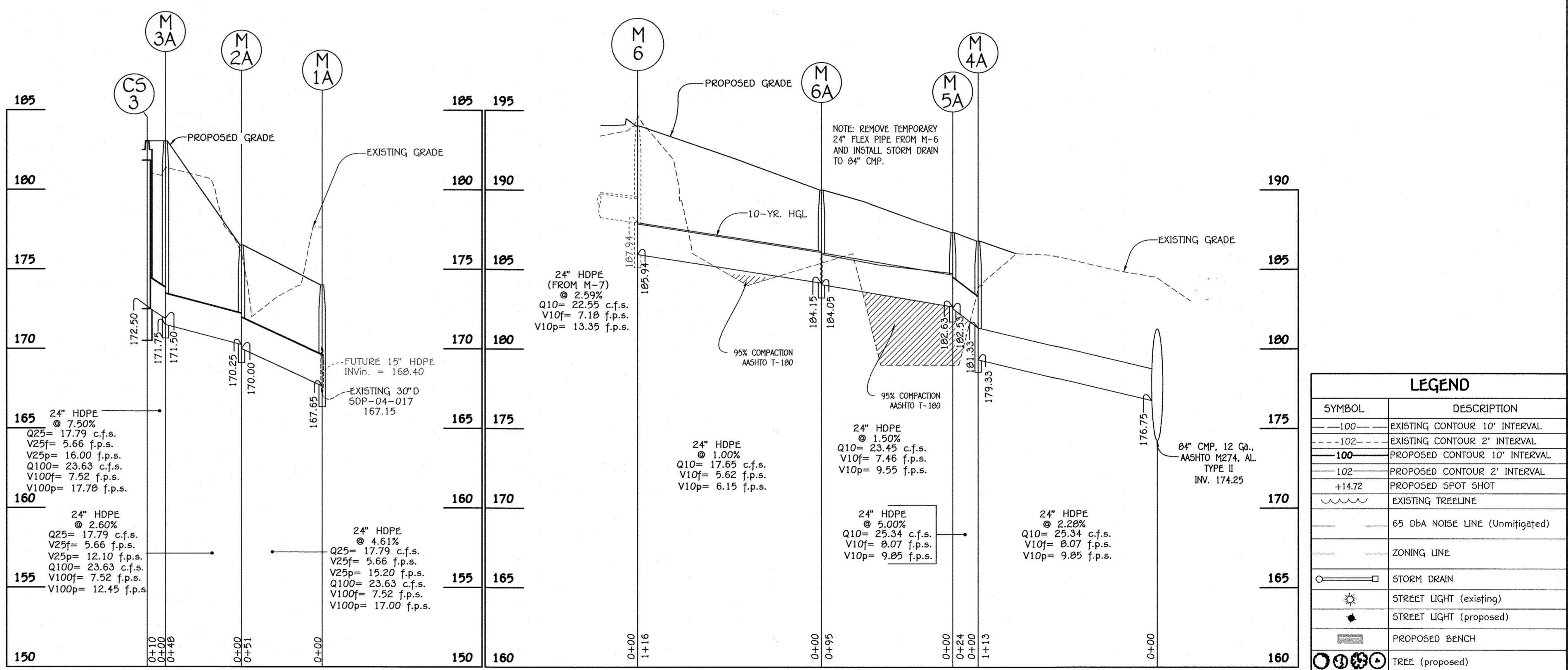
NOTE:
UNDERGROUND S.W.M. ALONG WITH THE STORM DRAIN FROM M-6 TO THE 84\"/>



CONTROL STRUCTURE (CS-3) SECTION 'A-A'

SCALE: 1" = 2'

NOTE: SEE SHEET 24 FOR SECTION 'B-B'



PROFILE CS-3 TO M-1
SCALE HORZ. 1" = 50'
VERT. 1" = 5'

PROFILE M-6 TO 84\"/>

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
+	PROPOSED SPOT SHOT
~	EXISTING TREELINE
---	65 DBA NOISE LINE (Unmitigated)
---	ZONING LINE
---	STORM DRAIN
---	STREET LIGHT (existing)
---	STREET LIGHT (proposed)
---	PROPOSED BENCH
---	TREE (proposed)
---	TREE (existing)
---	PROPOSED MAILBOX BANK
---	PROP. 1-1/2" or TWIN 1-1/2" WHC
---	PROP. 4" 5HC
---	5' CURB AND GUTTER TRANSITION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2895

Chief, Division of Land Development Date: 10/19/21

Chief, Development Engineering Division Date: 10/19/21

Director, Department of Planning and Zoning Date: 10/19/21

Owner
 CHETAN B. MEHTA, BENEFICIARY OF THE CHETAN MEHTA IRREVOCABLE TRUST
 5192 TALBOTS LANDING
 ELLICOTT CITY, MARYLAND 21046
 443-295-3892

Developer
 ELK RIDGE DEVELOPERS, LLC
 5192 TALBOTS LANDING
 ELLICOTT CITY, MD 21046
 443-295-9563

UNDERGROUND S.W.M. PLAN & DETAILS

ELKRIDGE CROSSING II SECTION TWO

LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'

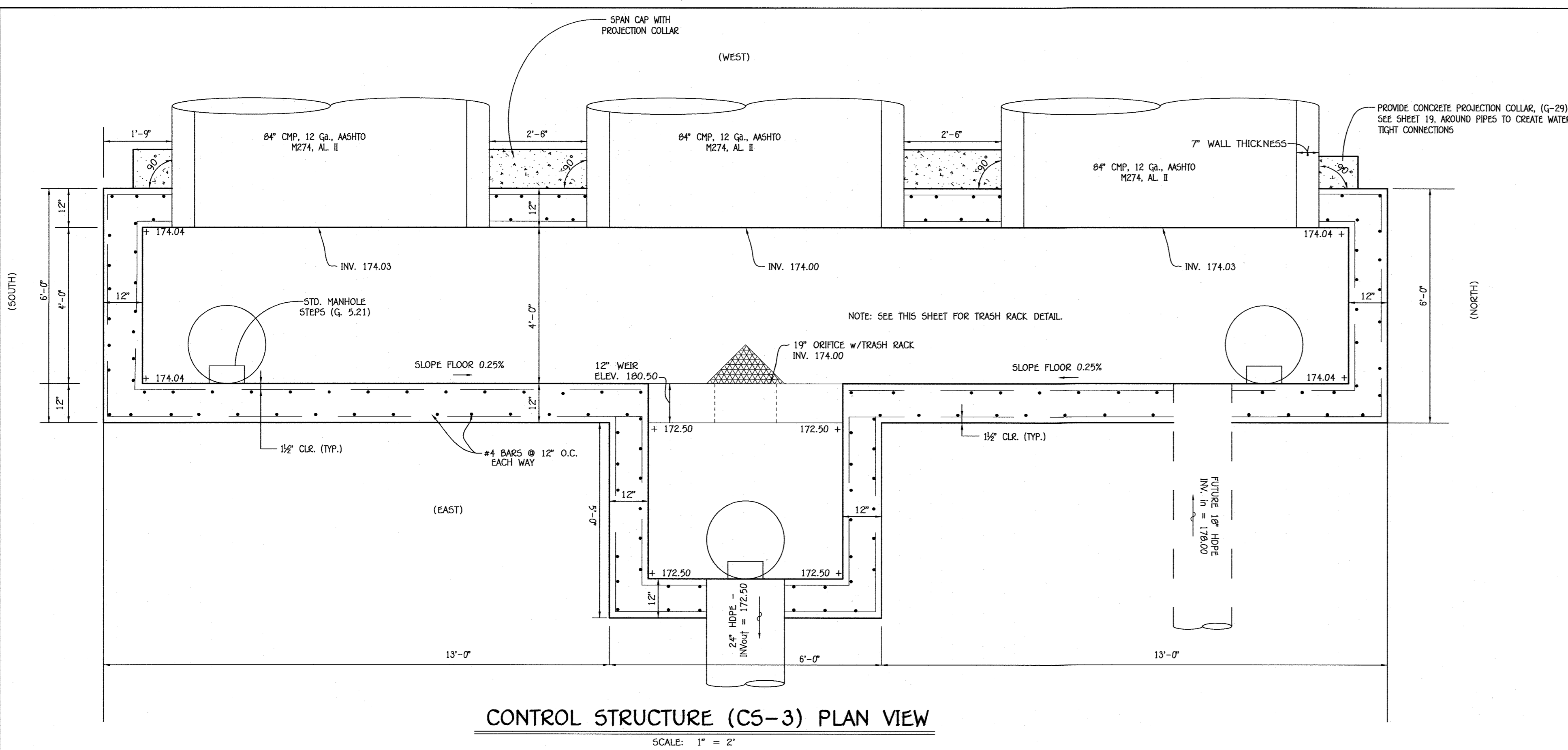
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED "ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT NOS. 25972 - 25976)

Zoned: CAC-CL1
 Tax Map No.: 38 Grid No.: 20 Parcel No.: 38
 First Election District: Howard County, Maryland

Scale: As Shown
 Date: August 5, 2021
 Sheet 23 of 25

NO.	REVISION	DATE

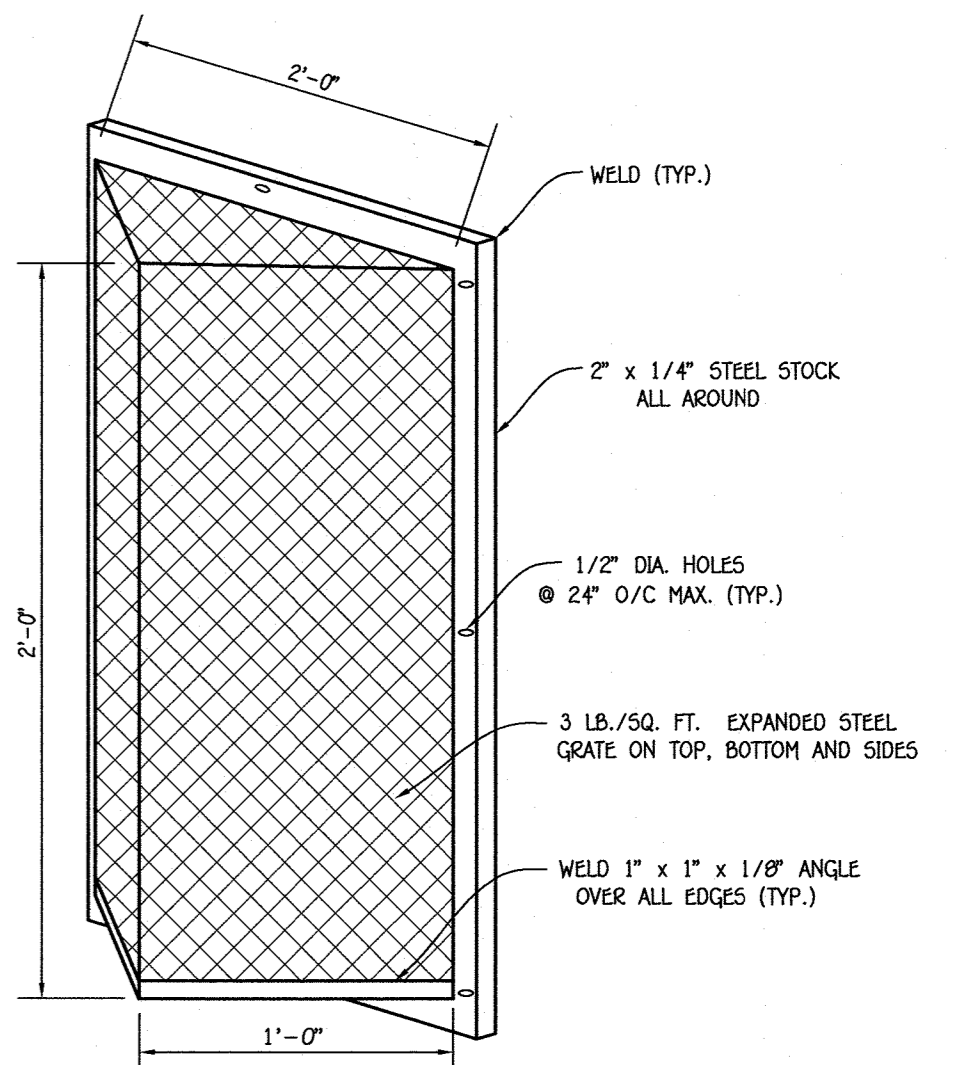
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
35777-23911	N/A	CAC-CL1	38	1st	601101



CONTROL STRUCTURE (CS-3) PLAN VIEW
SCALE: 1" = 2'

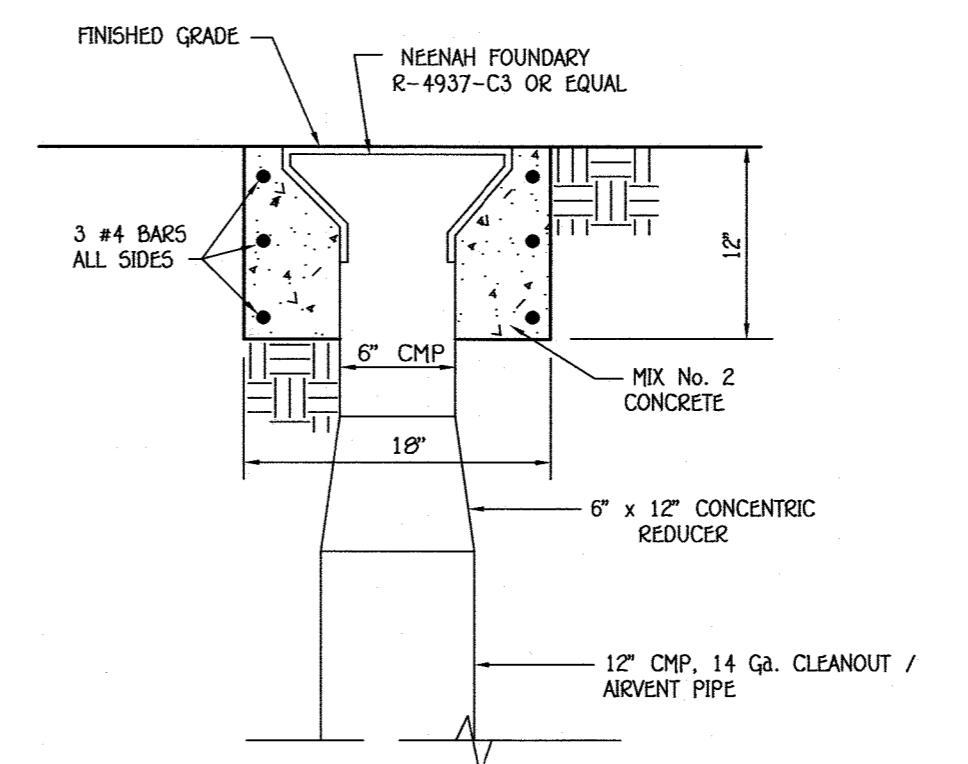
OPERATION AND MAINTENANCE SCHEDULE FOR H.O.A. OWNED AND MAINTAINED UNDERGROUND S.W.M. FACILITY

- A. H.O.A. ROUTINE MAINTENANCE RESPONSIBILITIES:**
1. THE UNDERGROUND S.W.M. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
 2. MAINTENANCE OF THE 84-INCH PIPES SHALL BE PERFORMED BY FLUSHING THE SYSTEM THROUGH THE CLEAN-OUTS PROVIDED AND BY VACUUMING AT MANHOLE CS-1. THE DISCHARGE ORIFICE OF THE UNDERGROUND S.W.M. FACILITY SHALL BE TEMPORARILY BLOCKED DURING SAID MAINTENANCE OPERATION.
 3. DISPOSAL OF MATERIAL SHALL BE IN ACCORDANCE WITH SIMILAR B.M.P. THAT RANGE FROM DISPOSAL IN A SANITARY LANDFILL TO INCINERATION IN A LICENSED FACILITY. PETROLEUM WASTE PRODUCTS SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.
- B. H.O.A. NON-ROUTINE MAINTENANCE:**
1. STRUCTURAL COMPONENTS OF THE UNDERGROUND FACILITY SUCH AS THE MANHOLES, PIPES AND ORIFICE SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT INSPECTION.
 2. PROBLEMS IDENTIFIED DURING INSPECTION WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS SHALL ALSO BE BROUGHT TO THE ATTENTION OF THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TO INSURE THAT PUBLIC SAFETY IS MAINTAINED. BLOCKED DURING SAID MAINTENANCE OPERATION.

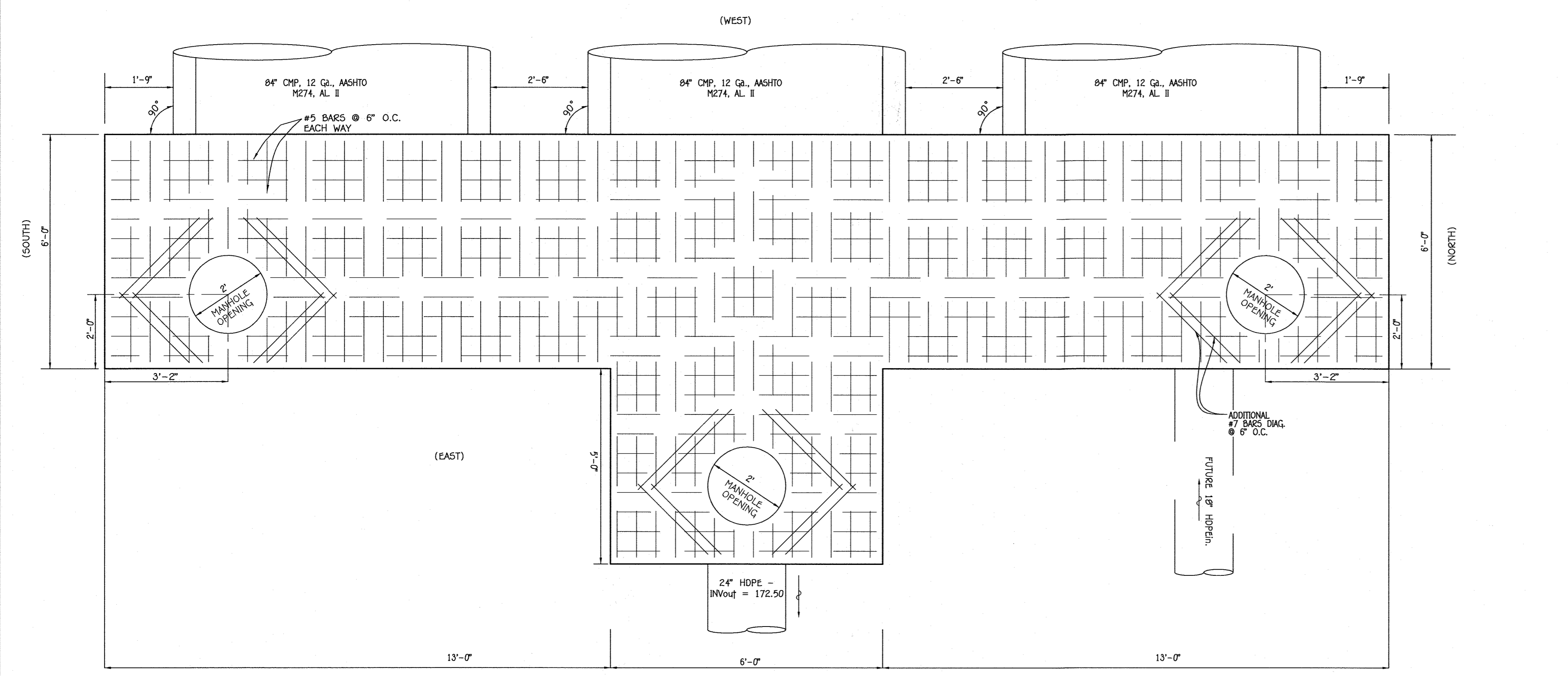


- NOTES:**
1. TRASH RACK TO BE CENTERED OVER OPENING.
 2. STEEL TO CONFORM TO ASTM A-36.
 3. ALL SURFACES TO BE COATED WITH ZINC COLD GALVANIZING COMPOUND AFTER WELDING.
 4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.

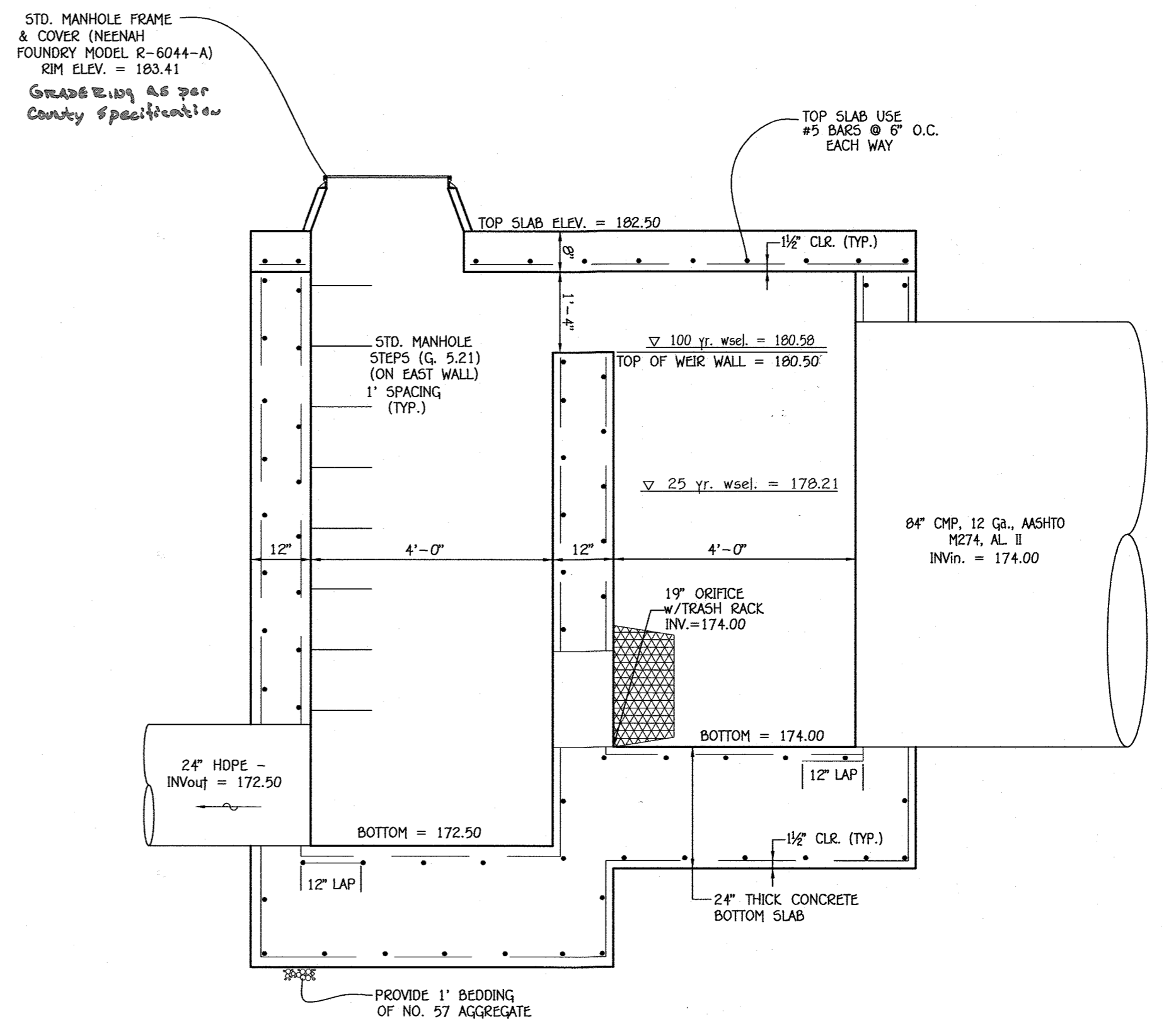
TRASH RACK DETAIL
NO SCALE



OBSERVATION WELLS CLEANOUT / AIR VENTS
NO SCALE



TOP SLAB DETAIL
SCALE: 1" = 2'



CONTROL STRUCTURE (CS-3) SECTION 'B-B'
SCALE: 1" = 2'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development
Date: 10/18/21

Chief, Development Engineering Division
Date: 10-13-21

Director - Department of Planning and Zoning
Date: 10-19-21



Owner
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ELLCOTT CITY, MARYLAND 21046
443-285-3802

Developer
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5192 TALBOTS LANDING
ELLCOTT CITY, MD 21046
443-285-9563

NO.		REVISION		DATE
SUBDIVISION	ELKRIDGE CROSSING II	SECTION	TWO	LOT Nos. 41-75
PLAT NO.	25871	BLOCK NO.	N/A	ZONE CAC-CU
	25871	TAX/ZONE	3B	ELEC. DIST. 1st.
				CENSUS TR. 601101

UNDERGROUND SWM DETAILS
ELKRIDGE CROSSING II
SECTION TWO
LOTS 41 THRU 75, OPEN SPACE LOTS 76 THRU 80 & NON-BUILDABLE BULK PARCELS 'B' THRU 'H'
(BEING A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AS SHOWN ON PLATS ENTITLED 'ELKRIDGE CROSSING II, SECTION ONE, LOTS 1 THRU 36, OPEN SPACE LOTS 37 THRU 40 & NON-BUILDABLE BULK PARCEL 'A', PLAT Nos. 25572 - 25576)

Zoned: CAC-CU
Tax Map No.: 3B Grid No.: 2D Parcel No.: 3B
First Election District: Howard County, Maryland
Scale: As Shown
Date: August 5, 2021
Sheet 24 Of 25

