

REQUEST FOR COMMITTEE ACTION

HENDERSON COUNTY

TECHNICAL REVIEW COMMITTEE

MEETING: May 15, 2018

SUBJECT: Major Site Plan Review for Family Dollar

PRESENTER: Toby Linville

ATTACHMENTS: Staff Report

SUMMARY OF REQUEST: Applicant requesting permits for Retail Sales and Service

Suggested Motion: I move that the TRC approve the major site plan for Family Dollar



Henderson County, North Carolina Code Enforcement Services

1. Committee Request

- 1.1. **Applicant:** SP FDS, LLC
- 1.2. **Request:** Major Site Plan Approval
- 1.3. **PIN:** 9577936931
- 1.4. **Size:** 1.59 acres +/-
- 1.5. **Location:** The subject area is located off Spartanburg Hwy near intersection with E Blue Ridge Rd.
- 1.6. **Supplemental Requirements:**

SR 7.14. Retail Sales and Services Less than or Equal to 50,000 Square Feet (*Gross Floor Area*)

- (1) Site Plan. Major *Site Plan* required in accordance with §200A-331 (Major Site Plan Review).
- (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.

Map A: Aerial Photo/Pictometry



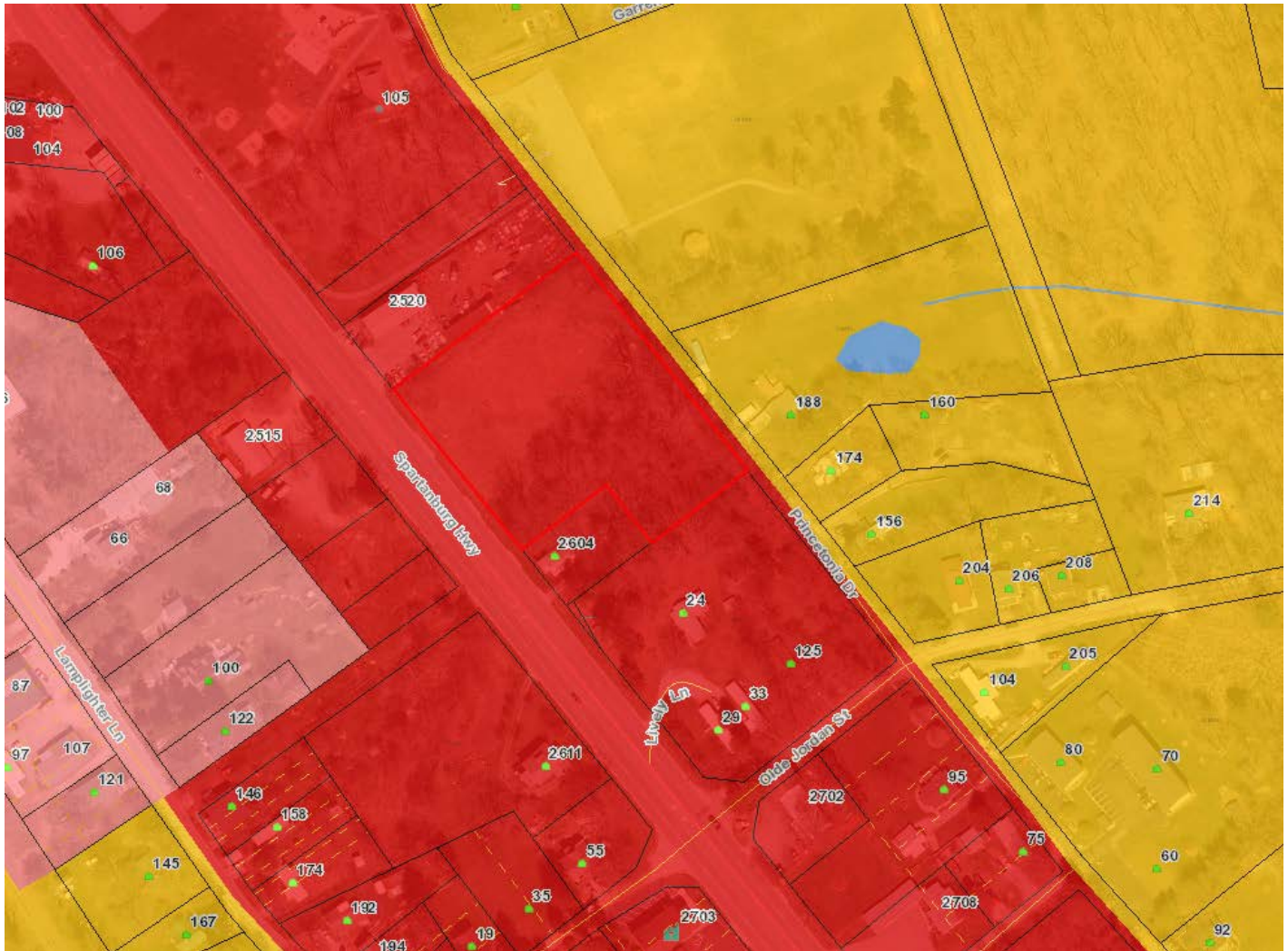
2. Current Conditions

2.1 Current Use: This parcel is currently vacant.

2.2 Adjacent Area Uses: The surrounding properties consist of mixed residential and commercial uses.

2.3 Zoning: The surrounding property is community Commercial. Property east is Residential One.

Map B: Current Zoning



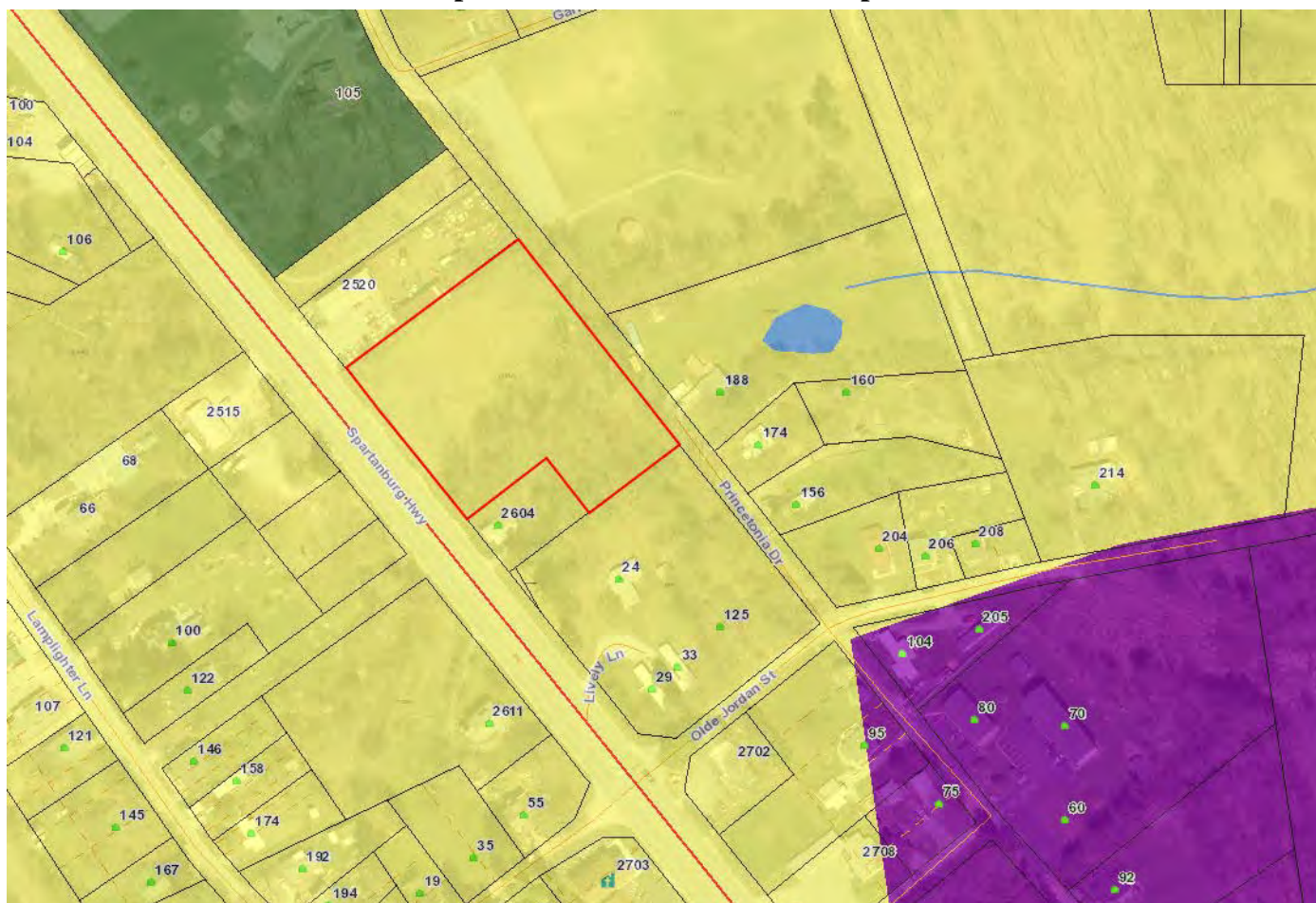
3. Floodplain /Watershed Protection The property is not located in a Special Flood Hazard Area. The property is not in a Water Supply Watershed district.

4. Water and Sewer Public water and septic system will serve this property.

Public Water: City of Hendersonville

Public Sewer: City of Hendersonville

Map C: CCP Future Land Use Map



5. Staff Comments

The 2020 CCP: The CCP Future Land Use Map places the Subject Area in the Urban Services Area. The text and map of the 2020 CCP suggest that the Subject Area would be more suitable for the following:

1. The Urban Services Area is that area within which most urban services and urbanscale development is currently concentrated, and within which such development should generally be concentrated through the year 2020.
2. Growth and development will be proactively managed through extensive planning. Much of the USA falls within municipal planning jurisdictions and will be managed by those jurisdictions. Land use planning for areas falling within the County’s jurisdiction should be comparable and compatible in its approach and intensity with planning conducted within the various municipal jurisdictions.

6. Staff Recommendations

Staff’s Position at this time, under the guidelines of current plans, policies and studies, is to approve the Major Site Plan because it is consistent with the current surrounding land uses and future land use recommendations.

7. Photographs





**HENDERSON COUNTY
MAJOR SITE PLAN REVIEW APPLICATION**

CONTACT INFORMATION Property Owner:

Name: DFM Land Company, LLC Phone: _____
Complete Address: PO Box 515, Saluda, NC 28773

Applicant:

Name: SP FDS, LLC Phone: 919-783-7003
Complete Address: 4004 Barrett Drive, Suite 106, Raleigh, NC 27609

Agent:

Name: Will Stronach Phone: 919-783-7003
Complete Address: 4004 Barrett Drive, Suite 106, Raleigh, NC 27609
Agent Form (Circle One): Yes No

Plan Preparer:

Name: Jason Henderson, PE Phone: 864-326-4204
Complete Address: 718 Lowndes Hill Road, Greenville, SC 29607

GENERAL INFORMATION

Date of Application: 4/30/2018
Site Plan Attached (Circle One): Yes No

PARCEL INFORMATION

PIN: 9577936931 Tract Size (Acres): 1.58
Zoning District: CC Fire District: Blue Ridge
Supplemental Requirement# _____ Watershed: French Broad
Permitted by Right Floodplain: n/a
Special Use Permit _____
Location / Property to be developed: (unassigned) US 176

County Use Only
Received by: _____

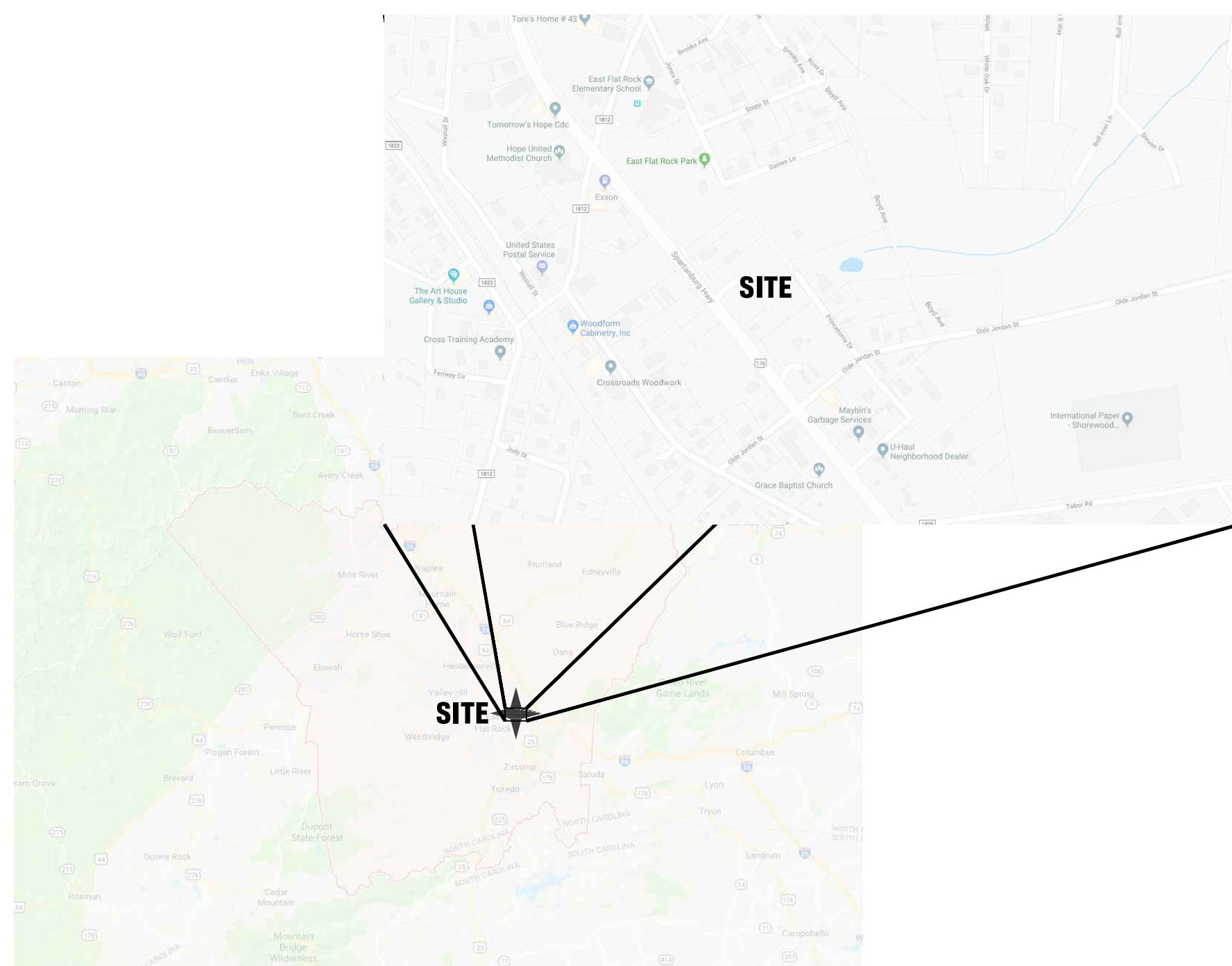
SITE DEVELOPMENT PLANS FOR: Family Dollar Store 716851

Spartanburg Highway East Flat Rock, NC



NOTE:
NCDOT ENCROACHMENT PERMITS SHALL BE OBTAINED FOR THIS PROJECT.

LOCATION MAP



SITE CONTACTS

PLANNING/ ZONING
 AGENCY: Henderson County Planning Department
 ADDRESS: 100 North King Street
 Hendersonville, NC 28792
 PHONE: (828) 697-4811
 CONTACT: Autumn Radcliff
 EMAIL: autumnr@hendersoncountync.org

FIRE DISTRICT
 AGENCY: Henderson County Fire Marshal
 ADDRESS: 211 First Avenue East
 Hendersonville, NC 28792
 PHONE: (828) 697-4728
 CONTACT:
 EMAIL:

STORMWATER
 AGENCY: Henderson County Water Resources
 ADDRESS: 100 North King Street, Suite 118
 Hendersonville, NC 28792
 PHONE: (828) 694-6521
 CONTACT: Natalie Berry
 EMAIL: nberry@hendersoncountync.org

N.C.D.O.T.
 AGENCY: NCDOT - Division 14, District 1 Office
 ADDRESS: 4142 Haywood Road
 Mills River, NC 28742
 PHONE: (828) 891-7911
 CONTACT: Steve Cannon
 EMAIL: slcannon@ncdot.gov

WATER
 AGENCY: City of Hendersonville Water and Sewer
 ADDRESS: 305 Williams Street
 Hendersonville, NC 28792
 PHONE: (828) 233-3207
 CONTACT: Adam Steurer
 EMAIL: asteurer@hvinc.gov

SEWER
 AGENCY: City of Hendersonville Water and Sewer
 ADDRESS: 305 Williams Street
 Hendersonville, NC 28792
 PHONE: (828) 233-3207
 CONTACT: Adam Steurer
 EMAIL: asteurer@hvinc.gov

ELECTRIC
 AGENCY: Duke Energy
 ADDRESS:
 PHONE:
 CONTACT:
 EMAIL:

SHEET INDEX

DESCRIPTION	DWG. NO.
TITLE SHEET	C001
EXISTING CONDITIONS & DEMOLITION PLAN	C002
SITE PLAN	C101
GRADING & DRAINAGE PLAN	C201
SPOT ELEVATIONS PLAN	C202
PHASE I EROSION CONTROL PLAN	C211
PHASE II EROSION CONTROL PLAN	C212
UTILITY PLAN	C301
LANDSCAPE PLAN & DETAILS	L101
SITework NOTES & DETAILS	C501-C506

DEVELOPER

COMPANY: SP FDS, LLC
 ADDRESS: 4004 Barrett Drive, Suite 106
 Raleigh, NC 27609
 PHONE: (919) 783-7003
 CONTACT: Will Stronach
 EMAIL: will@stronachproperties.com

CIVIL ENGINEER

COMPANY: Bluewater Civil Design, PLLC
 ADDRESS: 718 Lowndes Hill Road
 Greenville, SC 29607
 PHONE: 864.326.4204
 CONTACT: Jason S. Henderson, P.E.
 EMAIL: jason@bluewatercivil.com

SURVEYOR

COMPANY: MSP & Associates Land Surveying, Inc.
 ADDRESS: 301 E Hillcrest Drive
 Greenville, SC 29609
 PHONE: 864-370-2232
 CONTACT: Mike Perdue
 EMAIL: mperdue@mssurveying.com

ARCHITECT

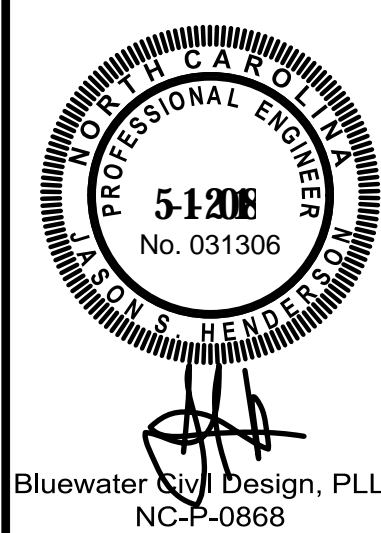
COMPANY: C.L. Helt Architect, Inc.
 ADDRESS: 1136 Greenwood Cliff
 Charlotte, NC 28204
 PHONE: 704-342-1686
 CONTACT: James Zink
 EMAIL: jamesz@clhelt.com

I hereby certify that these plans were prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of North Carolina and that I am competent to prepare this document.

JASON HENDERSON - NC PE# 031306
 DATE: 5-1-2018

Project Number: 2018-015
 2018-015 Details.dwg
 Drawing Scale: as noted
 Date of Project: 4-2018
 Engineer of Record:
 Jason Henderson, P.E.
 South Carolina PE# 22306
 Georgia PE# 63071
 North Carolina PE# 031306
 Alabama PE# 32054
bluewater
 civil design
 bluewater civil design, pllc
 718 Lowndes Hill Road • Greenville, SC 29607
 www.bluewatercivil.com • info@bluewatercivil.com
 Certificates of Authorization:
 SC CD4212 - GA PEF005865
 NC P0868 - AL CA4065E

FAMILY DOLLAR
 STORE 716851
 Spartanburg Highway
 Henderson County, NC



PLAN REVISION	ISSUE DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS

TITLE SHEET

C001

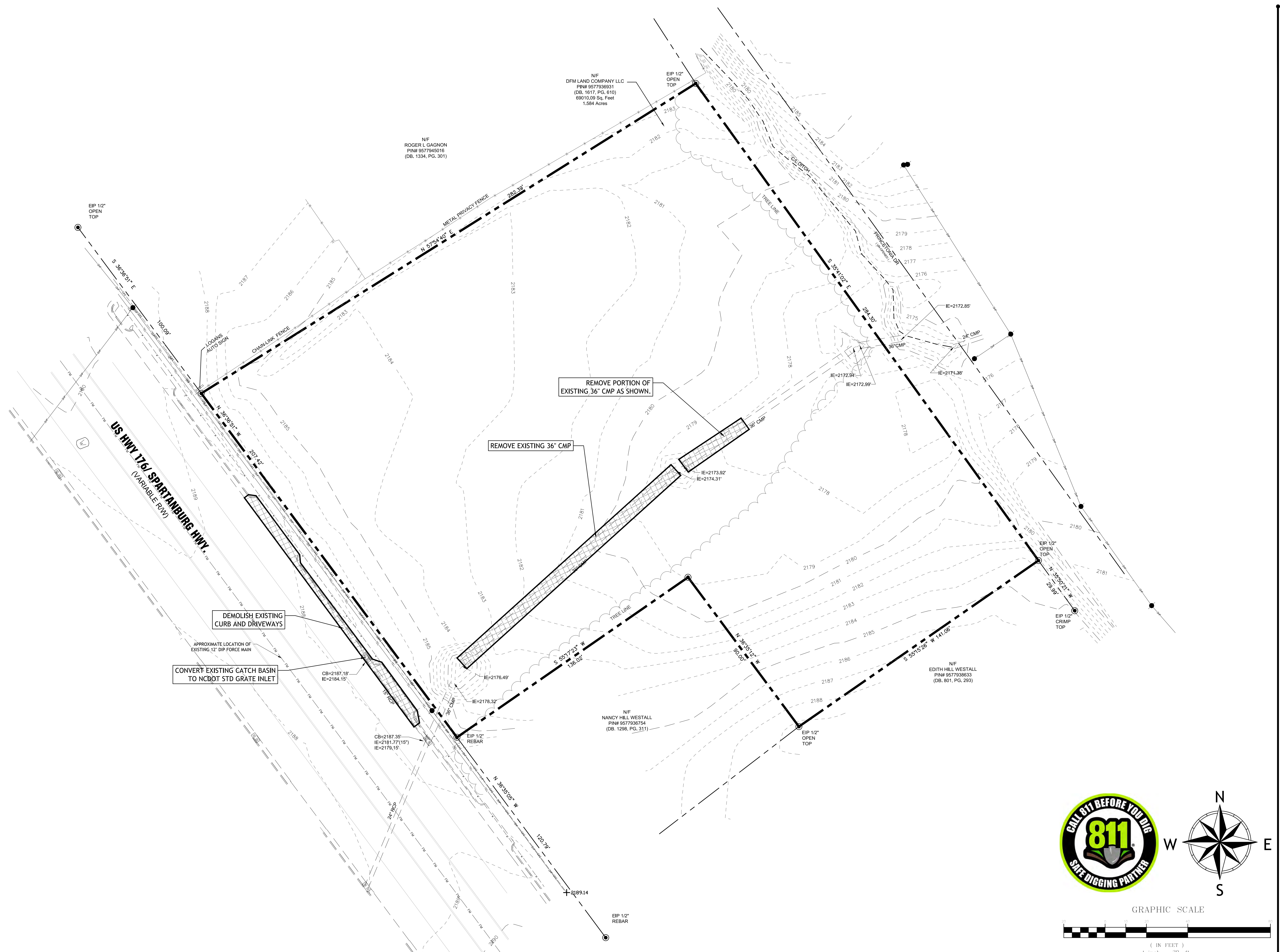


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 NC-P-0868

PLAN REVISION	ISSUE DATE	ISSUE COMMENT
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EXISTING
 CONDITIONS &
 DEMOLITION PLAN

C002





Bluewater Civil Design, PLLC
 NC-P-0868

PLAN REVISION	ISSUE DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS

SITE PLAN

C101

SITE DATA	
NAME OF DEVELOPMENT:	Family Dollar Store 716851
NAME OF OWNER:	Trico Capital, LLC 4004 Barrett Drive, Suite 106 Raleigh, NC 27609 Office (919) 783-7003 Contact: Will Stronach
NAME OF ENGINEER:	Bluewater Civil Design, PLLC 718 Lowndes Hill Road Greenville, SC 29607 Office (864) 326-4204 Jason S. Henderson, P.E.
ADDRESS:	Spartanburg Highway East Flat Rock, NC 28726
PIN:	9577936931
ZONING:	CC
LAND AREA:	1.29 acres
PROPOSED BUILDING:	8,320± S.F. (1 building)
NUMBER OF BUILDINGS:	One (1)
NUMBER OF STORIES:	One (1)
DISTURBED AREA ON SITE:	0.91 acres
BUILDING SETBACKS:	FRONT = 20' SIDE = 10' REAR = 10'
PARKING PROVIDED:	30 SPACES
ADA PARKING PROVIDED:	2 SPACES
PARKING STALL SIZE:	9' x 19'
EXISTING IMPERVIOUS AREA:	0.00 AC. (0%)
PROPOSED IMPERVIOUS AREA:	0.66 AC. (51%)

SITE PLAN INFORMATION
 ARCHITECTURAL NOTE:
 CONTRACTOR TO REFER TO ARCHITECTURAL PLANS FOR EXACT DIMENSIONS OF BUILDING, SIDEWALKS ADJACENT TO BUILDING, COLUMN LOCATIONS, DOOR/ENTRY LOCATIONS.
 BUILDING FOOTING NOTE:
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BETWEEN THE CIVIL PLANS / ARCHITECTURAL PLANS / STRUCTURAL PLANS REGARDING THE GROUND ELEVATIONS DIRECTLY EXTERNAL OF THE BUILDING IN RELATION TO THE STRUCTURAL BUILDING FOOTINGS.
 SITE LIGHTING NOTE:
 SEE SITE LIGHTING PLAN FOR ALL POLE LOCATIONS, FIXTURE AND PHOTOMETRIC INFORMATION. POLE LOCATIONS ARE SHOWN ON THIS PLAN FOR INFORMATION ONLY.
 SITE LANDSCAPING NOTE:
 SEE LANDSCAPE PLANS FOR ALL PERMANENT VEGETATION REQUIREMENTS/INFORMATION. I.E. SOD, TREES, SHRUBS, MULCHING, ETC.

!! BUILDING FOOTING NOTE !!:
 CONTRACTOR'S SURVEYOR TO STAKE ALL BUILDING CORNERS PRIOR TO CONSTRUCTION. CONTRACTOR TO CALL REGISTERED LAND SURVEYOR TO APPROVE PRIOR TO BEGINNING BUILDING CONSTRUCTION.

!! BUILDING CORNERS NOTE !!:
 CONTRACTOR'S SURVEYOR TO STAKE ALL BUILDING CORNERS PRIOR TO CONSTRUCTION. CONTRACTOR TO CONTACT LICENSED LAND SURVEYOR VERIFY AND TO APPROVE PRIOR TO BEGINNING BUILDING CONSTRUCTION.

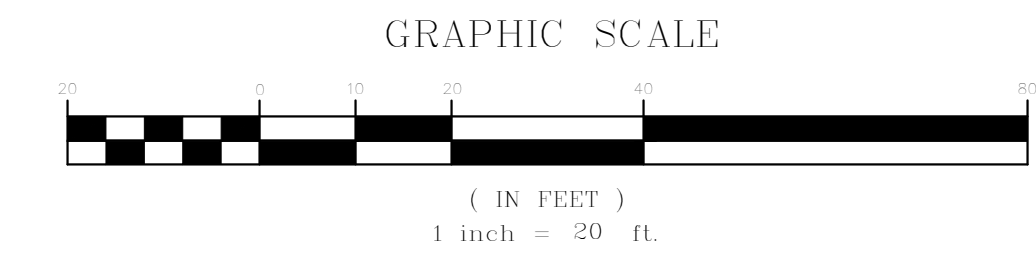
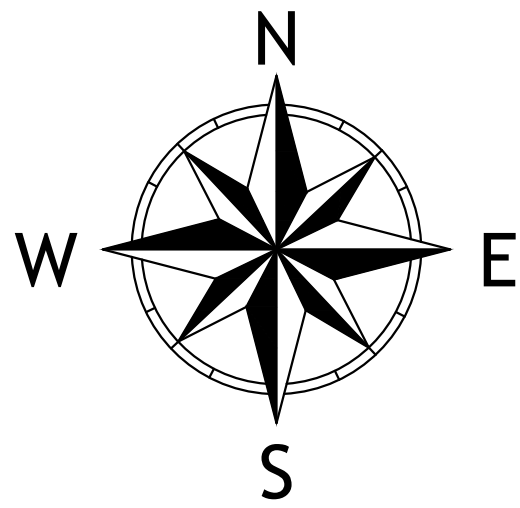
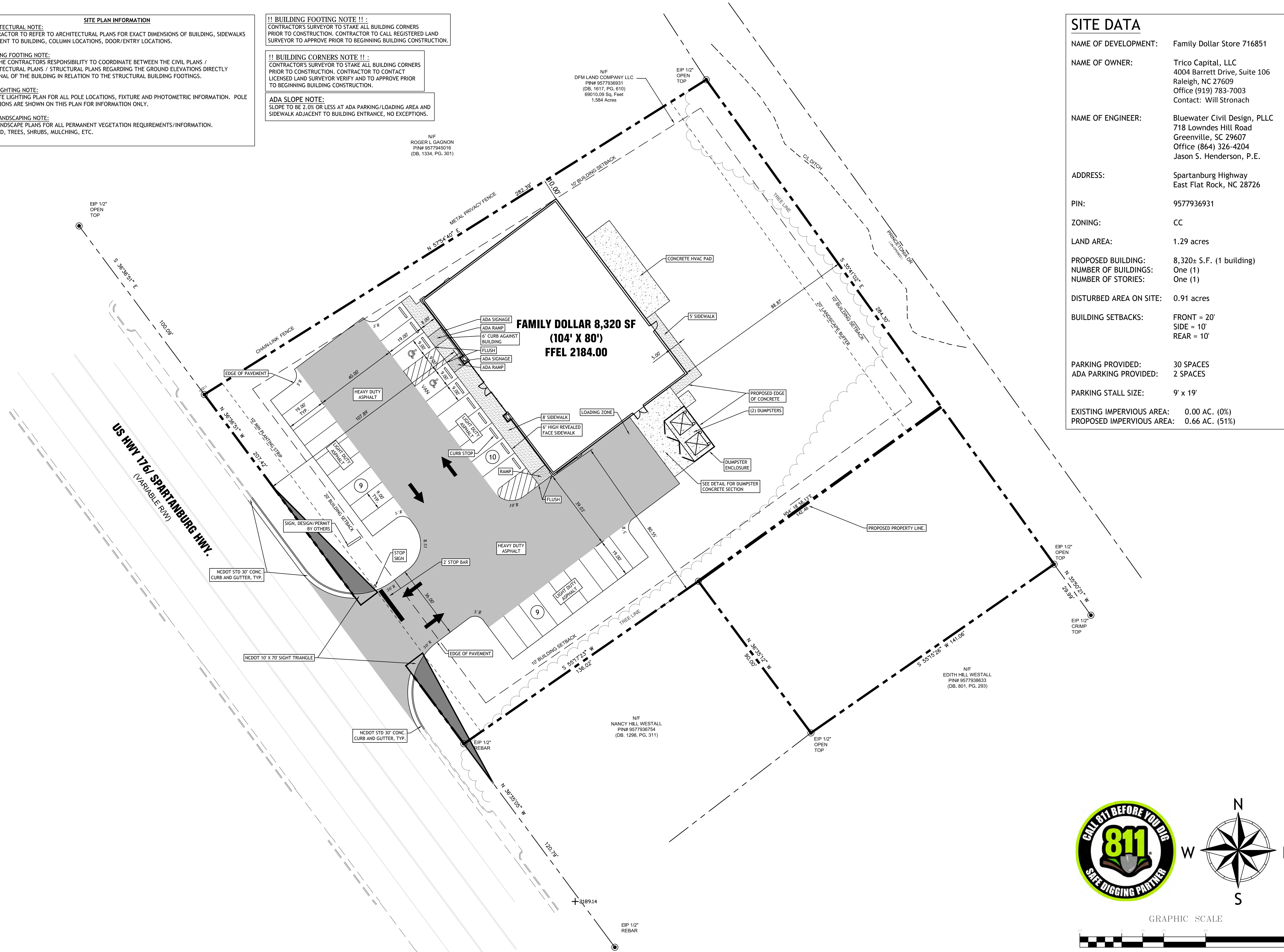
ADA SLOPE NOTE:
 SLOPE TO BE 2.0% OR LESS AT ADA PARKING/LOADING AREA AND SIDEWALK ADJACENT TO BUILDING ENTRANCE, NO EXCEPTIONS.

NIF
 ROGER L GAGNON
 PIN# 9577945016
 (DB. 1334, PG. 301)

NIF
 DFM LAND COMPANY LLC
 PIN# 9577306931
 (DB. 1617, PG. 610)
 69010.09 Sq. Feet
 1.584 Acres

NIF
 NANCY HILL WESTALL
 PIN# 9577936754
 (DB. 1296, PG. 311)

NIF
 EDITH HILL WESTALL
 PIN# 9577936633
 (DB. 801, PG. 293)





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GRADING &
 DRAINAGE PLAN

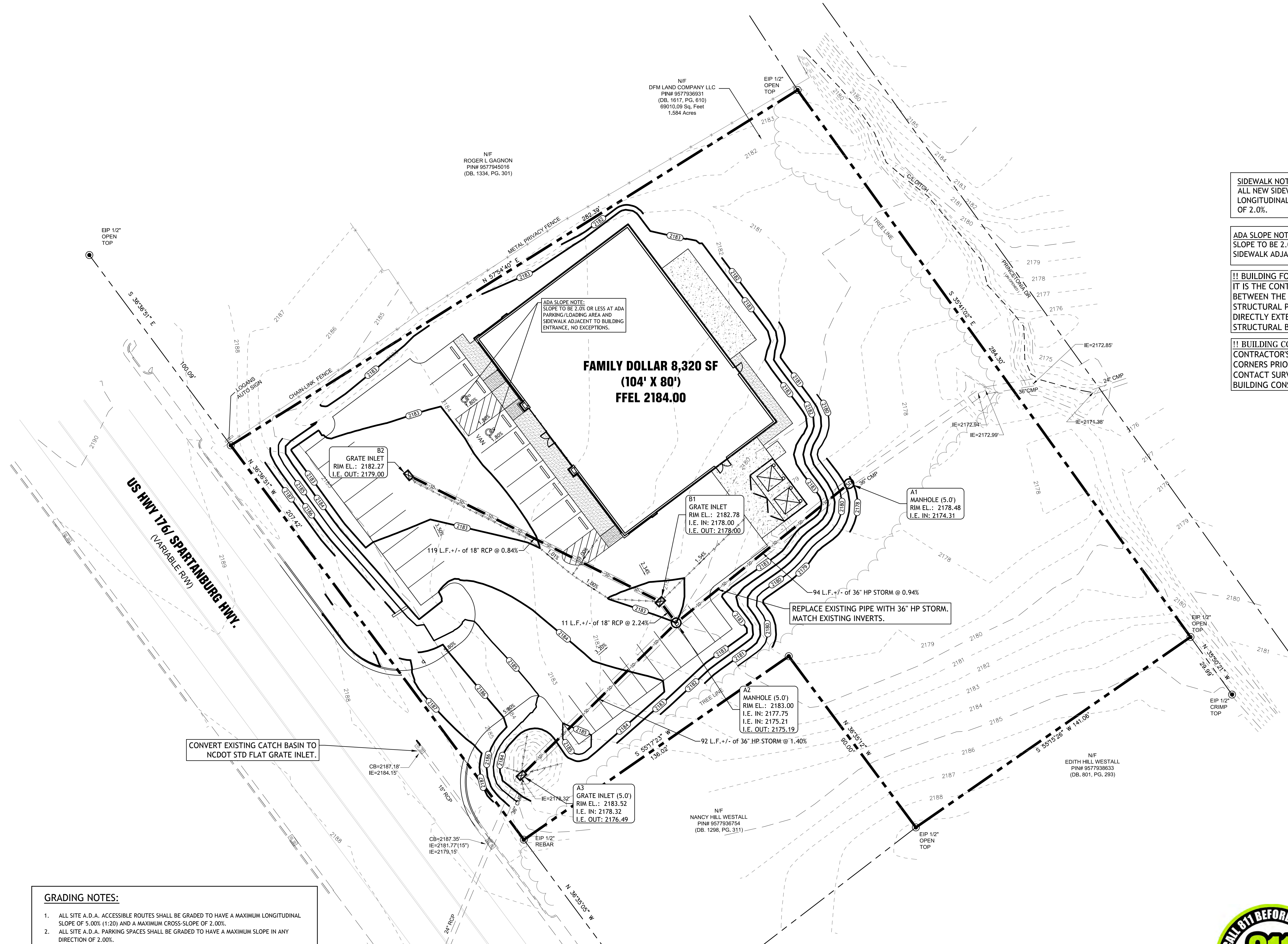
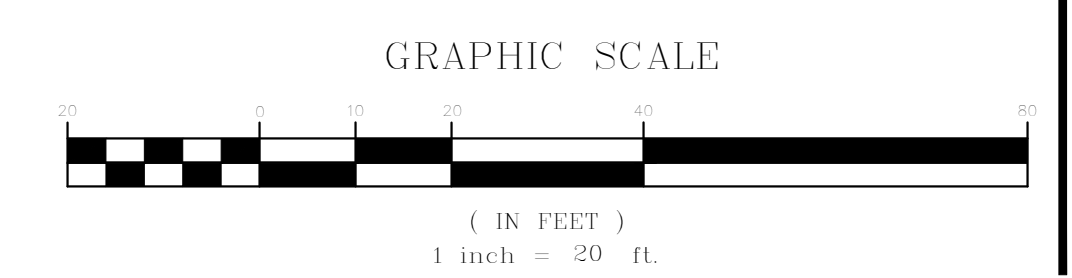
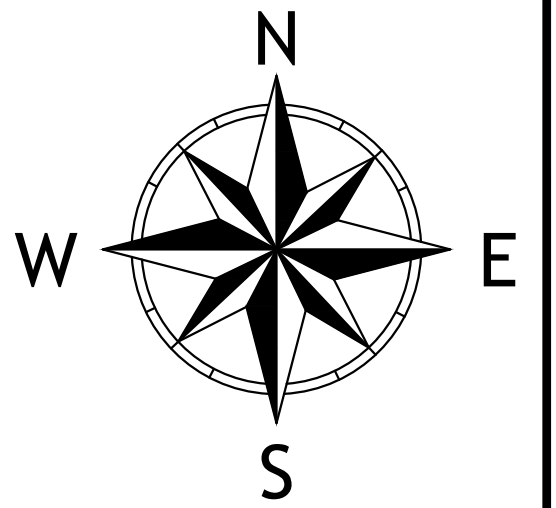
C201

SIDEWALK NOTE:
 ALL NEW SIDEWALKS TO BE ADA COMPLIANT WITH A MAXIMUM LONGITUDINAL SLOPE OF 5.0% AND A MAXIMUM CROSS SLOPE OF 2.0%.

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GRADING NOTES:

- ALL SITE A.D.A. ACCESSIBLE ROUTES SHALL BE GRADED TO HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5.00% (1:20) AND A MAXIMUM CROSS-SLOPE OF 2.00%.
- ALL SITE A.D.A. PARKING SPACES SHALL BE GRADED TO HAVE A MAXIMUM SLOPE IN ANY DIRECTION OF 2.00%.
- MINIMUM SLOPE IN ANY AREA SHALL BE 1.5%.
- MAXIMUM SLOPE IN ANY PARKING SPACE SHALL BE 4.00%.
- THE RETAINING WALLS ON THE CIVIL PLANS ARE SHOWN TO INDICATE HEIGHTS AND LOCATION AT GRADE. THE STRUCTURAL DESIGN (INCLUDING FOOTING DEPTH) AND DETAILING OF THE WALL MATERIAL AND CONSTRUCTION SHALL BE BY OTHERS. THIS DRAWING IS NOT TO BE USED BY THE CONTRACTOR AS CERTIFIED CONSTRUCTION DRAWING FOR RETAINING WALL CONSTRUCTION.
- ALL FILL/CUT SLOPES SHOWN ON THE SITE SHALL BE 3:1 OR AS INDICATED ON THE PLAN.
- CUT SLOPES IN ROCK MAY BE LEFT EXPOSED IF APPROVED BY THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL GRADE AROUND ALL LANDSCAPE ISLANDS TO PROVIDE POSITIVE DRAINAGE AROUND THE ISLAND AT A MINIMUM 1.00% SLOPE.
- THE CONTRACTOR SHALL COORDINATE ALL EXCAVATION WITH THE GEOTECHNICAL TESTING COMPANY. COMPACTION SHALL BE PER THE GEOTECHNICAL REPORT FOR THIS SPECIFIC PROJECT.
- THE CONTRACTOR SHALL INCLUDE IN PRICE ALL CUT/FILL NECESSARY TO COMPLETE THE PROJECT AS DESIGNED. UNIT PRICES SHALL BE PROVIDED FOR MASS ROCK EXCAVATION, TRENCH ROCK EXCAVATION, HAUL OFF, AND HAUL IN AND DEWATERING.

NOTE:
 ALL EXISTING FIELD CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT SITE ENGINEER AND OWNER IMMEDIATELY IF ANY DISCREPANCIES ARE NOTICED.

TEMPORARY/CONSTRUCTION BENCHMARK NOTE:
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND ELEVATION OF THE CBM (CONSTRUCTION BENCHMARK) PRIOR TO BEGINNING CONSTRUCTION.

STORM DRAINAGE NOTES:

- PIPES ON-SITE AND WITHIN NCDOT RIGHT OF WAY HAVE BEEN DESIGNED FOR THE 10-YEAR STORM EVENT AT A 5 MIN. DURATION (INTENSITY = 6.42 IN/HR.)
- ALL PIPE ON-SITE & WITHIN NCDOT RIGHT OF WAY TO BE REINFORCED CONCRETE PIPE (RCP).
- ALL STORM DRAINAGE STRUCTURES AND PIPE SHALL CONFORM TO NCDOT LATEST DETAILS AND STANDARDS.
- ALL PIPE JOINTS SHALL BE WRAPPED WITH A FILTER FABRIC IN 18-INCH WIDE SECTIONS UTILIZING, AT A MINIMUM, FABRIC WITH A MASS PER UNIT AREA OF: (ENGLISH MEASURE) 5.0 OUNCES PER SQUARE YARD AND A THICKNESS OF 60 MILS - OR - (METRIC MEASURE) 170.0 GRAMS PER SQUARE METER AND A THICKNESS OF 1.5 MILLIMETERS.
- ALL PIPE LENGTHS SHOWN ON THE STORM DRAINAGE TABLE ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE ACTUAL FIELD LENGTH.
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- *DROP STRUCTURE INDICATED WHERE TWO (2) OR MORE PIPES DISCHARGE INTO SAME STRUCTURE AT DIFFERENT ELEVATIONS.

STORM DRAINAGE PIPING LEGEND

GRATE INLET: NCDOT STANDARD 2' X 3' GRATE INLET (DETAILS ON C500 SHEETS)

MANHOLE: NCDOT STANDARD MANHOLE (DETAILS ON C500 SHEETS)



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 NC-P-0868

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SPOT ELEVATIONS PLAN

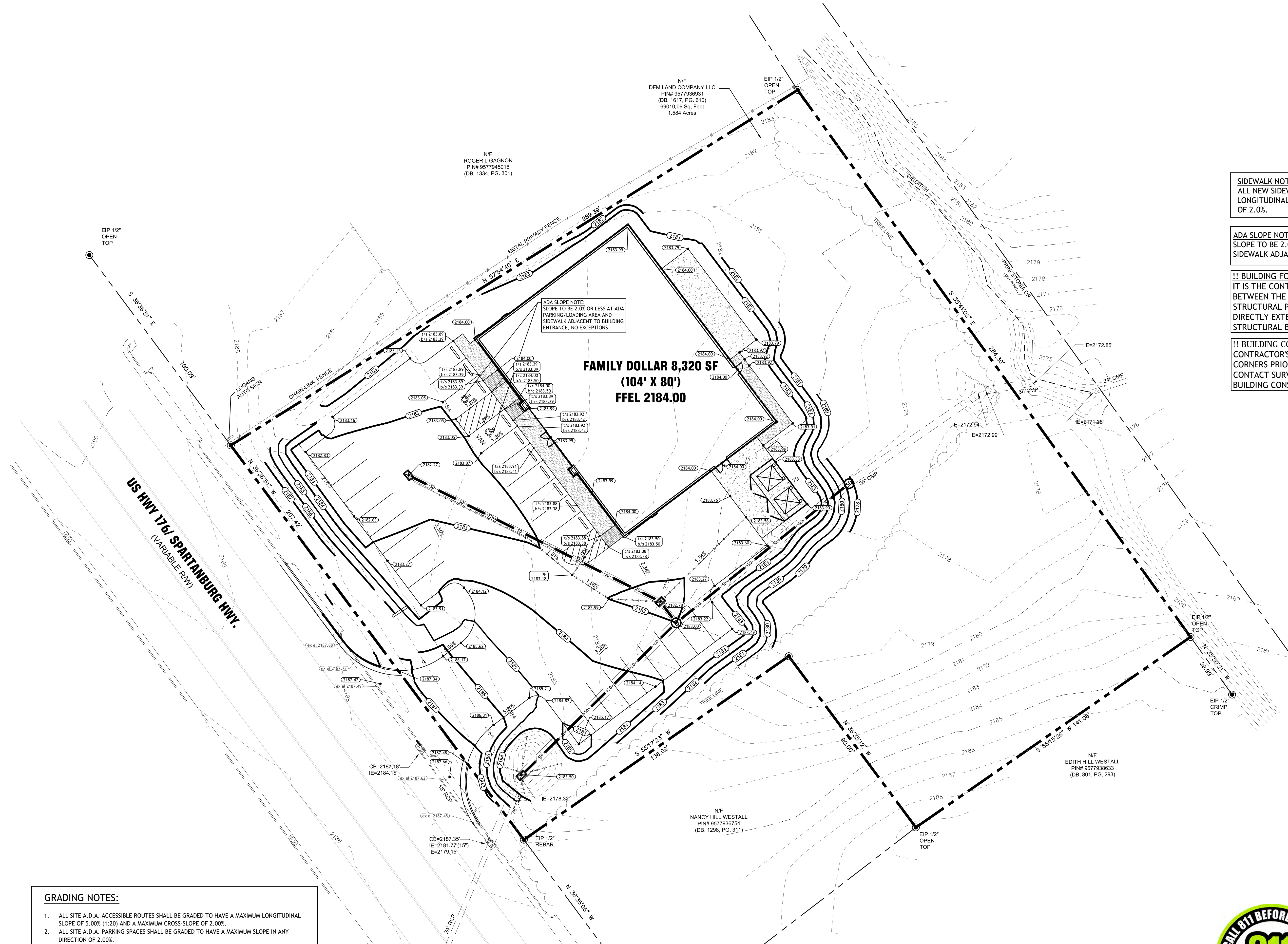
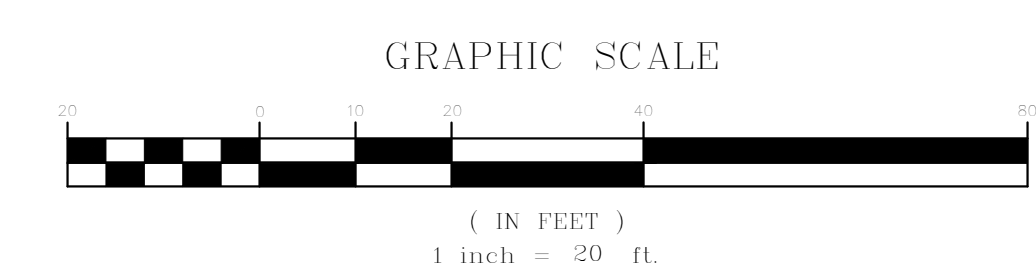
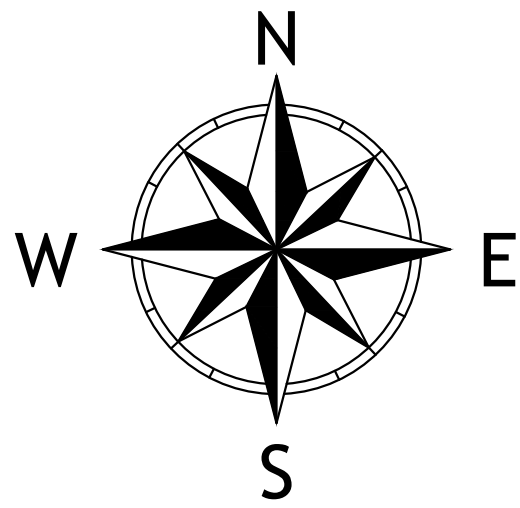
C202

SIDEWALK NOTE:
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MANHOLE: NCDOT STANDARD MANHOLE (DETAILS ON C500 SHEETS)



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EROSION CONTROL LEGEND

- STORM DRAINAGE MANHOLE/RISER
- ROCK CHECK DAM
- STORM DRAINAGE
- PROPOSED GRADE LINE
- SILT FENCE
- HARDWARE CLOTH & GRAVEL INLET PROTECTION
- DISTURBED LIMITS
- DIVERSION SWALE/BERM
- CONSTRUCTION ENTRANCE
- SEDIMENT TUBE
- SKIMMER DEVICE
- SLOPE MATTING (CURLEX II)

SLOPE PROTECTION NOTE:
 THE CONTRACTOR SHALL PROVIDE JUTE MATTING OR APPROVED EQUIVALENT ON ALL SLOPES 3:1 OR GREATER.

CONSTRUCTION TRAFFIC NOTE:
 CONSTRUCTION TRAFFIC WILL BE USING EXISTING PAVEMENT DRIVES AND SHALL INSURE THAT THEY ARE NOT TRACKING SEDIMENT OFF-SITE. CONTRACTOR SHALL MONITOR AND WASH OFF TIRES IF REQUIRED.

MAINTENANCE STATEMENT:
 EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

DUST CONTROL:
 THE CONTRACTOR SHALL USE ALL REASONABLE MEANS (e.g. WATER TRUCK, TARPS, MULCH, GRASSING, ETC.) NECESSARY TO REDUCE DUST DURING DEMOLITION AND CONSTRUCTION.

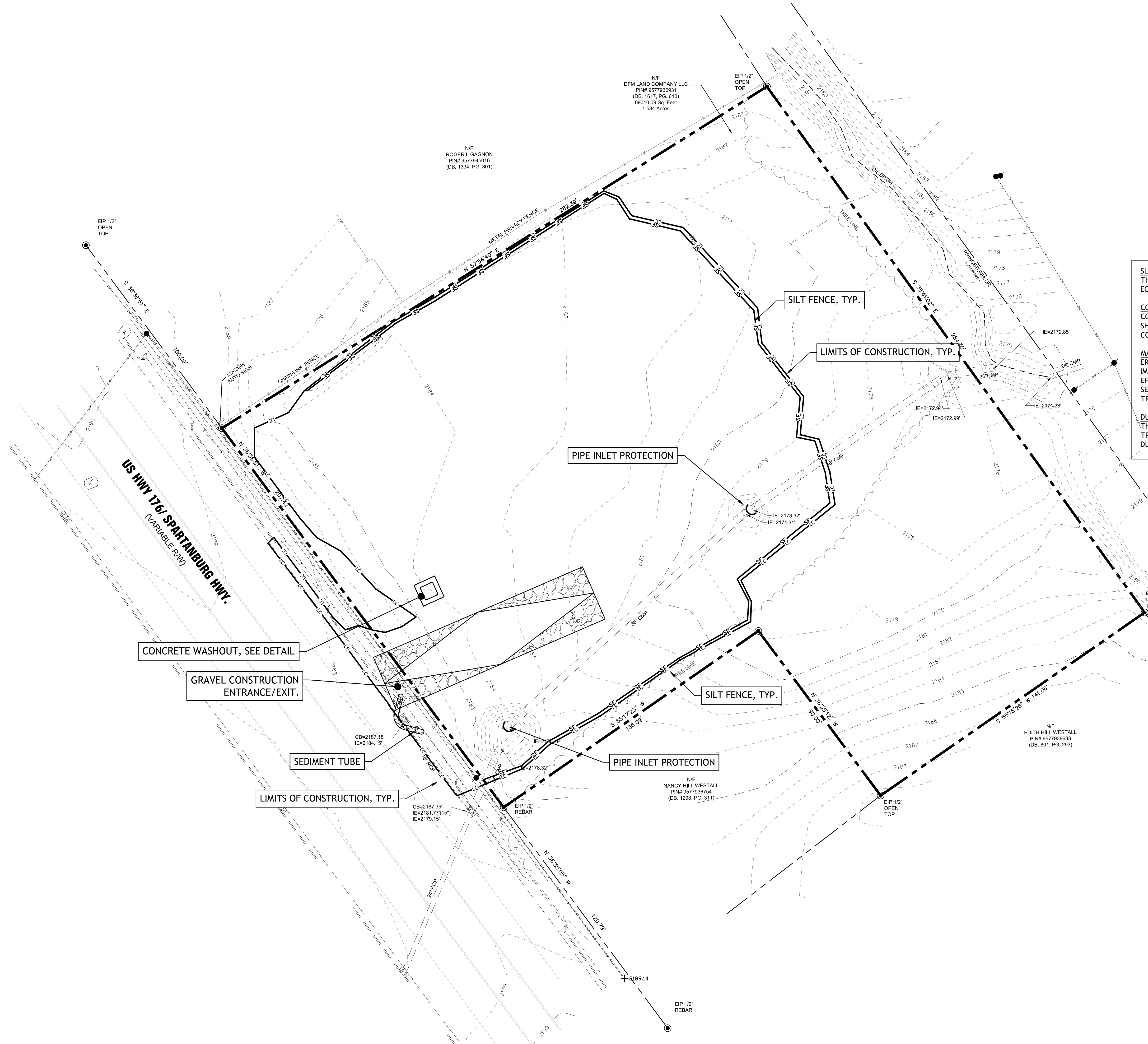
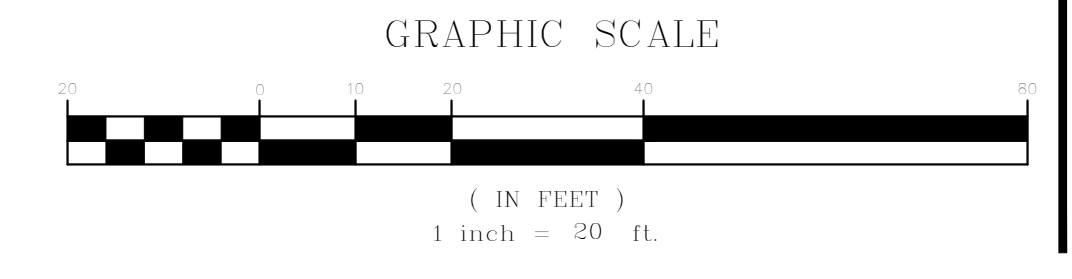
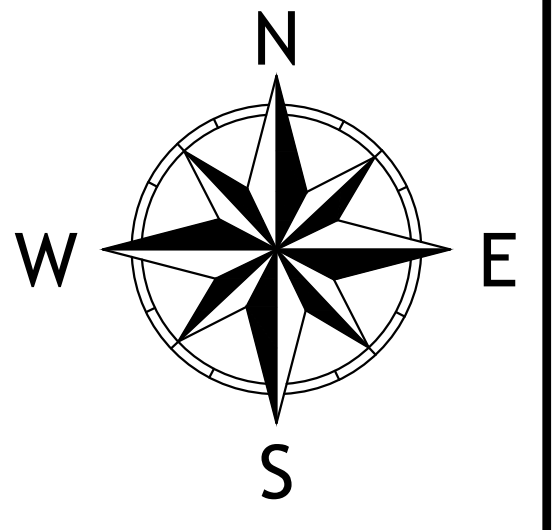
DISTURBANCE NOTE:
 STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED.

HAZARDOUS MATERIALS NOTE:

- A. You must prevent or minimize the discharge of hazardous substances or oil in storm water discharges from the construction site in accordance with the SWPPP. The NC General Permit for Construction Activities does not relieve you of the federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117 and 40 CFR Part 302 relating to spills or other releases of oils or hazardous substances.
- B. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a 24-hour period:
 1. You must notify the NCDEQ's Emergency Response Section at 800-258-0368 and the National Response Center (NRC) (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117 and 40 CFR Part 302 as soon as Site staff have knowledge of the discharge; and
 2. You must modify the SWPPP as required under Subpart 3.11 within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, you must review your SWPPP to identify measures to prevent the recurrence of such releases and to respond to such releases, and you must modify your SWPPP where appropriate.

NOTE:
 TEMPORARY CONSTRUCTION SIGNS SHALL NOT BE PLACED WITHIN THE ROAD RIGHT OF WAY OR SIGHT TRIANGLES.

GENERAL EROSION CONTROL NOTE:
 ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED PER N.C.D.E.Q. BMP MANUAL. THE CONTRACTOR SHALL REFERENCE THE STORMWATER POLLUTION PREVENTION MANUAL (SWPPP) FOR ALL EROSION CONTROL PROCEDURES ON SITE.





REVISION	DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS

EROSION CONTROL LEGEND

- STORM DRAINAGE MANHOLE/RISER
- ROCK CHECK DAM
- STORM DRAINAGE
- PROPOSED GRADE LINE
- SILT FENCE
- HARDWARE CLOTH & GRAVEL INLET PROTECTION
- DISTURBED LIMITS
- DIVERSION SWALE/BERM
- CONSTRUCTION ENTRANCE
- DOUBLE STACKED SEDIMENT TUBE
- SKIMMER DEVICE
- SLOPE MATTING (CURLEX II)

SLOPE PROTECTION NOTE:
 THE CONTRACTOR SHALL PROVIDE JUTE MATTING OR APPROVED EQUIVALENT ON ALL SLOPES 3:1 OR GREATER.

CONSTRUCTION TRAFFIC NOTE:
 CONSTRUCTION TRAFFIC WILL BE USING EXISTING PAVEMENT DRIVES AND SHALL INSURE THAT THEY ARE NOT TRACKING SEDIMENT OFF-SITE. CONTRACTOR SHALL MONITOR AND WASH OFF TIRES IF REQUIRED.

MAINTENANCE STATEMENT:
 EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

DUST CONTROL:
 THE CONTRACTOR SHALL USE ALL REASONABLE MEANS (e.g. WATER TRUCK, TARPS, MULCH, GRASSING, ETC.) NECESSARY TO REDUCE DUST DURING DEMOLITION AND CONSTRUCTION.

DISTURBANCE NOTE:
 STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED.

HAZARDOUS MATERIALS NOTE:

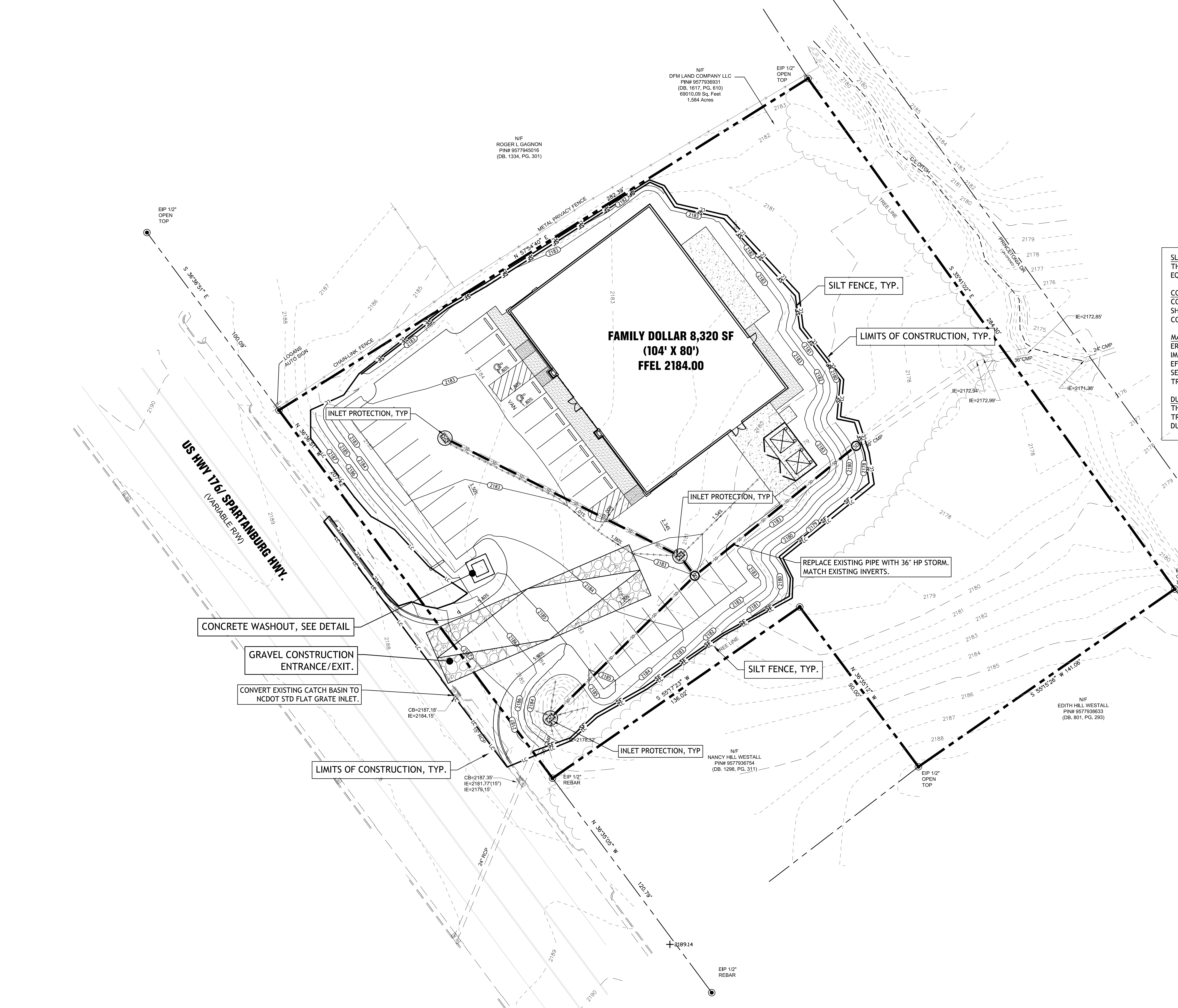
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B. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a 24-hour period:

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Bluewater Civil Design, PLLC
 NC-P-0868

PLAN REVISION	ISSUE DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS

UTILITY PLAN

C301

GENERAL UTILITY PLAN NOTES:

1. THE CONTRACTOR SHALL CONTACT ALL UTILITY AUTHORITIES (e.g., POWER, TELEPHONE, CABLE, DATA, GAS, WATER, SEWER, ETC) REGARDING PROJECT COORDINATION. THE CONTRACTOR SHALL INCLUDE IN PRICE/BID ALL WORK NECESSARY TO COORDINATE THE RELOCATION OF EXISTING UTILITY SERVICES OR MANS THAT CONFLICT WITH THIS PROJECT'S COMPLETION. UTILITY SERVICES OR MANS, OTHER THAN WATER AND SEWER, HAVE NOT BEEN DESIGNED AS PART OF THIS PLAN.
2. THE CONTRACTOR SHALL CONTACT ALL UTILITY AUTHORITIES PRIOR TO START OF CONSTRUCTION SET UP A PRE-CONSTRUCTION MEETING WITH ALL AUTHORITIES (INCLUDING FIRE DEPARTMENT) TO COORDINATE INSTALLATIONS, INSPECTIONS, AND PAYMENT OF ANY RELATED FEES. THE CONTRACTOR SHALL INCLUDE IN PRICE/BID ALL TAP FEES, INSPECTION FEES, METER FEES, ETC. FOR WATER AND SEWER WORK UNLESS SPECIFICALLY INSTRUCTED OTHERWISE.
3. SEE SITE LIGHTING PLANS AND SITE ELECTRICAL PLANS FOR COORDINATION OF SITE LIGHTING AND SITE ELECTRICAL ROUTING, SITE ELECTRICAL RELOCATION, TELEPHONE ROUTING, DATA ROUTING, ETC.
4. THE CONTRACTOR SHALL ONLY USE MATERIALS MEETING STATE AND LOCAL UTILITY AUTHORITY STANDARDS AND SPECIFICATIONS FOR THE WATER AND SEWER WORK.
5. IF REQUIRED, EASEMENT PLATS SHALL BE CREATED FOR THE UTILITY LINES. THESE EASEMENTS SHALL BE REVIEWED BY THE UTILITY AUTHORITY AND RECORDED WITHIN THE APPROPRIATE COUNTY PRIOR TO CERTIFICATE OF OCCUPANCY. ALL COSTS ASSOCIATED SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE/BID.
6. THE CONTRACTOR SHALL ADHERE TO THE CITY OF HENDERSONVILLE/DECOQ STANDARD WATER SPECIFICATIONS FOR THE CONSTRUCTION & INSTALLATION OF WATER LINES FOR THIS PROJECT. THE CONTRACTOR SHALL ADHERE TO THE CITY OF HENDERSONVILLE/SCHIEF STANDARD SEWER SPECIFICATIONS FOR THE CONSTRUCTION & INSTALLATION OF SEWER LINES FOR THIS PROJECT.

7. THE CONTRACTOR SHALL NOTE THAT RISER AND FIRE SERVICE SIZES ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL VERIFY SIZES AND MATERIALS WITH THE APPROVED FIRE SPRINKLER DESIGN AND INCLUDE IN PRICE/BID. **NOTE: THESE PLANS SHALL NOT BE USED FOR UNDERGROUND FIRE PROTECTION PIPING PERMITTING. THE FIRE SPRINKLER CONTRACTOR/DESIGNER SHALL CONTACT ENGINEER TO ACQUIRE APPLICABLE FILE OF PLAN FOR CREATION OF AN APPROVABLE UNDERGROUND FIRE PROTECTION PLAN!!**

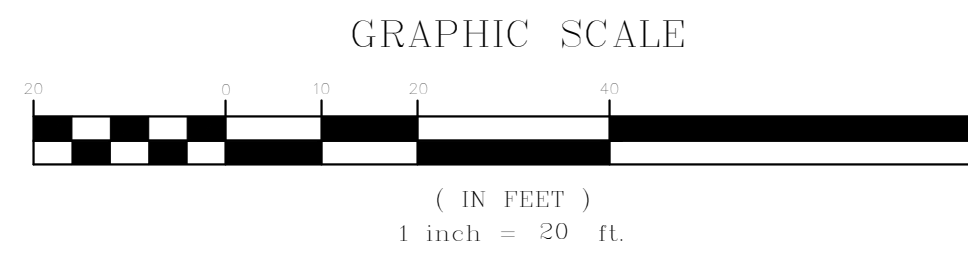
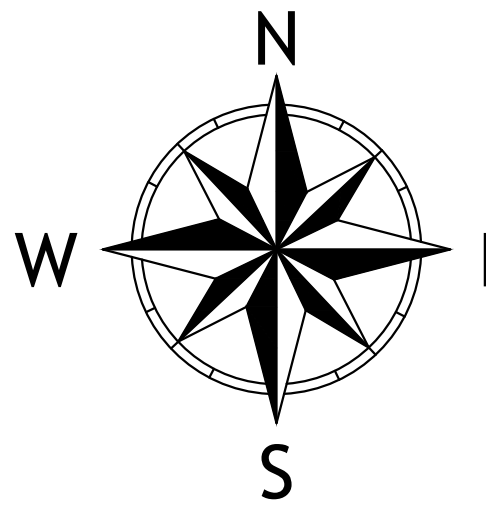
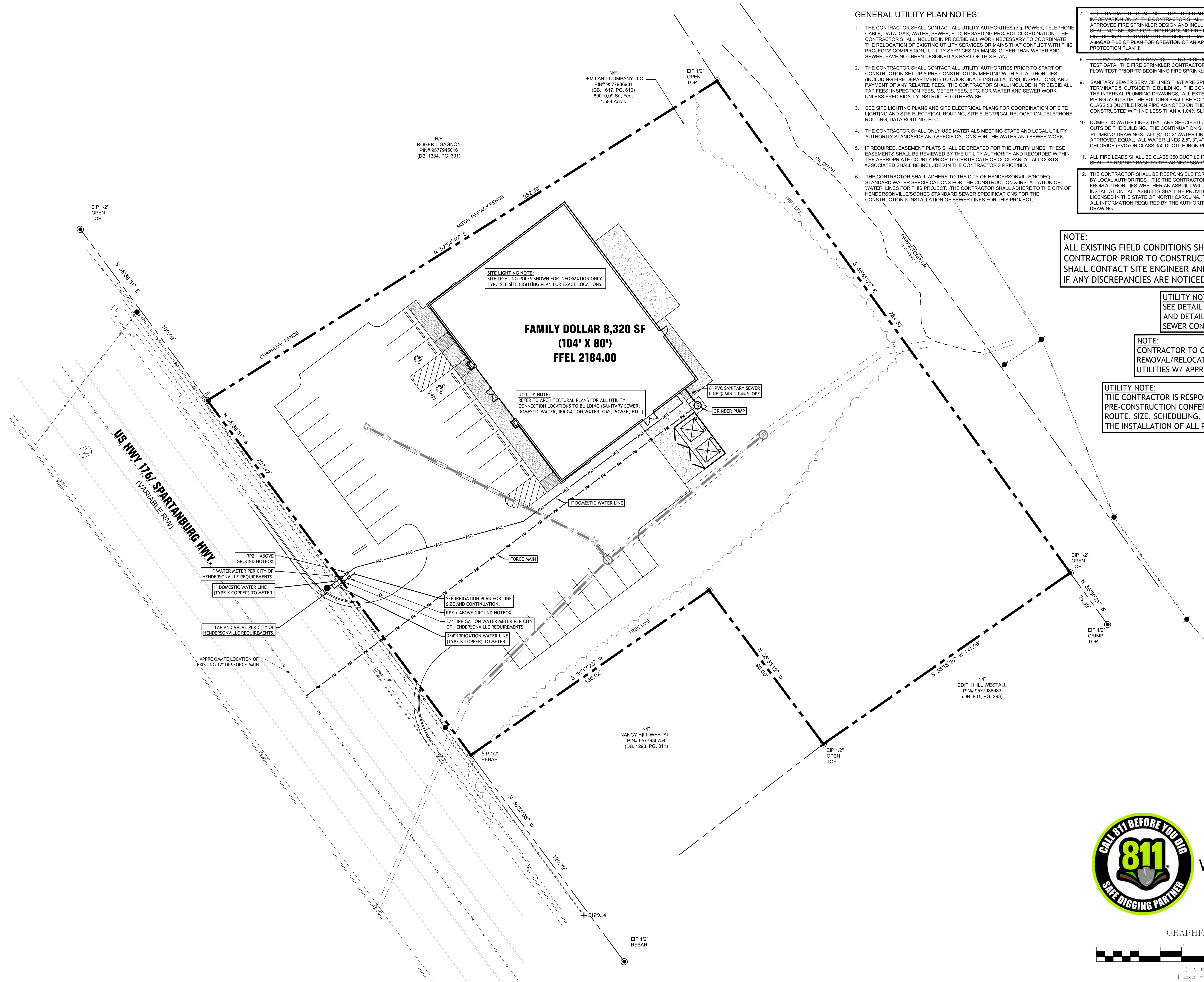
8. BLUEWATER CIVIL DESIGN ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF FLOW TEST DATA. THE FIRE SPRINKLER CONTRACTOR SHALL ACQUIRE AN NFPA CERTIFIED FLOW TEST PRIOR TO BEGINNING FIRE SPRINKLER SYSTEM DESIGN.
9. SANITARY SEWER SERVICE LINES THAT ARE SPECIFIED ON THIS PLAN SHALL TERMINATE 5' OUTSIDE THE BUILDING. THE CONTINUATION SHALL BE PICKED UP ON THE INTERNAL PLUMBING DRAWINGS. ALL EXTERNAL SANITARY SEWER SERVICE PIPING 5' OUTSIDE THE BUILDING SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 OR CLASS 50 DUCTILE IRON PIPE AS NOTED ON THE PLANS. 6" SEWER SERVICES SHALL BE CONSTRUCTED WITH NO LESS THAN A 1.04% SLOPE.
10. DOMESTIC WATER LINES THAT ARE SPECIFIED ON THIS PLAN SHALL TERMINATE 5' OUTSIDE THE BUILDING. THE CONTINUATION SHALL BE PICKED UP ON THE INTERNAL PLUMBING DRAWINGS. ALL 1/2" TO 2" WATER LINES SHALL BE COPPER (K) MATERIAL OR APPROVED EQUAL. ALL WATER LINES 2.5", 3", 4", 6", 8", ETC. SHALL BE C-900 POLYVINYL CHLORIDE (PVC) OR CLASS 350 DUCTILE IRON PIPE (D.I.P.) AS NOTED ON THE PLAN.
11. ALL FIRE LEADS SHALL BE CLASS 350 DUCTILE IRON PIPE (D.I.P.) (NO EXCEPTIONS), AND SHALL BE NOBBED BACK TO FEES AS NECESSARY.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL AS-BUILT SURVEYS AS REQUIRED BY LOCAL AUTHORITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE FROM AUTHORITIES WHETHER AN ASBUILT WILL BE REQUIRED AT COMPLETION OF INSTALLATION. ALL ASBUILTS SHALL BE PROVIDED BY A REGISTERED LAND SURVEYOR, LICENSED IN THE STATE OF NORTH CAROLINA. THE CONTRACTOR SHALL INSURE THAT ALL INFORMATION REQUIRED BY THE AUTHORITY IS INCLUDED ON THE ASBUILT SURVEY DRAWING.

NOTE:
 ALL EXISTING FIELD CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT SITE ENGINEER AND OWNER IMMEDIATELY IF ANY DISCREPANCIES ARE NOTICED.

UTILITY NOTE:
 SEE DETAIL SHEETS C506 FOR NOTES AND DETAILS PERTAINING TO WATER & SEWER CONSTRUCTION.

NOTE:
 CONTRACTOR TO COORDINATE REMOVAL/RELOCATION OF ANY EXISTING UTILITIES W/ APPROPRIATE UTILITY PROVIDER.

UTILITY NOTE:
 THE CONTRACTOR IS RESPONSIBLE FOR HAVING A PRE-CONSTRUCTION CONFERENCE TO COORDINATE THE ROUTE, SIZE, SCHEDULING, AND OTHER ASPECTS OF THE INSTALLATION OF ALL PUBLIC UTILITIES.





GENERAL LANDSCAPE NOTES AND SPECIFICATIONS

LICENSES: The contractor will be responsible for obtaining all licenses necessary to complete project.
INSURANCE: With the submittal of bid documents, the Landscape Contractor shall also submit a certificate of insurance for workman's compensation and a contractor's general liability. Contractors not providing evidence of such insurance will be ineligible to receive the contract for the job.
UTILITY LOCATION: The Landscape Contractor is responsible for contacting the utility locator service and is responsible for any damage done to utilities.

GRASS SEED INSTALLATION: Lawn areas shall be fine graded to a smooth, positively draining slope, removing all stones over 3/4". Agricultural limestone shall be incorporated into the soil at a rate of 50 pounds per 1000 square feet. Apply specified seed at recommended rate. Straw mulch or hydromulch shall be used as deemed necessary by the responsible to establish a full stand of grass and will repair any bare spots 1'-0" square due to uneven seed distribution, drought or erosion.

SOD INSTALLATION: Sodded lawn areas shall be fine graded to a smooth, positively draining slope, removing all stones over 3/4". Sod shall be healthy, thick sod placed so that joints are butt tight. Staple as necessary. Sod shall be trimmed to match bed lines shown on plan. Startup fertilizer shall be incorporated into the soil at the manufacturer's recommended rate. Any area of sod that fails to root, settles or dies will be replaced by the Landscape Contractor.

PREPARATION OF GROUND COVER AND SEASONAL COLOR BEDS: The existing soil in ground cover and seasonal color beds shall be thoroughly cultivated 6 inches deep to a fine texture (no clods over 1/2") with a mechanical tiller. A plant mix of 60% screened shredded topsoil, 20% sand, and 20% well rotted sawdust or peat shall then be thoroughly incorporated into the existing soil with the tiller so that the soil mix (6" deep) is 1/2" original soil and 1/2" plant mix. All groundcover and seasonal cover beds shall receive a 2" layer of fine textured, screened, pine bark mulch or equal. **PLANTINGS NOT DONE IN THIS MANNER SHALL BE REMOVED AND PROPERLY REPLANTED.**

FERTILIZING: Upon completion of plantings, all shrubs shall receive 1/6 cup of 16-4-8 fertilizer (50% of nitrogen slow release) evenly broadcast at the base of plants. Trees shall receive 1/4 cup of 16-4-8 fertilizer (50% of nitrogen slow release) per inch of caliper. Groundcover beds shall be fertilized at the rate of 20 pounds of 16-4-8 (50% of nitrogen slow release) per 1000 square feet.

BACKFILL: Landscape Contractor to verify any additional backfill/topsoil needed prior to beginning work. A unit price for topsoil shall be included in all bid documents to allow for circumstances that might arise during installation. If additional topsoil is available, the Contractor shall backfill the parking lot islands with topsoil. Islands and planters shall be free of deleterious material. Grade planters and islands so that no water pools in planting area. Do not allow air pockets to form when backfilling.

PLANT QUANTITIES: Plant quantities are shown for the contractor's convenience only. Contractor is responsible for confirming all quantities prior to bidding and installation. Please contact the Landscape Architect if there is difficulty in locating a particular plant. If necessary, a substitute plant will be recommended.

PLANTS SHALL BE INSTALLED AS SHOWN
PLANT QUALITY: All plants shall be nursery grown, have a full habit of growth as is characteristic of that species, and shall be free of disease or insects. General plant quality shall be as specified in the "USA Standard for Nursery Stock" (published by the American Association of Nurserymen). All plants must be container grown or balled & burlapped. All trees must be straight trunked and full headed. After being dug at the nursery source, all trees in leaf shall be acclimated for two weeks under a mist system prior to installation. All plants are subject to rejection by the owner before, during and after installation.

PLANTING HOLE SIZE: Refer to appropriate details on the Landscape Plan.
SETTING OF PLANTS: The root ball of container grown plants shall be scarified in several places prior to planting. Plant shrubs and trees so that after initial settlement, the top of the root balls will be even with or slightly above the adjacent soil line. Around root balls, 1/2" of the original soil shall be removed from the planting hole and thoroughly mixed with the same quantity peat moss or well sorted, fine textured bark. Only in areas where the existing soil is 100% fertile, loose topsoil (brown or black in color) can plants be placed directly in the soil with no amendments. Do not break the root ball. Do not allow air pockets to form when backfilling. **PLANTINGS NOT DONE IN THIS MANNER SHALL BE REMOVED AND PROPERLY REPLANTED.**

STAKING OF TREES: Deciduous trees, 1 1/2" in caliper and over, and evergreen trees, 8" and taller shall be staked. Rubberhose to be used to cover the wire at the point of its contact with the tree. The Landscape Contractor is responsible for all wind damage to trees, (provided winds are less than 60mph) during the guarantee period, and may stake other trees (for his own protection) at his option. Set trunks plumb.

MULCHING: All plants & plant beds must be completely mulched. Pre-emerge shall be applied to all landscape areas prior to sod & mulching to reduce weed intrusion. Hardwood mulch: All beds to receive a 3" layer of aged hardwood bark mulch (free of wood chips or large chunks of bark). Fresh hardwood bark mulch is not recommended to be used, as water run-off may cause staining on adjacent concrete surfaces. Mulch color shall be natural with no added dyes or coloring. All damages incurred by the use of fresh hardwood mulch shall be the responsibility of the landscape contractor. All trees located in lawn areas shall receive a minimum 3' diameter ring of mulch. Mulch in these areas is to follow the above listed guidelines.

GRADING: All final grading shall be the responsibility of the Landscape Contractor. The responsibility for any additional grading, if needed, shall be determined prior to bidding.

CLEAN UP: Final clean up of any disturbances occurring as a result of landscape operations shall be the responsibility of the Landscape Contractor. The Landscape Contractor has the complete responsibility for the handling of all surplus excavated materials including the removal of any excess materials from the project site. The Contractor specifically understands and agrees that due to the sequence of the work, he may need to retain select excavated materials on site to meet later needs of the project. It shall be the sole responsibility of the Contractor as to any decisions made to haul off excess material or to retain material on site for later use. The Contractor shall have the complete responsibility for having adequate, suitable material on-site to replace unsuitable material or to otherwise conform to the requirements of the contract documents.

MAINTENANCE: The Landscape Contractor is responsible for maintaining, in full, all planting (including water, spraying, mulching, fertilizing, etc.) of planting areas and lawns until the job is accepted in full, by the Owner. The contractor shall remove & dispose of all plant material existing on site that does not conform with the landscape plan. All landscaped areas shall be treated as specified on the landscape plan or as directed by the Owner. This shall include all grass areas used for erosion control purposes. The Owner will contract for a program of landscape maintenance services throughout the one (1) year guarantee period unless otherwise determined.

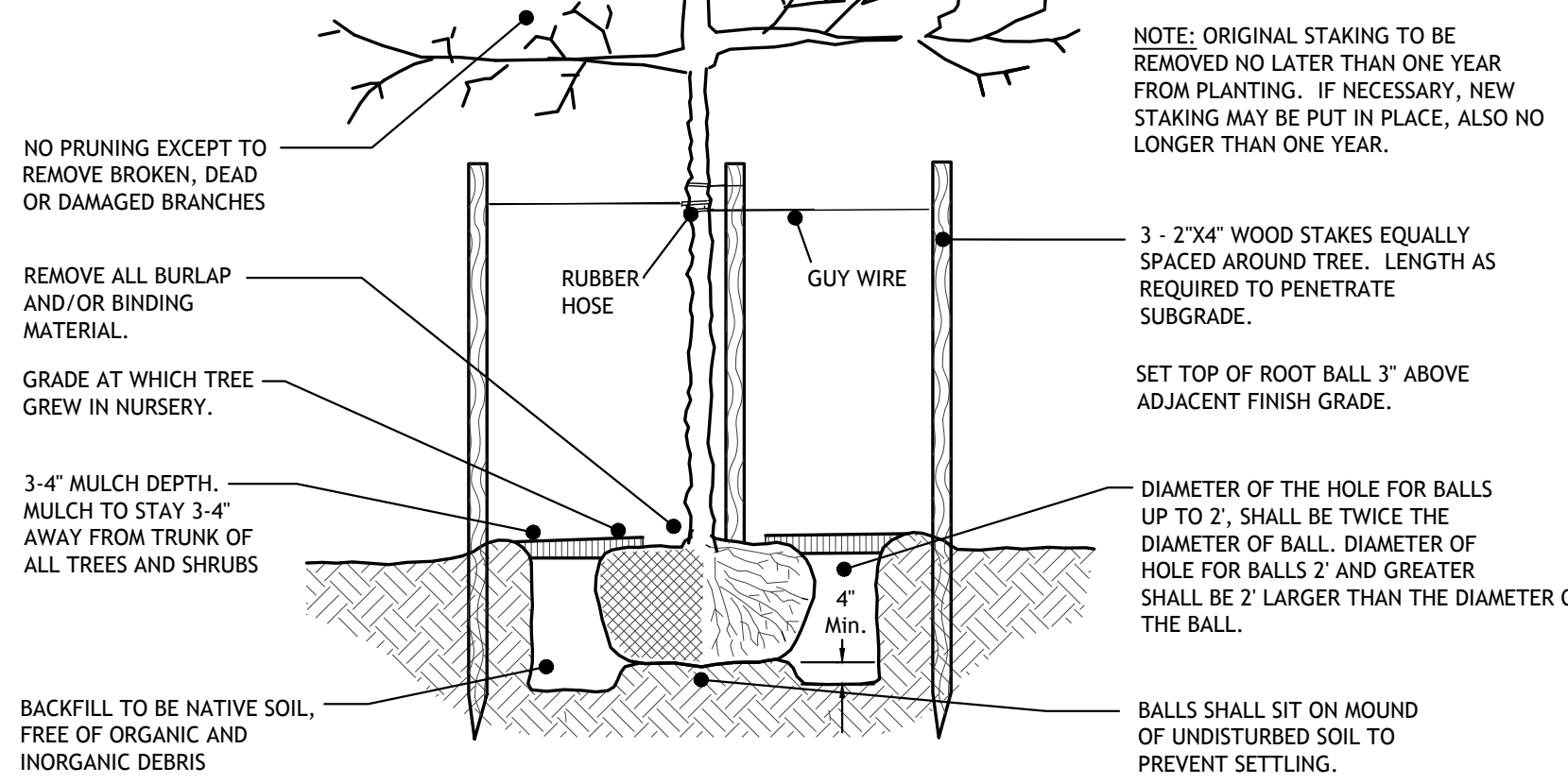
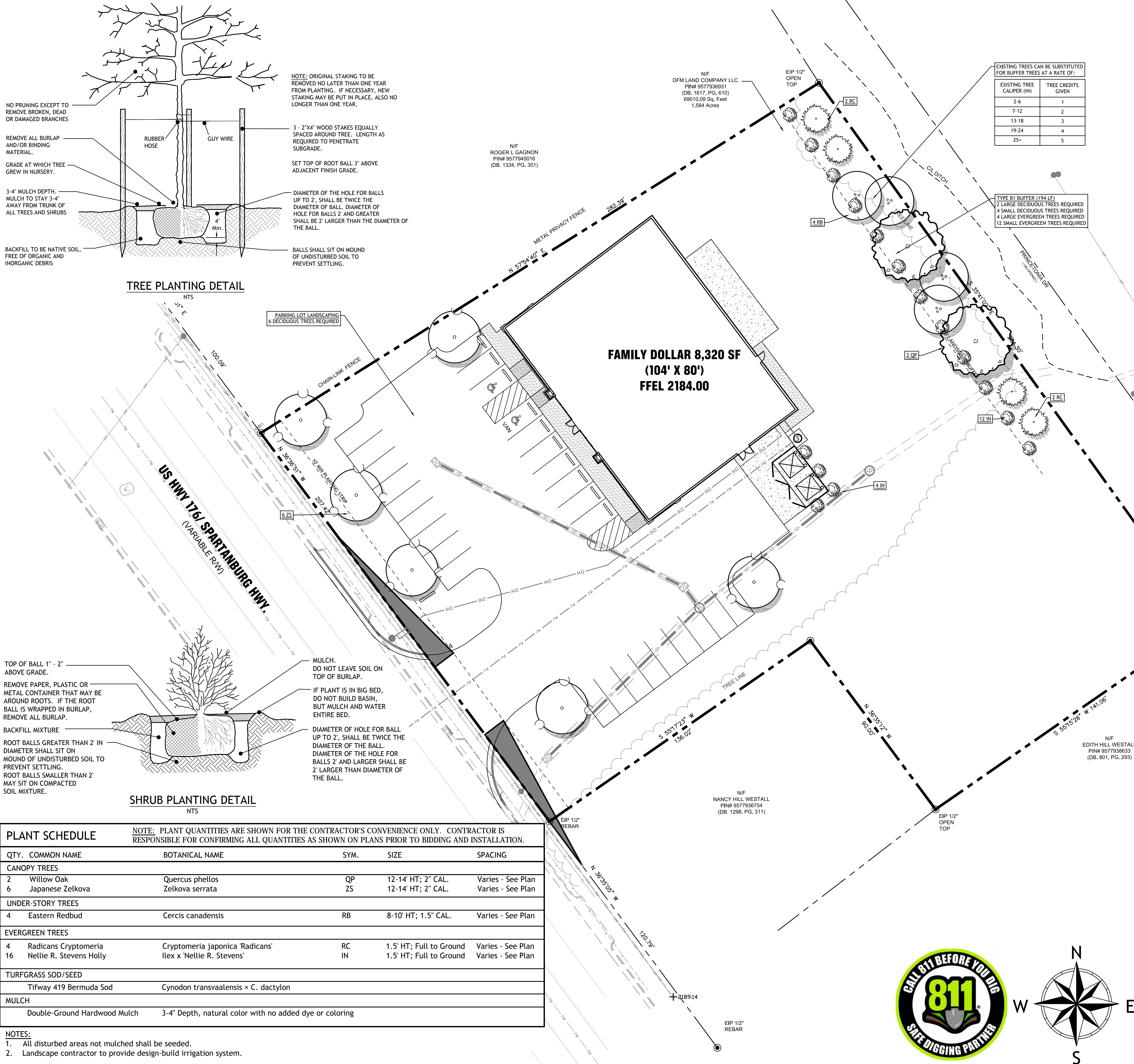
GUARANTEE: The Landscape Contractor shall guarantee all plant material and workmanship for one year from the date of acceptance by the Owner. Any plant material which dies, turns brown, defoliates or fails to germinate prior to total acceptance of the work shall be promptly removed from the site & replaced with material of the same species, quantity, size and meeting all plant list specifications. Any required plant replacements shall promptly be made before or at the end of the guarantee period (as per direction of the Owner). The Contractor will not be responsible for defects resulting from neglect by the Owner, abuse by others, or unusual phenomena or incidents beyond the Landscape Contractor's control which result from natural causes such as floods, lightning, storms, freezing rains, or winds over 60 mph, fire, vandalism or theft.

IRRIGATION: The Landscape Contractor shall provide turn-key irrigation system capable of providing adequate amounts of water for all installed vegetation to thrive. Planter beds adjacent to any building face shall have drip style irrigation. Irrigation controls to be mounted in owner adjacent location. Controls shall be automatic with rain sensors. When feasible, contractor to provide separate zones for grass and shrub/groundcover irrigation. Contractor to provide copy of irrigation design to Owner prior to installation for approval.

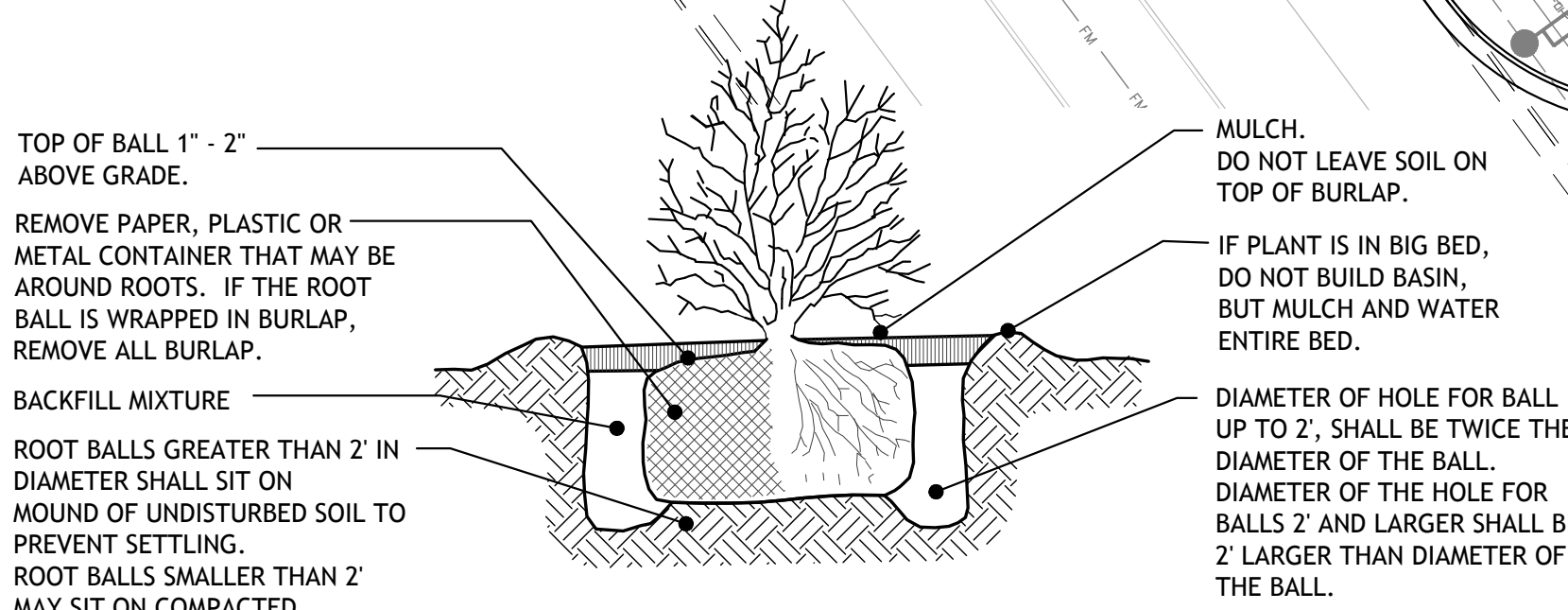
EXISTING TREES CAN BE SUBSTITUTED FOR BUFFER TREES AT A RATE OF:

EXISTING TREE CALIPER (IN)	TREE CREDITS GIVEN
2-6	1
7-12	2
13-18	3
19-24	4
25+	5

TYPE B1 BUFFER (194 LF)
 2 LARGE DECIDUOUS TREES REQUIRED
 4 SMALL DECIDUOUS TREES REQUIRED
 4 LARGE EVERGREEN TREES REQUIRED
 12 SMALL EVERGREEN TREES REQUIRED



TREE PLANTING DETAIL



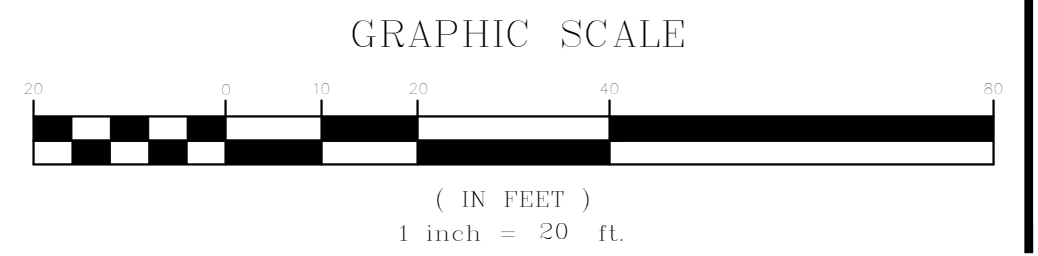
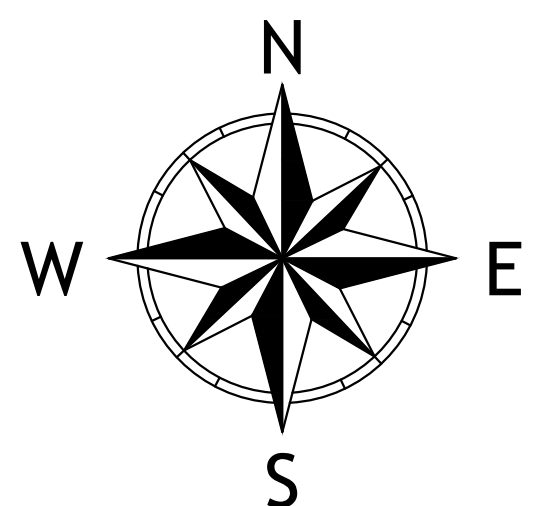
SHRUB PLANTING DETAIL

PLANT SCHEDULE

NOTE: PLANT QUANTITIES ARE SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL QUANTITIES AS SHOWN ON PLANS PRIOR TO BIDDING AND INSTALLATION.

QTY.	COMMON NAME	BOTANICAL NAME	SYM.	SIZE	SPACING
CANOPY TREES					
2	Willow Oak	Quercus phellos	QP	12-14' HT; 2" CAL.	Varies - See Plan
6	Japanese Zelkova	Zelkova serrata	ZS	12-14' HT; 2" CAL.	Varies - See Plan
UNDER-STORY TREES					
4	Eastern Redbud	Cercis canadensis	RB	8-10' HT; 1.5" CAL.	Varies - See Plan
EVERGREEN TREES					
4	Radicans Cryptomeria	Cryptomeria japonica 'Radicans'	RC	1.5' HT; Full to Ground	Varies - See Plan
16	Nellie R. Stevens Holly	Ilex x 'Nellie R. Stevens'	IN	1.5' HT; Full to Ground	Varies - See Plan
TURFGRASS SOD/SEED					
Tifway 419 Bermuda Sod		Cynodon transvaalensis x C. dactylon			
MULCH					
Double-Ground Hardwood Mulch		3-4" Depth, natural color with no added dye or coloring			

NOTES:
 1. All disturbed areas not mulched shall be seeded.
 2. Landscape contractor to provide design-build irrigation system.



STD. & SPEC. #	TITLE	SPECIAL REQUIREMENTS & NOTES
6.17	ROLLED EROSION CONTROL PRODUCTS	—
6.51	HARDWARE CLOTH & GRAVEL INLET PROTECTION	—
6.60	TEMPORARY SEDIMENT TRAP	WEIR TOP WIDTH 10" MIN., BOTTOM 7" MIN.
6.61	SEDIMENT BASIN	FLASH BOARD RISER NOT PERMITTED
6.64	SKIMMER SEDIMENT BASIN	1ST BAFFLE: RIP RAP & WASHED STONE BERM 2ND BAFFLE: STANDARD BAFFLE 3RD BAFFLE: STANDARD BAFFLE SURROUNDING THE SKIMMER

THE STANDARDS & SPECIFICATIONS SHOWN ARE FROM THE "NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" (NCSECPDM) PREPARED BY NC DEPT. OF ENVIRONMENT AND NATURAL RESOURCES (NCDENR).

SPECIAL EROSION CONTROL REQUIREMENTS & NOTES

	GENTLE SLOPES	STEEP SLOPES
SEEDING MIXTURE	80 lbs/acre of tall fescue	100 lbs/acre tall fescue 30 lbs/acre Sericea lespedeza (unsprayed after August 15) 10 lbs/acre Koba lespedeza
SEEDING DATES	FALL: August 25 - October Late winter: February 15 - April 15 To extend spring seeding into June, add 15 lbs/acre hulled Bermudagrass Overseeding of Koba lespedeza over fall-seeded tall fescue is very effective.	FALL: August 25 - October 15 Late winter: February 15 - April 15 To extend spring seeding into June, add 15 lbs/acre hulled Bermudagrass Overseeding of Koba lespedeza over fall-seeded tall fescue is very effective.
SEEDING AMENDMENTS	Apply lime and fertilizer per soil tests, or 4000 lbs/acre limestone and 1000 lbs/acre 10-10-10 fertilizer.	Apply lime and fertilizer per soil tests, or 4000 lbs/acre limestone and 1000 lbs/acre 10-10-10 fertilizer.

NOTE 1
Ground Cover--Protective cover must be established on all disturbed areas within 21 calendar days after land disturbing activity is completed or has temporarily ceased.

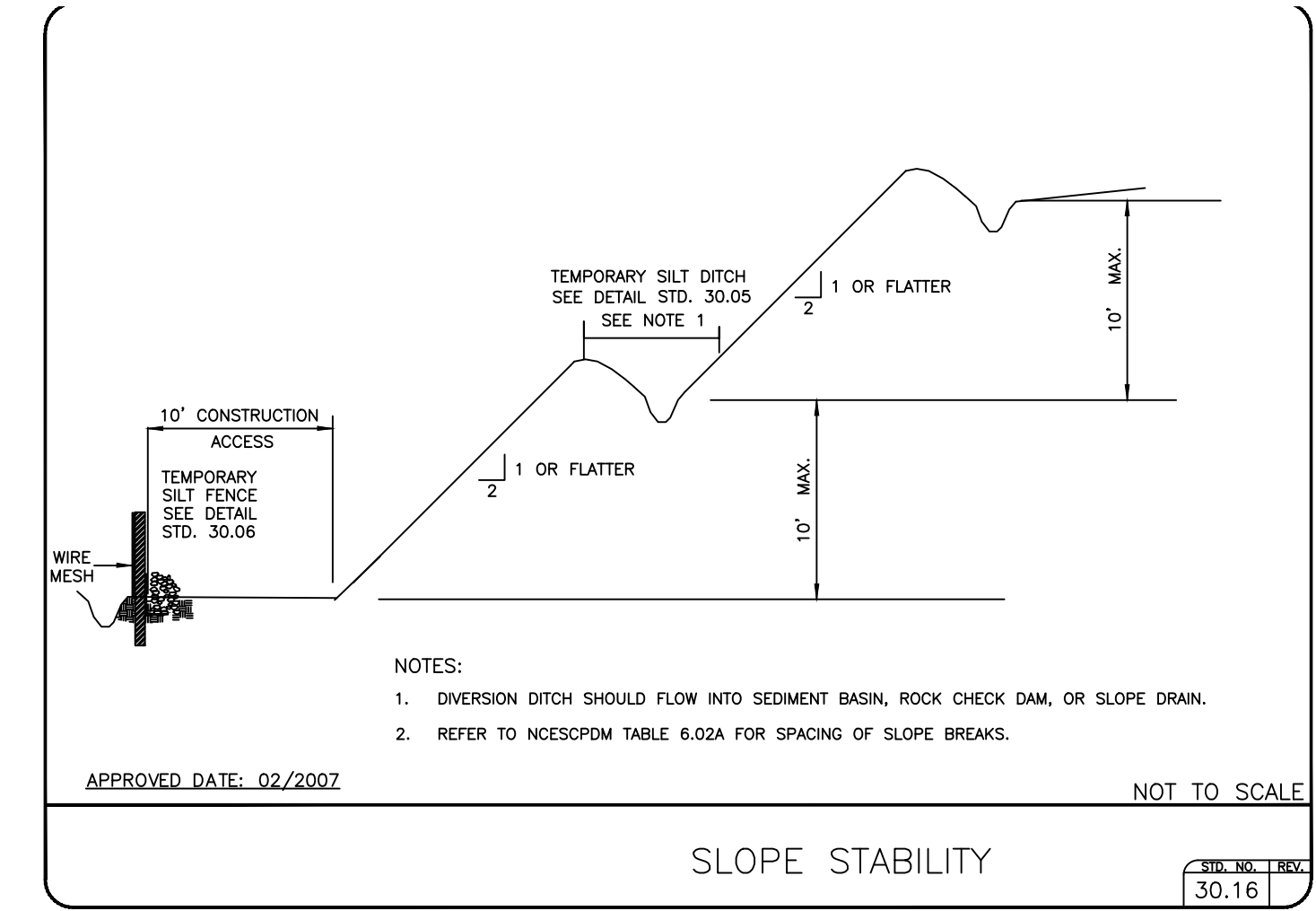
NOTE 2
Graded slopes and fills--Protective cover must be established on all graded slopes and fills within 21 calendar days after a phase of grading is completed or has temporarily ceased.

SEEDING SCHEDULE

TEMPORARY SEEDING FOR WARM AND COOL SEASON

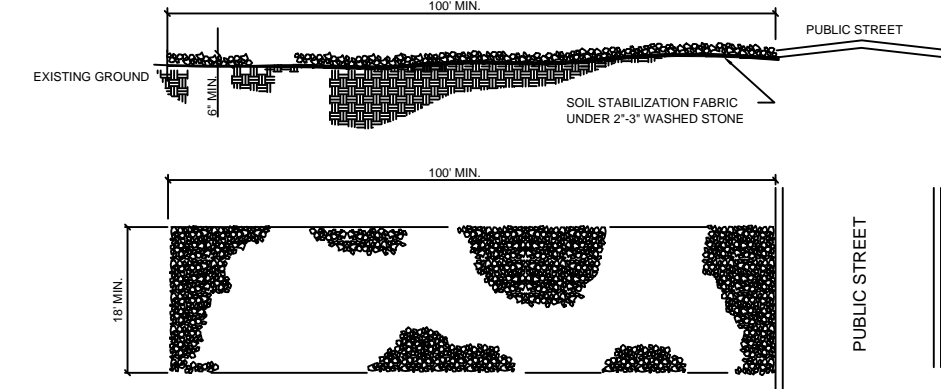
	EARLY SUMMER SEASON	STEEP SLOPES
SEEDING MIXTURE	40 lbs/acre of German millet 80 lbs/acre of tall fescue	120 lbs/acre Rye (grain) 80 lbs/acre tall fescue
SEEDING DATES	May 1 - August 15 Referertilize if growth is not fully adequate. Apply 4000 lbs/acre straw or equivalent hydroseeding.	October 25 - December 30 Between December 30 - February 15, add 50 lbs/acre of annual Koba lespedeza. Apply 4000 lbs/acre straw or equivalent hydroseeding.
SEEDING AMENDMENTS	Apply lime and fertilizer per soil tests, or 2000 lbs/acre limestone and 750 lbs/acre 10-10-10 fertilizer.	Apply lime and fertilizer per soil tests, or 2000 lbs/acre limestone and 750 lbs/acre 10-10-10 fertilizer.

SEEDING SCHEDULE (SEASONAL)

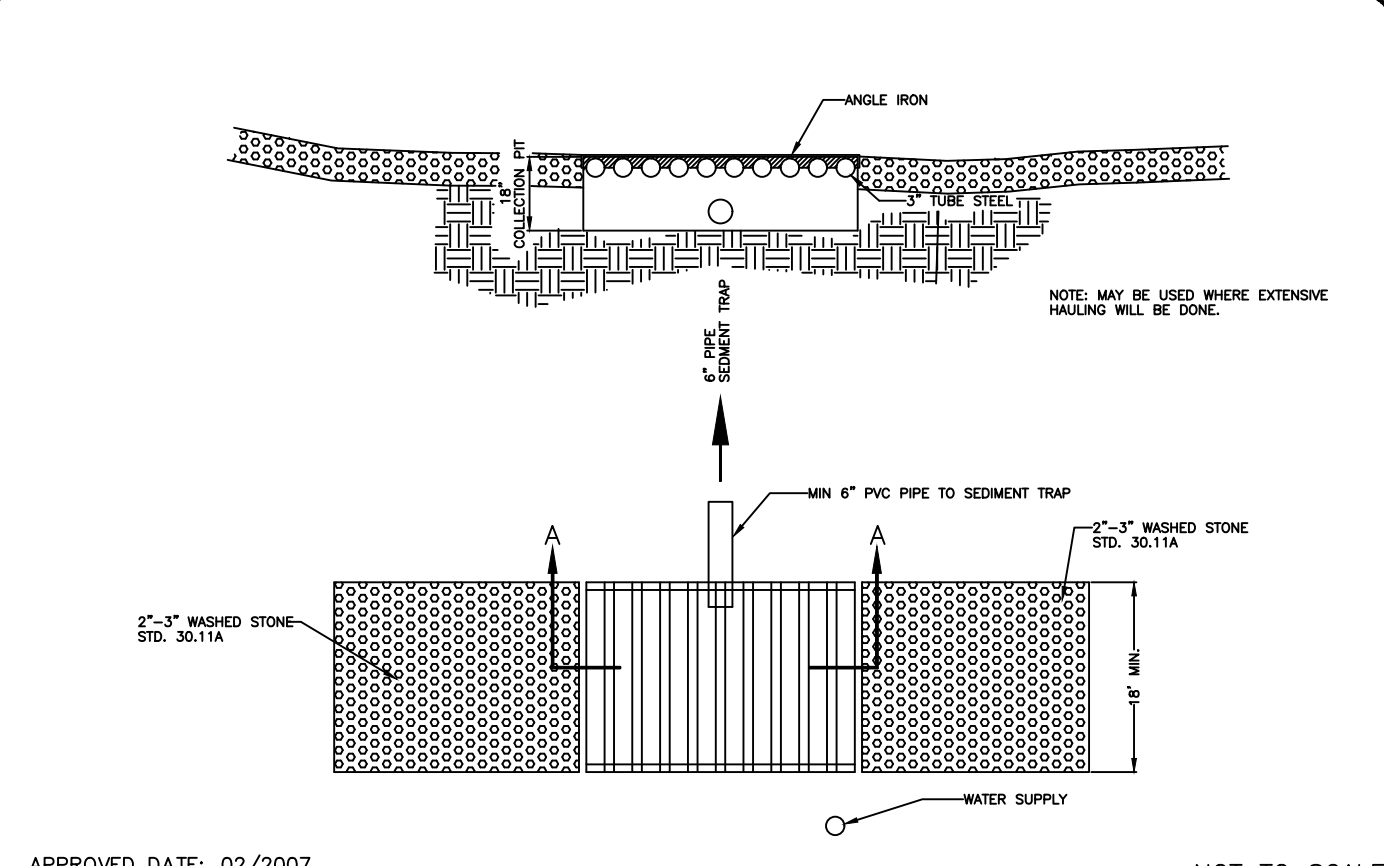


SLOPE STABILITY

- NOTES:
- A stabilized entrance pad of 2"-3" washed stone shall be located where traffic will enter or leave the construction site onto a public street.
 - Filter fabric or compacted crusher run stone shall be used as a base for the construction entrance.
 - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public streets or existing pavement. This may require periodic top dressing with additional stone as conditions warrant and repair or cleanout of any measures used to trap sediment.
 - Any sediment spilled, dropped, washed, or tracked onto public streets must be removed immediately.
 - When appropriate, wheels must be cleaned to remove sediment prior to entering a public street. When washing is required, it shall be done in an area stabilized with crushed stone which drains into an approved sediment basin (see STD. NO. 30.116).
 - County may require a standard commercial driveway (STD. 10.24 & 10.25) to access the construction site if the driveway is on a thoroughfare.



STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION ENTRANCE TIRE WASH

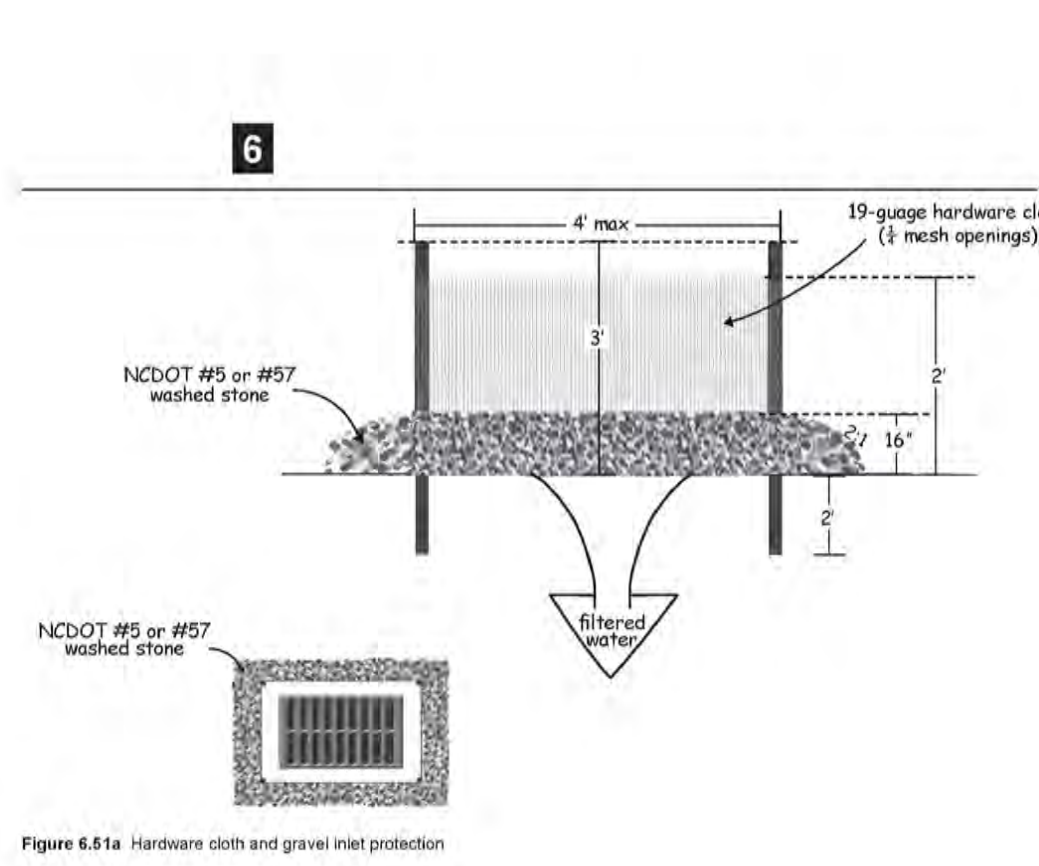


Figure 6.51a Hardware cloth and gravel inlet protection

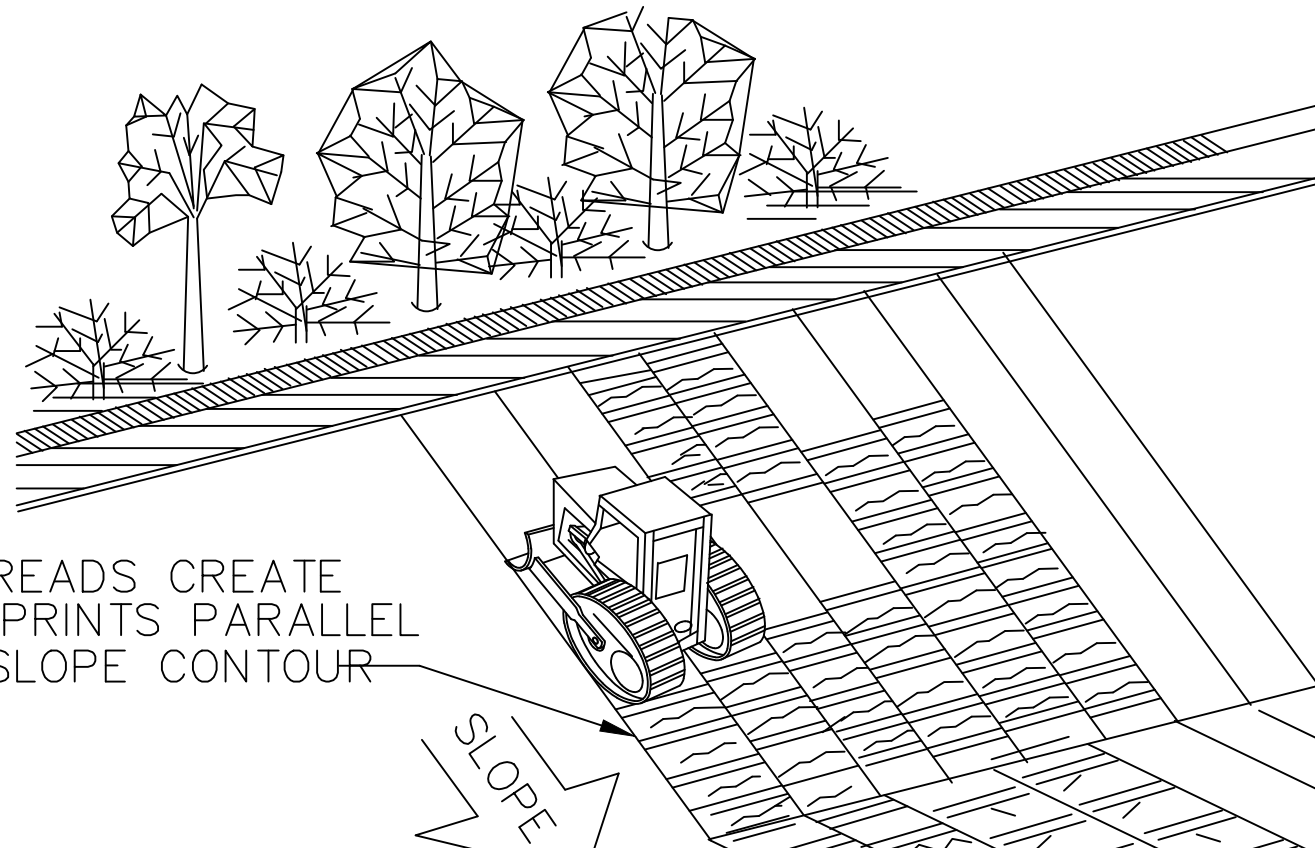
- Construction Specifications
- Uniformly grade a shallow depression approaching the inlet.
 - Drive 5-foot steel posts 2 feet into the ground surrounding the inlet. Space posts evenly around the perimeter of the inlet, a maximum of 4 feet apart.
 - Surround the posts with wire mesh hardware cloth. Secure the wire mesh to the steel posts at the top, middle, and bottom. Placing a 3-foot flap of the wire mesh under the gravel for anchoring is recommended.
 - Place clean gravel (NCDOT #5 or #57 stone) on a 2:1 slope with a height of 16 inches around the wire, and smooth to an even grade.
 - Once the contributing drainage area has been stabilized, remove accumulated sediment, and establish final grading elevations.
 - Compact the area properly and stabilized with groundwater.

- Maintenance
- Inspect inlets at least weekly and after each significant (1/2 inch or greater) rainfall event. Clean the mesh wire of any debris or other objects to provide adequate flow for subsequent rains. Take care not to damage or undercut the wire mesh during sediment removal. Replace stone as needed.

- References
- Inlet Protection
6.52, Block and Gravel Inlet Protection
6.54, Rock Drought Inlet Protection
- North Carolina Department of Transportation
Standard Specifications for Roads and Structures

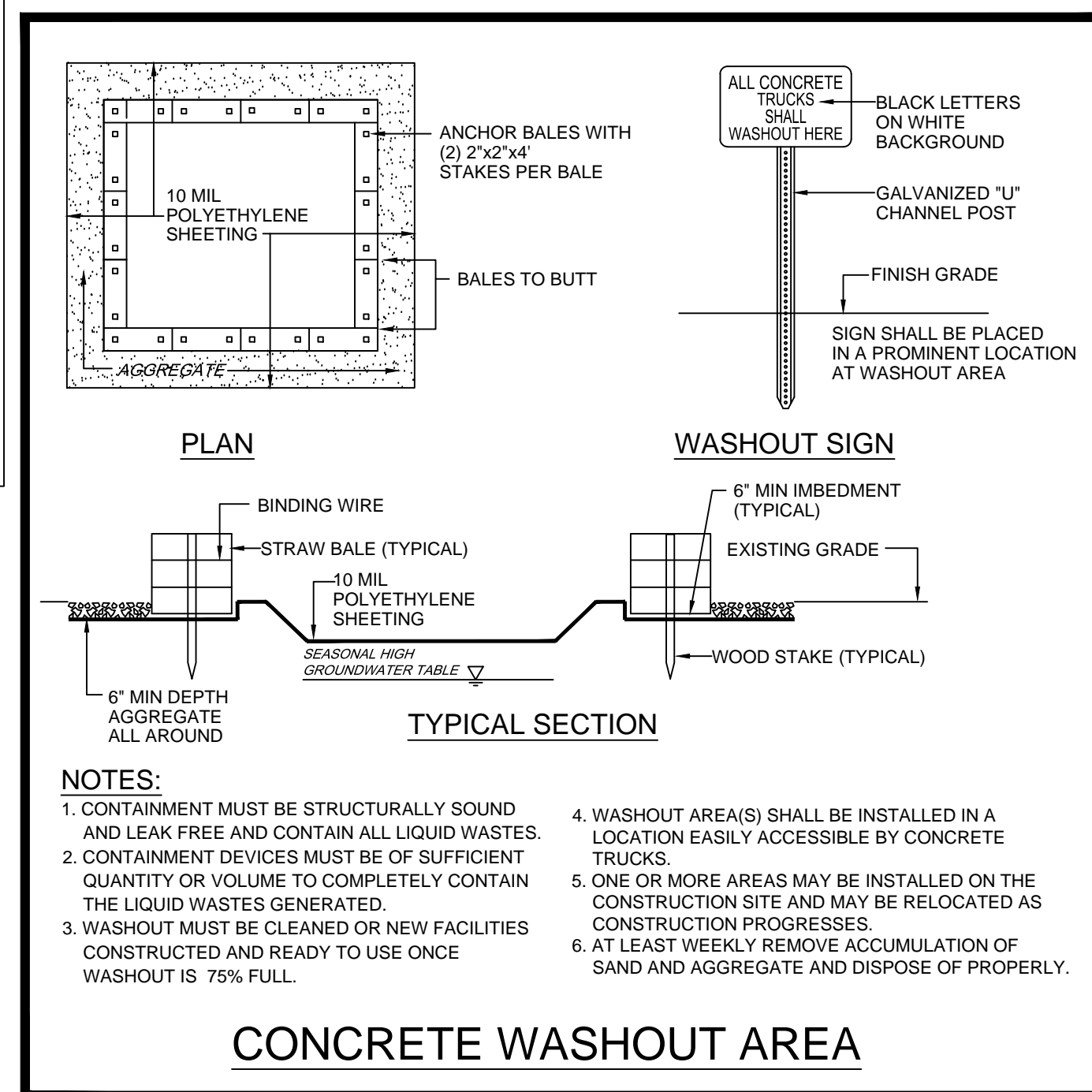
- TYPICAL DETAIL -
HARDWARE CLOTH & GRAVEL
NTS

DOZER TREADS CREATE CLEAT IMPRINTS PARALLEL TO THE SLOPE CONTOUR

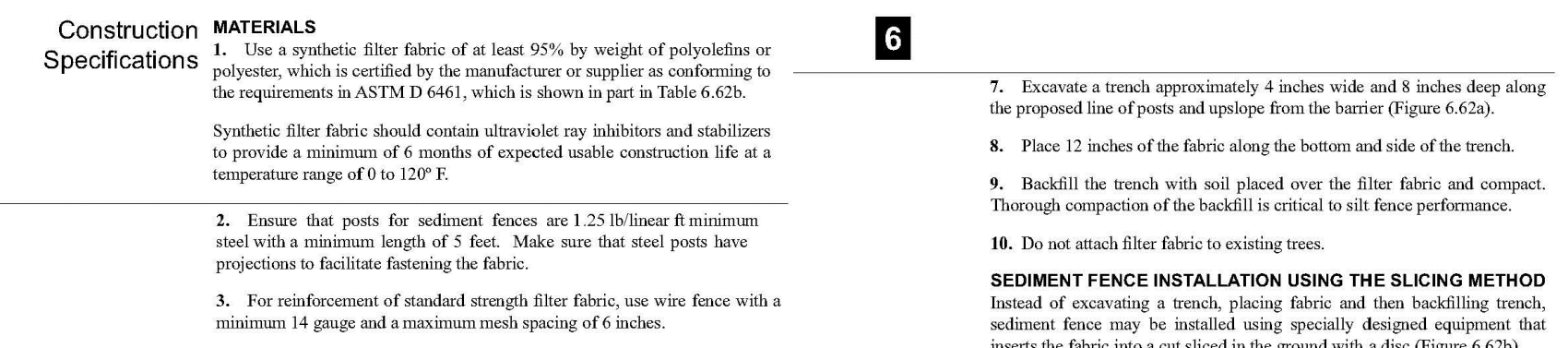


SHOULD BE SEEDED AND STABILIZED IMMEDIATELY.

- TYPICAL DETAIL -
TRACKING DETAIL
NTS



CONCRETE WASHOUT AREA



Construction Specifications

- Use a synthetic filter fabric of at least 95% by weight of polypropylene or polyester, which is certified by the manufacturer or supplier as conforming to the requirements in ASTM D 6461, which is shown in part in Table 6.62b.
- Synthetic filter fabric should contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 to 120° F.
- Ensure that posts for sediment fences are 1.25 lb/linear ft minimum steel with a minimum length of 5 feet. Make sure that steel posts have projections to facilitate fastening the fabric.
- For reinforcement of standard strength filter fabric, use wire fence with a minimum 14 gauge and a maximum mesh spacing of 6 inches.

Table 6.62b Specifications For Sediment Fence Fabric

Test Method	Temporary Silt Fence Material Property Requirements				
	Units	Support ¹ Silt Fence	Un-Support ¹ Silt Fence	Type of Value	
Grab Strength	ASTM D-4532	lb (lbs)	400	550	MARV
Machine Direction		(90)	(90)		
X-Machine Direction		400	450		MARV
		(90)	(90)		
Permeability	ASTM D-4481	sec-1	0.25	0.05	MARV
Apparent Opening Size ²	ASTM D-4781	mm	0.60	0.60	Max. ARV ³
	(US Sieve #)	(30)	(30)		
Ultraviolet Stability	ASTM D-4355	% Retained Strength	70% after 800h of exposure	70% after 500h of exposure	Typical

¹Silt Fence support post shall consist of 14 gauge steel wire with a mesh spacing of 150 mm (6 inches), or predrilled polymer mesh of equivalent strength.
²These values are based on empirical evidence with a variety of treatment. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geologic tests in accordance with Test Method D-5141 should be performed by the agency to confirm suitability of these requirements.
³As measured in accordance with Test Method D-4622.

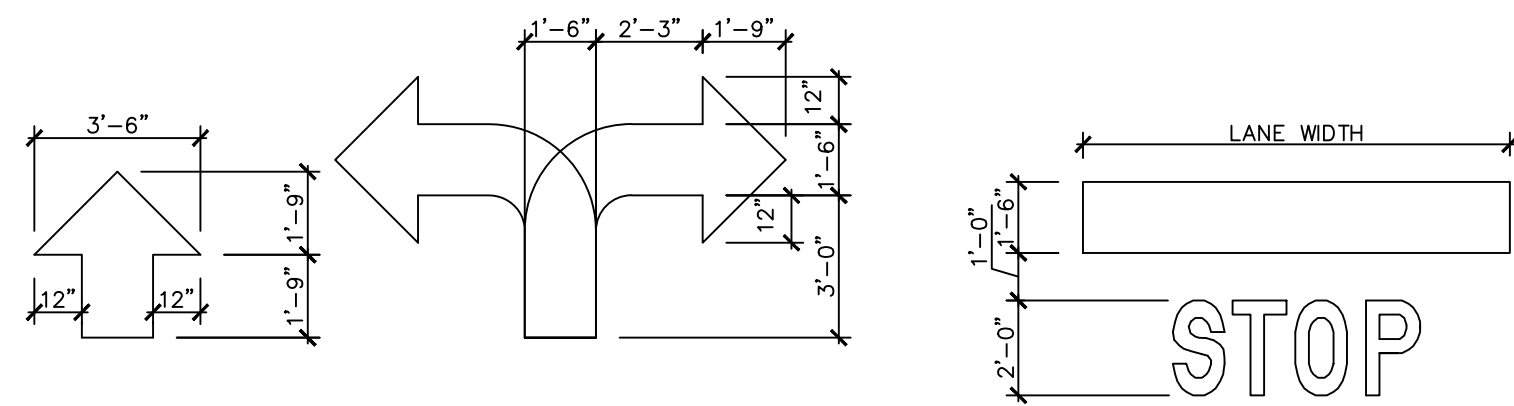
CONSTRUCTION

- Construct the sediment barrier of standard strength or extra strength synthetic filter fabric.
- Ensure that the height of the sediment fence does not exceed 24 inches above the ground surface. (Higher fences may impound volumes of water sufficient to cause failure of the structure.)
- Construct the filter fabric from a continuous roll out to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post.
- Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts. Extend the wire mesh support to the bottom of the fence post. Fasten the wire reinforcement, then fabric on the upslope side of the fence post. Wire or plastic zip ties should have minimum 50 pound tensile strength.
- When a wire mesh support fence is used, space posts a maximum of 8 feet apart. Support posts should be driven securely into the ground a minimum of 24 inches.
- Extra strength filter fabric with 6 feet post spacing does not require wire mesh support fence. Securely fasten the filter fabric directly to posts. Wire or plastic zip ties should have minimum 50 pound tensile strength.

TEMPORARY SILT FENCE

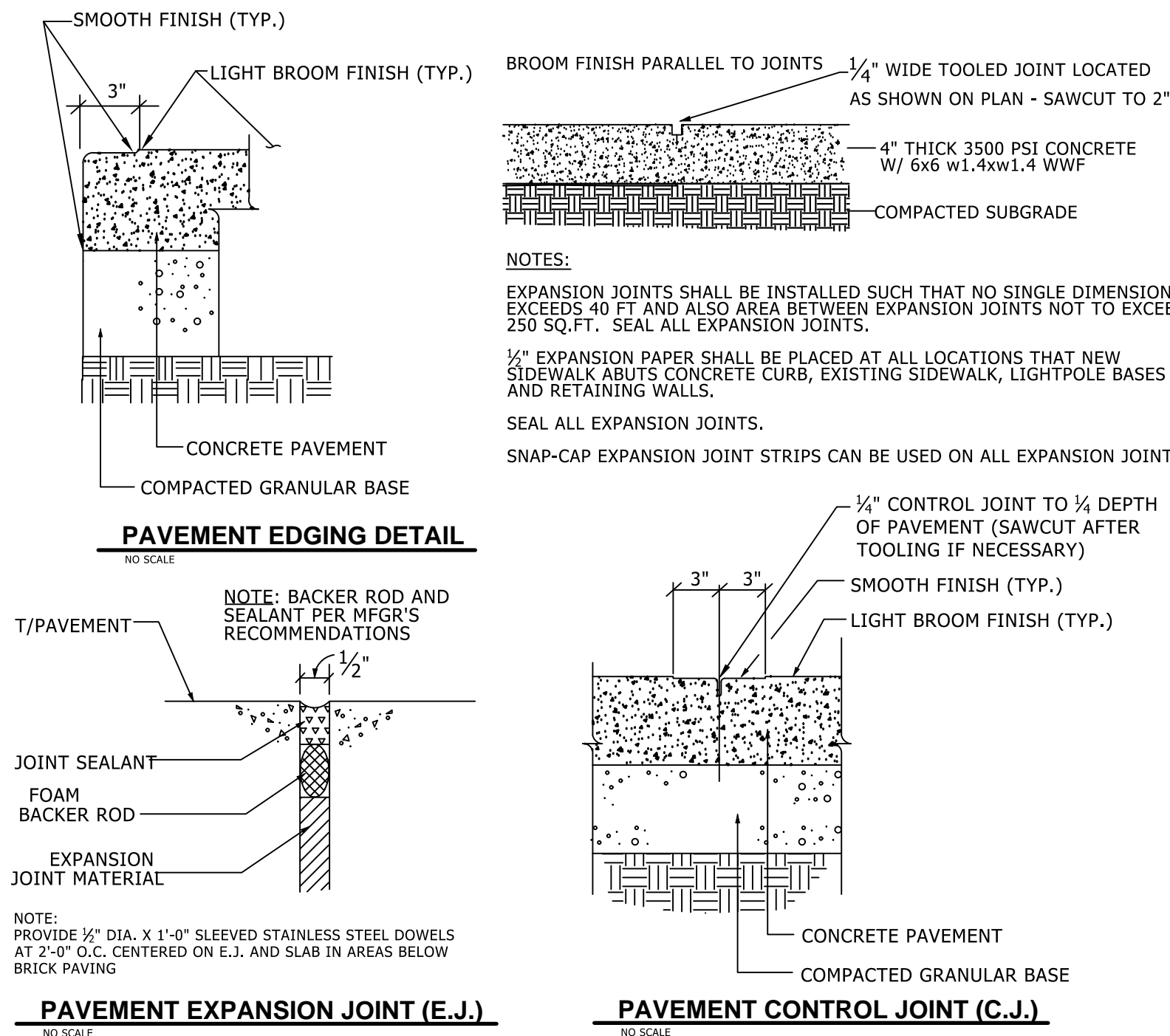
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS			
			PERMITS	ISSUE DATE	ISSUE COMMENT
Perimeter dikes, swales, ditches, slopes	7 days	None			
High Quality Water (HQW) Zones	7 days	None			
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.			
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.			
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.			



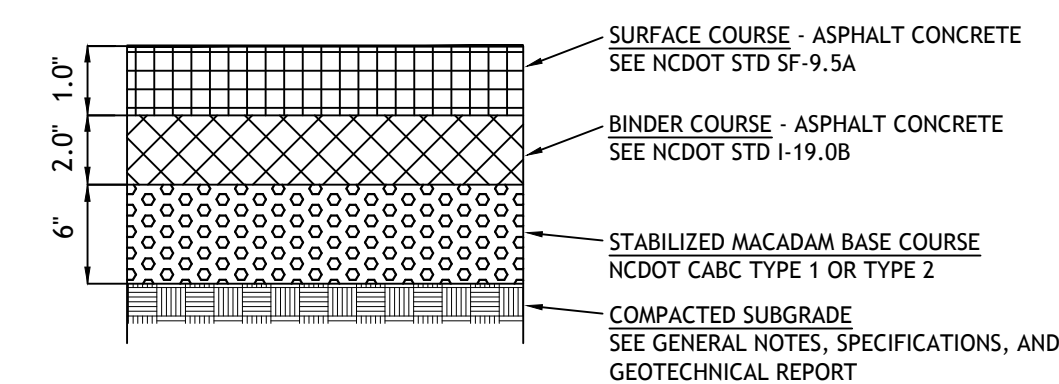


NOTES:
 1. PAINT COLOR TO BE "YELLOW" FOR ARROW AND LETTERS. "STOP" LETTERS TO BE ELONGATED HELEVETICA MEDIUM - 4" WIDE STROKES.
 2. PAINT 2" BLACK OUTLINE AROUND ARROW AND LETTERS FOR PROJECTS WITH CONCRETE PARKING LOTS.

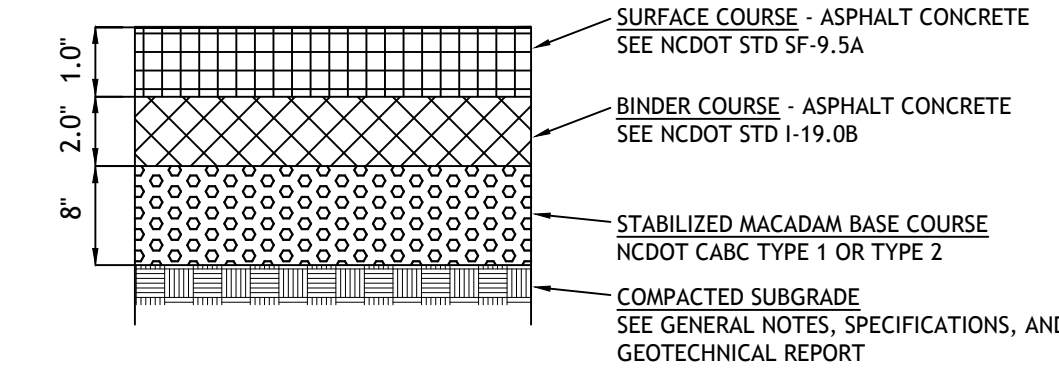
PAVEMENT PAINTING
 NOT TO SCALE



CONCRETE SIDEWALK
 NTS

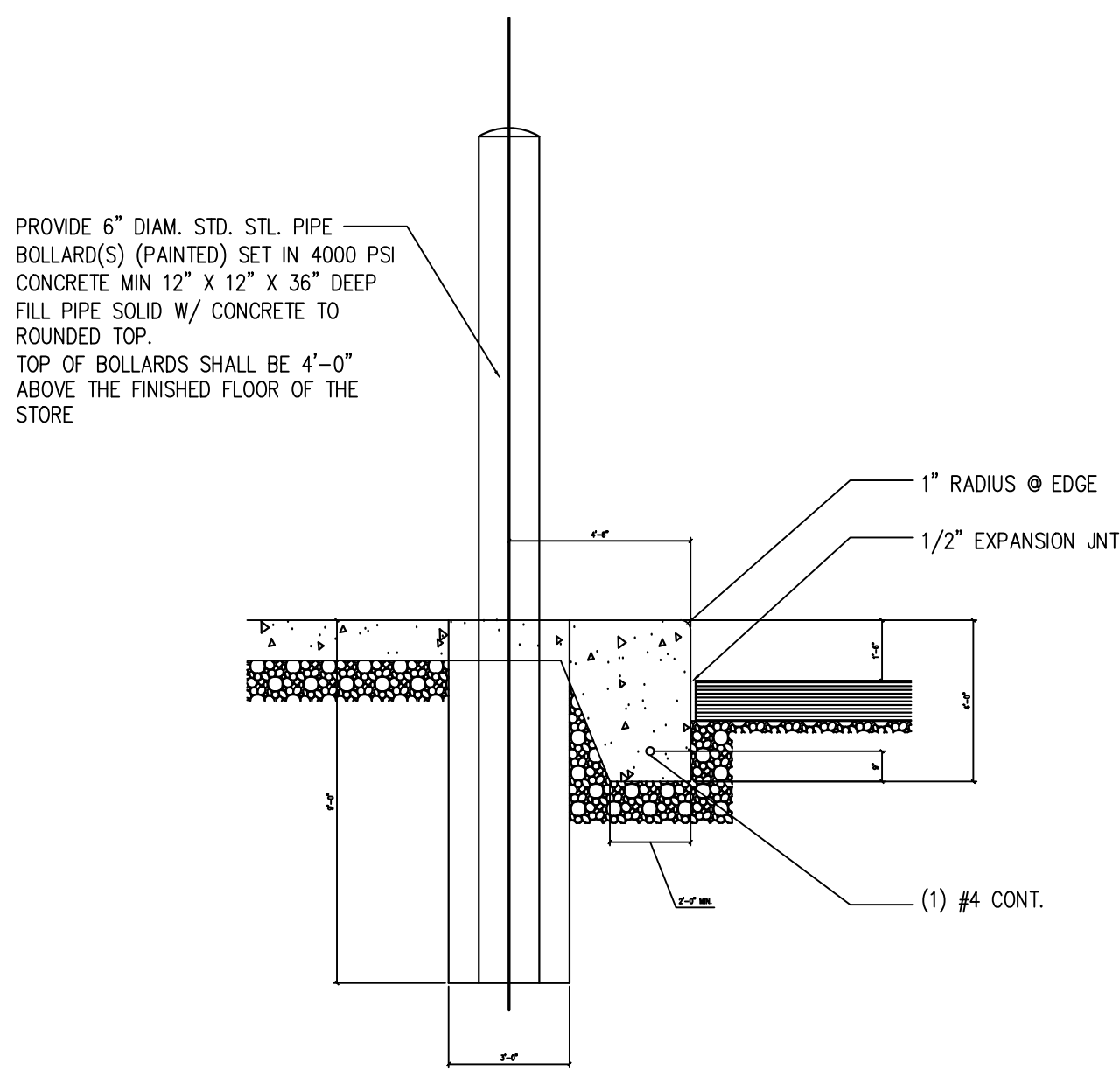


LIGHT DUTY ASPHALT PAVEMENT
 NTS

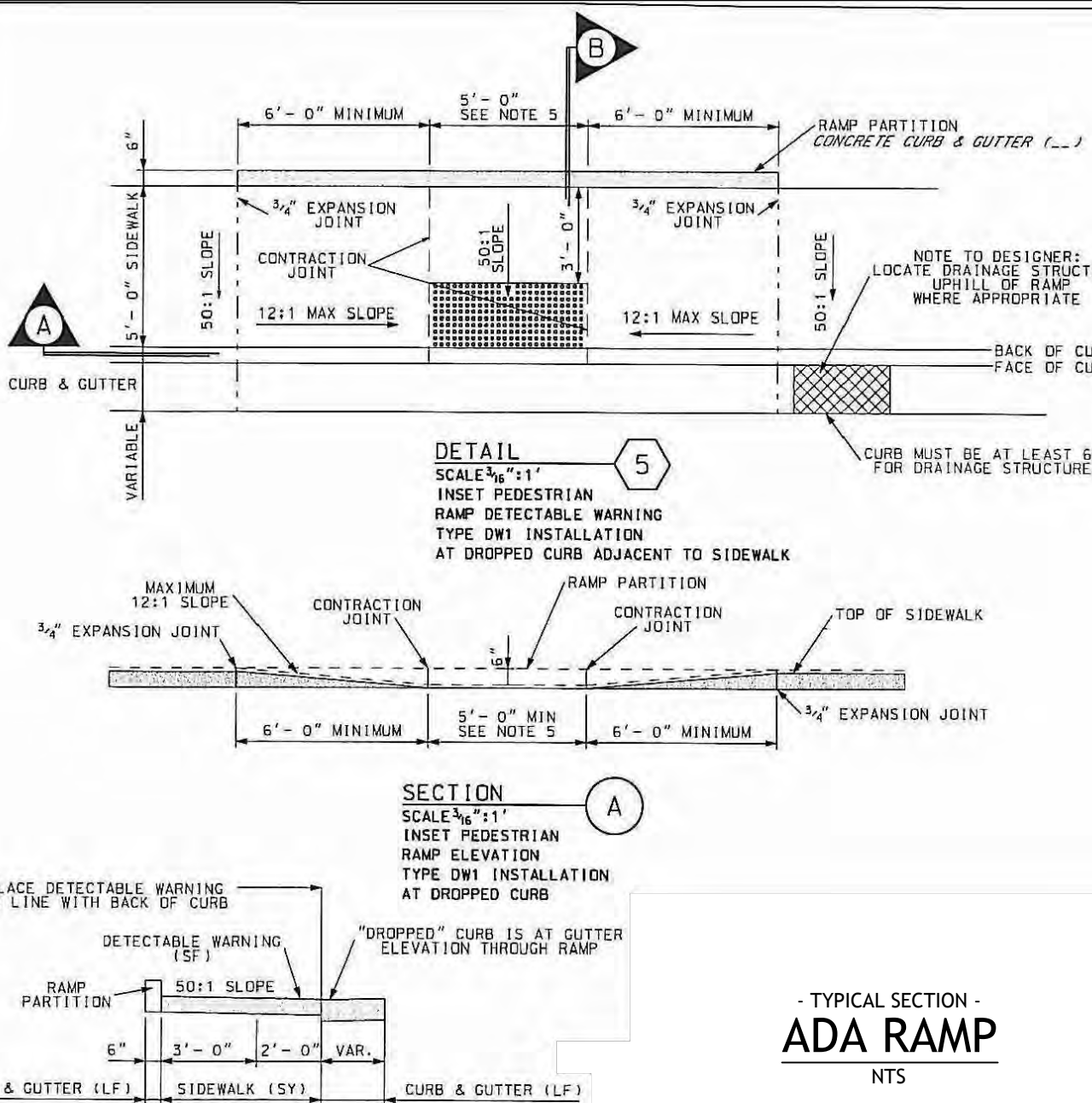


HEAVY DUTY ASPHALT PAVEMENT
 NTS

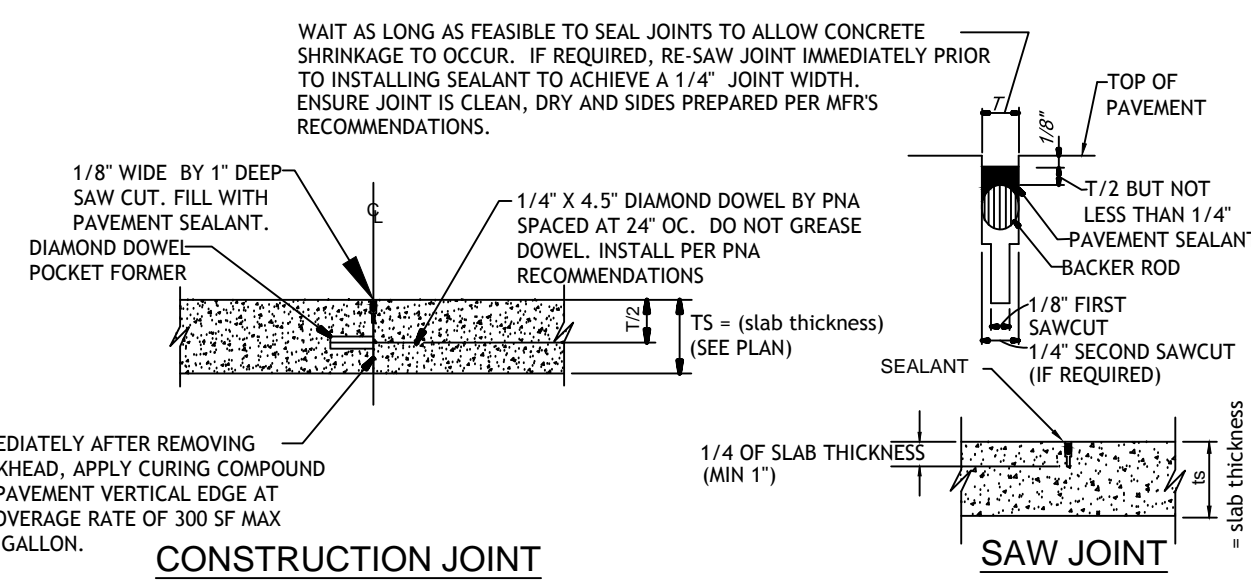
PAVEMENT NOTE:
 THE ABOVE PAVEMENT SECTIONS ARE TO BE APPROVED BY THE OWNER AND GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.



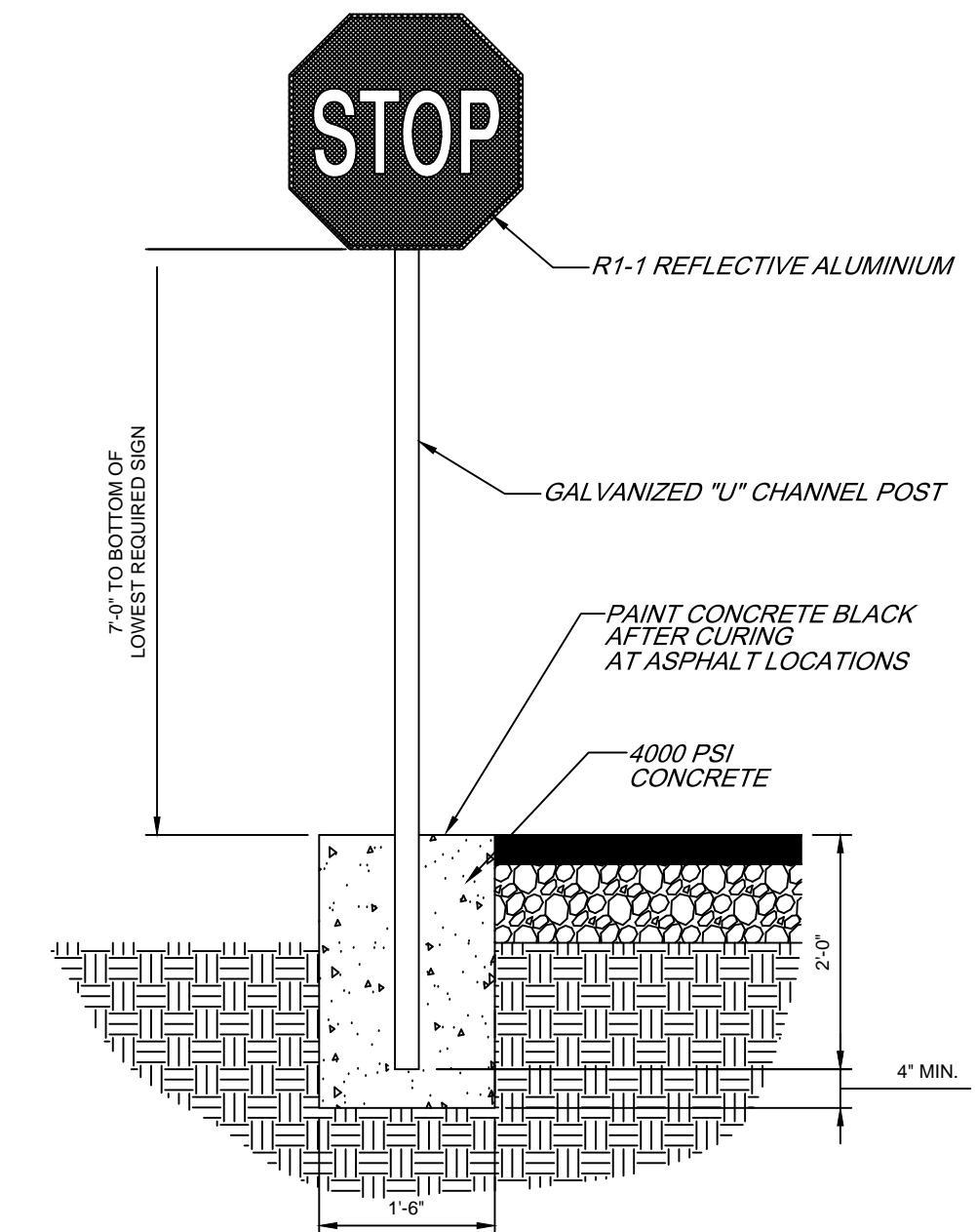
PIPE BOLLARD
 NTS



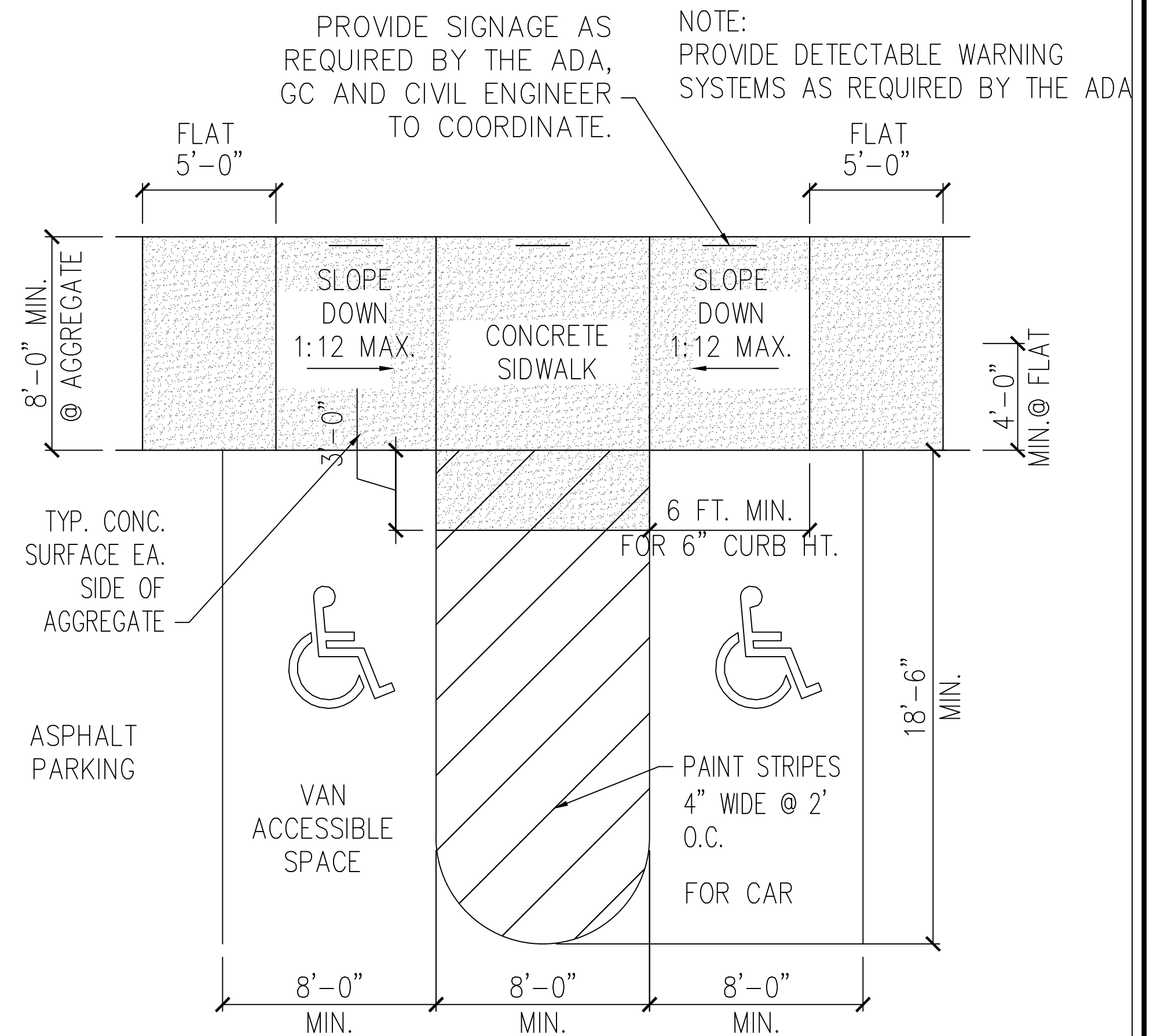
ADA RAMP
 NTS



CONCRETE JOINTING
 NTS



STOP SIGN DETAIL

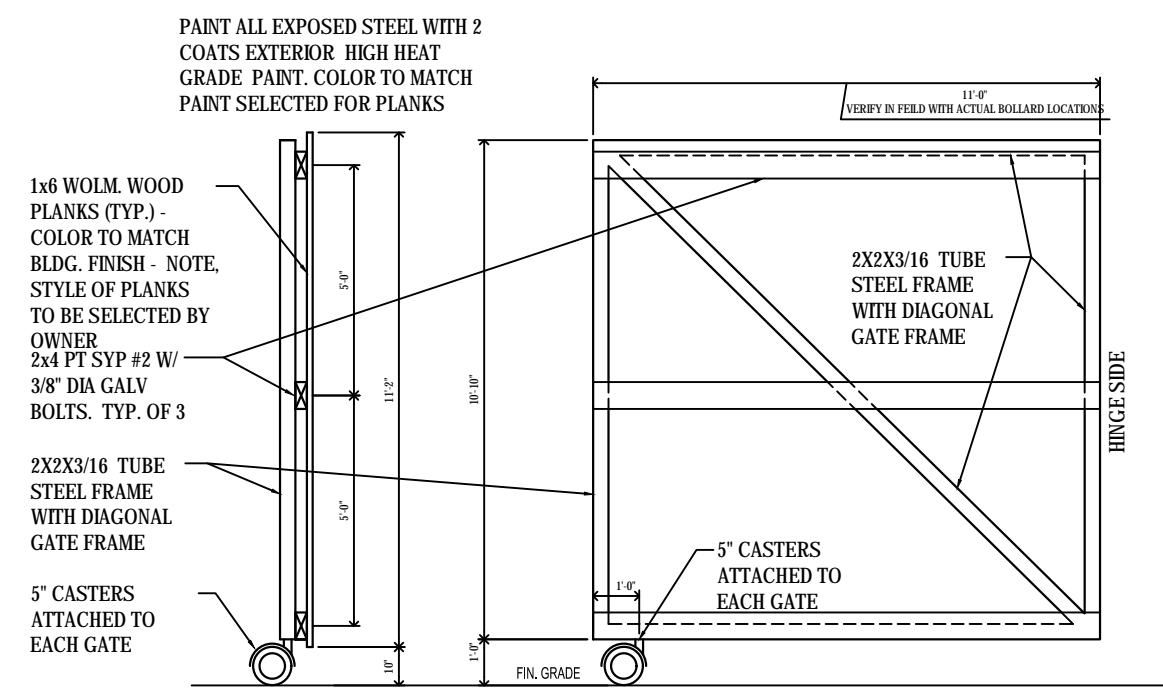


G.C. TO VERIFY THAT CIVIL SITE PLAN MEETS OR EXCEEDS THESE AND ALL OTHER APPLICABLE ADA REQUIREMENTS.

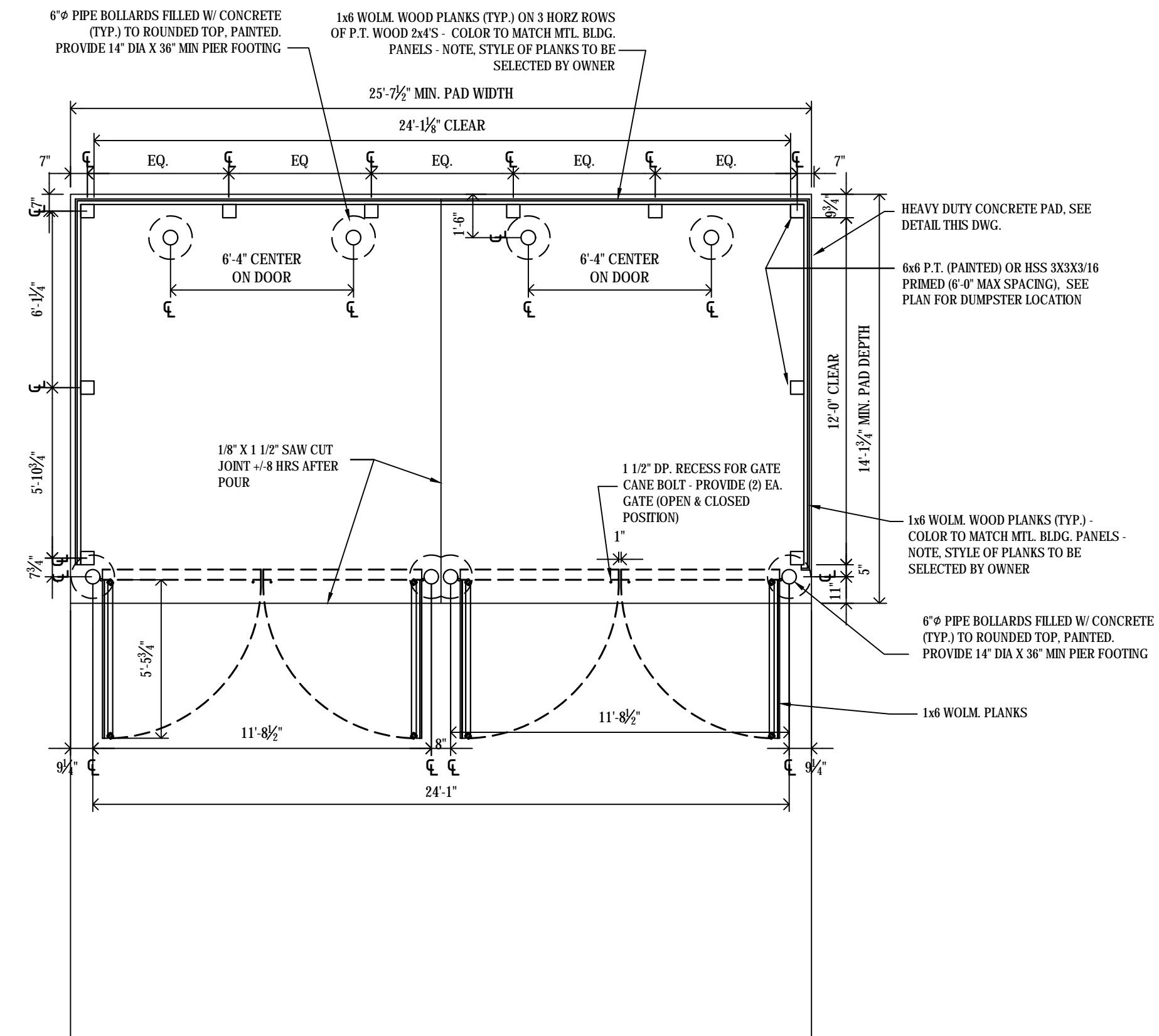
ADA ACCESSIBILITY STRIPING
 N.T.S.



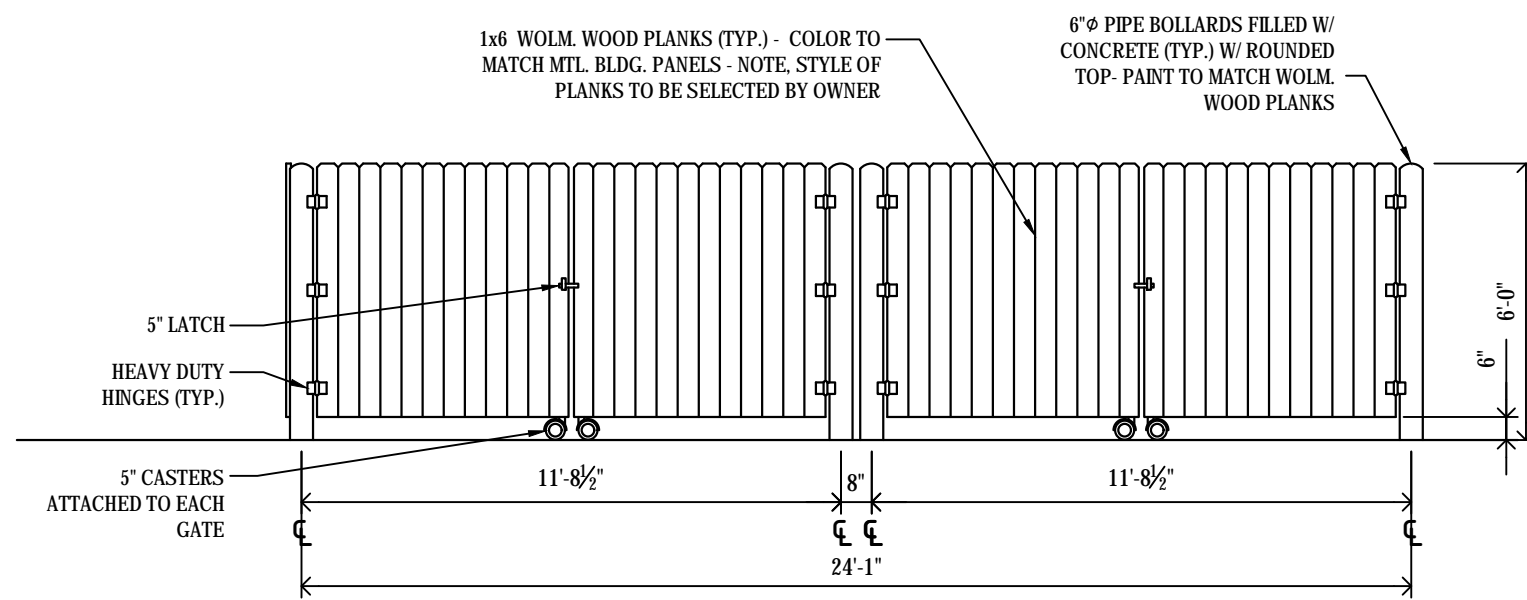
PLAN REVISION	ISSUE DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS



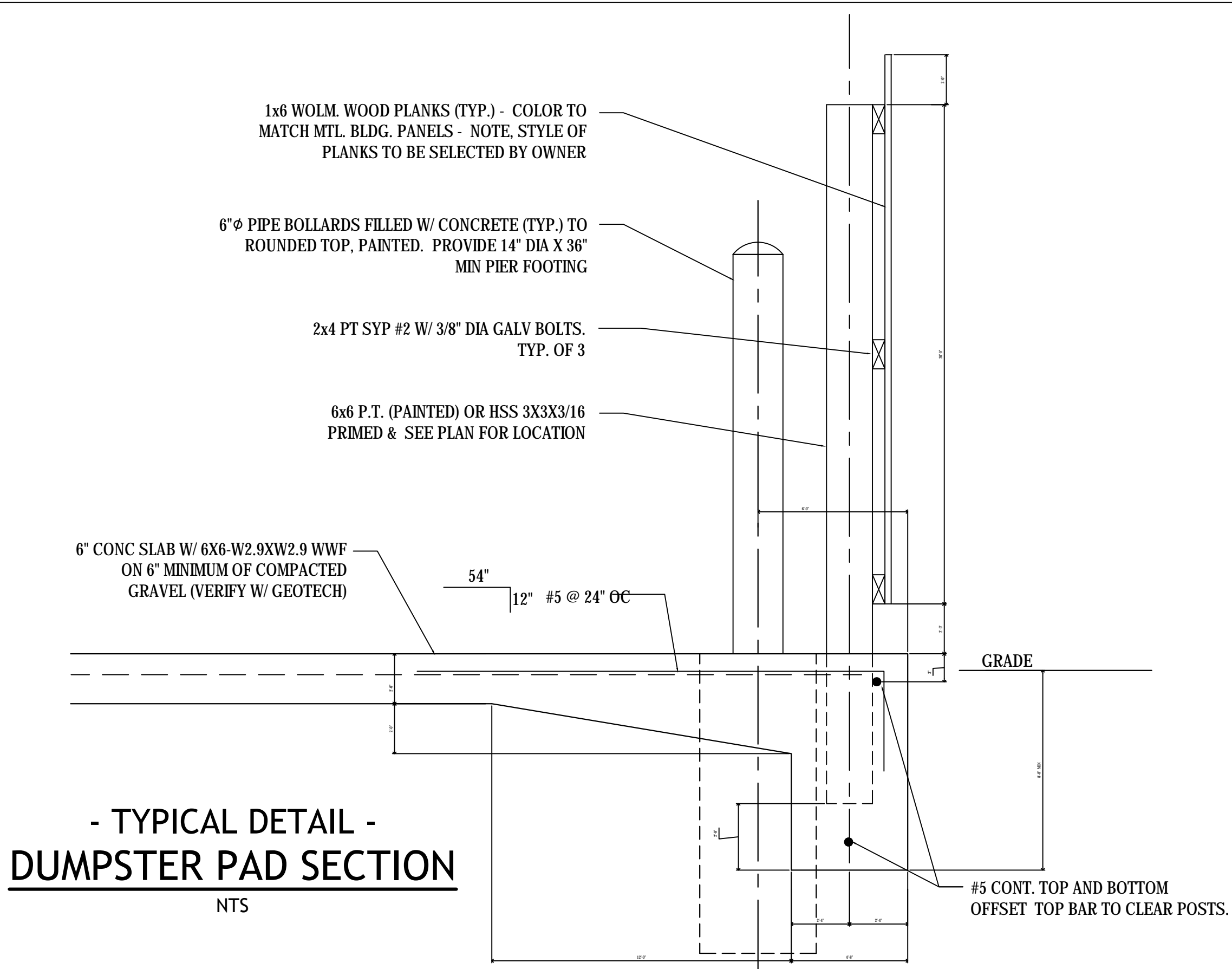
- TYPICAL DETAIL -
DUMPSTER GATE SECTION
NTS



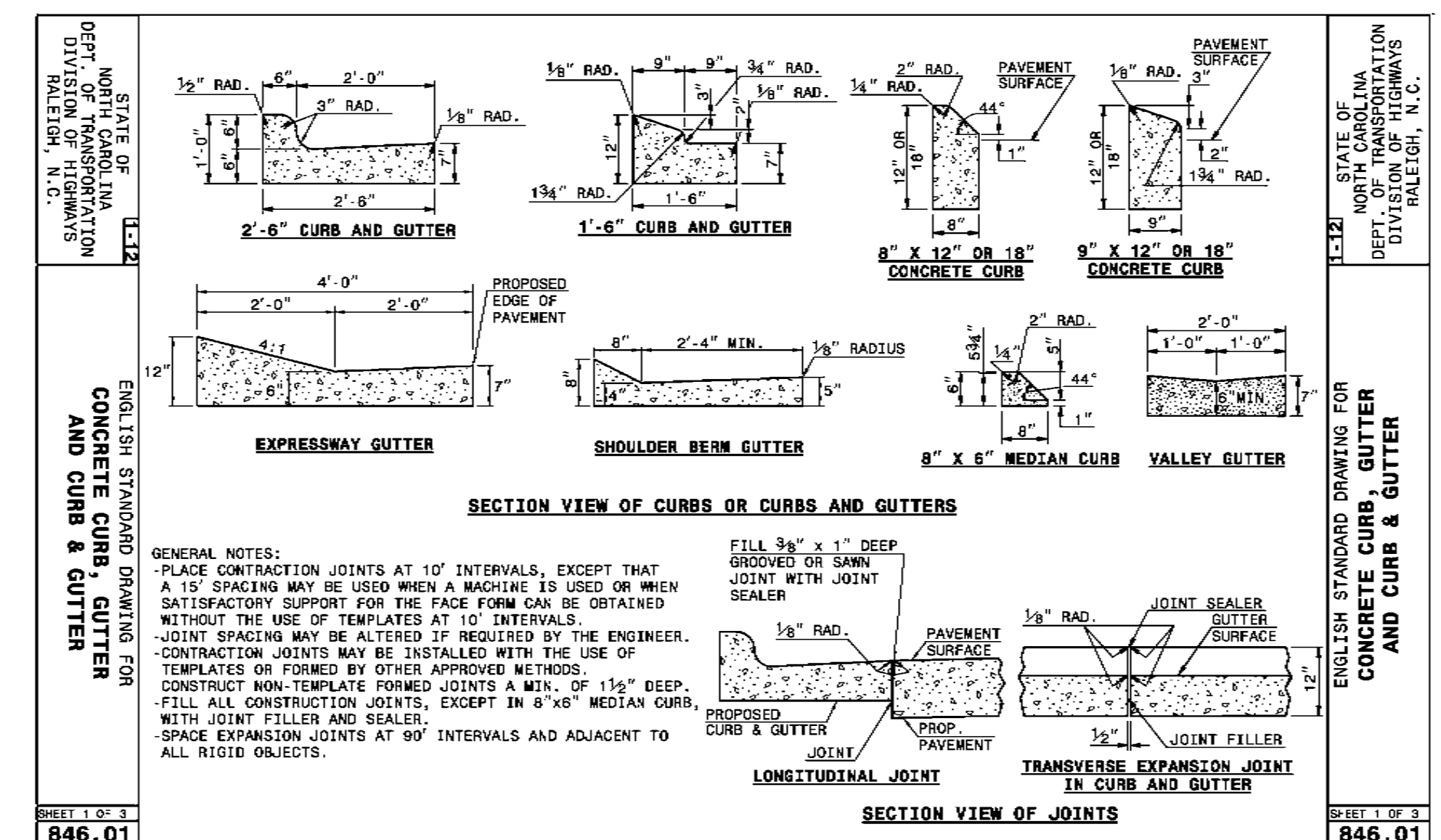
- TYPICAL DETAIL -
DUMPSTER ENCLOSURE
NTS



- TYPICAL DETAIL -
DUMPSTER ENCLOSURE
NTS



- TYPICAL DETAIL -
DUMPSTER PAD SECTION
NTS



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

GENERAL NOTES:
1. D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE LINE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
2. TAKE CARE TO FULLY COMPACT HUNCH ZONE OF PIPE BACKFILL.
3. LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR TRENCH; LEAK RESISTANT CONCRETE BENTONITE PIPE BACKFILL AS THE SEALING AND BACKFILL WILL COMPLETELY COMPACT.

SHEET 2 OF 3
300.01

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING PRECAST
DRAINAGE STRUCTURE

GENERAL NOTES:
1. THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34, 840.35, 840.36 AND 840.41.
2. INSTALL AND PAY FOR PRECAST DRAINAGE STRUCTURES IN ACCORDANCE WITH NDOT STANDARD SPECIFICATION SECTION 840.
3. USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.
4. USE ASTM A615 GRADE 80 REINFORCING STEEL. USE ASTM A185 WELDED WIRE FABRIC (WFF) FOR PRECAST STRUCTURES.
5. LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15'-0".
6. PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
7. ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.
8. PRECAST ALL ELEMENTS TO MEET ASTM C913.
9. FRAME AND GRADE HEIGHTS MUST BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
10. PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
11. FRAME AND GRADE HEIGHTS MUST BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
12. SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NDOT STANDARD SPECIFICATIONS).
13. LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 4'-8" X 6'-0".
14. THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OF THE OPENING REQUIRED FOR GRADE AND FRAME INTERCHIEVER EX GREATER.
15. ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA REBARS ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. (SEE STD. NO. 840.34 FOR MANHOLE INSTALLATION).

SHEET 1 OF 1
840.46

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING PRECAST
DRAINAGE STRUCTURE

GENERAL NOTES:
1. CONSTRUCT SECTION "B" OF THE PROPOSED WALL 8" THICK AND SECTION "A" 12" THICK.
2. IF PROPOSED STRUCTURE EXCEEDS 12'-0" VERTICAL HEIGHT A DESIGN WILL BE REQUIRED FOR APPROVAL.
3. USE SINGLE MAT REINFORCING STEEL EXCEPT DOUBLE MAT STEEL MAY BE USED IN LIEU OF HOOK BARS IN BASE SLAB.

SHEET 1 OF 2
840.34

STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

GENERAL NOTES:
1. USE CLASS "B" CONCRETE THROUGHOUT.
2. PROVIDE ALL CATCH BASINS OVER 2'-6" IN DEPTH WITH STEPS 12" ON CENTERS. USE STEPS WIDTH CORRY WITH STD. DRAWING MANHOLE.
3. OPTIONAL CONNECTIONS - MONOLITHIC HOOD, 2" KEYWAY, OR 4" BAR CORNERS AT USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
4. IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, AND TO SLAB AS SHOWN ON STD. NO. 840.00.
5. USE TYPE "A", "B", "C" AND "D" GRATES UNLESS OTHERWISE INDICATED.
6. IF PROPOSED OR LESS THAN 4" WELLS AND BOTTOM SLAB OVER 2'-0" TO 2'-6" IN DEPTH, USE 1" WELLS AND BOTTOM SLAB. ADJUST DIMENSIONS ACCORDINGLY.
7. ALL WALLS AND BOTTOM SLAB SHALL BE CONSTRUCTED WITH PIPE JOINTS MATCHING.
8. CHANNEL ALL EXPOSED CORNERS 1".
9. DRAWINGS NOT TO SCALE.

SHEET 1 OF 3
840.02

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
MANHOLE FRAME AND COVER

GENERAL NOTES:
1. SOLID COVER SHOWN PERFORATED. PERFORATED AVAILABLE IF SPECIFIED.
2. USE OF SYSTEM ON COVER (I.E.: SEWER, STORM DRAIN, ELECTRICAL).

MINIMUM WEIGHTS - LBS.
FRAME - 190
COVER - 120
TOTAL - 300

SHEET 1 OF 1
840.54

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING JUNCTION BOX
FOR USE WITH PIPES 42" AND UNDER

GENERAL NOTES:
1. USE STANDARD OR JUMBO BRICK FOR WALL CONSTRUCTION. SOLID CONCRETE BRICK OR BLOCK ARE OPTIONAL WALL CONSTRUCTION MATERIAL.
2. PRECAST UNITS MADE OF CLASS "AA" CONCRETE MAY BE USED IN LIEU OF BRICK MASONRY CONSTRUCTION. SUBMIT DESIGN OF PRECAST UNITS FOR APPROVAL PRIOR TO CONSTRUCTION.
3. INCLUDE ALL ADJUSTMENTS TO WALLS, SLABS OR REINFORCING MATERIAL IN THE UNIT PRICE BID FOR EACH UNIT.
4. INSTALL OPTIONAL MANHOLE IN POSITION AS DIRECTED BY THE ENGINEER. CUT OR BEND ALL REBAR CROSSING THIS OPENING TO ALLOW 2" MINIMUM CONCRETE COVERAGE. INCLUDE THE OPENING WITH 6" X 6" BARS TIED TO THE REBAR MAT AND SET SO A MINIMUM OF 3" CONCRETE COVER IS ATTAINED. REFERENCE STD. NO. 840.54 FOR MANHOLE INFORMATION.
5. PROVIDE JUNCTION BOXES WITH MANHOLES OVER 3'-6" IN DEPTH WITH STEPS PLACED ON 12" CENTERS. REFERENCE STD. NO. 840.66.
6. SPACE DOME "C" BARS AT A MAXIMUM OF 12" CENTERS.
7. MAXIMUM DEPTH OF THIS UNIT AS SHOWN IS 12".
8. CONSTRUCT THE JUNCTION BOX IN ACCORDANCE WITH SECTIONS 830, 832, 834 AND 840 OF THE STANDARD SPECIFICATIONS.

BAR	QTY	SIZE	LENGTH	WEIGHT
A	8	#5	1'-2"	8.7
B	14	#5	2'-4"	80.3
C	26	#4	1'-8"	29.1
D	14	#5	6'-10"	151.3
STEEL TOTAL WEIGHT 217.4				

SHEET 2 OF 2
840.34

STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
FRAME, AND HOOD
DRAINAGE STRUCTURE STEPS

DETAIL SHOWING TYPES OF GRATES
USE ACCORDING TO WATER FLOW.

SHEET 2 OF 3
840.03

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
DRAINAGE STRUCTURE STEPS

NOTES:
1. INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL. STEPS DIFFERING IN DIMENSIONS, CONFIGURATION OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

SHEET 1 OF 1
840.66

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

SHEET 1 OF 1
840.16

Project Number: 2018-015
2018-015 Details.dwg
Drawing Scale: AS NOTED
Date of Project: 4-2018
Engineer of Record:
Jason Henderson, P.E.
South Carolina PE# 2208
Georgia PE# 62071
North Carolina PE# 031306
Alabama PE# 32054

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Certificates of Authorization:
SC 004212 - GA PE#00865
NC P0868 - AL CA0656

FAMILY DOLLAR
STORE 716851
Spartanburg Highway
Henderson County, NC

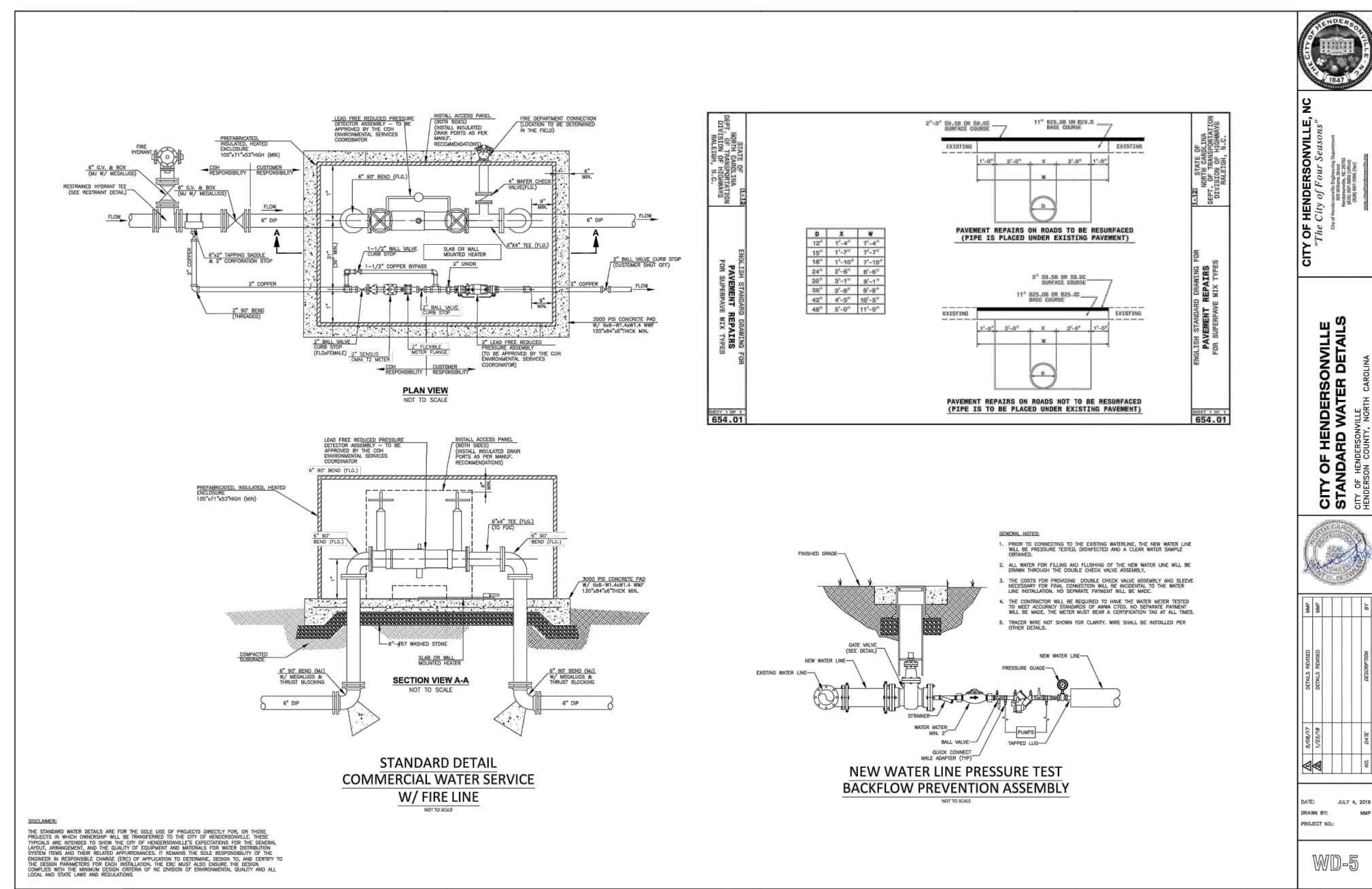
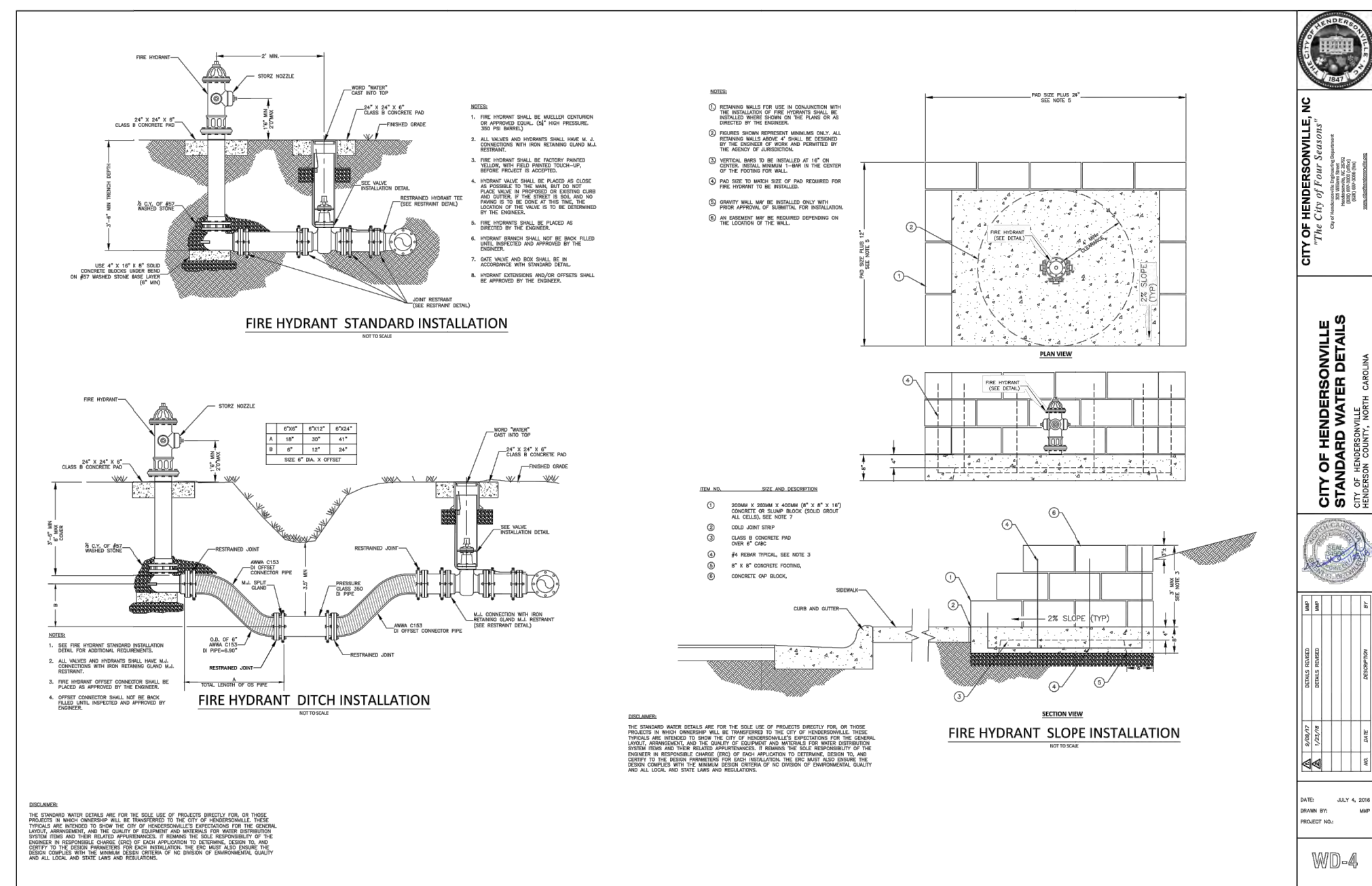
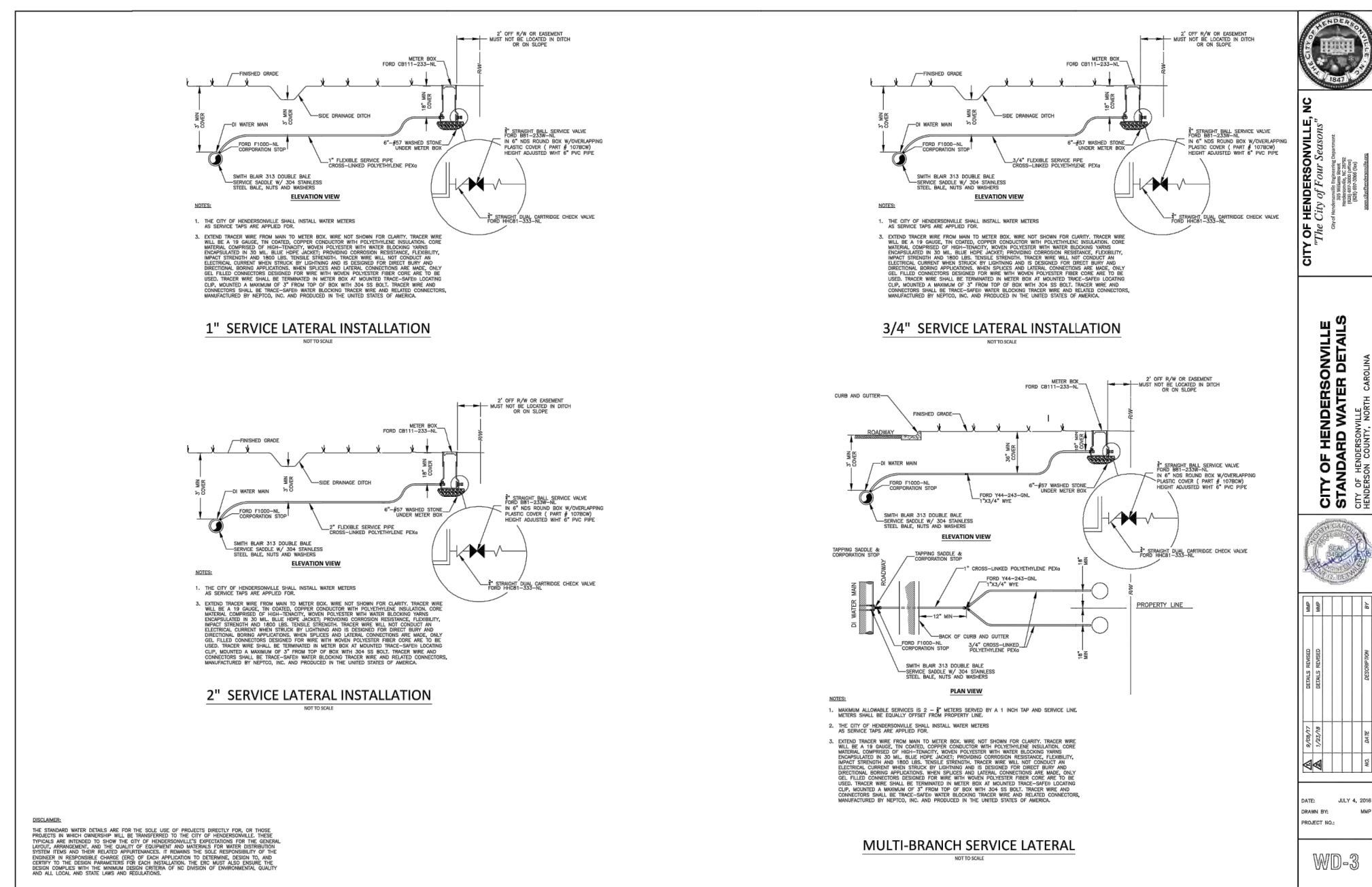
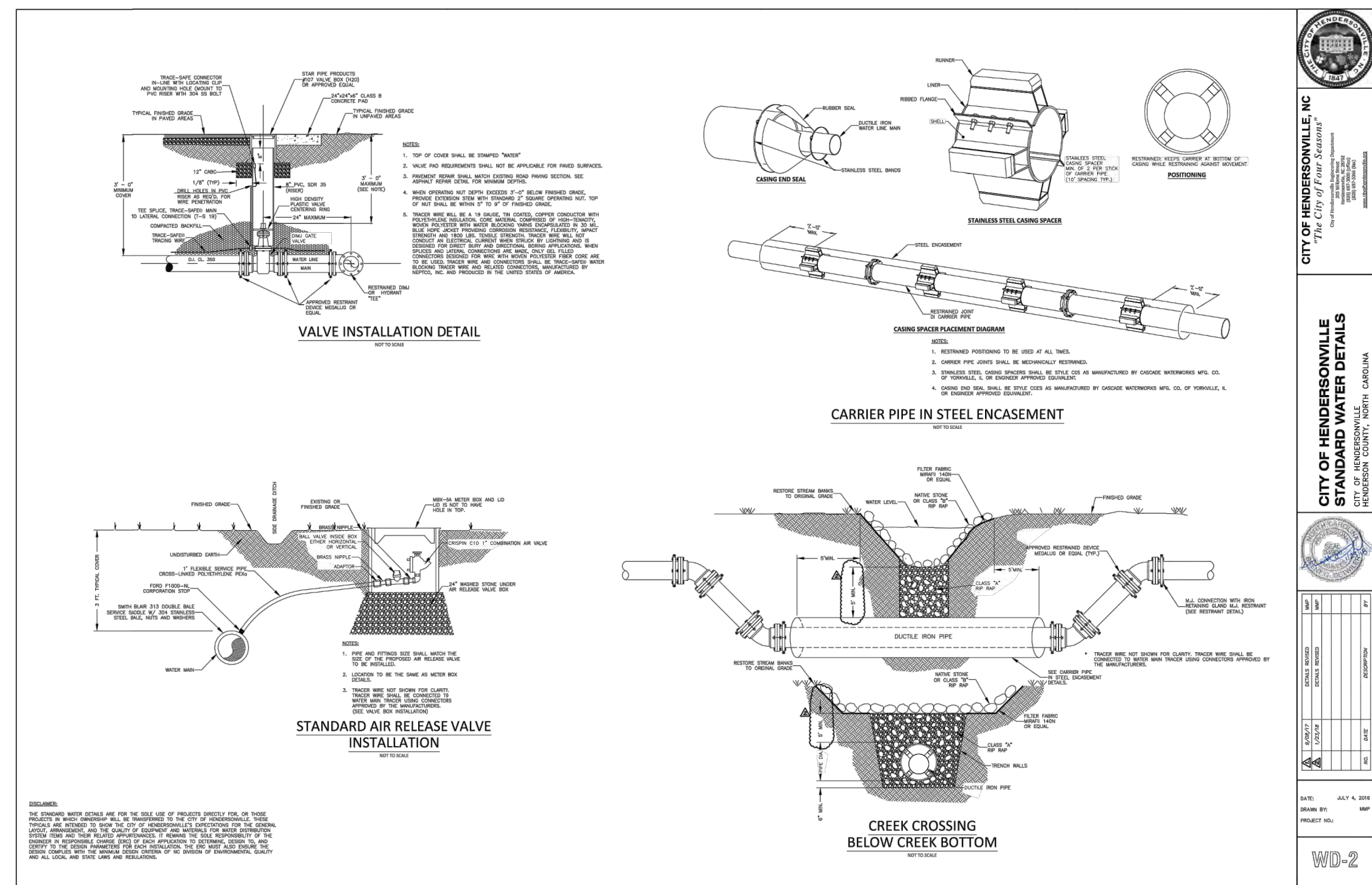
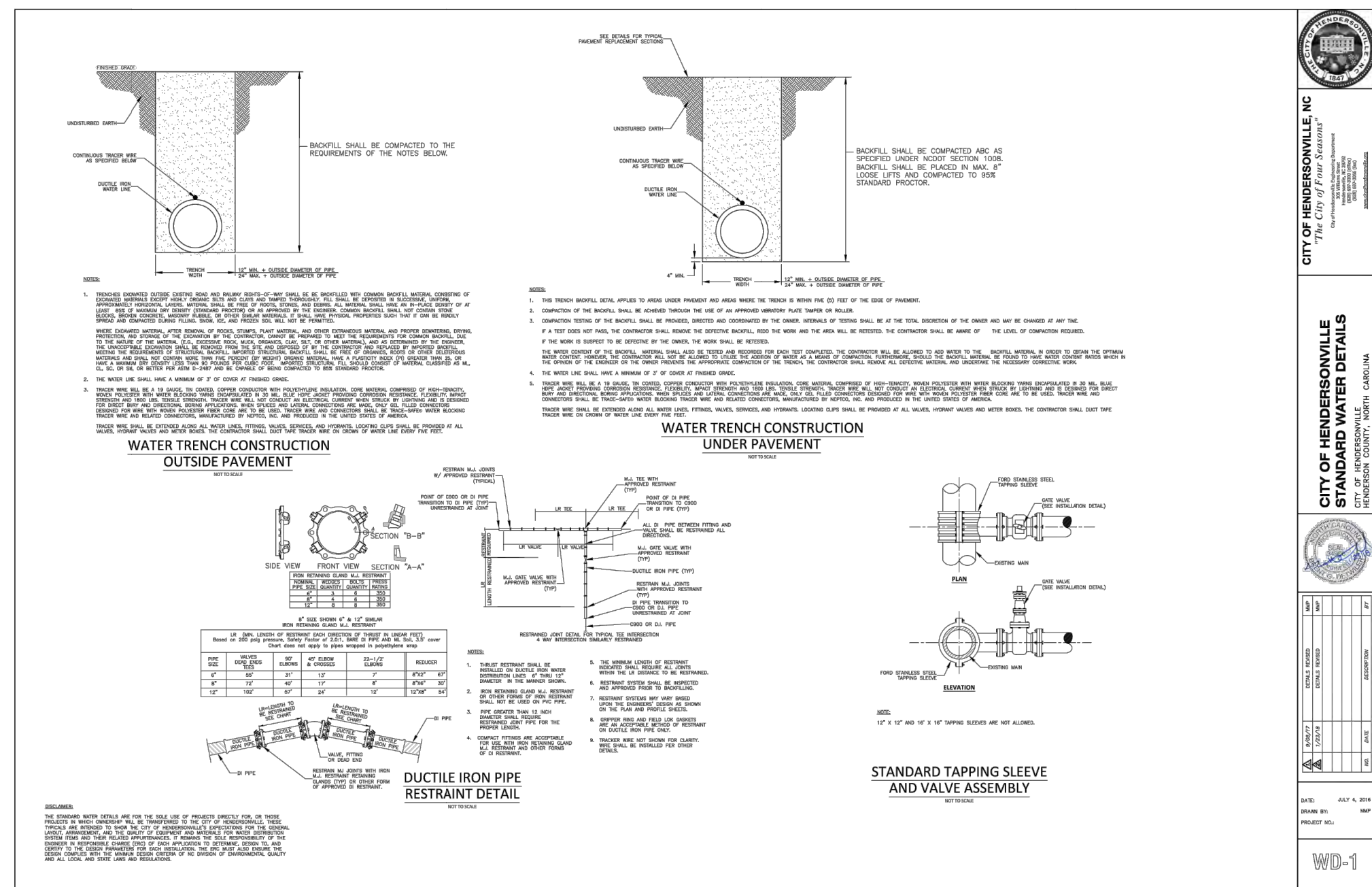
PROFESSIONAL ENGINEER
5-1206
No. 031306
JASON HENDERSON

Bluewater Civil Design, PLLC
NC-P-0868

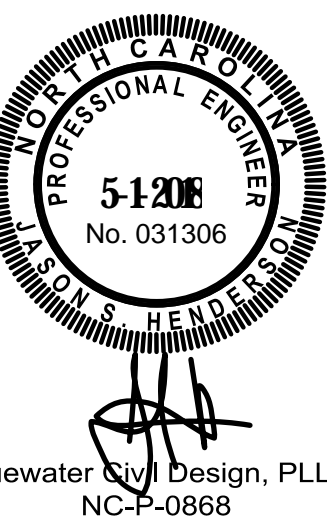
PLAN REVISION	ISSUE DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS

SITWORK NOTES & DETAILS

C505



**FAMILY DOLLAR
 STORE 716851**
 Spartanburg Highway
 Henderson County, NC



PLAN REVISION	ISSUE DATE	ISSUE COMMENT
A	5-1-2018	ISSUED FOR PERMITS

SITWORK NOTES & DETAILS

C506