

**REQUEST FOR COMMITTEE ACTION**

**HENDERSON COUNTY  
TECHINICAL REVIEW COMMITTEE**

**MEETING DATE:** May 18, 2021

**SUBJECT:** Combined Master and Development Plan for Big Hills at Horseshoe Major Subdivision (2021-M05)

**STAFF CONTACT:** Matt Champion, Zoning Administrator

**ATTACHMENTS:** 1. Staff Report  
2. Combined Master & Development Plan

**SUMMARY OF REQUEST:**

A subdivision application was submitted on behalf of property owners Big Hills Construction, LLC on April 29, 2021 by Art Bayluk. The application is for a Master and Development Plan for Big Hills at Horseshoe Major Subdivision, consisting of 34 lots for single family dwellings and 4,717 linear feet of new private roadway. The subject area is located off Brannon Road (SR1319) and contains 49.81 acres in two separate parcels (PIN: 9529-59-5596 & 9529-68-1993).

**TECHNICAL REVIEW COMMITTEE ACTION REQUESTED:**

Staff has found that the Master and Development Plan meet the standards of the subdivision regulations of Chapter 42, Henderson County Land Development Code (LDC). Staff recommends the Master Plan and Development Plan be subject to the developer addressing any issues raised by the TRC and addressing the comments listed in the Staff Report.

**Suggested Motion:**

I move that the TRC approve, approve with conditions, or deny the Master and Development Plan based on the Henderson County Land Development Code and recommendations of the Henderson County Comprehensive Plan and any conditions in the staff report or as discussed by the TRC.

**Henderson County Planning Department Staff Report**

**Combined Master and Development Plan  
Big Hills at Horseshoe (2021-M05)**

**Property Owner(s): Big Hills Construction, LLC (Peter Radchisin)  
Applicant and Agent: Art Bayluk  
PINs: 9529-59-5596 and 9529-68-1993**

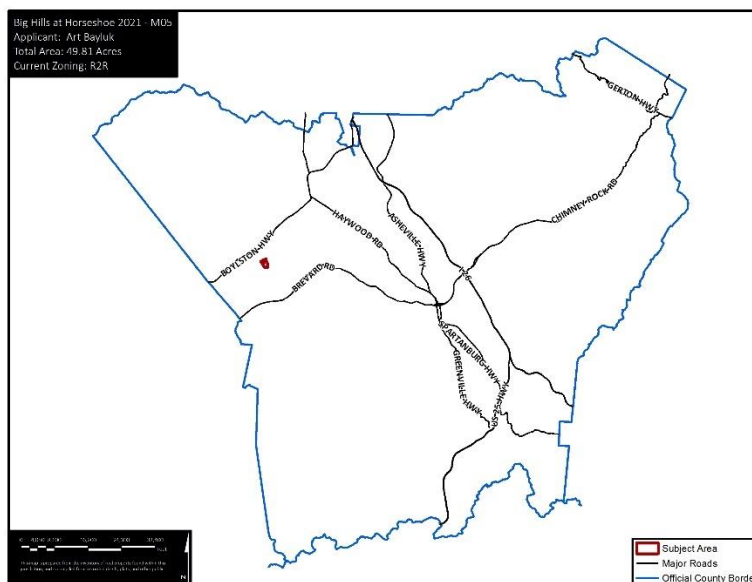
**Master & Development Plan Comments:**

According to Chapter 42, Henderson County Land Development Code (LDC) §42-341), the purpose of a Master Plan is to provide general information about the proposed development to allow for an assessment of its impact on the orderly growth and development of the County, environmental quality, land values, natural features identified on the site analysis sketch and the County’s roads and governmental services. During the review of the Combined the Master and Development Plan, the Technical Review Committee should take into consideration: applicable recommendations of the *Henderson County Comprehensive Plan*, the potential use of the land to be subdivided, and the impact of the subdivision and proposed use whether residential, commercial or industrial.

When reviewing the Combined Master and Development Plan it is important to consider that, due to severe topographic conditions, inadequate road access, distance from services, unique natural areas, soils that do not easily support soil drainage systems and/or the proximity to existing and incompatible land uses/zoning, all land may not be suitable to be subdivided for the purpose of dense development (LDC §42-75).

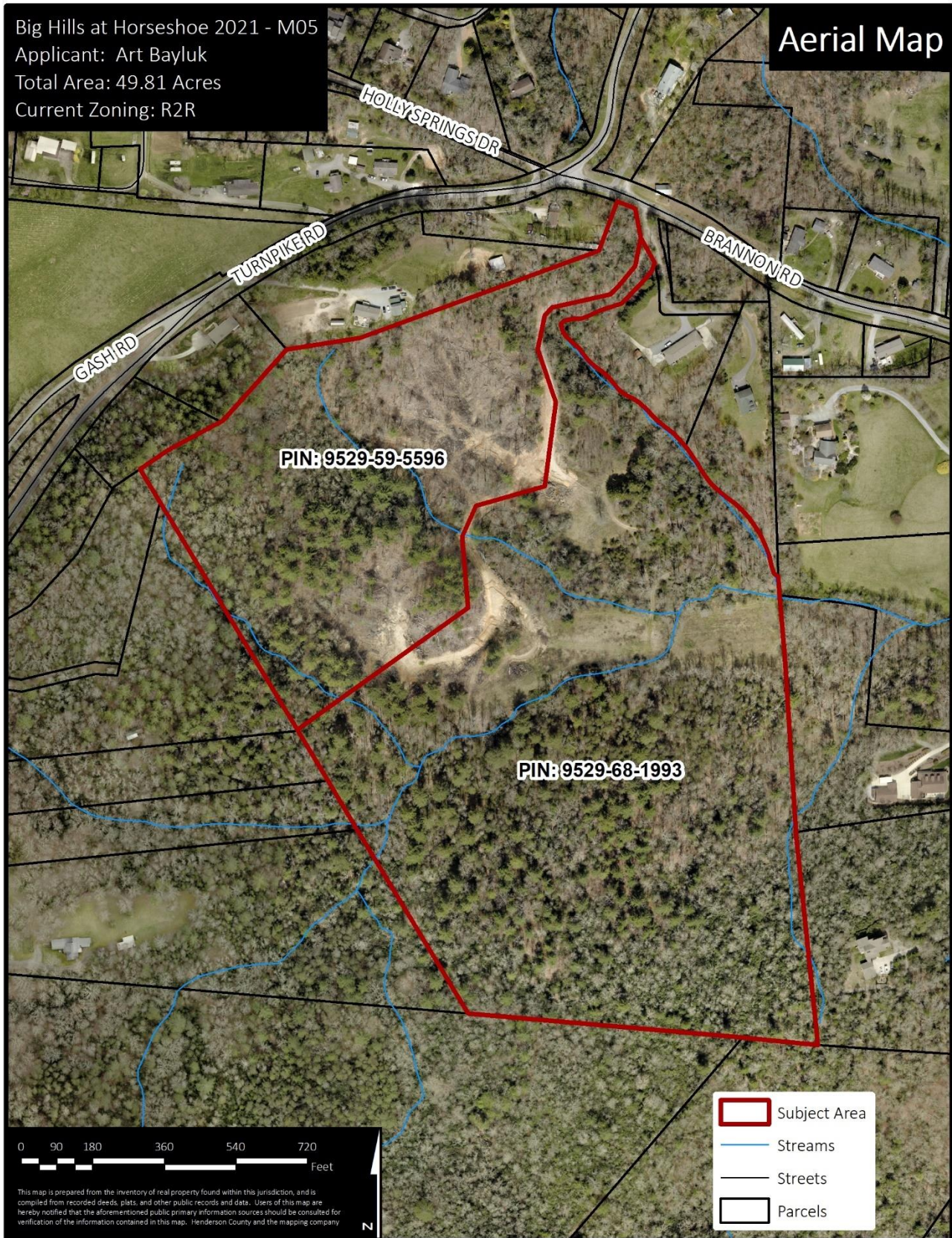
Staff has reviewed the submitted revised Combined Master and Development Plan for Big Hills at Horseshoe Major Subdivision, taking into consideration the recommendations of the *Henderson County Comprehensive Plan* and reviewing the plan for conformance with Henderson County Land Development Code. Staff offers the following comments:

**Map A: County Context**



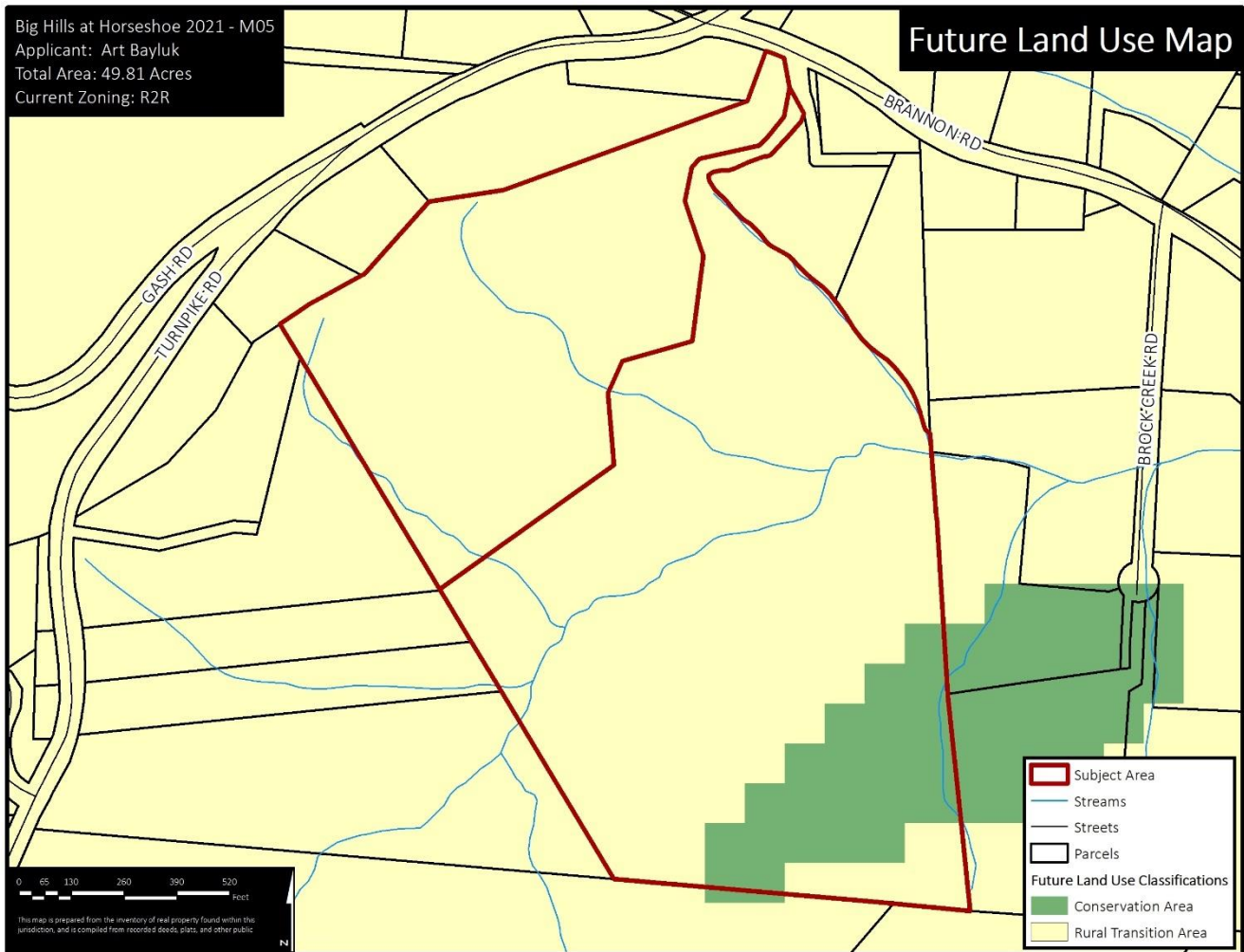


### Map B: Aerial Imagery



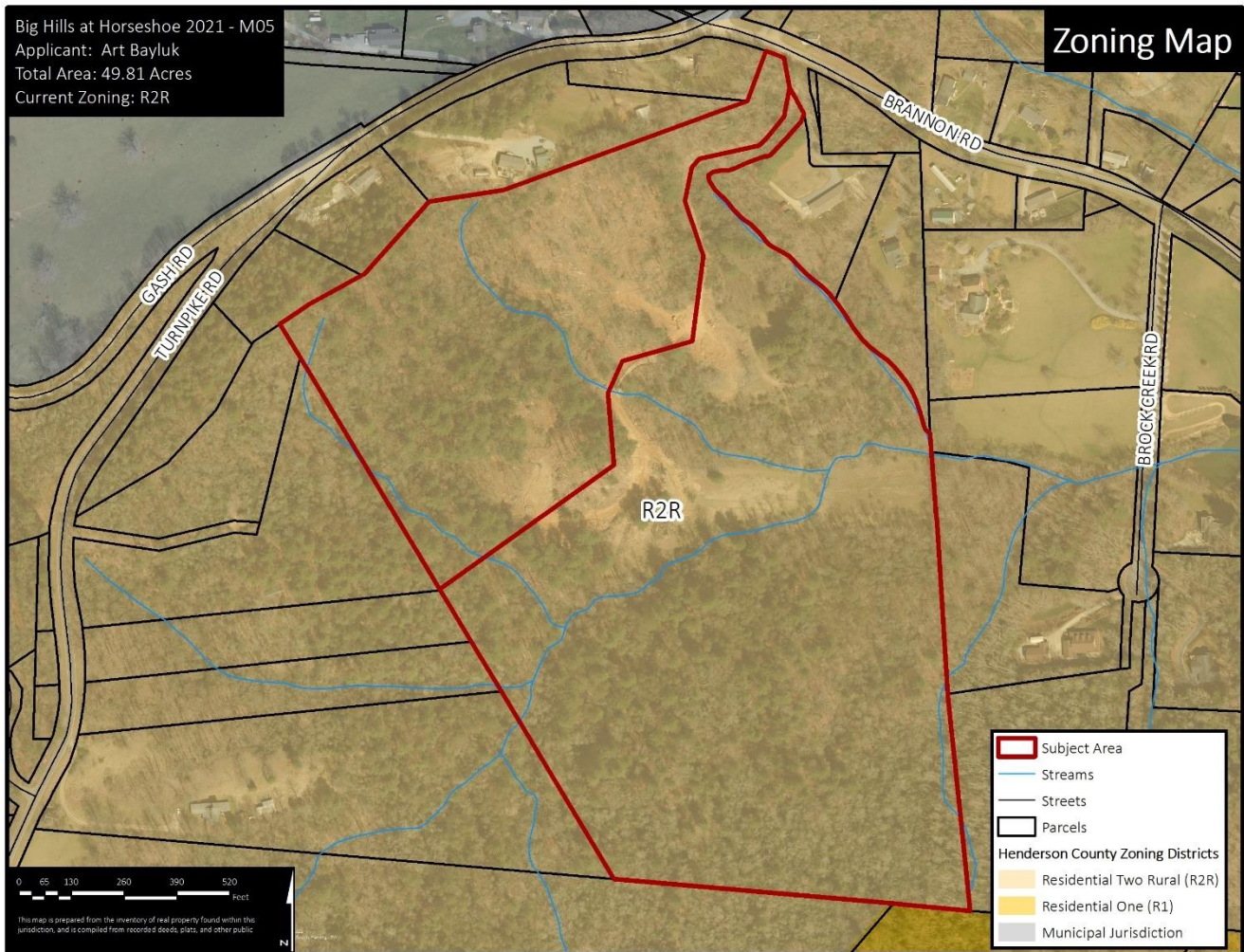


**Map C: County Comprehensive Plan Future Land Use Map**



1. **Henderson County Comprehensive Plan (CCP).** The Future Land Use Map of the CCP shows the Subject Area as being located within an area of Conservation with some Rural Agriculture Area within it.
  - a. **Conservation Area:** “This category includes land areas that are intended to remain largely in their natural state, with only limited development. Such areas should be targeted for protection through regulations and incentives.”
  - b. **Rural Transition Area:** “The RTA is currently rural in character, with existing pockets of limited higher density residential and commercial development. Slopes vary across the RTA, although the area can be considered generally developable. The primary factor preventing urban development in the RTA is the absence of sewer and water service. The RTA will continue to experience extensive development over the operational timeframe of this Comprehensive Plan.”
    - i. Population and residential densities should be generally lower than the more urban population densities found within the USA and should be generally in keeping with topography, septic limitations, and school and transportation capacities.

**Map D: Official Zoning Map**

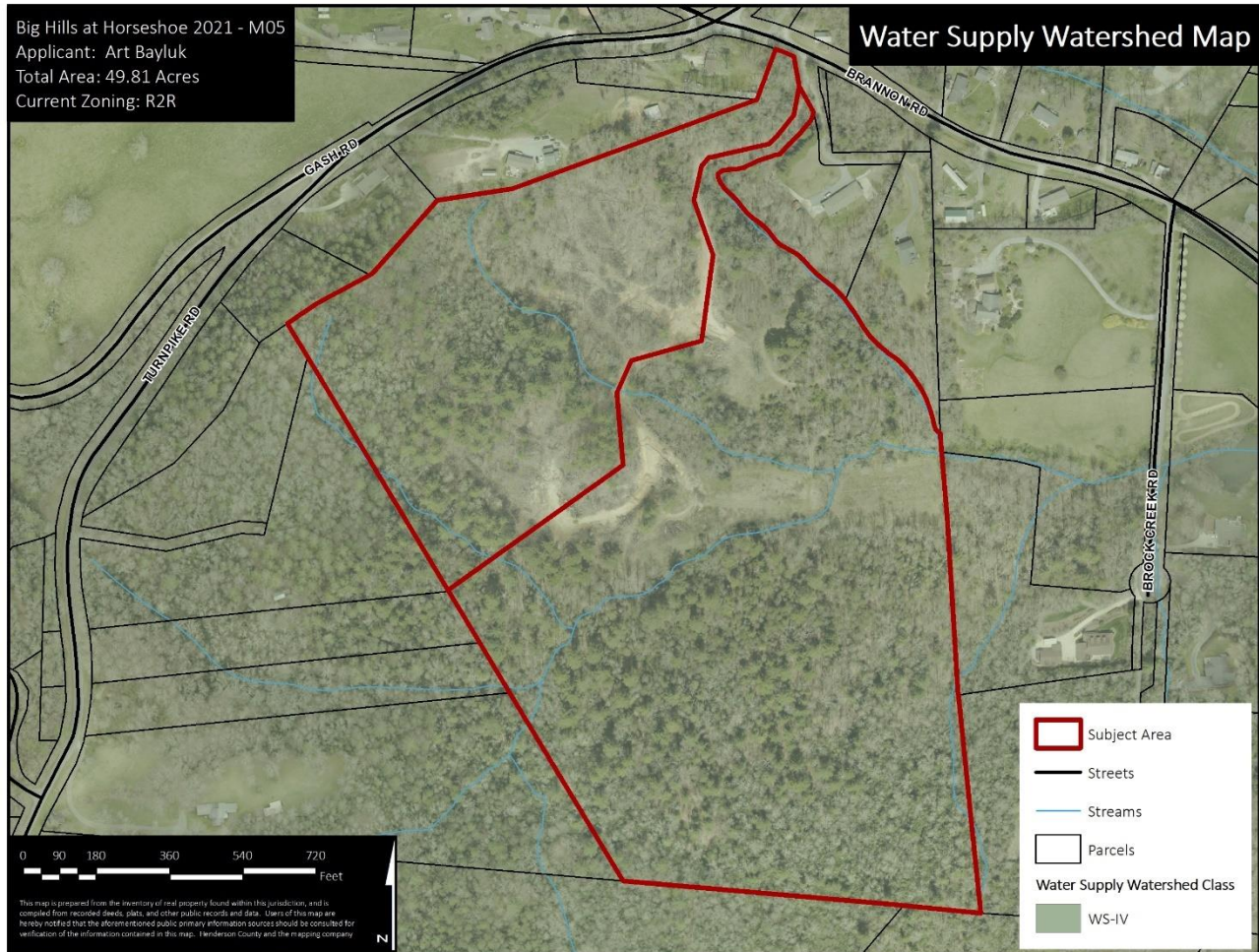


2. **Chapter 42, Henderson County Land Development Code (LDC).** According to Chapter 42, Henderson County Land Development Code (LDC) and its Official Zoning Map adopted September 19, 2007 (as amended). The proposed project site is located within the Residential Two Rural (R2R) Zoning District.
  - a. **Residential Two Rural (R2R):** “The purpose of Residential Two Rural (R2R) is to foster orderly growth where the *principal use* of land is residential. The intent of this district is to allow for *residential development* and rural commercial and light industrial development consistent with the recommendations of the *Comprehensive Plan*. This general *use district* is typically meant to be utilized in areas designated as Rural Transitional Area (RTA) in the *Comprehensive Plan*.
    - i. R2R allows for a standard density of 1 unit per acre. The overall density for the proposed Big Hills at Horseshoe Subdivision is 0.60 units per acre.
  
3. **Water and Sewer Availability.** The applicant proposes the use of individual water and septic systems for each lot in the subdivision. Applicant has presented a draft report of findings from a preliminary soil investigation. Approximately 11,000’ to public water and 16,500’ to public sewer.



4. **Road System:** The subdivision will be served by private roads built in accordance with the Subdivision Local Road standards required in the LDC. The total linear footage of new roads proposed is 4,717.33 linear feet. Road profiles on the attached plan specify that the maximum grade does not exceed 18% on any of the proposed roads. There are four (4) roads proposed a road surface width of 18' with 4' shoulders. The applicant will be required to submit a list of proposed road names to the Property Addressing Coordinator for all proposed new roads. The entrance road, Brannon Road, is a state maintained, SR 1319.

**Map E: Water Supply Watershed Map**



5. **Water Supply Watershed:** The project site is located within the Upper French Broad River, WS-IV Protected Area. This classification allows a maximum built upon limit of 24% under the low-density option.
  - a. The site has multiple perennial and intermittent surface water sources. The applicant is required to setback 30' from the top of the bank on both sides of all surface waters.
6. **Total Project Proposal Summary:**
  - 30 single-family lots
  - Overall density of 0.60 units/acre
  - Smallest lot is 35,969.26SQFT and largest lot is 3.32 acres

- 13.40% Open Space on 4 Lots (6.69 acres)
- 4,717.33LF of private roads
- Individual well and septic systems
- Total Disturbance of 9.95 acres
- 6.55 acres of Impervious Surfaces Post Development
- Gated Entrance

### **Master & Development Plan Comments:**

1. **Soil Erosion and Sedimentation Control Plan.** The Applicant shall submit written notice from the appropriate local agencies verifying that an Erosion and Sedimentation Control Plan has been received or a written notice from a professional land surveyor, engineer, landscape architect, architect, or professional planner certifying that no plan is required (LDC §42-95B).
2. **Water Quality.** The Applicant shall submit written notice from the appropriate local agencies verifying that a Stormwater Management Permit has been received or is not required (LDC §42-95E).
3. **Private Roads.** Private roads shall be constructed in accordance with the Private Subdivision Local Road standards stated in Chapter 42 (LDC§42-109). Additionally, subdivisions of 35 or more lots shall provide a minimum of two entrance roads. The second entrance road may be specifically waived by the approving authority where unique circumstances exist (LDC §42-95A (1)).
4. **Shoulder Stabilization.** All areas disturbed by the construction of a public road, including cut and fill slopes, shoulders and ditch banks, shall be seeded to stabilize the soil and prevent erosion. Seeding should be done as soon as feasible after road construction (LDC §42-102).
5. **Road Drainage, Culverts and Shoulder Stabilization.** Road or drainage structures shall be constructed in accordance with state roads standards. Road drainage side ditches shall be constructed with sufficient depth and width to carry the expected volume of storm water runoff (LDC §42-100). All areas disturbed by the construction of a public road, including cut and fill slopes, shoulders and ditch banks, shall be seeded to stabilize the soil and prevent erosion. Seeding should be done as soon as feasible after road construction (LDC §42-105).
6. **Road Name Approval.** Proposed road names for a private and/or public road shall be preapproved by Henderson County in accordance with Chapter 42 of the Henderson County Code, Property Addressing (LDC §42-103). The names of the proposed roads and easements should be confirmed with the development plan approval.
7. **Road Name Signs and Regulatory Signs.** Road name signs and regulatory signs shall be provided in accordance with Chapter 142 of the Henderson County Code. Road name signs and regulatory signs must be acquired and installed prior to final plat approval (LDC §42-104).
8. **Street Tree Requirements.** According to the street tree requirements of Chapter 42 (LDC §42-95H) the applicant must provide one tree per 50 linear feet of property abutting an internal road. Trees may be placed in groups with a minimum spacing of no less than 15 feet and a maximum spacing of no more than 65 feet. The trees may be placed within the right-of-way or within 20 feet

of the edge of the right-of-way. The applicant may use existing trees in accordance with LDC §42-185 instead of planting new trees. These existing trees must also be located within the right-of-way or 20 feet off the edge of the right-of-way as required by LDC §42-185.

9. **Perennial and Intermittent Surface Water Buffer.** All built-upon area shall be a minimum of 30 feet landward of all perennial and intermittent surface water, as defined in LDC §42-251.
10. **Miscellaneous Advisory Provisions.** The Applicant should become familiar with the Miscellaneous Advisory Provisions of Chapter 42 (LDC §42-87).
11. **Final Plat Requirements.** The Final Plat(s) must meet the requirements provided by the Planning Department whenever a subdivision of land occurs (LDC §42-343).

# Site Development Plan For Big Hills at Horseshoe

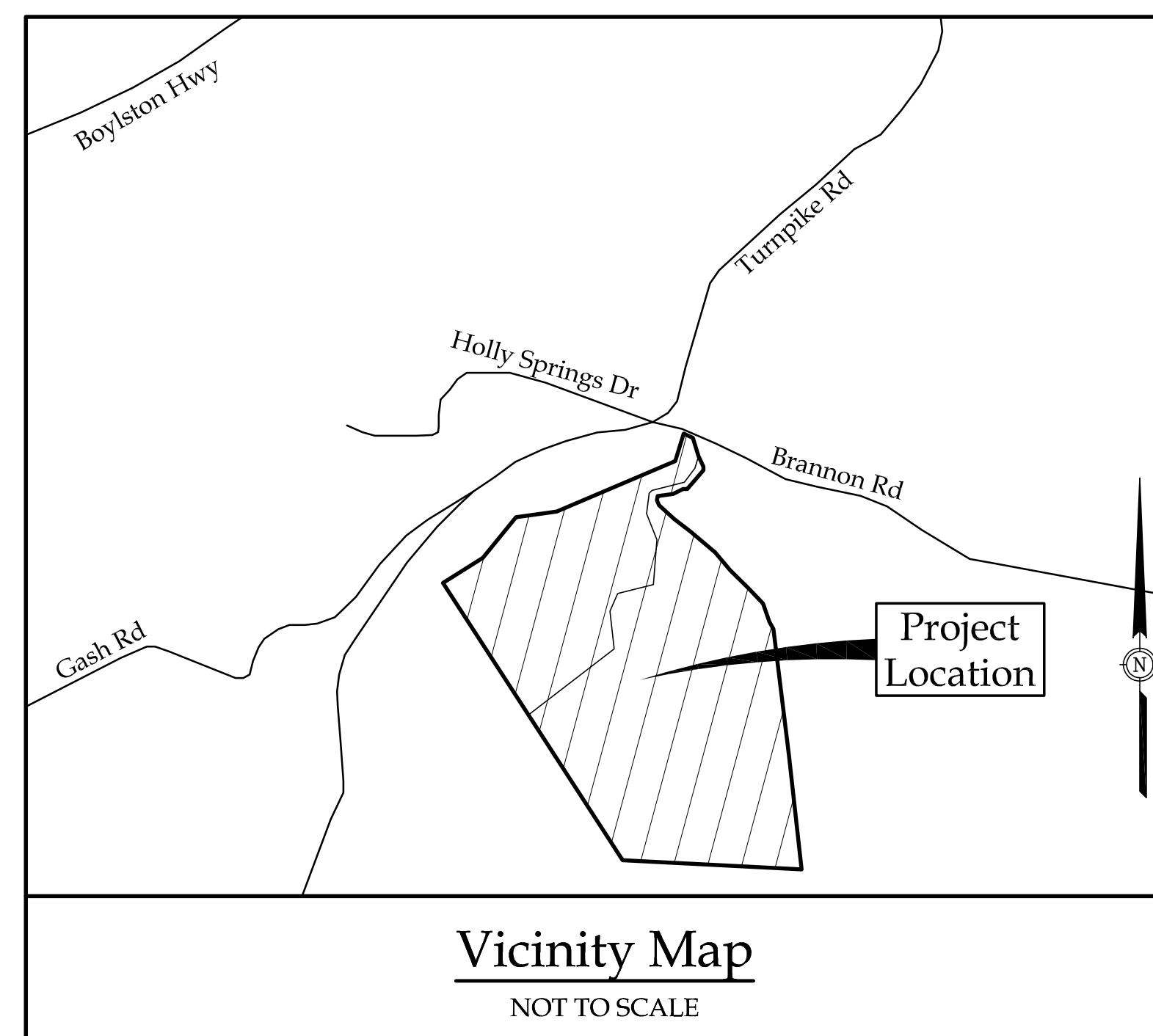
## HENDERSON COUNTY, NORTH CAROLINA

### Index of Drawings

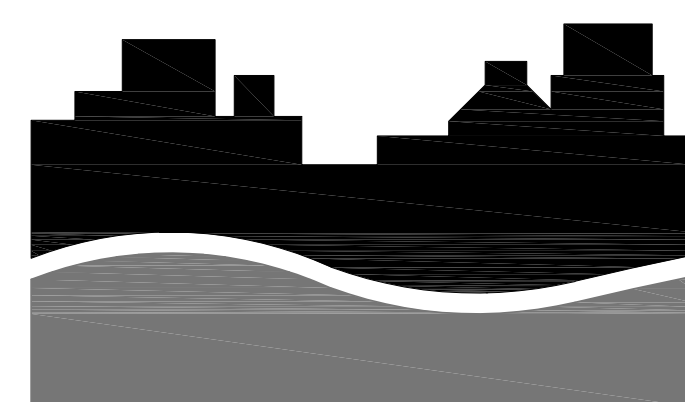
Owner/Developer: Big Hills Construction, LLC

Contact: Art Bayluk  
828.242.1879  
120 Dogwood Road  
Candler, NC 28715

PIN: 9529-59-5596  
9529-68-1993



G1.	Cover Sheet	D1.	Details
C1.	Existing Conditions	D2.	Details
C2.	Overall Layout	D3.	Details
C3.	Layout	D4.	Details
C4.	Layout	D5.	Details
C5.	Overall Grading, Stormwater, and Erosion Control	D6.	Details
C6.	Grading, Stormwater, and Erosion Control	D7.	Details
C7.	Grading, Stormwater, and Erosion Control	D8.	Details
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C10.	Overall Landscaping	D11.	NCG01 Details
C11.	Landscaping	D12.	NCG01 Details
C12.	Landscaping	S1.	Slope Map
		S2.	Slope Map (11x17)



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April 29, 2021

Revision	Date	Description

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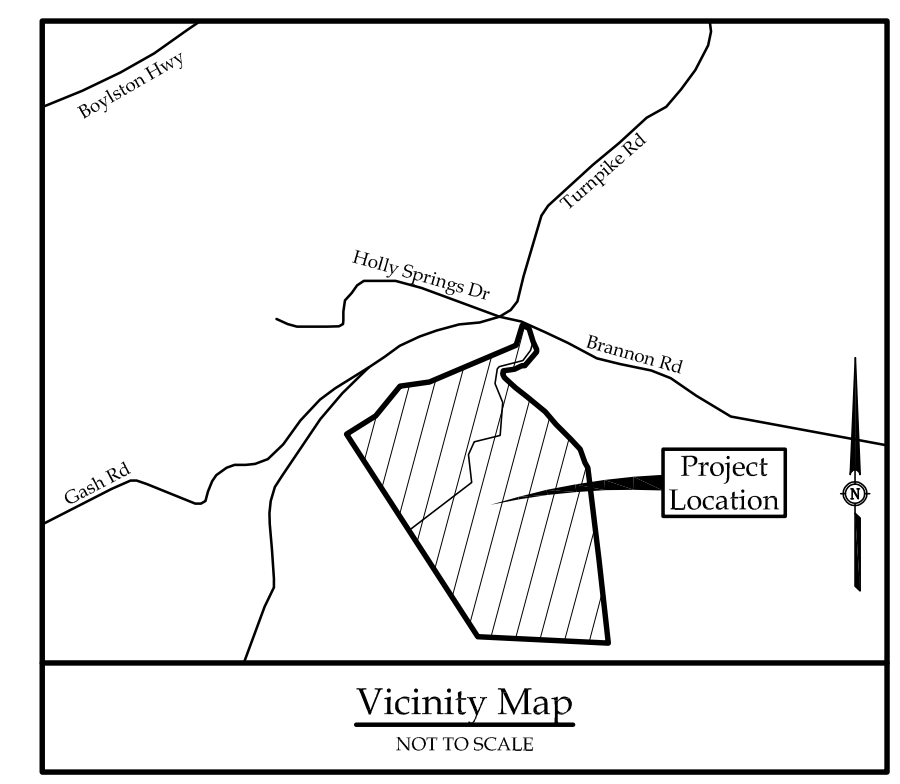


Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

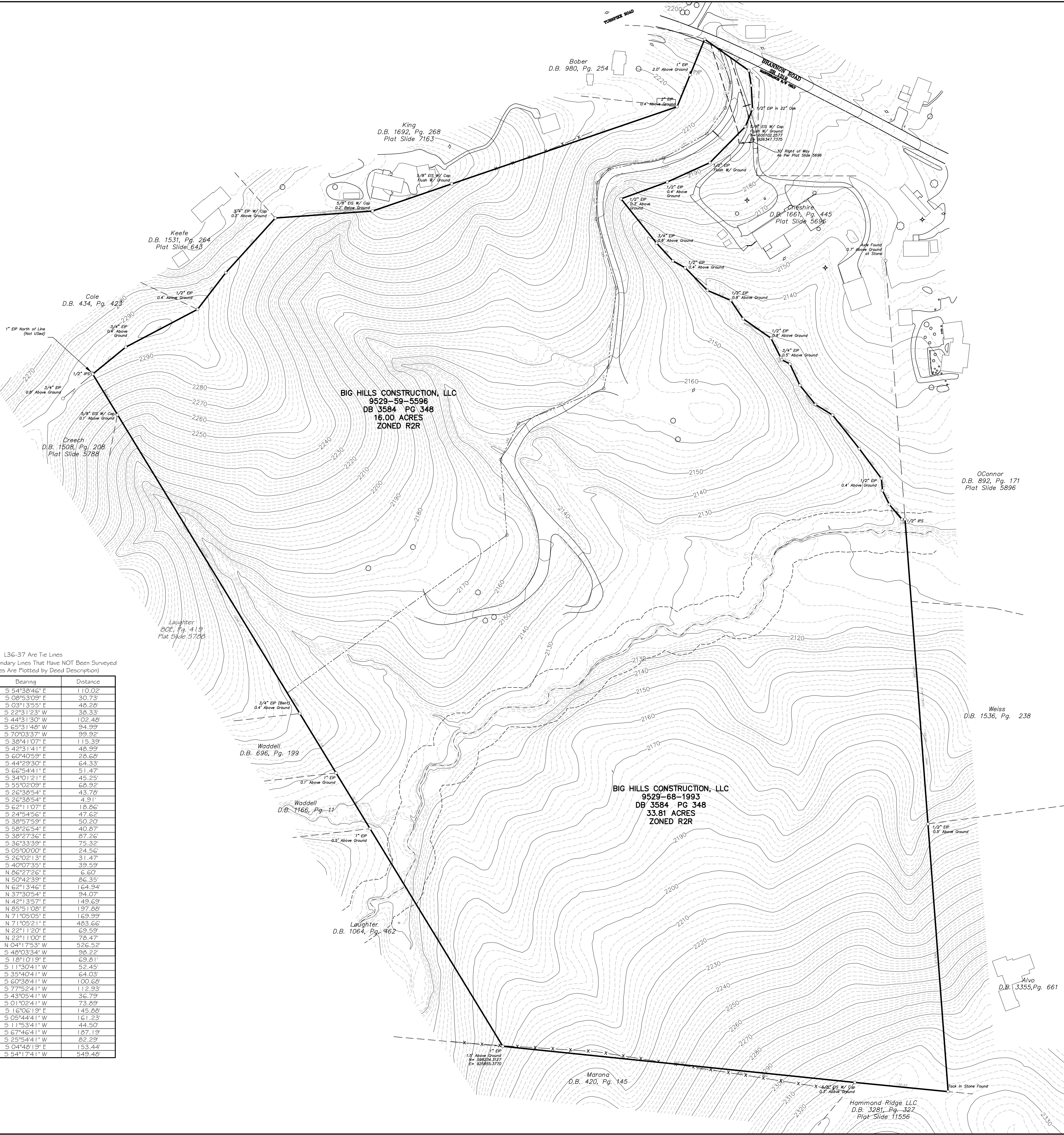
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 Date: April 29, 2021  
 Scale: 1"=100'  
 Revision:

Existing Conditions

Sheet  
**C1**

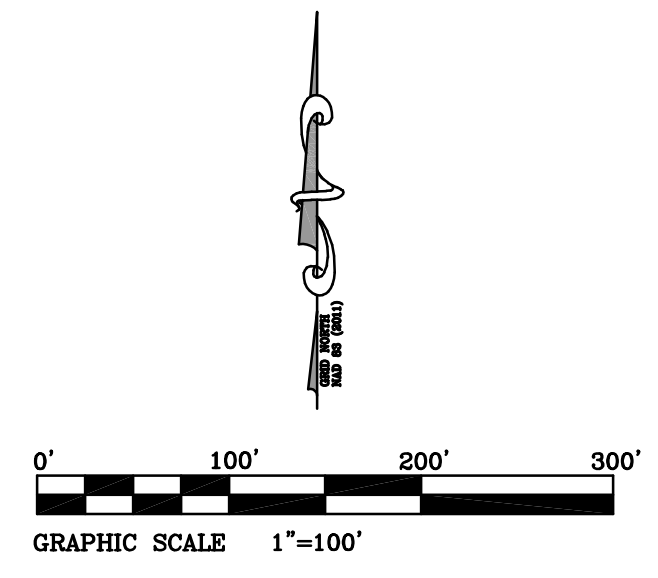


DEVELOPMENT DATA BLOCK	
OWNER/DEVELOPER:	BIG HILLS CONSTRUCTION, LLC
CONTACT:	ART BAYLUK
PHONE:	828.242.8759
ADDRESS:	120 DCG WOOD ROAD CANULUR, NC 28745
PIN:	9529-59-5596, 9529-68-1893
PHYSICAL ADDRESS:	ADJACENT TO: 2777 BRANNON ROAD HICKS, NC 28742
PROPERTY SIZE:	49.81 AC. (TOTAL)
ZONING DISTRICT:	R2R



L36-37 Arc Tie Lines  
 L38-151 Area Boundary Lines That Have NOT BEEN Surveyed  
 (Dashed Lines Are Plotted by Deed Description)

Course	Bearing	Distance
L1	S 54°38'46" E	110.02'
L2	S 06°53'09" E	30.73'
L3	S 03°13'55" E	40.28'
L4	S 22°31'23" W	38.33'
L5	S 44°31'30" W	102.48'
L6	S 65°31'40" W	94.99'
L7	S 70°03'37" W	99.92'
L8	S 38°41'07" E	115.39'
L9	S 42°31'41" E	48.99'
L10	S 60°40'59" E	28.62'
L11	S 44°29'30" E	64.33'
L12	S 66°54'41" E	91.47'
L13	S 34°01'21" E	45.25'
L14	S 55°02'09" E	68.92'
L15	S 26°38'54" E	43.78'
L16	S 26°38'54" E	4.91'
L17	S 62°11'07" E	18.86'
L18	S 24°54'56" E	47.62'
L19	S 38°57'59" E	50.20'
L20	S 58°26'54" E	40.87'
L21	S 38°27'36" E	87.26'
L22	S 36°33'39" E	75.32'
L23	S 05°00'00" E	24.56'
L24	S 26°02'13" E	31.47'
L25	S 40°07'35" E	39.59'
L26	N 86°27'26" E	6.60'
L27	N 50°42'39" E	86.35'
L28	N 62°13'46" E	164.94'
L29	N 37°30'54" E	94.07'
L30	N 42°13'57" E	149.63'
L31	N 85°11'09" E	197.88'
L32	N 71°05'05" E	169.99'
L33	N 71°05'21" E	483.66'
L34	N 22°11'20" E	69.59'
L35	N 22°11'00" E	78.47'
L36	N 04°17'53" W	326.52'
L37	S 48°03'34" W	98.22'
L38	S 18°10'19" E	69.81'
L39	S 11°30'41" W	52.45'
L40	S 39°40'41" W	64.03'
L41	S 60°36'41" W	100.68'
L42	S 77°52'41" W	112.93'
L43	S 43°05'41" W	36.79'
L44	S 01°02'41" W	73.89'
L45	S 16°06'19" E	145.88'
L46	S 05°44'41" W	161.23'
L47	S 11°53'41" W	44.50'
L48	S 67°46'41" W	187.19'
L49	S 25°54'41" W	82.29'
L50	S 04°48'19" E	153.44'
L51	S 54°17'41" W	549.48'









LOT LINE DATA		
LINE	BEARING	DISTANCE
L1	S 22°-50'-55" E	6.19'
L2	S 59°-26'-13" W	6.33'
L3	N 22°-50'-55" W	6.19'
L4	N 48°-50'-52" E	0.45'
L5	S 48°-50'-52" W	0.40'

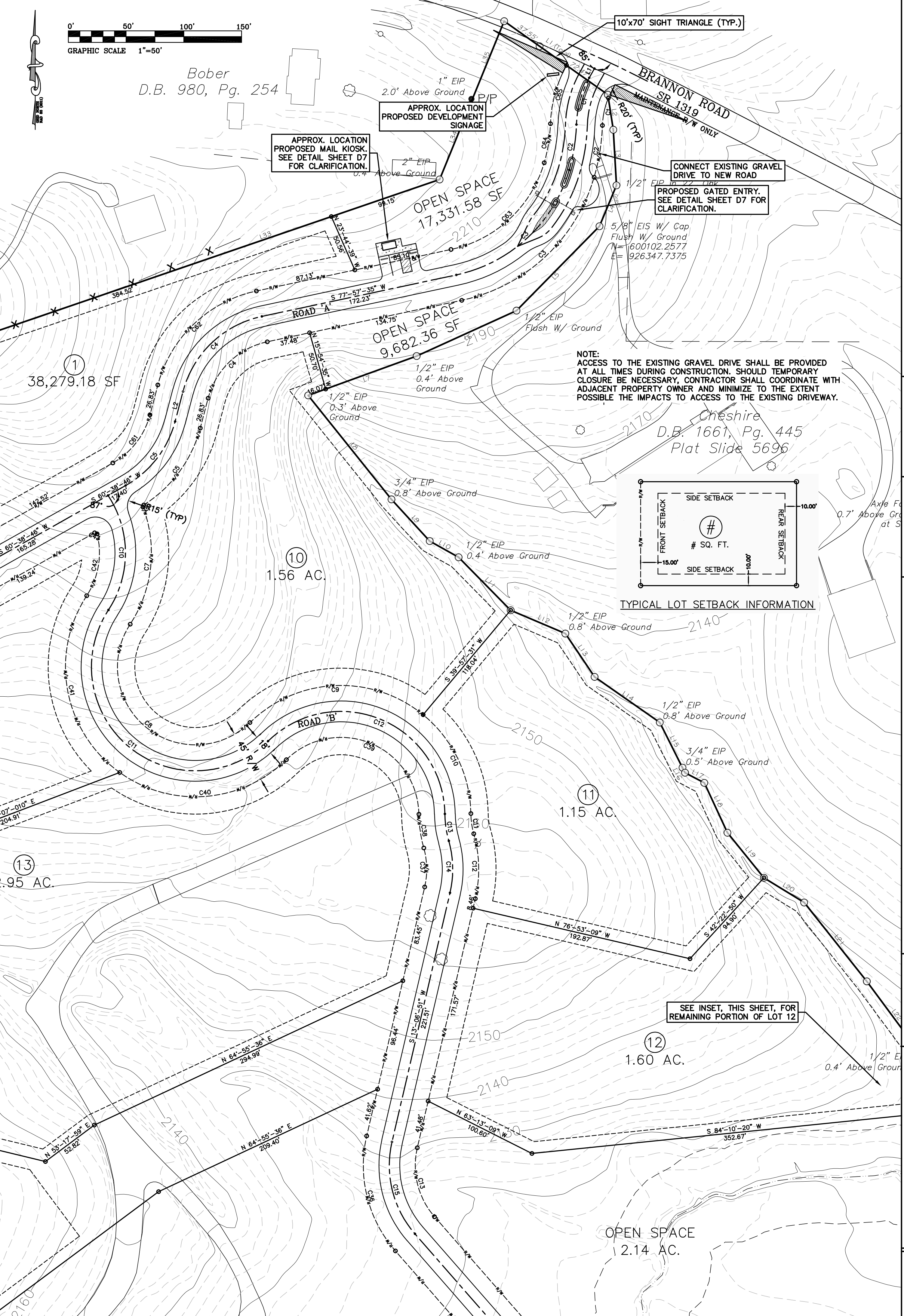
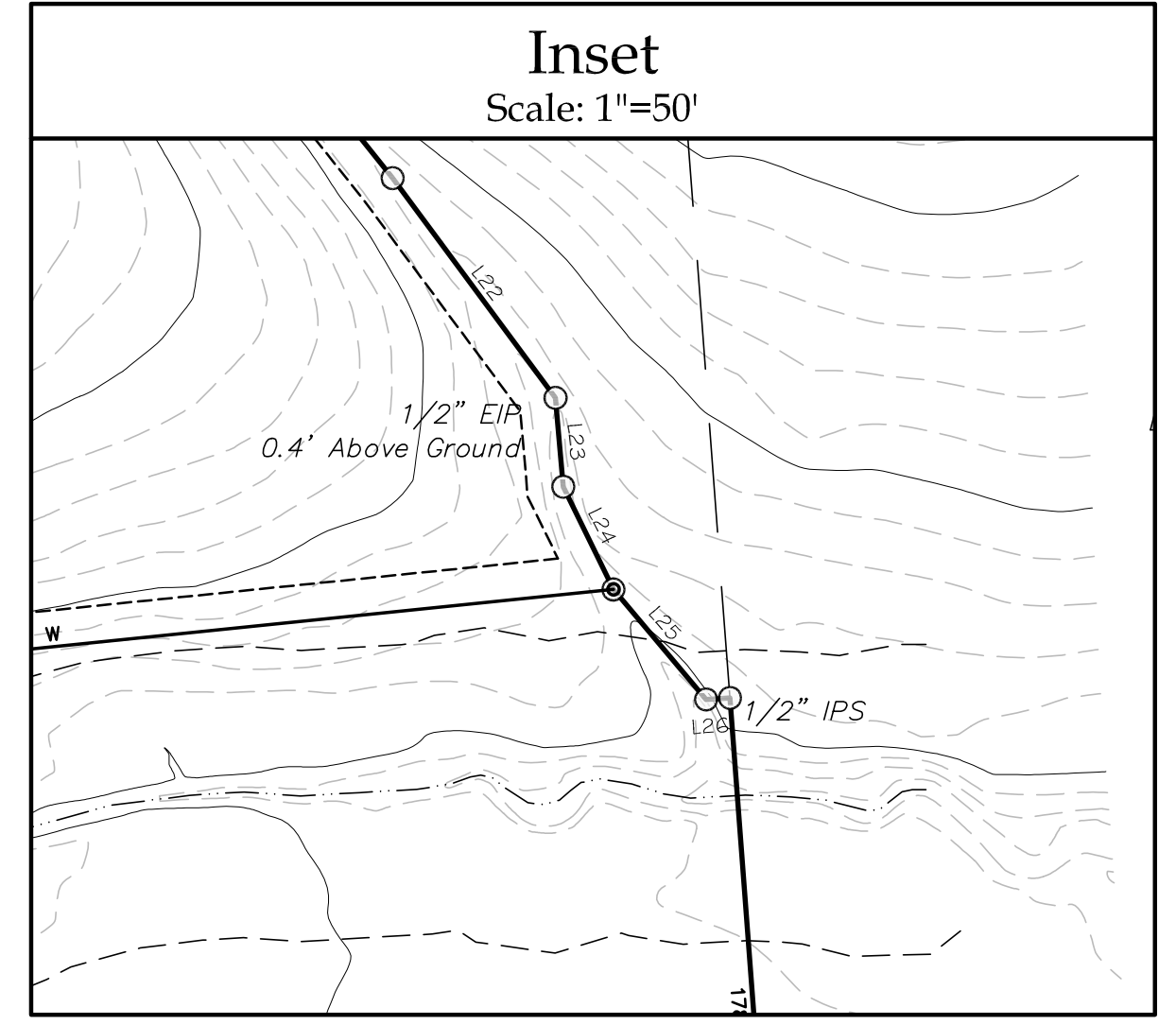
  

CURVE	RADIUS	CHORD BEARING AND DISTANCE	ARC LENGTH
C1	67.50'	S 12°-14'-36" W 24.26'	24.39'
C2	182.50'	S 9°-02'-44" W 45.45'	45.56'
C3	152.50'	S 47°-04'-44" W 156.54'	164.39'
C4	67.50'	S 46°-21'-32" W 70.74'	74.46'
C5	112.50'	S 18°-18'-10" W 82.63'	82.63'
C6	1.50'	S 18°-33'-53" W 1.90'	2.06'
C7	112.50'	S 6°-15'-31" W 102.07'	105.94'
C8	67.50'	S 30°-36'-00" E 134.22'	134.22'
C9	112.50'	N 87°-24'-18" E 150.09'	164.31'
C10	112.50'	S 25°-46'-04" W 95.04'	98.12'
C11	67.50'	S 8°-18'-33" E 71.70'	71.70'
C12	112.50'	S 1°-22'-01" E 56.26'	56.67'
C13	67.50'	S 14°-01'-09" E 61.57'	63.93'
C14	112.50'	S 11°-28'-45" W 152.37'	167.39'
C15	112.50'	S 55°-37'-35" W 44.95'	46.28'
C16	1.50'	S 22°-09'-05" W 2.12'	2.36'
C17	112.50'	S 18°-17'-39" W 146.04'	161.57'
C18	112.50'	S 40°-21'-03" W 16.35'	16.65'
C19	25.00'	S 7°-29'-38" W 11.90'	12.02'
C20	50.00'	S 4°-09'-48" W 18.12'	18.22'
C21	50.00'	S 56°-56'-54" W 67.35'	73.59'
C22	50.00'	N 5°-22'-00" E 99.77'	150.25'
C23	25.00'	N 72°-51'-30" E 15.94'	16.23'
C24	112.50'	N 56°-51'-03" E 10.16'	10.16'
C25	67.50'	N 18°-17'-39" E 88.82'	96.94'
C26	1.50'	N 67°-50'-55" W 2.12'	2.36'
C27	122.50'	S 12°-18'-03" W 64.03'	64.78'
C28	122.50'	N 59°-33'-08" W 95.71'	98.33'
C29	122.50'	N 31°-03'-12" W 23.49'	23.53'
C30	1.50'	N 77°-18'-00" W 2.36'	2.71'
C31	122.50'	N 56°-01'-41" E 21.68'	21.71'
C32	122.50'	N 68°-08'-07" E 29.98'	30.06'
C33	122.50'	N 77°-18'-00" W 2.36'	2.71'
C34	67.50'	N 70°-36'-27" E 50.05'	51.27'
C35	1.50'	N 3°-50'-52" E 2.12'	2.36'
C36	112.50'	S 60°-01'-09" W 102.61'	102.61'
C37	67.50'	N 1°-22'-01" W 33.76'	34.12'
C38	112.50'	N 8°-18'-53" W 29.50'	29.58'
C39	67.50'	S 67°-36'-31" W 124.11'	131.46'
C40	112.50'	S 85°-35'-51" W 144.73'	157.21'
C41	112.50'	N 10°-34'-00" W 155.74'	172.01'
C42	67.50'	N 56°-51'-03" E 10.16'	10.16'
C43	1.50'	N 66°-46'-38" W 2.38'	2.75'
C44	122.50'	S 73°-23'-43" W 54.07'	54.52'
C45	77.50'	S 69°-17'-13" W 44.35'	45.91'
C46	67.50'	S 22°-10'-26" W 68.02'	71.29'
C47	112.50'	S 7°-32'-05" W 80.57'	81.32'
C48	50.00'	N 19°-59'-22" W 43.30'	45.45'
C49	50.00'	S 1°-07'-18" W 30.46'	30.95'
C50	50.00'	S 76°-24'-46" W 84.39'	100.46'
C51	50.00'	N 19°-59'-22" W 43.30'	45.45'
C52	50.00'	N 17°-30'-40" E 19.87'	20.00'
C53	50.00'	N 54°-50'-57" E 43.65'	45.17'
C54	25.00'	N 41°-21'-43" E 31.71'	34.35'
C55	67.50'	N 3°-02'-33" W 11.86'	11.87'
C56	112.50'	N 9°-32'-41" E 68.13'	69.22'
C57	112.50'	N 39°-47'-58" E 49.19'	49.60'
C58	122.50'	N 60°-51'-29" W 35.91'	36.04'
C59	122.50'	N 77°-42'-57" W 35.91'	36.04'
C60	77.50'	N 73°-23'-44" W 34.21'	34.49'
C61	67.50'	N 37°-42'-07" E 52.63'	54.06'
C62	112.50'	N 46°-21'-32" W 117.90'	124.10'
C63	107.50'	N 47°-04'-44" W 110.35'	115.98'
C64	137.50'	N 9°-02'-44" W 34.24'	34.33'
C65	112.50'	N 15°-21'-31" W 52.39'	52.89'
C66	77.50'	N 69°-11'-59" W 106.89'	118.08'
C67	67.50'	N 17°-54'-02" E 102.27'	116.04'
C68	67.50'	N 36°-15'-05" W 11.53'	11.55'
C69	1.50'	N 67°-08'-51" W 2.16'	2.41'
C70	112.50'	N 10°-36'-27" W 83.41'	85.45'
C71	77.50'	S 83°-45'-58" W 23.18'	23.27'
C72	77.50'	S 68°-07'-07" W 18.97'	19.02'
C73	1.50'	S 17°-46'-38" W 2.06'	2.27'

ROADWAY CENTERLINE DATA			
LINE	BEARING	DISTANCE	ARC LENGTH
L1	S 28°-51'-09" W	9.20'	9.20'
L2	S 14°-45'-29" W	26.83'	26.83'
L3	S 39°-12'-16" W	24.02'	24.02'
L4	S 48°-50'-52" W	24.45'	24.45'
L5	S 22°-50'-55" E	30.19'	30.19'
L6	S 59°-26'-13" W	19.44'	19.44'

CURVE	RADIUS	CHORD BEARING AND DISTANCE	ARC LENGTH
C1	90.00'	S 15°-22'-22" W 41.96'	42.35'
C2	160.00'	S 9°-02'-44" W 39.84'	39.95'
C3	130.00'	S 47°-04'-44" W 133.45'	140.13'
C4	90.00'	S 46°-21'-32" W 74.46'	74.46'
C5	90.00'	S 37°-42'-07" W 70.17'	72.08'
C6	100.00'	S 73°-23'-43" W 44.14'	44.50'
C7	100.00'	S 69°-17'-13" W 58.00'	58.85'
C8	90.00'	S 22°-10'-26" W 90.69'	95.05'
C9	90.00'	S 15°-33'-42" W 72.19'	74.28'
C10	90.00'	S 9°-12'-32" E 99.20'	105.07'
C11	90.00'	S 50°-36'-00" E 178.96'	263.38'
C12	90.00'	S 67°-36'-31" E 165.48'	209.94'
C13	90.00'	S 8°-18'-33" E 23.30'	23.67'
C14	90.00'	S 1°-22'-01" E 45.01'	45.49'
C15	90.00'	S 14°-01'-09" E 82.09'	85.24'
C16	90.00'	S 12°-59'-59" W 145.90'	170.12'
C17	100.00'	N 69°-11'-59" W 138.05'	152.36'
C18	90.00'	S 70°-36'-27" W 66.73'	68.36'
C19	100.00'	S 63°-45'-58" W 29.91'	30.02'
C20	100.00'	S 58°-08'-07" W 24.48'	24.54'
C21	100.00'	S 56°-01'-41" W 17.70'	17.72'
C22	90.00'	S 18°-17'-39" W 118.43'	129.25'
C23	90.00'	S 41°-43'-44" W 54.75'	55.63'



4, Pg. 4280

0.4' Above Ground

3/4" EIP 0.4' Above Ground

EIS W/ Cap 0.4' Above Ground

208 788

Davis Civil Solutions, PA  
Site/Infrastructure Engineering/Planning  
135-A Charlotte Highway Asheville, North Carolina 28803  
828.299.9449 PH • www.daviscivilsolutions.com

For Review

Site Development Plan For  
**Big Hills at Horseshoe**  
HENDERSON COUNTY, NORTH CAROLINA

Layout

Sheet  
**C3**

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13b No. 20159  
Date: April 20, 2021  
Scale: 1"=50'  
Revision:





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DATE: 08/20/2021  
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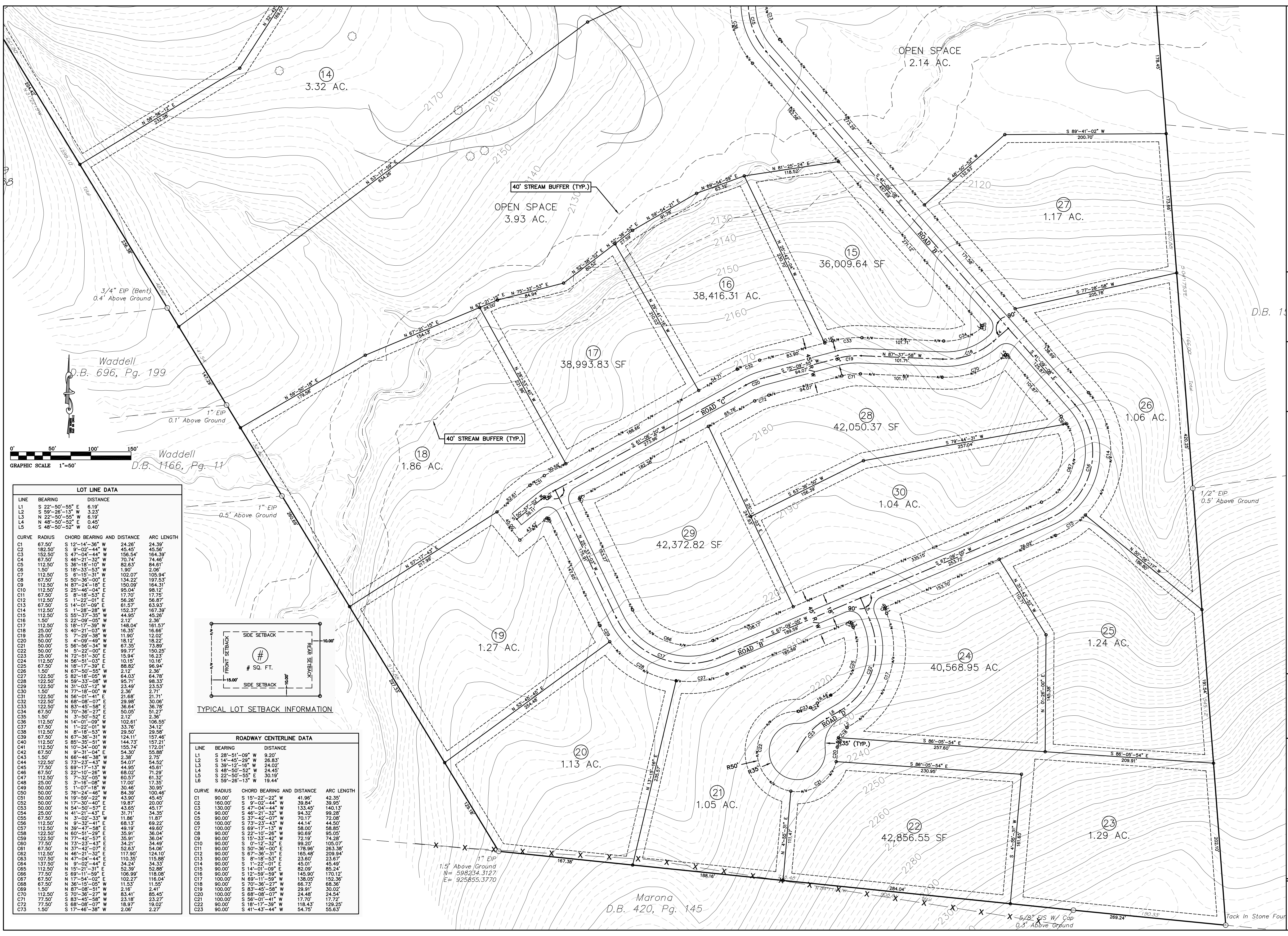


Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

10/15/2019  
 Date: 08/20/2021  
 Scale: 1"=50'  
 Revision:

Layout

Sheet  
**C4**

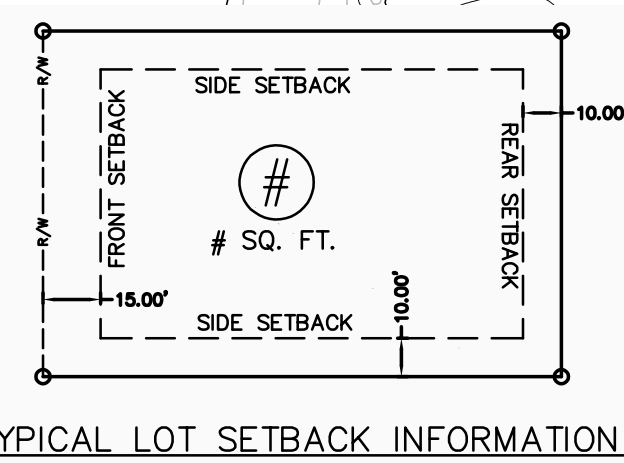


**LOT LINE DATA**

LINE	BEARING	DISTANCE
L1	S 22°-50'-55" E	6.19'
L2	S 22°-28'-13" W	3.23'
L3	N 22°-50'-55" W	6.19'
L4	N 48°-50'-52" E	0.45'
L5	S 48°-50'-52" W	0.45'

**CURVE BEARING AND DISTANCE**

CURVE	RADIUS	CHORD BEARING AND DISTANCE	ARC LENGTH
C1	67.50'	S 14°-36'-36" W 24.28'	24.28'
C2	182.50'	S 9°-02'-44" W 45.45'	45.45'
C3	152.50'	S 47°-04'-44" W 156.54'	164.39'
C4	67.50'	S 46°-21'-32" W 70.74'	74.46'
C5	112.50'	S 36°-18'-10" W 82.63'	84.61'
C6	1.50'	S 18°-33'-53" W 1.90'	2.06'
C7	112.50'	S 6°-15'-32" W 102.07'	105.94'
C8	67.50'	S 90°-36'-00" E 134.22'	134.22'
C9	112.50'	N 87°-24'-18" E 150.09'	164.31'
C10	112.50'	S 25°-46'-04" E 95.04'	98.12'
C11	67.50'	S 8°-18'-53" E 17.70'	17.70'
C12	112.50'	S 1°-22'-01" E 56.26'	56.87'
C13	67.50'	S 14°-01'-09" E 61.57'	63.93'
C14	112.50'	S 1°-28'-28" W 152.37'	161.39'
C15	112.50'	S 55°-37'-35" W 44.95'	45.26'
C16	1.50'	S 22°-09'-05" W 2.12'	2.36'
C17	112.50'	S 8°-17'-30" W 148.04'	161.57'
C18	25.00'	S 40°-21'-03" W 16.35'	16.66'
C19	25.00'	S 7°-29'-38" W 11.90'	12.02'
C20	50.00'	S 8°-09'-40" W 18.12'	18.22'
C21	50.00'	S 56°-56'-34" W 67.35'	73.89'
C22	50.00'	N 5°-22'-00" E 99.77'	150.25'
C23	25.00'	S 72°-51'-30" W 15.94'	16.23'
C24	112.50'	N 56°-51'-03" E 10.15'	10.16'
C25	67.50'	N 18°-17'-39" E 88.82'	96.94'
C26	1.50'	N 3°-50'-00" E 2.32'	2.36'
C27	122.50'	S 82°-18'-05" W 64.03'	64.78'
C28	122.50'	N 59°-33'-08" W 95.71'	98.33'
C29	122.50'	N 81°-03'-12" W 23.49'	23.53'
C30	1.50'	N 77°-18'-00" W 2.36'	2.71'
C31	122.50'	N 56°-01'-41" E 21.68'	21.71'
C32	122.50'	N 88°-08'-07" E 29.98'	30.06'
C33	122.50'	N 83°-45'-58" E 36.64'	36.78'
C34	67.50'	N 70°-36'-27" E 50.05'	51.27'
C35	1.50'	N 3°-50'-00" E 2.32'	2.36'
C36	112.50'	N 14°-01'-09" W 102.61'	106.55'
C37	67.50'	N 1°-22'-01" W 33.76'	34.12'
C38	112.50'	N 8°-18'-53" E 17.70'	17.70'
C39	67.50'	N 67°-36'-31" W 124.11'	157.46'
C40	112.50'	S 85°-35'-51" W 144.73'	157.21'
C41	112.50'	N 10°-34'-20" W 152.01'	157.01'
C42	67.50'	N 9°-31'-04" E 54.30'	55.88'
C43	1.50'	N 66°-46'-38" W 2.38'	2.75'
C44	122.50'	S 73°-23'-43" W 54.52'	54.52'
C45	77.50'	S 69°-17'-13" W 44.95'	45.61'
C46	67.50'	S 22°-10'-26" W 68.02'	71.29'
C47	112.50'	S 7°-29'-38" W 11.90'	12.02'
C48	25.00'	S 3°-16'-08" W 17.00'	17.35'
C49	50.00'	S 1°-07'-18" W 30.46'	30.95'
C50	50.00'	N 88°-24'-06" W 84.39'	100.46'
C51	50.00'	N 19°-59'-22" W 43.90'	45.45'
C52	50.00'	N 17°-30'-40" E 19.87'	20.00'
C53	50.00'	N 54°-55'-57" E 43.65'	43.67'
C54	25.00'	N 41°-21'-43" E 31.71'	34.35'
C55	67.50'	N 3°-02'-33" W 11.86'	11.87'
C56	112.50'	N 9°-32'-51" E 68.13'	69.22'
C57	112.50'	N 39°-47'-58" E 46.18'	46.00'
C58	122.50'	N 60°-51'-29" E 35.91'	36.04'
C59	122.50'	N 77°-42'-57" E 35.91'	36.04'
C60	77.50'	N 72°-23'-43" W 34.21'	34.49'
C61	67.50'	N 37°-42'-07" E 52.63'	54.06'
C62	112.50'	N 46°-21'-32" E 117.90'	124.10'
C63	107.50'	N 47°-04'-44" E 110.33'	115.88'
C64	137.50'	N 9°-02'-44" E 34.24'	34.33'
C65	112.50'	N 15°-21'-31" E 52.39'	52.88'
C66	77.50'	S 69°-11'-50" E 106.89'	118.08'
C67	67.50'	N 17°-54'-02" E 102.27'	116.04'
C68	67.50'	N 36°-15'-05" W 11.53'	11.55'
C69	1.50'	N 37°-08'-50" W 2.16'	2.41'
C70	112.50'	S 70°-36'-27" W 83.41'	85.45'
C71	77.50'	S 83°-45'-58" W 23.18'	23.27'
C72	77.50'	S 88°-08'-07" W 18.97'	19.02'
C73	1.50'	S 17°-46'-38" W 2.06'	2.27'



**ROADWAY CENTERLINE DATA**

LINE	BEARING	DISTANCE
L1	S 28°-51'-09" W	9.20'
L2	S 14°-45'-29" W	26.83'
L3	S 39°-12'-16" W	24.02'
L4	S 48°-50'-52" W	24.45'
L5	S 22°-50'-52" E	30.19'
L6	S 59°-28'-13" W	19.44'

CURVE	RADIUS	CHORD BEARING AND DISTANCE	ARC LENGTH
C1	90.00'	S 15°-22'-22" W 41.96'	42.35'
C2	160.00'	S 9°-02'-44" W 39.84'	39.95'
C3	130.00'	S 47°-04'-44" W 133.45'	140.13'
C4	90.00'	S 46°-21'-32" W 94.32'	98.28'
C5	90.00'	S 37°-42'-07" W 70.17'	72.08'
C6	100.00'	S 73°-23'-13" W 44.14'	44.50'
C7	100.00'	S 12°-58'-59" W 145.90'	170.12'
C8	90.00'	S 22°-10'-26" W 90.69'	95.05'
C9	90.00'	S 15°-33'-42" W 72.19'	74.28'
C10	90.00'	S 0°-12'-32" E 98.20'	105.07'
C11	90.00'	S 50°-36'-00" E 178.96'	263.38'
C12	90.00'	S 67°-36'-31" E 165.48'	209.94'
C13	90.00'	S 12°-58'-59" W 145.90'	170.12'
C14	90.00'	S 1°-22'-01" E 45.01'	45.49'
C15	90.00'	S 14°-01'-09" E 82.09'	85.24'
C16	90.00'	S 12°-58'-59" W 145.90'	170.12'
C17	100.00'	N 69°-11'-59" W 138.05'	152.36'
C18	90.00'	S 70°-36'-27" W 66.73'	68.36'
C19	100.00'	S 83°-45'-58" W 23.81'	24.02'
C20	100.00'	S 68°-08'-07" W 24.48'	24.54'
C21	100.00'	S 56°-01'-41" W 17.70'	17.72'
C22	90.00'	S 18°-17'-38" W 118.43'	129.25'
C23	90.00'	S 41°-43'-44" W 54.75'	55.63'

1" EIP  
 1.5" Above Ground  
 N = 598234.3127  
 E = 925855.3770

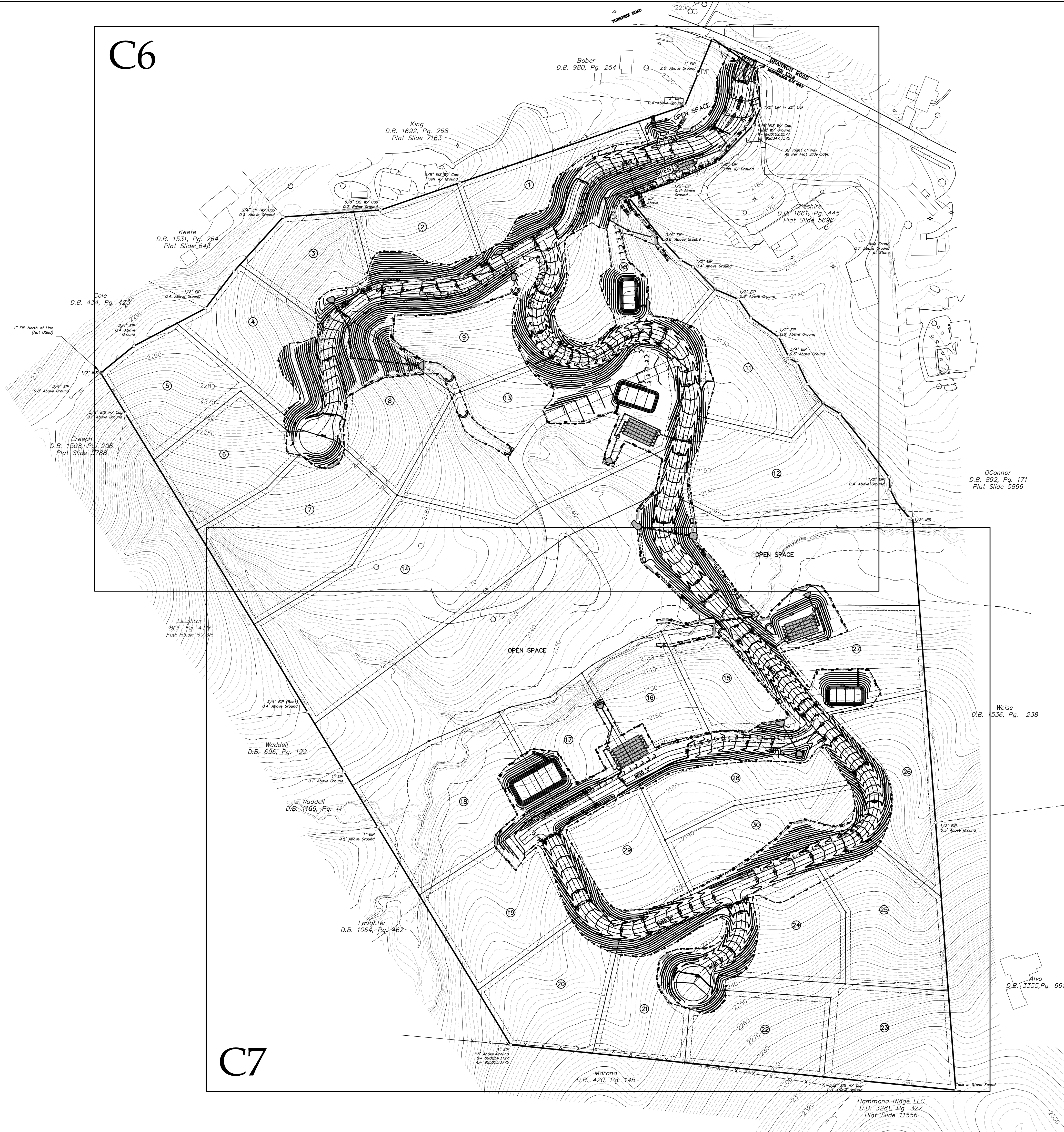
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D.B. 13

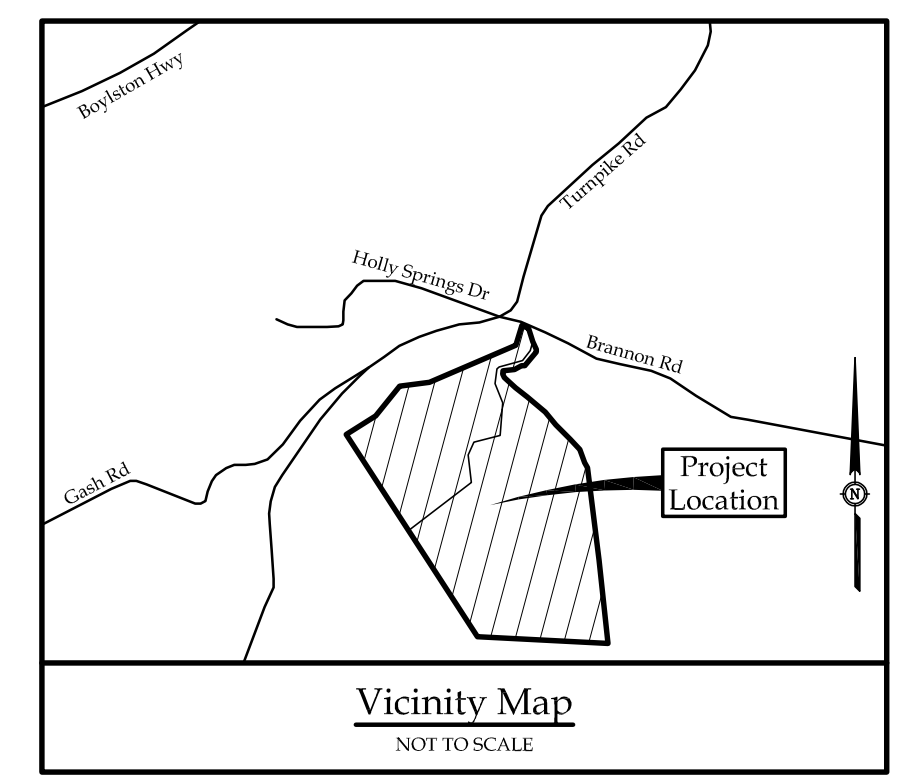
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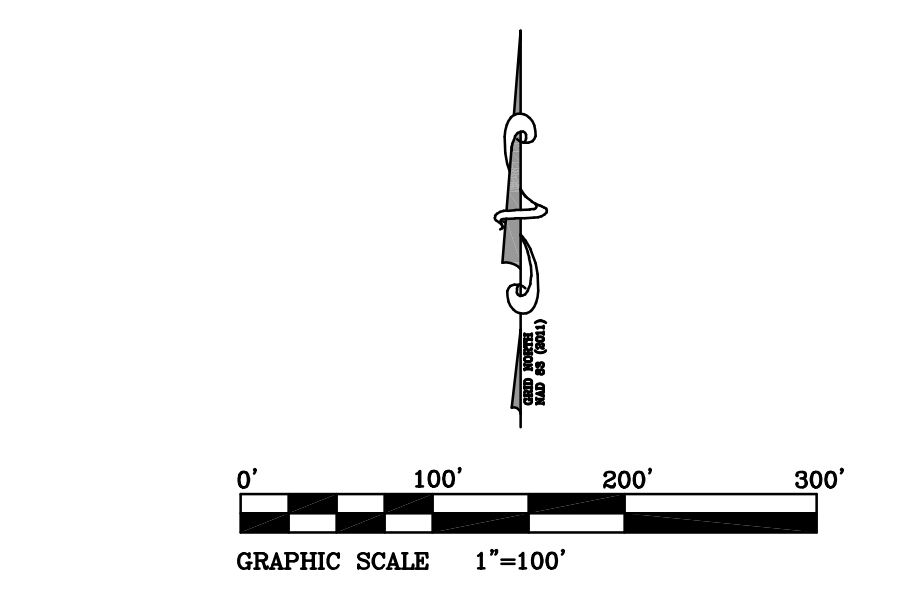
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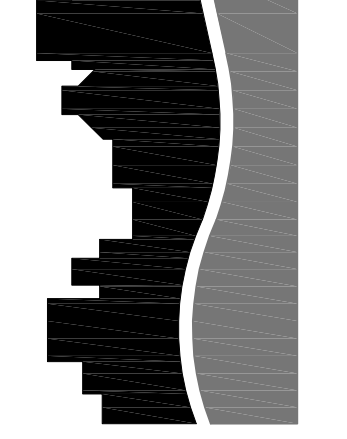
C7



DEVELOPMENT DATA BLOCK	
OWNER/DEVELOPER:	BIG HILLS CONSTRUCTION, LLC
CONTACT:	ART BAYLUK
PHONE:	828.242.879
ADDRESS:	120 DUNAWOOD ROAD CANDELER, NC 28715
PIN:	9529-59-5596, 9529-68-1093
PHYSICAL ADDRESS:	ADJACENT TO: 2777 BRANNON ROAD HICKORY HILL, NC 28742
PROPERTY SIZE:	49.8 AC. (TOTAL)
ZONING DISTRICT:	R 2R
PERVICUS AREAS:	<p><b>PRE DEVELOPMENT:</b>            IMPERVICUS AREA = 33,758.71 SQ. FT. (0.77 AC.)            % SITE IMPERVICUS = 15.9%            PERVICUS AREA = 21,36,348.56 SQ. FT. (49.04 AC.)            % SITE PERVICUS = 98.44%</p> <p><b>POST DEVELOPMENT:</b>            IMPERVICUS AREA = 285,888.53 SQ. FT. (6.55 AC.)            % SITE IMPERVICUS = 13.14%            PERVICUS AREA = 1,884,918.74 SQ. FT. (43.27 AC.)            % SITE PERVICUS = 86.86%</p> <p><b>INCREASE/DECREASE:</b>            INCREASE AREAS = 251,429.82 SQ. FT. (5.77 AC.)            % INCREASE = 11.59%</p>
LAND DISTURBANCE:	433,450.53 SQ. FT. (9.95 AC.)
SOIL TYPES:	17.1% Co, 38.0% FaC, 32.3% FaE, 12.6% TaF
VOLUMES:	FILL: 40,420 CU. YD. CUT: 28,360 CU. YD.
<p>THESE NUMBERS ARE RAW NUMBERS AND ARE PROVIDED ONLY FOR THE GENERAL ESTIMATION OF THE MAGNITUDE OF THE PROJECT. THEY DO NOT TAKE INTO ACCOUNT REMOVAL OF TOXIC/UNSATURABLE SOILS, ROCK, DEBRIS, ETC. NOR DO THEY TAKE INTO ACCOUNT PROPER COMPACTION OF FILL MATERIAL. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION OF EARTHWORK QUANTITIES BASED ON THE INFORMATION PROVIDED. THE VOLUMES LISTED SHALL NOT BE CONSIDERED ACTUAL ESTIMATED FOR THE WORK OF THE PROJECT.</p>	



**Davis Civil Solutions, PA**  
 Site/Infrastructure Engineering/Planning  
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Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

1st No. 2/1/19  
 Date: April 29, 2021  
 Scale: 1"=100'  
 Revision:

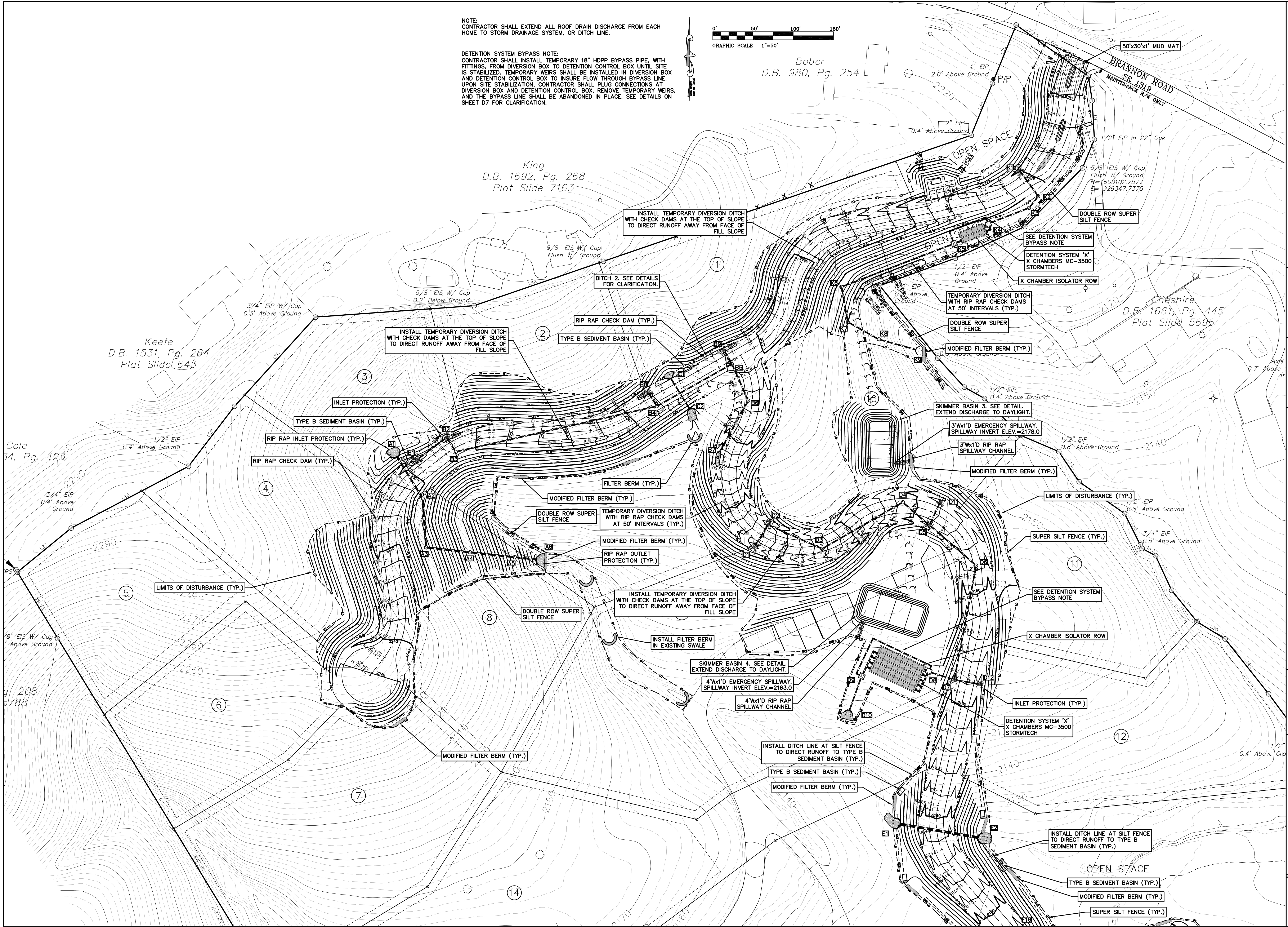
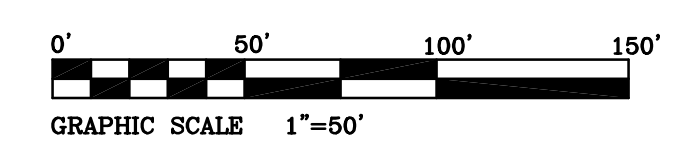
Overall  
 Grading, Stormwater,  
 and Erosion Control

Sheet  
**C5**



NOTE:  
CONTRACTOR SHALL EXTEND ALL ROOF DRAIN DISCHARGE FROM EACH HOME TO STORM DRAINAGE SYSTEM, OR DITCH LINE.

DETENTION SYSTEM BYPASS NOTE:  
CONTRACTOR SHALL INSTALL TEMPORARY 18" HDPP BYPASS PIPE, WITH FITTINGS, FROM DIVERSION BOX TO DETENTION CONTROL BOX UNTIL SITE IS STABILIZED. TEMPORARY WEIRS SHALL BE INSTALLED IN DIVERSION BOX AND DETENTION CONTROL BOX TO INSURE FLOW THROUGH BYPASS LINE. UPON SITE STABILIZATION, CONTRACTOR SHALL PLUG CONNECTIONS AT DIVERSION BOX AND DETENTION CONTROL BOX, REMOVE TEMPORARY WEIRS, AND THE BYPASS LINE SHALL BE ABANDONED IN PLACE. SEE DETAILS ON SHEET D7 FOR CLARIFICATION.



Site Development Plan For  
**Big Hills at Horseshoe**  
HENDERSON COUNTY, NORTH CAROLINA

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Site/Infrastructure Engineering/Planning  
135-A Charlotte Highway Asheville, North Carolina 28803  
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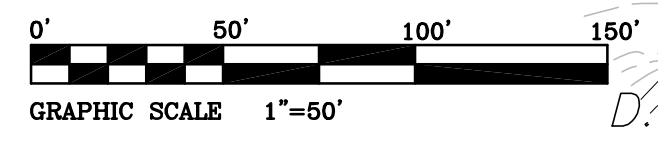
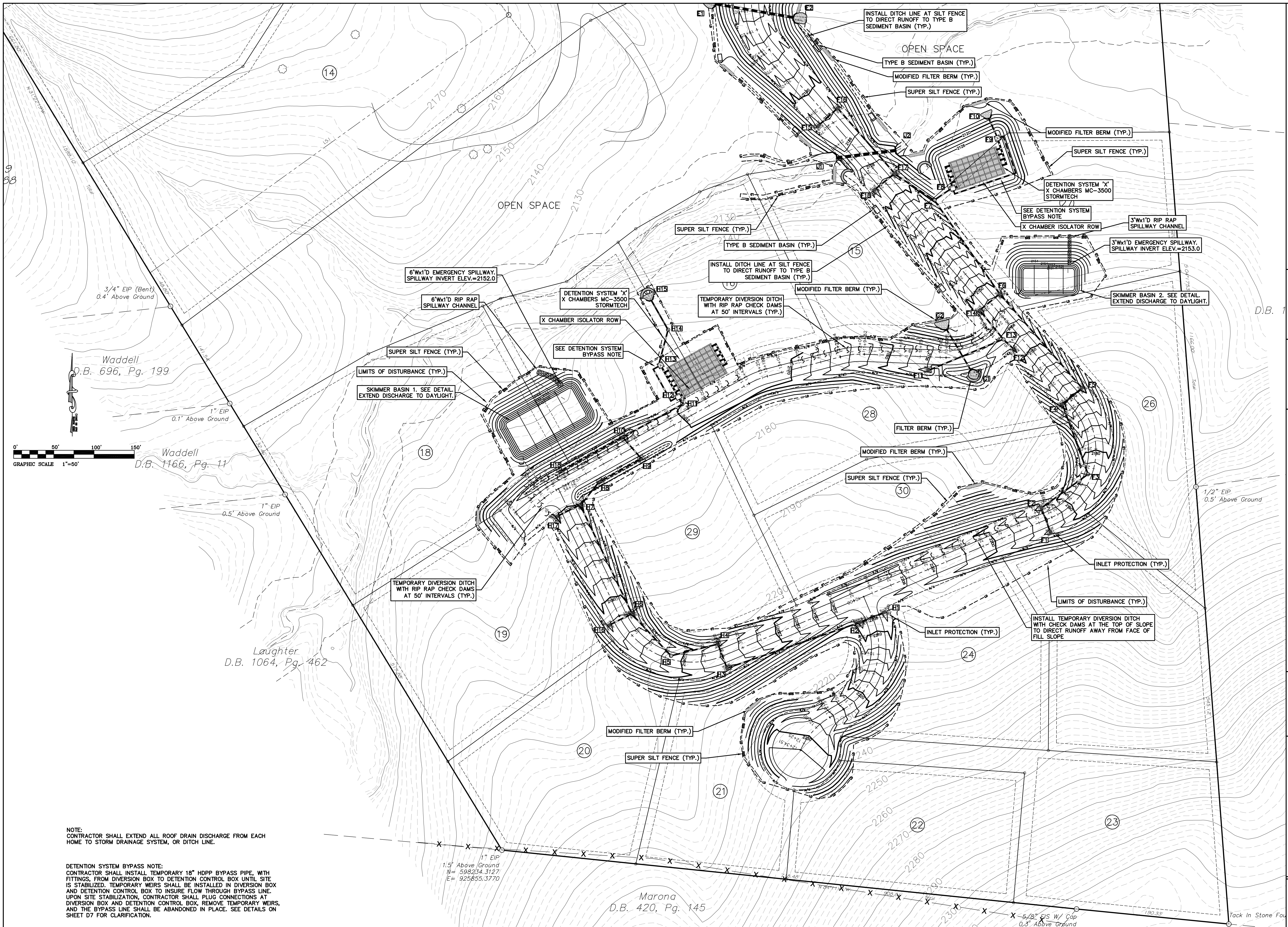
For Review

14th Nov. 2015  
Drawn: April 29, 2015  
Scale: 1"=50'  
Revision:

Grading, Stormwater,  
and Erosion Control

Sheet  
**C6**





NOTE:  
CONTRACTOR SHALL EXTEND ALL ROOF DRAIN DISCHARGE FROM EACH HOME TO STORM DRAINAGE SYSTEM, OR DITCH LINE.

DETENTION SYSTEM BYPASS NOTE:  
CONTRACTOR SHALL INSTALL TEMPORARY 18" HDPP BYPASS PIPE, WITH FITTINGS, FROM DIVERSION BOX TO DETENTION CONTROL BOX UNTIL SITE IS STABILIZED. TEMPORARY WEIRS SHALL BE INSTALLED IN DIVERSION BOX AND DETENTION CONTROL BOX TO INSURE FLOW THROUGH BYPASS LINE. UPON SITE STABILIZATION, CONTRACTOR SHALL PLUG CONNECTIONS AT DIVERSION BOX AND DETENTION CONTROL BOX, REMOVE TEMPORARY WEIRS, AND THE BYPASS LINE SHALL BE ABANDONED IN PLACE. SEE DETAILS ON SHEET D7 FOR CLARIFICATION.

1" EIP  
1.5' Above Ground  
N= 598234.3127  
E= 925855.3770

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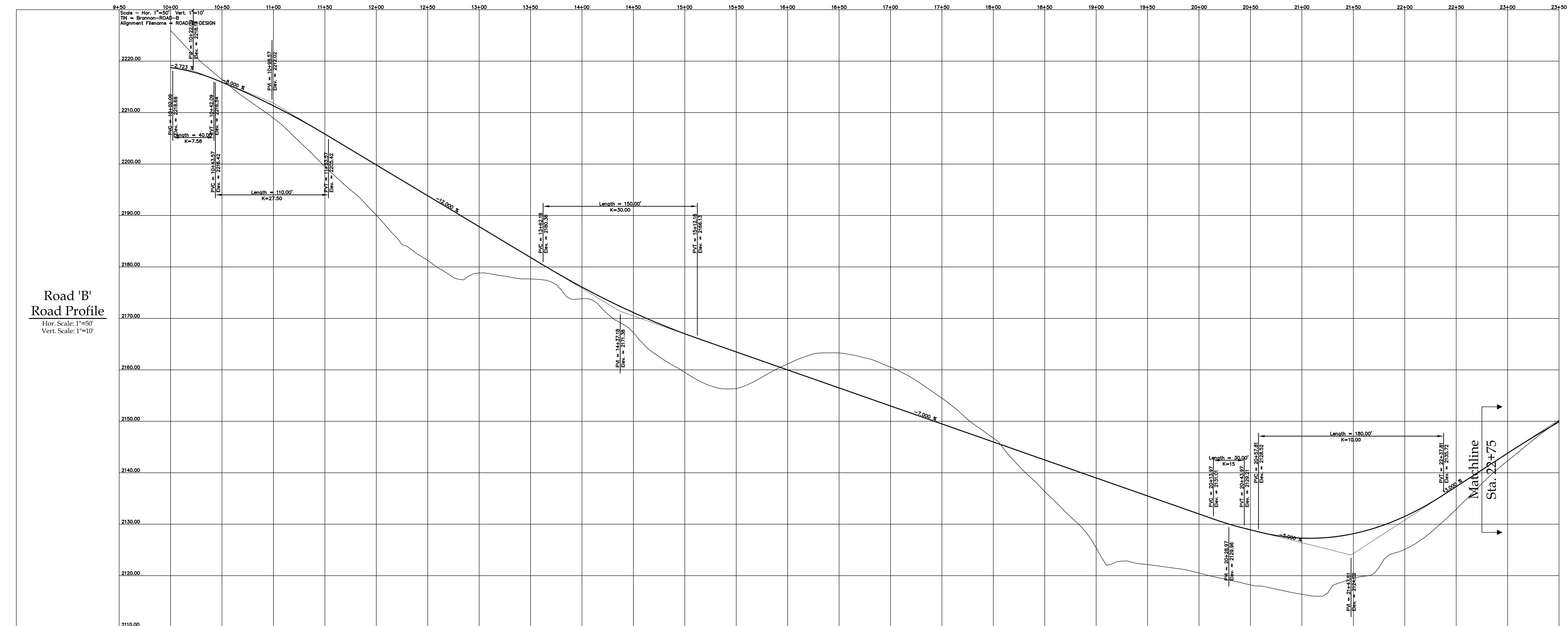
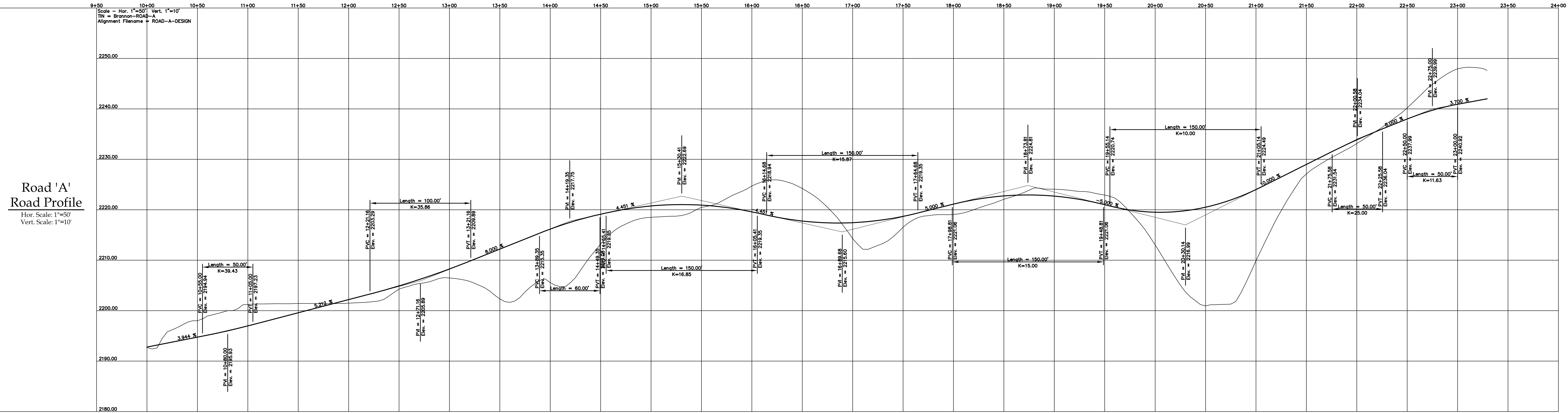


Site Development Plan For  
**Big Hills at Horseshoe**  
HENDERSON COUNTY, NORTH CAROLINA

1st. No. 201159  
Date: April 29, 2021  
Scale: 1"=50'  
Revision:

Grading, Stormwater,  
and Erosion Control



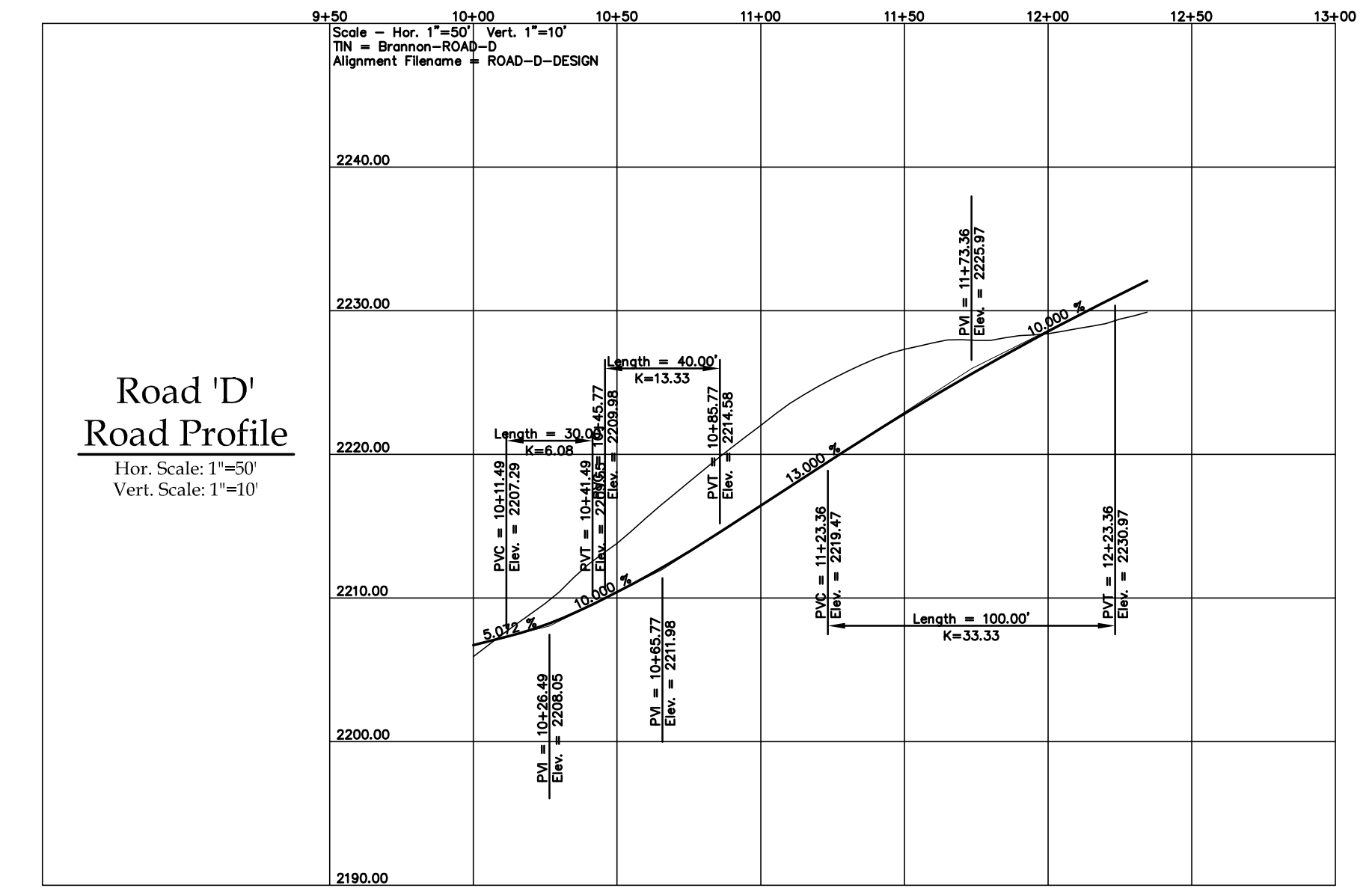
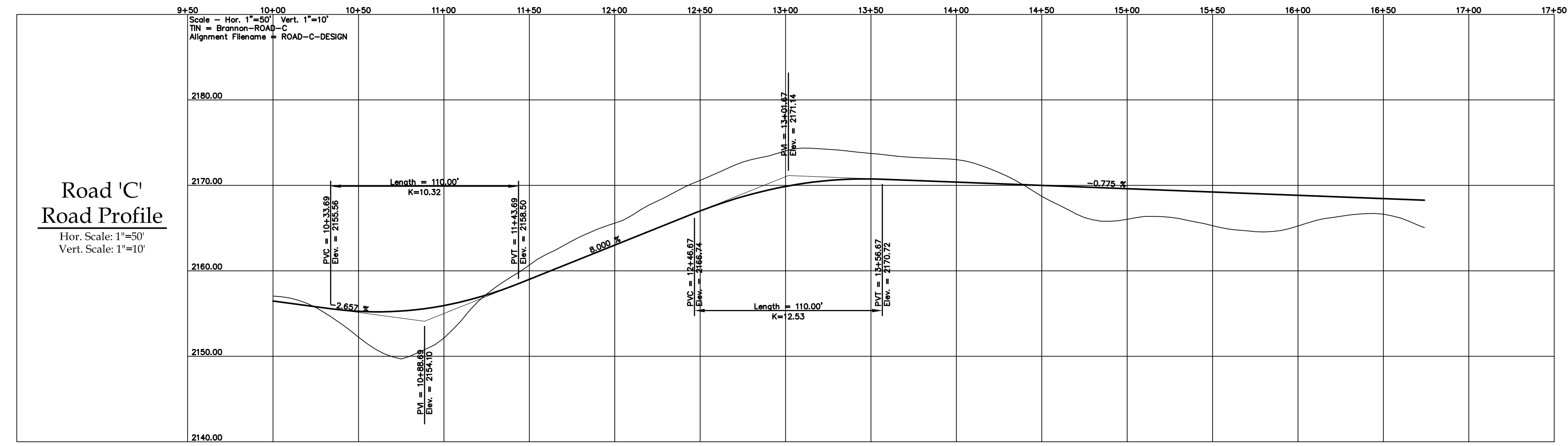
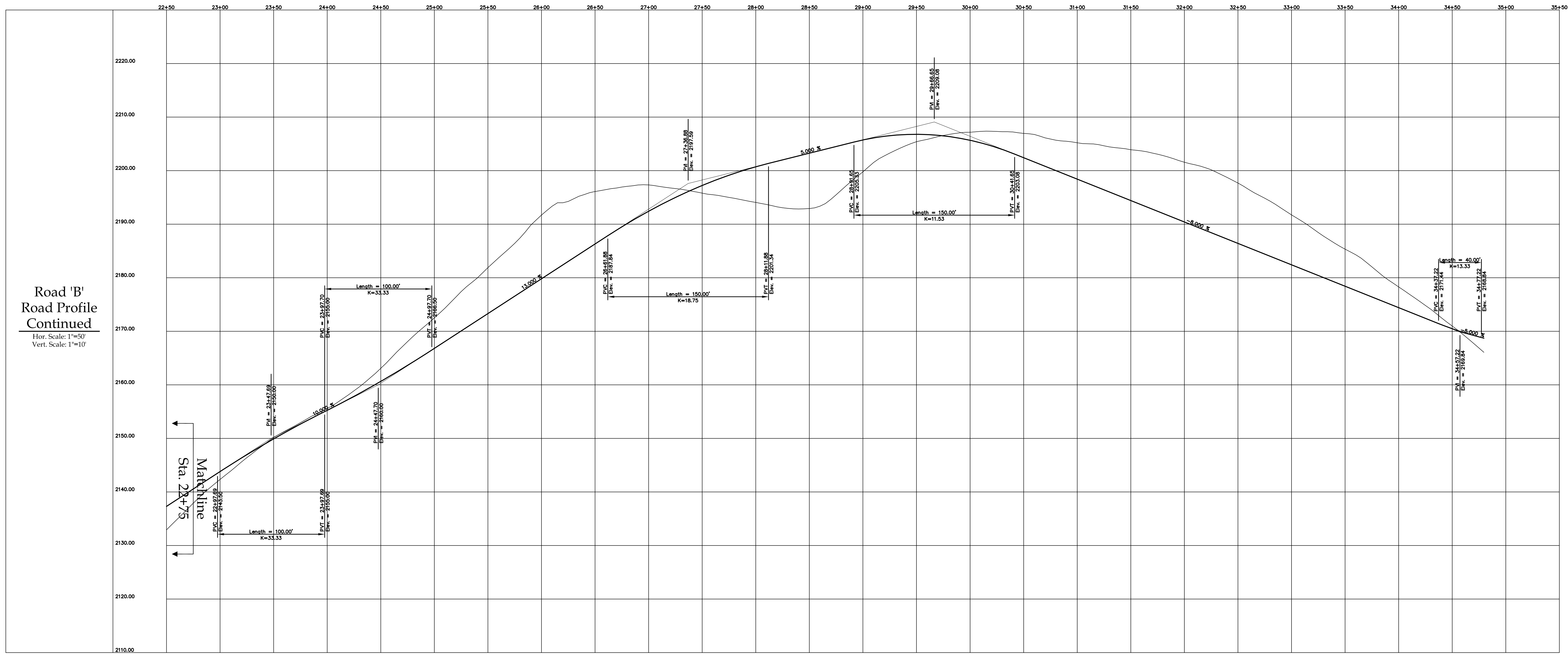


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1st Rev: 2/11/21  
Date: April 20, 2021  
Scale: 1"=50'  
Revision:



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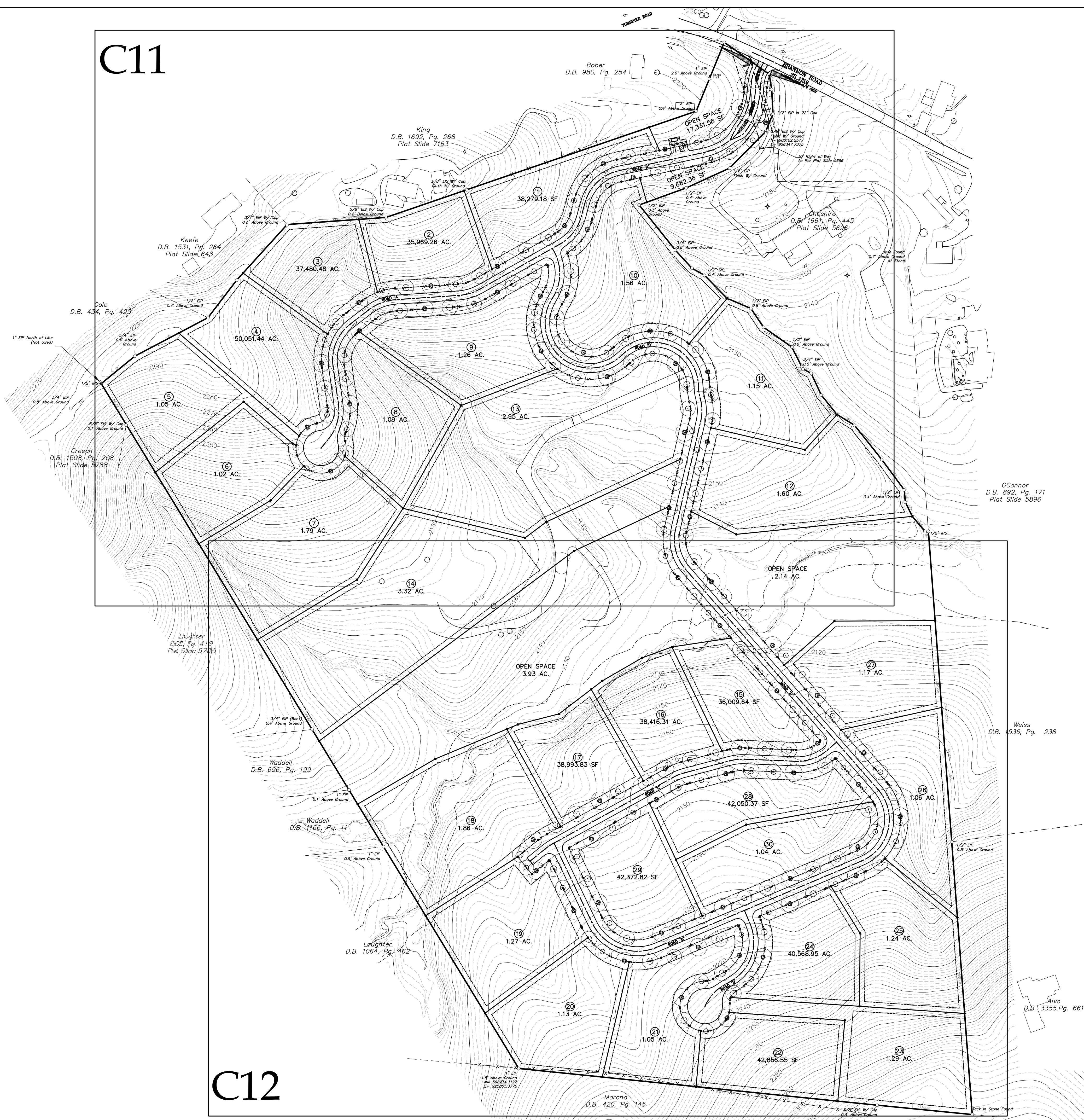
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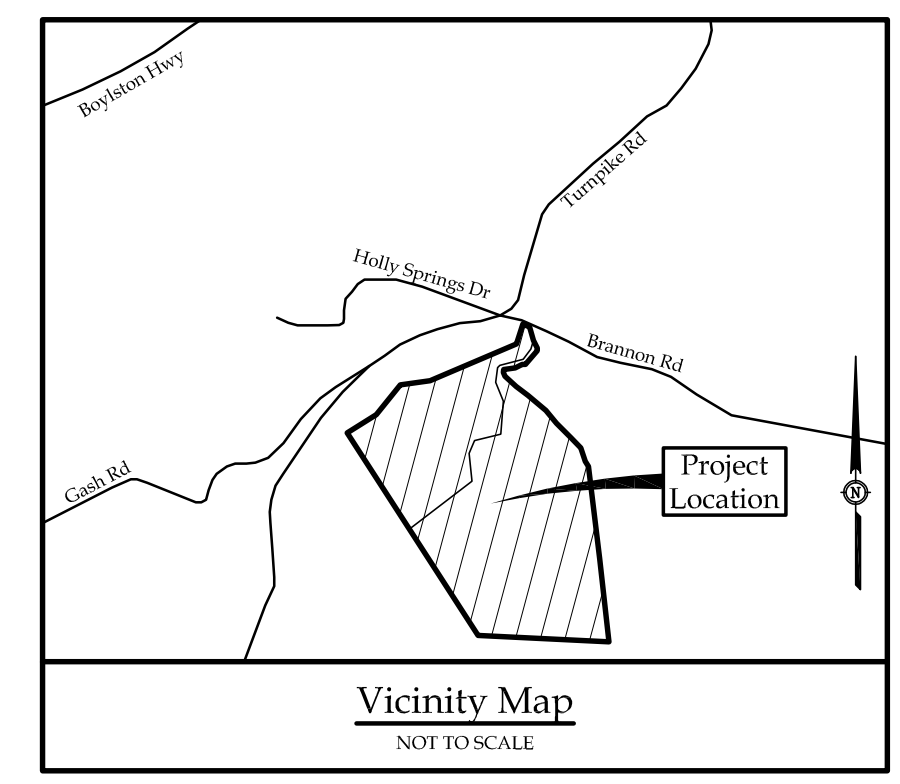
15th Nov. 2015  
Date: April 20, 2021  
Scale: 1"=50'  
Revision:



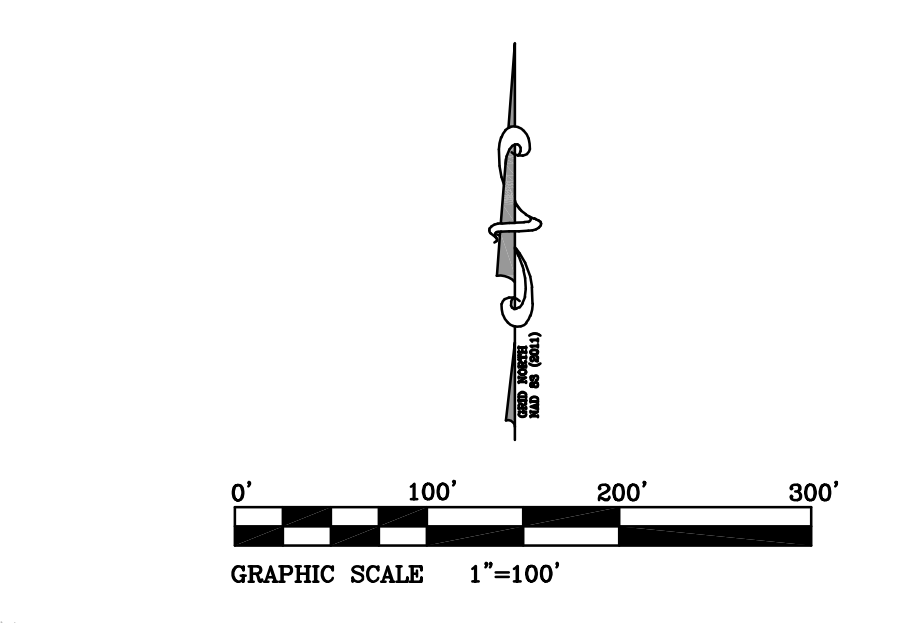
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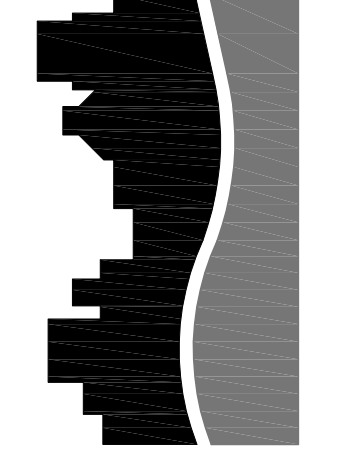
C12



DEVELOPMENT DATA BLOCK	
OWNER/DEVELOPER:	BIG HILLS CONSTRUCTION, LLC
CONTACT:	ART BAYLUK
PHONE:	828.242.879
ADDRESS:	120 DOXWOOD ROAD CANULIER, NC 28715
PIN:	9529-59-5596, 9529-68-1093
PHYSICAL ADDRESS:	ADJACENT TO: 2777 BRANNON ROAD HICKS, NC 28742
PROPERTY SIZE:	49.8 AC. (TOTAL)
ZONING DISTRICT:	R2R
SETBACKS:	FRONT 15', SIDE 10', REAR 10'
# OF LOTS:	30
LANDSCAPING REQUIREMENTS:	STREET TREES: 1 LARGE MATURING DICHONDRA TREE PER 50 FT. OF PROPERTY LINE
ROAD A:	TOTAL FRONTAGE = 2,754.8'
	2,754.8' / 50 = 55.09 = 55 TREES
ROAD B:	TOTAL FRONTAGE = 1,773.7'
	1,773.7' / 50 = 35.47 = 35 TREES
ROAD C:	TOTAL FRONTAGE = 1,328.40'
	1,328.40' / 50 = 26.56 = 27 TREES
ROAD D:	TOTAL FRONTAGE = 595.68'
	595.68' / 50 = 11.91 = 12 TREES
ROAD E:	TOTAL FRONTAGE = 595.68'
	595.68' / 50 = 11.91 = 12 TREES
STREET TREE TOTALS:	189 TREES REQUIRED



**Davis Civil Solutions, PA**  
 Site/Infrastructure Engineering/Planning  
 135-A Charlotte Highways Asheville, North Carolina 28803  
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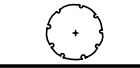


Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

1/28/2021  
 Date: 1/28/2021  
 Scale: 1"=100'  
 Revision:

Overall Landscaping

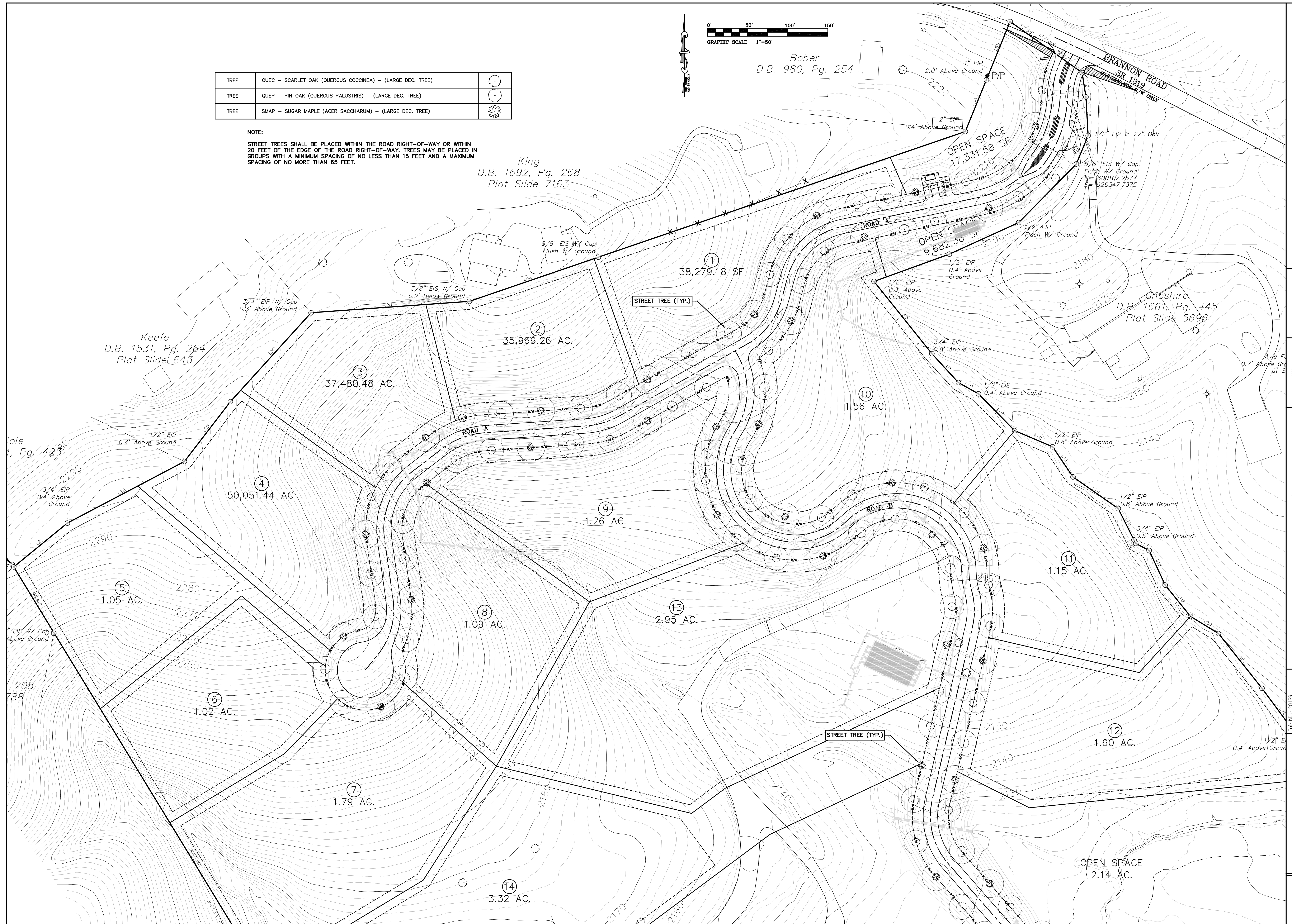
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**C10**



TREE	QUEC - SCARLET OAK (QUERCUS COCCINEA) - (LARGE DEC. TREE)	
TREE	QUEP - PIN OAK (QUERCUS PALUSTRIS) - (LARGE DEC. TREE)	
TREE	SMAP - SUGAR MAPLE (ACER SACCHARUM) - (LARGE DEC. TREE)	

**NOTE:**

STREET TREES SHALL BE PLACED WITHIN THE ROAD RIGHT-OF-WAY OR WITHIN 20 FEET OF THE EDGE OF THE ROAD RIGHT-OF-WAY. TREES MAY BE PLACED IN GROUPS WITH A MINIMUM SPACING OF NO LESS THAN 15 FEET AND A MAXIMUM SPACING OF NO MORE THAN 65 FEET.



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Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

Job No. 201509  
 Date: April 20, 2021  
 Scale: 1"=50'  
 Revision:

Landscaping





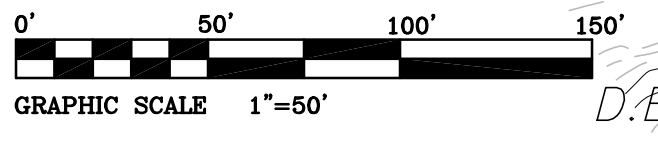
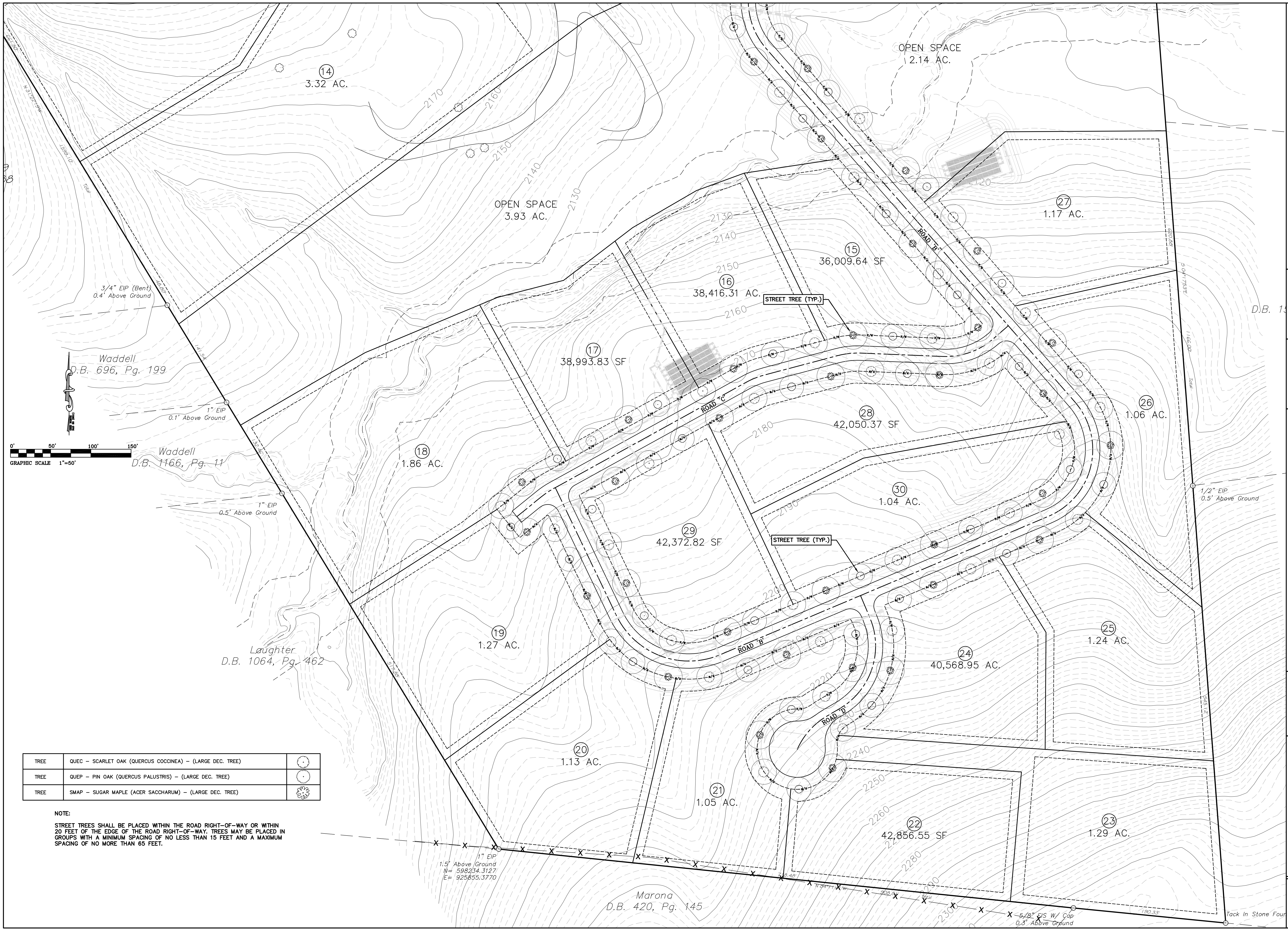
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Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

Job No.: 201159  
 Date: April 20, 2021  
 Scale: 1"=50'  
 Revision:

Landscaping



TREE	SYMBOL
QUEC - SCARLET OAK (QUERCUS COCCINEA) - (LARGE DEC. TREE)	
QUEP - PIN OAK (QUERCUS PALUSTRIS) - (LARGE DEC. TREE)	
SMAP - SUGAR MAPLE (ACER SACCHARUM) - (LARGE DEC. TREE)	

NOTE:  
 STREET TREES SHALL BE PLACED WITHIN THE ROAD RIGHT-OF-WAY OR WITHIN 20 FEET OF THE EDGE OF THE ROAD RIGHT-OF-WAY. TREES MAY BE PLACED IN GROUPS WITH A MINIMUM SPACING OF NO LESS THAN 15 FEET AND A MAXIMUM SPACING OF NO MORE THAN 65 FEET.

1" EIP  
 1.5' Above Ground  
 N= 598234.3127  
 E= 925855.3770

5/8" GIS W/ Cap  
 0.3' Above Ground



**GENERAL CONSTRUCTION NOTES**

- FINISH GRADE TOLERANCES SHALL BE AS NOTED IN THE SPECIFICATIONS. THE ENGINEER MAY MAKE GRADE CHANGES AS REQUIRED IN THE FIELD WITHOUT EFFECTING THE UNIT BID PRICE FOR UNCLASSIFIED EXCAVATION.
- UNLESS OTHERWISE STATED, ALL FILL AREAS SHALL BE CONSTRUCTED IN LAYERS OF 8" MAXIMUM THICKNESS, WITH WATER ADDED OR SOIL CONDITIONED TO THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER AND COMPACTED WITH A SHEEP'S FOOT ROLLER TO A COMPACTION EQUAL TO OR GREATER THAN 95% (100% IN THE TOP 2" OF THE SUB GRADE BELOW ROADWAYS, PARKING LOTS, AND SLABS) OF THE DENSITY OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH THE STANDARD PROCTOR METHOD OF MOISTURE-DENSITY RELATIONSHIP TEST, ASTM D698 OR AASHTO-99 UNLESS SPECIFIED IN OTHER SPECIFICATIONS. COPIES OF COMPACTION REPORTS SHALL BE PROVIDED TO THE LOCAL REGULATORY AGENCY, WHERE REQUIRED.
- ENTIRE AREA TO BE GRADED SHALL BE CLEARED AND GRUBBED. NO FILL SHALL BE PLACED ON ANY AREA NOT CLEARED AND GRUBBED.
- ALL SOIL EROSION CONTROL MEASURES REQUIRED BY THE GRADING PLAN SHALL BE PERFORMED PRIOR TO GRADING, CLEARING OR GRUBBING. ALL EROSION CONTROL DEVICES SUCH AS SILT FENCES, ETC., SHALL BE MAINTAINED IN WORKABLE CONDITION FOR THE LIFE OF THE PROJECT BY THE CONTRACTOR AT HIS EXPENSE. EROSION CONTROL FACILITIES SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT ONLY ON THE ENGINEER'S APPROVAL. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING UNLESS OTHERWISE SPECIFIED. IF DURING THE LIFE OF THE PROJECT, A STORM CAUSES SOIL EROSION WHICH CHANGES FINISH GRADES OR CREATES "GULLIES" AND "WASHED AREAS" THESE SHALL BE REPAIRED AT NO ADDITIONAL COST, AND ALL SILT WASHED OFF OF THE PROJECT SITE ONTO ADJACENT PROPERTY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST. THE CONTRACTOR SHALL SUBMIT EROSION CONTROL PLANS WHETHER INDICATED IN THE CONSTRUCTION PLANS OR UNDER SEPARATE COVER.  
  
EROSION CONTROL IS FIELD PERFORMANCE BASED AND ADDITIONAL SILT FENCE, TEMPORARY SEDIMENT BASINS AND OTHER MEASURES MAY NEED TO BE INSTALLED IN ADDITION TO THE APPROVED PLAN AS NECESSARY. MEASURES INDICATED ON THE DRAWINGS CAN AND SHOULD BE ADJUSTED TO ASSURE MAXIMUM PROTECTION OF THE SITE.
- DISPOSABLE MATERIAL
  - CLEARING AND GRUBBING WASTES SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE, UNLESS SPECIFIED OTHERWISE.
  - SOLID WASTES TO BE REMOVED, SUCH AS SIDEWALKS, CURBS, PAVEMENT, ETC., MAY BE PLACED IN SPECIFIC DISPOSAL AREAS DELINEATED ON THE PLANS WITH THE PRIOR APPROVAL OF THE ENGINEER OR SHALL BE REMOVED FROM THE SITE AS REQUIRED BY THE SPECIFICATIONS. THIS MATERIAL SHALL HAVE A MINIMUM COVER OF 2'. THE CONTRACTOR SHALL MAINTAIN SPECIFIED COMPACTION REQUIREMENTS IN THESE AREAS. WHEN DISPOSAL SITES ARE NOT PROVIDED, THE CONTRACTOR SHALL REMOVE THIS WASTE FROM THE SITE AND PROPERLY DISPOSE OF IT AT HIS EXPENSE.
  - ABANDONED UTILITIES SUCH AS CULVERTS, WATER PIPE, HYDRANTS, CASTINGS, PIPE APPURTENANCES, ETC., SHALL BE THE PROPERTY OF THE SPECIFIC UTILITY AGENCY, OR COMPANY HAVING JURISDICTION. BEFORE THE CONTRACTOR CAN REMOVE, DESTROY, SALVAGE, REUSE, SELL OR STORE FOR HIS OWN USE ANY ABANDONED UTILITY, HE MUST PRESENT TO THE OWNER WRITTEN PERMISSION FROM THE UTILITY INVOLVED.
  - ON SITE BURNING IS AN ACCEPTABLE METHOD OF DISPOSING OF FLAMMABLE WASTES WHERE ALLOWED BY LOCAL CODES. WHEN BURNING IS ANTICIPATED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND MEETING GOVERNING CODES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR HIS REPRESENTATIVE AS TO THE SPECIFIC LOCATION OF BURNING AND SHALL PROVIDE COPIES OF SECURED PERMITS. AFTER BURNING IS COMPLETED, PURE ASH MAY BE DISPOSED OF BY MIXING WITH FILL DIRT UPON THE APPROVAL OF THE ENGINEER. MATERIAL NOT TOTALLY BURNED SHALL BE DISPOSED OF AS SPECIFIED IN "B" ABOVE. THE CONTRACTOR SHALL NOT HOLD UP WORK PROGRESS FOR THE PURPOSE OF WAITING FOR A "BURNING DAY".
- IN THE EVENT EXCESSIVE GROUNDWATER OR SPRINGS ARE ENCOUNTERED WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL NECESSARY UNDER DRAINS AND STONE AS DIRECTED BY THE ENGINEER AND AS APPROVED BY PERMITTING FROM THE REGULATORY AGENCIES. ALL WORK SHALL BE PAID BASED UPON UNIT BIDS, UNLESS SPECIFIED OTHERWISE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OR ADJUSTMENT OF ALL UTILITY SURFACE ACCESSSES WHETHER HE PERFORMS THE WORK OR A UTILITY COMPANY PERFORMS THE WORK.
- THE CONTRACTOR SHALL CONTROL ALL "DUST" BY PERIODIC WATERING AND SHALL PROVIDE ACCESS AT ALL TIMES FOR PROPERTY OWNERS WITHIN THE PROJECT AREA AND FOR EMERGENCY VEHICLES. ALL OPEN DITCHES AND HAZARDOUS AREAS SHALL BE CLEARLY MARKED IN ACCORDANCE WITH THE SPECIFICATIONS.

**NOTE-1**

**HENDERSON COUNTY EROSION CONTROL NOTES**

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF HENDERSON COUNTY. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

- OBTAIN EROSION CONTROL PERMIT THROUGH HENDERSON COUNTY.
- CONTACT THE EROSION CONTROL OFFICE TO SET UP A PRE-CONSTRUCTION MEETING PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- CONTACT THE EROSION CONTROL OFFICE 48 HOURS PRIOR TO LAND DISTURBANCE.
- INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED.
- PROCEED WITH GRADING, CLEARING AND GRUBBING.
- SEED AND MULCH DENUDED AREAS WITHIN 14 DAYS AFTER FINISHED GRADES ARE ESTABLISHED, AND/OR WITHIN 7 DAYS ON ALL PERIMETER AREAS AND SLOPES GREATER THAN 3:1. SEED AND SOIL AMENDMENTS SHALL BE PLACED ON A PREPARED SEEDBED AT THE FOLLOWING RATES PER ACRE:

**SUMMER (PERMANENT) SEEDING (MAY 15 TO AUGUST 15)**

LIME 2,000 LBS  
 FERTILIZER (10-10-10) 750 LBS  
 KY-31 FESCUE 100 LBS  
 STRAW MULCH 4,000 LBS. (ANCHORED)  
 GERMAN MILLET 40 LBS.  
 (OR SMALL-STEMMED SUDAN GRASS @ 40 LBS.)

**WINTER (TEMPORARY) SEEDING (AUGUST 15 TO MAY 15) MOUNTAINS**

LIME 2,000 LBS  
 FERTILIZER (10-10-10) 750 LBS  
 KY-31 FESCUE 100 LBS  
 STRAW MULCH 4,000 LBS. (ANCHORED)  
 RYE (GRAIN) 120 LBS.

**FOR ALL SLOPES 2:1 OR STEEPER ADD TO THE ABOVE:**

SERICEA LESPEDEZA (KOREAN)  
 IF HYDROSEEDING, WOOD CELLULOSE MAY BE USED IN ADDITION TO STRAW MULCH AT THE RATE OF 1,000 LBS PER ACRE.

ALL SEEDING SHALL BE MAINTAINED, WATERED, ETC., UNTIL A PERMANENT VEGETATIVE GROUND COVER IS ESTABLISHED OVER ALL DISTURBED AREAS.  
 ALL SLOPES 2:1 OR STEEPER SHALL BE COVERED BY EROSION CONTROL MATTING.

- MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.
- REQUEST FINAL APPROVAL BY HENDERSON COUNTY.

**GENERAL INFORMATION**

- EROSION CONTROL IS FIELD PERFORMANCE BASED AND ADDITIONAL SILT FENCES, TEMPORARY SEDIMENT BASINS AND ALL OTHER MEASURES MAY NEED TO BE ADDED IN ADDITION TO THE APPROVED PLAN AS NECESSARY. MEASURES SHOWN CAN AND SHOULD BE ADJUSTED TO ASSURE MAXIMUM PROTECTION OF SITE.
- THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED MUST WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RETAIN EROSION.
- STABILIZATION OF ALL LAND DISTURBANCE SHALL OCCUR AS SOON AS PRACTICAL BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS OR 7 CALENDAR DAYS FOR SLOPES STEEPER THAN 3:1, FROM THE LAST LAND-DISTURBING ACTIVITY.
- AREAS DEDICATED FOR MANAGEMENT OF LAND CLEARING AND DEMOLITION DEBRIS, EARTHEN STOCK PILE MATERIAL, CONSTRUCTION AND DOMESTIC WASTE, AND HAZARDOUS OR TOXIC WASTE MUST BE LOCATED AT LEAST 50 FEET AWAY FROM STORM DRAIN INLETS AND SURFACE WATERS UNLESS IT CAN BE SHOWN THAT NO OTHER ALTERNATIVES ARE REASONABLY AVAILABLE.
- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE WEEKLY SELF-INSPECTION PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE INSPECTIONS SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE NPDES SELF-INSPECTION REPORT FORM FROM THE NCDCMR, DIVISION OF LAND RESOURCES SHALL BE USED AND ALL REPORTING REQUIREMENTS SHALL BE FOLLOWED. INSPECTION ITEMS INCLUDE, BUT IS NOT LIMITED TO, SEDIMENT CONTROL BASINS, TRAPS, AND PONDS, ROCK DAMS, TEMPORARY DIVERSIONS, TEMPORARY SLOPE DRAINS, ROCK CHECK DAMS, SILT FENCE, INLET PROTECTION, STORM DRAIN FACILITIES, ENERGY DISSIPATORS, AND STABILIZATION METHODS OF OPEN CHANNELS, AND THE NEED FOR GROUND COVER.

NPDES AND SELF-INSPECTION INFORMATION  
<https://www.hendersoncountync.gov/waterresources/page/npdes-and-self-inspection-information>

- THE CONTRACTOR SHALL MAKE INSPECTIONS OF THE SITE DURING AND AFTER THE INSTALLATION OF EROSION CONTROL FACILITIES; THE COMPLETION OF EACH PHASE OF CLEARING AND GRADING; THE INSTALLATION OF STORM DRAINAGE FACILITIES; THE COMPLETION OF CONSTRUCTION; IMMEDIATELY AFTER EACH RAINFALL EVENT; AND CONTINUALLY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

**GENERAL CONSTRUCTION NOTES CONT'D.**

- ALL AREAS WHERE THERE IS EXPOSED DIRT SHALL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS. THE FINISHED SURFACE SHALL BE TO GRADE AND SMOOTH, FREE OF ALL ROCKS LARGER THAN 3", EQUIPMENT TRACKS, DIRT CLOUDS, BUMPS, RIDGES AND GULLIES PRIOR TO SEEDING; THE SURFACE SHALL BE LOOSENEED TO A DEPTH OF ±4"-6" TO ACCEPT SEED. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING OPERATIONS WITHOUT FIRST OBTAINING THE ENGINEER'S APPROVAL OF THE GRADED SURFACE. ALL SEEDING SHALL BE PERFORMED BY A MECHANICAL "HYDRO-SEEDER". HAND SEEDING SHALL BE AUTHORIZED ON AN AREA BY AREA APPROVAL BY THE ENGINEER. ALL FILL AND CUT SLOPES 2:1 HORIZONTAL TO VERTICAL, OR STEEPER, SHALL BE COVERED, AFTER SEEDING, WITH EROSION CONTROL MATTING CONSISTING OF BIODEGRADABLE STRAW WITH NATURAL FIBER OR BIODEGRADABLE NETTING, APPROVED BY THE ENGINEER.
- WHERE SPECIFIED, STORM DRAIN PIPE SHALL BE CORRUGATED METAL PIPE (CMP) CONFORMING TO AASHTO M-36, WITH PERFORATED ENDS TO ACCOMMODATE CORRUGATED COUPLING BANDS. 18" PIPE SHALL BE 16 GAUGE, 24" AND 30" PIPE SHALL BE 14 GAUGE AND 36" PIPE AND OVER SHALL BE 12 GAUGE AS SPECIFIED ON THE PLANS. PIPE AND COUPLING BANDS SHALL CONFORM TO NCDOT 1032-3 FOR PLAIN PIPE OR 1032-4(A) FOR BITUMINOUS COATED AND PARTIALLY PAVED PIPE. DIMPLE BANDS SHALL NOT BE USED.  
  
WHERE SPECIFIED, STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) CONFORMING TO AASHTO M-170, AS CONTAINED IN NCDOT STANDARD SPECIFICATION 1032-9 FOR WALL "B" TYPE.  
  
WHERE SPECIFIED, ALL STORM DRAIN PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE), CORRUGATED EXTERIOR, SMOOTH WALL INTERIOR, WITH SOIL TIGHT JOINTS, BACKFILLED WITH # 57 WASHED STONE UP TO MIN. 6" OVER THE TOP OF THE PIPE, 12" ON EACH SIDE OF THE PIPE, AND 8" BENEATH THE PIPE. HDPE PIPE USED FOR STORM DRAINAGE DETENTION SYSTEMS SHALL BE "HANCOR BLUE SEAL" OR APPROVED EQUAL, WITH WATER TIGHT JOINTS.  
  
WHERE SPECIFIED, ALL STORM DRAIN PIPE SHALL BE DUAL WALL HIGH DENSITY POLYPROPYLENE (HDPP), CORRUGATED EXTERIOR, SMOOTH WALL INTERIOR, WITH GASKETED JOINTS, BACKFILLED WITH #57 WASHED STONE UP TO THE SPRING LINE OF THE PIPE, WITH 12" STONE ON EACH SIDE OF THE PIPE, AND 8" BENEATH THE PIPE. PIPES OF A DIAMETER OF 30" OR GREATER SHALL BE TRIPLE WALL, CORRUGATED STRUCTURAL CORE, SMOOTH EXTERIOR, WITH DOUBLE GASKETED JOINTS.  
  
ALL CORRUGATED METAL STORM DRAIN PIPE (CMP) SHALL BE ALUMINIZED TYPE 2 CORRUGATED STEEL MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M-36. THE PIPE SHALL BE MANUFACTURED FROM ALUMINIZED STEEL TYPE 2 MATERIAL CONFORMING TO THE REQUIREMENTS OF AASHTO M-274. ALL PIPE SHALL BE FURNISHED WITH PERFORATED ENDS AND SHALL BE JOINED WITH HUGGER BANDS. THE USE OF DIMPLE BANDS WILL NOT BE ALLOWED. PIPE THROUGH 24" DIAMETER SHALL BE 16 GAUGE, PIPE THROUGH 42" DIAMETER SHALL BE 14 GAUGE, PIPE THROUGH 54" DIAMETER SHALL BE 12 GAUGE.
- CONTRACTOR SHALL VERIFY THE APPROPRIATENESS OF ALL ELEVATIONS BEFORE INSTALLATION OF FACILITIES AND THAT THOSE ELEVATIONS CONTRIBUTE TO THE PROPER INTENDED PERFORMANCE OF THE INSTALLED FACILITIES.
- CATCH BASINS CAST-IN-PLACE SHALL CONFORM TO THE REQUIREMENTS OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES (LATEST EDITION) ARTICLES 840-1 THROUGH 840-3. CURB INLET CATCH BASIN SHALL CONFORM TO NCDOT STANDARD DETAIL 840.04 THROUGH 840.04. DROP INLETS SHALL CONFORM TO STANDARD DETAIL 840.14. JUNCTION BOXES SHALL CONFORM TO STANDARD DETAIL 840.31.
- CURB INLET FRAME, GRATE AND HOOD SHALL BE NEENAH R-32330, PRODUCTS BY DEWEY BROS., U.S. FOUNDRY OR EQUAL. DROP INLET FRAME AND GRATE SHALL BE NEENAH R-3339A OR EQUAL. FIELD INLET COVER SHALL CONFORM TO NCDOT STANDARD DETAIL 840.04, OPENING FACING UPSTREAM.
- CONCRETE AND MASONRY SHALL MEET THE REQUIREMENTS OF THE APPROPRIATE SECTION OF THE NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES (LATEST EDITION). CONCRETE SHALL BE CLASS A OR B, 4000 PSI MINIMUM, MEETING THE REQUIREMENTS OF SECTION 1000, CONSTRUCTED IN ACCORDANCE WITH SECTION 825. MASONRY SHALL MEET THE REQUIREMENTS OF SECTION 1040, CONSTRUCTED IN ACCORDANCE WITH SECTION 830 AND/OR 834.
- TOPS OF PROPOSED FRAMES AND GRATES SHALL BE FLUSH WITH FINISHED GRADE. ALL STORM DRAIN BOXES AND MANHOLES OVER 4' IN DEPTH SHALL HAVE STEPS DIRECTLY BENEATH THE OPENING.
- TINDALL PRE CAST CONCRETE BOXES ARE ACCEPTABLE ALTERNATIVES FOR PROPOSED CATCH BASINS WHERE APPROVED BY THE ENGINEER.
- CONTRACTOR SHALL PROVIDE THE OWNER AND THE LOCAL REGULATORY AGENCY WITH PROOF OF ACTIVE GRADING PERMITS FOR ANY BORROW OR WASTE SITES TO BE USED, PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL ASSUME MAINTENANCE OF ALL EROSION CONTROL FACILITIES LEFT ON SITE BY PREVIOUS CONTRACTORS IN THE CASE OF PHASED PROJECTS WHEN SPECIFIED BY THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL MAINTAIN, ADD TO AND/OR ADJUST ALL FACILITIES TO ASSURE MAXIMUM PROTECTION OF THE SITE.

**NOTE-2**

**NPDES STORM WATER PHASE II REQUIREMENTS FOR CONSTRUCTION SITES**

FEDERAL NPDES STORM WATER PHASE II REQUIREMENTS SHALL BE MET BY THE CONTRACTOR FOR ALL CONSTRUCTION SITES LARGER THAN 1 ACRE EFFECTIVE AUGUST 3, 2011. THESE REQUIREMENTS ARE SUMMARIZED AS FOLLOWS:

- IMPLEMENT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND KEEP A COPY OF THE PLAN ON SITE. DEVIATION FROM THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN WILL BE CONSIDERED A VIOLATION OF THE FEDERAL NPDES GENERAL PERMIT.
- PREVENT SPILLING OF FUELS, LUBRICANTS, COOLANTS, HYDRAULIC FLUIDS, AND ANY OTHER PETROLEUM PRODUCTS ONTO THE GROUND OR INTO SURFACE WATERS. DISPOSE OF SPENT FUELS APPROPRIATELY.
- USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
- CONTROL MANAGEMENT AND DISPOSAL OF LITTER AND SANITARY WASTE FROM THE SITE SO THAT NO ADVERSE IMPACTS TO WATER QUALITY OCCUR.
- INSPECT ALL EROSION AND SEDIMENTATION CONTROL FACILITIES EVERY SEVEN CALENDAR DAYS (TWICE IN SEVEN CALENDAR DAYS FOR STORM WATER DISCHARGES TO STREAMS ON THE LATEST EPA-APPROVED 303(d) LIST) AND WITHIN 24 HOURS OF ANY STORM EVENT OF MORE THAN 0.5 INCH OF RAIN IN A 24-HOUR PERIOD. MAINTAIN A RAIN GAUGE ON SITE AND KEEP A RECORD OF THE RAINFALL AMOUNTS AND DATES.
- OBSERVE STORM WATER RUNOFF DISCHARGES AND LOOK FOR CLARITY, FLOATING SOLIDS, SUSPENDED OILS, OIL SHEEN AND OTHER OBVIOUS INDICATORS OF POLLUTION AND EVALUATE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES. IF SEDIMENTATION IS LEAVING THE DISTURBED AREA, TAKE IMMEDIATE ACTION TO CONTROL THE DISCHARGE.
- KEEP A RECORD OF INSPECTIONS. RECORD ANY VISIBLE SEDIMENTATION FOUND OUTSIDE THE DISTURBED LIMIT AND RECORD MEASURES TAKEN TO CLEAN UP THE SEDIMENT. MAKE THESE RECORDS AVAILABLE TO THE DIVISION OF WATER QUALITY OR ITS AUTHORIZED AGENT UPON REQUEST.
- MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES TO KEEP THEM OPERATING AT OPTIMUM EFFICIENCY.  
  
CONTACT THE ENGINEER FOR A COPY OF THE GENERAL PERMIT TO DISCHARGE STORM WATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.  
  
VIOLATIONS OF THE NPDES STORM WATER RULES CONSTITUTE A VIOLATION OF THE FEDERAL CLEAN WATER ACT AND ARE SUBJECT TO CIVIL PENALTIES OF UP TO \$27,000 PER DAY, UNDER STATE LAW, A DAILY CIVIL PENALTY OF \$10,000 PER VIOLATION CAN BE ASSESSED FOR VIOLATION OF TERMS OF THE PERMIT.
- REVEGETATION OF SLOPES 3:1 OR GREATER, INCLUDING PERIMETER AREAS, ARE REQUIRED WITHIN 7 CALENDAR DAYS.

**NOTE-6**

**GENERAL CONSTRUCTION NOTES CONT'D.**

- SEED AND MULCH DENUDED AREA WITHIN 14 DAYS ON DISTURBED FLAT AREAS AND 7 DAYS ON ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. GROUND COVER SHALL BE REQUIRED AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 (OR 7) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
- THE LOCATIONS OF ALL UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UTILITIES WITH THE UTILITY OWNERS PRIOR TO CONSTRUCTION.
- ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH RESPECTIVE UTILITY.
- CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ANY EXISTING ITEM AND/OR MATERIAL INSIDE OR OUTSIDE THE CONTRACT LIMITS DUE TO CONSTRUCTION OPERATIONS.
- THE GENERAL CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
- DO NOT SCALE THESE DRAWINGS AS THEY ARE REPRODUCTIONS AND SUBJECT TO DISTORTION.
- THE CONTRACTOR SHALL VERIFY ALL LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COST HAVE LOCATED ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE, OTHER OBSTRUCTIONS OR FROM ANY DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NON-SUBSCRIBING UTILITIES. THE CONTRACTOR(S) SHALL CONTRACT NO "ONE CALL" AT (800) 632-4949 FOR ASSISTANCE IN LOCATING EXISTING UTILITIES. CALL AT LEAST 48 HOURS PRIOR TO ANY DIGGING.
- THE CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL REVIEW ALL PLANS AND SPECIFICATIONS AND THE JOB SITE. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER WHO PREPARED THE PLANS OF ANY DISCREPANCIES THAT MAY REQUIRE MODIFICATIONS TO THESE PLANS OR OF ANY FIELD CONFLICTS.
- ALL PERMITS RELATIVE TO THE PROJECT MUST BE OBTAINED, PRIOR TO CONSTRUCTION. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY AND LOCAL CODES.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL BUILDING DIMENSIONS.
- CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THE REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, ACCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.
- ALL RECOMMENDATIONS/REQUIREMENTS OUTLINED IN THE SOILS REPORT AND ADDENDUMS TO THE SOILS REPORT CONTAINED IN THE CONTRACT DOCUMENTS SHALL BE INCORPORATED INTO THE EARTHWORK AND RELATED SPECIFICATIONS FOR THIS PROJECT.
- IF BORROWED OR WASTE FILL MATERIAL IS GENERATED, AN APPROVED GRADING PERMIT MUST BE SECURED FOR THE BORROW OR WASTE MATERIAL SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY.
- UNLESS A PERMIT FROM NCDQ - DIVISION OF WASTE MANAGEMENT TO OPERATE A LANDFILL IS ON FILE FOR THE OFFICIAL SITE, ACCEPTABLE FILL MATERIAL SHALL BE FREE OF ORGANIC OR OTHER DEGRADABLE MATERIALS, MASONRY, CONCRETE AND BRICK IN SIZES EXCEEDING 12 INCHES, AND ANY MATERIALS WHICH WOULD CAUSE THE SITE TO BE REGULATED AS A LANDFILL BY THE STATE OF NORTH CAROLINA.
- ALL CONSTRUCTED SEVERE SLOPES GREATER THAN 2:1 AND GREATER THAN FIVE (5) FEET IN HEIGHT, AN INSPECTION AND A STABILITY CERTIFICATE ARE REQUIRED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER WITH GEOTECHNICAL EXPERTISE. SUFFICIENT TO PERFORM THE INSPECTION AND STABILITY ANALYSIS. FOR ALL CONSTRUCTED SEVERE SLOPES WITHIN PROPOSED OR EXISTING PUBLIC RIGHTS-OF-WAY, PERIODIC INSPECTIONS AND COMPACTION REPORTS ARE REQUIRED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER WITH GEOTECHNICAL EXPERTISE.

**NOTE-2A**

**PRECAST CONCRETE CONSTRUCTION NOTES**

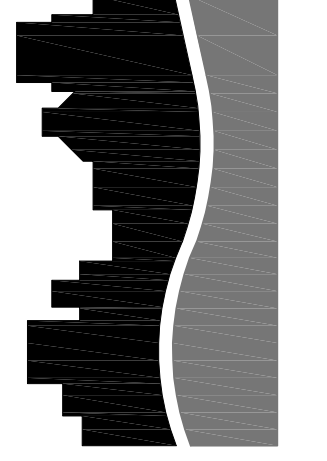
- ALL PRECAST COMPONENTS SHALL MEET REQUIREMENTS ASTM C-478, LATEST REVISION, AND ASTM C-890.
- ALL "FORMED IN PLACE" CONCRETE SHALL BE CLASS "B", 4000 PSI MIN.
- ALL PRECAST SECTIONS SHALL BE CONSTRUCTED PLUMB.
- IF MANHOLES OR VAULTS ARE SET IN LOCATION OF HIGH WATER TABLE OR UNDERGROUND WATER IS ENCOUNTERED, THE CONTRACTOR SHALL INSTALL UNDER DRAINS AND STONE AS DIRECTED IN THE FIELD BY THE ENGINEER.
- THE PRECAST SUPPLIER SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN OF THE STRUCTURE AND, WHEN REQUESTED BY THE ENGINEER, SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS WHICH HAVE BEEN SIGNED AND SEALED BY A REGISTERED STRUCTURAL ENGINEER.

**NOTE-8**

**RETAINING WALL NOTES**

- CONTRACTOR TO COORDINATE & OBTAIN WALL DESIGN FROM A LICENSED ENGINEER AND SUBMIT TO OWNER & ENGINEER FOR REVIEW PRIOR TO ORDERING MATERIALS. CONTRACTOR TO COORDINATE WALL STYLE & COLOR WITH ARCHITECT & OWNER.
- WALL DESIGN TO INCLUDE FOOTING DRAIN & MINIMUM WIDTH OF 12" OF #57 WASHED STONE BEHIND WALL FROM BOTTOM TO TOP OF WALL. (COORDINATE WITH STRUCTURAL ENGINEER FOR DETAILS)
- HAND RAILING TO BE INSTALLED PER NC & LOCAL BUILDING CODES. COORDINATE STYLE & COLOR WITH THE ARCHITECT & OWNER.
- CONTRACTOR RESPONSIBLE FOR PROVIDING APPROVED THIRD PARTY INSPECTION & FINAL CERTIFICATION FOR WALL CONSTRUCTION.
- CONTRACTOR RESPONSIBLE FOR OBTAINING BUILDING PERMIT FOR RETAINING WALL PRIOR TO ORDERING MATERIALS OR CONSTRUCTION.
- ALL RETAINING WALL ELEVATIONS SHOWN ARE FROM TOP OF WALL TO FINISH GRADE ELEVATION. CONTRACTOR TO ACCOUNT FOR FOOTER/COVER OVER FOOTER. REFER TO WALL DESIGN FOR FOOTER DESIGN.
- WHERE REQUIRED BY LOCAL ORDINANCE, A CERTIFICATE OF COMPLIANCE SHALL BE PROVIDED BY THE CONTRACTOR TO THE OWNER AND LOCAL REGULATORY AGENCY UPON COMPLETION OF CONSTRUCTION OF THE RETAINING WALL. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION WITH THE LOCAL REGULATORY AGENCY PRIOR TO OBTAINING A FINAL BUILDING INSPECTION.

**NOTE-13**



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1st Rev. 2/15/19  
 Date: April 29, 2021  
 Scale: NTS  
 Revision:

Details



### SEEDING NOTES

#### PERMANENT SEEDING

##### LAWN SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
KENTUCKY BLUEGRASS (20%)	260 LBS.
REBEL FESCUE (80%)	

##### SEEDING DATES

Mountains	March 15 - May 15
Piedmont	August 15 - October 15

##### SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

##### MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

##### MAINTENANCE

RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RE-SEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

##### SLOPE SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
VALDA HARD FESCUE	20 LBS.
ASTRO TALL FESCUE	8 LBS.
PENLAWIN RED FESCUE	25 LBS.
PERENNIAL RYE	25 LBS.
KEN-BLU KENTUCKY BLUEGRASS	1.5 LBS.

##### SEEDING DATES

Mountains	March 15 - May 15
Piedmont	August 15 - October 15

##### SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 400 LB/ACRE 18-46-50 FERTILIZER.

##### MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT.

##### MAINTENANCE

RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RE-SEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

#### TEMPORARY SEEDING FOR SUMMER

##### SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
GERMAN MILLET	40 LBS.

##### SEEDING DATES

Mountains	May 15 - August 15
Piedmont	May 1 - August 15
Coastal Plain	April 15 - August 15

##### SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

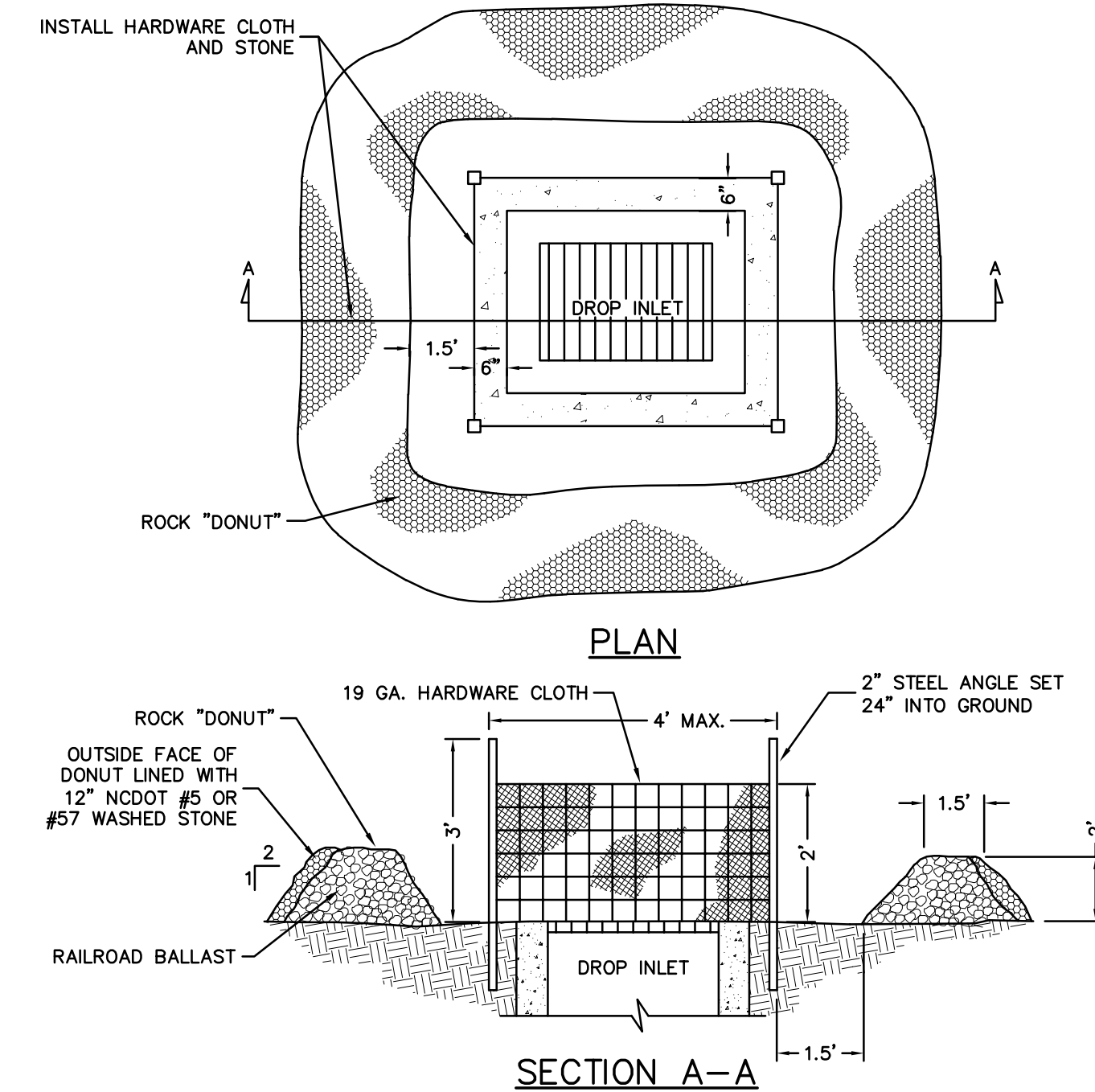
##### MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

##### MAINTENANCE

RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RE-SEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

NOTE-14



#### NOTES:

- ATTACH WIRE TO POSTS ON UPHILL SIDE OF FENCE WITH APPROVED FASTENERS.
- FILTERS SHALL BE INSPECTED AFTER EVERY RAIN AND REPAIRED AS REQUIRED.
- SEDIMENT SHALL BE REMOVED AFTER DEPOSITS REACH 1/3 HEIGHT OF BARRIER.

**MAINTENANCE REQUIREMENTS:**  
INSPECT INLETS WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT. CLEAR THE HARDWARE CLOTH OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE HARDWARE CLOTH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

### DROP INLET PROTECTION

NOT TO SCALE

EC-10

### SEEDING NOTES

#### TEMPORARY SEEDING FOR FALL

##### SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	260 LBS.

##### SEEDING DATES

Mountains	August 15 - December 15
Piedmont	August 15 - December 15
Coastal Plain	August 15 - December 30

##### SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

##### MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

##### MAINTENANCE

REPAIR AND RE-FERTILIZE DAMAGED AREAS IMMEDIATELY. TOPPRESS WITH 50 LB/ACRE NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE SWITCHGRASS (PANICUM VIRGATUM) IN LATE FEBRUARY OR EARLY MARCH.

#### TEMPORARY SEEDING FOR WINTER & EARLY SPRING

##### SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120 LBS.
SWITCHGRASS (PANICUM VIRGATUM)	50 LBS.

##### SEEDING DATES

Mountains (ABOVE 2,500')	February 15 - May 15
Mountains (BELOW 2,500')	February 1 - May 1
Piedmont	January 1 - May 1
Coastal Plain	December 1 - April 15

##### SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

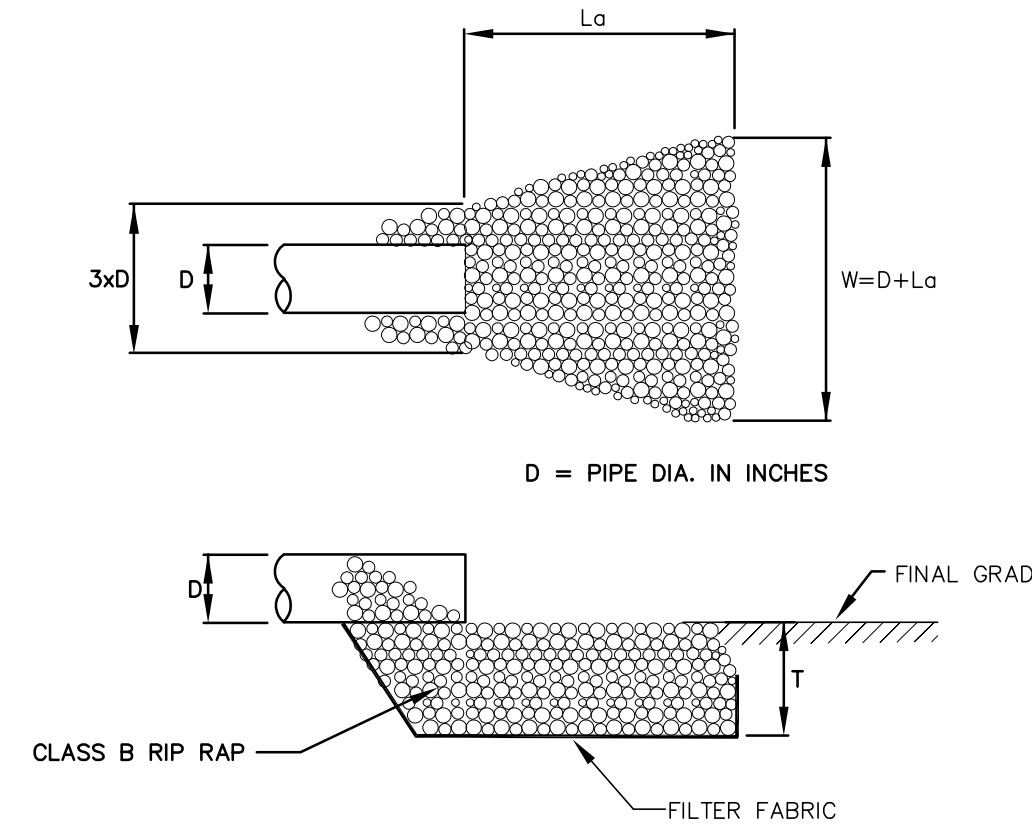
##### MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

##### MAINTENANCE

RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RE-SEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

NOTE-15



#### RIPRAP APRON SIZING (PER FIG. 8.06a)

OUTLET No.	PIPE DIAMETER (Do)	3 x Do	APRON LENGTH (Lo)	APRON WIDTH (W=D+Lo)	APRON THICKNESS (T= 1.5xDo)	STONE DIAMETER (dmax) (50x1.5)
x	x"	x'	x'	x'	x"	x"
x	x"	x'	x'	x'	x"	x"
x	x"	x'	x'	x'	x"	x"
x	x"	x'	x'	x'	x"	x"
x	x"	x'	x'	x'	x"	x"

#### CONSTRUCTION REQUIREMENTS:

- PREPARE SUBGRADE TO REQUIRED LINES AND GRADES SHOWN ON PLANS.
- COMPACT ANY FILL TO APPROX. DENSITY OF SURROUNDING MATERIAL.
- REMOVE OBJECTIONABLE MATERIAL.
- CUT SUBGRADE TO SUFFICIENT DEPTH THAT RIPRAP WILL MEET SURROUNDING ELEVATION.
- EXCAVATED CHANNELS TO ALLOW RIPRAP TO MEET DESIGN DIMENSIONS.
  - FILTER FABRIC
  - PLACE CLOTH DIRECTLY ON PREPARED SUBGRADE.
  - OVERLAP EDGES AT 12" MIN. WITH ANCHOR PINS EVERY 3' ALONG OVERLAP.
  - BURY UPSTREAM END 12" MIN. BELOW GROUND.
  - REPAIR CLOTH BY ADDING ANOTHER CLOTH LAYER. OVERLAP DAMAGED AREA 12" MIN.
- STONE PLACEMENT -
  - PLACE RIPRAP IMMEDIATELY FOLLOWING CLOTH PLACEMENT.
  - RIPRAP SHALL FORM A DENSE, WELL-GRADED MASS OF STONE WITH MINIMAL VOIDS.
  - DO NOT PLACE RIPRAP BY METHODS THAT CAUSE SEGREGATION OF STONE SIZES. FINISHED RIPRAP SHOULD HAVE NO POCKETS OF SMALL STONE OR CLUSTER OF LARGE STONES.
  - FINISHED RIPRAP SHOULD BLEND WITH SURROUNDING AREA WITH NO OVERFALL OR PROTRUSION.

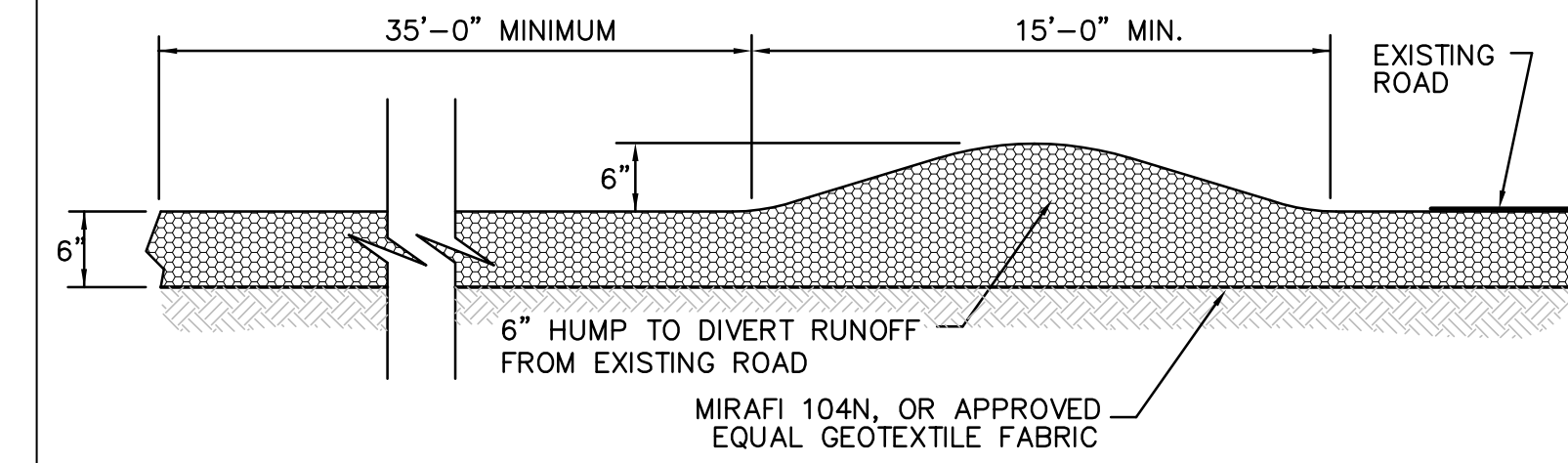
#### MAINTENANCE REQUIREMENTS:

INSPECT CHANNELS AT REGULAR INTERVALS AS WELL AS AFTER MAJOR RAINS, AND MAKE REPAIRS PROMPTLY. GIVE SPECIAL ATTENTION TO THE INLET SECTIONS AND OTHER POINTS WHERE CONCENTRATED FLOW ENTERS. CAREFULLY CHECK THE STABILITY AT THE ROAD CROSSING, AND LOOK FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURES. MAKE REPAIRS IMMEDIATELY. MAINTAIN ALL VEGETATION ADJACENT TO THE OUTLET IN A HEALTHY, VIGOROUS CONDITION TO PROTECT THE AREA FROM EROSION.

### RIPRAP AT PIPE OUTLET

NOT TO SCALE

EC-30



#### TEMPORARY GRAVEL CONSTRUCTION ENTRANCE / EXIT :

WIDTH 30'-0", FLARED TO 45'-0" AT ROAD, LENGTH 50'-0" (MIN.)

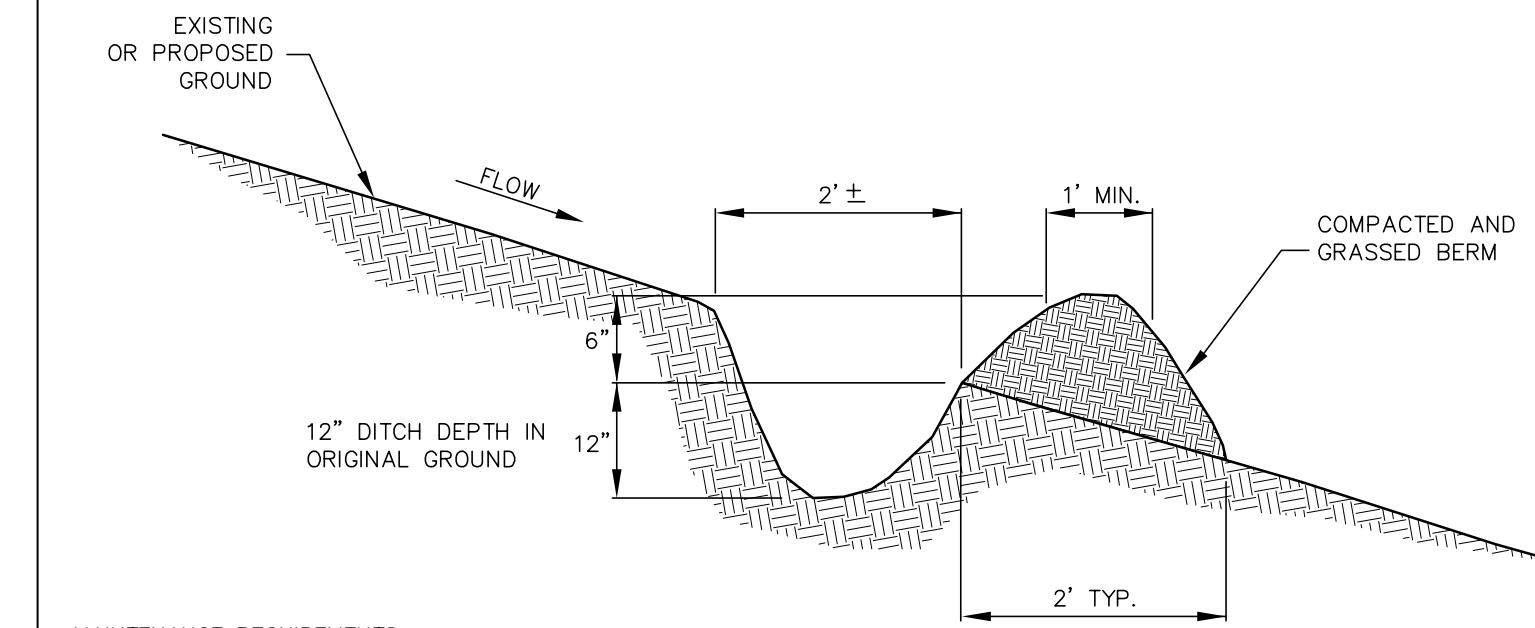
MUD MAT SHALL BE CONSTRUCTED USING RAILROAD BALLAST.

**MAINTENANCE REQUIREMENTS:**  
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

### MUD MAT

NOT TO SCALE

EC-23

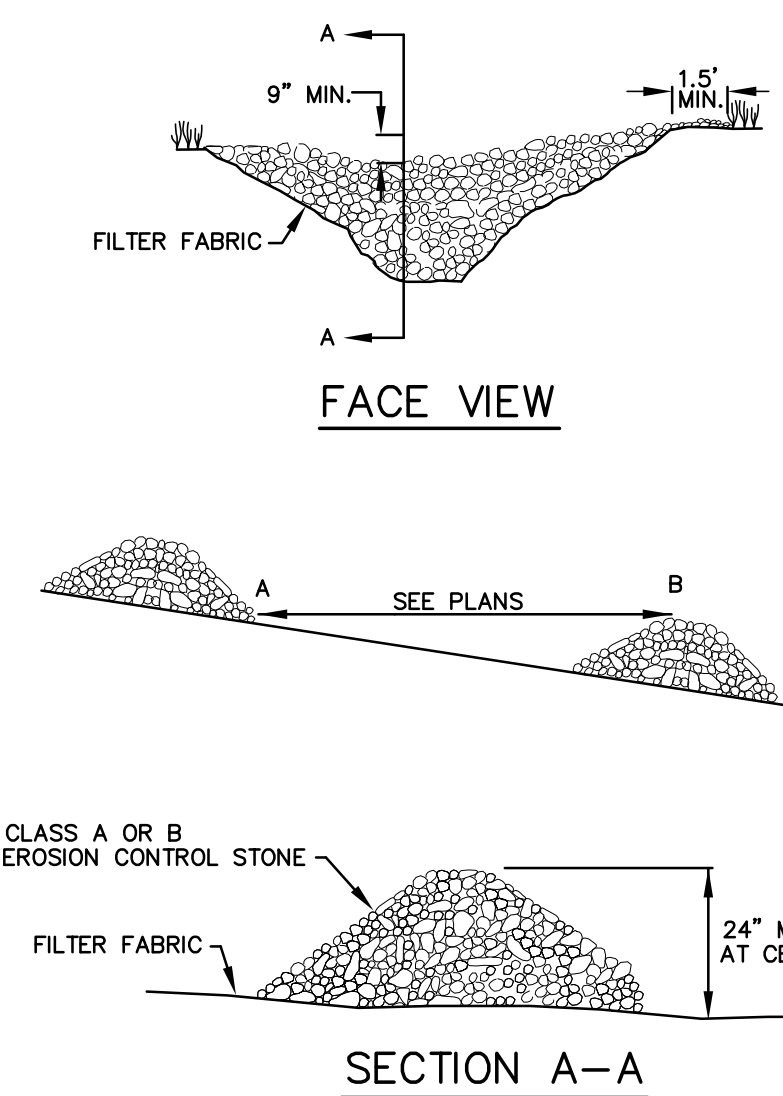


**MAINTENANCE REQUIREMENTS:**  
INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND APPROPRIATELY STABILIZE IT.

### TEMPORARY DIVERSION DITCH

NOT TO SCALE

EC-43



#### STONE CHECK DAM:

STONE SHOULD BE PLACED OVER THE CHANNEL BANKS TO KEEP WATER FROM CUTTING AROUND THE DAM. L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

#### THE FOLLOWING CRITERIA SHOULD BE USED WHEN DESIGNING A CHECK DAM:

- ENSURE THAT THE DRAINAGE AREA ABOVE THE CHECK DAM DOES NOT EXCEED 2 ACRES.
- KEEP THE MAXIMUM HEIGHT AT 2 FT AT THE CENTER OF THE DAM.
- KEEP THE CENTER OF THE CHECK DAM AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES AT NATURAL GROUND ELEVATION.
- KEEP THE SIDE SLOPES OF THE DAM AT 2:1 OR FLATTER.
- STABILIZE OVERFLOW AREAS ALONG THE CHANNEL TO RESIST EROSION CAUSED BY CHECK DAMS.

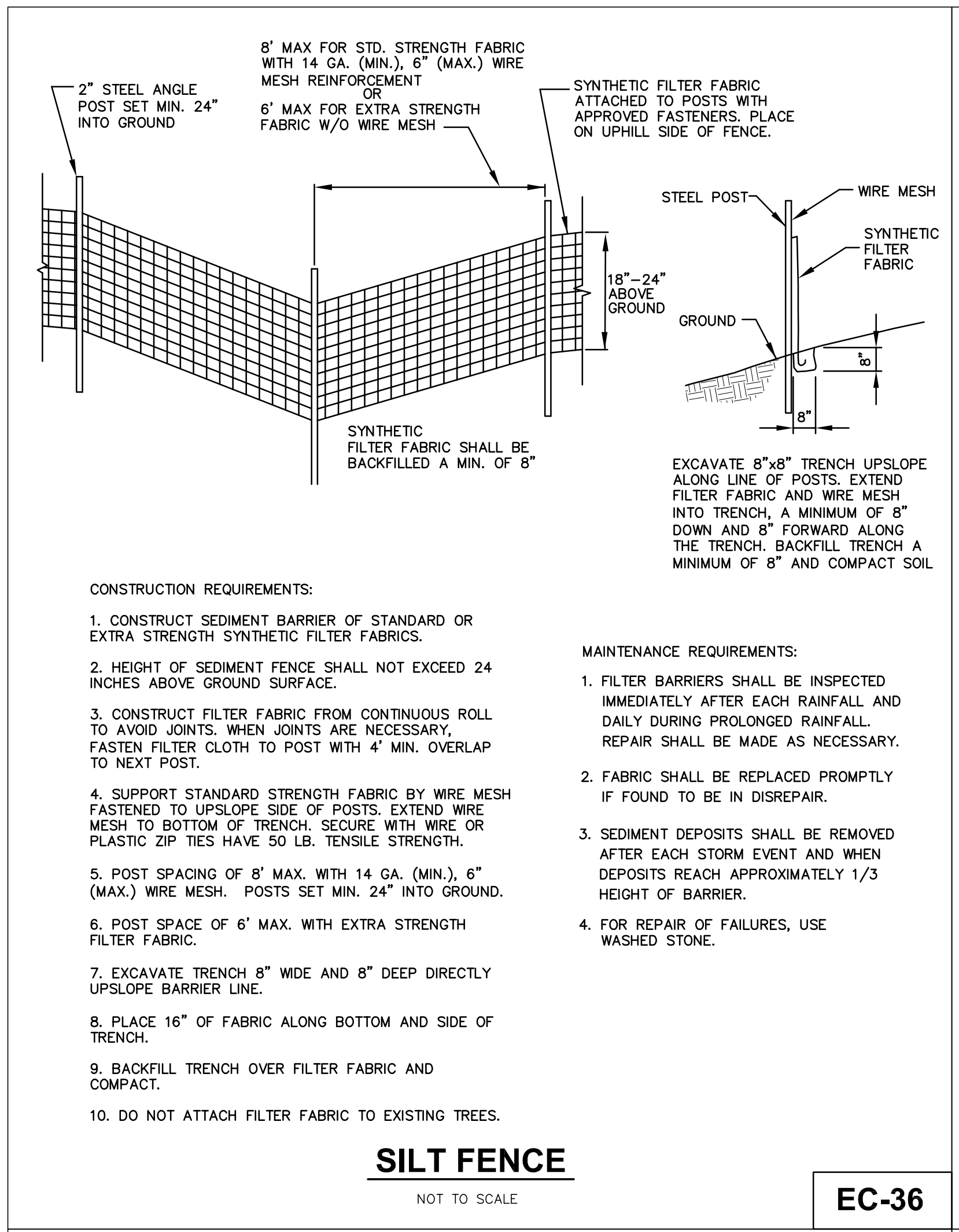
#### MAINTENANCE REQUIREMENTS:

INSPECT CHECK DAMS AND CHANNELS WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED. ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, ADDITIONAL MEASURES CAN BE TAKEN, SUCH AS, INSTALLING A PROTECTIVE RIP RAP LINER IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO THE CHANNEL VEGETATION. ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONE TO THE DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS-SECTION.

### RIPRAP CHECK DAM

NOT TO SCALE

EC-32



**CONSTRUCTION REQUIREMENTS:**

1. CONSTRUCT SEDIMENT BARRIER OF STANDARD OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. HEIGHT OF SEDIMENT FENCE SHALL NOT EXCEED 24 INCHES ABOVE GROUND SURFACE.
3. CONSTRUCT FILTER FABRIC FROM CONTINUOUS ROLL TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, FASTEN FILTER CLOTH TO POST WITH 4" MIN. OVERLAP TO NEXT POST.
4. SUPPORT STANDARD STRENGTH FABRIC BY WIRE MESH FASTENED TO UPSLOPE SIDE OF POSTS. EXTEND WIRE MESH TO BOTTOM OF TRENCH. SECURE WITH WIRE OR PLASTIC ZIP TIES HAVE 50 LB. TENSILE STRENGTH.
5. POST SPACING OF 8' MAX. WITH 14 GA. (MIN.), 6" (MAX.) WIRE MESH. POSTS SET MIN. 24" INTO GROUND.
6. POST SPACE OF 6' MAX. WITH EXTRA STRENGTH FILTER FABRIC.
7. EXCAVATE TRENCH 8" WIDE AND 8" DEEP DIRECTLY UPSLOPE BARRIER LINE.
8. PLACE 16" OF FABRIC ALONG BOTTOM AND SIDE OF TRENCH.
9. BACKFILL TRENCH OVER FILTER FABRIC AND COMPACT.
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

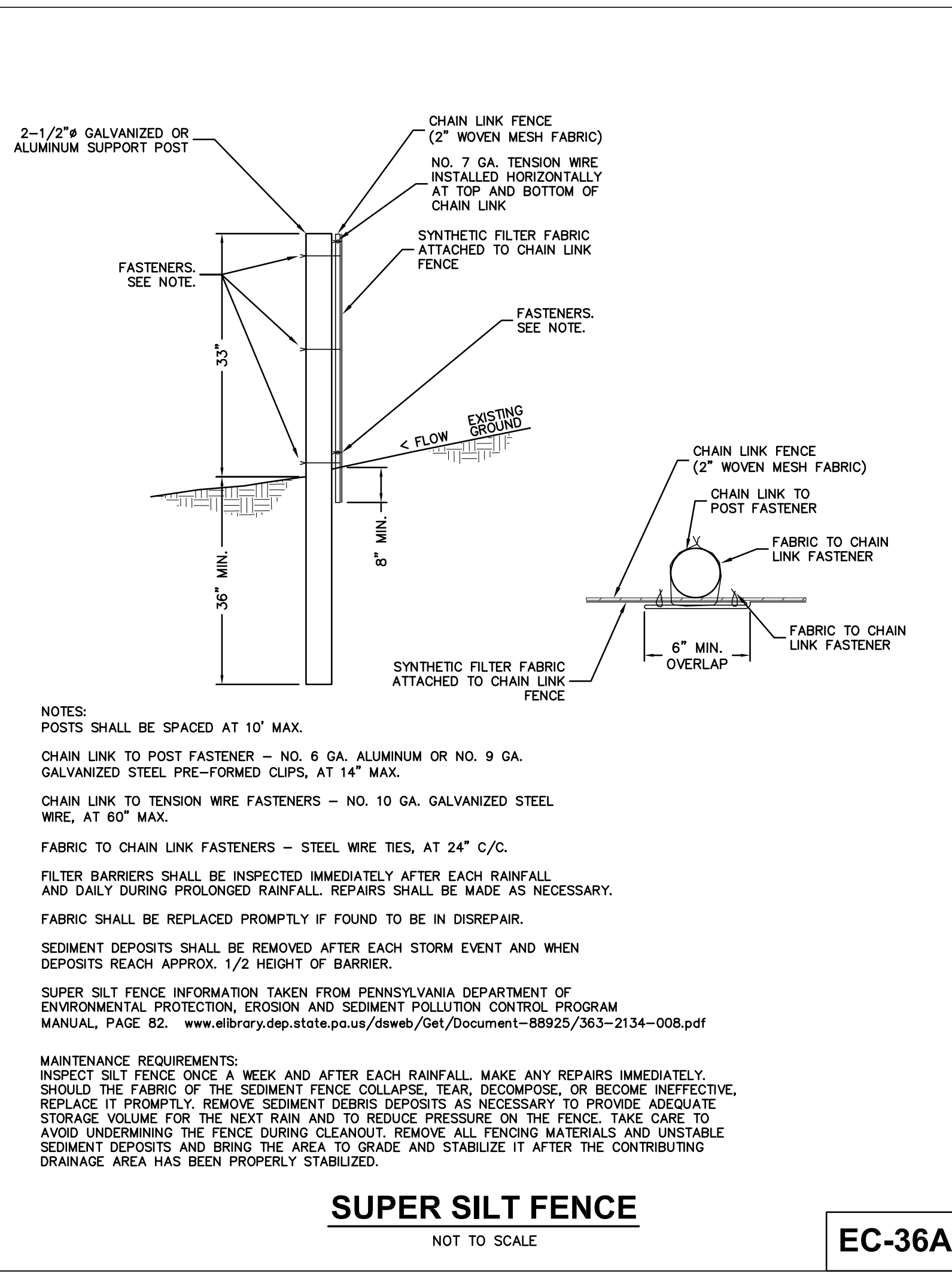
**MAINTENANCE REQUIREMENTS:**

1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIR SHALL BE MADE AS NECESSARY.
2. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.
3. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.
4. FOR REPAIR OF FAILURES, USE WASHED STONE.

**SILT FENCE**

NOT TO SCALE

**EC-36**



**NOTES:**

- POSTS SHALL BE SPACED AT 10' MAX.  
 CHAIN LINK TO POST FASTENER - NO. 6 GA. ALUMINUM OR NO. 9 GA. GALVANIZED STEEL PRE-FORMED CLIPS, AT 14" MAX.  
 CHAIN LINK TO TENSION WIRE FASTENERS - NO. 10 GA. GALVANIZED STEEL WIRE, AT 80" MAX.

FABRIC TO CHAIN LINK FASTENERS - STEEL WIRE TIES, AT 24" C/C.

FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE AS NECESSARY. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.

SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROX. 1/2 HEIGHT OF BARRIER.

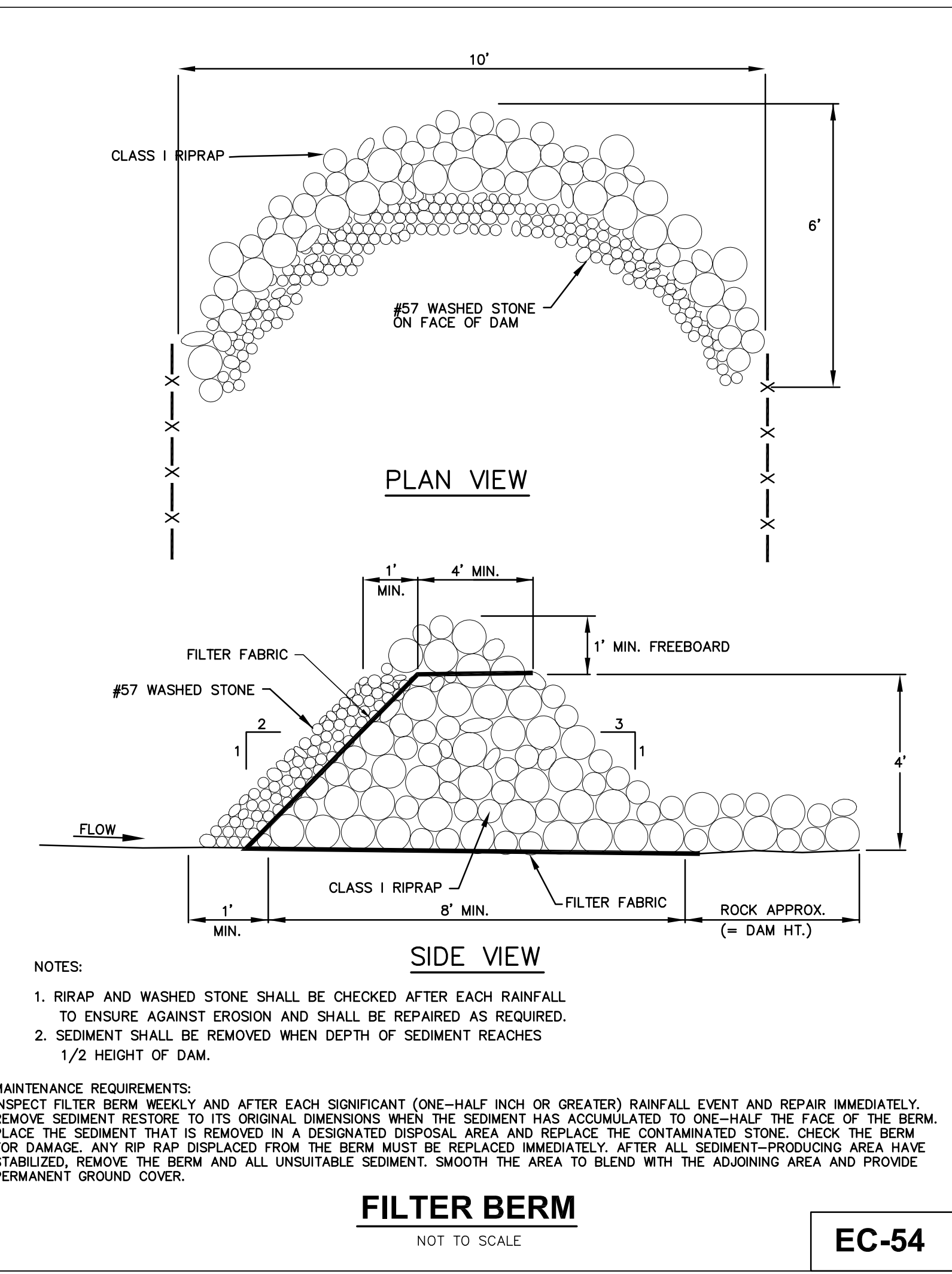
SUPER SILT FENCE INFORMATION TAKEN FROM PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, PAGE 82. [www.elbrary.dep.state.pa.us/dswet/Get/Document-88925/363-2134-008.pdf](http://www.elbrary.dep.state.pa.us/dswet/Get/Document-88925/363-2134-008.pdf)

**MAINTENANCE REQUIREMENTS:**  
 INSPECT SILT FENCE ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF THE SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEBRIS DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNNECESSARY DAMAGE TO THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

**SUPER SILT FENCE**

NOT TO SCALE

**EC-36A**



**NOTES:**

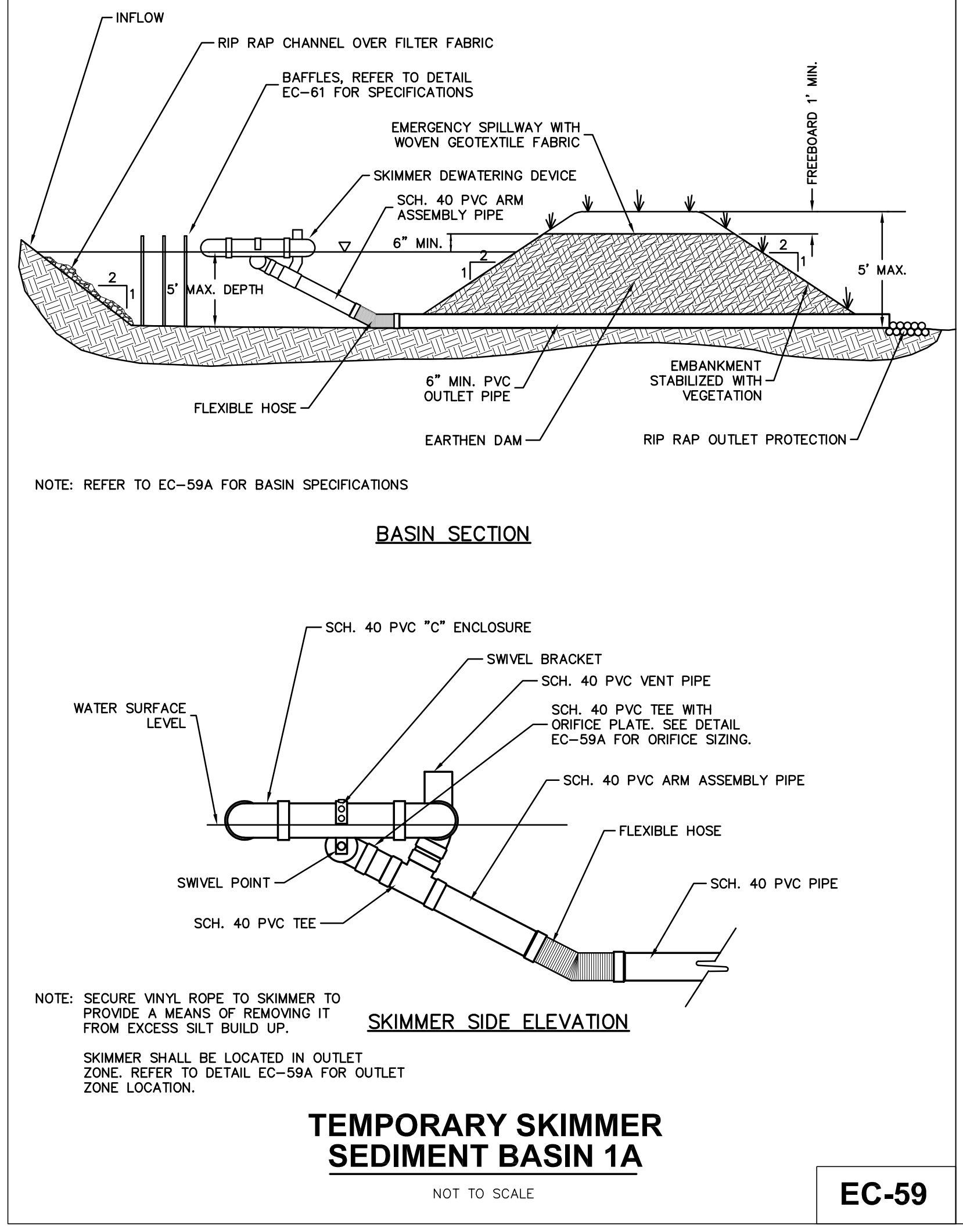
1. RIPRAP AND WASHED STONE SHALL BE CHECKED AFTER EACH RAINFALL TO ENSURE AGAINST EROSION AND SHALL BE REPAIRED AS REQUIRED.
2. SEDIMENT SHALL BE REMOVED WHEN DEPTH OF SEDIMENT REACHES 1/2 HEIGHT OF DAM.

**MAINTENANCE REQUIREMENTS:**  
 INSPECT FILTER BERM WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT RESTORE TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE FACE OF THE BERM. PLACE THE SEDIMENT THAT IS REMOVED IN A DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED STONE. CHECK THE BERM FOR DAMAGE. ANY RIP RAP DISPLACED FROM THE BERM MUST BE REPLACED IMMEDIATELY. AFTER ALL SEDIMENT-PRODUCING AREA HAVE STABILIZED, REMOVE THE BERM AND ALL UNSUITABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREA AND PROVIDE PERMANENT GROUND COVER.

**FILTER BERM**

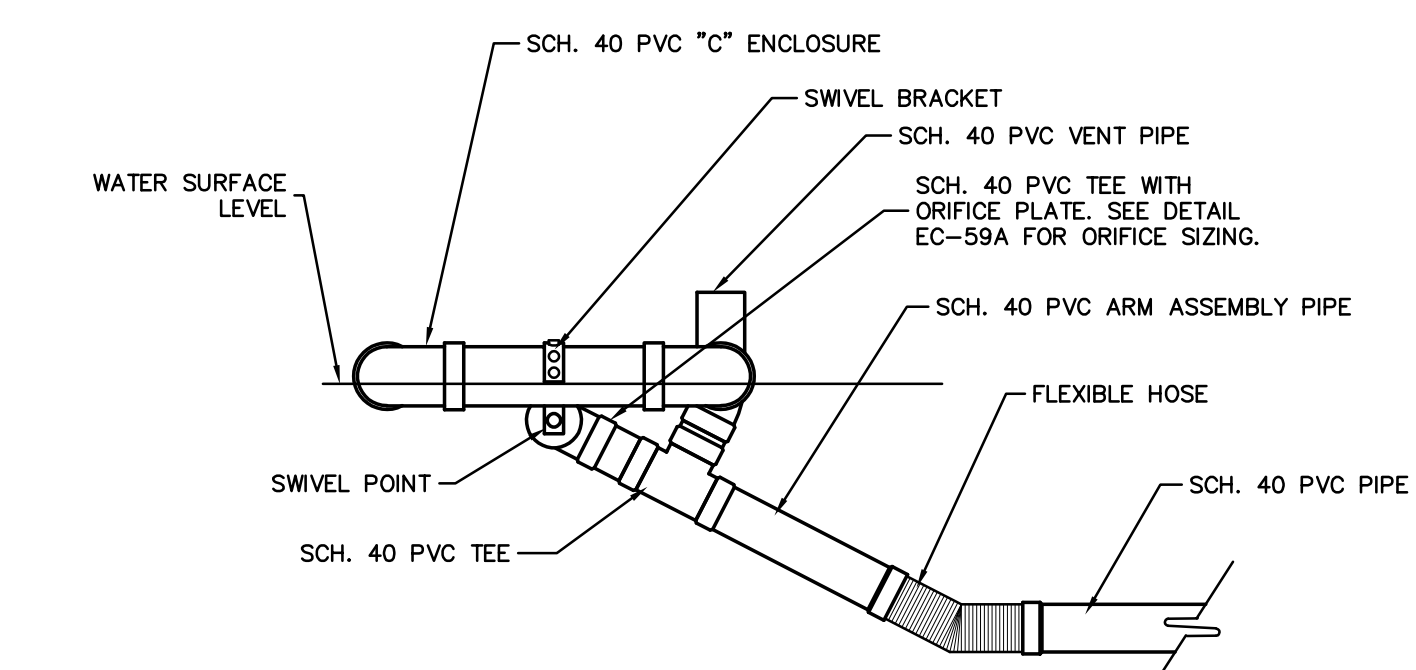
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**EC-54**



NOTE: REFER TO EC-59A FOR BASIN SPECIFICATIONS

**BASIN SECTION**



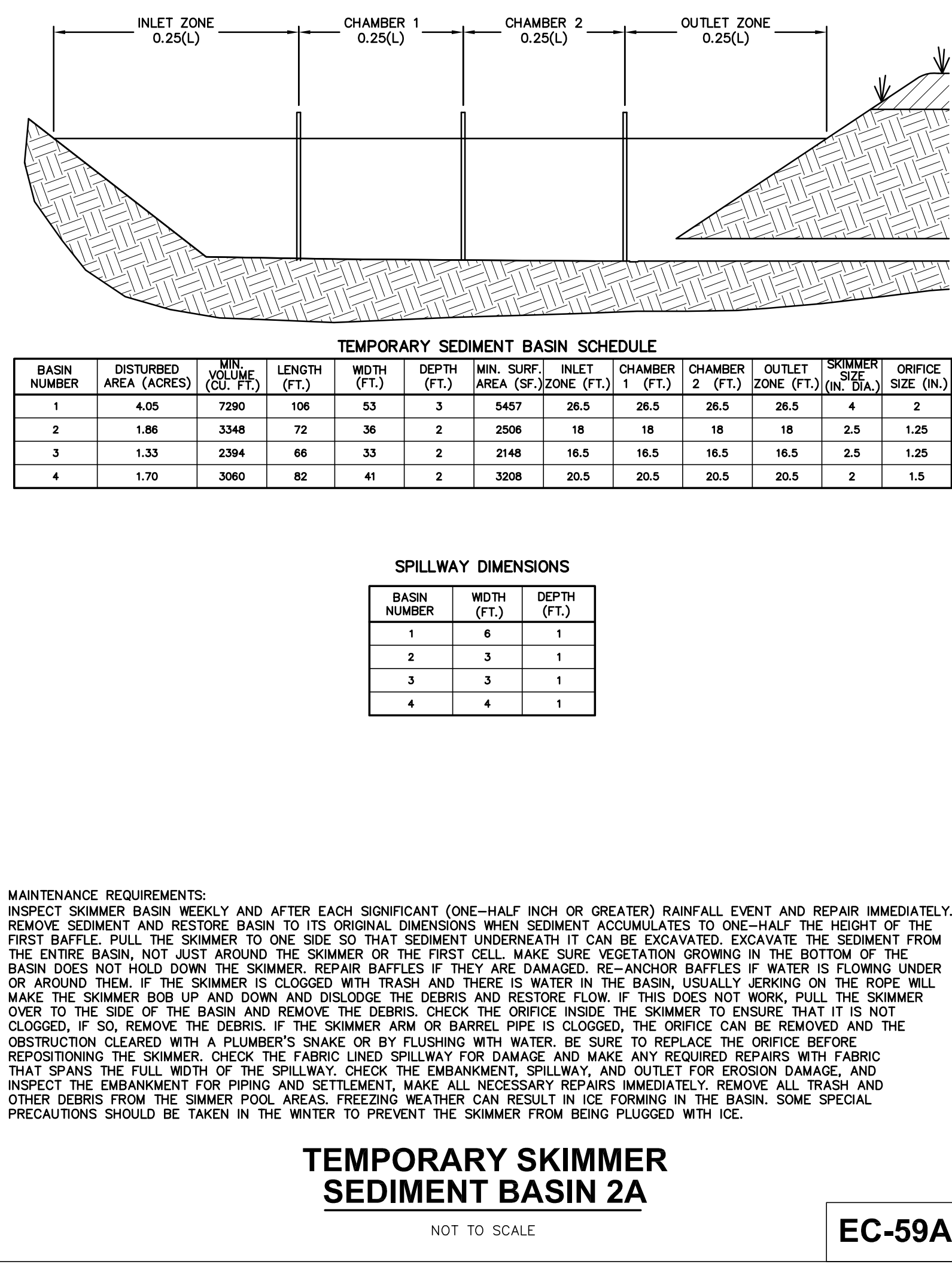
NOTE: SECURE VINYL ROPE TO SKIMMER TO PROVIDE A MEANS OF REMOVING IT FROM EXCESS SILT BUILD UP.

**SKIMMER SIDE ELEVATION**

**TEMPORARY SKIMMER SEDIMENT BASIN 1A**

NOT TO SCALE

**EC-59**



**TEMPORARY SEDIMENT BASIN SCHEDULE**

BASIN NUMBER	DISTURBED AREA (ACRES)	MIN. VOLUME (CU. FT.)	LENGTH (FT.)	WIDTH (FT.)	DEPTH (FT.)	MIN. SURF. AREA (SF.)	INLET ZONE (FT.)	CHAMBER 1 (FT.)	CHAMBER 2 (FT.)	OUTLET ZONE (FT.)	SKIMMER (IN. DIA.)	ORIFICE SIZE (IN.)
1	4.05	7290	106	53	3	5457	26.5	26.5	26.5	26.5	4	2
2	1.86	3348	72	36	2	2506	18	18	18	18	2.5	1.25
3	1.33	2394	66	33	2	2148	16.5	16.5	16.5	16.5	2.5	1.25
4	1.70	3060	82	41	2	3208	20.5	20.5	20.5	20.5	2	1.5

**SPILLWAY DIMENSIONS**

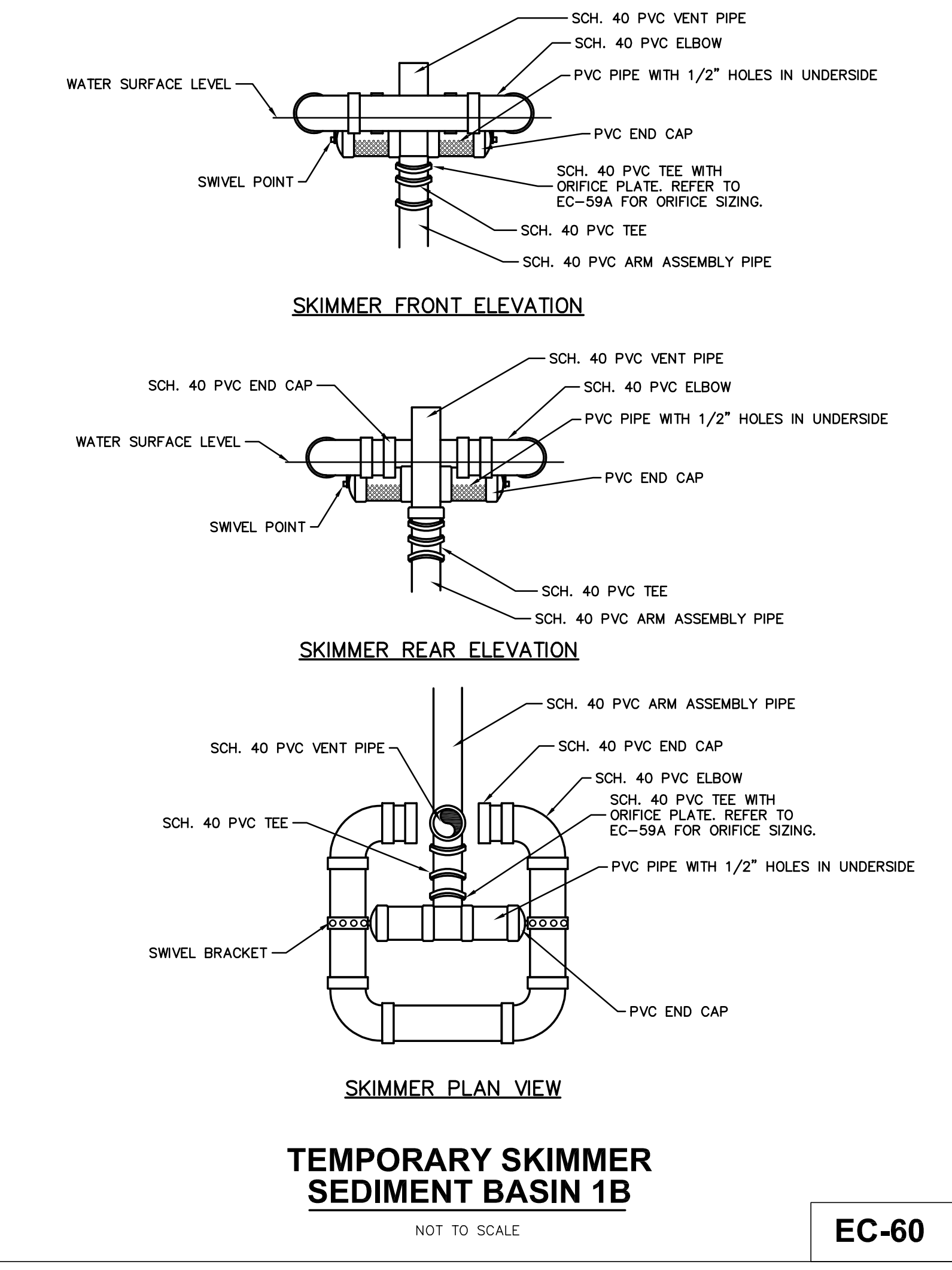
BASIN NUMBER	WIDTH (FT.)	DEPTH (FT.)
1	6	1
2	3	1
3	3	1
4	4	1

**MAINTENANCE REQUIREMENTS:**  
 INSPECT SKIMMER BASIN WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER. REPAIR BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR BAFFLES IF WATER IS FLOWING UNDER OR AROUND THEM. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. CHECK THE ORIFICE INSIDE THE SKIMMER TO ENSURE THAT IT IS NOT CLOGGED. IF SO, REMOVE THE DEBRIS. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE TO REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER. CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAY, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER POOL AREAS. FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM BEING PLUGGED WITH ICE.

**TEMPORARY SKIMMER SEDIMENT BASIN 2A**

NOT TO SCALE

**EC-59A**

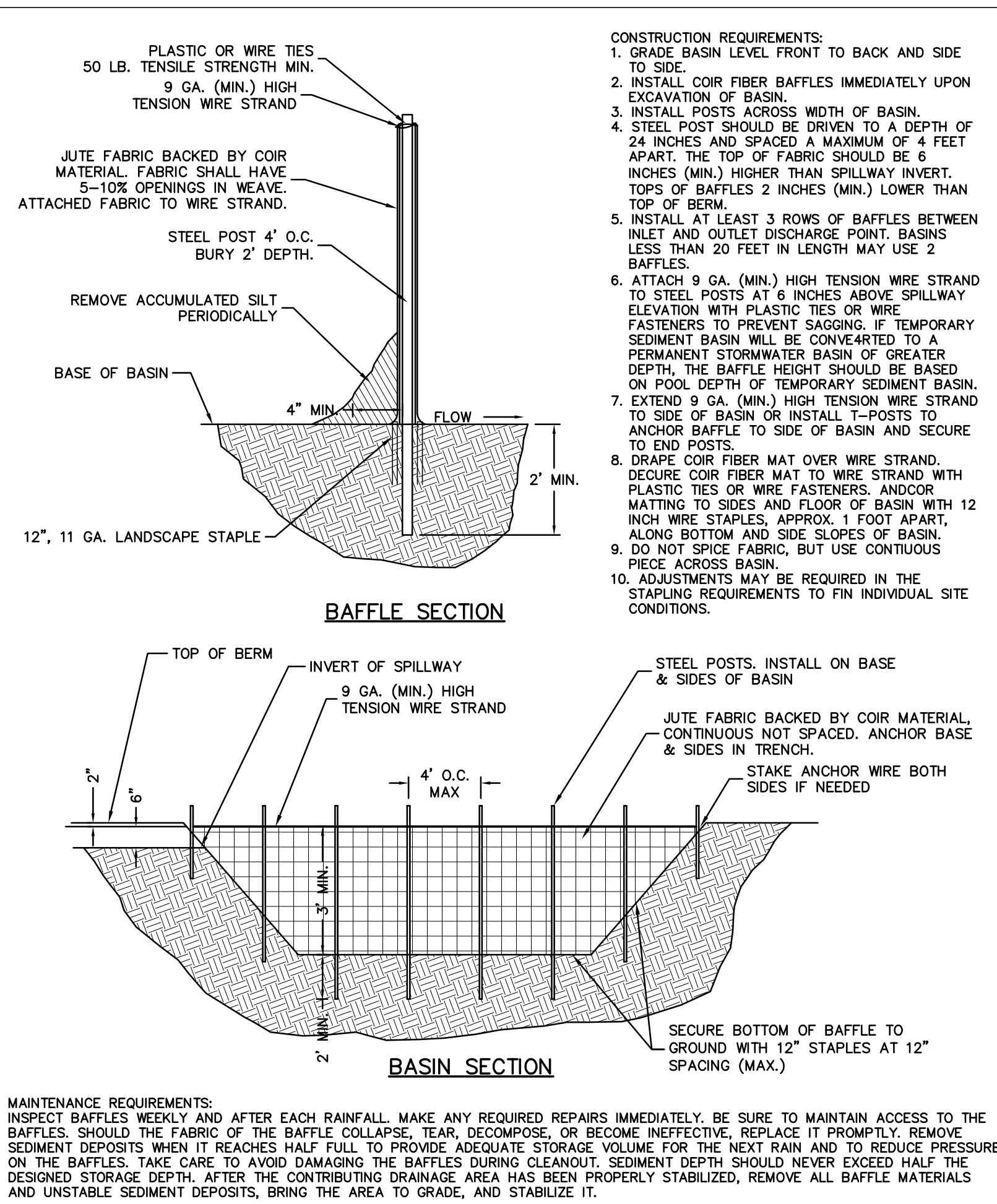


**TEMPORARY SKIMMER SEDIMENT BASIN 1B**

NOT TO SCALE

**EC-60**

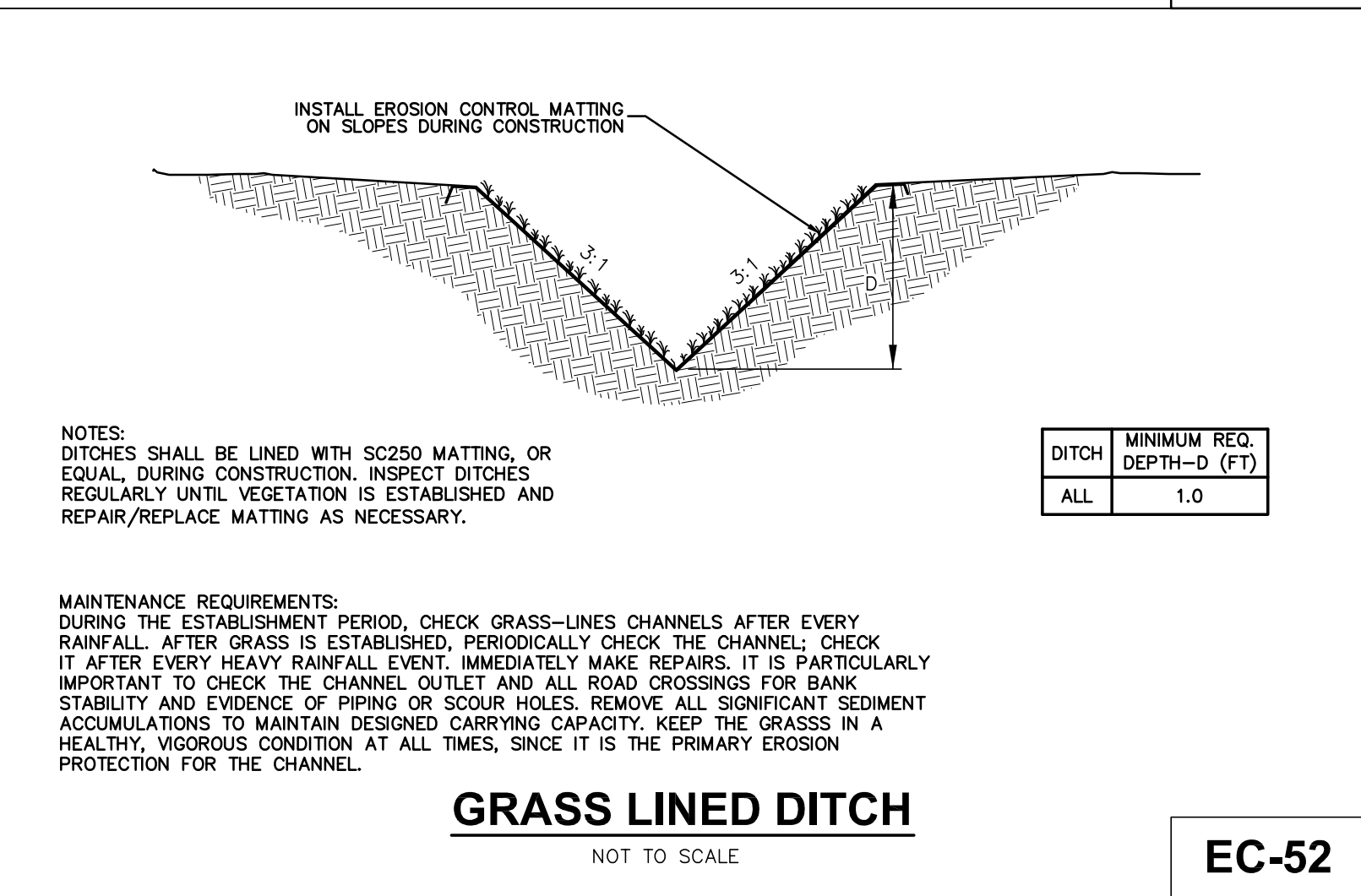




**TEMPORARY BAFFLES**

NOT TO SCALE

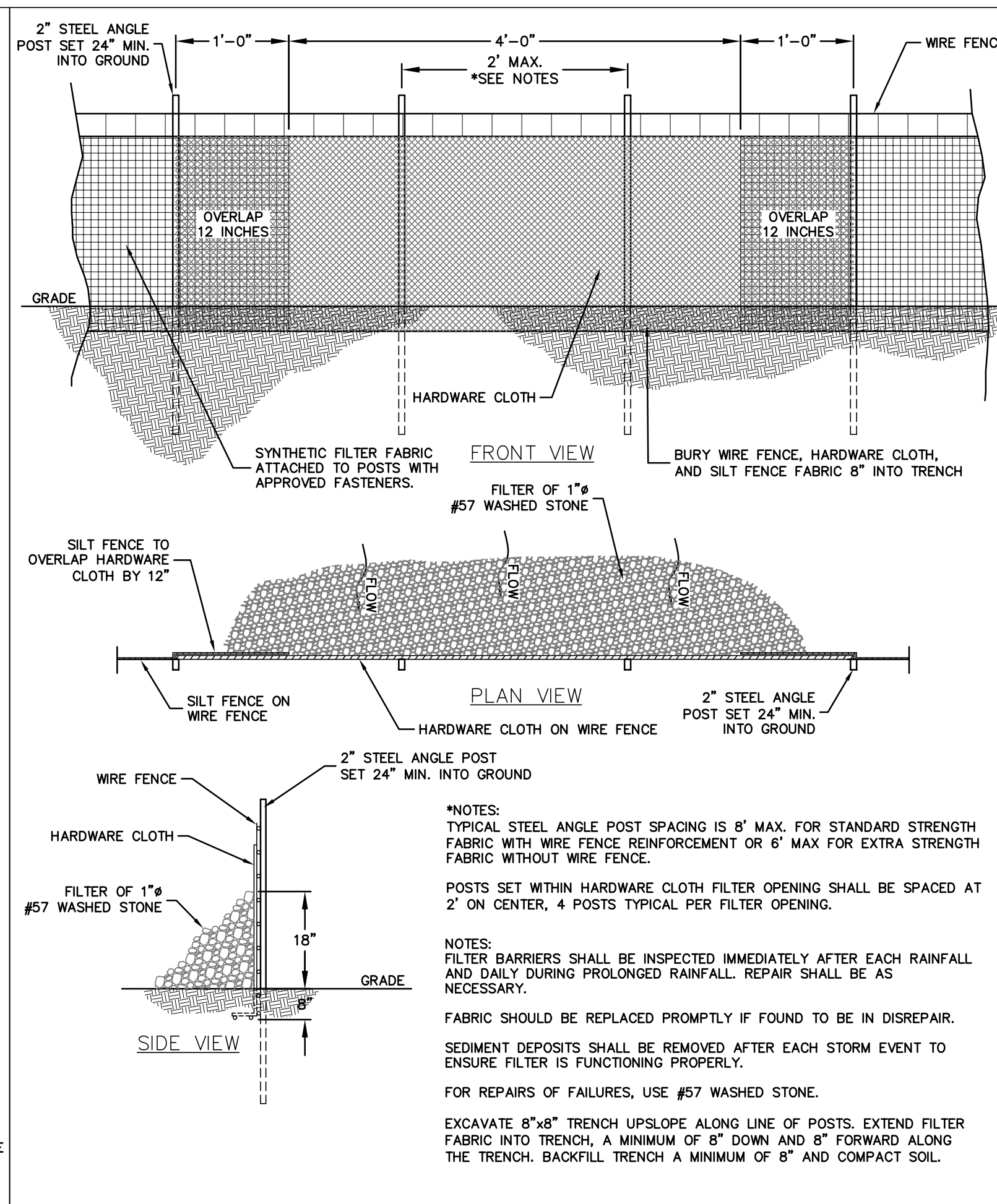
**EC-61**



**GRASS LINED DITCH**

NOT TO SCALE

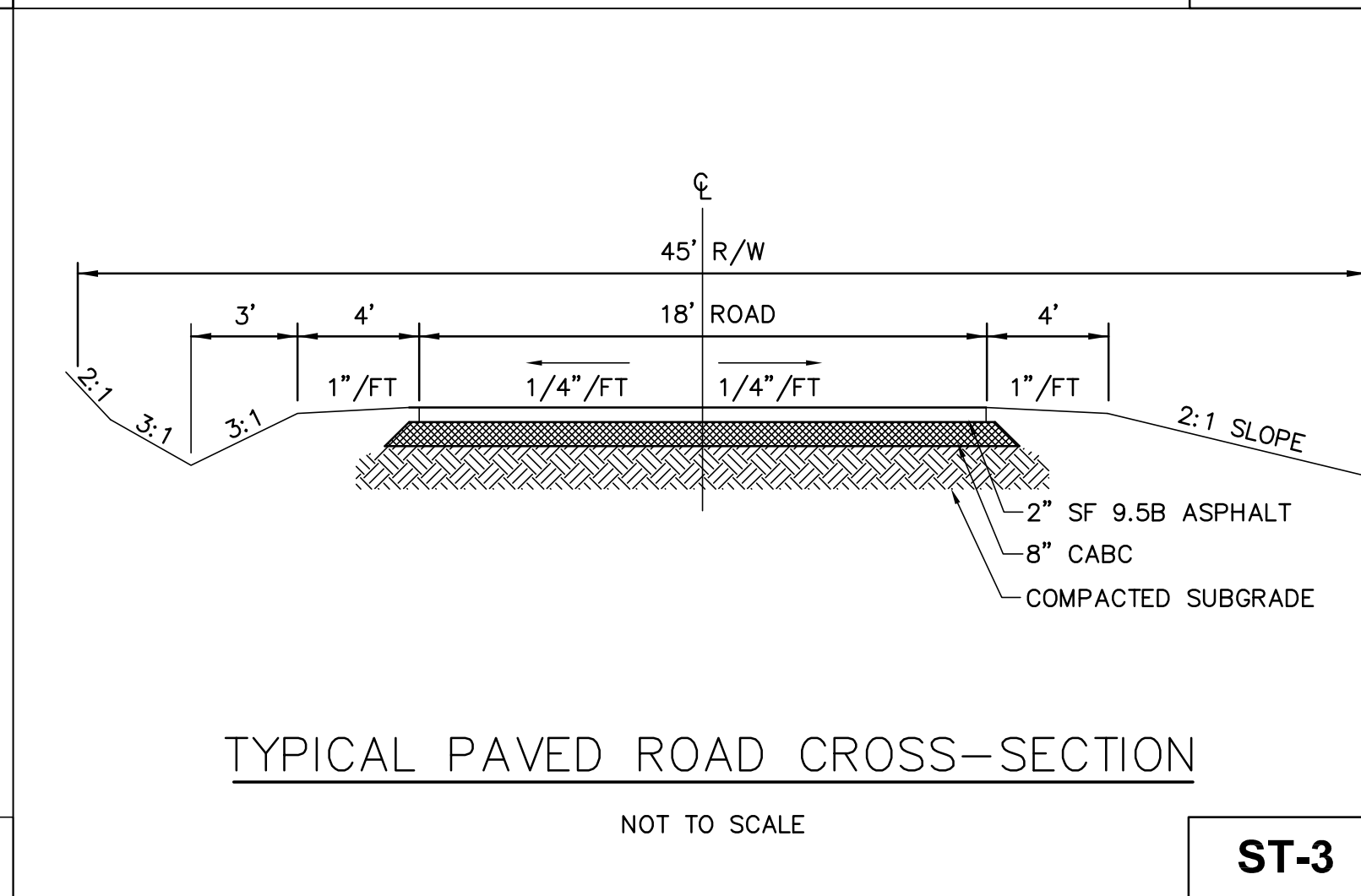
**EC-52**



**MODIFIED FILTER BERM**

NOT TO SCALE

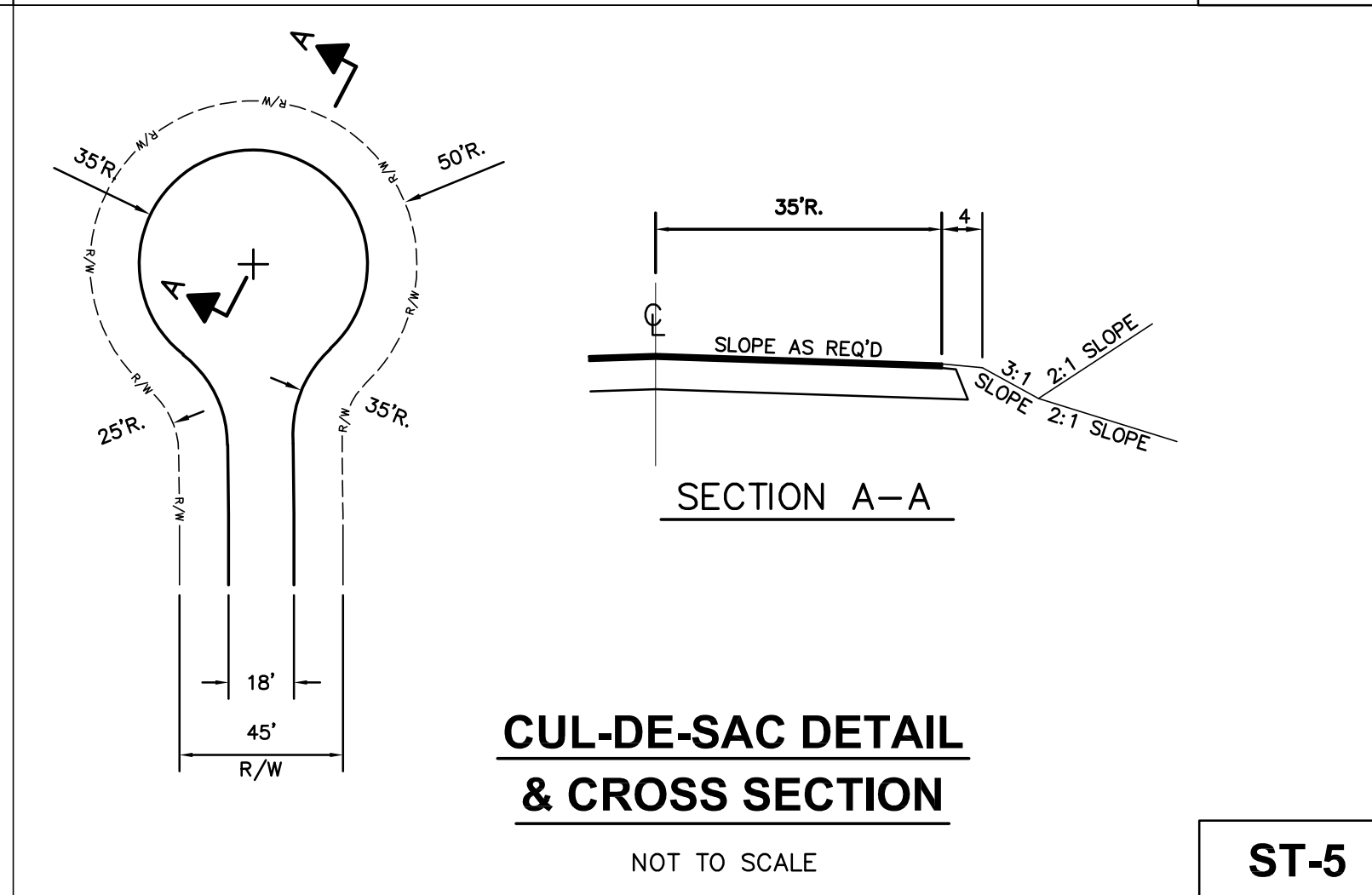
**EC-66**



**TYPICAL PAVED ROAD CROSS-SECTION**

NOT TO SCALE

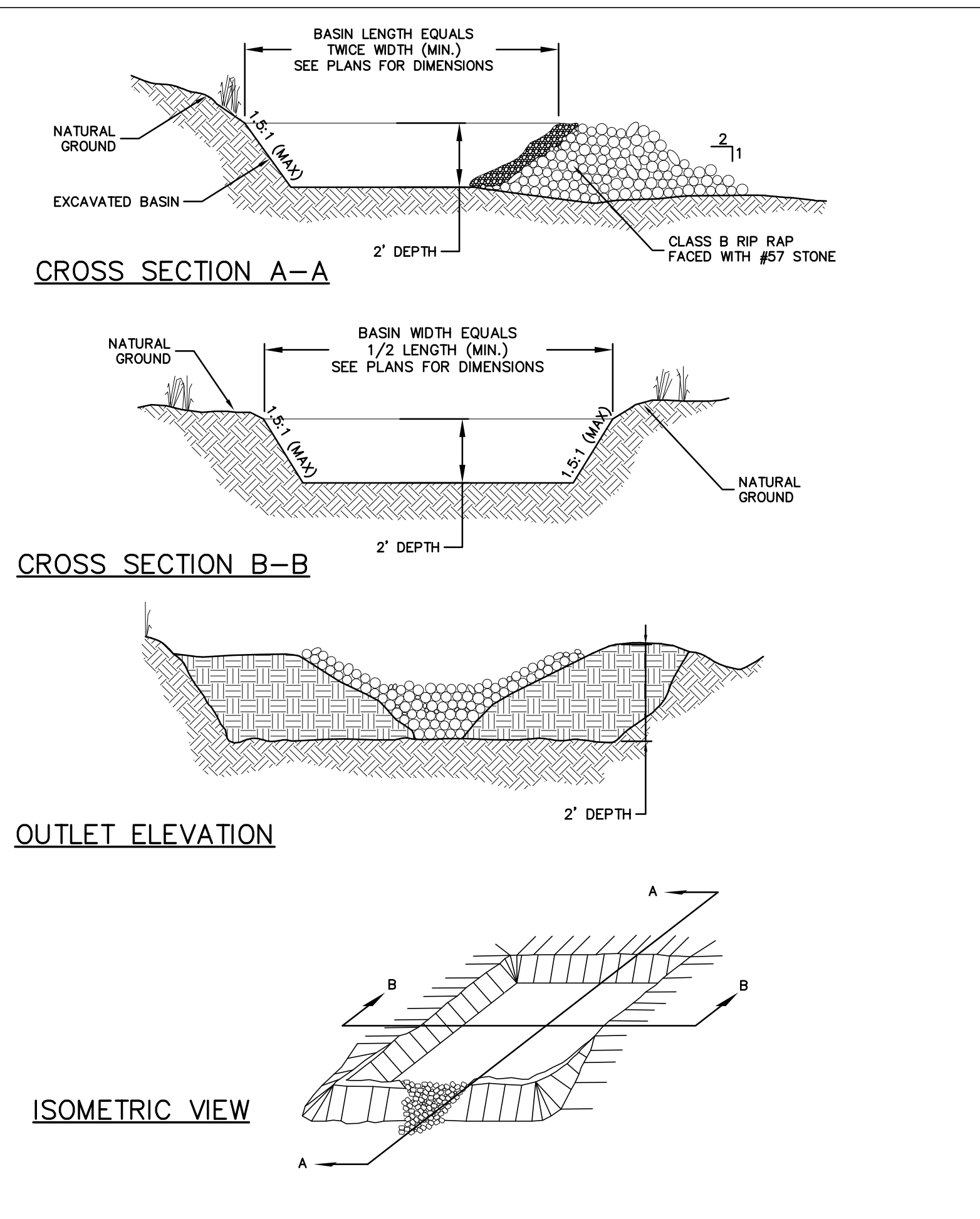
**ST-3**



**CUL-DE-SAC DETAIL & CROSS SECTION**

NOT TO SCALE

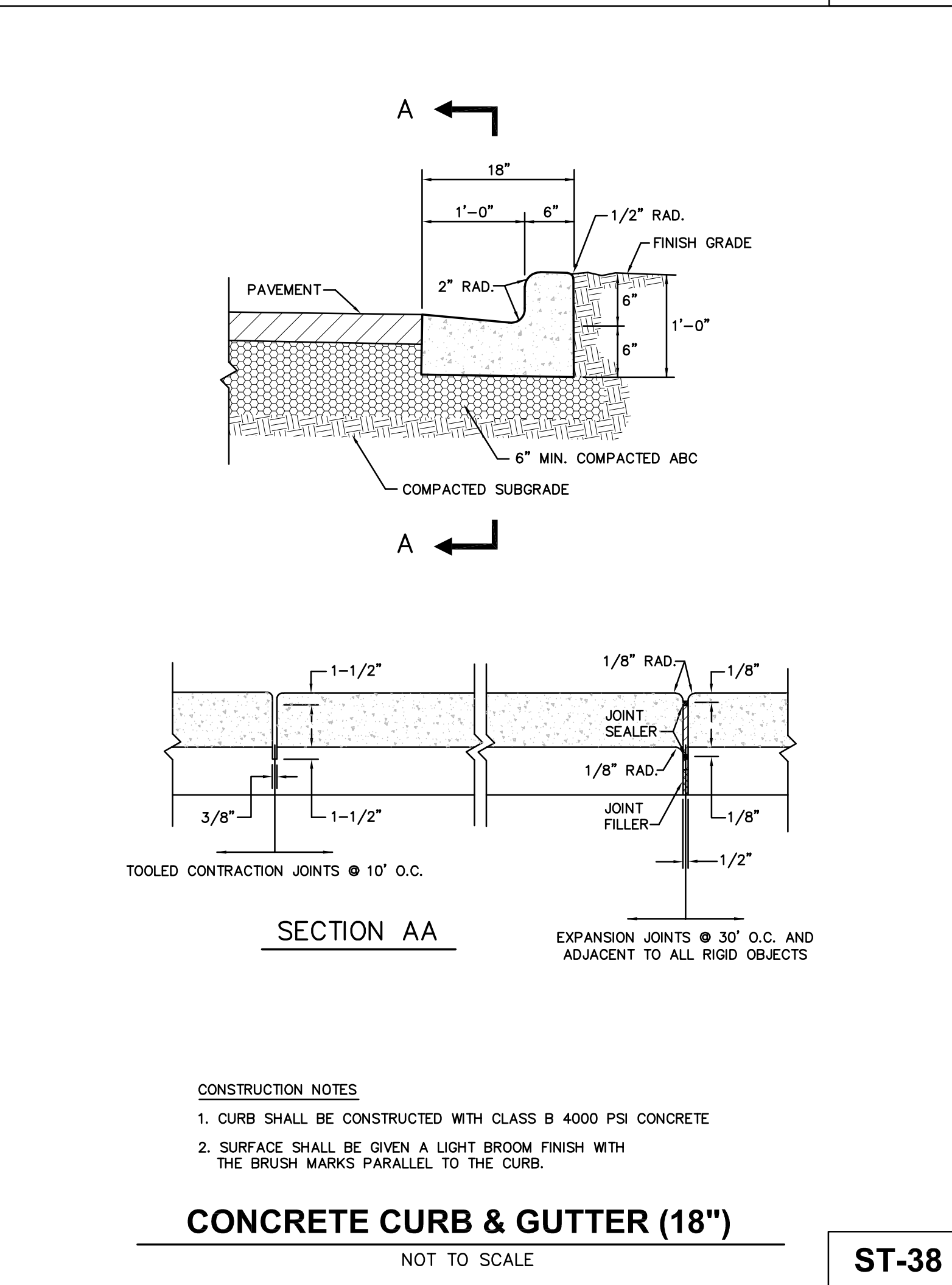
**ST-5**



**TYPE B SEDIMENT BASIN**

NOT TO SCALE

**EC-68**



**CONCRETE CURB & GUTTER (18")**

NOT TO SCALE

**ST-38**

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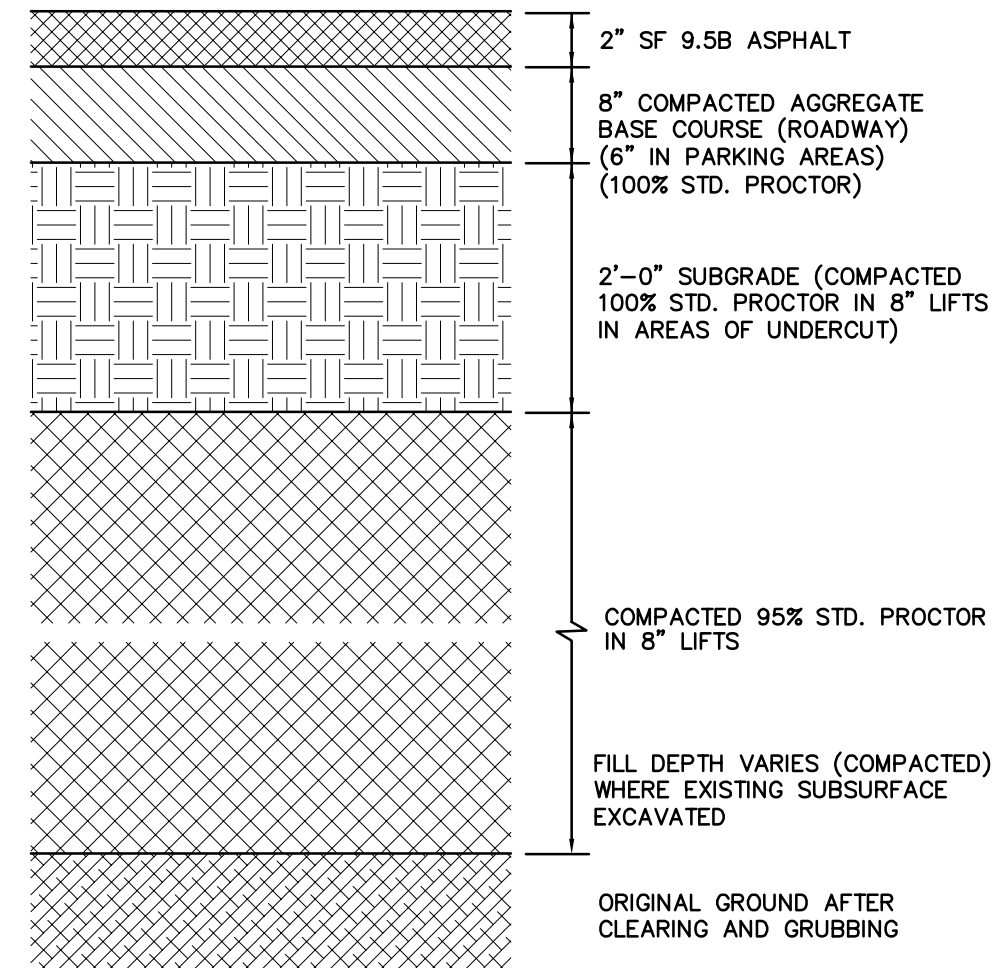
For Review

Site Development Plan For  
**Big Hills at Horseshoe**  
HENDERSON COUNTY, NORTH CAROLINA

Details

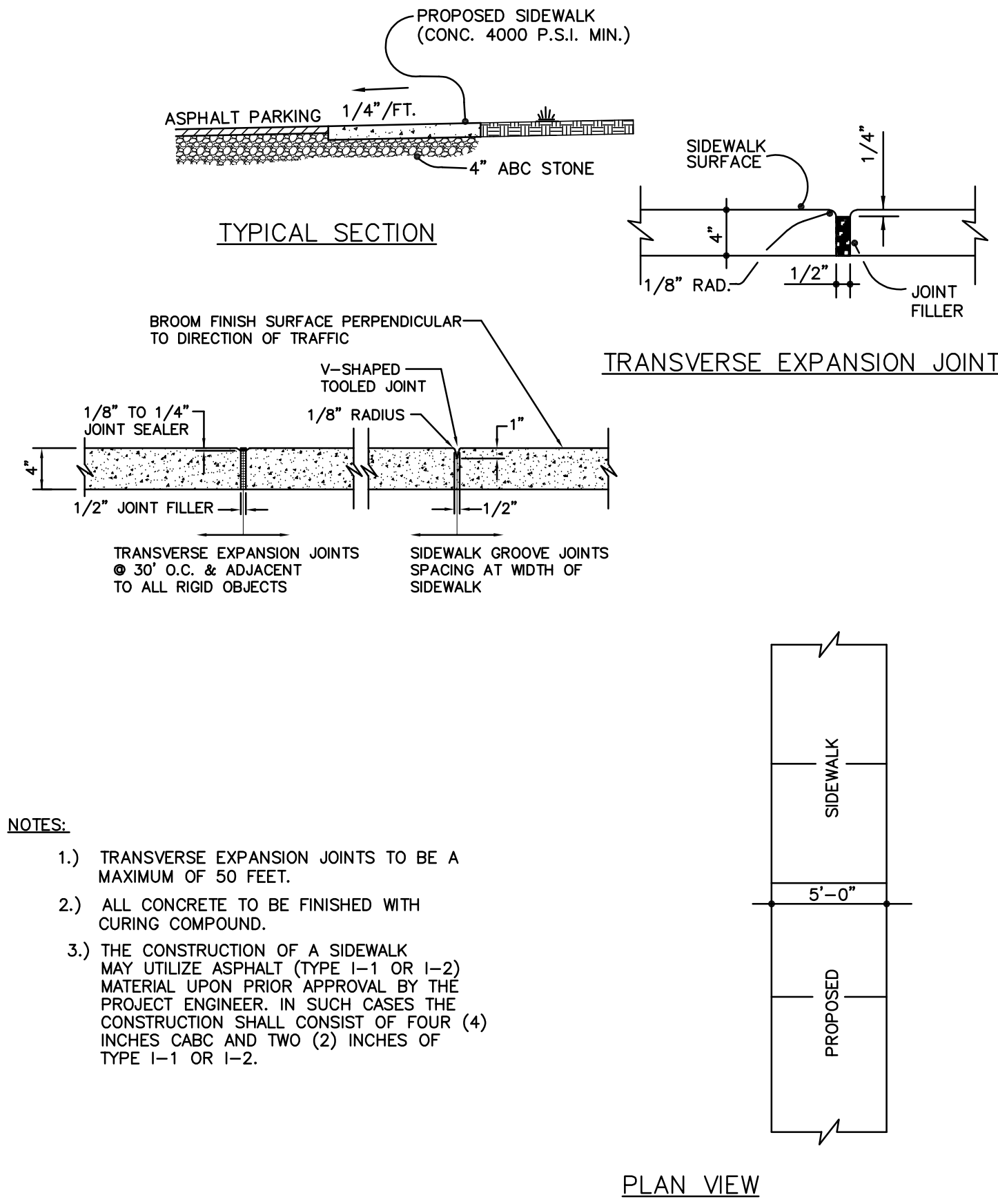
Sheet  
**D4**

1st Rev: 2/15/19  
Date: April 29, 2021  
Scale: NTS  
Revision:



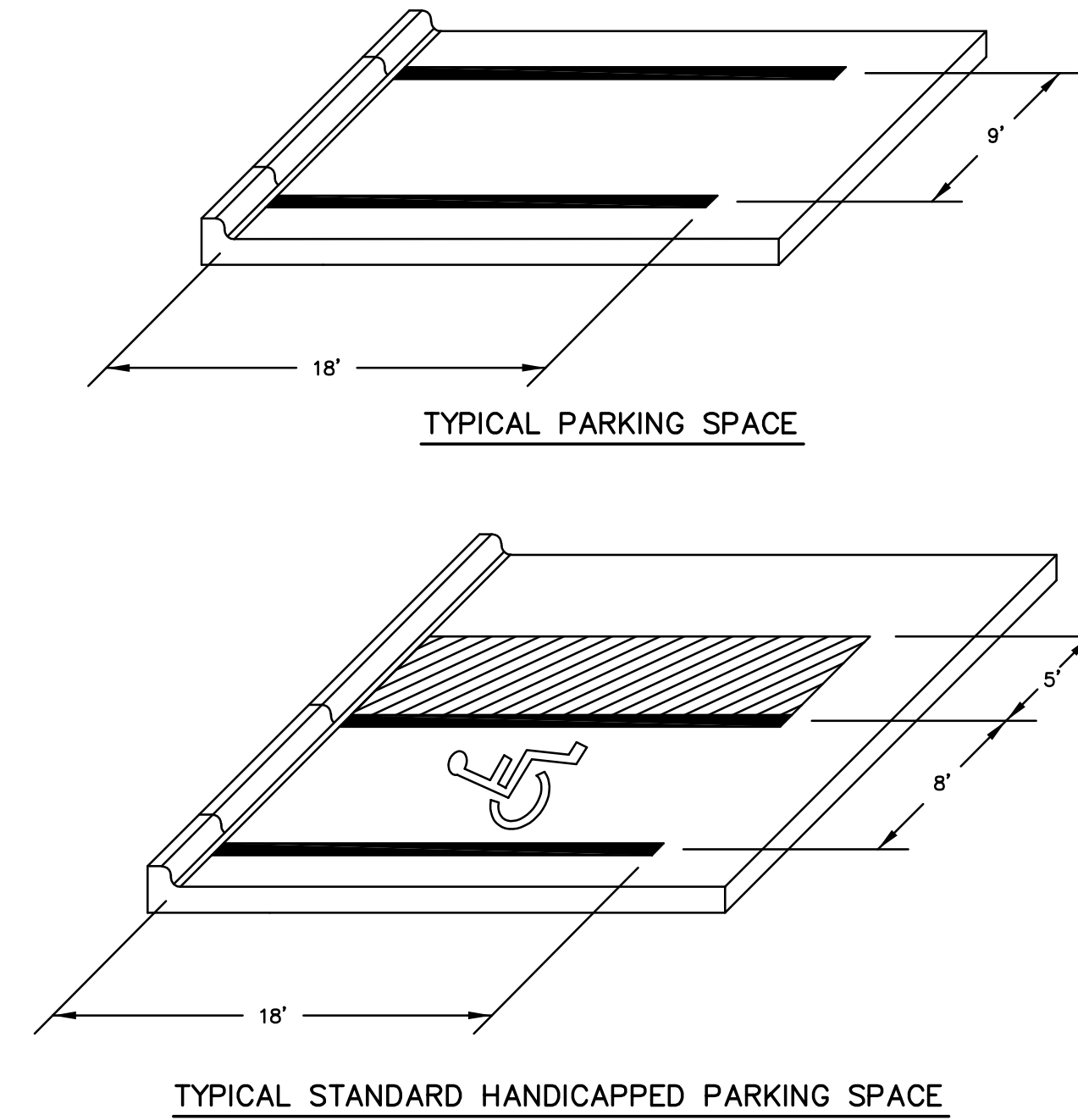
**TYPICAL CROSS-SECTION**  
NOT TO SCALE

ST-39



**STANDARD SIDEWALK**  
NOT TO SCALE

ST-36

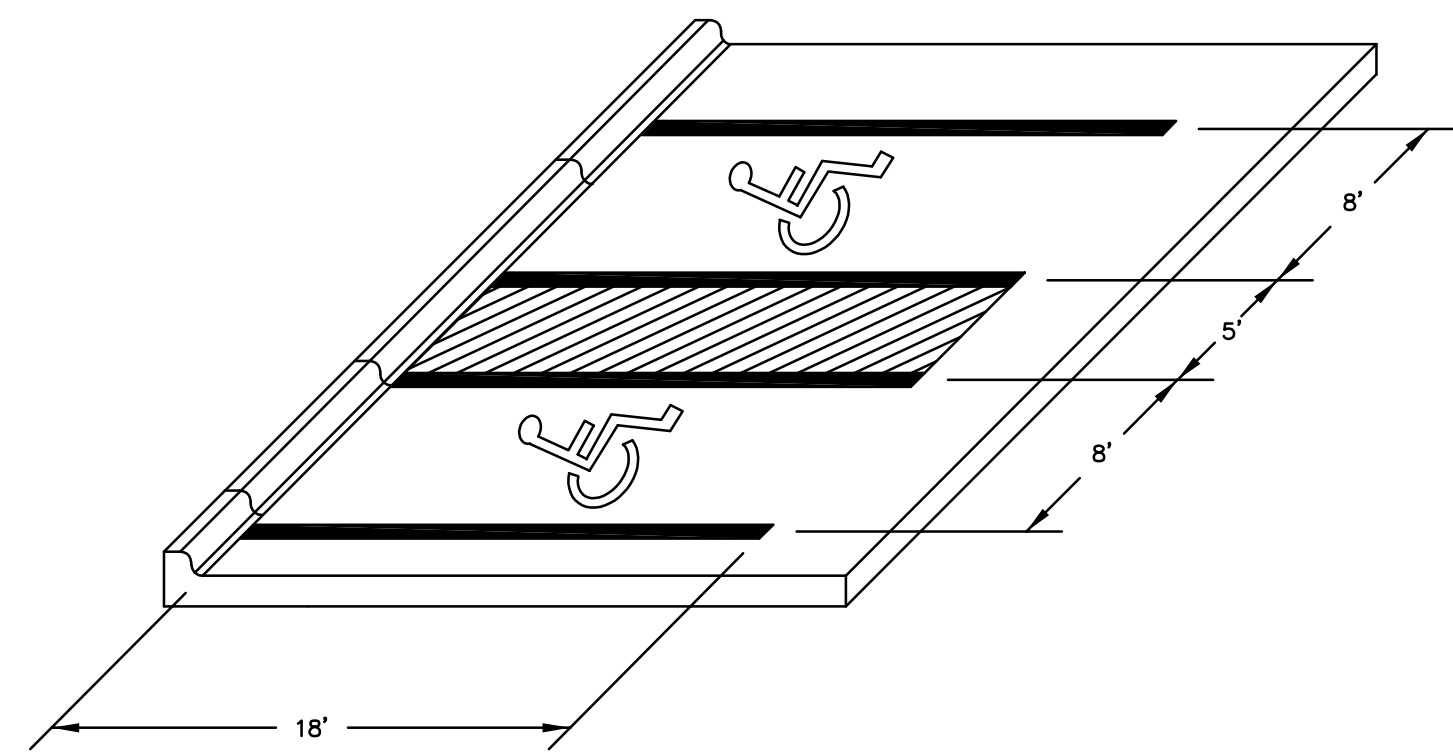


**PARKING SPACE DIMENSIONS - 1A**  
NOT TO SCALE

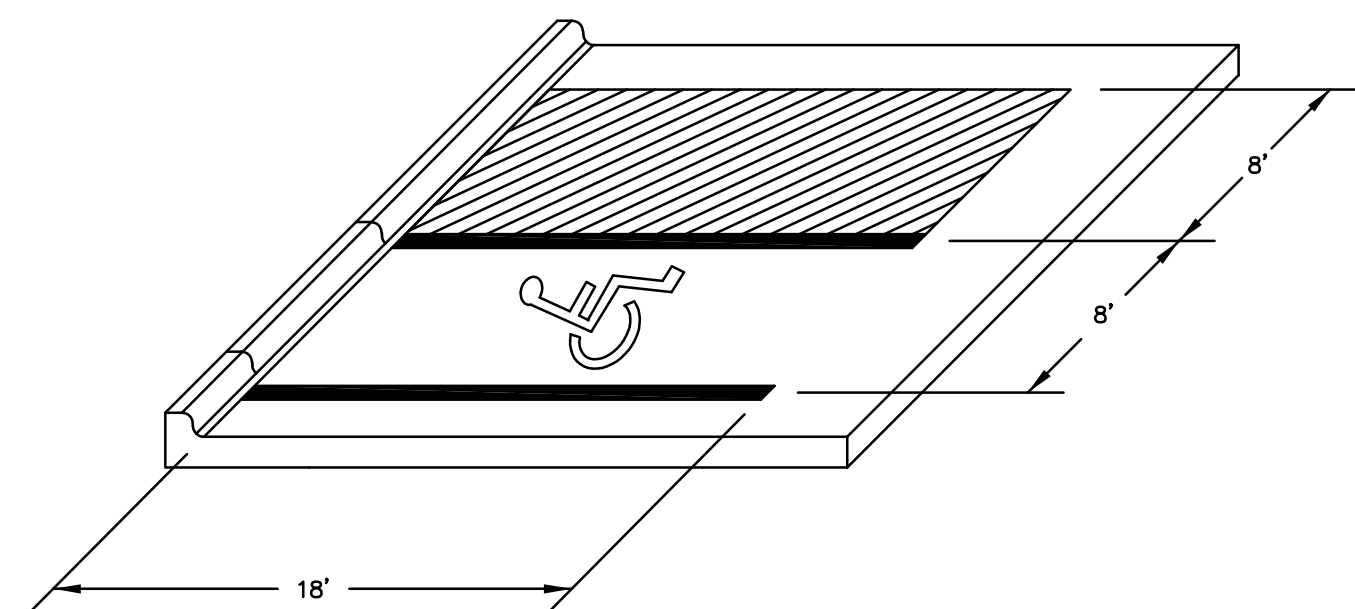
ST-40

- NOTES:
- HANDICAPPED PARKING SPACES SHALL MEET THE STANDARDS OF THE AMERICANS WITH DISABILITIES ACT, AS AMENDED.
  - IF PARKING SPACES ARE PROVIDED FOR SELF-PARKING BY EMPLOYEES OR VISITORS, OR BOTH, THEN HANDICAPPED ACCESSIBLE SPACES SHALL BE PROVIDED AS INDICATED IN THE CHART BELOW. SPACES REQUIRED BY THE TABLE NEED NOT BE PROVIDED IN A DIFFERENT LOCATION IF EQUIVALENT OR GREATER ACCESSIBILITY, IN TERMS OF DISTANCE FROM AN ACCESSIBLE ENTRANCE, AND CONVENIENCE ARE ENSURED.
  - ACCESS AISLES ADJACENT TO HANDICAPPED SPACES, EXCEPT ACCESS AISLES, SHALL HAVE A MINIMUM WIDTH OF 5 FEET, ONE IN EVERY 8 HANDICAPPED SPACES, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESS AISLE NOT LESS THAN 8 FEET WIDE AND SHALL BE DESIGNATED "VAN ACCESSIBLE." ACCESS AISLES MAY BE SHARED BY ADJACENT HANDICAPPED PARKING SPACES.

TOTAL SPACES IN LOT	REQUIRED MINIMUM NUMBER OF HANDICAPPED SPACES
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
200 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% OF TOTAL
1001 AND OVER	20 PLUS 1 FOR EACH 100 OVER 1000



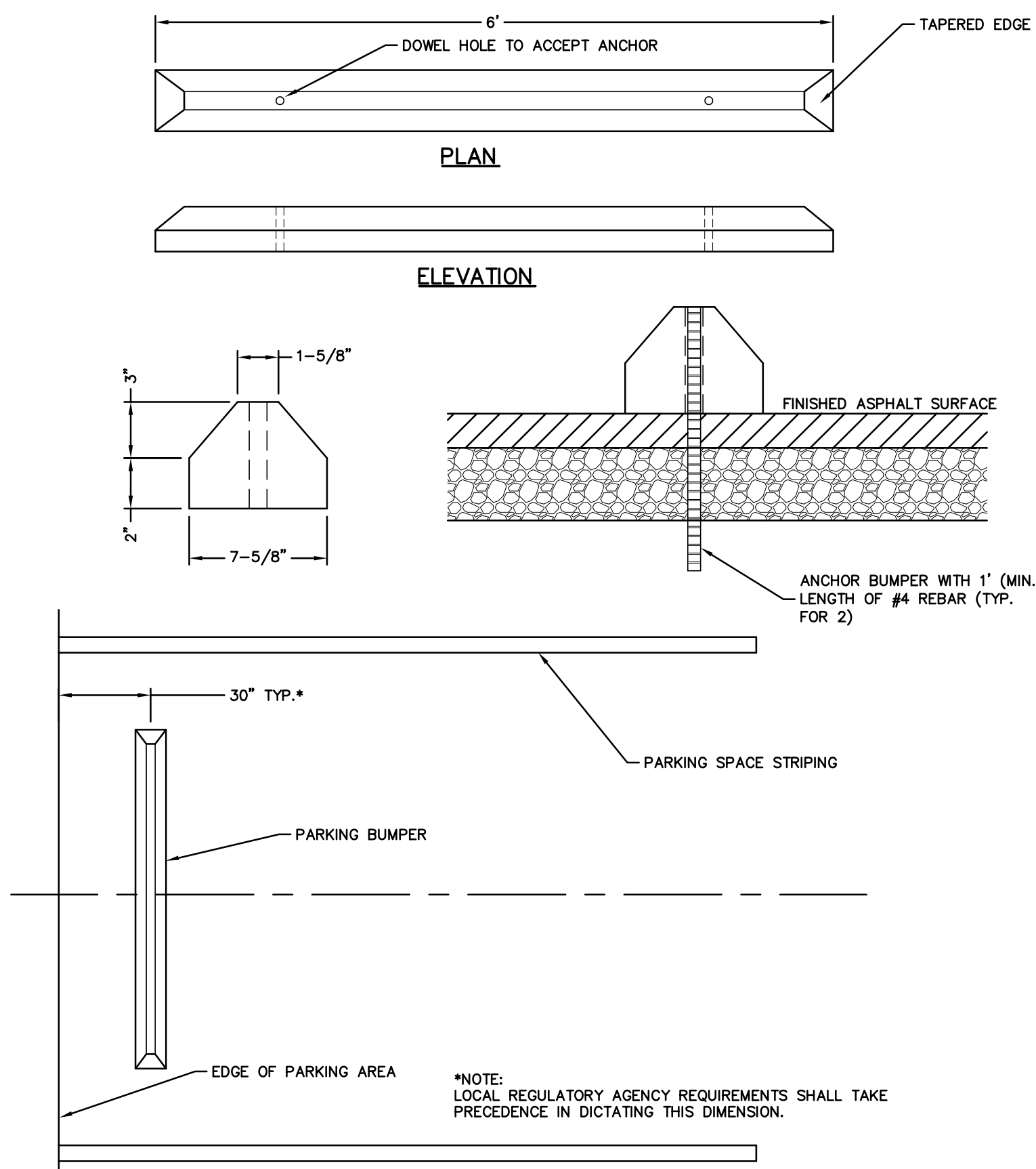
**TWO STANDARD HANDICAPPED PARKING SPACE**



**VAN-ACCESSIBLE HANDICAPPED PARKING SPACE**

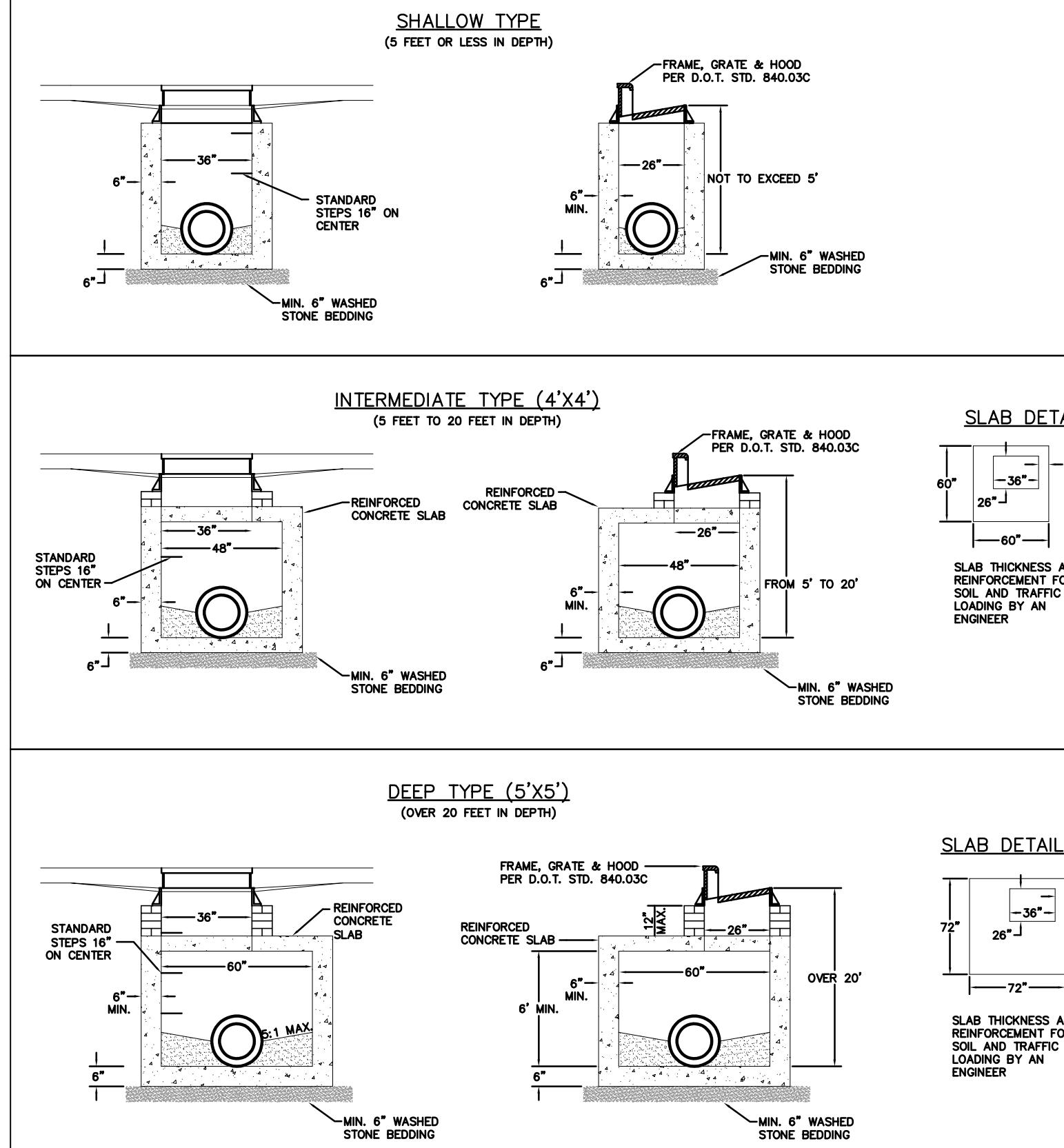
**PARKING SPACE DIMENSIONS - 1B**  
NOT TO SCALE

ST-41



**STANDARD PARKING BUMPER**  
NOT TO SCALE

ST-65



**PRECAST CONCRETE CATCH BASIN**  
NOT TO SCALE

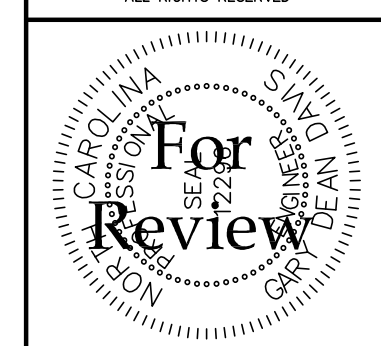
SWTR-17

- NOTES:
- TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.
  - ALL CONCRETE TO BE FINISHED WITH CURING COMPOUND.
  - THE CONSTRUCTION OF A SIDEWALK MAY UTILIZE ASPHALT (TYPE 1-1 OR 1-2) MATERIAL UPON PRIOR APPROVAL BY THE PROJECT ENGINEER. IN SUCH CASES THE CONSTRUCTION SHALL CONSIST OF FOUR (4) INCHES ABC AND TWO (2) INCHES OF TYPE 1-1 OR 1-2.

- NOTES:
- CONCRETE BUMPER SHALL BE MADE WITH A MIN. 3500 PSI CONCRETE. ALTERNATIVES ARE ACCEPTABLE BUT MUST BE APPROVED BY THE ENGINEER. WHERE CURB AND CUTTER IS NOT PRESENT A PARKING BUMPER IS REQUIRED IN ALL SPACES TO ENSURE THAT NO ENCRoACHMENT IS MADE INTO ADJOINING ACCESSIBLE ROUTES.

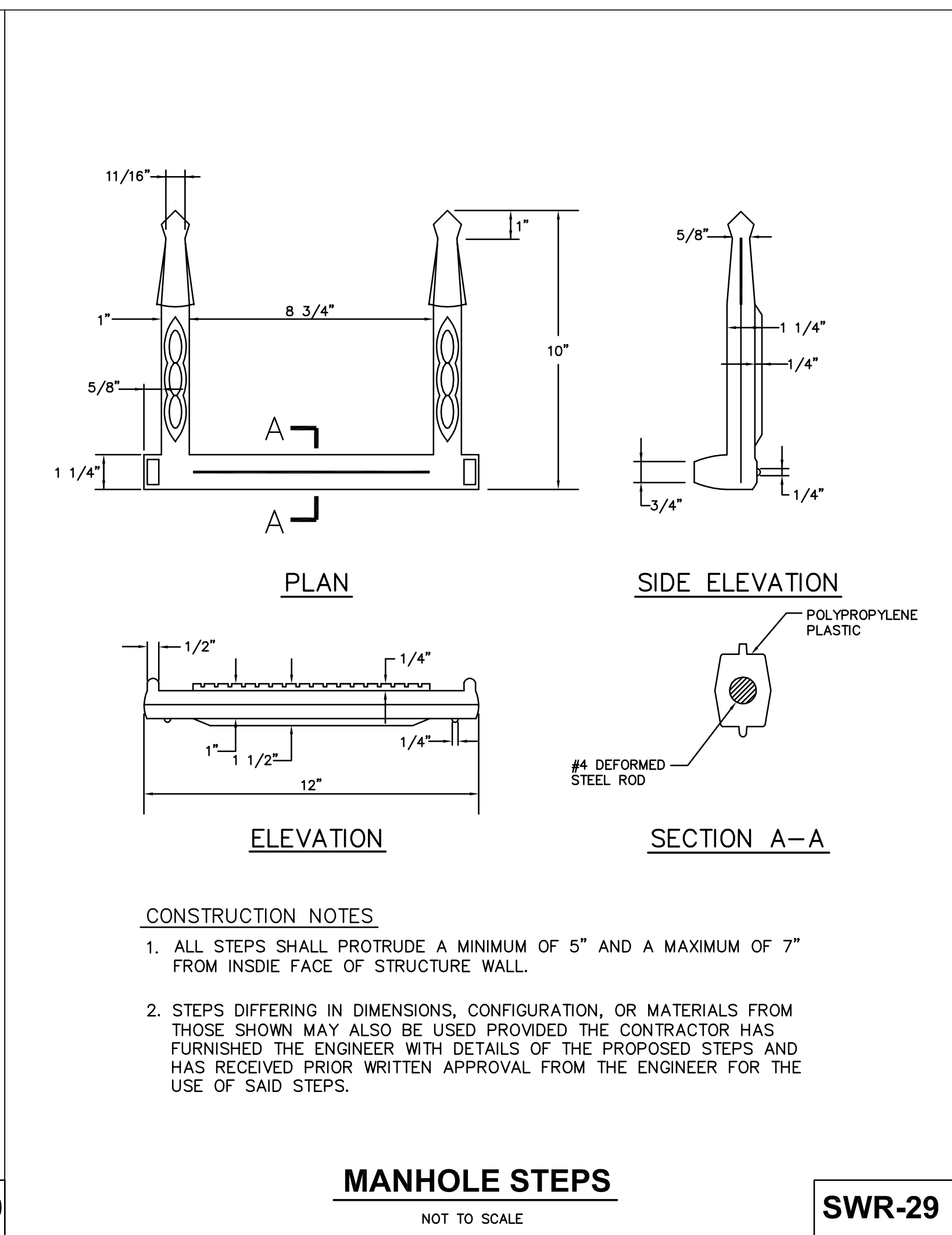
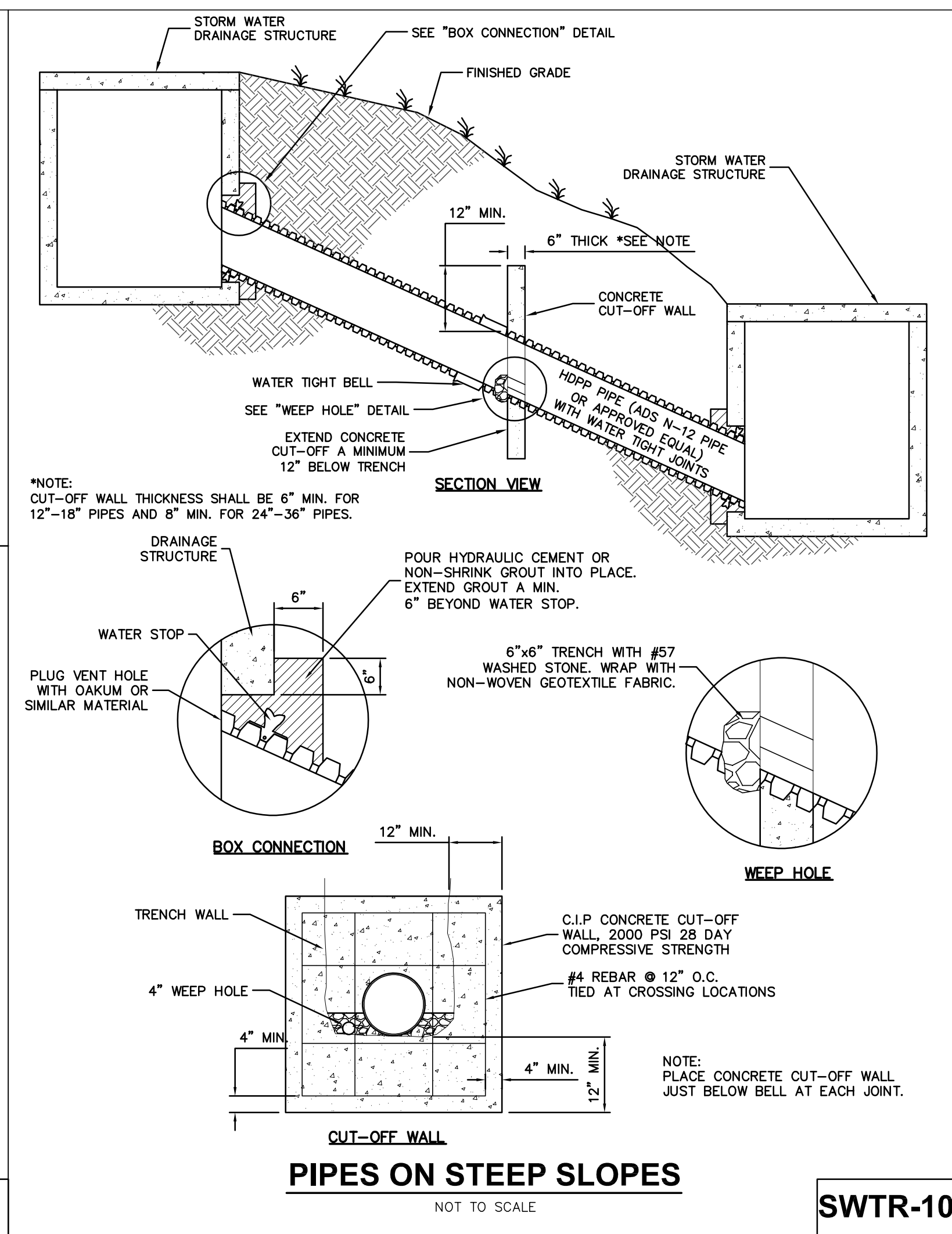
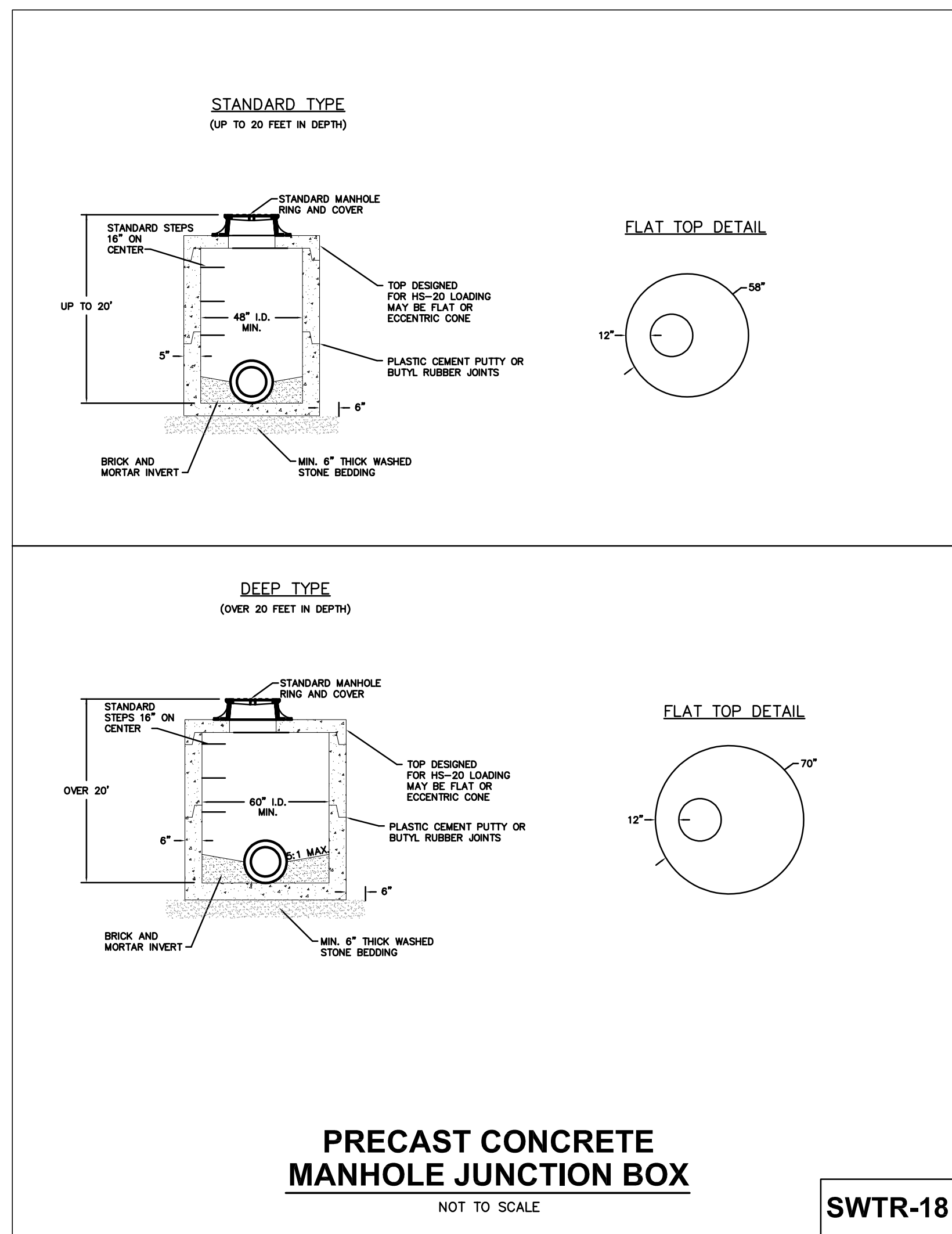
- NOTE:
- CONCRETE SHALL BE 4000 PSI MIN. FOR ALL PRECAST CONCRETE CATCH BASINS.
  - PRECAST CONCRETE STRUCTURES MAY ONLY BE INSTALLED TO DEPTHS CERTIFIED AS ACCEPTABLE BY THE MANUFACTURER.
  - "WAFFLE" BOXES ARE ACCEPTABLE FOR SHALLOW TYPE CATCH BASINS.

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1st Rev. 2/11/19  
Date: April 29, 2021  
Scale: NTS  
Revision:





STORM DRAINAGE STRUCTURE SCHEDULE

DRAINAGE STRUCTURE	TYPE	TOP ELEVATION	INV. ELEV.
A1	INLET	----	2210.0
A2	JUNCTION BOX	2217.0	2202.0
A3	JUNCTION BOX	2217.0	2200.0
A4	JUNCTION BOX	2195.0	2178.0
A5	JUNCTION BOX	2173.0	2160.0
A6	OUTLET	----	2158.0
B1	DROP INLET	2217.0	2213.0
B2	DROP INLET	2217.0	2212.5
B3	JUNCTION BOX	2219.5	2212.0
B4	JUNCTION BOX	2218.3	2209.3
B5	JUNCTION BOX	2218.1	2208.0
B6	JUNCTION BOX	2215.0	2207.5
B7	OUTLET	----	2207.0
B8	DROP INLET	2217.0	2210.0
B9	DROP INLET	2217.0	2210.0
C1	INLET	----	2214.0
C2	OUTLET	----	2206.0
D1	DROP INLET	2193.0	2189.0
D2	DROP INLET	2193.0	2188.5
D3	JUNCTION BOX	2184.9	2179.9
D4	JUNCTION BOX	2171.4	2166.4
D5	DROP INLET	2167.0	2162.0
D6	JUNCTION BOX	2162.4	2157.4
D7	DROP INLET	2151.0	2146.0
D8	DIVERSION BOX	2159.0	2145.0
D9	DETENTION CONTROL BOX	2156.5	2144.0
D10	OUTLET	----	2142.0
D11	DROP INLET	2167.0	2162.5

STORM DRAINAGE STRUCTURE SCHEDULE

DRAINAGE STRUCTURE	TYPE	TOP ELEVATION	INV. ELEV.
D12	DROP INLET	2151.0	2146.5
E1	INLET	----	2124.0
E2	OUTLET	----	2120.0
F1	DROP INLET	2193.0	2189.0
F2	DROP INLET	2193.0	2188.0
F3	JUNCTION BOX	2184.0	2179.0
F4	DROP INLET	2169.0	2166.0
F5	DROP INLET	2169.0	2165.0
F6	DROP INLET	2151.0	2149.0
F7	JUNCTION BOX	2129.0	2119.5
F8	DIVERSION BOX	2126.0	2119.0
F9	DETENTION CONTROL BOX	2126.0	2118.0
F10	OUTLET	----	2116.0
F11	DROP INLET	2155.0	2151.5
F12	DROP INLET	2158.0	2150.5
F13	JUNCTION BOX	2156.3	2150.0
F14	DROP INLET	2151.0	2149.5
F15	DROP INLET	2127.0	2122.5
F16	DROP INLET	2127.0	2122.0
F17	DROP INLET	2127.0	2120.5
F18	DROP INLET	2127.0	2121.0
G1	INLET	----	2150.0
G2	OUTLET	----	2144.0
H1	DROP INLET	2207.0	2203.0
H2	DROP INLET	2207.0	2202.0
H3	DROP INLET	2193.0	2188.5
H4	DROP INLET	2193.0	2188.0
H5	JUNCTION BOX	2188.7	2183.7

STORM DRAINAGE STRUCTURE SCHEDULE

DRAINAGE STRUCTURE	TYPE	TOP ELEVATION	INV. ELEV.
H6	DROP INLET	2181.0	2177.0
H7	DROP INLET	2169.0	2165.0
H8	DROP INLET	2166.7	2162.7
H9	DROP INLET	2166.7	2161.7
H10	DROP INLET	2166.7	2160.7
H11	JUNCTION BOX	2170.0	2160.0
H12	DIVERSION BOX	2169.0	2159.5
H13	DETENTION CONTROL BOX	2165.5	2158.5
H14	JUNCTION BOX	2161.0	2156.0
H15	OUTLET	----	2153.0
H16	DROP INLET	2181.0	2177.5
H17	DROP INLET	2169.0	2165.5
H18	DROP INLET	2166.7	2161.7
J1	INLET	----	2115.0
J2	OUTLET	----	2113.0
K1	DROP INLET	2199.0	2194.0
K2	JUNCTION BOX	2198.0	2193.0
K3	JUNCTION BOX	2196.3	2191.3
K4	DIVERSION BOX	2198.0	2186.0
K5	DETENTION CONTROL BOX	2195.0	2185.0
K6	JUNCTION BOX	2199.0	2183.0
K7	JUNCTION BOX	2190.0	2174.0
K8	JUNCTION BOX	2174.0	2157.0
K9	OUTLET	----	2152.0

STORM DRAINAGE PIPE SCHEDULE

PIPE	MATERIAL	LENGTH (FT)	SIZE (IN)	SLOPE
* A1-A2	HDPP	58 LF	24"	0.1379
* A2-A3	HDPP	56 LF	24"	0.0357
* A3-A4	HDPP	50 LF	24"	0.4400
* A4-A5	HDPP	51 LF	24"	0.3529
A5-A6	HDPP	25 LF	24"	0.0800
B1-B2	HDPP	41 LF	18"	0.0121
B2-B3	HDPP	16 LF	18"	0.0312
B3-B4	HDPP	252 LF	18"	0.0107
B4-B5	HDPP	102 LF	18"	0.0127
B5-B6	HDPP	45 LF	18"	0.0111
B6-B7	HDPP	71 LF	18"	0.007
* B8-B4	HDPP	16 LF	18"	0.0437
* B9-B5	HDPP	15 LF	18"	0.1333
C1-C2	HDPP	44 LF	18"	0.0909
D1-D2	HDPP	27 LF	18"	0.0185
D2-D3	HDPP	69 LF	18"	0.1246
D4-D5	HDPP	39 LF	18"	0.1128
D5-D6	HDPP	73 LF	18"	0.0630
D6-D7	HDPP	140 LF	18"	0.0814
D7-D8	HDPP	27 LF	18"	0.0370
D9-D10	HDPP	42 LF	18"	0.0476
D11-D5	HDPP	27 LF	18"	0.0185
D12-D7	HDPP	27 LF	18"	0.0185
E1-E2	HDPP	98 LF	36"	0.0408
* F1-F2	HDPP	27 LF	18"	0.0370
* F2-F3	HDPP	67 LF	18"	0.1343

\* INDICATED RUNS OF PIPE SHALL BE SECURED PER DETAIL SWTR-10.

STORM DRAINAGE PIPE SCHEDULE

PIPE	MATERIAL	LENGTH (FT)	SIZE (IN)	SLOPE
* F3-F4	HDPP	88 LF	18"	0.1477
F4-F5	HDPP	27 LF	18"	0.0370
F5-F6	HDPP	151 LF	18"	0.1059
* F6-F7	HDPP	138 LF	18"	0.2137
F7-F8	HDPP	21 LF	18"	0.0238
F9-F10	HDPP	23 LF	18"	0.0869
F11-F13	HDPP	97 LF	18"	0.0154
F12-F13	HDPP	14 LF	18"	0.0357
F13-F14	HDPP	42 LF	18"	0.0119
F14-F6	HDPP	27 LF	18"	0.0185
F15-F16	HDPP	27 LF	18"	0.0185
F16-F17	HDPP	104 LF	18"	0.0144
F17-F7	HDPP	55 LF	18"	0.0181
F18-F17	HDPP	27 LF	18"	0.0185
G1-G2	HDPP	58 LF	18"	0.1034
H1-H2	HDPP	27 LF	18"	0.0370
H2-H3	HDPP	171 LF	18"	0.0789
H3-H4	HDPP	27 LF	18"	0.0185
H4-H5	HDPP	56 LF	18"	0.0767
H5-H6	HDPP	67 LF	18"	0.1000
H6-H7	HDPP	146 LF	18"	0.0821
H7-H8	HDPP	33 LF	18"	0.0696
H8-H9	HDPP	54 LF	18"	0.0185
H9-H10	HDPP	32 LF	18"	0.0312
H10-H11	HDPP	79 LF	18"	0.0088
H11-H12	HDPP	5 LF	18"	0.1000

\* INDICATED RUNS OF PIPE SHALL BE SECURED PER DETAIL SWTR-10.

STORM DRAINAGE PIPE SCHEDULE

PIPE	MATERIAL	LENGTH (FT)	SIZE (IN)	SLOPE
H13-H14	HDPP	39 LF	18"	0.0641
H14-H15	HDPP	39 LF	18"	0.0769
H16-H6	HDPP	27 LF	18"	0.0185
H17-H7	HDPP	27 LF	18"	0.0185
H18-H10	HDPP	85 LF	18"	0.0117
J1-J2	HDPP	74 LF	42"	0.0270
K1-K2	HDPP	35 LF	18"	0.0285
K2-K3	HDPP	14 LF	18"	0.1214
K3-K4	HDPP	49 LF	18"	0.1081
K5-K6	HDPP	144 LF	18"	0.0138
* K6-K7	HDPP	40 LF	18"	0.2250
* K7-K8	HDPP	39 LF	18"	0.4358
K8-K9	HDPP	46 LF	18"	0.1086

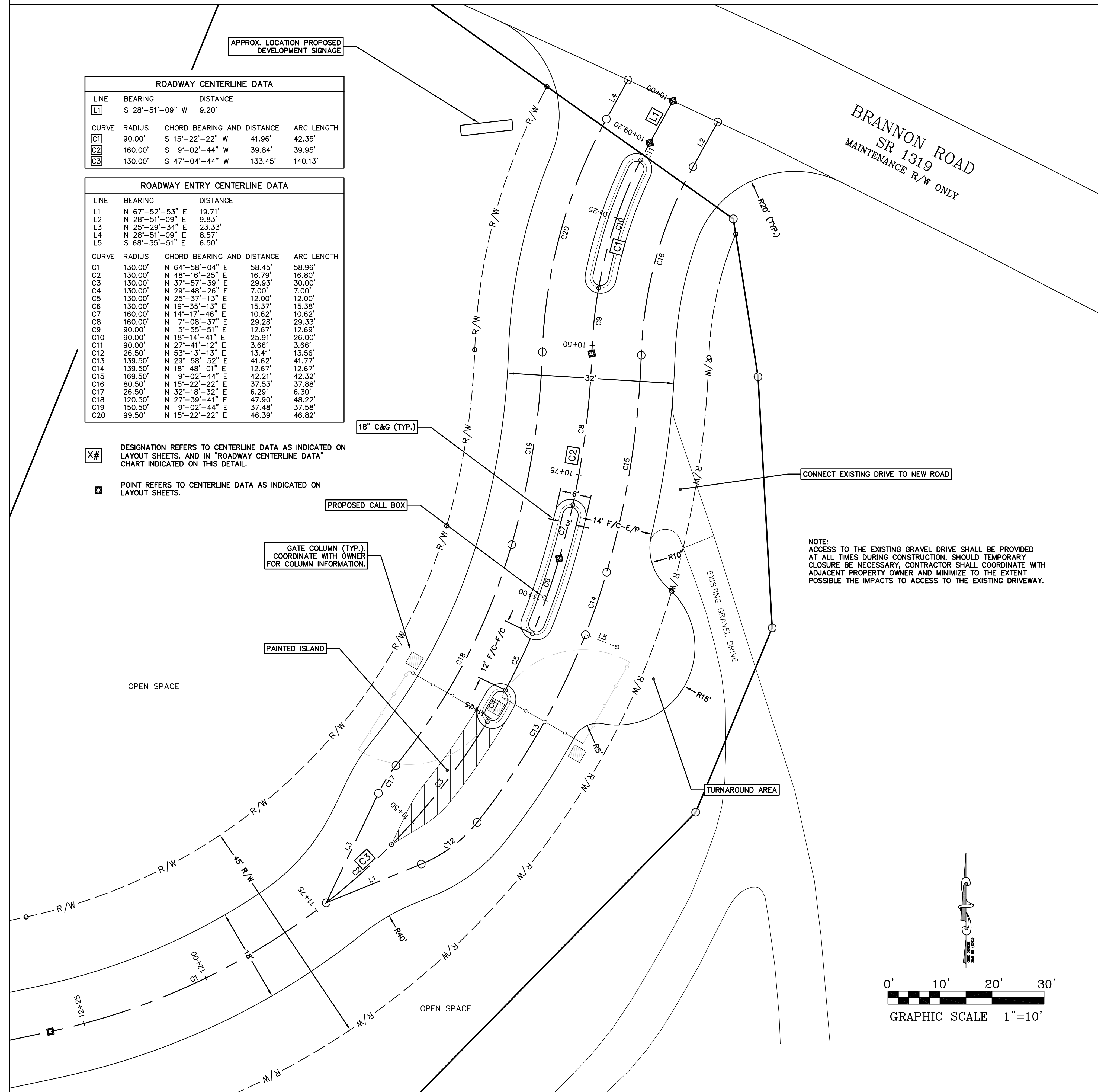
\* INDICATED RUNS OF PIPE SHALL BE SECURED PER DETAIL SWTR-10.

# Road Entry Detail

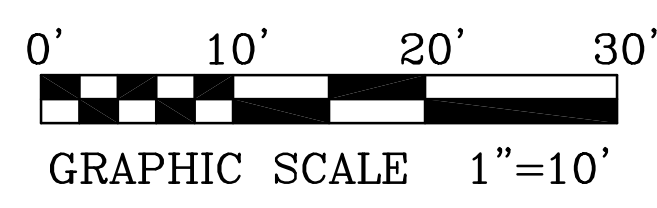
ROADWAY CENTERLINE DATA			
LINE	BEARING	DISTANCE	
L1	S 28°-51'-09" W	9.20'	
CURVE			
RADIUS	CHORD BEARING AND DISTANCE	ARC LENGTH	
C1	S 15°-22'-22" W 41.96'	42.35'	
C2	S 9°-02'-44" W 39.84'	39.95'	
C3	S 47°-04'-44" W 133.45'	140.13'	

ROADWAY ENTRY CENTERLINE DATA			
LINE	BEARING	DISTANCE	
L1	N 67°-52'-53" E	19.71'	
L2	N 28°-51'-09" E	9.83'	
L3	N 25°-29'-34" E	23.33'	
L4	N 28°-51'-09" E	8.57'	
L5	S 68°-35'-51" E	6.50'	
CURVE			
RADIUS	CHORD BEARING AND DISTANCE	ARC LENGTH	
C1	N 64°-58'-04" E 58.45'	58.96'	
C2	N 48°-16'-25" E 16.79'	16.80'	
C3	N 37°-57'-39" E 29.93'	30.00'	
C4	N 29°-48'-26" E 7.00'	7.00'	
C5	N 25°-37'-13" E 12.00'	12.00'	
C6	N 19°-35'-13" E 15.37'	15.38'	
C7	N 14°-17'-46" E 10.62'	10.62'	
C8	N 7°-08'-37" E 29.28'	29.33'	
C9	N 5°-55'-51" E 12.67'	12.69'	
C10	N 18°-14'-41" E 25.91'	26.00'	
C11	N 27°-41'-12" E 3.66'	3.66'	
C12	N 53°-13'-13" E 13.41'	13.56'	
C13	N 29°-58'-52" E 41.62'	41.77'	
C14	N 18°-48'-01" E 12.67'	12.67'	
C15	N 9°-02'-44" E 42.21'	42.32'	
C16	N 15°-22'-22" E 37.53'	37.88'	
C17	N 32°-16'-32" E 6.29'	6.30'	
C18	N 27°-38'-41" E 47.90'	48.22'	
C19	N 9°-02'-44" E 37.48'	37.58'	
C20	N 15°-22'-22" E 46.39'	46.82'	

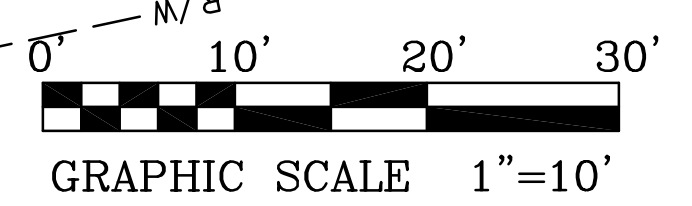
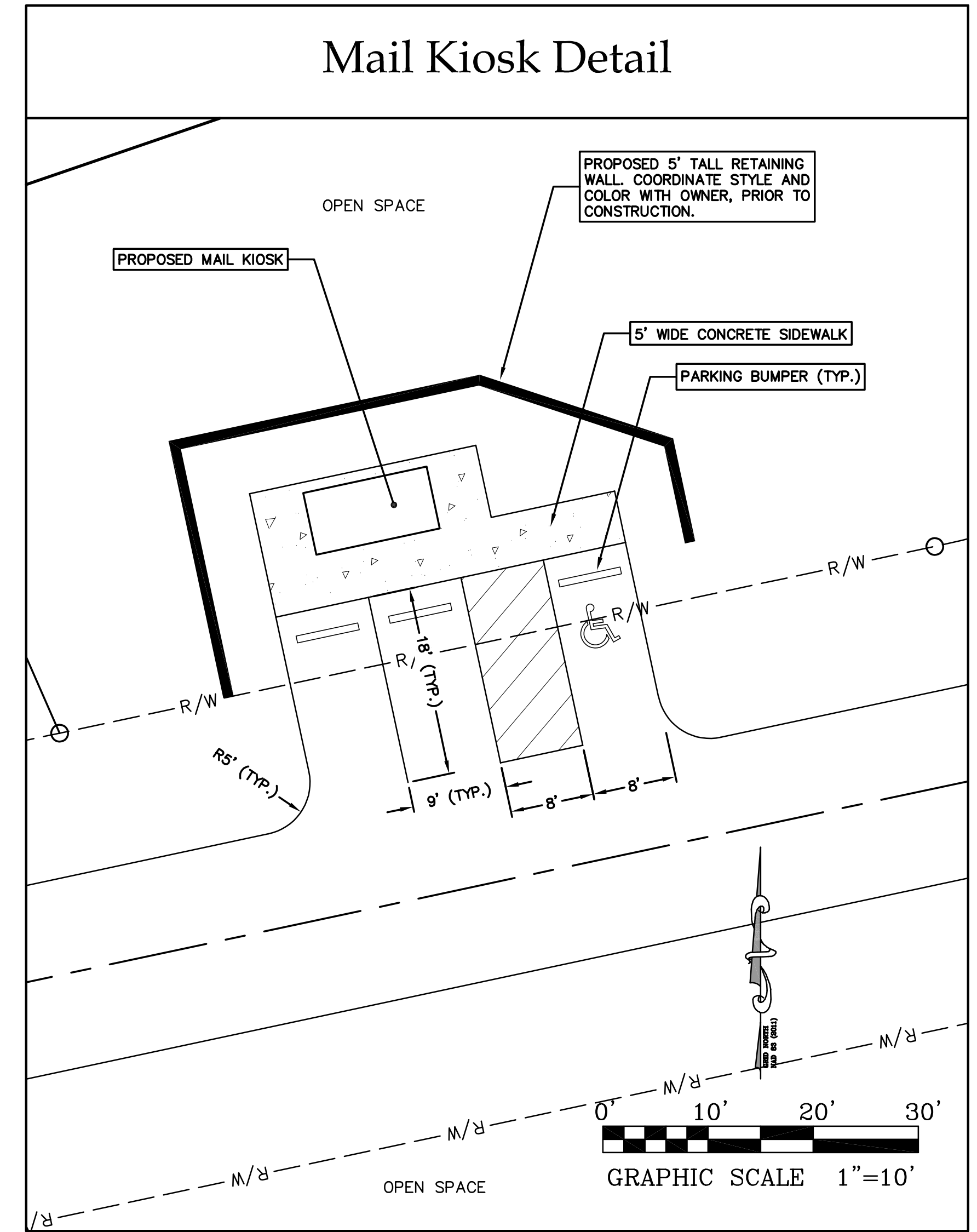
- X# DESIGNATION REFERS TO CENTERLINE DATA AS INDICATED ON LAYOUT SHEETS, AND IN "ROADWAY CENTERLINE DATA" CHART INDICATED ON THIS DETAIL.
- POINT REFERS TO CENTERLINE DATA AS INDICATED ON LAYOUT SHEETS.



NOTE:  
ACCESS TO THE EXISTING GRAVEL DRIVE SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION. SHOULD TEMPORARY CLOSURE BE NECESSARY, CONTRACTOR SHALL COORDINATE WITH ADJACENT PROPERTY OWNER AND MINIMIZE TO THE EXTENT POSSIBLE THE IMPACTS TO ACCESS TO THE EXISTING DRIVEWAY.



# Mail Kiosk Detail



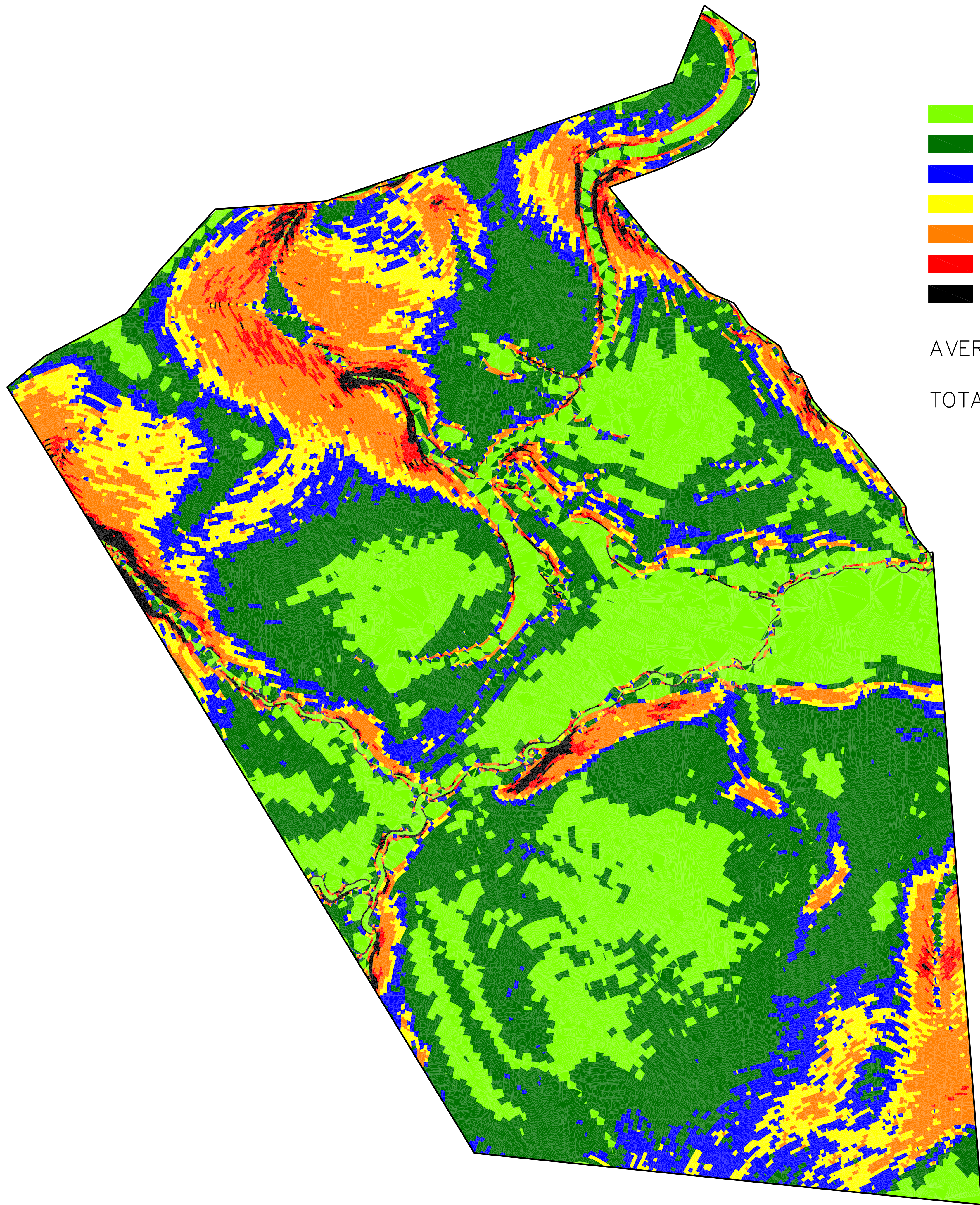
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15th Nov. 2015  
Date: April 20, 2021  
Scale: See Plans  
Revision:

Details

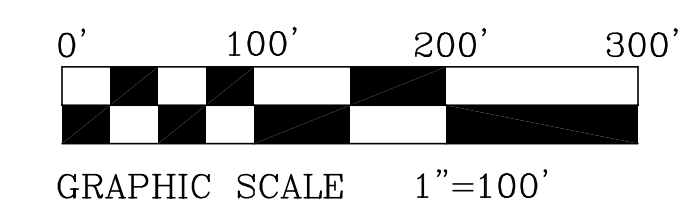
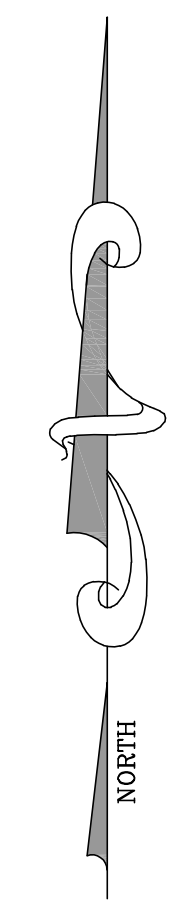




0.0% – 14.0%	13.21 AC. – 26.52% OF TRACTS
15.0% – 24.0%	18.39 AC. – 36.92% OF TRACTS
25.0% – 29.0%	5.99 AC. – 12.02% OF TRACTS
30.0% – 34.0%	4.79 AC. – 9.62% OF TRACTS
35.0% – 49.0%	5.65 AC. – 11.34% OF TRACTS
50.0% – 59.0%	1.04 AC. – 2.09% OF TRACTS
60.0% AND GREATER	0.74 AC. – 1.48% OF TRACTS

AVERAGE NATURAL SLOPE = 23.436%

TOTAL AREA = 2,170,107.2722 Sq.Ft. 49.819 AC. (TOTAL)



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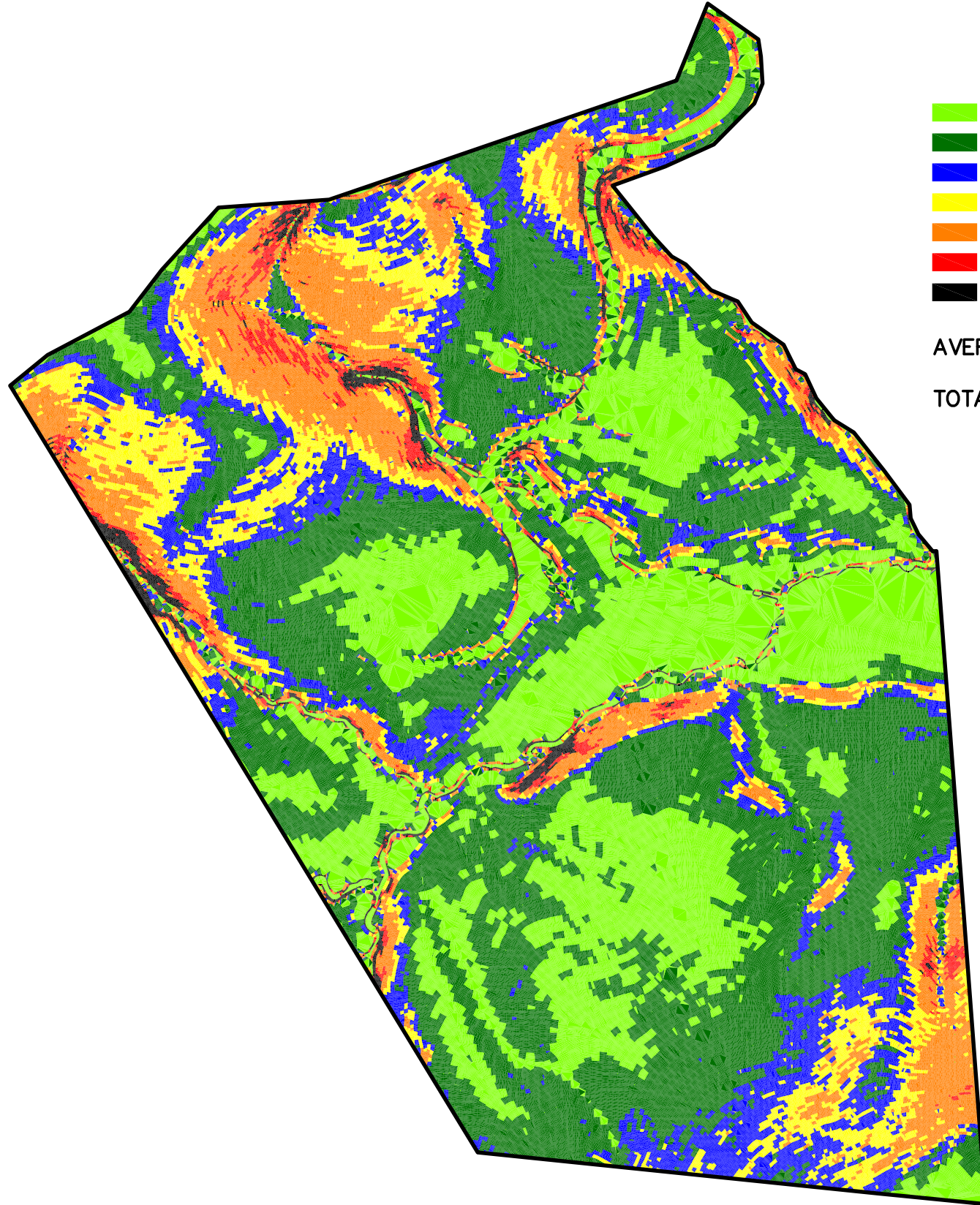


Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA

1st N/A, 20159  
 Date: April 29, 2021  
 Scale: 1"=100'  
 Revision:

Slope Analysis Map





0.0% – 14.0%	13.21 AC. – 26.52% OF TRACTS
15.0% – 24.0%	18.39 AC. – 36.92% OF TRACTS
25.0% – 29.0%	5.99 AC. – 12.02% OF TRACTS
30.0% – 34.0%	4.79 AC. – 9.62% OF TRACTS
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TOTAL AREA = 2,170,107.2722 Sq.Ft. 49.819 AC. (TOTAL)

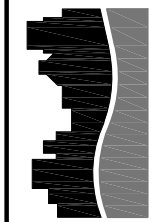
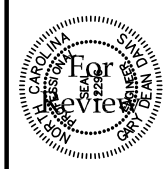


Job No.: 20159  
 Date: April 29, 2021  
 Scale: 1"=250'  
 Revision:

Slope Analysis Map

Sheet  
**S2**

Site Development Plan For  
**Big Hills at Horseshoe**  
 HENDERSON COUNTY, NORTH CAROLINA



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