

REQUEST FOR COMMITTEE ACTION

HENDERSON COUNTY PLANNING BOARD

MEETING DATE: February 22, 2013

SUBJECT: Rezoning Application #R-2013-01-C

PRESENTER: Parker Sloan, Planner

ATTACHMENTS:

1. Staff Report
2. Vicinity Map
3. Excerpt from Land Development Code, Subpart B. Conditional Zoning Districts
4. Legal Summary of Spot Zoning
5. Residential Two (R2R) District Text
6. Community Commercial (CC) District Text
7. PowerPoint Slides
8. Photos of Project Area
9. Site Plan

SUMMARY OF REQUEST:

Rezoning Application #R-2013-01-C, which was submitted on December 28, 2012, requests the County rezone approximately 1.71 acres of land. The applicant requests a rezoning from a Residential Two Rural (R2R) zoning district to a Community Commercial Conditional (CC-CD) zoning district. The subject area parcel is owned by Roger Gagnon and the applicant is The Broadway Group, LLC. (PIN: 9539-98-3442).

Conditional zoning districts are different from traditional zoning districts because they require a site plan for the proposed use(s) of the property and certain conditions or restrictions are placed on the property based on the proposed or allowable use(s). Conditional zoning district decisions are a legislative process subject to the same procedures as traditional zoning districts.

Planning staff posted the property giving notice of the Planning Board meeting on February 11, 2013. The Planning Board has 45 days from its first consideration of a rezoning application to make a recommendation to the Board of Commissioners. Thus, the deadline for a Planning Board recommendation to the Board of Commissioners regarding this application is Friday, April 5, 2013. If no recommendation is made by April 5, 2013, the application proceeds to the Board of Commissioners with an automatic favorable recommendation. Upon request of the Planning Board, the Applicant may choose to grant a 45-day extension, at which time the deadline for a Planning Board recommendation would become Wednesday, May 22, 2013.

Planning Board action to recommend that the Board of Commissioners approve, approve with modifications, table, or deny rezoning action #R-2013-01-C would be appropriate.

Suggested Motion:

I move the Board recommend approval of rezoning application #R-2013-01-C to rezone the subject area to a Community Commercial Conditional (CC-CD) zoning district based on the recommendations of the Henderson County 2020 Comprehensive Plan

Henderson County Planning Department Staff Report

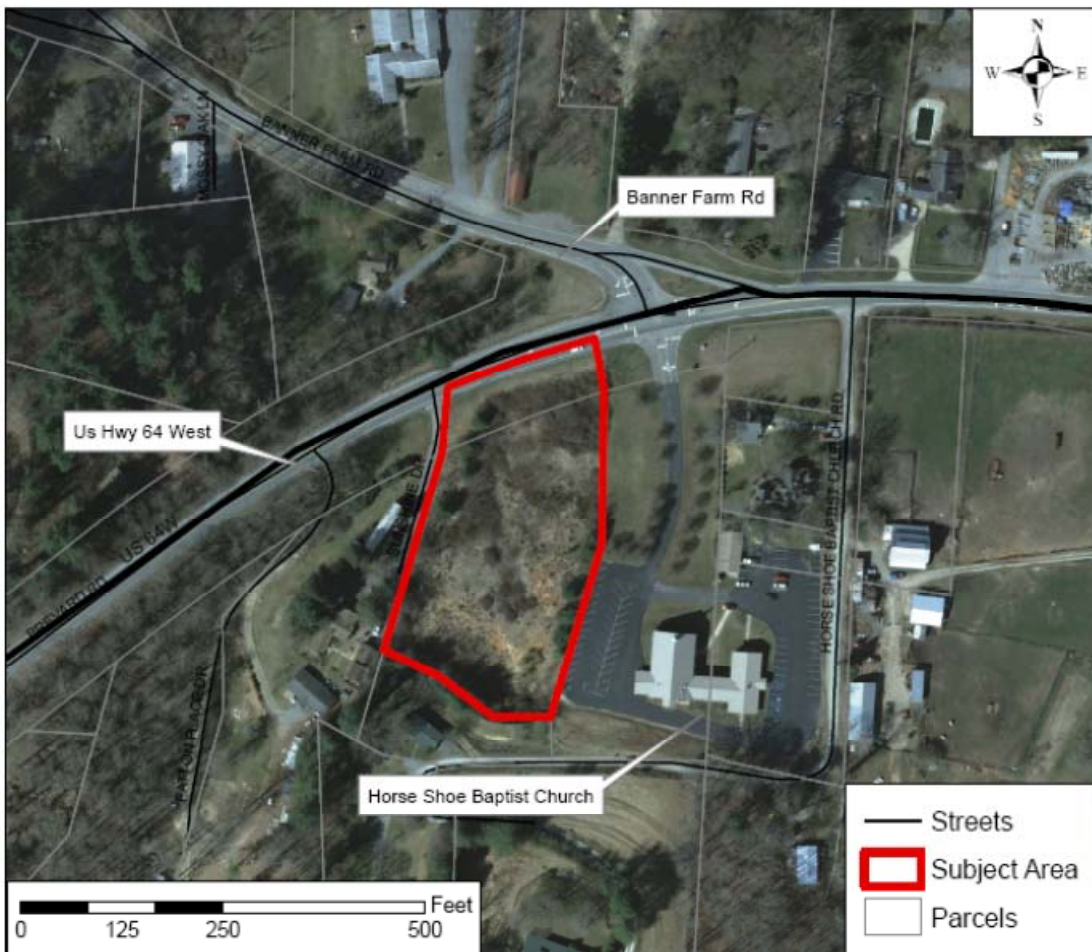
Rezoning Application #R-2013-01-C (R2R to CC-CD)

Roger Gagnon, Owner
The Broadway Group LLC, Applicant

1. Rezoning Request

- 1.1. **Applicant:** The Broadway Group, LLC
- 1.2. **Property Owner:** Roger Gagnon
- 1.3. **PIN:** 9539-98-3442
- 1.4. **Request:** Rezone Subject Area from an R2R (Residential Two Rural) zoning district to a CC-CD (Community Commercial Conditional District).
- 1.5. **Subject Area** (See Map A)

Map A: Map of Subject Area



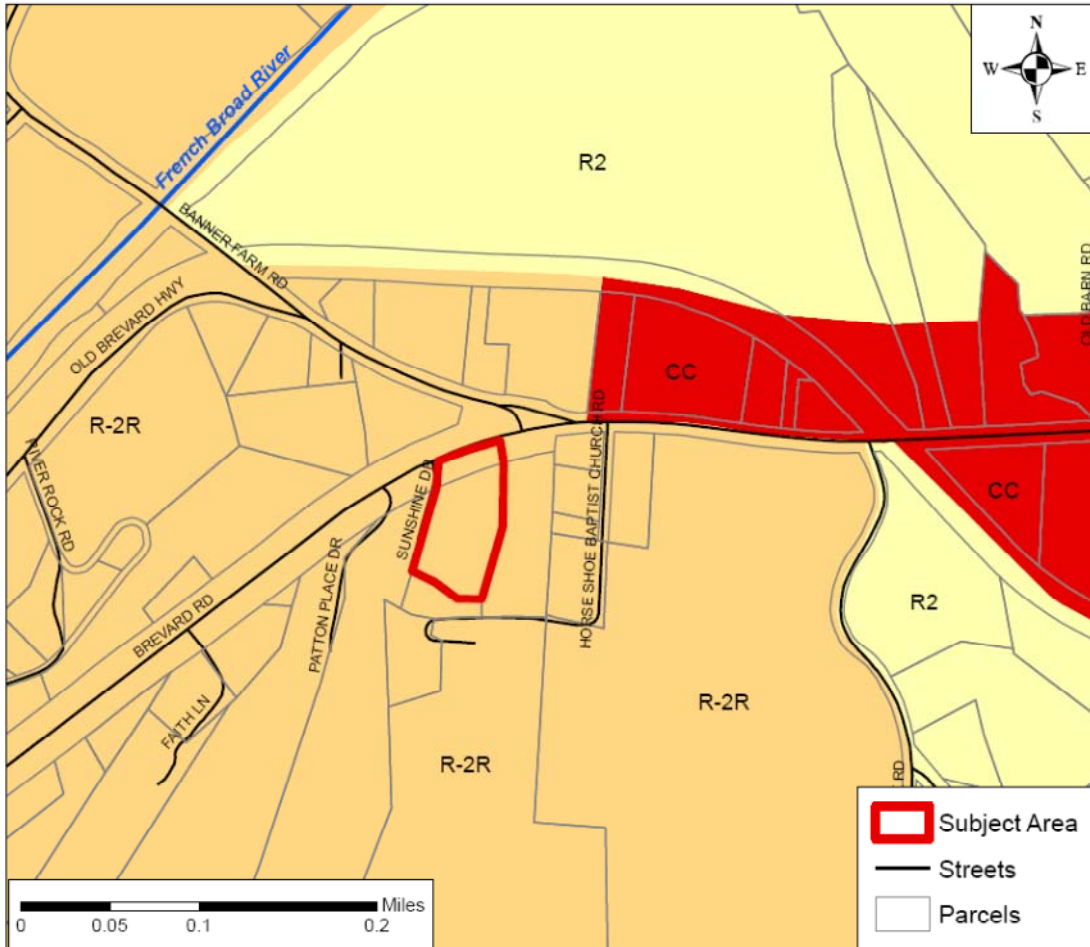
1.5.1. **Size:** Approximately 1.71 acres of land.

1.5.2. **Location:** The Subject Area is off of Brevard Road (US Hwy 64 west)

2. Current Zoning

2.1. **Application of Current Zoning:** The Subject Area is currently zoned R2R (Residential Two Rural), which was applied on September 19, 2007, as a result of the adoption of the Land Development Code (See Map B). The Subject Area was previously (prior to LDC adoption on September 19, 2007) zoned open use.

Map B: Current Zoning



2.2. **Adjacent Zoning:** 285 feet to the east of the Subject Area is Community Commercial zoning; to the south, north, and west is Residential Two Rural (R2R) zoning.

2.3. District Comparison:

2.3.1. **Residential Two Rural:** *“The purpose of Residential District 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 low to medium density residential development, with the inclusion of manufactured housing, consistent with the recommendations of the Comprehensive Plan. This general use district is typically meant to be utilized in areas designated as transitional in the Comprehensive Plan”* (Chapter 200A, Land Development Code §200A-29). R2R requires 10 foot side and rear setbacks, a maximum building height of 40 feet, and a standard density of one (1) unit per acre (maximum density of 2 units per acre).

2.3.2. **Community Commercial:** *“The purpose of the Community Commercial District (CC) is to foster orderly growth where the principle use of land is commercial. The intent of this district is to allow for commercial development consistent with the recommendations of the Comprehensive Plan. In accordance with the Comprehensive Plan, the district will allow for and provide commercial development that: (1) includes a variety of retail sales and services, public and private administrations, offices and all other uses done primarily for sale or profit on the local and community level; (2) is directed largely to defined Community Service Centers as defined in the Comprehensive Plan; (3) is compatible with adjacent development and the surrounding community; and (4) will minimize congestion and sprawl. This general use district is meant to be utilized in areas designated as Transition or Urban”* (Chapter 200A, Land Development Code §200A-34). CC requires 10 foot side and rear setbacks, maximum height 50 feet, a standard density of 16 units per acre, a maximum 80% impervious surface. A single commercial use on a single lot would be limited to 30,000 square feet maximum floor area and with a multi tenant structure the principal tenant would have a maximum floor area of 80,000 square feet.

3. **Current Uses of Subject Area and Adjacent Properties**

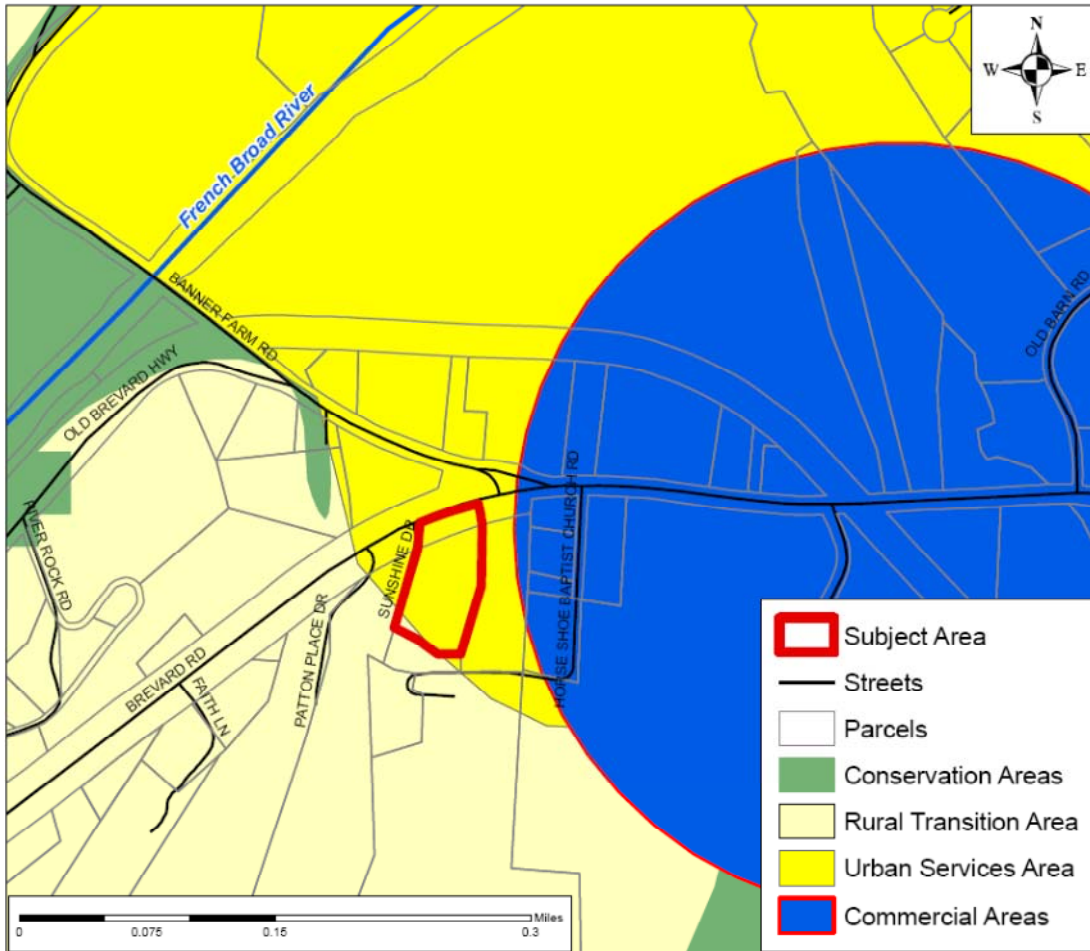
3.1. **Subject Area Use:** The Subject Area is currently vacant land.

3.2. **Adjacent Area Uses:** Surrounding area lands contain primarily single-family residences. To the east down Hwy 64 W there is the Horse Shoe hardware store and the the Homestead at Horse Shoe both within Community Commercial zoning.

4. **The Henderson County 2020 Comprehensive Plan (CCP)**

4.1. **Urban Services Area:** The CCP Future Land Use Map identifies the Subject Area as being located in the Urban Services Area and Rural Transition area (2020 CCP, Pgs. 128, 129 & Appendix 1, Map 24) (See Map D).

Map D: 2020 County Comprehensive Plan Future Land Use Map



- 4.1.1. The CCP states that, “the County’s economic development activities should be pursued within USA” (2020 CCP, Pg. 129).
- 4.1.2. The CCP states that, “the USA will contain considerable commercial development at a mixture of scales,” and further, “all regional commercial development should be concentrated here. Commercial development will exist within predefined zoning districts whose standards and configuration are in keeping with the surrounding community” (2020 CCP, Pg. 129).
- 4.1.3. The CCP states that, “the County’s economic development activities should be pursued within USA” (2020 CCP, Pg. 129).

5. The Etowah-Horse Shoe Community Plan

The Henderson County Board of Commissioners adopted the County Comprehensive Plan (CCP) on July 6, 2004. A principal recommendation of the CCP is the detailed study of individual communities within the County. The Etowah-Horse Shoe (EHS) Community Plan is a community specific comprehensive plan that outlines future goals related to land use and development, community character and design, natural and cultural resources, agriculture, housing, community facilities and public services, transportation and economic development as it relates to the CCP. The Board of Commissioners by resolution took action on the EHS Community Plan on September 16, 2009.

On November 17, 2010, the Board of Commissioners after holding a public hearing the Board adopted the zoning map amendments recommended in the EHS plan with modifications.

- 5.1. LC (Local Commercial) was recommended along US Hwy 64W from S. Rugby Road to All Star Lane, adjacent to the existing CC (Community Commercial) zoning district along 64W. The Board of Commissioners voted to leave the R2R after residents expressed concerns with commercial zoning in this area of Horse Shoe.

6. Conditional Zoning Districts

Staffs position at this time is that it supports a rezoning of the project site to Community Commercial. However, due to the neighboring residential uses and the distance from existing Community Commercial zoning, staff thinks a Community Commercial Conditional Zoning district would be more appropriate. This will limit the commercial use on the project site to only the proposed use, retail sales and services.

Conditional zoning districts are different from traditional zoning districts because they require a site plan for the proposed use(s) of the property and certain conditions or restrictions are placed on the property based on the proposed or allowable use(s). Conditional zoning district decisions are a legislative process subject to the same procedures as traditional zoning districts (See attachment 3).

According to the Land Development Code, conditional zoning districts are created for the purpose of providing an optional rezoning choice where the owner of property proposes to rezone property and, in order to, among other reasons, carry out the purposes of the Comprehensive Plan, proposes to impose special limitations and conditions on the use of the property proposed for rezoning (LDC§200A-45 - §200A-51).

The subject area is currently vacant. The applicant, Broadway Group LLC, is proposing to use the site for retail sales and services, a use which is not allowed in R2-R. A rezoning is required for the business to be permissible. Staff suggests the following conditions be imposed on the Subject Area:

- 6.1. (1) Site Plan. Major *Site Plan* required in accordance with §200A-299 (Major Site Plan Review).
- 6.2. (2) Lighting. *Adequate lighting* shall be placed in areas used for vehicular/pedestrian access including, but not limited to: stairs, sidewalks, crosswalks, intersections, or changes in grade. *Lighting mitigation* required.
- 6.3. Building Orientation: The building may be located within 35 feet from the edge of the ROW. The main entrance of the building should face the street and all of the parking should be located on the side and rear of the building.
- 6.4. Hydrant: A fire hydrant must be located within 400 of any part of the building. This needs to be indicated on the site plan and confirmed.
- 6.5. Water Supply Watershed: The subject property is located within a WS-IV-PA and allows a maximum built upon limit of 70% under the high density option. Engineered storm water controls as prescribed in the County LDC is required.
- 6.6. Buffer: The County LDC requires a B1 buffer (20 feet) along each side of the property that is adjacent to a residential district.
- 6.7. All required parking spaces must meet the design requirements of the Land Development Code §200A-161-165. The proposed parking spaces shall comply with the

landscape design standards and off street parking provisions as outlined in the Land Development Code (LDC Article V and VI). It appears the applicant is proposing more than the required parking spaces and the spaces shown on the site plan meet the requirements of the Land Development Code.

6.8. Etowah-Horse Shoe Community Plan Recommendations:

6.8.1. Design Standards: The Etowah-Horse Shoe Community Plan recommended design standards for noresidential uses (Goal CCD1, Objective CCD1.1). Design standards should prohibit unfinished steel or aluminum roofing and aluminum siding material and vinyl siding, and require at least 30% masonry fronts which includes stone or brick (log or timber materials may be acceptable). Where buildings are visible from the side, appropriate evergreen plantings shall be used to obscure the view from adjoining streets. The site plan should indicate compliance.

6.8.2. Signs: The Etowah-Horse Shoe Community Plan recommended new sign requirements (Goal CCD1, Objective CCD1.3). Restrict sign height for commercially zoned areas to a maximum of eight (8) feet. Require adequate landscaping around signs to improve aesthetics of signage. The proposed sign on the subject property shall be a monument sign (sign base shall be wider than the sign). The site plan should indicate compliance.

6.8.3. Lighting: The Etowah-Horse Shoe Community Plan recommended standards to limit light pollution (Goal CCD1, Objective CCD1.3). Incorporate standards that require semi-cutoff or full-cutoff lighting for major subdivisions and commercial developments within the Planning Area. The site plan should indicate compliance.

6.9. Any signs used on site must meet current standards of Article VII of the LDC

6.10. If the applicant has plans for future expansion of the existing business, all potential modification or expansions should be noted on the site plan.

7. Staff Comments and Recommendations

It is generally incumbent upon the Applicant to demonstrate an overriding justification for approving a given rezoning application. Staff encourages the Applicant to present any information that would inform the County’s consideration of the proposed rezoning. Staff requests the Applicant not discuss any specific use being considered for the property. The Technical Review Committee, Planning Board, and the Board of Commissioners cannot consider any specific proposed use for the property and must only consider the range of possible uses when reviewing and making recommendations on the rezoning request.

Staff’s position at this time, under the guidelines of current plans, policies and studies, is it supports the rezoning of the portion of the project site to be zoned to a Community Commercial Conditional District (CC-CD). This based on the following:

7.1. **The 2020 CCP:** The CCP Future Land Use Map (See Map D) places the Subject Area in the “Urban Services Area” classification. The text and map of the 2020 CCP suggest that the Subject Area would be suitable for high-density residential, commercial or industrial development. The CCP indicates that the USA may be suitable for commercial development provided the development is in keeping with the surrounding community.

7.2. **Adjacent Zoning:** The Subject Area does not abut an existing Community Commercial (CC) zoning district, however one is in close proximity to the east and could abut if extended via the right-of-way.

- 7.3. **Conditional Zoning Districts:** Applying conditions or restrictions to the Subject Area reduces and/or eliminates the impact on the surrounding community. There are circumstances in which a general use district designation allowing such a use or all uses by right would not be appropriate for a particular property though the use could, if properly planned, be appropriate for the property consistent with the objectives of the Land Development Codes conditional zoning districts, the adopted Comprehensive Plan, and adopted district.

8. Technical Review Committee Recommendations

- 8.1. The Technical Review Committee at its meeting on January 22, 2013 voted unanimously to recommend approval of rezoning application R-2013-C-01 to rezone the subject area to a Community Commercial conditional zoning district with the condition that the site plan be revised to include several minor corrections. The associated site plan was also approved by the Technical Review Committee at its meeting on January 22, 2013.
- 8.2. A revised site plan was submitted on January 24, 2013 that included the required corrections and changes outlined by the TRC and was subsequently approved by the Zoning Administrator.

9. Planning Board Recommendations

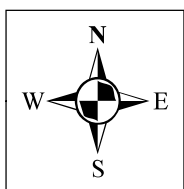
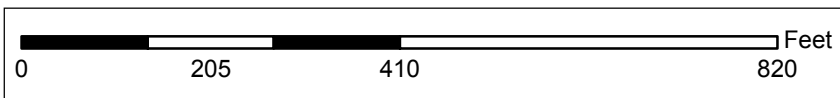
- 9.1. TBD






Us Hwy 64 West

Banner Farm Rd

Horse Shoe Baptist Church



	Subject Area
	Streets
	Parcels

Rezoning Application
R-2013-01-C
Broadway Group LLC, applicant

§200A-42. Reserved

§200A-43. Reserved

§200A-44. Reserved

Subpart B. Conditional Zoning Districts

§200A-45. Conditional Zoning Districts Established

Conditional Zoning Districts are created for the purpose of providing an optional rezoning choice where the *owner* of property proposes to rezone property and, in order to, among other reasons, carry out the purposes of the *Comprehensive Plan*, proposes to impose special limitations and conditions on the *use* of the property proposed for rezoning.

Conditional Zoning Districts are zoning districts in which the development and *use* of the property is subject to predetermined Chapter standards and the rules, regulations, and conditions imposed as part of the legislative decision creating the district and applying it to each individual development project. For each General Use Zoning District, there is a corresponding Conditional Zoning District (CD) which corresponds to each of the districts authorized by this Chapter as follows: R1-CD; R2-CD; R2R-CD; R3-CD; R-4-CD; OI-CD; LC-CD; CC-CD; RC-CD; I-CD; R-40-CD; WR-CD; SR-CD; and MU-CD.

Certain types of zoning districts would be inappropriate at certain locations in the absence of special conditions. Some land *uses* are of a nature or scale that may have significant impacts on both the immediately surrounding area and the entire community, which cannot be predetermined or controlled by general district standards. There are also circumstances in which a general use district designation allowing such a *use* by right would not be appropriate for a particular property though the *use* could, if properly planned, be appropriate for the property consistent with the objectives of these regulations, the adopted *Comprehensive Plan*, and adopted district. The review process established in this section provides for the accommodation of such *uses* by a reclassification of property into a conditional zoning district, subject to specific conditions, which ensure compatibility of the *use* with the use and enjoyment of neighboring properties.

Where the *applicant* for rezoning desires property to be rezoned to such a district in such situations, the Conditional Zoning District is a means by which such special conditions can be imposed in the furtherance of the purpose of this Chapter and the recommendations of the *Comprehensive Plan*. The Conditional Zoning District classification will be considered for rezoning only with the consent of the property *owner*. If, for any reason, any condition imposed pursuant to these regulations is found to be illegal or invalid or if the *applicant* should fail to accept any condition, it is the intent of this Chapter that the authorization of such Conditional Zoning District shall be null and void and of no effect and that proceedings shall be instituted to rezone the property to its previous zoning classification.

§200A-46. Plans and Other Information to Accompany Petition

Property may be rezoned to a Conditional Zoning District only in response to, and consistent with, a petition submitted by the *owners* of all of the property to be included in the district. A petition for conditional zoning must include a *site plan*, drawn to scale, and supporting information and text that specifies the actual *use* or *uses* intended for the property and any rules,

regulations and conditions that, in addition to all predetermined requirements, will govern the development and *use* of the property.

§200A-47. Approval of Conditional Zoning District

Conditional Zoning District decisions are a legislative process subject to judicial review using the same procedures and standard of review as applicable to general *use district* zoning decisions. Conditional Zoning District decisions shall be made in consideration of identified relevant adopted land *use* plans for the area, including, but not limited to, the *Comprehensive Plan*, strategic plans, district plans, *community plans*, *neighborhood* plans, corridor plans, and other land-use policy documents.

§200A-48. Conditions to Approval of Petition

In approving a petition for the reclassification of property to a Conditional Zoning District, the Planning Board may recommend, and the Board of Commissioners may request that reasonable and appropriate conditions be attached to the approval of the petition. Conditions and site-specific standards shall be limited to those that address the conformance of the development and *use* of the site to County ordinances and any officially adopted *Comprehensive Plan* or other land *use* plan, that address the impacts reasonably expected to be generated by the development or *use* of the site. Any such conditions should relate to the impact of the proposed *use* on surrounding property, support facilities (such as parking areas and *driveways*), pedestrian and vehicular circulation systems, *screening* and buffering areas, timing of development, *road* and *right-of-way* improvements, water and sewer improvements, *stormwater* drainage, provision of *open space*, and other matters that the Commissioners may find appropriate or the *applicant* may propose. Such conditions to approval of the petition may include dedication to the County, State or other public entity, as appropriate, of any *rights-of-way* or *easements* for *roads*, water, sewer, or other public utilities necessary to serve the proposed development. The *applicant* shall have a reasonable opportunity to consider and respond to any such conditions prior to final action by the Board of Commissioners. Only those conditions mutually approved by the Board of Commissioners and the *applicant* may be incorporated into the petition.

§200A-49. Effect of Approval

If a petition for conditional zoning is approved, the development and *use* of the property shall be governed by the existing Chapter requirements applicable to the district's category, the approved *site plan* for the district, and any additional approved rules, regulations, and conditions, all of which shall constitute zoning regulations for the approved district and are binding on the property as an amendment to these regulations and to the Official Zoning Map.

Only those *uses* and *structures* indicated in the approved petition and *site plan* shall be allowed on the subject property. A change of location of the *structures* may be authorized pursuant to §200A-50 (Alterations to Approval). Changes to the *site plan* layout shall not increase the number of *structures*.

Following the approval of the petition for a Conditional Zoning District, the subject property shall be identified on the Official Zoning Map by the appropriate district designation. A conditional zoning shall be identified by the same designation as the underlying general district followed by the letters "CD" (for example "OI-CD").

§200A-50. Alterations to Approval

Except as provided herein, changes to an approved petition or to the conditions attached to the approved petition shall be treated the same as amendments to these regulations or to the Official Zoning Map and shall be processed in accordance with the procedures of this Chapter.

The *Planning Director* or designee shall have the delegated authority to approve an amendment to an approved *site plan*. The standard for approving or denying such an amendment shall be that the change does not significantly alter the *site plan* or its conditions and that the change does not have a significant impact upon abutting properties. Any decision must be in writing stating the grounds for approval or denial.

For *nonresidential development*, an increase in the intensity of the development is limited to ten (10) percent of the approved *structure* size or 1,000 square feet, whichever is less. For *residential development*, increases in density are limited to ten (10) percent of the development or no more than five (5) *dwelling units*, whichever is less.

The *Planning Director*, however, shall have the discretion to decline to exercise the delegated authority either because of uncertainty about approval of the change pursuant to the standard or because Board of Commissioner consideration and public hearing is deemed appropriate under the circumstances. If the *Planning Director* declines to exercise this authority, the *applicant* may request a map amendment as permitted by this Chapter.

§200A-51. Review of Approval of a Conditional Zoning District

It is intended that property shall be reclassified to a Conditional Zoning District only in the event of firm plans to develop the property. Therefore, no sooner than three (3) years after the date of approval of the petition, the Planning Board may examine the progress made toward developing the property in accordance with the approved petition and any conditions attached to the approval. If the Planning Board determines that progress has not been made in accordance with the approved petition and conditions, the Planning Board shall forward to the Board of Commissioners a report, which may recommend that the property be classified to another district.



**OFFICE OF THE
COUNTY ATTORNEY**

Charles Russell Burrell
County Attorney
rburrell@hendersoncountync.org

Susan L. Fosmire
Assistant County Attorney
sfosmire@hendersoncountync.org

Sarah G. Zambon
Deputy County Attorney
szambon@hendersoncountync.org

Rebekah R. Price
Associate County Attorney
rprice@hendersoncountync.org

Kathryn Finotti
Paralegal
kfinotti@hendersoncounty.org

Jacqueline Justus
Paralegal
jjustus@hendersoncountync.org

1 Historic Courthouse Square
Suite 5
or
1200 Spartanburg Highway
Suite 400

**Hendersonville
North Carolina 28792**

Telephone:
(828) 697-4719 (King St.)
(828) 694-6490 (Spartanburg Hwy)

Facsimile:
(828) 697-4536

Website:
www.hendersoncountync.org

Memorandum

TO: Planning Board
FROM: Sarah Zambon
DATE: 11 February 2013
RE: Legal Summary of Spot Zoning

This document is a confidential communication, between the author and the recipient(s). It is protected by attorney-client privilege, and is not subject to disclosure for at least a period of three years from the date hereof under North Carolina Public Records law, pursuant to N.C. Gen. Stat. §132-1.1.

Legal Background:

Spot zoning is:

[A] zoning ordinance, or amendment, which singles out and reclassifies a relatively small tract owned by a single person and surrounded by a much larger area uniformly zoned, so as to relieve the small tract from restrictions to which the rest of the area is subjected... It is beyond the authority of the municipality, in the absence of a clear showing of a reasonable basis for such distinction.

(Blades v. City of Raleigh, 280 N.C. 531, 549 (1972))

Unlike many jurisdictions, spot zoning is not always illegal in North Carolina. In North Carolina, spot zoning is permissible if there are rational justifications for the distinctions. Stricter judicial scrutiny is given to smaller rezoning than larger rezoning. This scrutiny is granted under the state constitutional provisions prohibiting granting of exclusive privileges, the creation of monopolies, and the violation of due process or equal protection under the law. (N.C. Const. art I sections 32, 34, and 19) The key issue for courts is whether the zoning is done for the public interest or an individual interest. The stronger an argument can be made that the zoning is for the public good; the more likely it is to be permissible. The main concern with spot zoning is that one property owner will get an advantage to the detriment of those around him without a public benefit or reason. (Dale v. Town of Columbus, 101 N.C. App. 335, 339 (1990))

The courts have established several factors to consider when reviewing spot zoning on a case-by-case analysis:

- **Size of the tract:** The larger the tract, the more likely it is to be reasonable. However, this varies based on the surrounding area, for example 5 acres in an urban area may be reasonable while 5 acres in a rural setting may not be large enough.
- **Compatibility with existing comprehensive plan:** If the zoning decisions can be supported by the comprehensive plan, this strengthens the argument that the decision was in the public interest. However, where the decision seems contrary to the comprehensive

- plan, this would deter from the public good evidence and may point to the zoning being unreasonable.
- Impact of the zoning decision on the landowner, neighbors, and surrounding community: This factor should be viewed as a balance between the landowner and the surrounding community. Generally, if a decision significantly benefits the landowner and only minor inconveniences the neighbors it may be reasonable. However, if it greatly advantages the landowner and significantly harms the neighborhood, it will more likely be considered unreasonable. The Court will also look at how many property owners are involved; the greater number of owners increases the opportunity for public accountability.
- Relationship between newly allowed uses and previously allowed uses: The greater the difference from the previous and the new, the more likely it is thought to be unreasonable.

(David W. Owens, Land Use Law in North Carolina , 2011 p115-123)

§200A-29. Residential District Two Rural (R2R)

- A. **Purpose.** The purpose of Residential District 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 low to medium density *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 Transitional (RTA) in the *Comprehensive Plan*.
- B. **Density and Dimensional Requirements.** Each *use* allowed in this district shall, at a minimum, conform to the following requirements (in the case of a nonresidential *use* the *residential density* requirements shall not apply). In some cases a specific *use* may be required to meet the Supplemental Requirements as set forth in §200A-63 (Supplemental Requirements).

Table 2.3. R2R Density and Dimensional Requirements			
(1) <i>Residential Density</i> (units/acre)	(2) Standard	1	
	(3) Maximum	2	
(4) <i>Yard Setbacks</i> (feet)	<i>Front or ROW</i>	<i>Local</i>	15
		<i>Collector</i>	20
		<i>Thoroughfare</i>	35
		<i>Boulevard</i>	50
		<i>Expressway</i>	60
		<i>Freeway</i>	90
	<i>Side</i>	10	
	<i>Rear</i>	10	
(5) Maximum Height (feet)		40	

- (1) *Residential density* shall be calculated utilizing the entire acreage of a *tract* of land. Under this scenario, *residential density* shall be determined based on the following formula:

<p><i>Lot size</i> x allowable units per acre = permitted <i>dwelling units</i></p> <p>The following example assumes a 5 acre tract with an allowable density of 1 unit/acre:</p> <p>5 acres x 1 unit per acre = <u>5 permitted dwelling units</u></p>

The maximum *residential density* for portions of the *tract* with a *slope* of 60 percent or greater (where such *slope* areas of the *tract* account for ten (10) percent or more of the *tract*) shall be one-half (½) the eligible density.

- (2) Standard *residential density* shall be applied:
- On a *lot* existing at the time of the initial adoption of this Chapter, where there is not adequate area to comply with the applicable standard *residential density* requirement;
 - To single-family residential *uses*; and
 - To multifamily residential *uses* with fewer than five (5) units.

- (3) Maximum residential density shall be available to applicants proposing five (5) or more dwellings in any combination of the following unit types (duplexes and triplexes and specifically excluding single-family units) where:
 - a. A total of at least five (5) units would be permitted by standard residential density, and
 - b. Such dwellings are generally served by both: (1) a *public water supply system* and (2) a *sewage disposal system* (of the following types: municipal, approved public, or approved community) which meet the requirements of the local or State authorities having jurisdiction thereof..
- (4) *Accessory structures* shall be located in *side* or *rear yards* and shall be *setback* a minimum of five (5) feet from any property line.
- (5) Maximum height may be exceeded in multifamily developments as detailed in §200A-63 (Supplemental Requirements) SR 1.6. (Dwelling, Multifamily, Five (5) or More Units), provided such developments do not exceed 50 feet in height.

§200A-34. Community Commercial District (CC)

- A. **Purpose.** The purpose of the Community Commercial District (CC) is to foster orderly growth where the *principal use* of land is commercial. The intent of this district is to allow for *commercial development* consistent with the recommendations of the *Comprehensive Plan*. In accordance with the *Comprehensive Plan*, the district will allow for and provide *commercial development* that: (1) includes a variety of retail sales and services, public and private administrations, offices and all other *uses* done primarily for sale or profit on the local and community level; (2) is directed largely to Community Service Centers as defined in the *Comprehensive Plan*; (3) is compatible with adjacent development and the surrounding community; and (4) will minimize congestion and sprawl. This general *use district* is meant to be utilized in areas designated as Transitional (RTA) or Urban (USA) in the *Comprehensive Plan*.
- B. **Density and Dimensional Requirements.** Each *use* allowed in this district shall at a minimum conform to the following requirements (in the case of a nonresidential *use* the *residential density* requirements shall not apply). In some cases a specific *use* may be required to meet the Supplemental Requirements as set forth in §200A-63 (Supplemental Requirements).

Table 2.8. CC Density and Dimensional Requirements			
(1) <i>Residential Density</i> (units/acre)		16	
<i>Maximum Impervious Surface</i> (%)		80	
(2) <i>Maximum Floor Area</i> (sq ft)		80,000 or 30,000	
<i>Yard Setbacks</i> (feet)	<i>Front or ROW</i>	<i>Local</i>	20
		<i>Collector</i>	25
		<i>Thoroughfare</i>	35
		<i>Boulevard</i>	45
		<i>Expressway</i>	55
	<i>Freeway</i>	60	
		<i>Side</i>	10
	<i>Rear</i>	10	
Maximum Height (feet)		50	

- (1) *Residential density* shall be calculated utilizing the entire acreage of a *tract* of land. Under this scenario, *residential density* shall be determined based on the following formula:

<p>$Lot\ size \times allowable\ units\ per\ acre = permitted\ dwelling\ units$</p> <p>The following example assumes a 5 acre tract with an allowable density of 16 units/acre:</p> <p>5 acres x 16 units per acre = <u>80 permitted dwelling units</u></p>
--

The maximum *residential density* for portions of the *tract* with a *slope* of 60 percent or greater (where such *slope* areas of the *tract* account for ten (10) percent or more of the *tract*) shall be one-half (½) the eligible density.

- (2) Within a multi-tenant *structure/site*, , the principal tenant shall have a maximum *gross floor area* of 80,000 square feet. The maximum *gross floor area* for any other tenant shall be 30,000 square feet. The maximum *gross floor area* for a single unit on a single *lot* shall be 30,000 square feet.
- (3) *Accessory structures* shall be located in *side* or *rear* yards and shall be *setback* a minimum of five (5) feet from any property line.

Rezoning #R-2013-C-01

The Broadway Group LLC, Applicant



**Henderson County Planning Board Meeting
February 21 , 2013**

Presented by: Parker Sloan, Planner

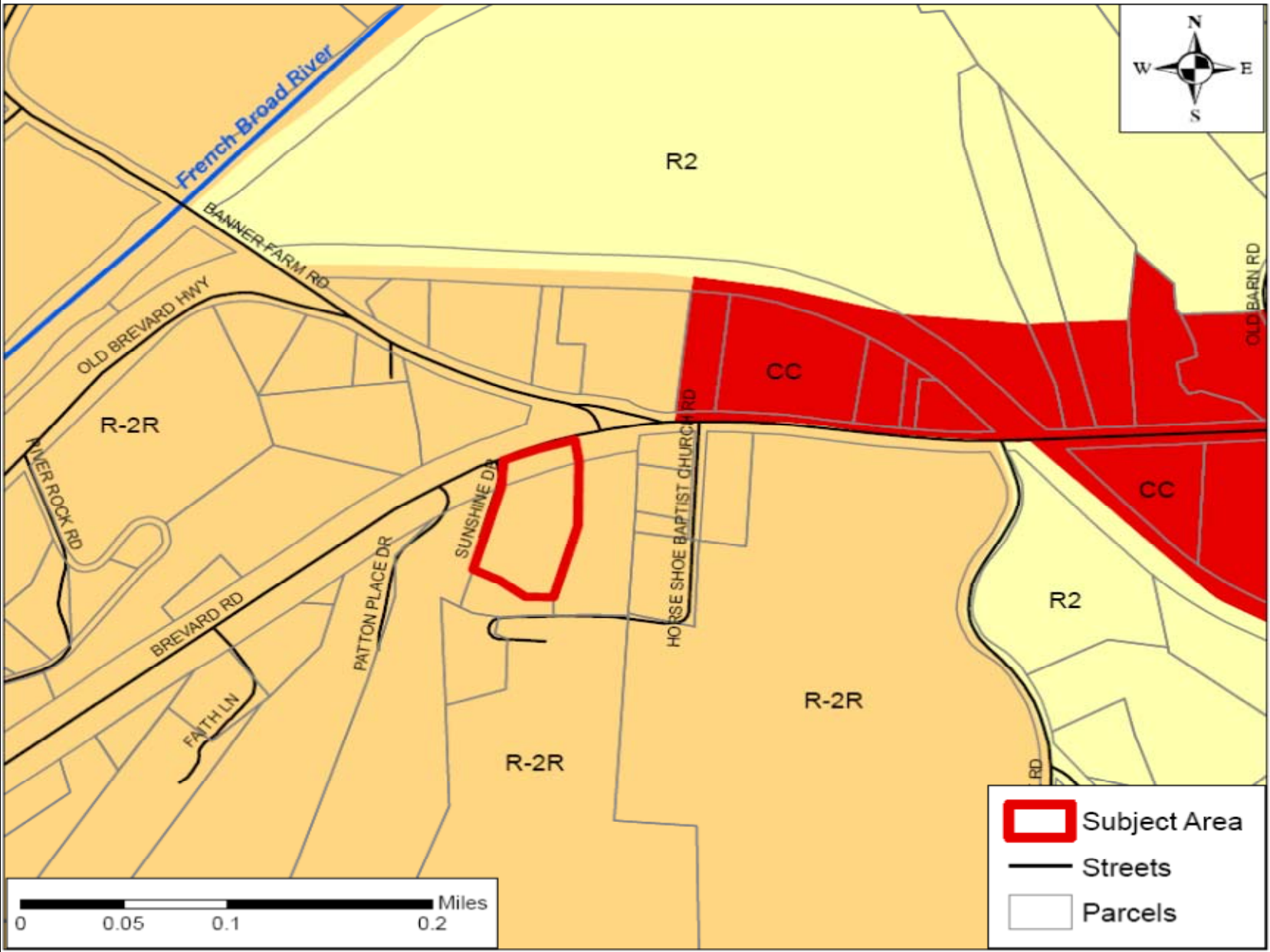
Henderson County Planning Department

Aerial Photo Map

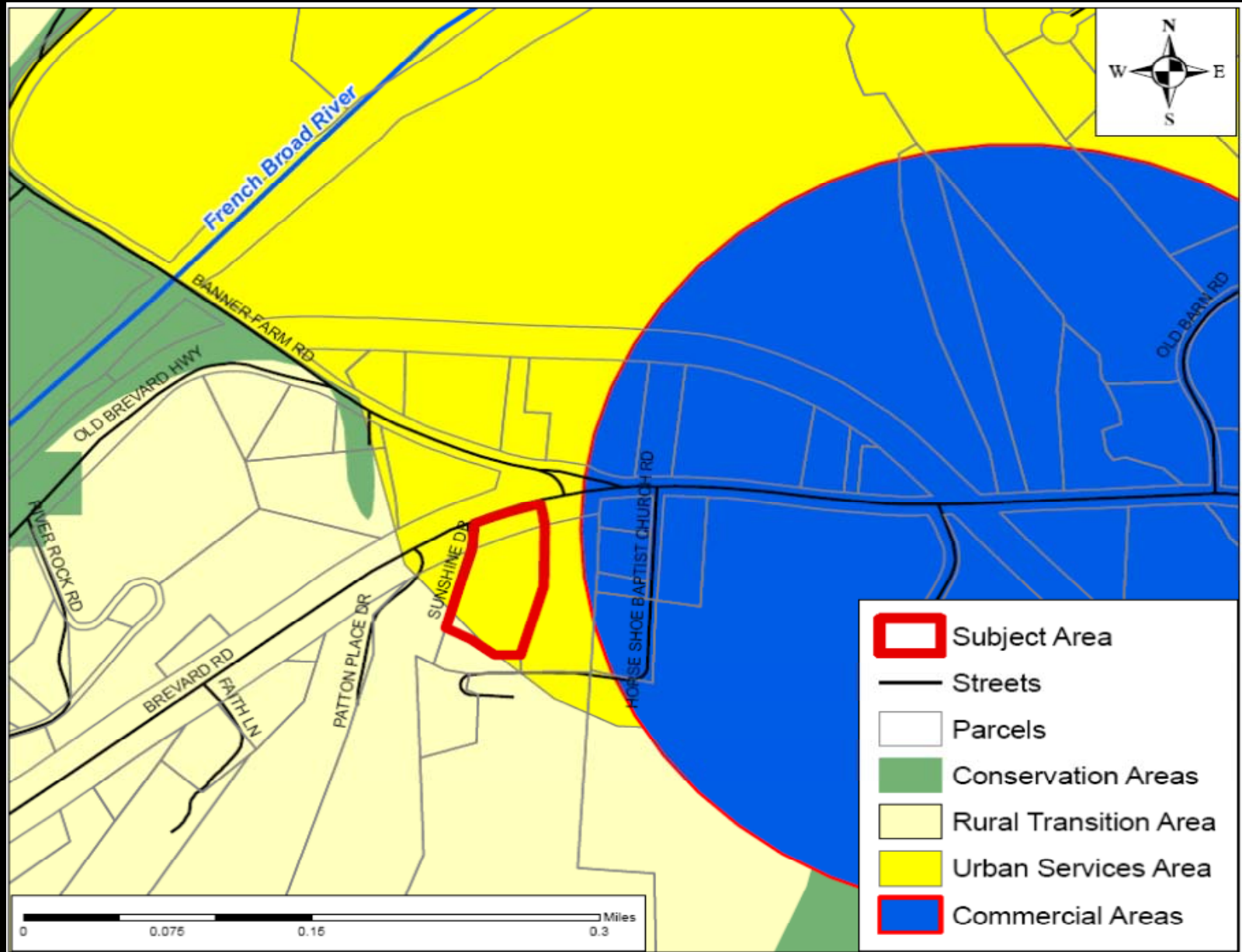


Henderson County Planning Department

Current Zoning Map



2020 CCP Future Land Use Map



Henderson County Planning Department



View of subject area looking west

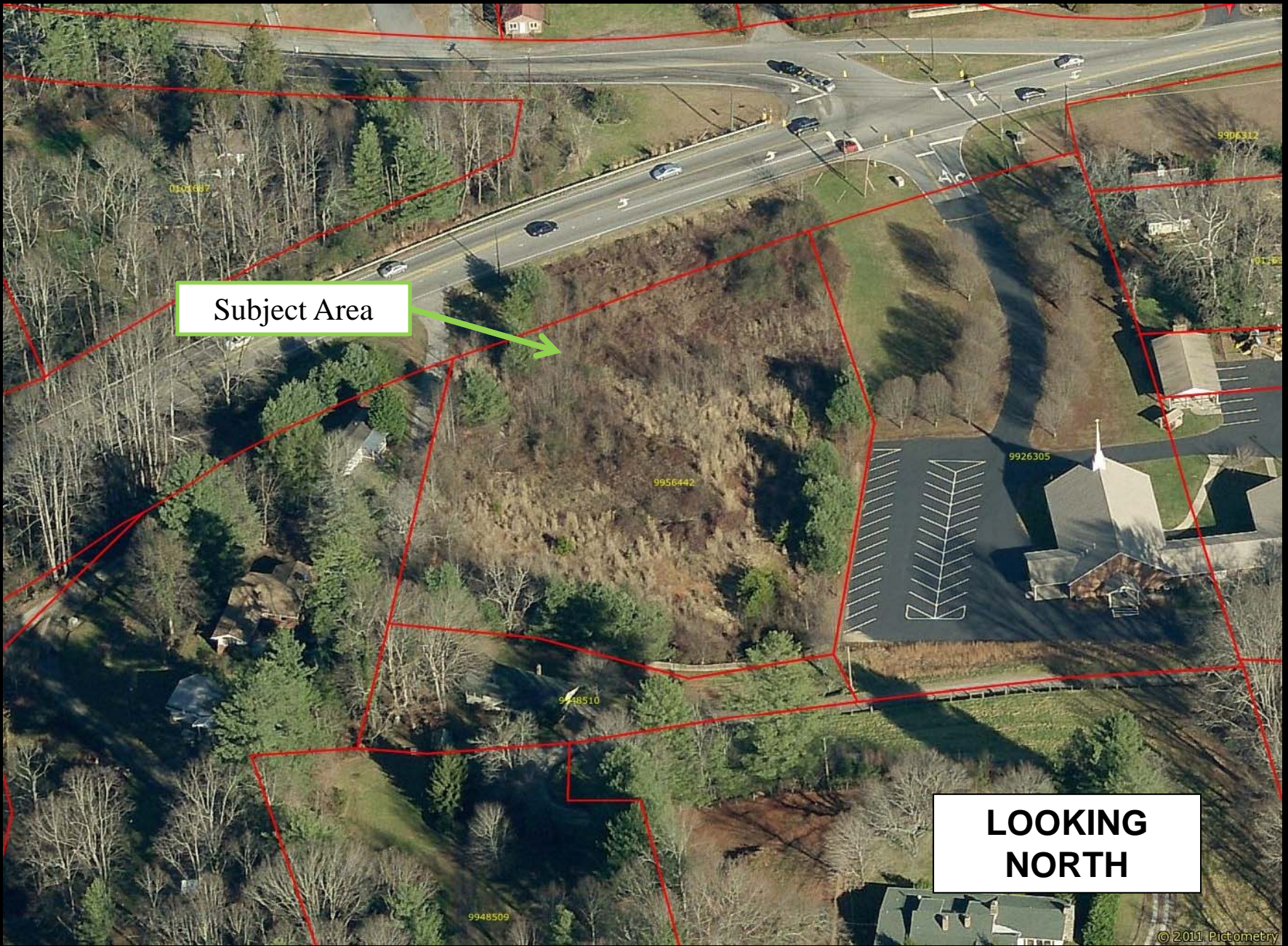


View of the subject area looking east towards Horse Shoe Baptist Church



Subject Area

LOOKING
EAST



Subject Area

LOOKING NORTH

Rezoning #R-2013-C-01

Public Comments



Rezoning Application #2012-06
Photos of Subject Area



View of the subject area looking east towards Horse Shoe Baptist Church



View of the center of the Subject Area looking north towards Hwy 64 W.



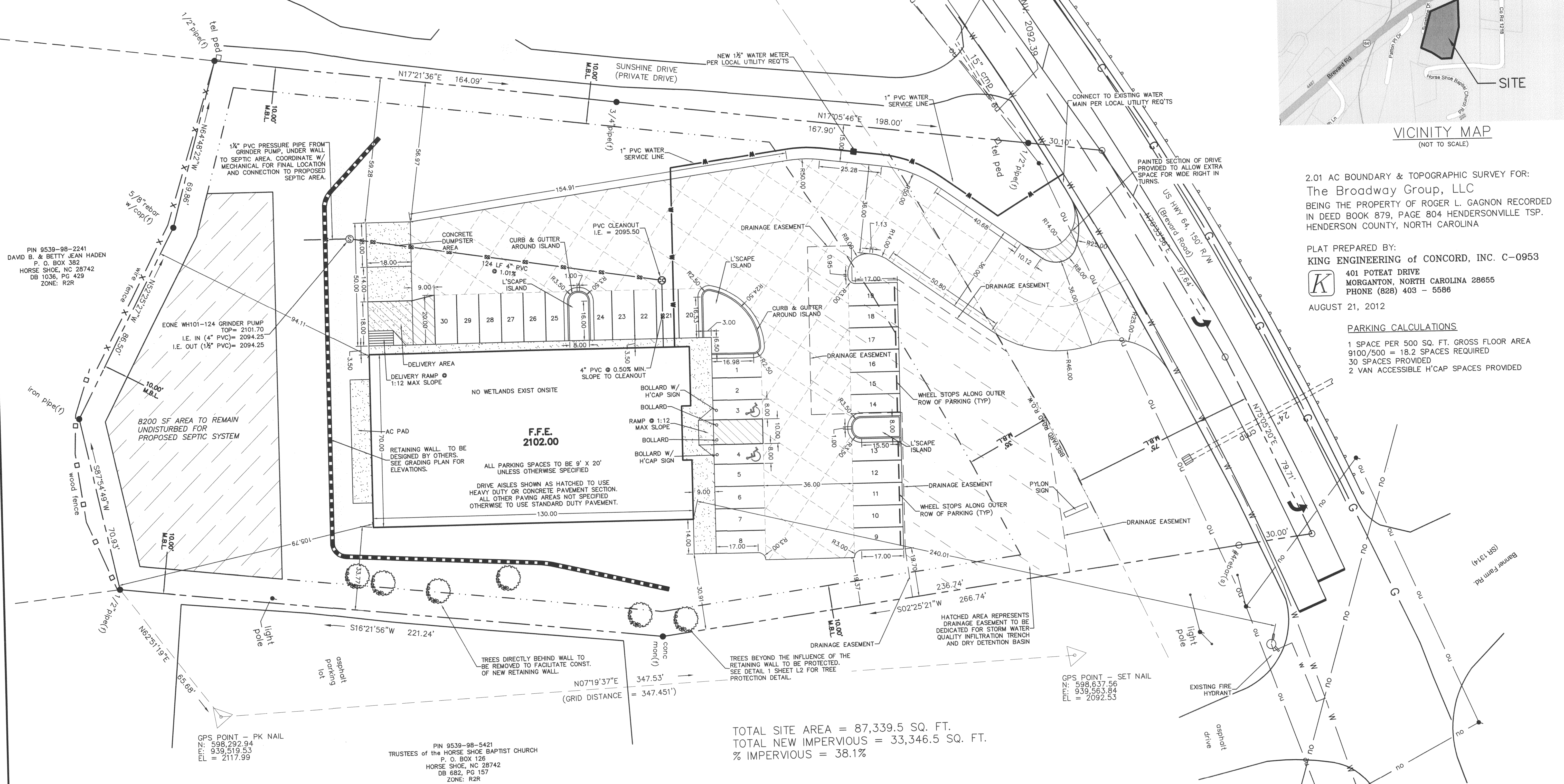
View of the center of the subject area looking west towards neighboring residences.



View of the center of the Subject Area and neighboring family home looking northwest.

Buffer Type	Width (ft)	Plant Material Required Per 100 Linear Feet			
		Deciduous Trees		Evergreen Trees	
		Large	Small	Large	Small
B1	20	1	2	2	6
B2	30	2	3	5	12

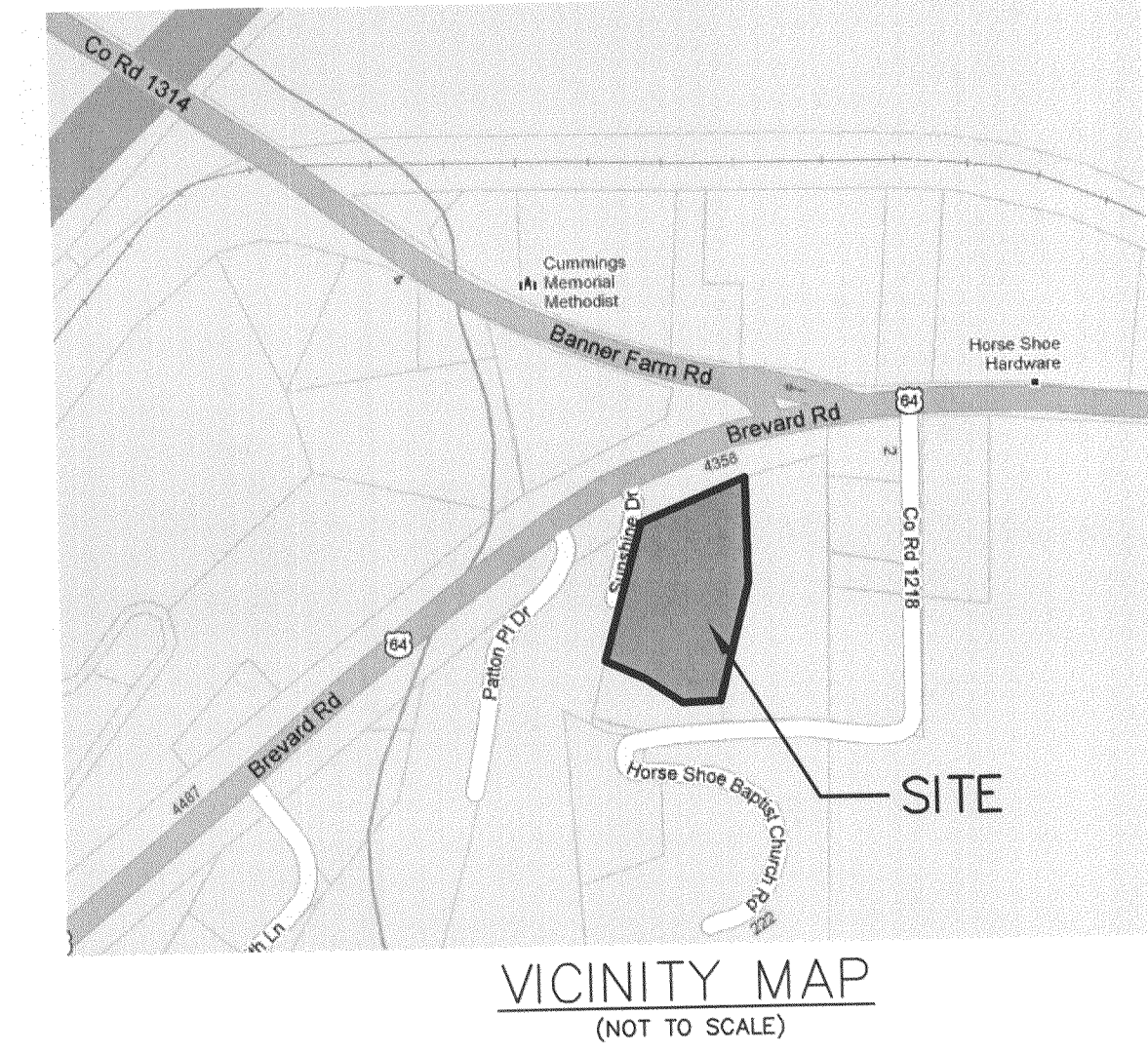
PIN 9539-87-9784
JEAN MARIE PATTON
105 PATTON PL
HORSE SHOE, NC 28742
DB 969, PG 71
ZONE: R2R



TOTAL SITE AREA = 87,339.5 SQ. FT.
TOTAL NEW IMPERVIOUS = 33,346.5 SQ. FT.
% IMPERVIOUS = 38.1%



NOTE: ALL UTILITY LOCATIONS HAVE BEEN PROVIDED BY THE RESPECTIVE UTILITY DEPARTMENTS OR COMPANIES. CONTRACTORS ARE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES. CALL UTILITY COMPANY OR CITY DEPARTMENTS FOR GROUND LOCATIONS BEFORE DIGGING.

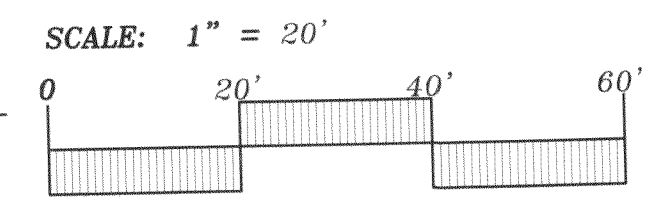


2.01 AC BOUNDARY & TOPOGRAPHIC SURVEY FOR:
The Broadway Group, LLC
BEING THE PROPERTY OF ROGER L. GAGNON RECORDED IN DEED BOOK 879, PAGE 804 HENDERSONVILLE TSP. HENDERSON COUNTY, NORTH CAROLINA

PLAT PREPARED BY:
KING ENGINEERING OF CONCORD, INC. C-0953
401 POTEAT DRIVE
MORGANTON, NORTH CAROLINA 28655
PHONE (828) 403 - 5586
AUGUST 21, 2012

PARKING CALCULATIONS
1 SPACE PER 500 SQ. FT. GROSS FLOOR AREA
9100/500 = 18.2 SPACES REQUIRED
30 SPACES PROVIDED
2 VAN ACCESSIBLE H'CAP SPACES PROVIDED

SITE AREA DETAILS
STANDARD ASPHALT OR CONC. PVM'T = 5,588 SQ. FT.
HEAVY DUTY ASPHALT OR CONC. PVM'T = 16,270 SQ. FT.
CURB AND GUTTER = 165.5 LF
SIDEWALK = 1,323 SQ. FT.
DUMPSTER/DELIVERY AREA CONCRETE = 900 SQ. FT.
AC PAD = 400 SQ. FT.



SITE DEVELOPMENT PLAN
SHEET 1 OF 1

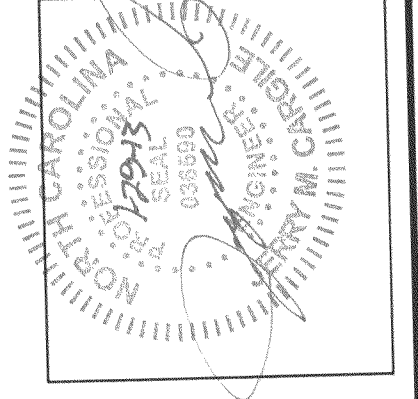
- NOTES:
- SUBJECT PROPERTY DOES NOT LIE WITHIN THE 100 YEAR FLOOD PLAIN AREA PER FEMA PANEL NUMBER 3700953900 J, EFFECTIVE DATE: OCTOBER 2, 2008.
 - SUBJECT PROPERTY IS LOCATED WITHIN THE WS-IV PROTECTED WATERSHED AREA. (UPPER FRENCH BROAD RIVER WATERSHED)
 - SUBJECT PROPERTY ZONED: HENDERSON COUNTY "CD-CC"
 - PROPERTY IS SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY, COVENANTS, RESTRICTIONS, CONDITIONS AND RESERVATIONS OF RECORD AFFECTING SUBJECT PROPERTY.

- NOTES:
- DESIGN STANDARDS FOR ARCHITECTURAL PLANS SHOULD PROHIBIT UNFINISHED STEEL OR ALUMINUM ROOFING, ALUMINUM OR VINYL SIDING, AND MAINTAIN AT LEAST 30% MASONRY WALLS WHICH INCLUDES STONE OR BRICK (LOG OR TIMBER MATERIALS MAY BE ACCEPTABLE). WHERE BUILDINGS ARE VISIBLE FROM THE SIDE, APPROPRIATE EVERGREEN PLANTINGS SHALL BE USED TO OBSCURE THE VIEW FROM ADJOINING STREETS.
 - PROPOSED SIGN SHALL BE A MONUMENT SIGN AND SHALL BE RESTRICTED TO A MAXIMUM OF 8 FEET IN HEIGHT. SIGN SHALL BE ADEQUATELY LANDSCAPED TO IMPROVE THE AESTHETICS OF THE SIGN. SIGN BASE SHALL BE WIDER THAN THE SIGN.
 - SITE LIGHTING SHOULD INCORPORATE STANDARDS THAT REQUIRE SIMI-CUTOFF OR FULL-CUTOFF LIGHTING.

land planning
civil engineering
land surveying
landscape architecture

ASITE
INCORPORATED

7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35893
phone 256.539.1221 • fax 256.539.1220



NEW RETAIL DEVELOPMENT
PREPARED FOR THE BROADWAY GROUP LLC
HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
U.S. HWY. 64 (BREVARD ROAD)

REVISIONS:	FILE NAME: P12-108-BASE_UPDATED.DWG
DRAWN BY: J.W.	FIELD DATE: 1/28/13
OFFICE DATE: 1/28/13	CHECKED BY: JMC
SCALE: AS NOTED	SHT. NO. 9
JOB NO.: P12-108	FILE NAME: P12-108-BASE_UPDATED.DWG

PIN 9539-87-9784
 JEAN MARIE PATTON
 105 PATTON PL
 HORSE SHOE, NC 28742
 DB 969, PG 71
 ZONE: R2R

PIN 9539-98-2241
 DAVID B. & BETTY JEAN HADEN
 P. O. BOX 382
 HORSE SHOE, NC 28742
 DB 1036, PG 429
 ZONE: R2R

PIN 9539-98-5421
 TRUSTEES of the HORSE SHOE BAPTIST CHURCH
 P. O. BOX 126
 HORSE SHOE, NC 28742
 DB 682, PG 157
 ZONE: R2R

EROSION AND SEDIMENT CONTROL CONSTRUCTION SEQUENCE

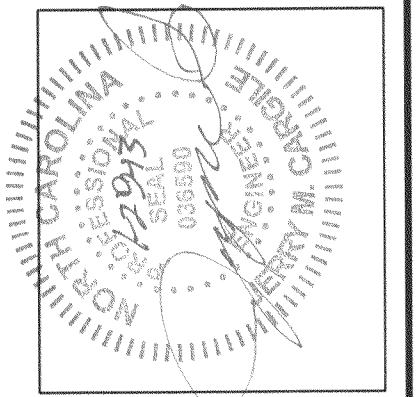
1. INSTALL CONSTRUCTION ENTRANCES AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL BE ENTERING AND EXITING THE SITE. CONSTRUCTION ENTRANCES USED FOR REMOVAL OF ONSITE MATERIALS SHALL EXTEND TO THE LOADING AREA, BUT IN NO CASE SHALL ANY CONSTRUCTION ENTRANCE BE LESS THAN 50 FEET IN LENGTH OR 6" IN DEPTH. WIDTH SHALL NOT BE LESS THAN 15 FEET.
2. INSTALL TEMPORARY SILT FENCES AND CONSTRUCT SEDIMENT TRAPS.
3. INSTALL BEST MANAGEMENT PRACTICES IN DITCHES AS THEY ARE CONSTRUCTED, AND INSTALL SILT FENCES AT INDICATED LOCATIONS. INSTALL CHECK DAMS AND GRAVEL BAG FILTERS AT STORM SEWER STRUCTURES AS THEY ARE CONSTRUCTED.
4. MULCH, LIME, FERTILIZE AND SEED ALL DISTURBED AREAS AS SOON AS POSSIBLE FOLLOWING FINAL GRADING.
5. WASH DOWN CONSTRUCTION ENTRANCE AS NECESSARY TO LIMIT MUD AND DEBRIS BEING CARRIED ONTO ADJACENT ROADS. DRAINAGE FROM CONSTRUCTION ENTRANCE SHALL BE GRADED TO DRAIN TO SILT FENCES, OR OTHER EROSION CONTROL MEASURES.
6. CONSTRUCT RETAINING WALL ALONG SOUTH SIDE OF PROPERTY.
7. FOLLOWING COMPLETION OF PAVEMENT, STORM SYSTEM, AND MULCHING AND SEEDING ACTIVITIES, CLEAN OUT SEDIMENT TRAPS AND CLEAN ALL SEDIMENT FROM STORM PIPE SYSTEM. SEDIMENT TRAP SHALL THEN BE CONVERTED TO THE PROPOSED DETENTION POND AS SHOWN WITHIN THE GRADING AND DRAINAGE PLAN SHEETS.
8. WHEN CONSTRUCTION IS COMPLETE AND UPON APPROVAL OF THE LOCAL GOVERNING AGENCY, REMOVE SILT FENCES, CHECK DAMS, AND ANY INLET PROTECTION. SPREAD AND GRADE COLLECTED MATERIALS, AND SEED. SPREAD STRAW AND SEED.



NOTE: ALL UTILITY LOCATIONS HAVE BEEN PROVIDED BY THE RESPECTIVE UTILITY DEPARTMENTS OR COMPANIES. CONTRACTORS ARE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, CALL UTILITY COMPANY OR CITY DEPARTMENTS FOR GROUND LOCATIONS BEFORE DIGGING.

land planning
 civil engineering
 land surveying
 architecture

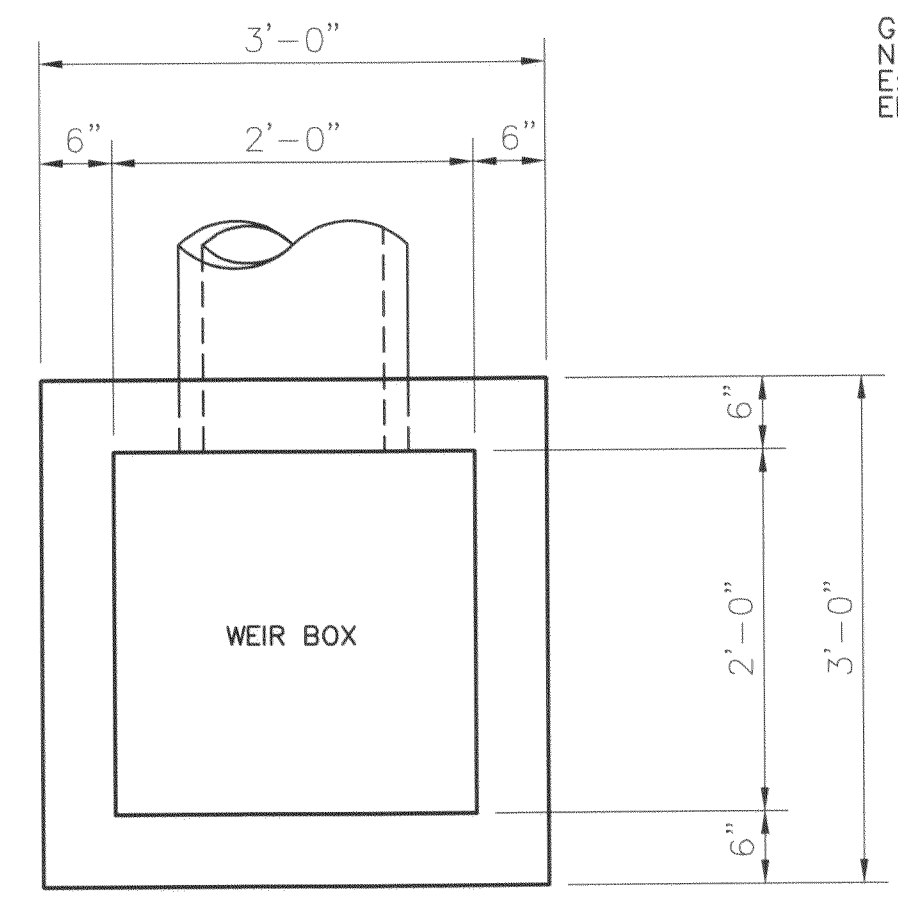
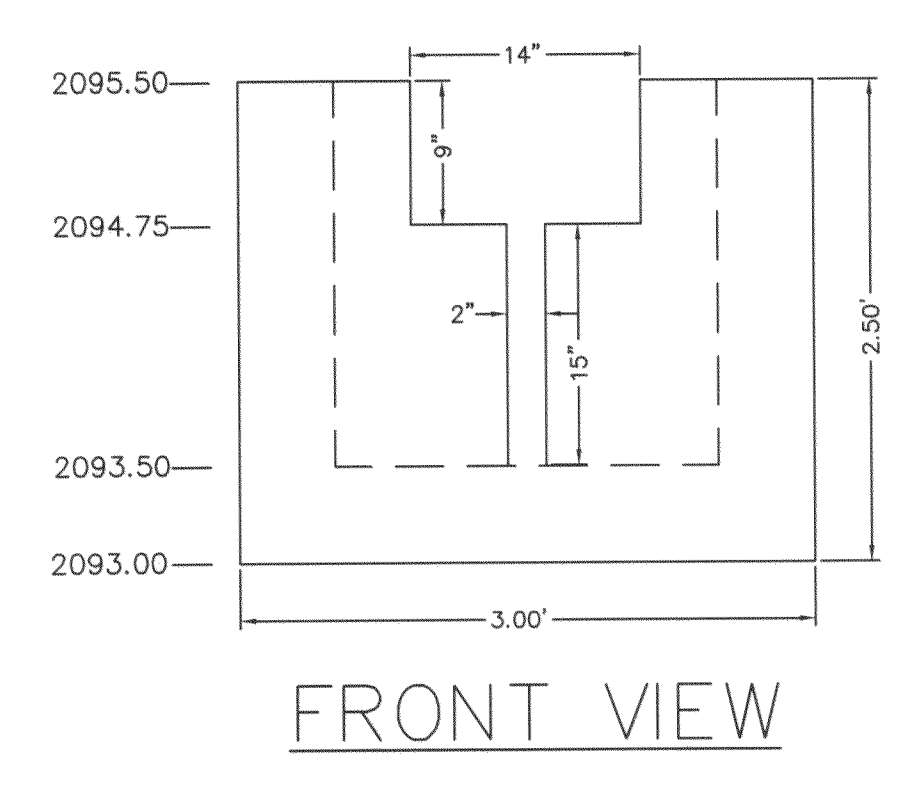
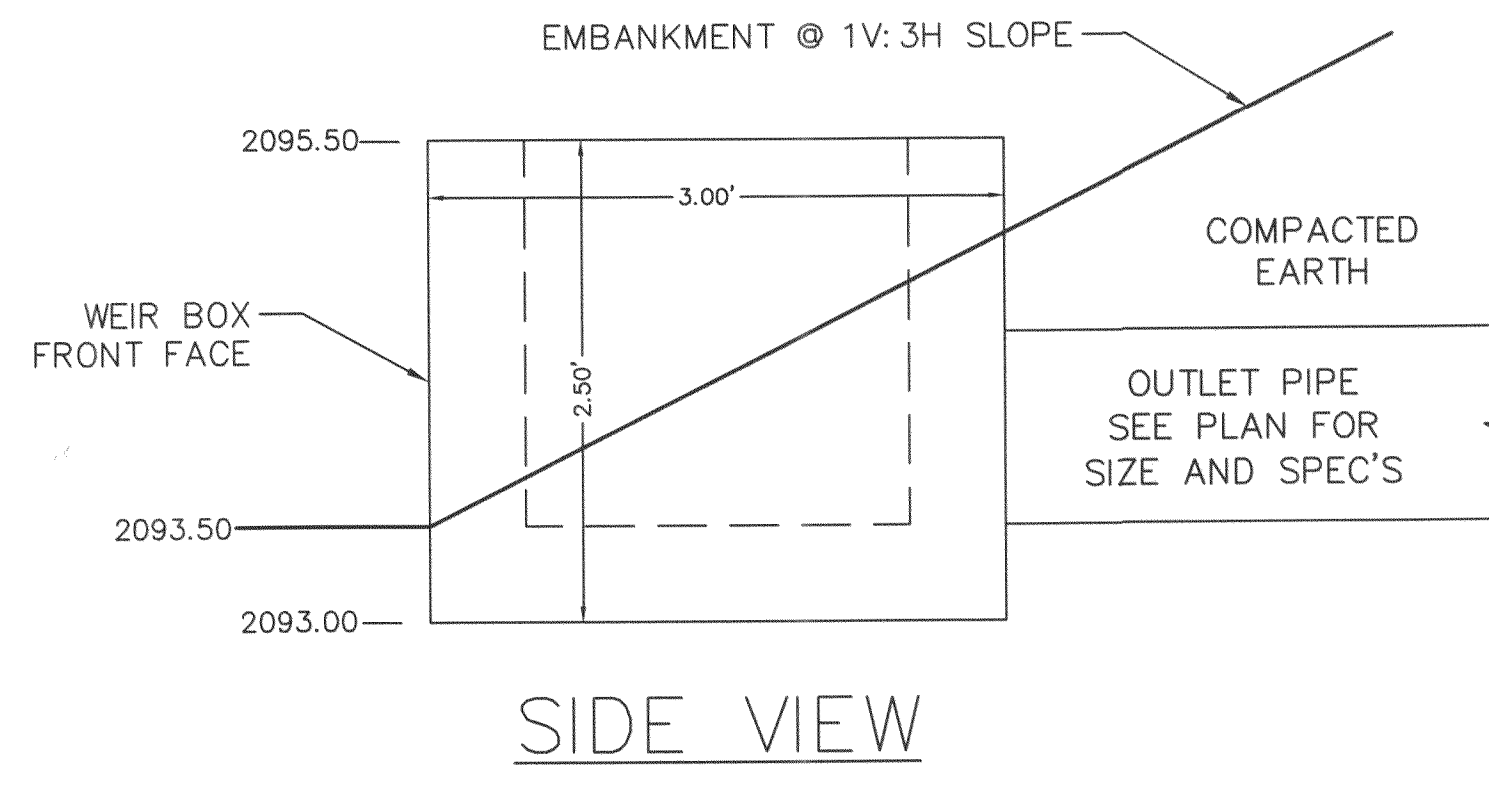
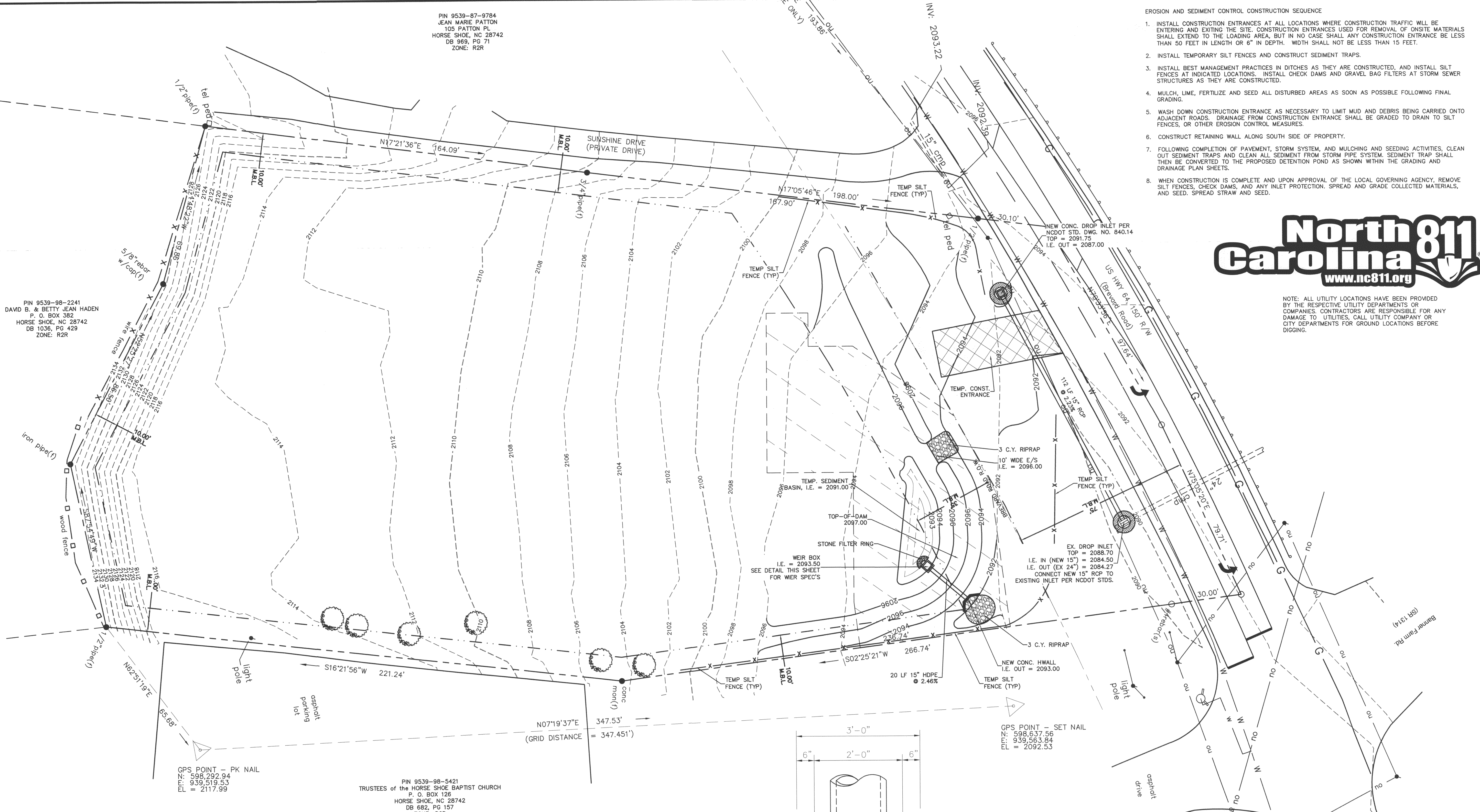
7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35892
 phone 256.539.1221 • fax 256.539.1220



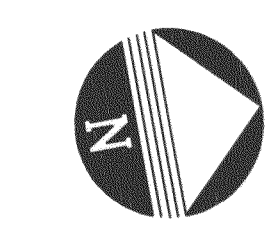
NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

REVISIONS:	
DRAWN BY:	JLW
FIELD DATE:	
OFFICE DATE:	1/28/13
CHECKED BY:	JMC
JMC NAME:	FILE NAME: P12-108 BASE UPDATED.DWG

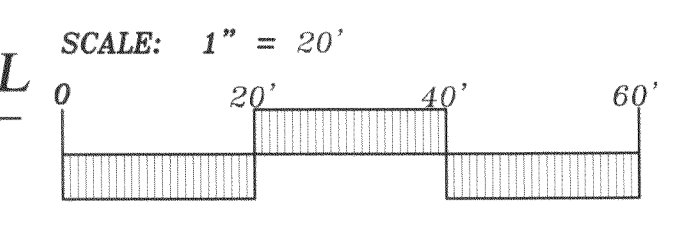
JOB NO.: P12-108
 SCALE: AS NOTED
 SHT. NO. **C2** OF 9



1
 C2 DETENTION POND WEIR BOX
 NOT TO SCALE



INITIAL EROSION CONTROL
 SHEET 1 OF 1



PIN 9539-87-9784
 JEAN MARIE PATTON
 105 PATTON PL.
 HORSE SHOE, NC 28742
 DB 969, PG 71
 ZONE: R2R

PIN 9539-98-2241
 DAVID B. & BETTY JEAN HADEN
 P. O. BOX 382
 HORSE SHOE, NC 28742
 DB 1036, PG 429
 ZONE: R2R

PIN 9539-98-5421
 TRUSTEES of the HORSE SHOE BAPTIST CHURCH
 P. O. BOX 128
 HORSE SHOE, NC 28742
 DB 682, PG 157
 ZONE: R2R

CUT/FILL BASED ON FINISHED GRADE SURFACE:

CUT = 7,025.6 C.Y.
 FILL = 2,579 C.Y.
 NET = 4,446.6 C.Y. EXCESS CUT

APPROXIMATE SOIL REMOVED TO ACCOUNT FOR PADS AND PAVEMENT:

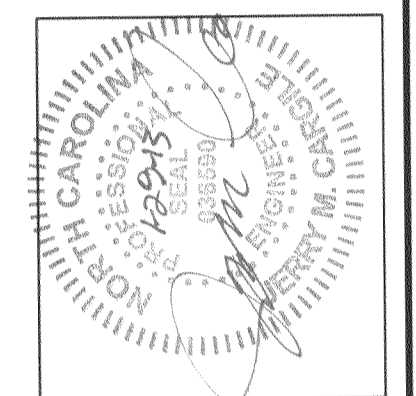
HEAVY DUTY PAVEMENT = 603 C.Y.
 STANDARD PAVEMENT = 155 C.Y.
 BLDG. PAD = 337 C.Y.
 SIDEWALK/AC PAD = 64 C.Y.
 DUMPSTER/DELIVERY = 33 C.Y.
 CURB & GUTTER = 12
 TOTAL ADDITIONAL CUT = 1,204 C.Y.

TOTAL NET EXCESS = 5,650.6 C.Y.

NOTE: QUANTITIES LISTED ABOVE ARE APPROXIMATIONS BASED ON PAVEMENT THICKNESS LISTED IN CONSTRUCTION DETAILS AND ESTIMATED CUT DEPTHS FOR PADS. QUANTITIES COULD CHANGE DEPENDING ON SOIL CONDITIONS.

land planning
 civil engineering
 land surveying

ASITE INCORPORATED
 7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35802
 phone: 256.539.1221 • fax: 256.539.1220



NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

REVISIONS:	
DRAWN BY:	
FIELD DATE:	
OFFICE DATE:	1/28/13
CHECKED BY:	JMC
FILE NAME:	PT12-108 BASE-UPDATED.DWG

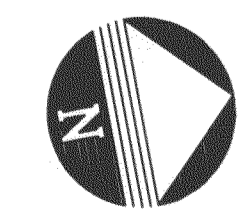
JOB NO.: PT12-108
 SCALE: AS NOTED
 SHT. NO. **C3** OF 9



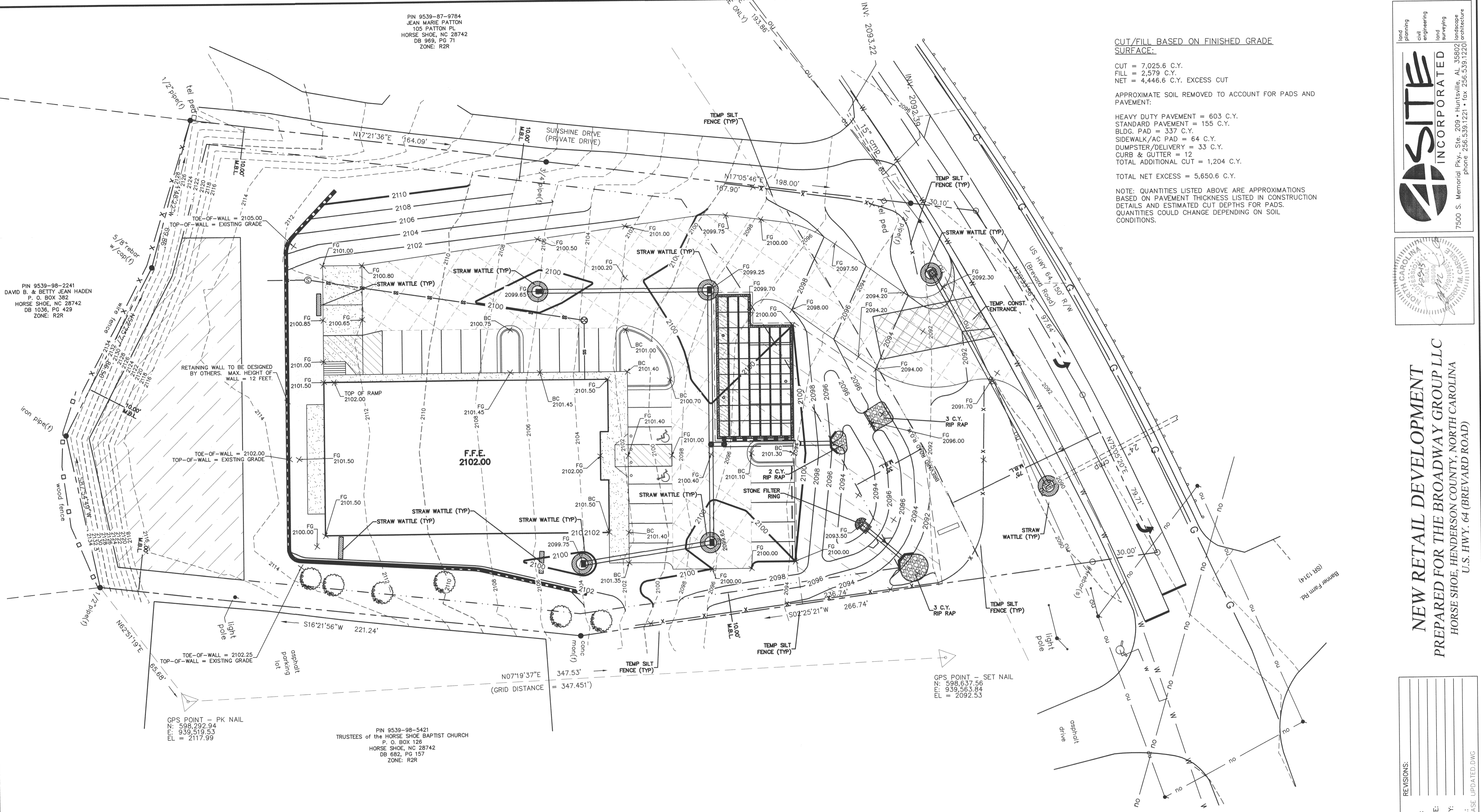
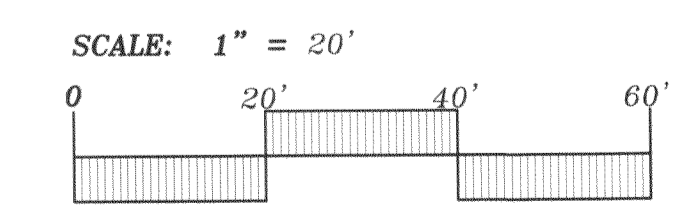
NOTE: ALL UTILITY LOCATIONS HAVE BEEN PROVIDED BY THE RESPECTIVE UTILITY DEPARTMENTS OR COMPANIES. CONTRACTORS ARE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES. CALL UTILITY COMPANY OR CITY DEPARTMENTS FOR GROUND LOCATIONS BEFORE DIGGING.

ALL DISTURBED AREAS ONSITE TO BE SODDED PER REQUIREMENTS SET FORTH IN THE LANDSCAPING PLAN.

TSS REMOVAL RATE FOR SITE FOR FIRST FLUSH "1" RAINFALL = 87%



FINAL GRADING AND EROSION CONTROL
 SHEET 1 OF 1



PIN 9539-87-9784
 JEAN MARIE PATTON
 105 PATTON PL
 HORSE SHOE, NC 28742
 DB 969, PG 71
 ZONE: R2R

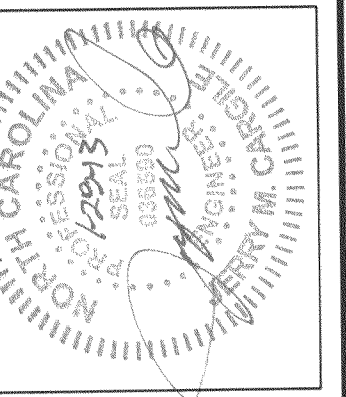
PIN 9539-98-2241
 DAVID B. & BETTY JEAN HADEN
 P. O. BOX 382
 HORSE SHOE, NC 28742
 DB 1036, PG 429
 ZONE: R2R

PIN 9539-98-5421
 TRUSTEES of the HORSE SHOE BAPTIST CHURCH
 P. O. BOX 156
 HORSE SHOE, NC 28742
 DB 682, PG 157
 ZONE: R2R

NYLOPLAST 30" DRAIN BASIN W/
 OVERFLOW WEIR TO MANIFOLD.
 TOP = 2100.40
 I.E. IN = 2094.85
 I.E. OUT = 2094.85



NOTE: ALL UTILITY LOCATIONS HAVE BEEN PROVIDED BY THE RESPECTIVE UTILITY DEPARTMENTS OR COMPANIES. CONTRACTORS ARE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES. CALL UTILITY COMPANY OR CITY DEPARTMENTS FOR GROUND LOCATIONS BEFORE DIGGING.

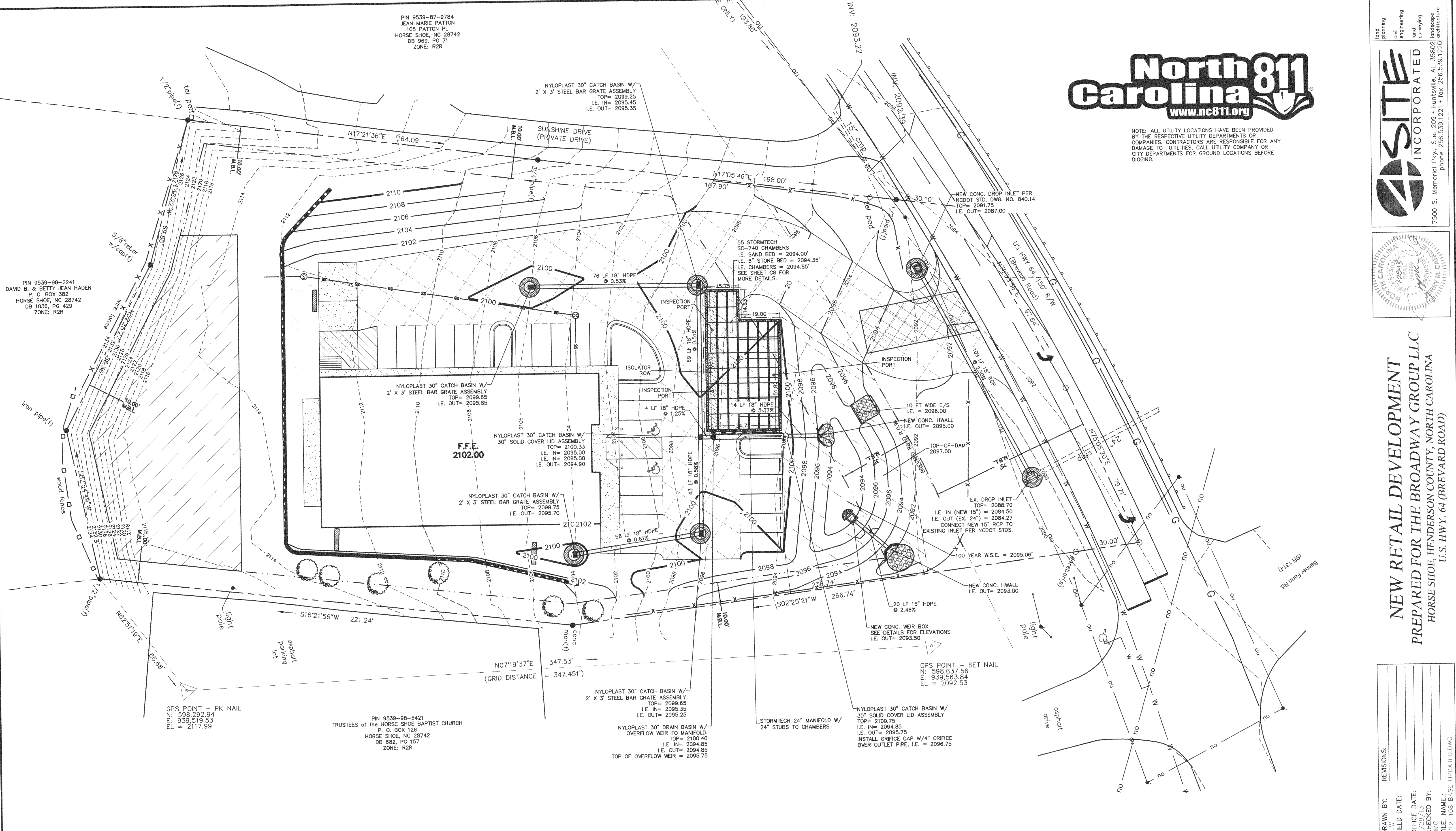
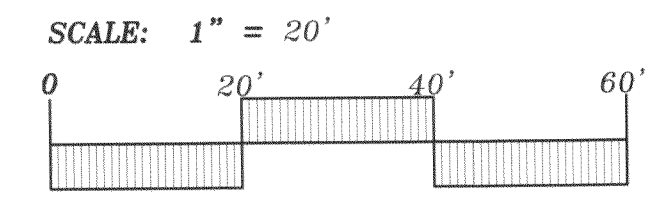
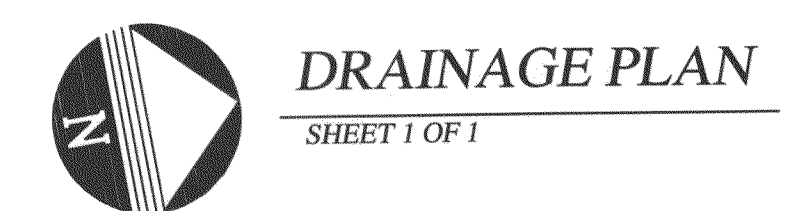


NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

JOB NO.:	P12-108
SCALE:	AS NOTED
SHT. NO.:	C4 of 9
DRAWN BY:	J.W.
FIELD DATE:	07/19/13
OFFICE DATE:	07/19/13
CHECKED BY:	J.W.C.
FILE NAME:	P12-108 BASE UPDATED.DWG
REVISIONS:	

	1 YEAR	2 YEAR	5 YEAR	10 YEAR	25 YEAR	50 YEAR	100 YEAR
PRE-DEVELOPED	4.1	4.9	10.1	13.3	14.6	16.6	21.7
POST-DEVELOPED	4.0	4.6	8.5	10.7	11.6	13.0	16.9

FOR THE FIRST FLUSH, OR 1" RAINFALL, APPROXIMATELY 1.02 ACRES WHICH WILL ENCOMPASS THE BUILDING AND THE MAJORITY OF THE PARKING AREA, WILL BE ROUTED THROUGH THE 49 STORMTECH CHAMBERS SHOWN WITHIN THE PLANS.



GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR MAKING APPLICATION, AND PAYING FOR ALL NECESSARY PERMITS.
 2. THE CONTRACTOR SHALL PREVENT THE DESTRUCTION OF ALL SURVEY MONUMENTS, BENCH MARKS, PROPERTY CORNERS AND ALL OTHER SURVEY POINTS. WHERE THE REMOVAL OF SUCH POINTS IS NECESSARY FOR THE ACCOMPLISHMENT OF THE WORK, THE CONTRACTOR IS TO INFORM THE ENGINEER IN WRITING, PRIOR TO THE DISTURBANCE OF ANY POINT, AND IS NOT TO DISTURB THE POINT UNTIL WRITTEN PERMISSION TO DO SO HAS BEEN GRANTED BY THE ENGINEER.
 3. ALL EXISTING TREES AND SHRUBS OUTSIDE OF THE LIMITS OF WORK SHALL BE PROTECTED DURING CONSTRUCTION, AND ARE NOT TO BE DAMAGED IN ANY MANNER.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING STREETS AND OTHER STRUCTURES WHICH IS CAUSED BY CONSTRUCTION ACTIVITIES.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF ALL BOULDERS, DEBRIS, EXCESS CONSTRUCTION MATERIALS, MATERIAL GENERATED FROM THE DEMOLITION OF EXISTING STRUCTURES AND FACILITIES, AND TRASH.
 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING EXISTING UTILITIES LOCATED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OR COMPLETENESS OF THE EXISTING UTILITIES SHOWN ON THE PLANS.
 7. UNLESS INDICATED OTHERWISE ON THE PLANS, ALL STORM DRAINAGE PIPES SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-78). COMPACTED GRANULAR MATERIAL FOR BEDDING SHALL BE REQUIRED WHERE UNSUITABLE GROUND WATER OR OTHER CONDITIONS PREVENT THE CONTRACTOR FROM OBTAINING A PROPERLY SHAPED TRENCH BOTTOM.
 8. ALL PAVEMENT CUTS SHALL BE REPAIRED WITH MATERIAL IN KIND TO THAT REMOVED.
 9. UNLESS INDICATED OTHERWISE ON THE PLANS, ALL RIP RAP SHALL BE CLASS I, IN ACCORDANCE WITH SECTION 814, ALDOT, 1995, AND SHALL BE GROUTED WHERE INDICATED ON THE PLANS.
 10. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL DEVICES AND SAFETY MEASURES FOR CONSTRUCTION WORK WITHIN PUBLIC RIGHT-OF-WAYS AND OTHER AREAS WHICH REQUIRE ITS USE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
- THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE DOES NOT INCLUDE REVIEW OF THE CONTRACTOR'S SAFETY MEASURES IN OR, OR NEAR THE CONSTRUCTION SITE.

PAVEMENT CONSTRUCTION GENERAL NOTES

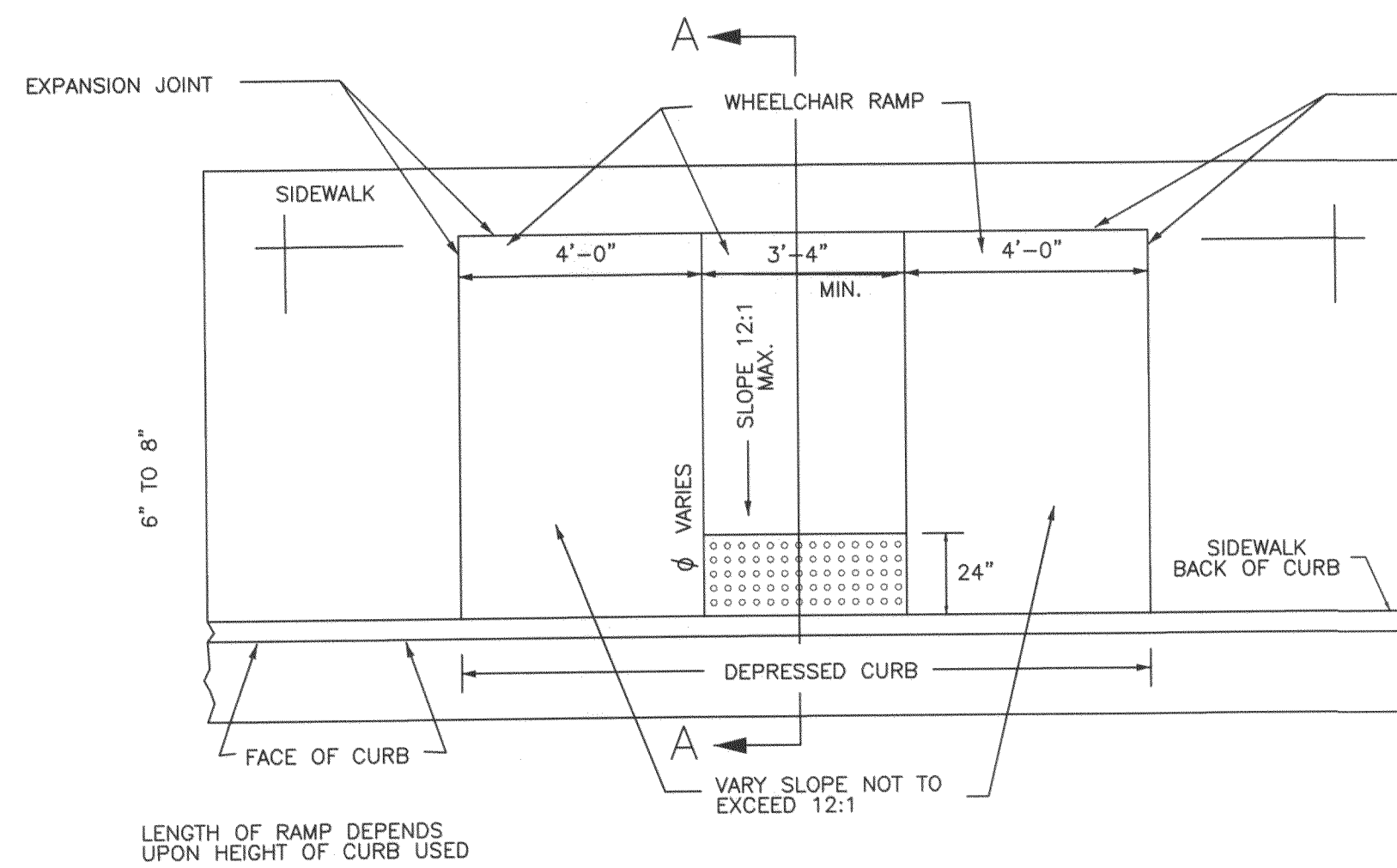
1. NCDOT 2006, SHALL MEAN NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2006 EDITION.
2. CRUSHED AGGREGATE BASE COURSE PLANT MIXED SHALL BE PLACED IN ACCORDANCE WITH SECTION 520, NCDOT 2006. ALL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 1010, 100% COMPACTION REQ'D.
3. PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PLACED IN ACCORDANCE WITH SECTION 700, NCDOT 2006.
4. BITUMINOUS CONCRETE BINDER LAYER SHALL BE PLACED IN ACCORDANCE WITH SECTION 610, 1-19.00, NCDOT 2006.
5. BITUMINOUS CONCRETE WEARING SURFACE LAYER SHALL BE PLACED IN ACCORDANCE WITH SECTION 610, 5-9.5C, NCDOT 2006.
6. THE SITE SHALL BE CLEARED AND ALL UNSUITABLE MATERIAL REMOVED PRIOR TO PLACING AND COMPACTING EMBANKMENTS.
7. ALL SUBGRADES SHALL BE CLEARED AND GRUBBED, SCARIFIED TO A DEPTH OF 8", AND THEN RECOMPACTED TO 100% OF THE MAXIMUM DRY DENSITY, PLUS OR MINUS 2% OF OPTIMUM MOISTURE (ASTM-D6798).
8. IN ROCK EXCAVATION A MINIMUM OF 1 FOOT OF SOIL SHALL BE PLACED OVER ROCK PRIOR TO PLACEMENT OF BASE MATERIAL.
9. CONCRETE WHEEL STOPS ARE TO BE PRECAST 2500 PSI MIN. COMPRESSIVE STRENGTH CONCRETE, 6"x9"x8" L. WHEEL STOPS ARE TO BE SECURELY ATTACHED TO P.W.M.T. WITH A MINIMUM OF 2-5/8"x24" GALV. STEEL DOWELS EMBEDDED IN WHEEL STOPS AT 1/3 POINTS, AND FIRMLY BONDED TO WHEEL STOP AND PAVEMENT.
10. PAVEMENT MARKING PAINT SHALL BE ALKYD-RESIN TYPE, READY-MIXED, COMPLYING WITH FS TT-P-115, TYPE I, AASHTO M-248, TYPE N, OR LATEX WATER-BASE EMULSION, READY-MIXED, COMPLYING WITH FS TT-P-1952. APPLY P.W.M.T. MARKING PAINT WITH MECHANICAL EQUIPMENT, PER THE MFR'S RECOMMENDATIONS TO PRODUCE P.W.M.T. MARKINGS OF DIMENSIONS INDICATED ON THE PLANS WITH UNIFORM, STRAIGHT EDGES, AND A MINIMUM WET FILM THICKNESS OF 15 mils (4mm).

REINFORCED CONCRETE NOTES

1. ALL CONCRETE SHALL BE AIR ENTRAINED 3000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, (CLASS "A"), UNLESS NOTED OTHERWISE ON THE PLANS.
2. ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED WITH CONTINUOUS SHEAR KEYS IN ACCORDANCE WITH THE SHEAR KEY DETAIL ON THE PLANS.
3. ALL REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS, AND SHALL CONFORM TO ASTM A615, FOR BILLET STEEL.
4. LAP SPLICES AND BAR EMBEDMENTS SHALL BE IN ACCORDANCE WITH THE TABLE ON THE PLANS.
5. CONCRETE AIR CONTENT AND SLUMP SHALL BE IN ACCORDANCE WITH THE TABLE ON THE PLANS.
6. ALL REINFORCING BARS SHALL BE SHOP BENT IN ACCORDANCE WITH THE TABLE ON THE PLANS. HEATING OF REINFORCING BARS TO BEND THEM, OR STRAIGHTEN THEM WILL NOT BE ALLOWED.
7. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, SMOOTH FABRIC WITH AN ASTM YIELD STRENGTH OF 65,000 PSI.

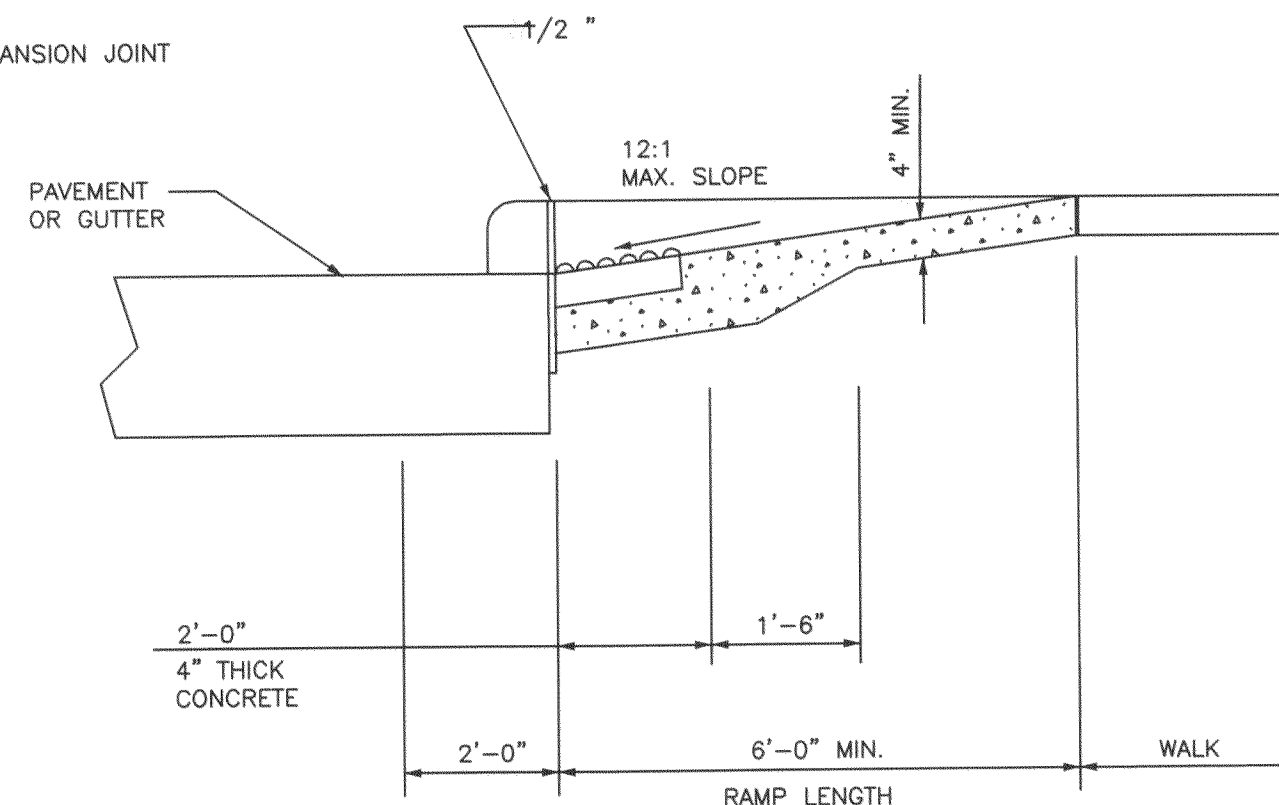
EARTHWORK GENERAL NOTES

1. THE SITE TOPOGRAPHY AND OTHER TOPOGRAPHIC DATA SHOWN ON THE PLANS OR INCLUDED IN THE SPECIFICATIONS ARE FOR THE INFORMATION OF THE CONTRACTOR. THE CONTRACTOR SHALL MAKE SUCH ADDITIONAL INVESTIGATIONS AS REQUIRED TO ACQUAINT HIMSELF ADEQUATELY WITH THE SITE, INCLUDING SUBSURFACE SOIL CONDITIONS, FOR PREPARATION OF HIS BID, AND FOR THE SUCCESSFUL EXECUTION OF THE WORK.
2. UNLESS INDICATED OTHERWISE ON THE PLANS, ALL PROPOSED CONTOURS AND ALL PROPOSED SPOT ELEVATIONS SHOWN ARE FINISHED GRADE.
3. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE PROTECTION OF HIS WORK. SUCH GRADING AS IS REQUIRED FOR THIS PURPOSE SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. THE OWNER MAY DIRECT THE CONTRACTOR TO PERFORM SUCH GRADING AND DRAINAGE AS IS NECESSARY TO PREVENT SURFACE RUNOFF FROM DAMAGING THE WORK.
4. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL SILT FENCES, CHECK DAMS, AND OTHER EROSION & SEDIMENT CONTROL MEASURES TO PREVENT LOOSE DIRT AND SEDIMENT FROM WASHING ONTO STREETS AND ADJACENT PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF EROSION & SEDIMENT CONTROL MEASURES UNTIL FINAL INSPECTION BY THE LOCAL GOVERNING AGENCY.
5. ALL EARTH FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY, PLUS OR MINUS 2% OF OPTIMUM MOISTURE (ASTM-D6798), EXCEPT FOR EARTH FILLS UNDER ROADS WHICH ARE TO COMPLY WITH THE PAVING SPECIFICATIONS.
6. ALL EARTH FILL SHALL BE PLACED IN UNIFORM LAYERS OR LIFTS NOT EXCEEDING 6" IN COMPACTED THICKNESS, UNLESS INDICATED OTHERWISE ON THE PLANS.
7. ALL EARTH FILL SHALL BE PLACED IN ACCORDANCE WITH NCDOT 2006 STANDARDS. ALL EARTH FILL UNDER BUILDINGS SHALL ALSO MEET THE REQUIREMENTS OF THE ARCHITECT'S PLANS AND SPECIFICATIONS.
8. IF A GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THE SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING THE SITE PREPARATION REQUIREMENTS AS SPECIFIED WITHIN THIS DOCUMENT, UNLESS MORE STRINGENT REQUIREMENTS ARE GIVEN ON THE PLANS OR WITHIN THE PROJECT SPECIFICATIONS.



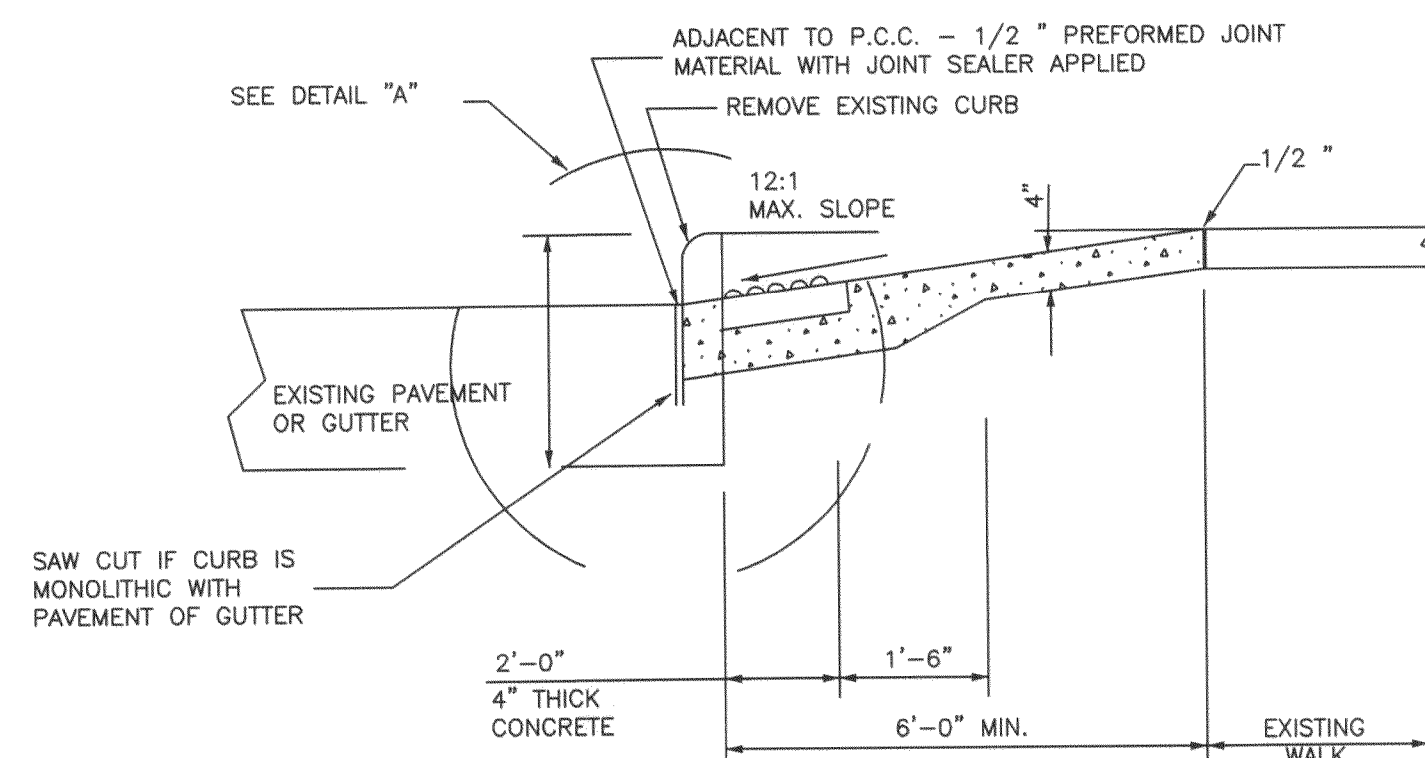
PLAN VIEW

NTS



SECTION A-A
NORMAL DETAIL
(GUTTER SHOWN)

NTS



SECTION A-A
MODIFICATION TO EXISTING WALK DETAIL

NTS

GENERAL NOTES

1. THE EXPANSION JOINT IS TO BE REPLACED WHERE THE NEW RAMP OR SIDEWALK JOINS EXISTING PAVEMENT STRUCTURE.
2. EXPANSION JOINT MATERIAL TO BE IN ACCORDANCE WITH ARTICLE 832.01 AND 832.02 OF ALABAMA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
3. THE SUBGRADE SHALL BE FREE OF ALL ROOTS AND OTHER UNDESIRABLE MATERIALS WITH THE ROOTS CUT BACK ONE (1) FOOT FROM FACE OF SIDEWALK.
4. RAMPS SHALL HAVE A NON-SKID SURFACE APPLIED BY BRUSHING TRANSVERSELY OR GROOVING.
5. WHERE SIDEWALKS ARE REQUIRED, THIS PLAN SHALL BE USED AT PEDESTRIAN CROSSWALKS FOR SAFE AND CONVENIENT MOVEMENT OF THE HANDICAPPED AND PERSONS USING WHEEL CHAIRS.
6. INSTALL DETECTABLE WARNINGS (TRUNCATED DOMES) FOR A DISTANCE OF 24" FROM THE BACK OF THE CURB FOR THE ENTIRE WIDTH OF THE RAMP OPENING SHOWN.
7. PAVERS SHALL MEET ASTM C 902 CLASS SX, TYPE I, OR C 936, OR C 1272 TYPE R.
8. PAVERS WILL BE LAID ON TOP OF A 4" CONCRETE BASE. SETTING BED AND JOINTS TO BE MORTARED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, OR WITH A MAXIMUM 1/2" THICK BED OF LATEX MODIFIED CEMENT MORTAR. MORTAR JOINTS TO A WIDTH OF 3/8". PAVERS SHALL NOT BE DIRECTLY TOUCHING EACH OTHER UNLESS THEY HAVE SPACING BARS.
9. MORTARED JOINTS ARE TO BE FLUSH WITH THE TOP SURFACE AND STRUCK SO AS TO GIVE A SMOOTH SURFACE. PAVERS SHALL BE LAID SUCH THAT JOINTS ARE LEVEL WITH ADJOINING JOINTS SO AS TO PROVIDE A SMOOTH TRANSITION FROM BRICK TO BRICK AND BRICK TO CONCRETE SURFACE.
10. THE SURFACE OF ANY TWO ADJACENT UNITS SHOULD NOT DIFFER BY MORE THAN 1/8" IN HEIGHT. BRICKS SHALL BE PLACED IN A HERRINGBONE PATTERN WHERE FEASIBLE. IN ALL CASES, THE PATTERN OF THE DOMES IS TO BE MAINTAINED PER ADA REQUIREMENTS. FACE OF ALL BRICK SHALL BE CLEAN OF CEMENT AND PROTECTED SO AS TO AVOID CHIPPING DURING CONSTRUCTION.
11. EXPANSION JOINTS SHALL BE PROVIDED IN THE CURB RAMP AS EXTENSIONS OF WALK JOINTS FOR A NEW CONCRETE WALK. A 1/2" EXPANSION JOINT FILLER SHALL BE PROVIDED AROUND THE EDGE OF RAMPS BUILT IN EXISTING CONCRETE WALKS. LINES SHOWN ON THIS DRAWING INDICATE THE RAMP EDGE AND SLOPE CHANGES AND ARE NOT NECESSARILY JOINT LINES.

1 HANDICAP RAMP DETAILS

C5 NOT TO SCALE

DETAIL "A"

NTS

- Acceptable manufacturers and products are:
- 1) Whitacre-Greer Fireproofing Company, 1400 S. Mahoning Ave, Alliance, OH, 44601, ADA Paver, 4" x 8" x 2-1/4", Clear Red (Rustic) #30
 - 2) Hanover Architectural Products, 240 Bender Road, Hanover, PA 17331, Detectable Warning Paver, 4" x 8" x 2", Red or Quarry Red.
 - 3) Pavestone Company, 7322 Bonnyshire Drive, Chattanooga, Tennessee, Detectable Warning Paver, 4" x 8" x 2-3/8", Red

Design specifications for detectable (truncated) warnings

The detectable warning is defined as "a standardized surface feature built in or applied to the walking surface or other elements to warn visually impaired people of hazards on a circulation path".

All detectable warnings shall be in compliance with the Americans with Disabilities Act of 1990 Accessibility Guidelines (ADAAG) as detailed in 28 CFR Part 36. Detectable warnings shall consist of raised truncated domes with a:

- Bottom diameter of 23 mm (0.9 in);
- Top diameter of 10 mm (0.4 in);
- Height of 5 mm (0.2 in);
- Center-to-center spacing of 60 mm (2.35 in);
- The color of the detectable warning should contrast visually with adjoining surfaces; either light on dark or dark on light. The material used to provide contrast should contrast by at least 70 percent.

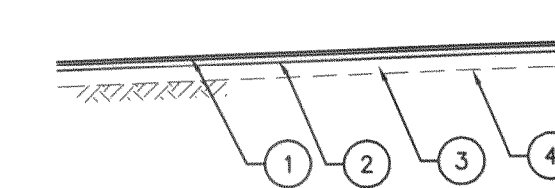
Detectable warnings shall be laid out on a triangular grid or a square grid (parallel alignment). When installed on curb ramps, only the lower 610 mm (2 ft) of the entire curb ramp width shall be covered (excluding the flared sides) rather than the entire length of the ramp to maximize the detectability and to minimize the negative impact on people who rely on wheeled devices for mobility. The detectable warnings shall be installed such that the edge nearest the curb line is 152 mm to 200 mm (6 in to 8 in) behind the curb line.

ABBREVIATIONS

BC	BACK OF CURB
BLDG.	BUILDING
CALC.	CALCULATED
CIPF	CAPPED IRON PIN FOUND
CIPS	CAPPED IRON PIN SET
CMP	CORRUGATED METAL PIPE
CO	CLEAN-OUT
CONC.	CONCRETE
ELEV.	ELEVATION
EOP	EDGE OF PAVEMENT
ESM'T	EASEMENT
EX.	EXISTING
F.F.E.	FINISHED FLOOR ELEVATION
F.S.L.	FRONT SETBACK LINE
I.E.	INVERT ELEVATION
INV.	INVERT
LF	LINEAR FEET
LOC.	LOCATION
MAX.	MAXIMUM
MEAS.	MEASURED
M.B.L.	MINIMUM BUILDING LINE
MH	MANHOLE
MIN.	MINIMUM
MON.	MONUMENT
OTP	OPEN TOP PIPE
P.O.B.	POINT OF BEGINNING
P.W.M.T.	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
R.S.L.	REAR SETBACK LINE
R.O.W.	RIGHT-OF-WAY
S.S.	SANITARY SEWER
TEMP.	TEMPORARY
TOC	TOP OF CURB
TYP.	TYPICAL
U & D	UTILITY & DRAINAGE

LEGEND

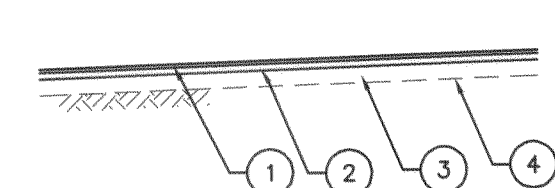
□	CONCRETE MONUMENT FOUND
■	CONCRETE MONUMENT SET CA451LS
○	PROPERTY CORNER FOUND
●	PROPERTY CORNER SET CA451LS
△	CALCULATED POINT
---	PROPERTY LINE
-x-x-	FENCE
-OHT-	OVERHEAD TELEPHONE LINE
-OHE-	OVERHEAD ELECTRICAL LINE
-UGE-	UNDERGROUND ELECTRICAL LINE
CONC.	CONCRETE
⊙	EXISTING SANITARY SEWER MANHOLE
SS	EXISTING SANITARY SEWER LINE
○	EXISTING UTILITY POLE
☆	EXISTING LIGHT POLE
W	EXISTING WATER LINE
WV	EXISTING WATER VALVE
⊕	EXISTING FIRE HYDRANT
⊕	EXISTING WATER METER
GAS	EXISTING GAS LINE
⊕	EXISTING GAS VALVE
⊕	EXISTING SIGN
⊕	EXISTING TREENLINE



TOP 6" OF SUBGRADE IS TO BE COMPACTED TO 100% PROCTOR DENSITY. BELOW TOP 6" IS TO BE COMPACTED TO 95% PROCTOR DENSITY AS DETERMINED BY AASHTO T-99 COMPACTION TEST. SEE PAVEMENT NOTES FOR ADDITIONAL INFORMATION.

2 STANDARD PAVEMENT SECTION

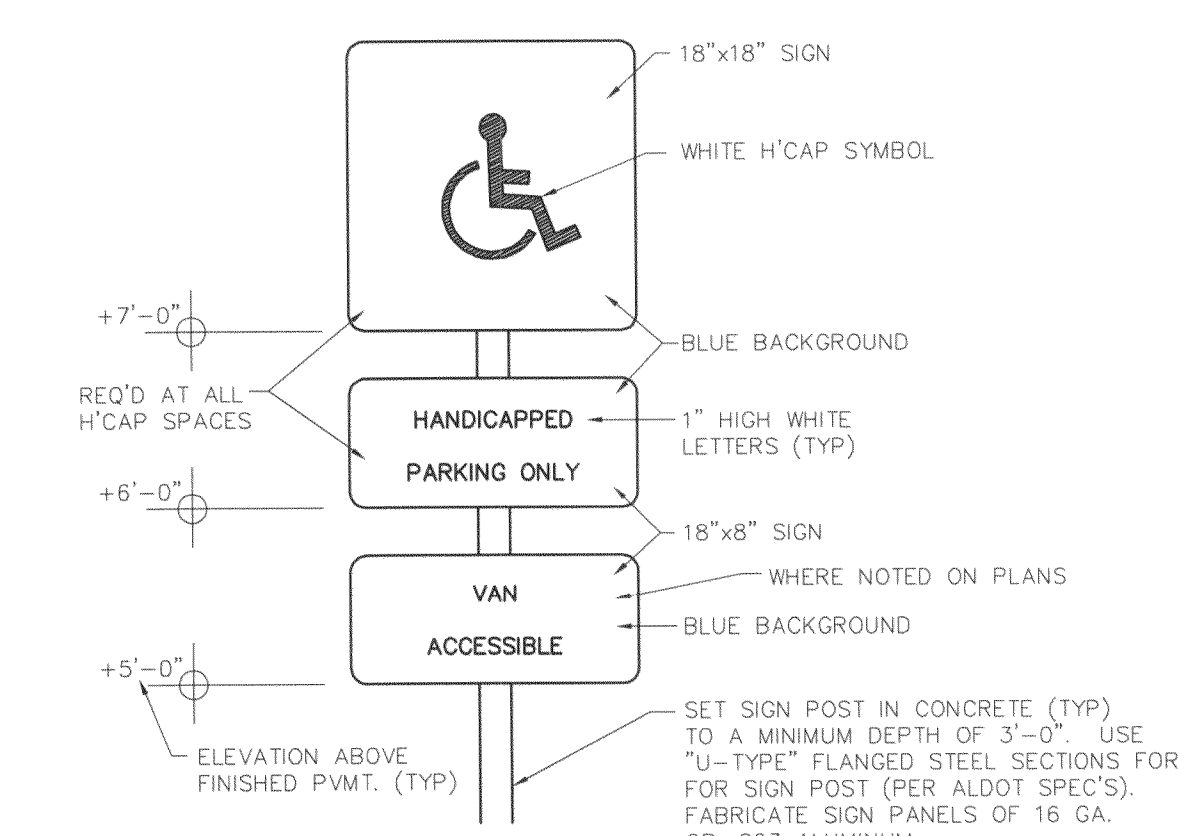
C5 NOT TO SCALE



TOP 6" OF SUBGRADE IS TO BE COMPACTED TO 100% PROCTOR DENSITY. BELOW TOP 6" IS TO BE COMPACTED TO 95% PROCTOR DENSITY AS DETERMINED BY AASHTO T-99 COMPACTION TEST. SEE PAVEMENT NOTES FOR ADDITIONAL INFORMATION.

3 HEAVY DUTY PAVEMENT SECTION

C5 NOT TO SCALE



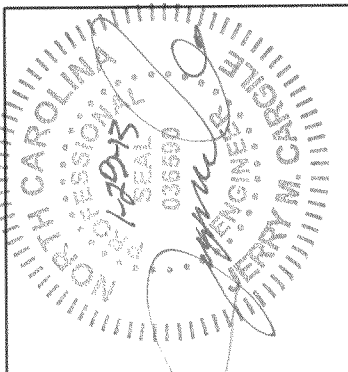
H'CAP SIGN DETAIL
VAN ACCESSIBLE

C5 NOT TO SCALE

land planning
civil engineering
land surveying
landscape architecture

ASITE
INCORPORATED

7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35892
phone 256.539.1221 • fax 256.539.1220



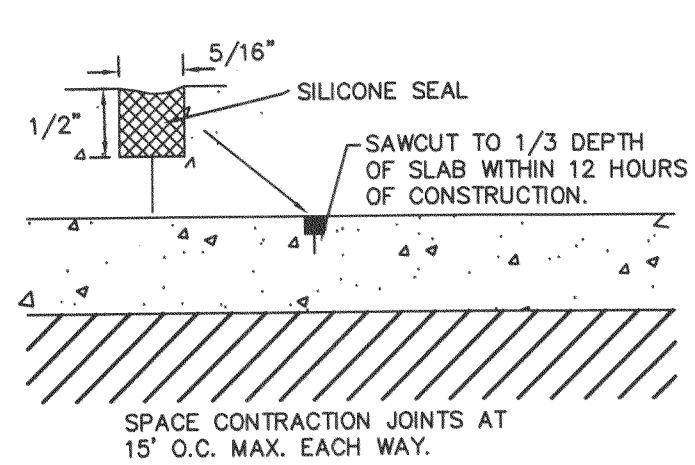
**NEW RETAIL DEVELOPMENT
PREPARED FOR THE BROADWAY GROUP LLC**

HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
U.S. HWY. 64 (BREVARD ROAD)

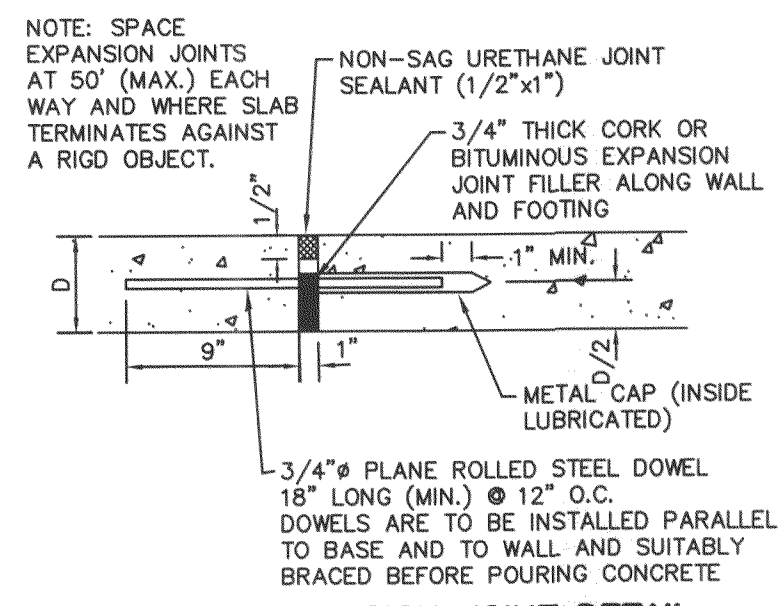
REVISIONS:

DRAWN BY: P12-108
FIELD DATE: 1/28/13
OFFICE DATE: 1/28/13
CHECKED BY: JMC
FILE NAME: P12-108 BASE UPDATED.DWG

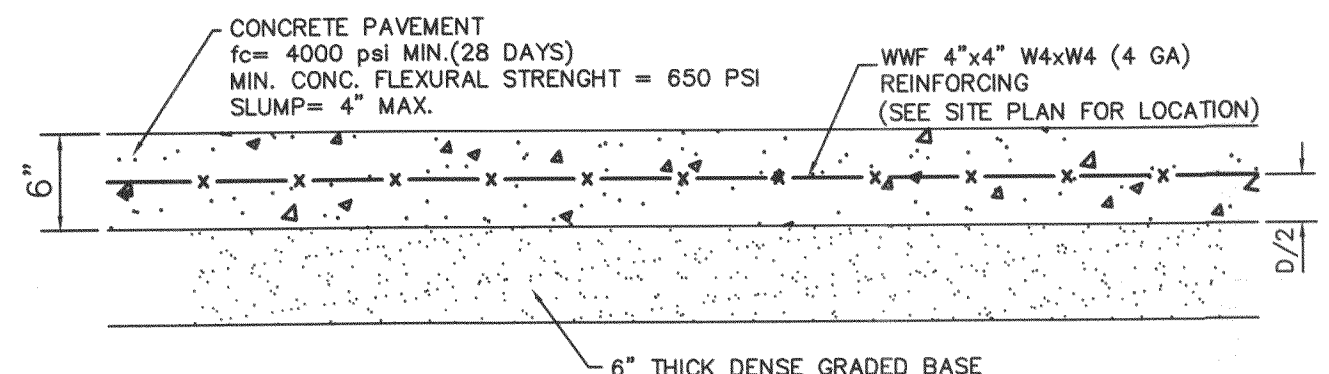
JOB NO.: P12-108
SCALE: AS NOTED
SHT. NO. **C5** OF 9
CONSTRUCTION DETAILS
SHEET 1 OF 5



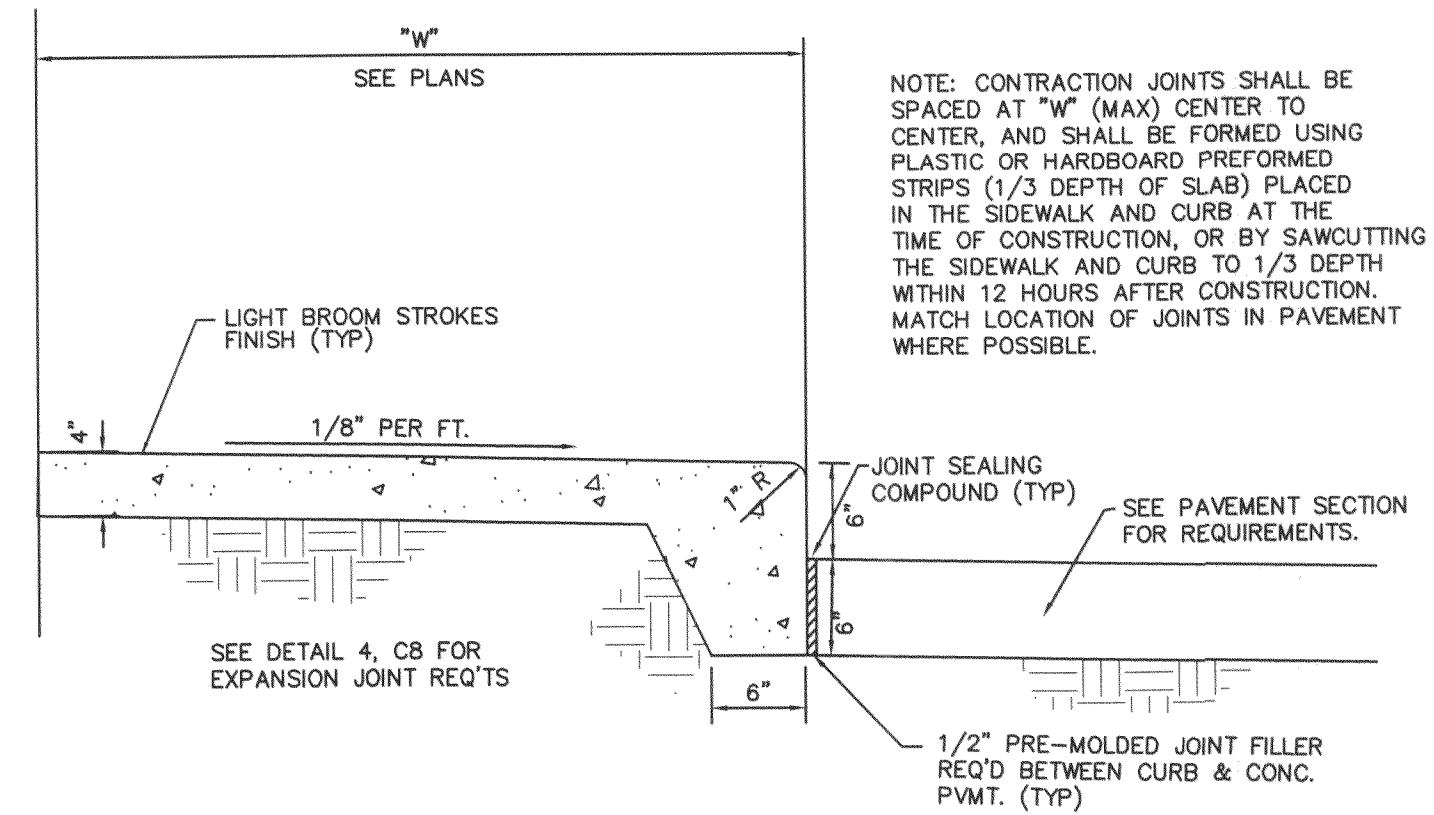
CONTRACTION JOINT DETAIL



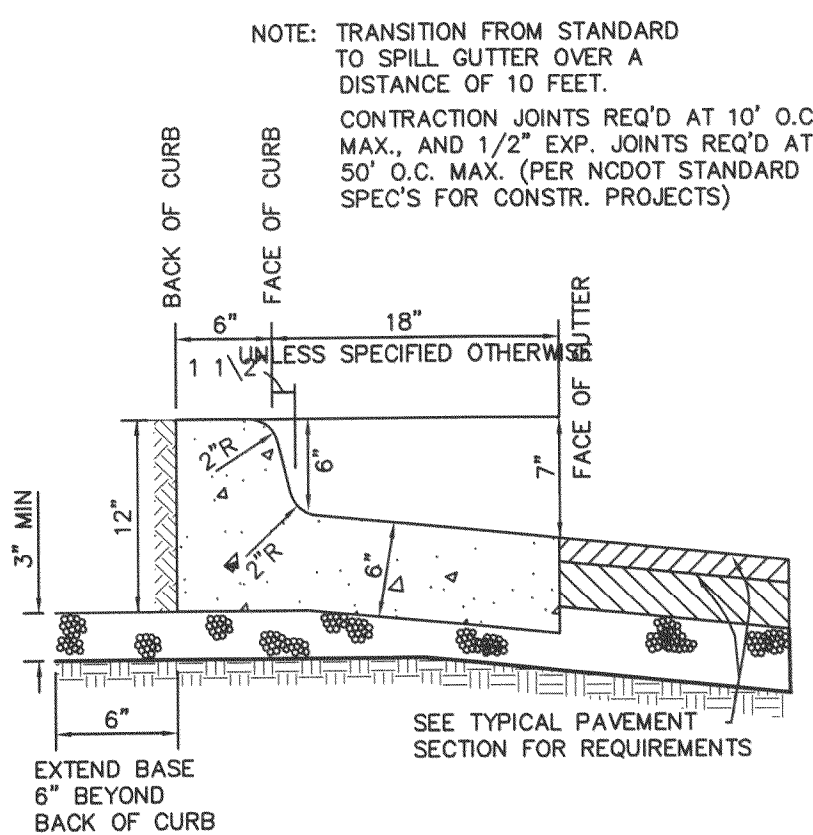
EXPANSION JOINT DETAIL



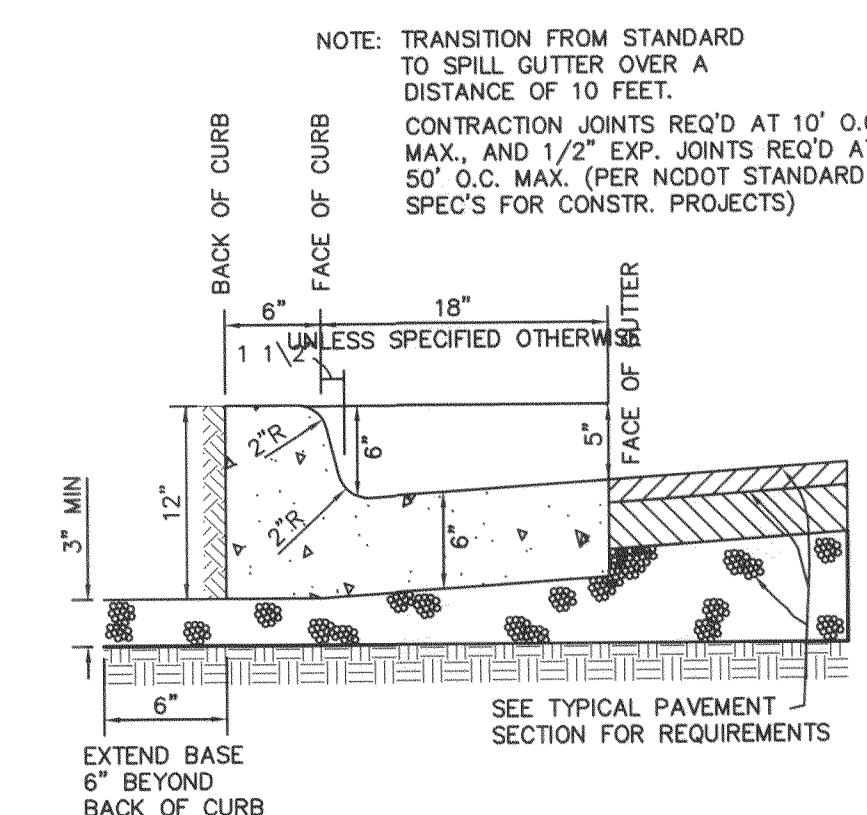
1 CONCRETE PAVEMENT DETAILS
NOT TO SCALE



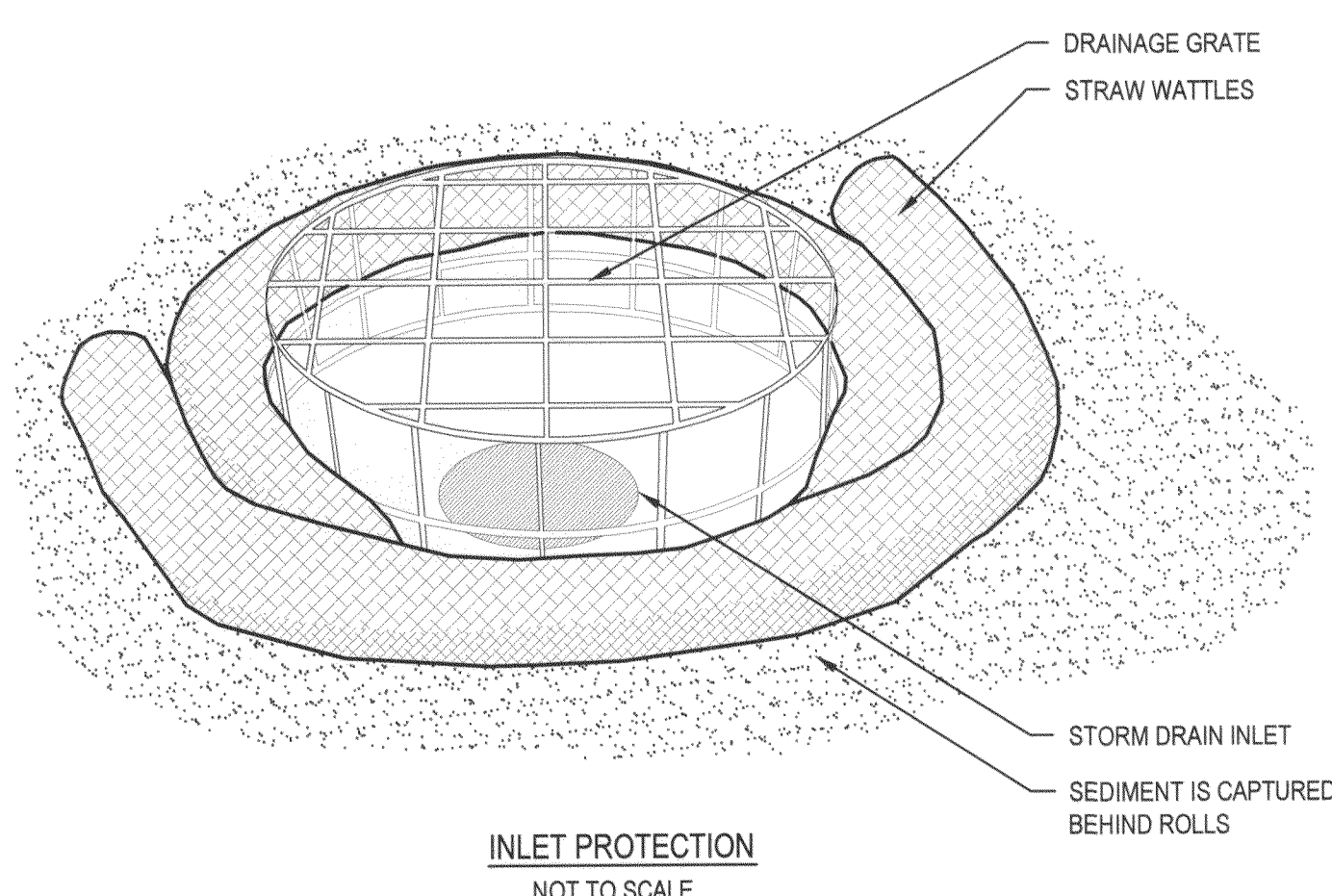
2 CONCRETE SIDEWALK & TURN-DOWN CURB DETAIL
NOT TO SCALE



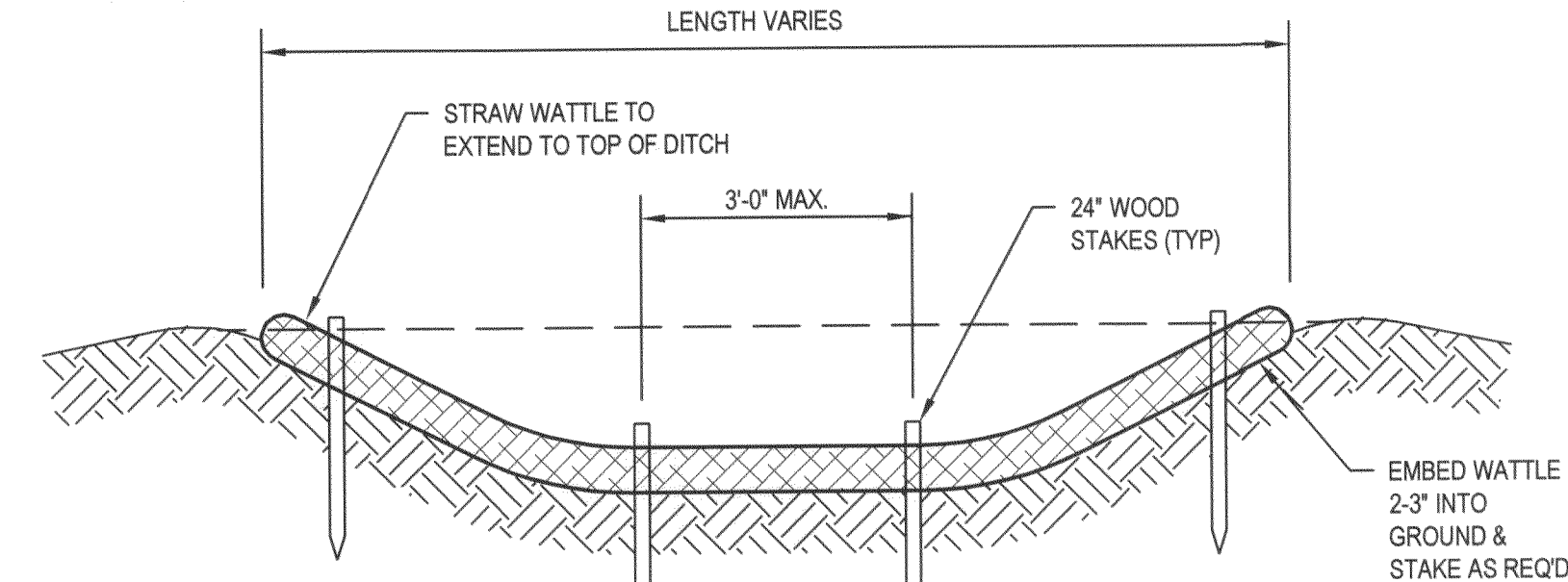
3 SPILL CURB & GUTTER
NOT TO SCALE



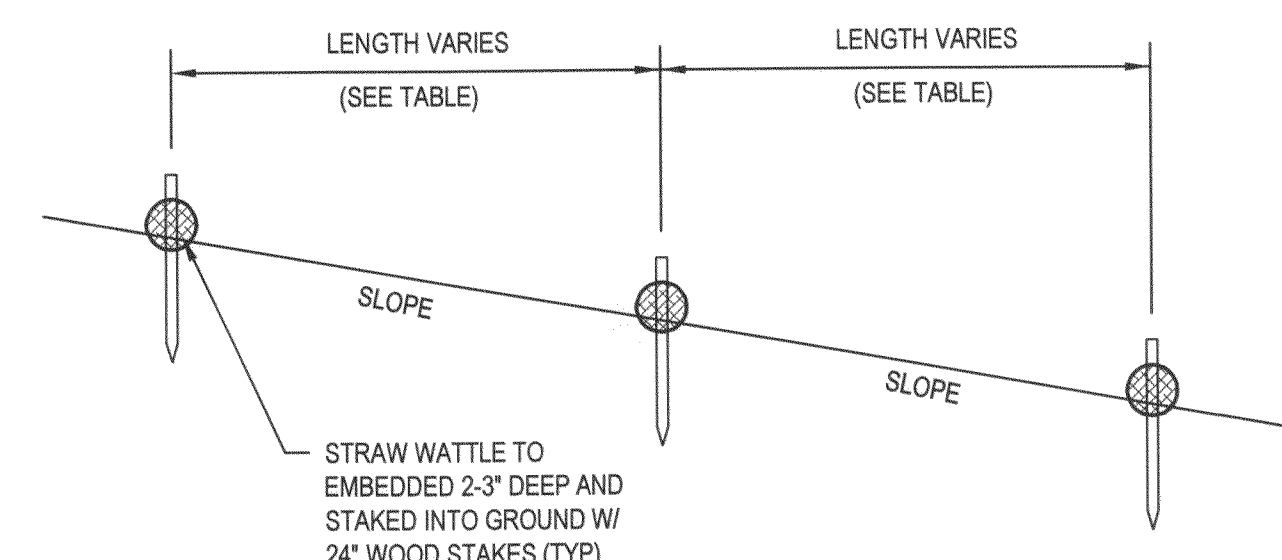
4 STANDARD CURB & GUTTER
NOT TO SCALE



INLET PROTECTION
NOT TO SCALE



DITCH PROTECTION
NOT TO SCALE



SLOPE PROTECTION
NOT TO SCALE

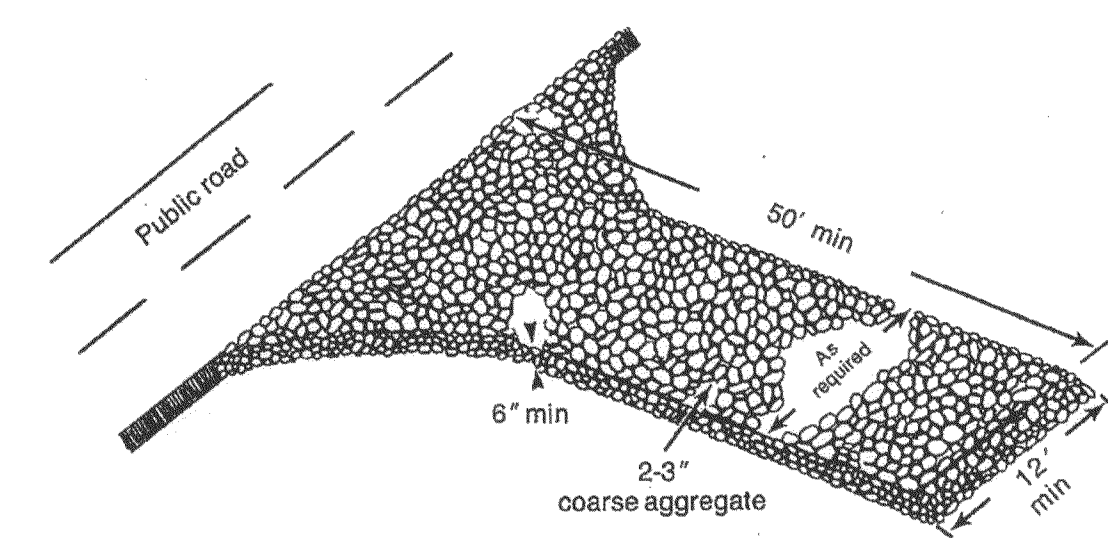
WATTLE SPACING PER SLOPE TABLE

SLOPE GRADIENT	WATTLE SPACING (FT.)
< 6:1 (16.6%)	50'-0"
6:1 - 4:1 (16.6 - 25%)	25'-0"
4:1 - 2:1 (25 - 50%)	20'-0"
2:1 - 1:1 (50 - 100%)	10'-0"

5 STRAW WATTLE INSTALLATION DETAILS
NOT TO SCALE

Design Criteria

Aggregate Size—Use 2-3 inch washed stone.
Dimensions of gravel pad—
 Thickness: 6 inches minimum
 Width: 12-foot minimum or full width at all points of the vehicular entrance and exit area, whichever is greater.
 Length: 50-foot minimum
Location—Locate construction entrances and exits to limit sediment from leaving the site and to provide for maximum utility by all construction vehicles (Figure 6.06a). Avoid steep grades, and entrances at curves in public roads.



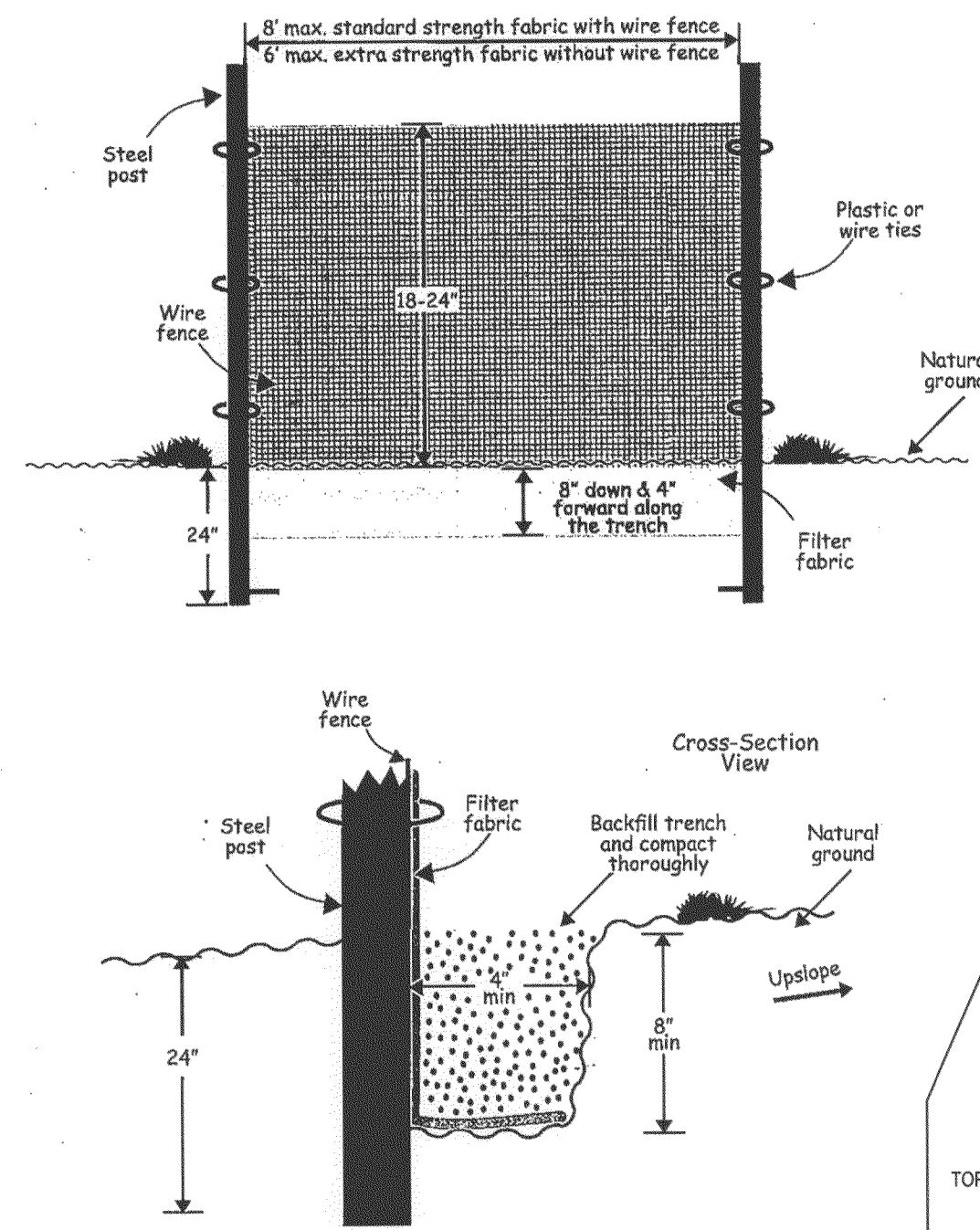
Washing—If conditions at the site are such that most of the mud and sediment are not removed by vehicles traveling over the gravel, the tires should be washed. Washing should be done on an area stabilized with crushed stone that drains into a sediment trap or other suitable disposal area. A wash rack may also be used to make washing more convenient and effective.

- Construction Specifications**
1. Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it.
 2. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it.
 3. Provide drainage to carry water to a sediment trap or other suitable outlet.
 4. Use geotextile fabrics because they improve stability of the foundation in locations subject to seepage or high water table.

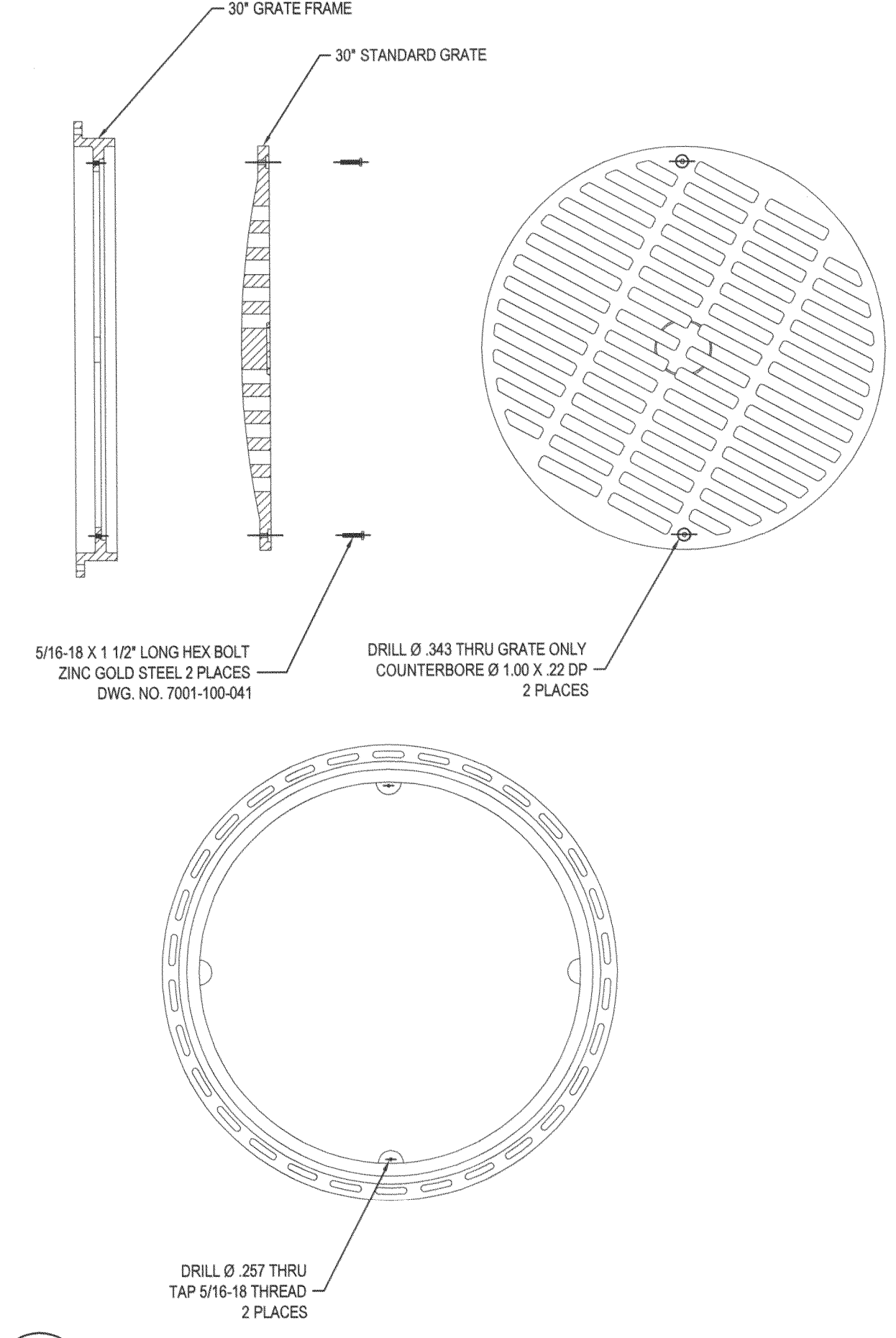
Maintenance Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone. After each rainfall, inspect any structure used to trap sediment and clean it out as necessary. Immediately remove all objectionable materials spilled, washed, or tracked onto public roadways.

- References**
- Runoff Conveyance Measures*
6.30, Grass-lined Channels
 - Sediment Traps and Barriers*
6.60, Temporary Sediment Trap

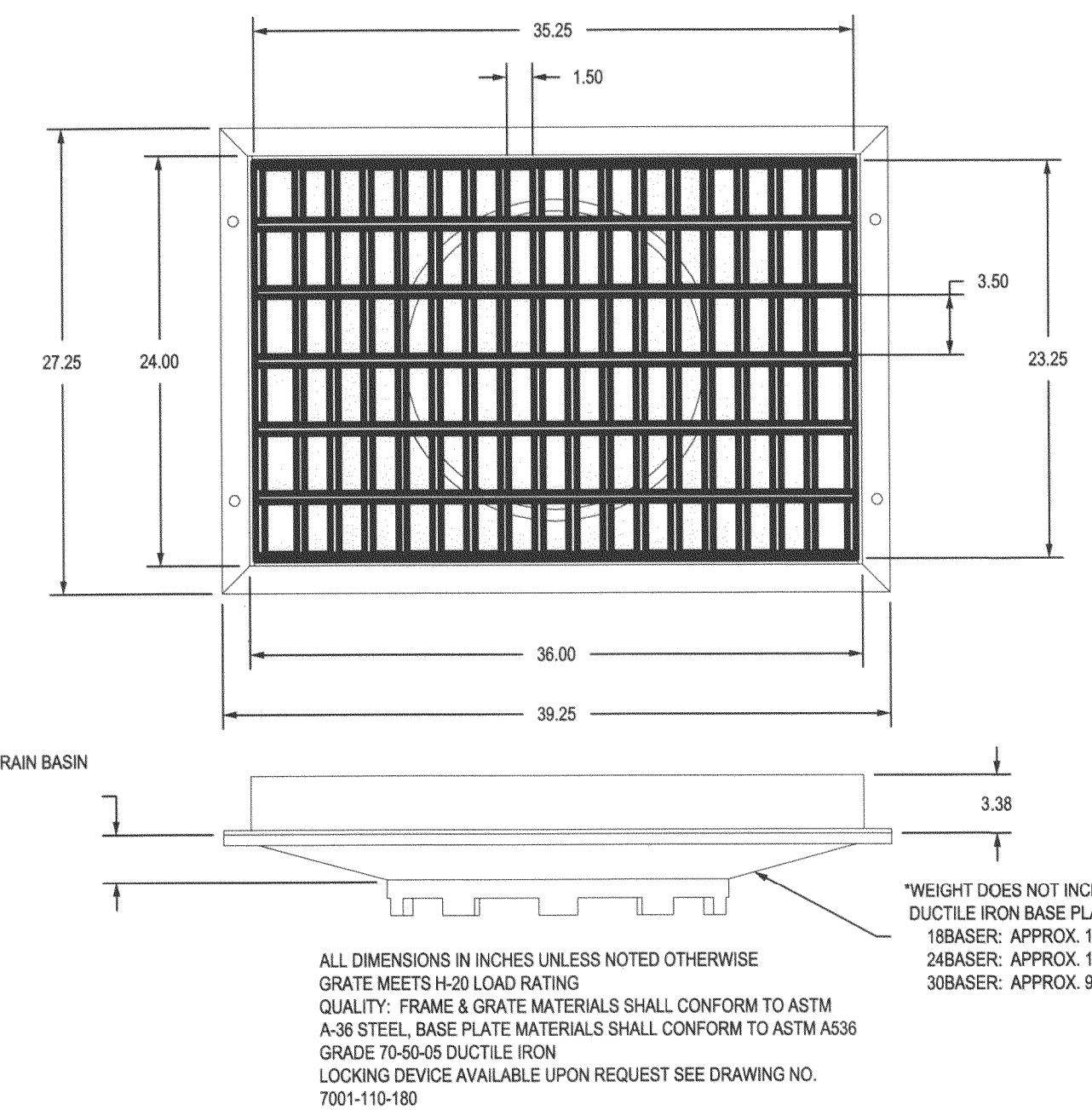
7 TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE



8 TEMPORARY SILT FENCE
NOT TO SCALE



6 30" STANDARD LOCKING GRATE ASSEMBLY
NOT TO SCALE



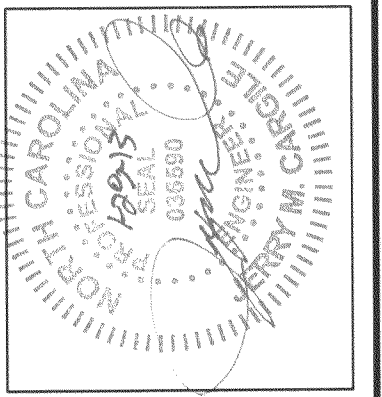
9 NYLOPLAST 2' X 3' STEEL BAR GRATE ASSEMBLY
NOT TO SCALE

ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE
 GRATE MEETS H-20 LOAD RATING
 QUALITY: FRAME & GRATE MATERIALS SHALL CONFORM TO ASTM A-36 STEEL. BASE PLATE MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05 DUCTILE IRON
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-100

land planning
civil engineering
land surveying
landscape architecture

ASITE INCORPORATED

7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35802
phone 256.539.1221 • fax 256.539.1220



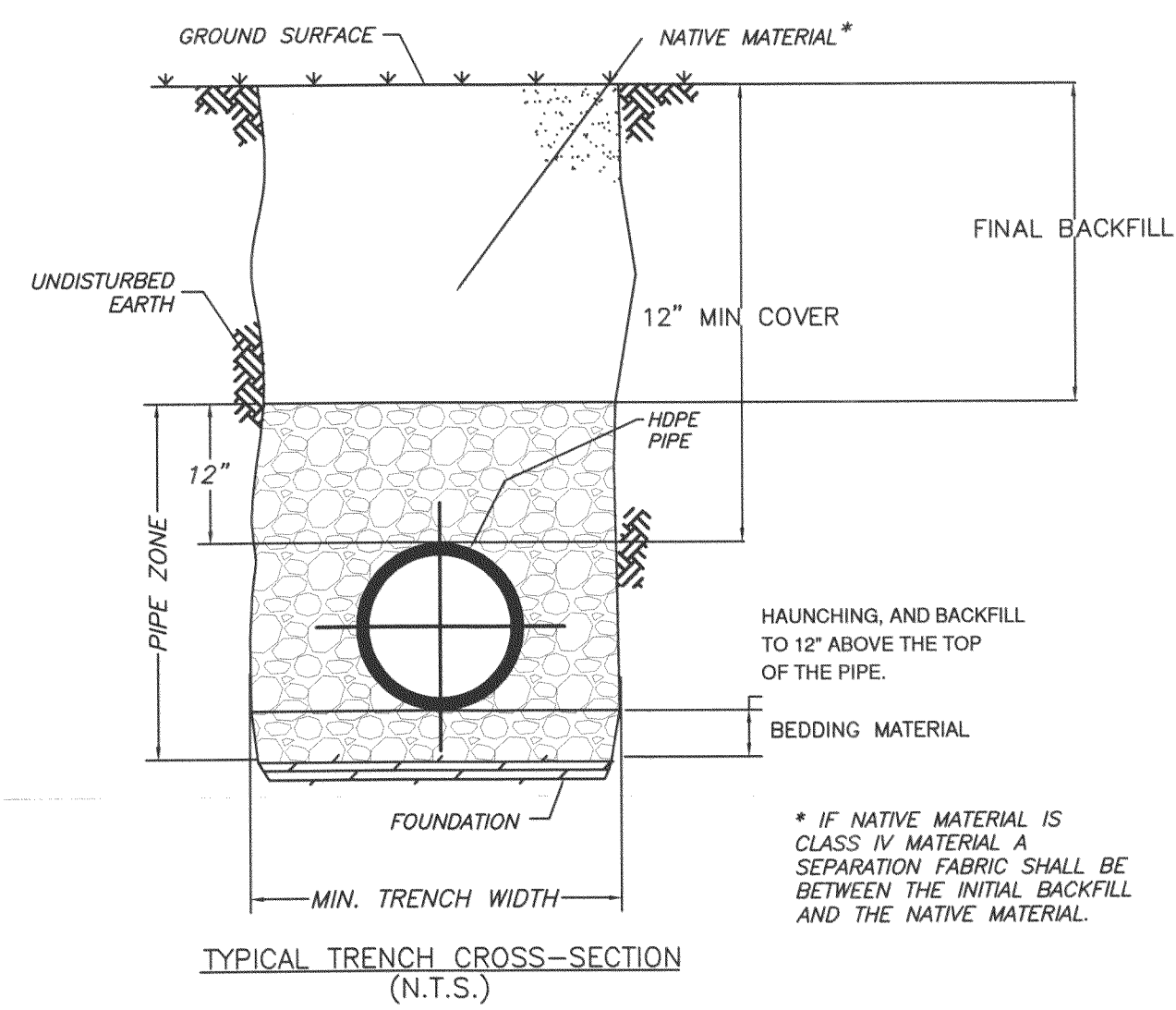
NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

REVISIONS:

NO.	DATE	DESCRIPTION

DRAWN BY: P12-108
SCALE: AS NOTED
SHT. NO.: C6 of 9

OFFICE DATE: 1/28/13
CHECKED BY: JMC
FILE NAME: P12-108-BASE_UPDATED.DWG

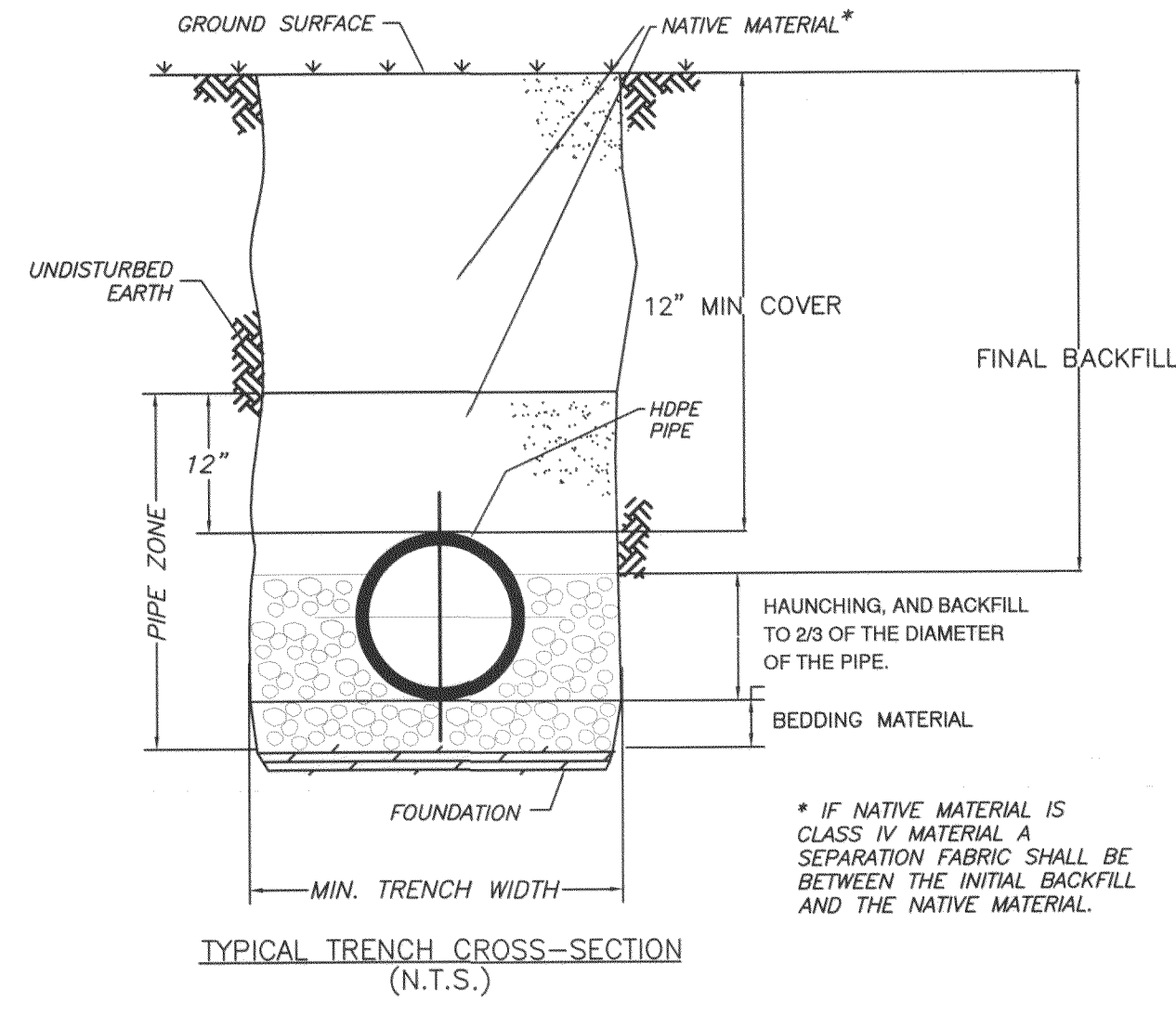


NOTES:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2921, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING: SUITABLE MATERIAL SHALL BE ADOT #78 COARSE AGGREGATE AND COMPACTED TO MIN. OF 90% SPD.
UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" TO 6" THICK AND SHALL BE ADOT #78 COARSE AGGREGATE.
3. HAUNCHING (INITIAL BACKFILL): SUITABLE MATERIAL SHALL BE ADOT #78 COARSE AGGREGATE COMPACTED INTO 6 INCH MAXIMUM LIFTS AND COMPACTED TO 90% SPD.
4. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE NOT LESS THAN THE GREATER OF EITHER THE PIPE OUTSIDE DIMENSIONS PLUS 16" (400 MM) OR THE PIPE OUTSIDE DIAMETER TIME 1.25, PLUS 12" Ø (300 MM).
5. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR PIPE SIZES 4-48" SHALL BE 12". FOR PIPE SIZE 60", MIN COVER SHALL BE 24".
6. ALL HIGH DENSITY POLYETHYLENE (HDPE) PIPE USED FOR CULVERT AND STORM DRAIN APPLICATIONS SHALL CONFORM TO THE REQUIREMENT OF AASHTO M284 CURRENT EDITION AND BE CERTIFIED THROUGH THE PLASTIC PIPE INSTITUTE (PPI) THIRD PARTY CERTIFICATION PROGRAM. ALL HDPE PIPE DELIVERED AND USED SHALL BEAR THE THIRD PARTY ADMINISTERED PPI SEAL.

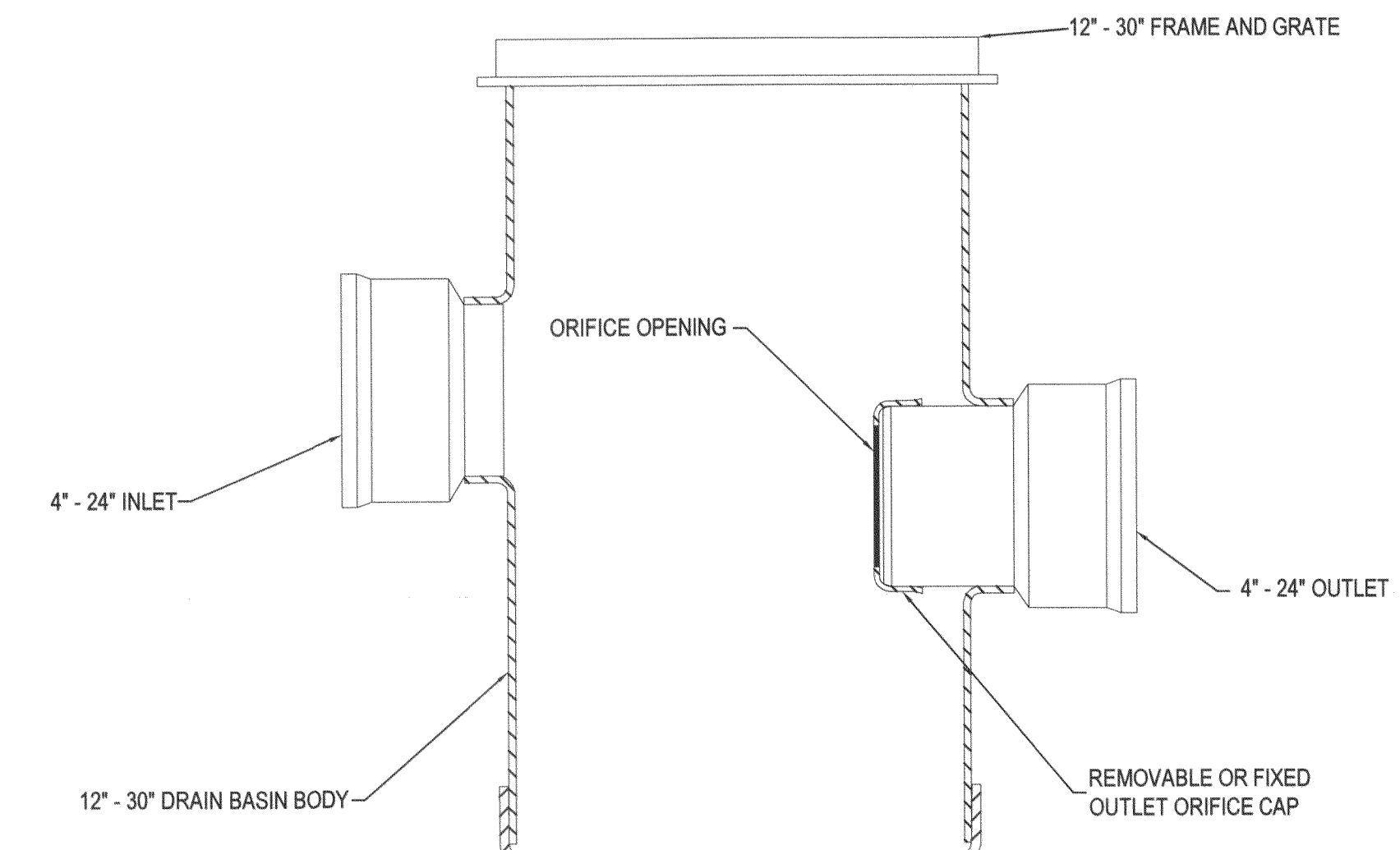
* IF NATIVE MATERIAL IS CLASS IV MATERIAL A SEPARATION FABRIC SHALL BE BETWEEN THE INITIAL BACKFILL AND THE NATIVE MATERIAL.

TRENCH INSTALLATION DETAIL FOR VEHICULAR LOADING



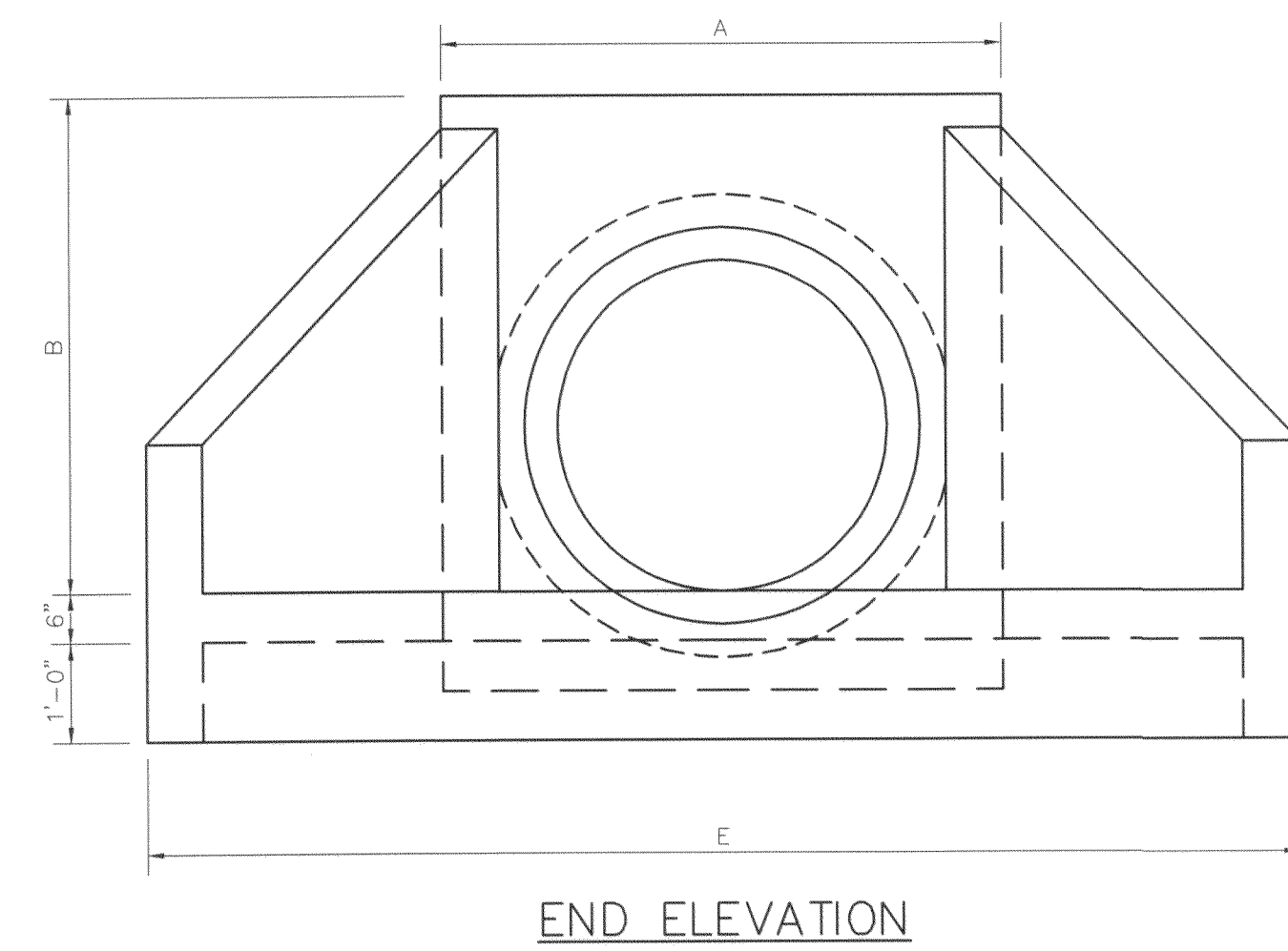
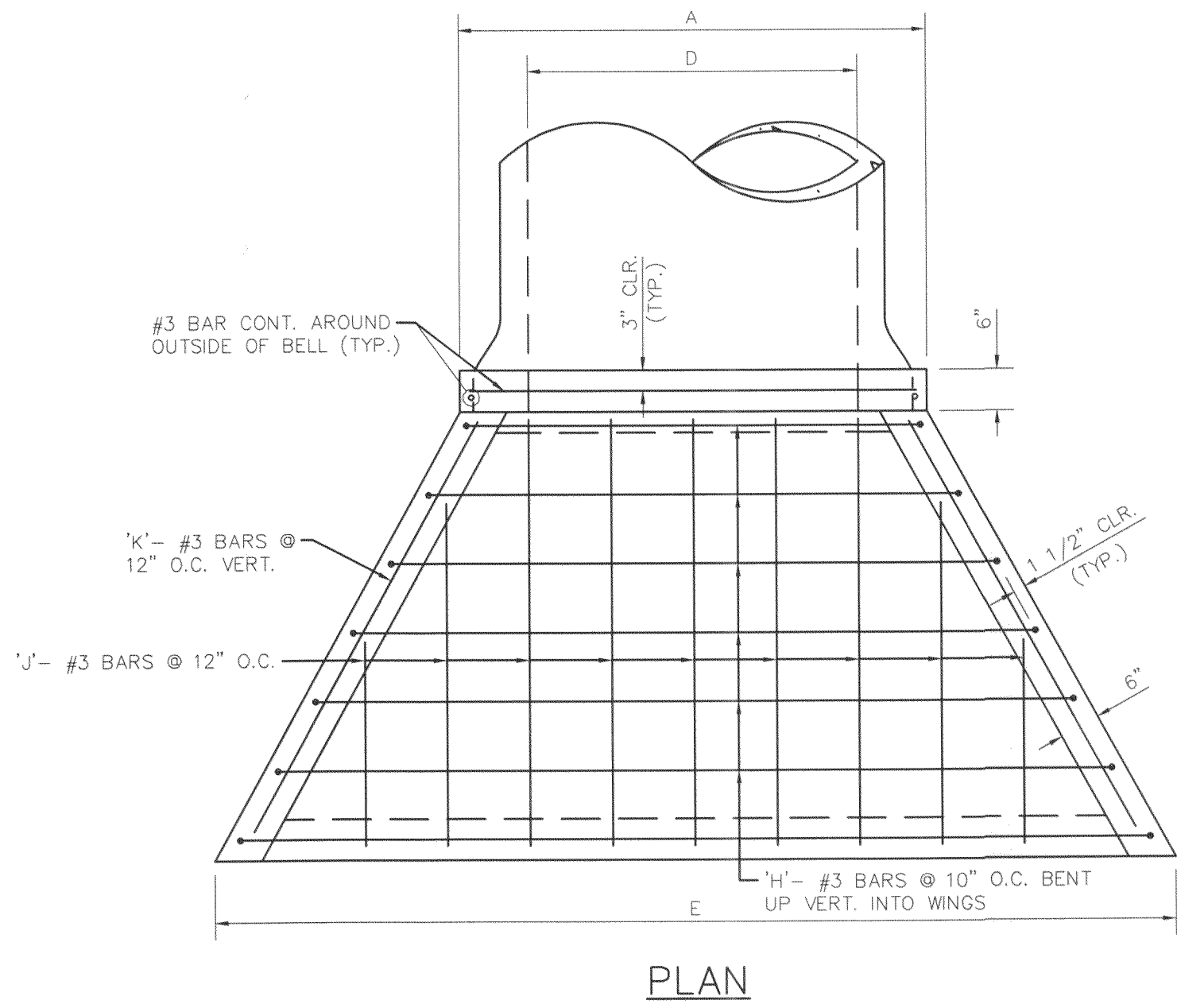
* IF NATIVE MATERIAL IS CLASS IV MATERIAL A SEPARATION FABRIC SHALL BE BETWEEN THE INITIAL BACKFILL AND THE NATIVE MATERIAL.

TRENCH INSTALLATION DETAIL NO VEHICULAR LOADING

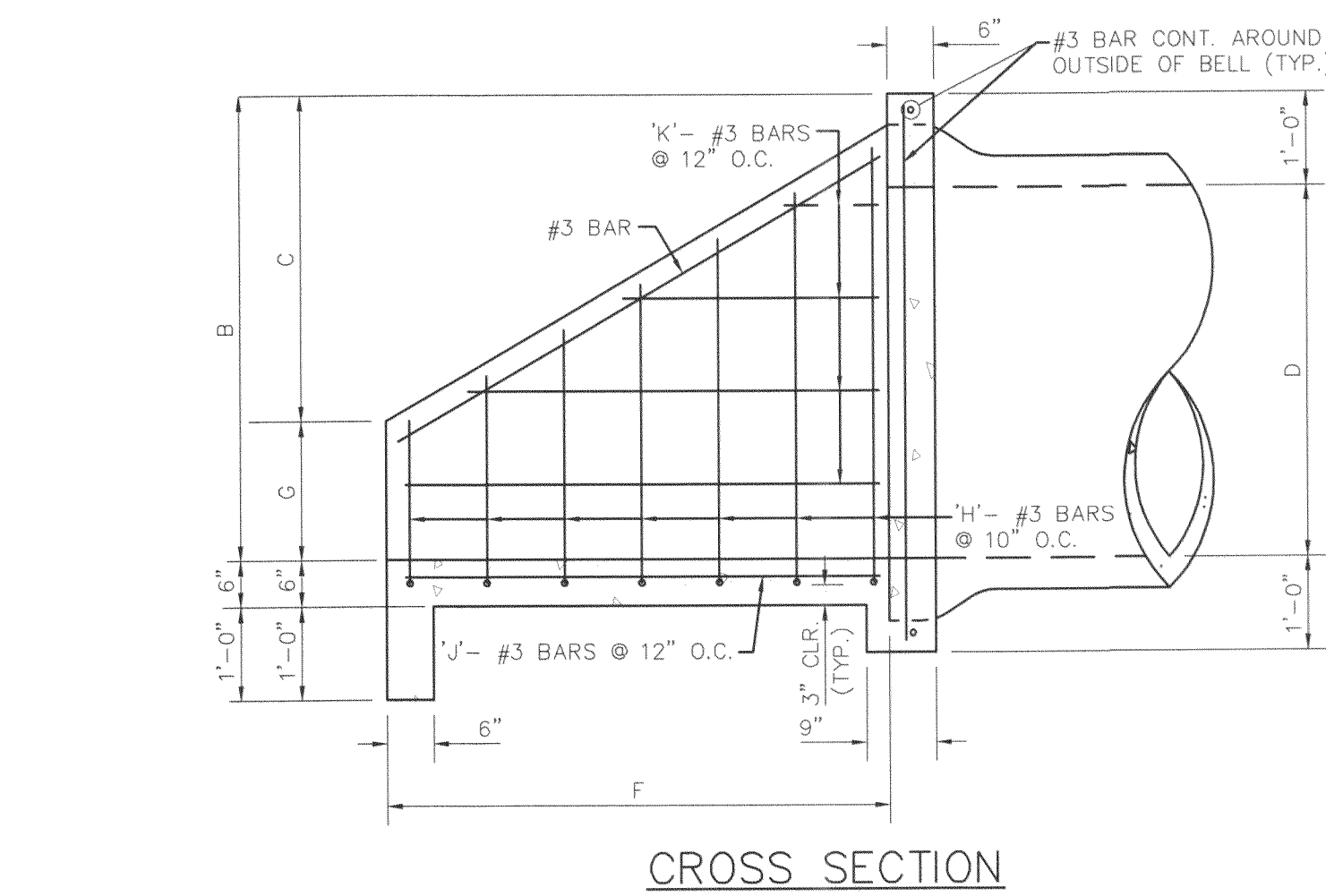


1 NYLOPLAST ORIFICE CAP
NOT TO SCALE

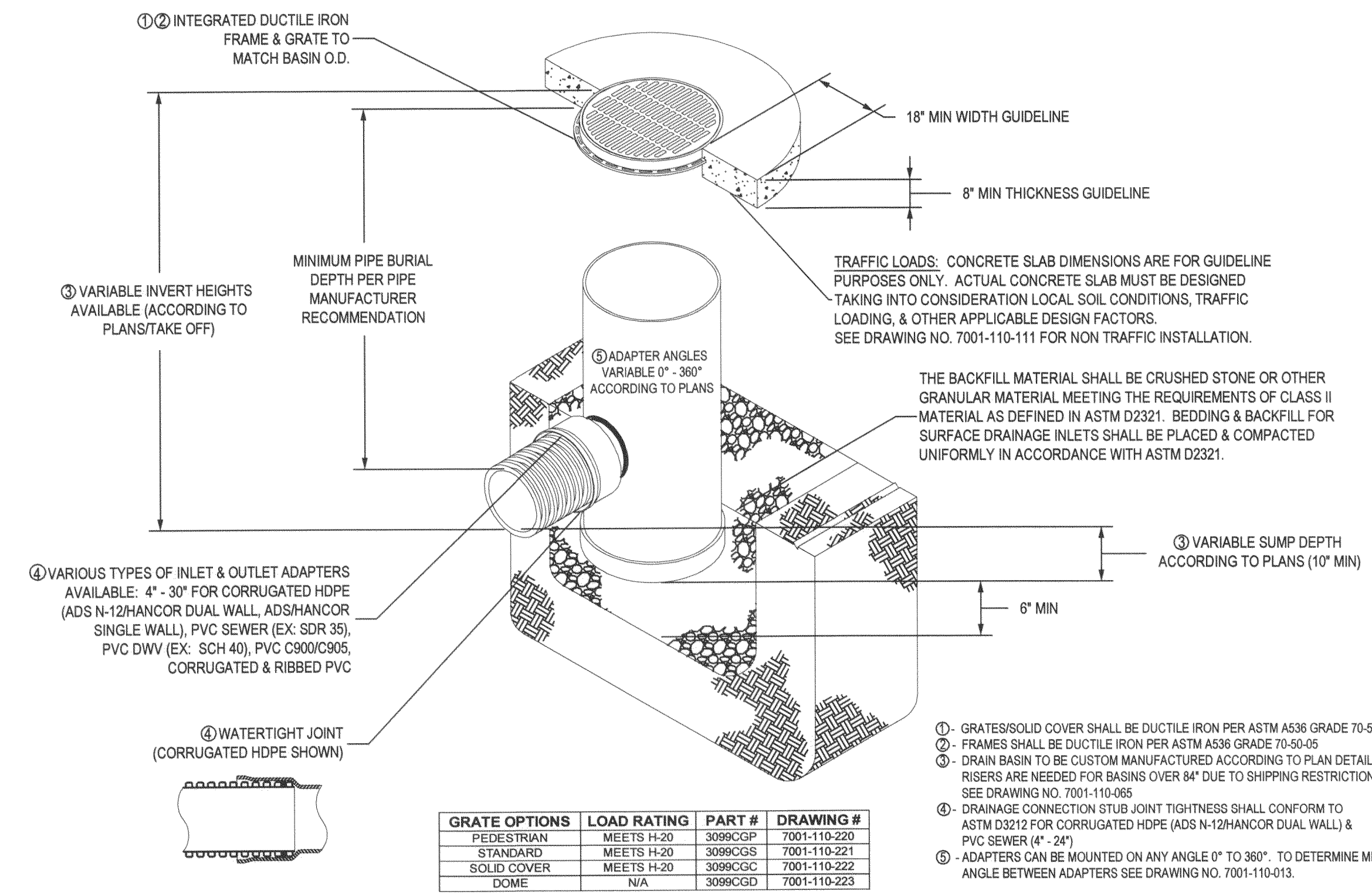
5 ADS BEDDING DETAIL
NOT TO SCALE



SINGLE HEADWALL DIMENSIONS						
D	A	B	C	E	F	G
12" OR 15"	2'-11"	2'-3"	1'-3"	5'-1"	1'-10 1/2"	0'-6"
18"	3'-2"	2'-6"	1'-3"	5'-4"	1'-10 1/2"	0'-9"



1 CONCRETE HEADWALL DETAIL
NOT TO SCALE

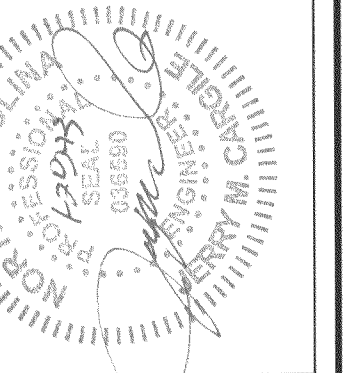


6 NYLOPLAST 30" CATCH BASIN
NOT TO SCALE

land planning
civil engineering
land surveying
architecture

ASITE INCORPORATED

7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35892
phone 256.539.1221 • fax 256.539.1220



NEW RETAIL DEVELOPMENT
PREPARED FOR THE BROADWAY GROUP LLC
HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
U.S. HWY. 64 (BREVARD ROAD)

JOB NO.: P12-108

SCALE: AS NOTED

SHT. NO. **C7** OF **9**

REVISIONS:

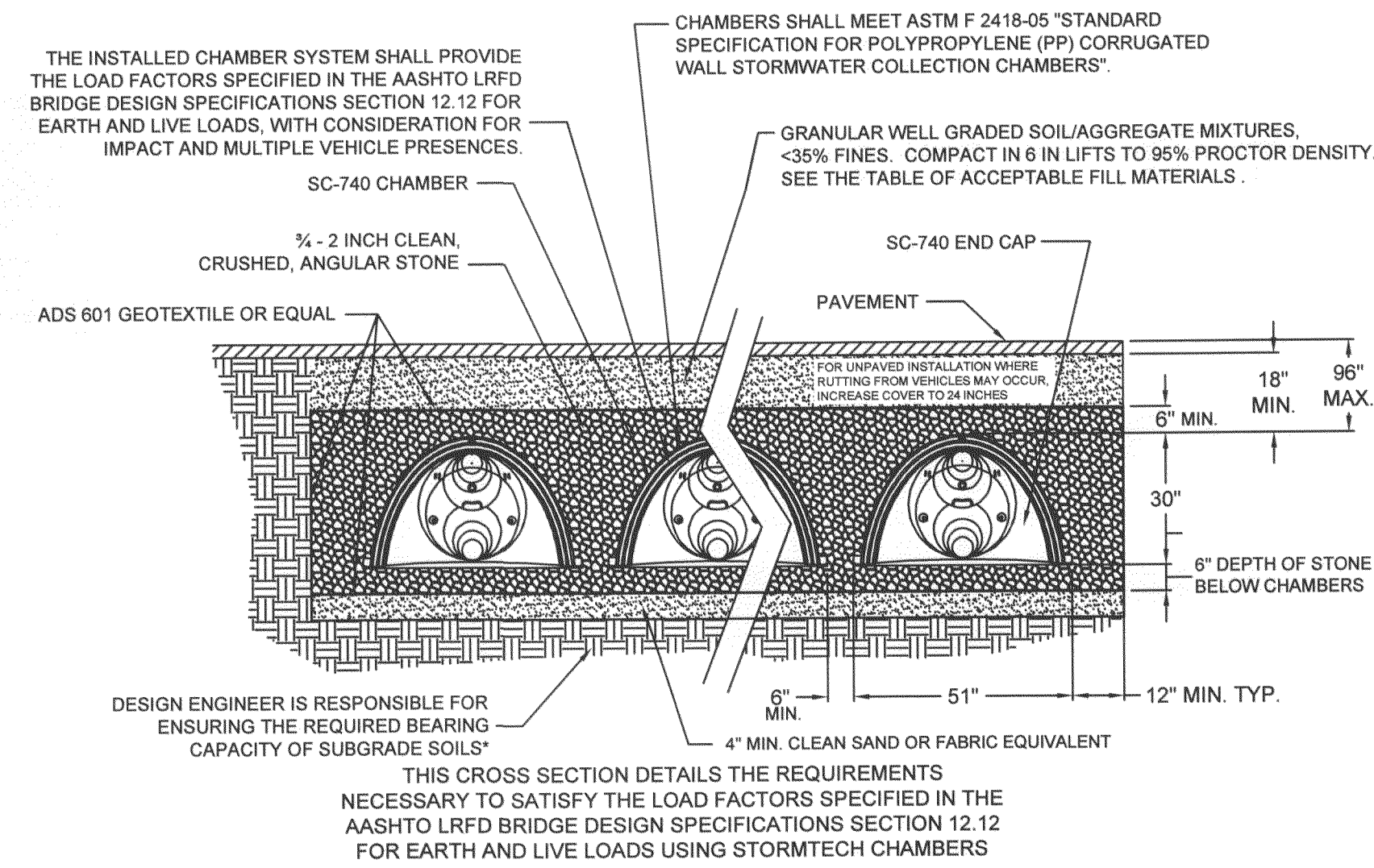
DRAWN BY: J/LW
FIELD DATE:
OFFICE DATE: 1/28/13
CHECKED BY: J/LW
DATE: 1/28/13
P12-108-BASE-UPDATED.DWG

STORMTECH GENERAL NOTES

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT. MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.STORMTECH.COM.

STORMTECH CHAMBER SPECIFICATIONS

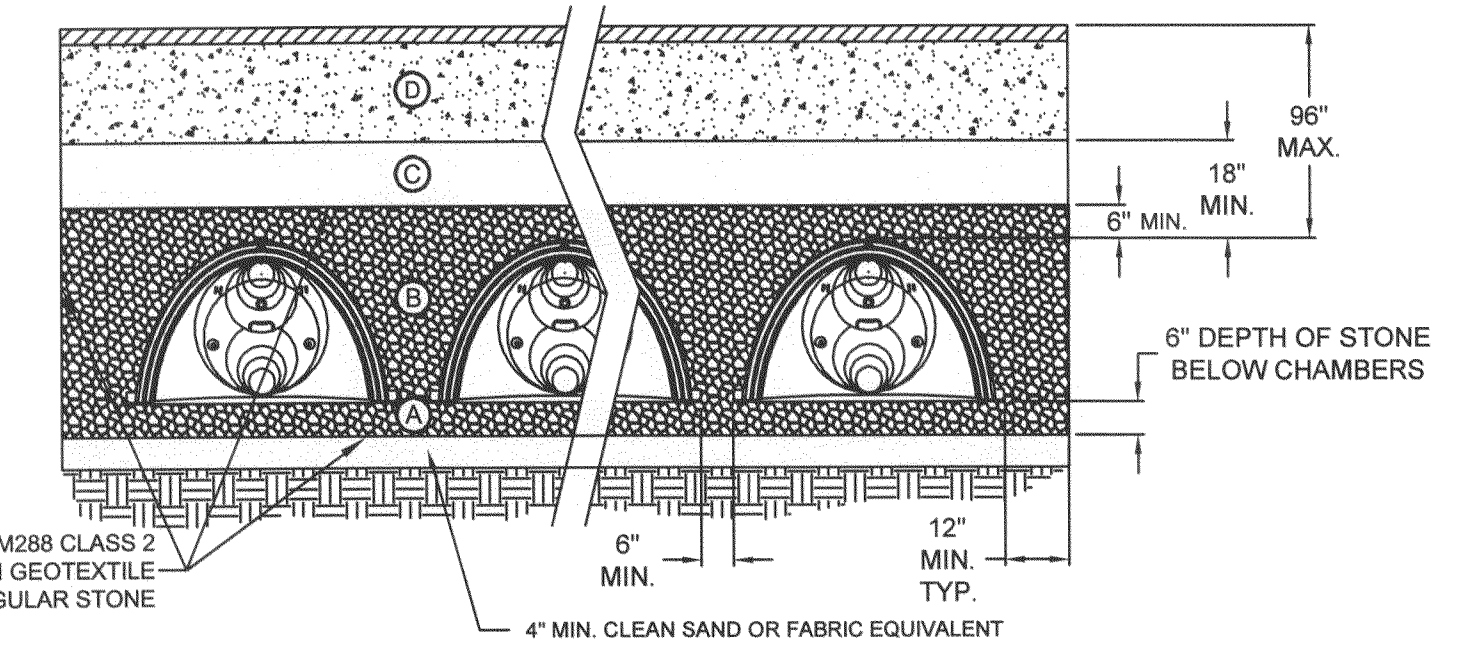
- CHAMBERS SHALL BE STORMTECH SC-740, SC-310 OR APPROVED EQUAL.
- CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418-05, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM 2418-05 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - A CERTIFICATION BY THE MANUFACTURER THAT THE CHAMBERS ARE IN ACCORDANCE WITH ASTM F2418-05.
- CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
- THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.



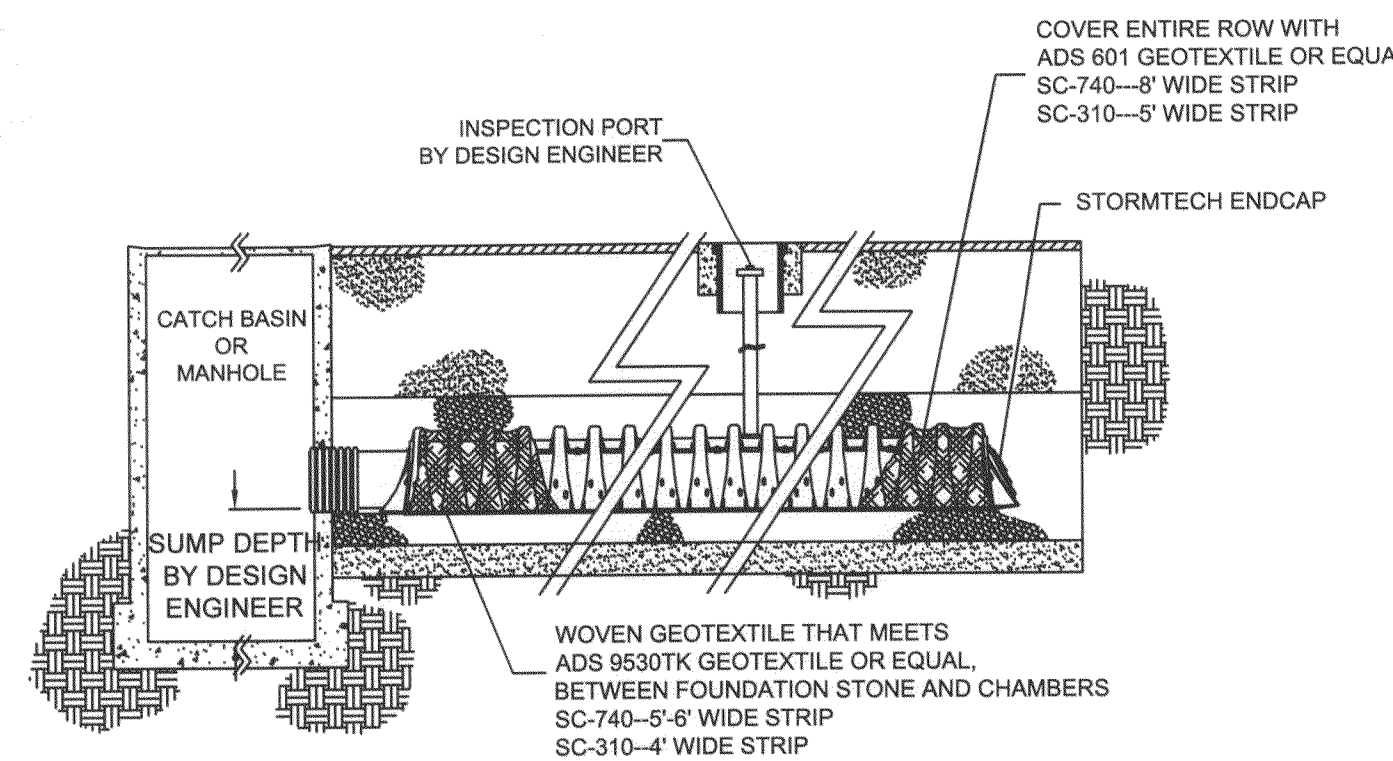
1 STORMTECH SC-740 TYPICAL SECTION
C8 NOT TO SCALE

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
1	FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
2	FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	3, 357, 4, 467, 5, 56, 57, 6, 87, 88, 7, 75, 8, 89, 9, 10	A-1, A-2, A-3	COMPACT IN 6" LIFTS TO A MINIMUM 96% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
3	EMBEDMENT STONE SURROUNDING AND TO A 6" ELEVATION ABOVE CHAMBERS	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
4	FOUNDATION STONE BELOW CHAMBERS	3, 357, 4, 467, 5, 56, 57	N/A	FLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY

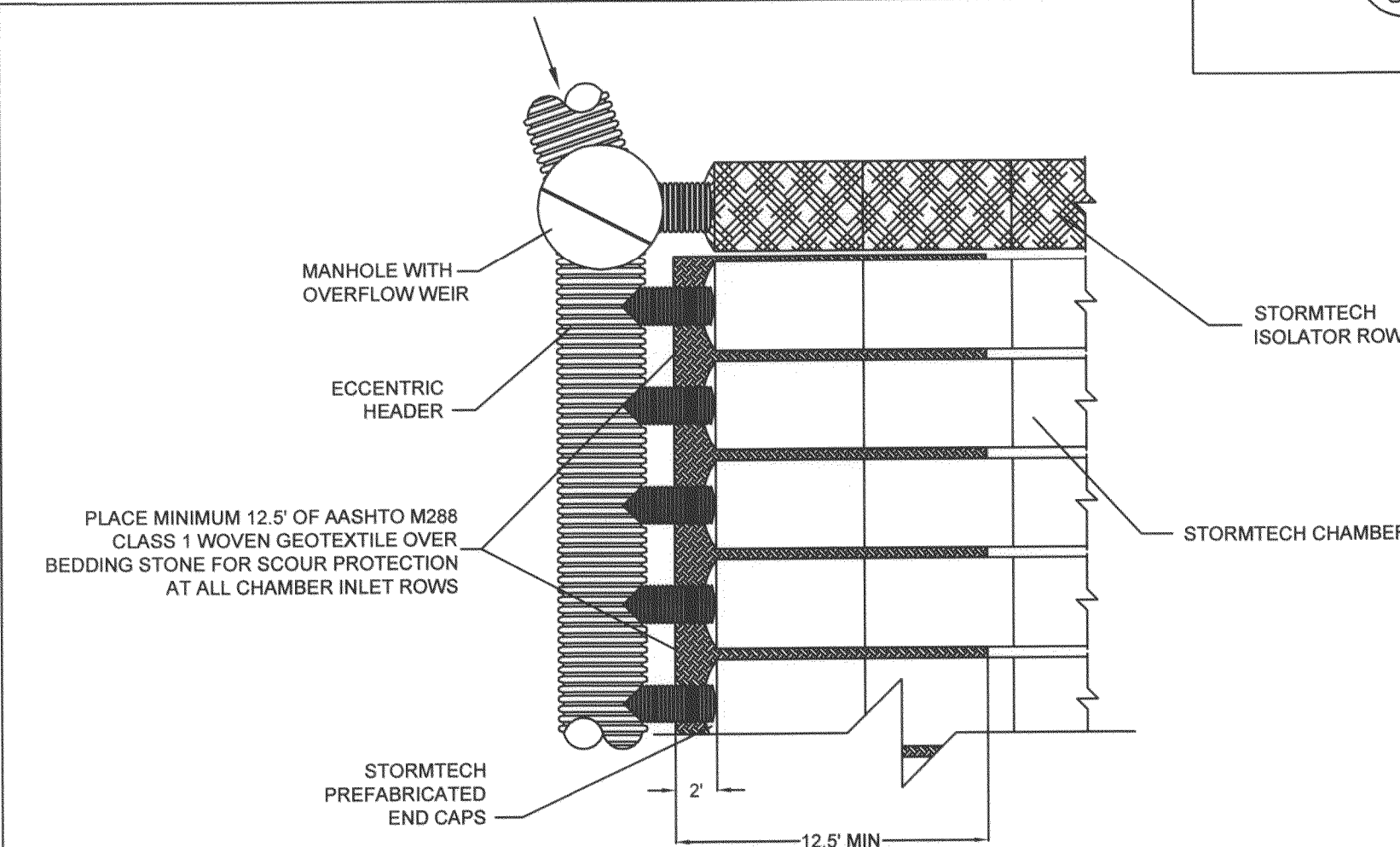
PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS CLEAN, CRUSHED, ANGULAR NO. 4 STONE.



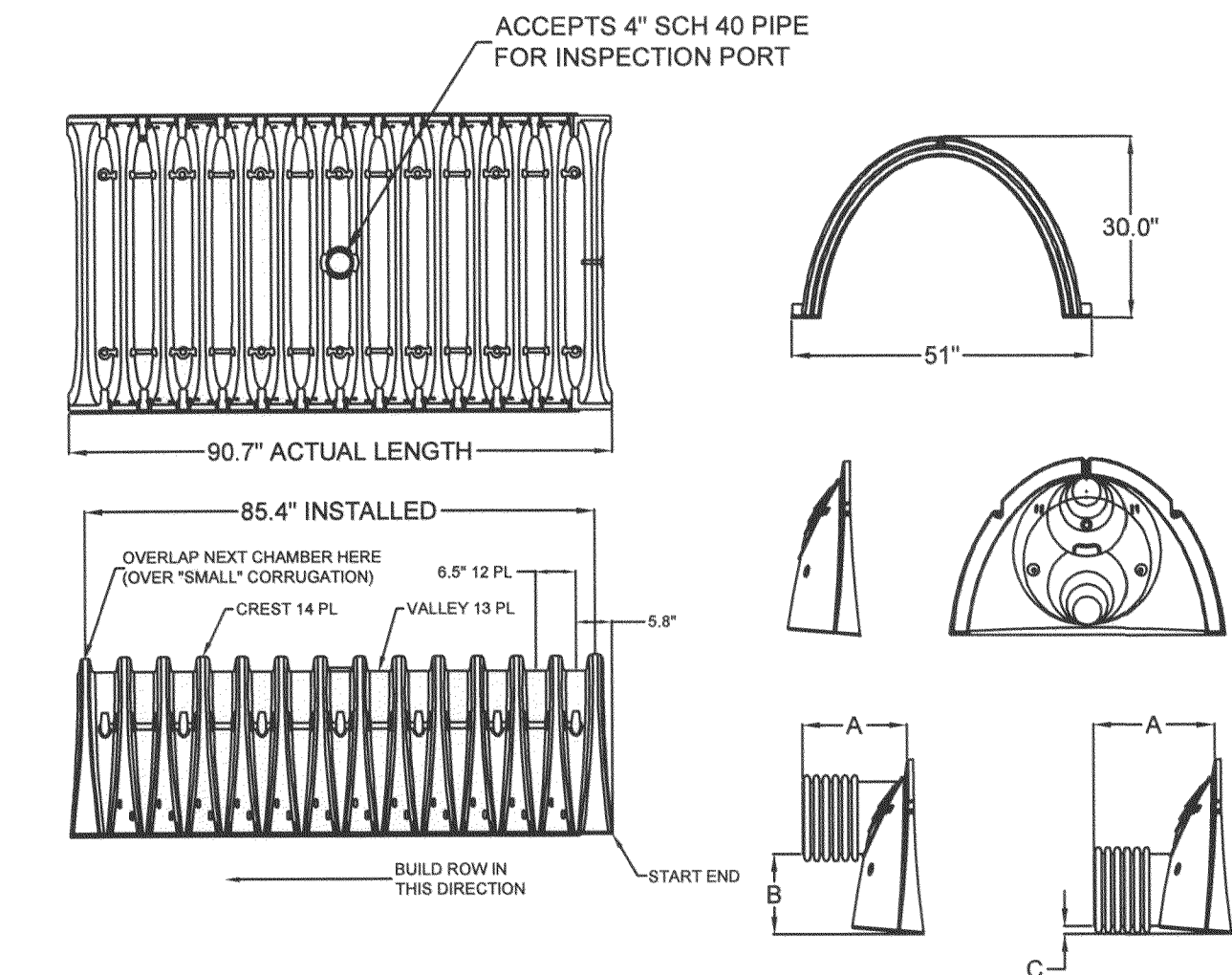
2 STORMTECH ACCEPTABLE FILL MATERIALS
C8 NOT TO SCALE



3 ISOLATOR ROW PROFILE
C8 NOT TO SCALE



4 STORMTECH MANIFOLD DETAIL
C8 NOT TO SCALE



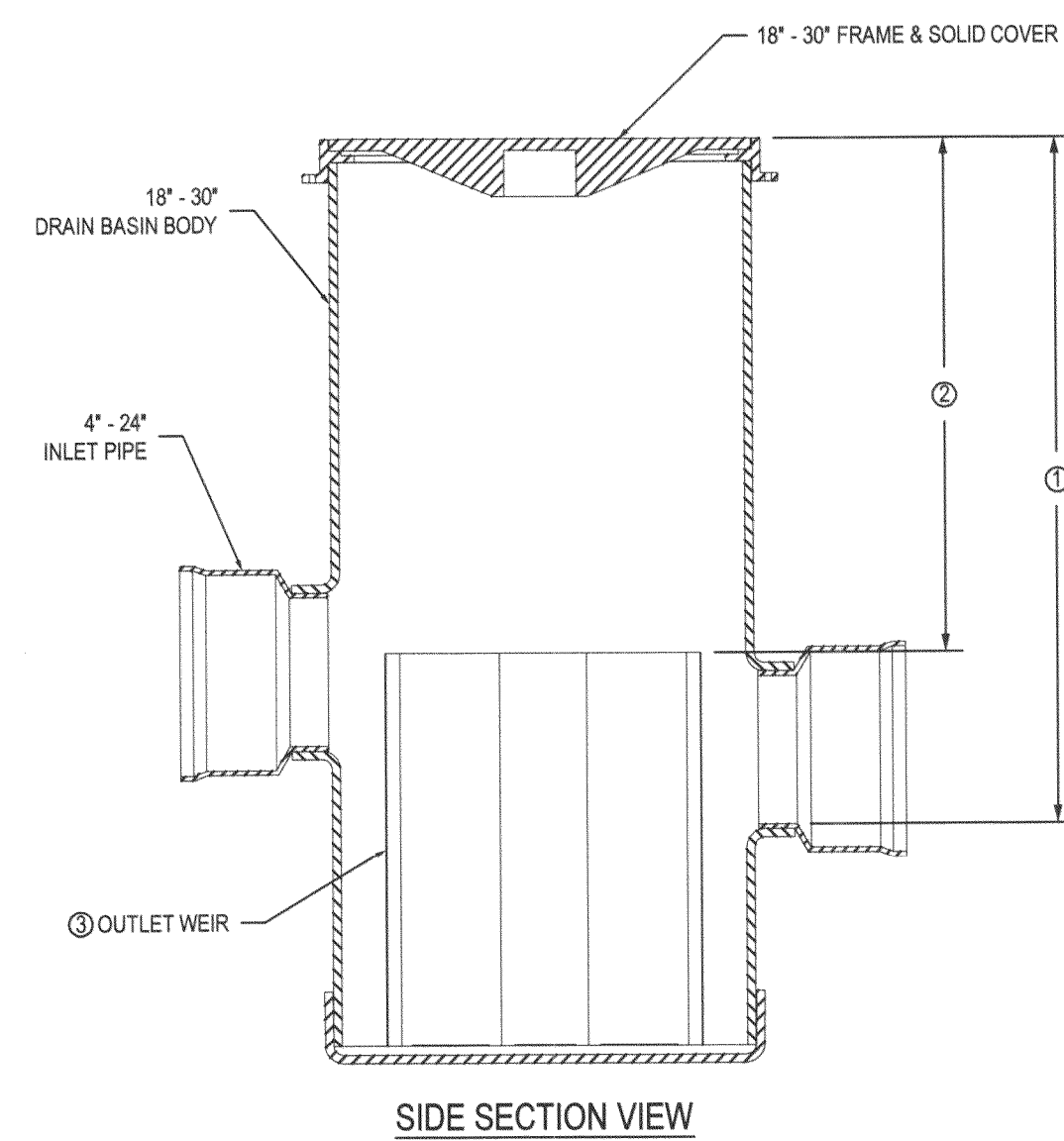
NOMINAL CHAMBER SPECIFICATIONS
 SIZE (W x H x INSTALLED LENGTH) - 51.0" x 30.0" x 85.4"
 CHAMBER STORAGE - 45.9 CUBIC FEET
 MINIMUM INSTALLED STORAGE - 74.9 CUBIC FEET
 WEIGHT - 75 LBS.

STUBS AT TOP OF END CAP FOR PARTS NUMBERS ENDING WITH "T"
 STUBS AT BOTTOM OF END CAP FOR PARTS NUMBERS ENDING WITH "B"

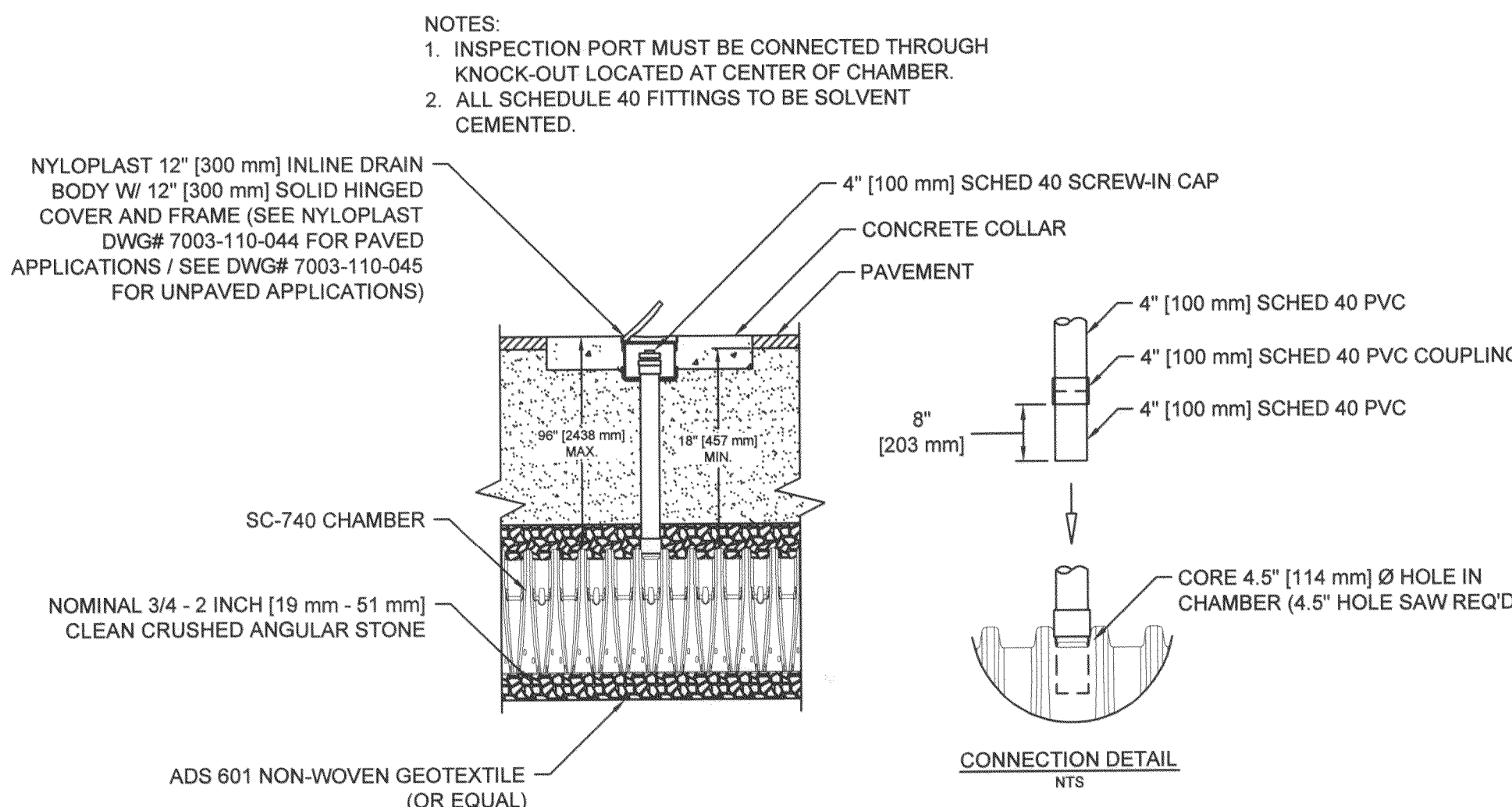
PART #	CHAMBER	PIPE SIZE	A	B	C
SC740EPE06T	SC-740	6 in (150 mm)	10.90 in (277 mm)	18.50 in (470 mm)	N/A
SC740EPE08B	SC-740	6 in (150 mm)	10.90 in (277 mm)	N/A	0.50 in (13 mm)
SC740EPE08T	SC-740	8 in (200 mm)	12.20 in (310 mm)	16.50 in (419 mm)	N/A
SC740EPE08B	SC-740	8 in (200 mm)	12.20 in (310 mm)	N/A	0.60 in (15 mm)
SC740EPE10T	SC-740	10 in (250 mm)	13.40 in (340 mm)	14.50 in (368 mm)	N/A
SC740EPE10B	SC-740	10 in (250 mm)	13.40 in (340 mm)	N/A	0.70 in (18 mm)
SC740EPE12T	SC-740	12 in (300 mm)	14.70 in (373 mm)	12.50 in (318 mm)	N/A
SC740EPE12B	SC-740	12 in (300 mm)	14.70 in (373 mm)	N/A	1.20 in (30 mm)
SC740EPE15T	SC-740	15 in (375 mm)	18.40 in (467 mm)	9.00 in (229 mm)	N/A
SC740EPE15B	SC-740	15 in (375 mm)	18.40 in (467 mm)	N/A	1.30 in (33 mm)
SC740EPE18T	SC-740	18 in (450 mm)	19.70 in (500 mm)	5.00 in (127 mm)	N/A
SC740EPE18B	SC-740	18 in (450 mm)	19.70 in (500 mm)	N/A	1.60 in (41 mm)
SC740EPE24B	SC-740	24 in (600 mm)	18.50 in (470 mm)	N/A	0.10 in (3 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL.
 ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.
 * FOR THE SC740EPE24B THE 24" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75". BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SETS LEVEL.

5 NYLOPLAST DRAIN BASIN W/ OVERFLOW WEIR FOR STORMTECH
C8 NOT TO SCALE



5 NYLOPLAST DRAIN BASIN W/ OVERFLOW WEIR FOR STORMTECH
C8 NOT TO SCALE



6 STORMTECH SC-740 INSPECTION PORT
C8 NOT TO SCALE

7 STORMTECH SC-740 TECHNICAL SPECIFICATIONS
C8 NOT TO SCALE

land planning
civil engineering
land surveying
landscape architecture

ASITE INCORPORATED

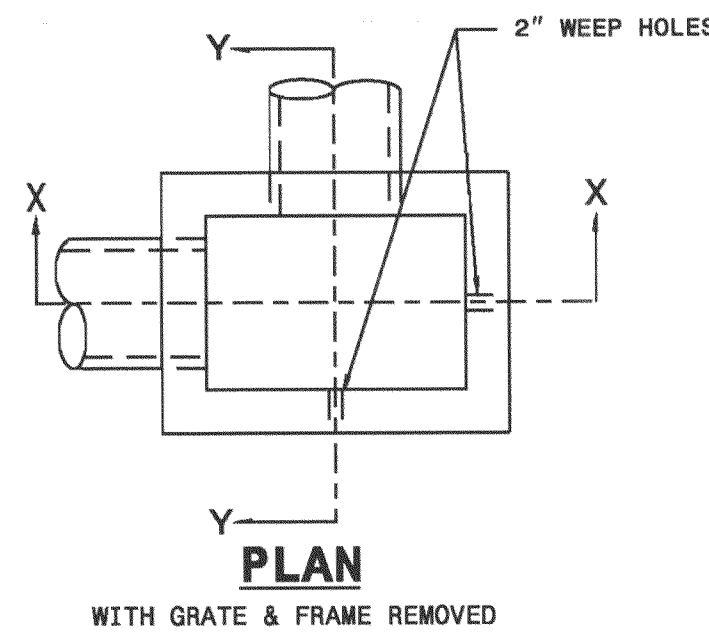
7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35892
phone 256.539.1221 • fax 256.539.1220

NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

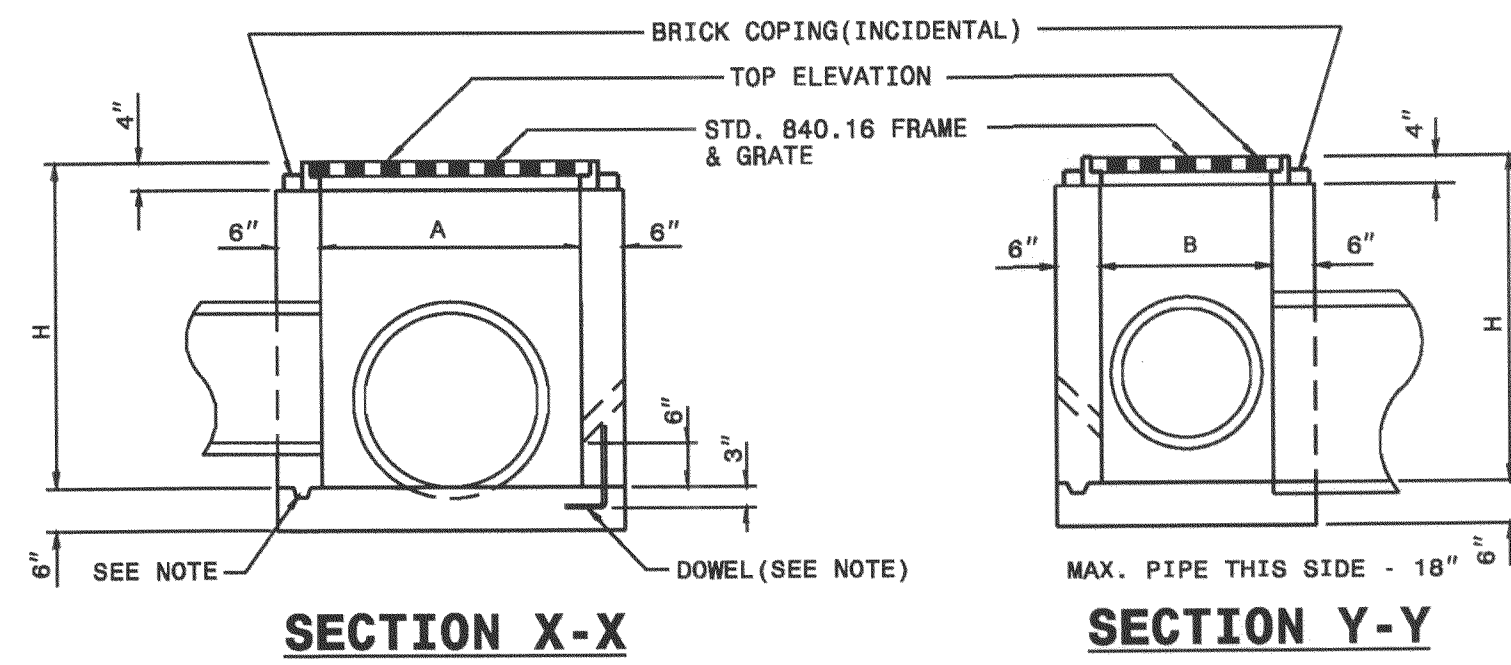
REVISIONS:

DRAWN BY: JLV
 FIELD DATE:
 OFFICE DATE: 1/28/13
 CHECKED BY: JMC
 FILE NAME: P12-108-BASE_UPDATED.DWG

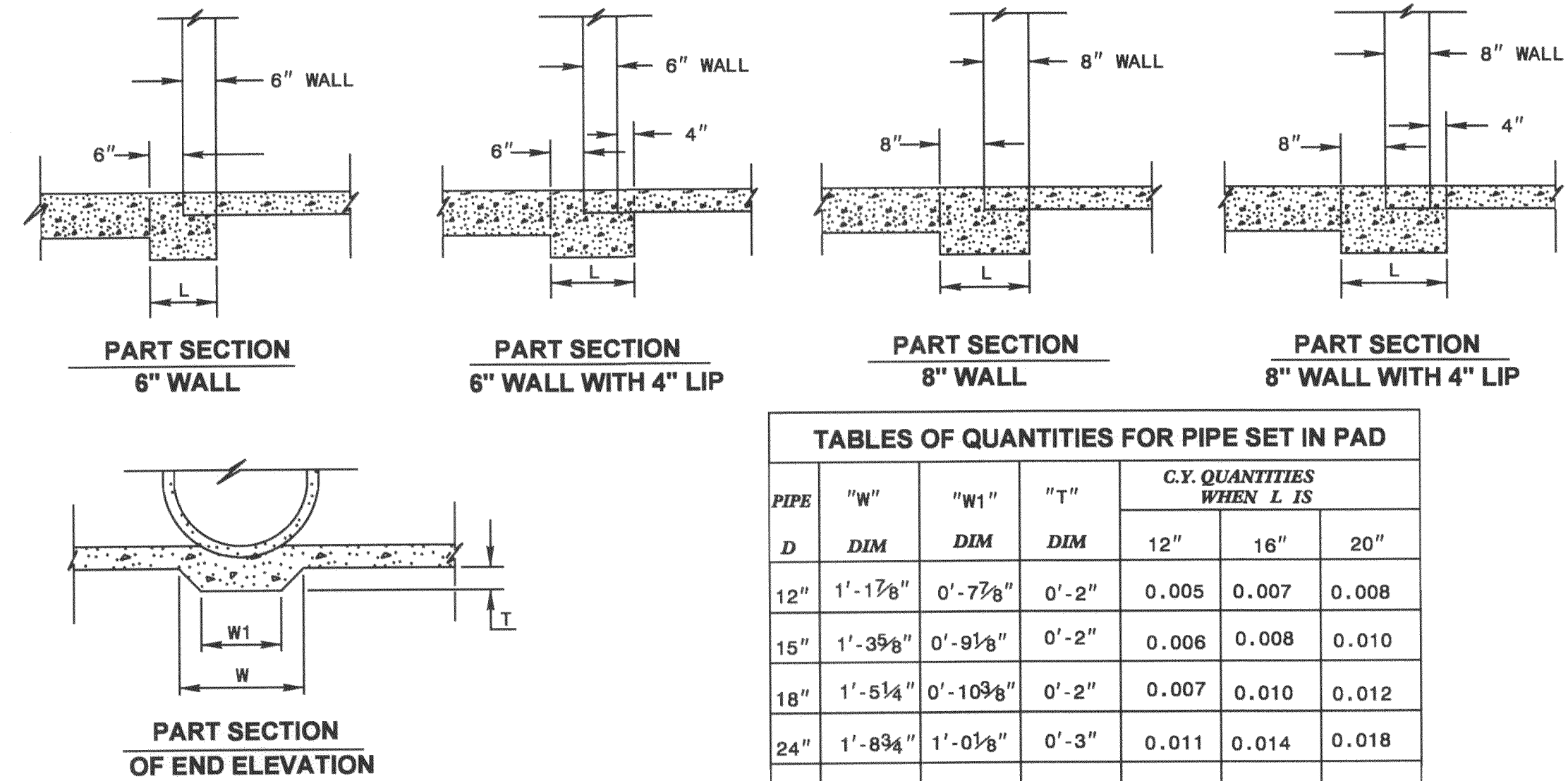
JOB NO.: P12-108
 SCALE: AS NOTED
 SHT. NO. **C8** OF 9



GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
 INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.
 INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.



DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)									
DIMENSIONS OF BOX & PIPE					CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE D	SPAN A	WIDTH B	MIN. HEIGHT H	BOTTOM SLAB	WALL FT.	PER FT. HT.	TOTAL CONCRETE FOR MINIMUM HEIGHT, H	C.M.	R.C.
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026	
15"	3'-0"	2'-0"	2'-3"	0.222	0.222	0.648	0.023	0.036	
18"	3'-0"	2'-0"	2'-6"	0.222	0.222	0.703	0.033	0.049	
24"	3'-0"	2'-0"	3'-0"	0.222	0.222	0.814	0.059	0.085	
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127	



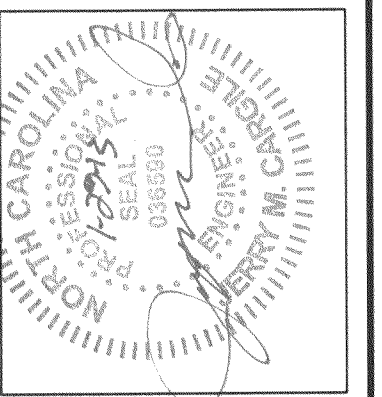
PIPE D	"W" DIM	"W1" DIM	"T" DIM	C.Y. QUANTITIES WHEN L IS		
				12"	16"	20"
12"	1'-1 7/8"	0'-7 7/8"	0'-2"	0.005	0.007	0.008
15"	1'-3 5/8"	0'-9 1/8"	0'-2"	0.006	0.008	0.010
18"	1'-5 1/4"	0'-10 3/8"	0'-2"	0.007	0.010	0.012
24"	1'-8 3/4"	1'-0 1/8"	0'-3"	0.011	0.014	0.018
30"	2'-0 1/4"	1'-2 3/4"	0'-3 1/2"	0.014	0.018	0.023
36"	2'-3 3/4"	1'-5 5/8"	0'-4"	0.017	0.023	0.025
42"	2'-7 1/8"	1'-7"	0'-5 1/4"	0.025	0.030	0.038
48"	2'-10 5/8"	1'-8 3/4"	0'-5 3/4"	0.028	0.038	0.047
54"	3'-2 1/8"	1'-10 1/2"	0'-6 1/4"	0.035	0.047	0.058
60"	3'-5 5/8"	2'-0 1/4"	0'-6 3/4"	0.042	0.056	0.071
66"	3'-9"	2'-2 1/4"	0'-7 1/4"	0.050	0.067	0.084
72"	4'-0 1/2"	2'-3 3/4"	0'-7 3/4"	0.059	0.078	0.098

GENERAL NOTES:
 USE THIS STANDARD WITH ALL DRAINAGE STRUCTURES USING REINFORCED CONCRETE PIPE SET IN BASE SLAB.

5 NCDOT DWG. 840.14 CONCRETE DROP INLET
 C6 NOT TO SCALE

5 NCDOT DWG. 840.00 CONCRETE BASE PAD
 C6 NOT TO SCALE

ASITE INCORPORATED
 land planning
 civil engineering
 land surveying
 architecture
 7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35892
 phone 256.539.1221 • fax 256.539.1220

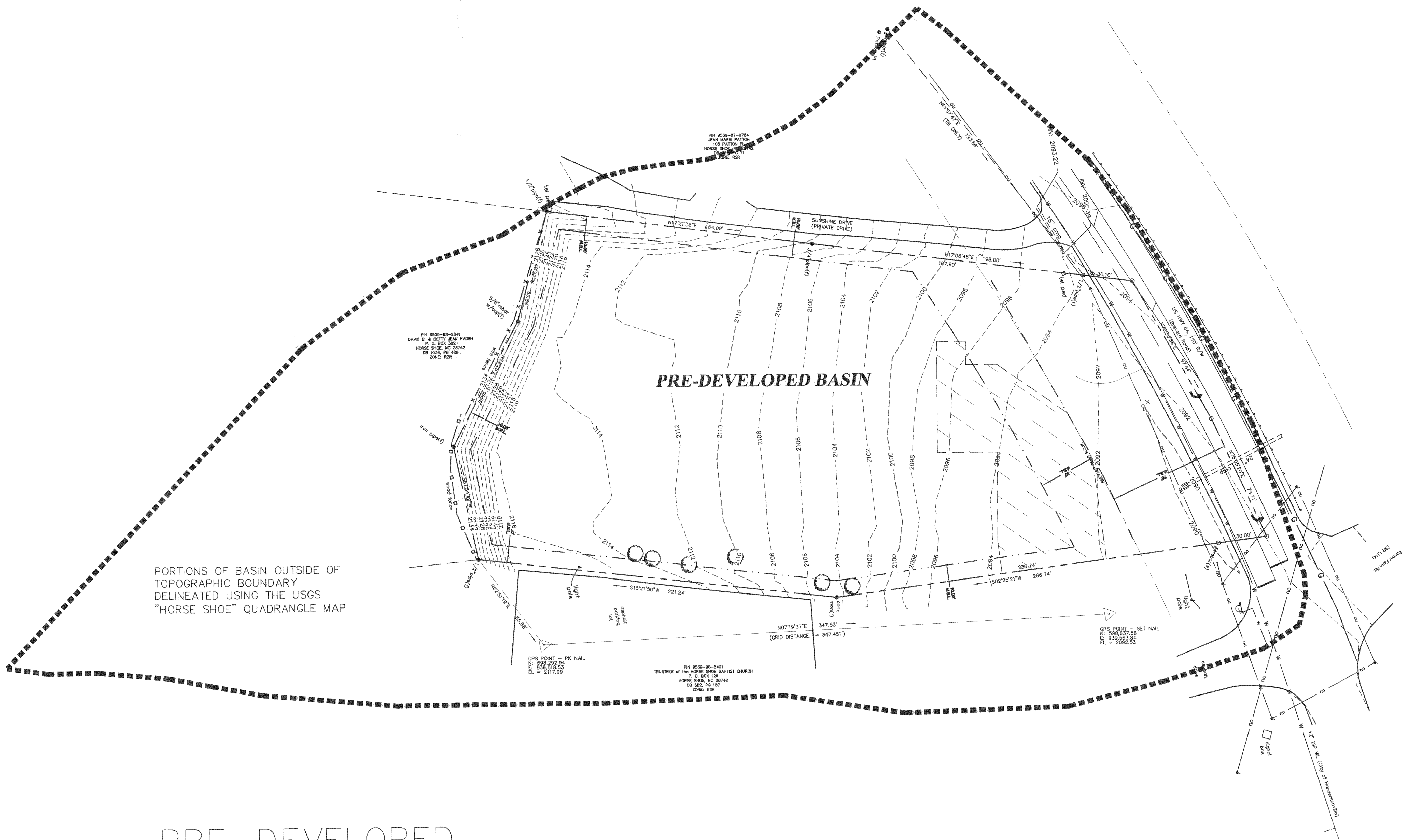


NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

DRAWN BY:	REVISIONS:
J.W.	
FIELD DATE:	
OFFICE DATE:	
1/25/13	
CHECKED BY:	
FILE NAME:	
PT2-108-BASE_UPDATED.DWG	

JOB NO.: PT2-108
 SCALE: AS NOTED
 SHT. NO. 9 OF 9

CONSTRUCTION DETAILS
 SHEET 5 OF 5

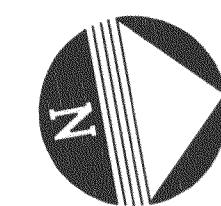


PORTIONS OF BASIN OUTSIDE OF TOPOGRAPHIC BOUNDARY DELINEATED USING THE USGS "HORSE SHOE" QUADRANGLE MAP

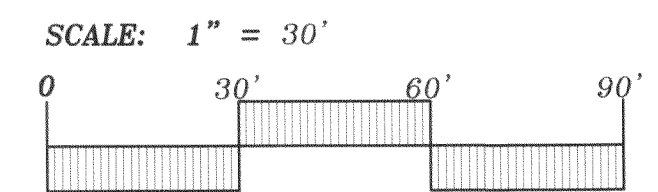
PRE-DEVELOPED

AREA = 4.73 ACRES
 CN = 65.4
 Tc = 33.3 MINUTES

	RUNOFF (CFS)						
	1 YEAR	2 YEAR	5 YEAR	10 YEAR	25 YEAR	50 YEAR	100 YEAR
PRE-DEVELOPED	4.1	4.9	10.1	13.3	14.6	16.6	21.7
POST-DEVELOPED	4.0	4.6	8.5	10.7	11.6	13.0	16.9



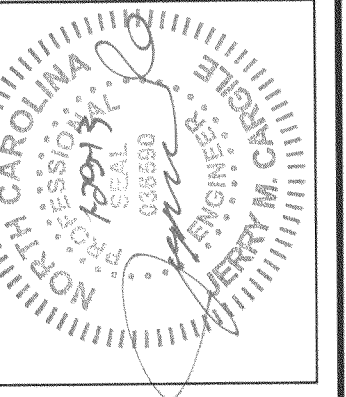
PRE-DEVELOPED BASIN
 SHEET 1 OF 1



land planning
 civil engineering
 land surveying
 landscape architecture

ASITE
 INCORPORATED

7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35802
 phone 256.539.1221 • fax 256.539.1220



NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

REVISIONS:

NO.	DATE	DESCRIPTION

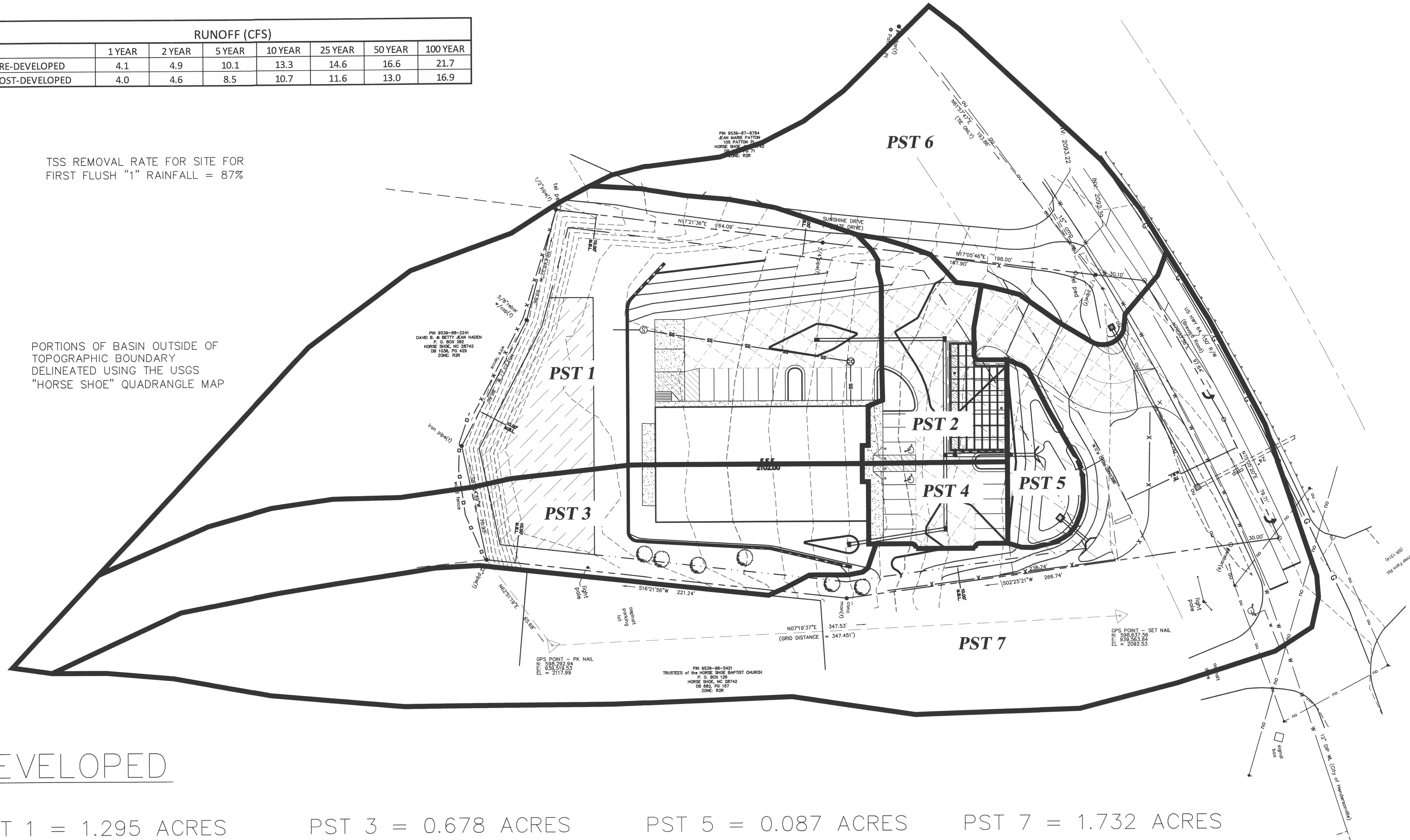
DRAWN BY: _____
 FIELD DATE: _____
 OFFICE DATE: 1/28/13
 CHECKED BY: JMC
 FILE NAME: P12-108 BASE UPDATED.DWG

JOB NO.: P12-108
 SCALE: AS NOTED
 SH. NO. **H1** OF **2**

		RUNOFF (CFS)						
		1 YEAR	2 YEAR	5 YEAR	10 YEAR	25 YEAR	50 YEAR	100 YEAR
PRE-DEVELOPED		4.1	4.9	10.1	13.3	14.6	16.6	21.7
POST-DEVELOPED		4.0	4.6	8.5	10.7	11.6	13.0	16.9

TSS REMOVAL RATE FOR SITE FOR
FIRST FLUSH "1" RAINFALL = 87%

PORTIONS OF BASIN OUTSIDE OF
TOPOGRAPHIC BOUNDARY
DELINEATED USING THE USGS
"HORSE SHOE" QUADRANGLE MAP



DEVELOPED

PST 1 = 1.295 ACRES
CN = 71
T_c = 19.0 MINUTES

PST 2 = 0.198 ACRES
CN = 93.3
T_c = 5 MINUTES

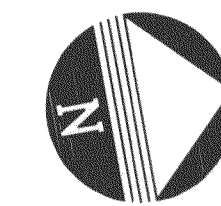
PST 3 = 0.678 ACRES
CN = 65.6
T_c = 25.8 MINUTES

PST 4 = 0.099 ACRES
CN = 97
T_c = 3 MINUTES

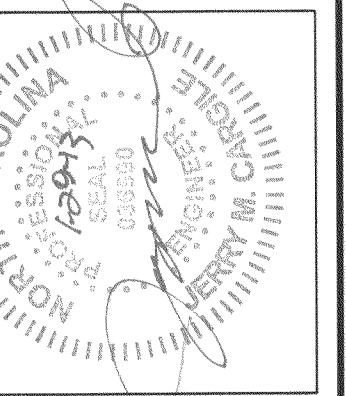
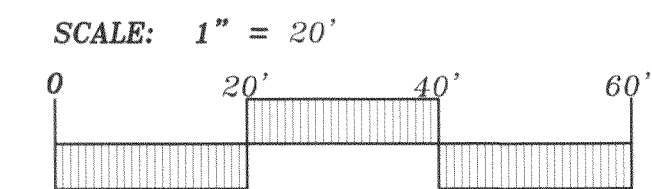
PST 5 = 0.087 ACRES
CN = 61
T_c = 3 MINUTES

PST 6 = 0.643 ACRES
CN = 74.4
T_c = 20.4 MINUTES

PST 7 = 1.732 ACRES
CN = 75
T_c = 20.2 MINUTES



DEVELOPED BASINS
SHEET 1 OF 1



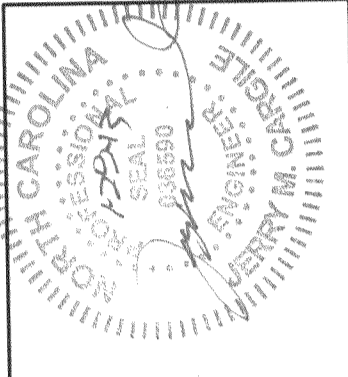
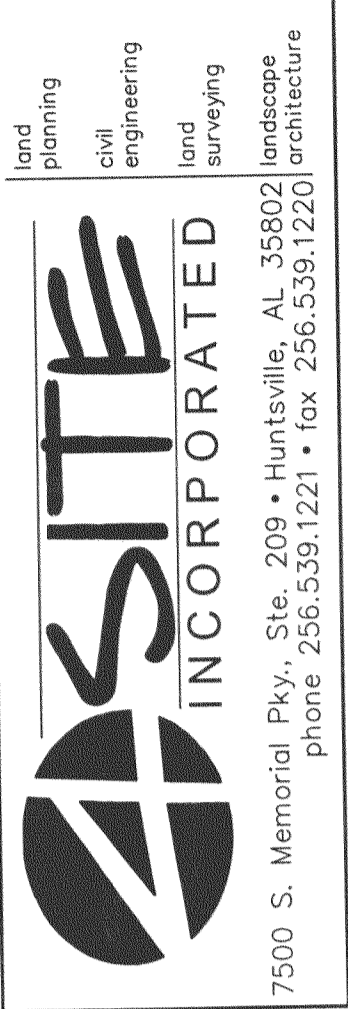
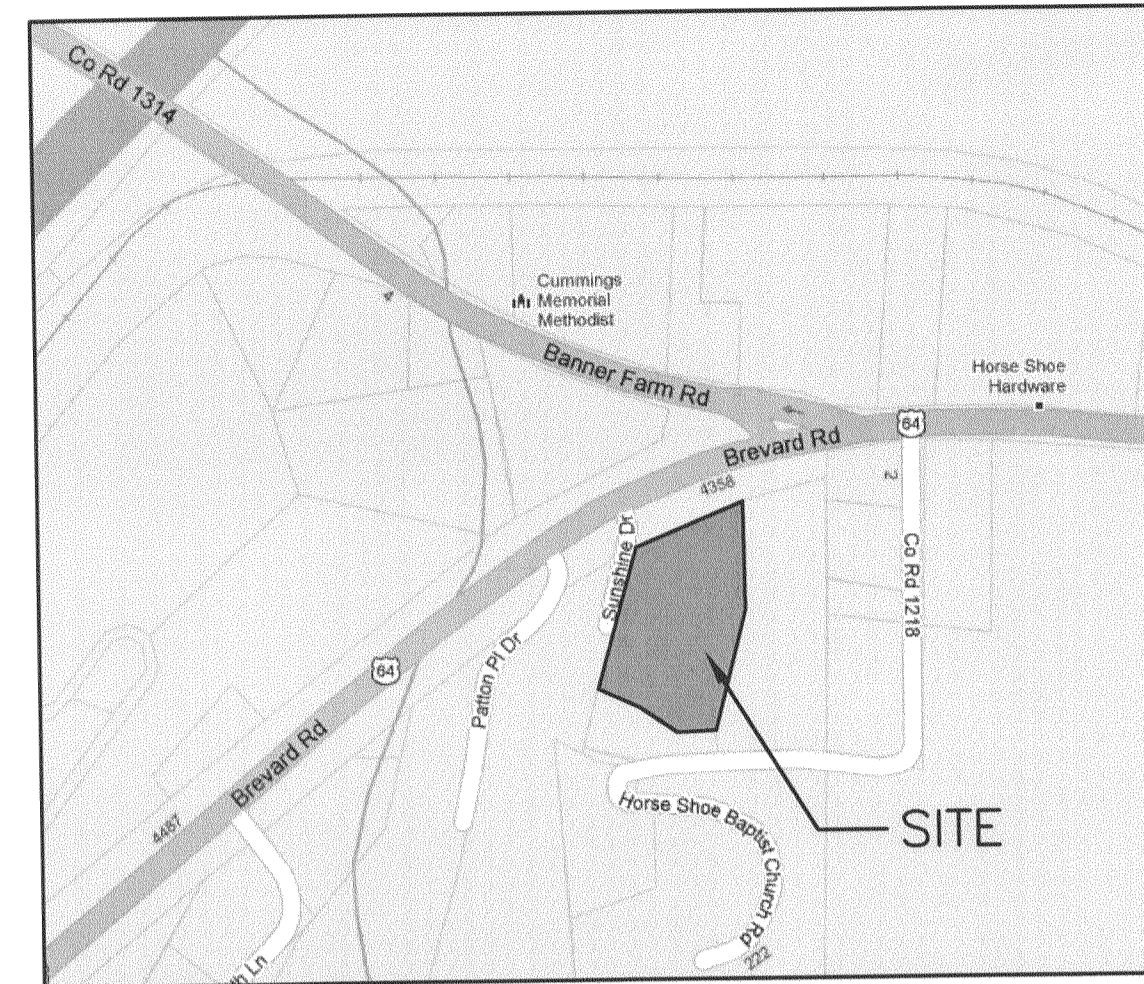
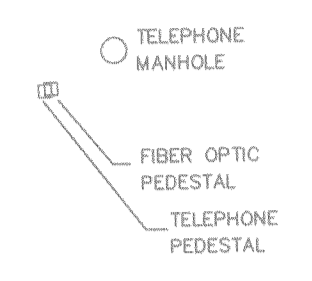
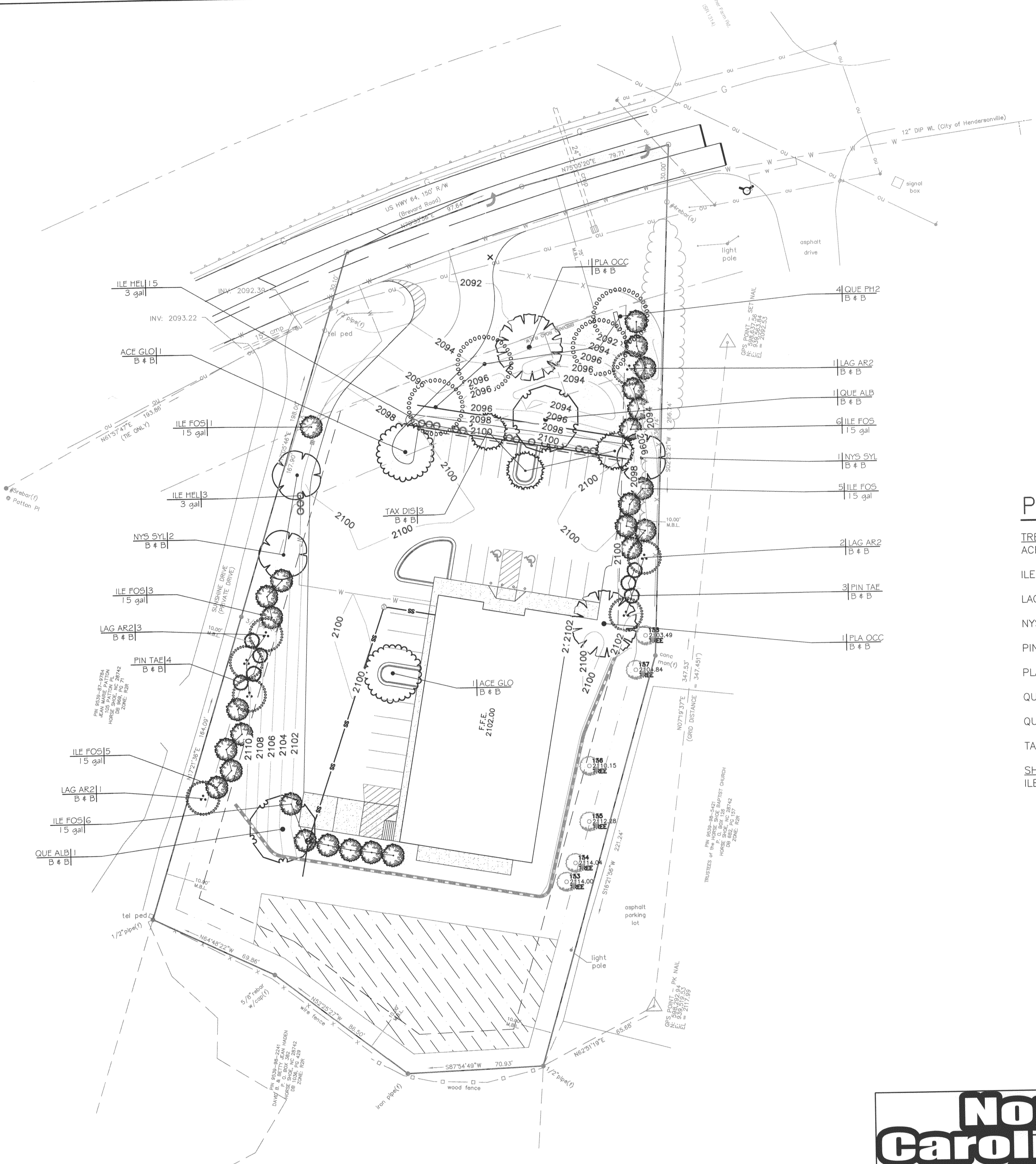
NEW RETAIL DEVELOPMENT
PREPARED FOR THE BROADWAY GROUP LLC
HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
U.S. HWY. 64 (BREVARD ROAD)

REVISIONS:

NO.	DATE	DESCRIPTION

DRAWN BY: J.W.
FIELD DATE: 1/28/13
OFFICE DATE: 1/28/13
CHECKED BY: J.M.C.
FILE NAME: P12-108-BASE_UPDATED.DWG

JOB NO: P12-108
SCALE: AS NOTED
SHT. NO. **H2** of **2**



PLANT SCHEDULE

TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL	SIZE	DETAIL
ACE GLO	2	October Glory Maple / <i>Acer rubrum</i> 'October Glory' TM	B & B	3"Cal	10' - 12' H	
ILE FOS	26	Foster's Holly / <i>Ilex x attenuata</i> 'Fosteri'	15 gal		8' - 10' min.	
LAG AR 2	7	Crape Myrtle / <i>Lagerstroemia fauriei</i> 'Arapaho'	B & B	Multi Stem 3" CAL @ Junction	8' - 10' min.	
NYS SYL	3	Sour Gum / <i>Nyssa sylvatica</i>	B & B	2"Cal	8' - 10' min.	
PIN TAE	7	Loblolly Pine / <i>Pinus taeda</i>	B & B	3"Cal	5' Min.	
PLA OCC	2	American Sycamore / <i>Platanus occidentalis</i>	B & B	3" limbed to 6'	10' - 12' H	
QUE ALB	2	White Oak / <i>Quercus alba</i>	B & B	2"-3" LIMBED TO 6'	10' - 12' H	
QUE PH 2	4	Willow Oak / <i>Quercus phellos</i>	B & B	2.5"Cal	10' - 12' H	
TAX DIS	3	Bald Cypress / <i>Taxodium distichum</i>	B & B	3"Cal	12-15' H	
SHRUBS	QTY	COMMON NAME / BOTANICAL NAME	CONT	FIELD 2	DETAIL	
ILE HEL	18	Heler Japanese Holly / <i>Ilex crenata</i> 'Helerii'	3 gal			

LANDSCAPE CALCULATIONS

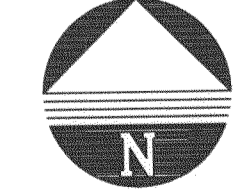
BUFFER REQUIREMENTS:
 BUFFER LENGTH TOTAL = 334'
 LARGE TREES REQUIRED - 3
 LARGE TREE PROVIDED - 4
 SMALL TREES REQUIRED - 7
 SMALL TREES PROVIDED - 7
 EVERGREEN TREES REQUIRED - 7
 EVERGREEN TREES PROVIDED - 7
 SHRUBS REQUIRED - 20
 SHRUBS PROVIDED - 20

STREET TREE REQUIREMENTS:
 1 TREE PER 50LF OF R.O.W. = 205'
 4 TREES REQUIRED
 4 TREES PROVIDED

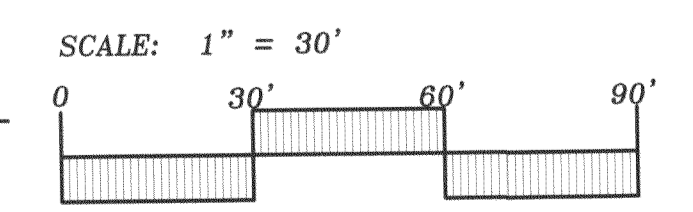


*SOD ALL DISTURBED AREAS WITHIN THE PROPERTY LIMITS. SEE SOD SPECIFICATIONS ON SHEET L2

NOTE: ALL UTILITY LOCATIONS HAVE BEEN PROVIDED BY THE RESPECTIVE UTILITY DEPARTMENTS OR COMPANIES. CONTRACTORS ARE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, CALL UTILITY COMPANY OR CITY DEPARTMENTS FOR GROUND LOCATIONS BEFORE DIGGING.

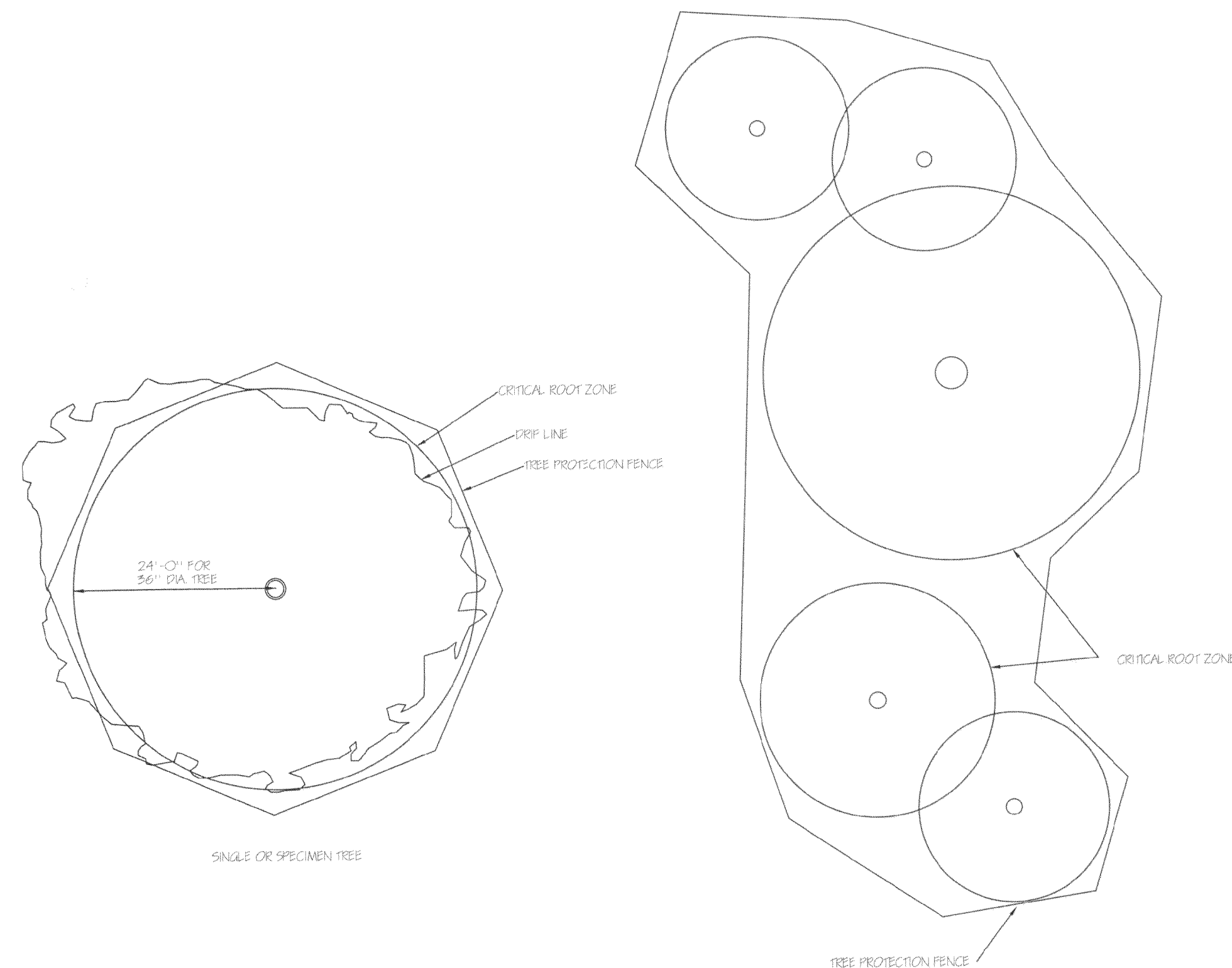


LANDSCAPE PLAN
SHEET 1 OF 1



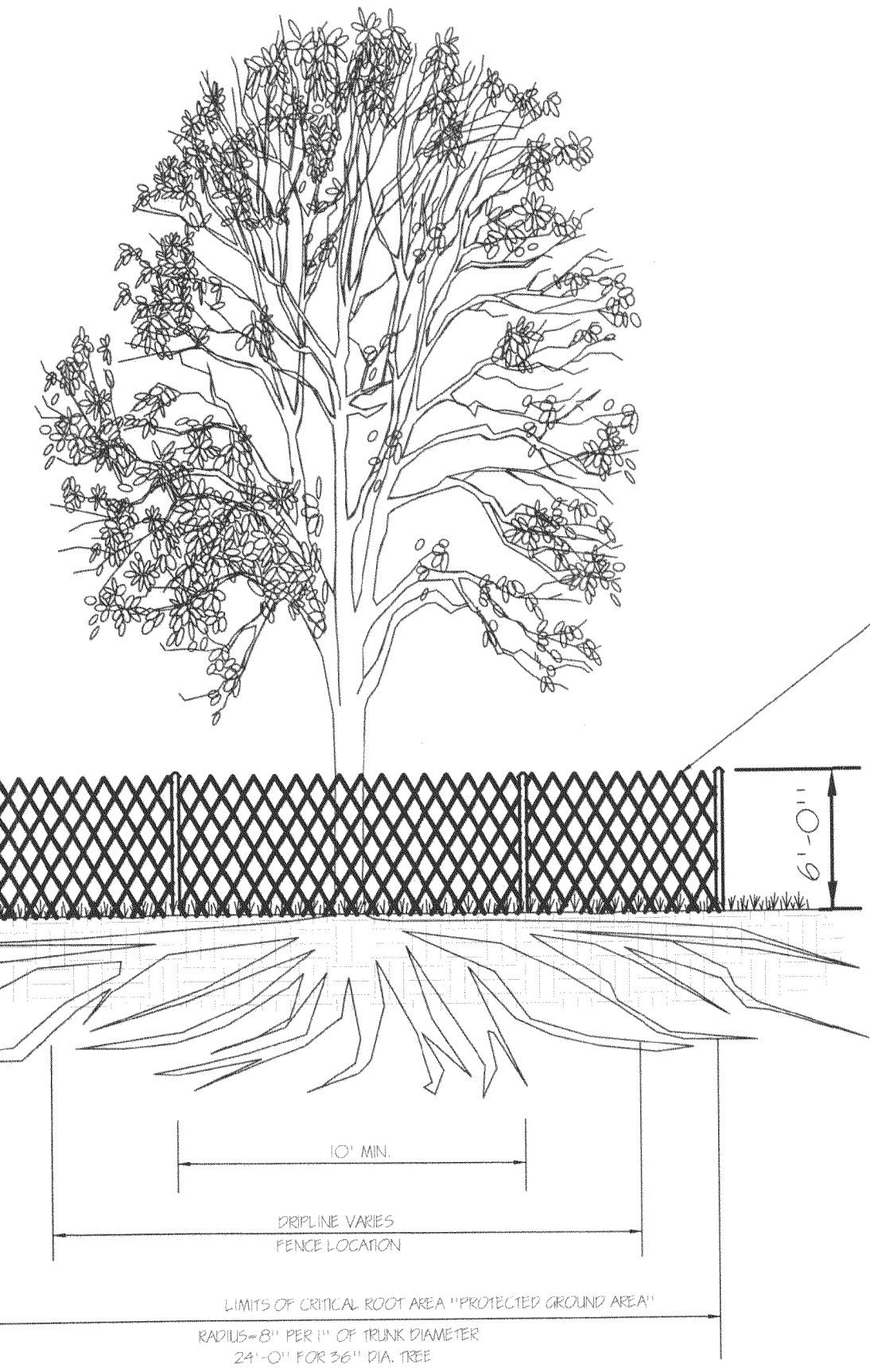
JOB NO.: P12-108	SCALE: AS NOTED	SHT. NO.: L1 of 2
DRAWN BY: K.DEAL	FIELD DATE:	REVISIONS:
OFFICE DATE: 10-12-12	CHECKED BY:	
FILE NAME: LANDSCAPE PLAN		

NEW RETAIL DEVELOPMENT
 PREPARED FOR THE BROADWAY GROUP LLC
 HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
 U.S. HWY. 64 (BREVARD ROAD)

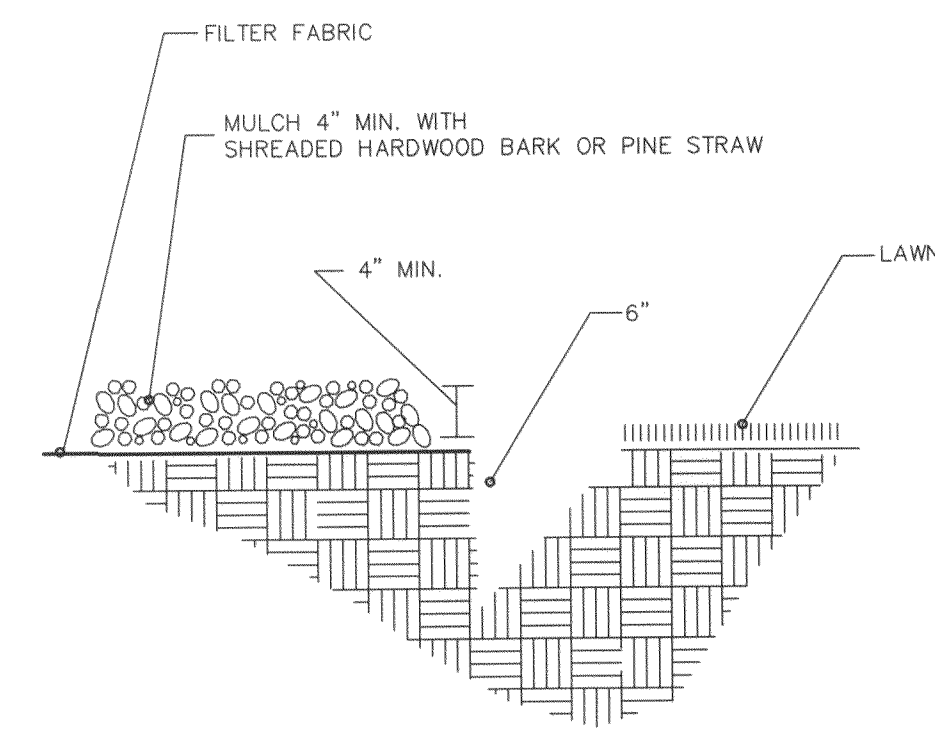


PLAN VIEW
NOT TO SCALE

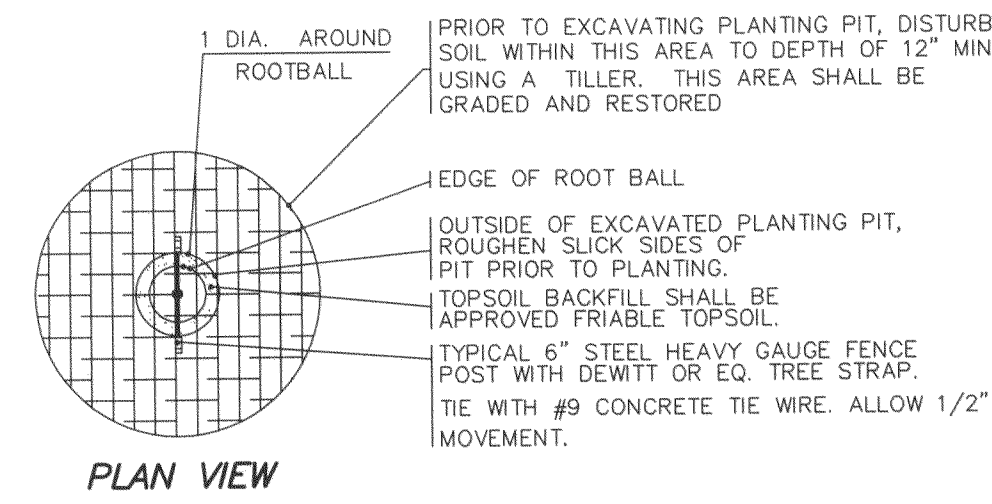
MULTIPLE OR CLUSTERED TREES
NOT TO SCALE



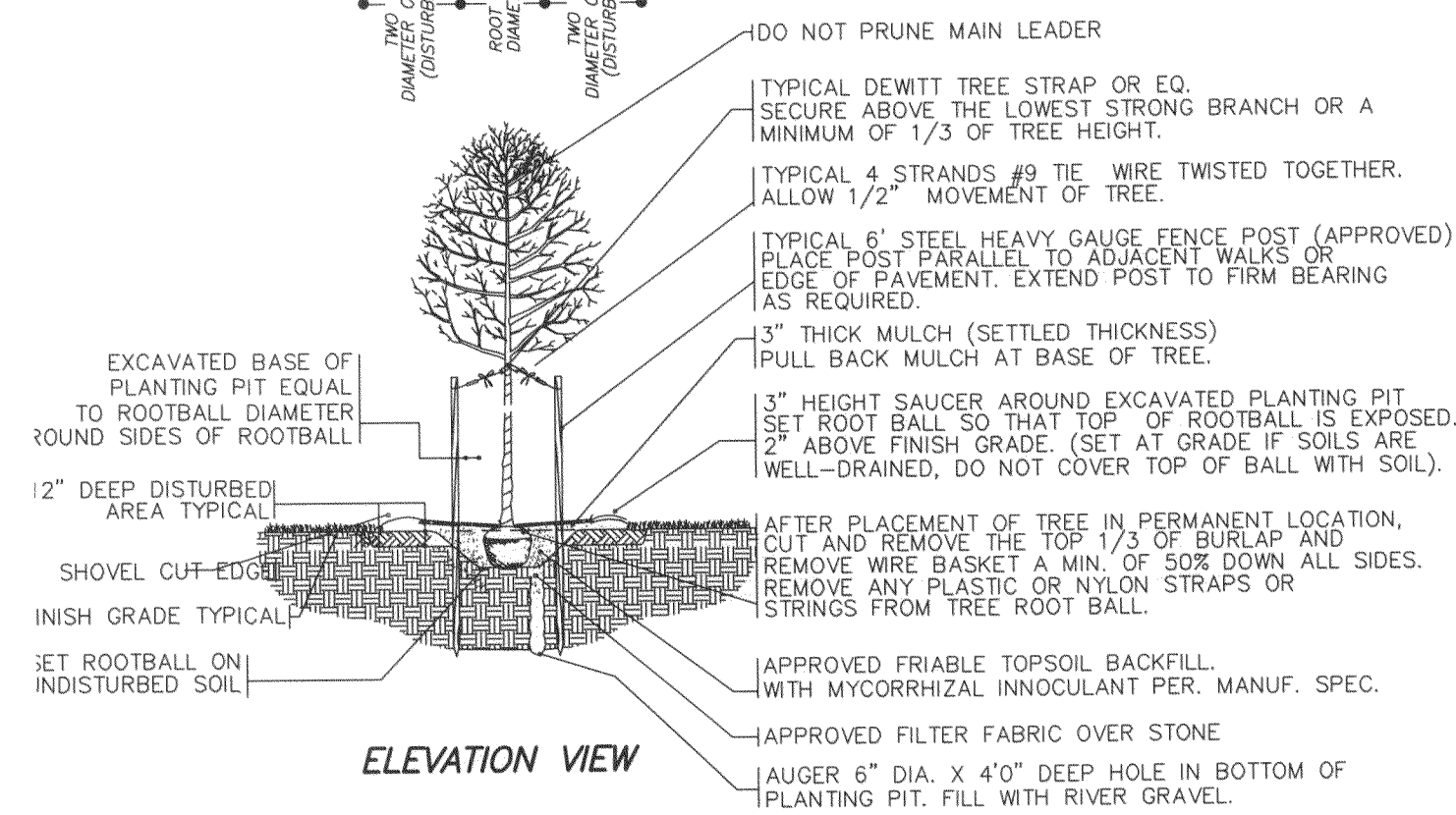
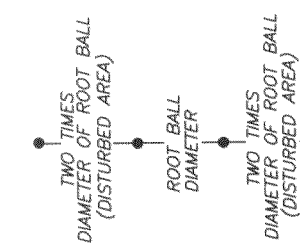
ELEVATION VIEW
TREE PROTECTION FENCE
NOT TO SCALE



2 SHOVEL-CUT EDGE
NOT TO SCALE



PLAN VIEW

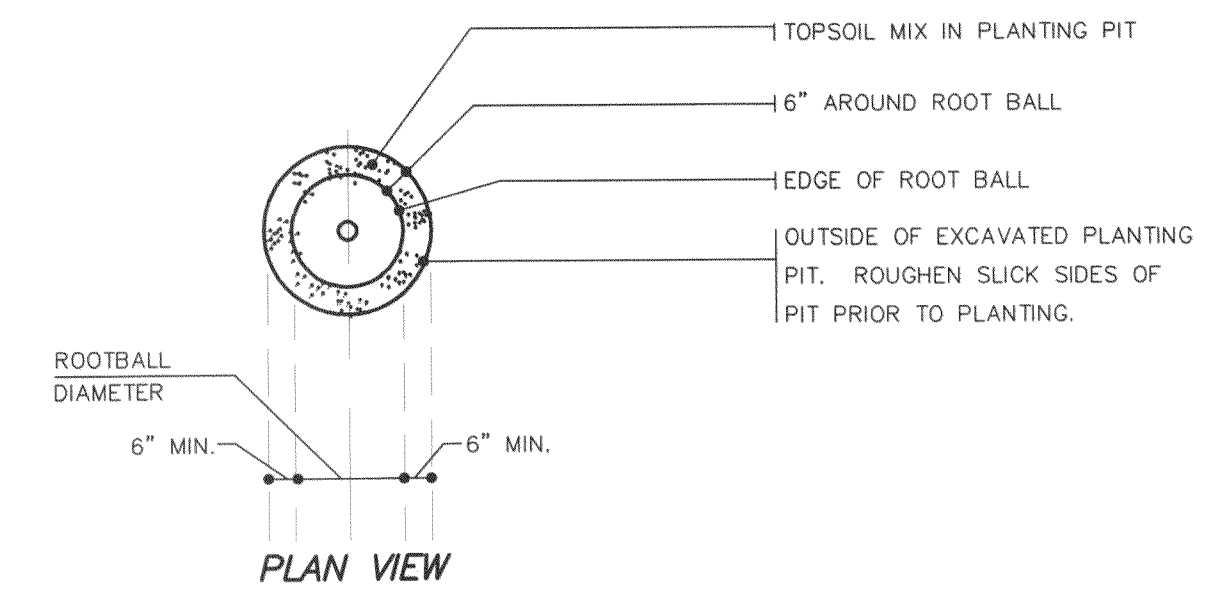


ELEVATION VIEW

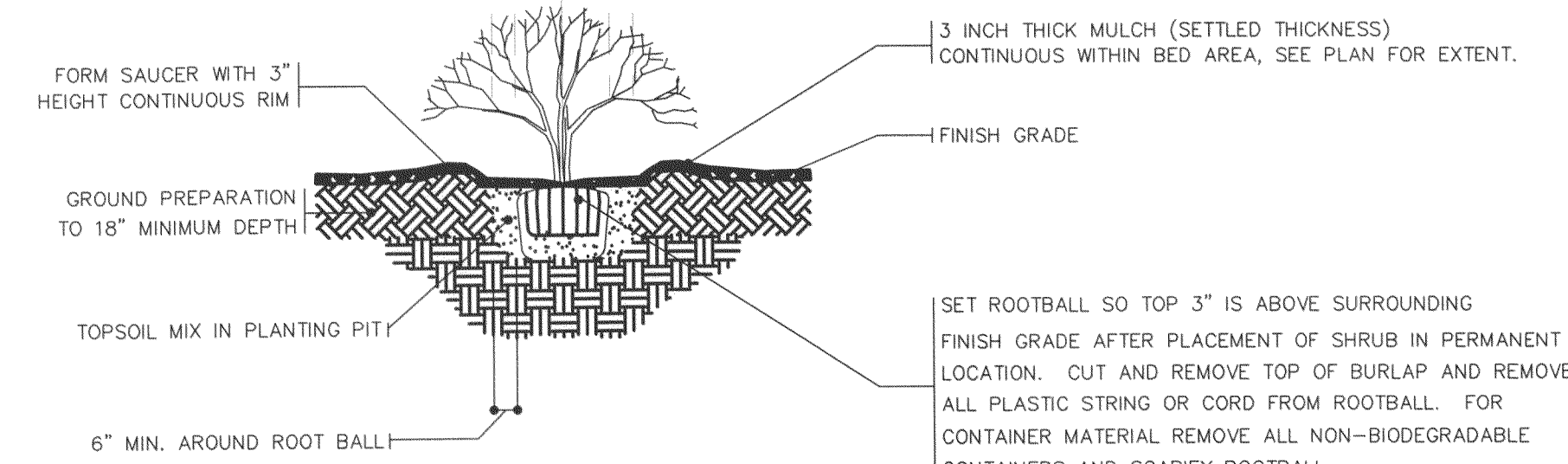
4 TREE PLANTING
NOT TO SCALE

TREE ROOTS ARE GENERALLY LOCATED IN THE TOP 12-24 INCHES OF SOIL AND CAN EXTEND TO A DISTANCE EXCEEDING THE TREES HEIGHT AND/OR WIDTH. THE ROOTS LOCATED 3-5 FEET FROM THE TRUNK ARE OFTEN RELATIVELY INACTIVE, AND IF CUT WILL CAUSE A COLUMN OF DECAY THAT CAN REACH THE TOP OF THE TREE WITH TIME. THE FEEDER ROOTS OF THE TREE CAN SUSTAIN DAMAGE DURING CONSTRUCTION FROM LACK OF WATER, SOIL COMPACTION OR PHYSICAL DAMAGE RESULTING FROM CUTTING. THE FOLLOWING GUIDELINES ARE DESIGNED TO MINIMIZE DAMAGE TO THE ROOT SYSTEM OF PROTECTED TREES. THESE GUIDELINES ESTABLISH A "ROOT PROTECTION ZONE" TO SAFEGUARD THE HEALTH OF PROTECTED TREES.

- PROTECTIVE TREE FENCING SHALL BE INSTALLED AT THE ROOT PROTECTION ZONE OF PROTECTED TREES AND APPROVED IN PLACE BY OWNER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION OR DEMOLITION.
- THE PROTECTION ZONE SHALL BE IRRIGATED SUFFICIENTLY WITH CLEAN POTABLE WATER TO KEEP THE TREE IN GOOD HEALTH AND VIGOR BEFORE, DURING, AND AFTER CONSTRUCTION. THIS MAY MEAN DEEPLY SOAKING THE GROUND PERIODICALLY.
- NO CONSTRUCTION STAGING OR DISPOSAL OF CONSTRUCTION MATERIAL OR BY PRODUCTS INCLUDING BUT NOT LIMITED TO PAINT, PLASTER, OR CHEMICAL SOLUTIONS IS ALLOWED IN THE ROOT PROTECTION ZONE.
- THE ROOT PROTECTION ZONE SHALL NOT BE SUBJECTED TO FLOODING INCIDENTAL TO THE CONSTRUCTION WORK.
- ALL WORK CONDUCTED IN THE GROUND WITHIN THE ROOT PROTECTION ZONE OF ANY PROTECTED TREE SHALL BE ACCOMPLISHED WITH HAND TOOLS, UNLESS AN AIR SPADE IS UTILIZED. TRENCHES IN THE ROOT PROTECTION ZONE SHALL BE TUNNELED, OR COMPLETED WITH AN AIR SPADE TO AVOID DAMAGE TO SMALL FEEDER ROOTS WITHIN THE ROOT PROTECTION ZONE.
- WHERE STRUCTURAL FOOTINGS ARE REQUIRED AND MAJOR ROOTS (OVER 3" IN DIAMETER) WILL BE IMPACTED, THE CONTRACTOR SHALL SUBMIT ACCEPTABLE FOOTING DESIGN ALTERNATIVES AND OR LOCATION ALTERNATIVES TO STAFF BEFORE PROCEEDING WITH FURTHER PLAN REVIEW.
- WHERE MORE THAN 50% OF THE ROOT ZONE IS IMPACTED OR ROOTS GREATER THAN 3 INCHES IN DIAMETER ARE TO BE REMOVED WITHIN FOUR FEET OF THE TRUNK, THE CONTRACTOR SHALL SUBMIT ACCEPTABLE ALTERNATIVES TO THE OWNER FOR REVIEW.
- ANY REQUIRED TRENCHING SHALL BE ROUTED IN SUCH A MANNER AS TO MINIMIZE ROOT DAMAGE. RADIAL TRENCHING (RADIAL TO THE TREE TRUNK) IS PREFERRED AS IT IS LESS HARMFUL THAN TANGENTIAL TRENCHING. CONSTRUCTION ACTIVITY SHALL BE DIVERTED FROM THE ROOT PROTECTION ZONE. CUTTING OF ROOTS SHALL BE AVOIDED (I.E. PLACE PIPES AND CABLES BELOW UN CUT ROOTS). WHEREVER POSSIBLE AND IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS, THE SAME TRENCH SHALL BE USED FOR MULTIPLE UTILITIES.
- "NATURAL" OR PRE-CONSTRUCTION GRADE SHALL BE MAINTAINED IN THE ROOT PROTECTION ZONE. AT NO TIME DURING OR AFTER CONSTRUCTION SHALL SOIL BE IN CONTACT WITH THE TRUNK OF THE TREE ABOVE THE BASAL FLAIR.
- IN AREAS WHERE THE GRADE AROUND THE PROTECTED TREE WILL BE LOWERED, SOME ROOT CUTTING MAY BE UNAVOIDABLE. CUTS SHALL BE CLEAN AND MADE AT RIGHT ANGLES TO THE ROOTS. CUT ROOTS BACK TO A BRANCHING LATERAL ROOT WHEN PRACTICAL.
- WHEN REMOVING EXISTING PAVEMENT IN THE ROOT PROTECTION ZONE, AVOID THE USE OF HEAVY EQUIPMENT WHICH WILL COMPACT AND DAMAGE THE ROOT SYSTEM.
- IF CONTRACT REQUIRES MULCH IN THE ROOT PROTECTION ZONE THE MULCH MATERIALS AND LOCATION SHALL BE SHOWN ON THE PLAN. PROJECTS SHALL REQUIRE CONSTRUCTION STAGING PLANS TO INDICATE WHERE MATERIALS WILL BE STORED AND HOW THE EQUIPMENT WILL MOVE IN AND AROUND THE PROPERTY TO MINIMIZE DAMAGE TO THE ROOT PROTECTION ZONE AND TREE CANOPIES. ROOT DAMAGE AND SOIL COMPACTION MAY BE MITIGATED IN SOME CASES BY USING PLYWOOD OR MULCH IN THE ROOT PROTECTION ZONE.



PLAN VIEW



ELEVATION VIEW

3 SHRUB PLANTING
NOT TO SCALE

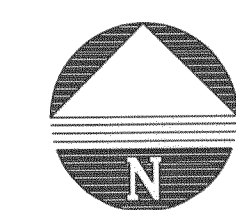
*SOD ALL DISTURBED AREAS WITHIN THE PROPERTY LIMITS.

LANDSCAPE NOTES

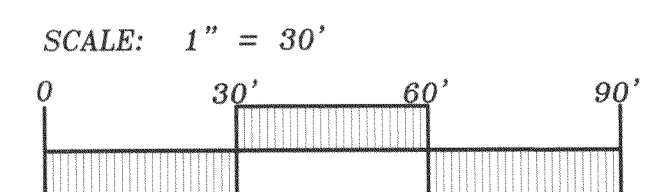
- Contractor is responsible for the location of underground utilities on the site. Repair damaged utilities to owner's satisfaction at no additional cost.
- Verify quantities on plans before pricing work and provide plant material in sizes and varieties shown on the drawings and plant list.
- All plant material shall be guaranteed one full year, free replacement on labor & material. Separate agreement with installer shall be provided, to include contact name/ph. numbers.
- Sod all areas according to landscape plan and seed all others. See note below.
- Landscape architect may or may not at his/her discretion accept substitutions.
- Provide freshly dug trees and shrubs. Do not use naturally collected materials.
- Plant material stored on the site more than 8 hours prior to planting shall be healed in with mulch and kept moist.
- Install all plant materials in accordance with all local codes and ordinances.
- Stake plant locations for approval by landscape architect before installation. Adjust stake locations as directed.
- All plants shall meet specifications. Rootballs shall meet or exceed size standards set forth in ANSI 260.1, 'American Standard for Nursery Stock'. Main leaders of all trees shall remain intact.
- Mulch plant pits and planting beds with pine straw or shredded wood chips to a depth of 3 inches.
- Prepare all topsoil to be used in all planting areas in the following proportions:
4 parts top soil
2 parts decomposed organic matter
1 part approved soil amendment
1 part mycorrhizae fungi per manufacturer spec's
- Remove from site any plant material which turns brown or defoliates within 5 days after planting. Replace immediately with approved specified plant material.
- When landscape work is complete, landscape architect will, upon request make an inspection to determine acceptability.
- Maintain all plant material until the job is accepted in full by the landscape architect unless otherwise specified.
- Locate plant material prior to submitting bid / or qualify bid with recommended plant substitutions. Submission of bid shall constitute contractors acceptance of plant availability.
- All trees will be mulched with pine straw or shredded wood chips, and be staked as shown on drawings. Stakes and guy wire to be removed by and remain the property of the contractor.

NOTE: THE OWNER, LESSEE, OR HIS AGENT SHALL BE RESPONSIBLE FOR PROVIDING, MAINTAINING, AND PROTECTING ALL LANDSCAPING IN A HEALTHY AND GROWING CONDITION, AND FOR KEEPING IT FREE FROM REFUSE AND DEBRIS. ALL UNHEALTHY AND DEAD MATERIALS SHALL BE REPLACED WITHIN ONE YEAR AFTER NOTIFICATION OR DURING THE NEXT APPROPRIATE PLANTING PERIOD, WHICHEVER COMES FIRST.

NOTE: SOD SHALL BE FESTUCA ARUNDINACEA SCHREB (FESCUE, TALL) THE SOD SHALL BE PLACED ON THE PREPARED SURFACE WITH THE EDGES IN CLOSE CONTACT, CRACKS BETWEEN BLOCKS OF SOD SHALL BE CLOSED WITH SMALL PIECES OF SOD, AND ACCEPTABLE LOAMY TOP SOIL SHALL BE USED TO FILL JOINTS. THE ENTIRE SODDED AREA SHALL THEN BE TAMPED IN PLACE IN A SATISFACTORY MANNER AND WATERED AS NECESSARY.



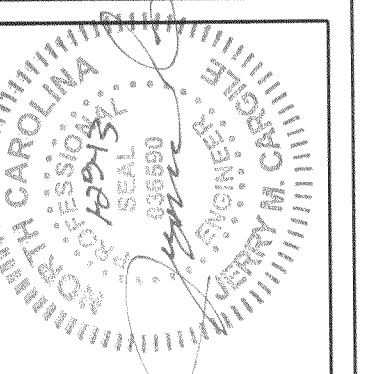
LANDSCAPE DETAILS
SHEET 1 OF 1



land planning
civil engineering
land surveying
architecture

ASITE
INCORPORATED

7500 S. Memorial Pkwy., Ste. 209 • Huntsville, AL 35892
phone 256.539.1221 • fax 256.539.1220



NEW RETAIL DEVELOPMENT
PREPARED FOR THE BROADWAY GROUP LLC
HORSE SHOE, HENDERSON COUNTY, NORTH CAROLINA
U.S. HWY. 64 (BREVARD ROAD)

DRAWN BY:	REVISIONS:
K. DEAL	
FIELD DATE:	
OFFICE DATE:	
CHECKED BY:	
DATE:	
FILE NAME:	LANDSCAPE PLAN

JOB NO.: P12-108	SCALE: AS NOTED	SHT. NO.	L2 of 2