MCPB
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Goldsboro Road Bike and Pedestrian Improvements, Mandatory Referral, MR2018033

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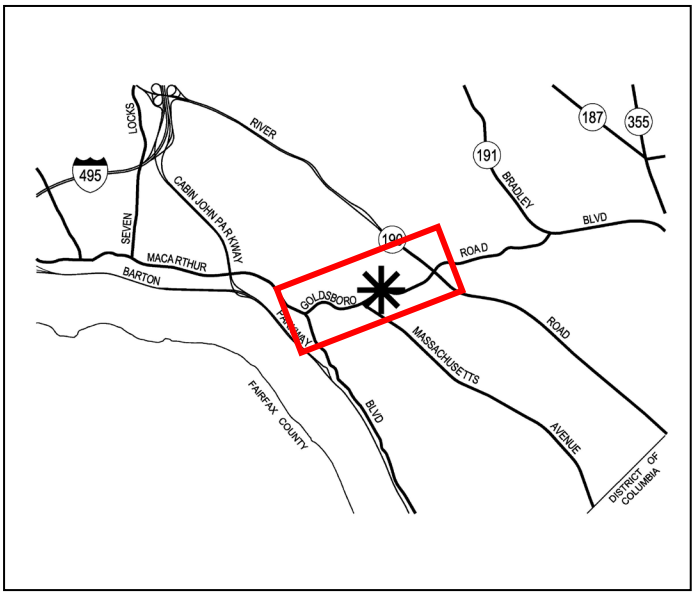
Completed: 03-21-19

Description

Construction of sidewalks, bike lanes and traffic improvements along a 1.18-mile-long section of Goldsboro Road (MD 614) between MacArthur Boulevard and River Road (MD 190) and sidewalk improvements along a 900-foot long section of MacArthur Boulevard between Goldsboro Road and Princeton Avenue in Bethesda/Glen Echo, Maryland.

- Applicant: Montgomery County Department of Transportation
- Bethesda/Chevy Chase Master Plan
- Filing Date: October 5, 2018; Extended by consent of MCDOT



Staff Recommendation: Approval to Transmit Comments

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Summary

The Montgomery County Department of Transportation (MCDOT) is proposing pedestrian, bicycle and traffic improvements along a 1.18-mile segment of Goldsboro Road (MD 614) in Bethesda/Glen Echo, Maryland, from approximately River Road (MD 190) to MacArthur Boulevard. The project limits also include approximately 900 feet along MacArthur Boulevard between Goldsboro Road and Princeton Avenue. The project location is depicted in Figure 1. The proposed improvements along Goldsboro Road will widen the road from a two-lane road with shoulders to two 11-foot travel lanes, 5 to 6-foot-wide separated bike lanes in each direction with 2 to 3-foot-wide buffers from traffic, a continuous sidewalk on the north side of the road and intermittent sidewalks provided on the south side of the road where space is available. At the intersection with MacArthur Boulevard, a 4-foot bikeable shoulder and an 8-foot wide shared use path is proposed along the east side of the traffic circle.

This project is included in the County Executive's Recommended FY20 Capital Budget and FY19-24 Capital Improvements Program amendments as CIP Project No. P501917. This project has been proposed to start planning and design beyond the 35% design stage in FY22 with construction expected to start in FY25 or later (outside the current CIP timeframe). The current project cost estimate is $21.1 million. The 35% design plans are provided as Attachment A to this report.



Figure 1: Project Limits and Site Vicinity

Mandatory Referral Review

This proposal for the construction of sidewalk, bike lanes and road and intersection improvements is required to undergo the Mandatory Referral review process under the Montgomery County Planning Department's Uniform Standards for Mandatory Referral Review. State law requires all federal, state, and local governments and public utilities to submit proposed projects for a Mandatory Referral review by the Commission. The law requires the Planning Board to review and approve the proposed location, character, grade and extent of any road, park, public way or ground, public (including federal) building or structure, or public utility (whether publicly or privately owned) prior to the project being located, constructed or authorized.

The applicant approved a suggested extension by Planning Department staff to the 60-day window for review and comment. The original 60-day window extended to December 4, 2018; this was extended to April 1, 2019.

Planning staff acknowledges that the implementation of master plan transportation recommendations is a challenge faced by the applicant in developing design plans to convert desired master plan recommendations into engineering design drawings. The design process up to 35 percent design brings clarity to considerably more detail than considered during a master plan, and issues such as environmental impacts, historical impacts, and construction costs may introduce new factors that need to be weighed in developing a final design solution. It is hoped that the Mandatory Referral process aids in this process to develop an optimal or at least an improved design solution.

Recommendations

Staff recommends **approval** to transmit the following comments to the Montgomery County Department of Transportation:

1. Significantly reduce the impacts to the Minnehaha Branch, its riparian buffer, adjacent forests and slopes, wetlands, and specimen trees.

2. Provide a Tree Save Plan at the 75-percent design stage that:
    a. Documents the location, size, and species of all specimen trees to be removed.
    b. Identifies the location, tree species, and size, of trees to be planted as mitigation for the removal of the specimen trees.
    c. Mitigates onsite for the removal of specimen trees at a ratio of one-inch diameter at breast height (dbh) for every four inches dbh removed.
    d. Details the tree protection necessary for all trees and forest saved but impacted by construction activities.
    e. Documents where and how the 3.38 acres of forest removal will be compensated.
3. To reduce impacts to the existing steep slopes on erodible soil, consider a cantilevered sidewalk and/or bikeway where feasible to protect the sensitive slopes and other natural resources.

4. Consider using porous sidewalks and/or bicycle lanes to reduce stormwater runoff and the need for stormwater management treatments in the stream valley buffer or forested areas.

5. Modify the plans to reduce unnecessary critical root zone impacts by tightening the limits of disturbance to the following specimen trees: T19, T22, T62, T66, T68, T71, T92.

6. Modify the plans to preserve the following specimen trees by tightening the limits of disturbance: T1, T9, T24, T29, T31, T32, T34, T35, T40, T41, T43, T63, T65, T67, T96, T95, T97, T98, T99, T100, and T101.

7. Retain existing forests instead of constructing two stormwater management facilities on the south side of Goldsboro Road at stations 121-125.

8. Retain all existing aquatic habitats and existing water levels including channel pools and stream runs to allow for species survival.

9. Preserve the existing deep fish pool on the north side of Goldsboro Road at station 133.5.

10. Tighten the limits of disturbance line to reduce impacts to the Minnehaha Branch stream valley, existing forests, steep slopes, and individual trees in the following areas:
    a. North side of Goldsboro Road between station 115.5 and 118.
    b. South side of Goldsboro Road between station 137.5 and 139.
    c. North side of Goldsboro Road between station 146 and 150.
    d. North side of Goldsboro Road between station 151 and 153.

11. At the Goldsboro Road intersections with Massachusetts Avenue and River Road, all signalized right-turn movements that will require right-turning vehicles to cross over crosswalks (with the exception of the westbound channelized right-turn lane on Goldsboro Road at River Road) should have "No Turn on Red" restrictions posted.

12. MCDOT and MDOT SHA should evaluate reducing the existing posted speed limit of Goldsboro Road from 35 mph to 30 mph with the implementation of this project.

13. Redesign the intersections of Goldsboro Road with Massachusetts Avenue and River Road as protected intersections, consistent with the Montgomery Planning Department's Bicycle Facility Design Toolkit (developed as part of the recently adopted Bicycle Master Plan).

14. Modify the project to provide puppy tracks and green paint at the Goldsboro Road intersections with Tulip Hill Terrace, Rannoch Road, Massachusetts Avenue, Goldleaf Drive, Redwing Road, Wedgewood Road, Blackwood Road, Haviland Drive, and River Road.

15. Provide detailed discussion on MCDOT's evaluation of ways to reconfigure the intersection of MacArthur Boulevard and Goldsboro Road to simplify pedestrian and bicycle crossing movements and improve the operation and safety for all intersection users, as requested by the Planning Board in its letter to the applicant on September 26, 2014 (see Attachment D).

16. To minimize cost, forest loss, stormwater and stream channel impacts of this project, consider an alternative concept that includes a 10-foot-wide sidepath on one side of the road, intermittent sidewalks at bus stops on the other side of the road, and a 4-foot-wide bikeable shoulder on the eastbound side. This would reduce the total typical cross section compared to the proposed design by up to seven feet. While not consistent with the bikeway recommendation in the Bicycle Master Plan on Goldsboro Road, this alternative would be consistent with the general principles of the Bicycle Master Plan. A sketch of this option is shown below in Figure 2.

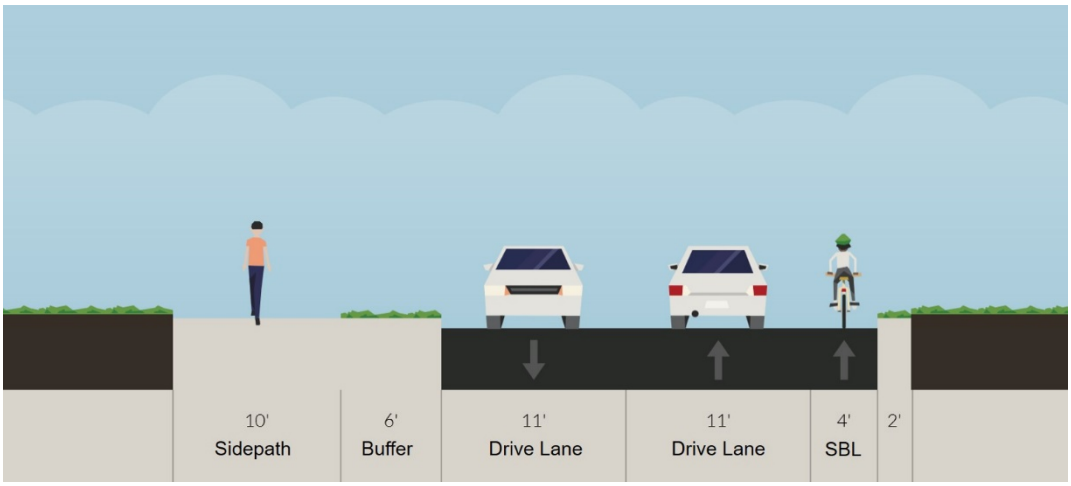


Figure 2: Alternative Concept – Goldsboro Road

Proposal

Project Description

The Montgomery County Department of Transportation (MCDOT) is proposing pedestrian, bicycle and traffic improvements along a 1.18-mile segment of Goldsboro Road (MD 614) in Bethesda/Glen Echo, Maryland, from approximately River Road (MD 190) to MacArthur Boulevard. The proposed improvements along Goldsboro Road will include the following:

1. Providing an expanded roadway typical section to include two 11-foot travel lanes, 5 to 6-foot-wide separated bike lanes in each direction with 2 to 3-foot-wide striped buffers with flexible delineator posts,

2. Continuous sidewalk on the north side of the road and intermittent sidewalks on the south side of the road where space is available.

3. At the Goldsboro Road intersection with MacArthur Boulevard, a 4-foot bikeable shoulder and an 8-foot wide shared use path is proposed along the east side of the traffic circle,

4. Addition of one new crosswalk with a median refuge on MacArthur Boulevard to the south of the traffic circle and Goldsboro Road,

5. Replacement of the existing pedestrian bridge connecting to Ramsgate Road providing a 12-foot-wide the bridge (clear distance between railings),

6. Addition of three new mid-block crosswalks at the following locations:
    a. East of the Exxon gas station,
    b. Between Tulip Hill Terrace and Rannoch Road, and
    c. West of Wedgewood Road.

7. Improvement of the existing crosswalk to the east of Goldleaf Drive with a center refuge island,

8. Crosswalks at all legs of the intersections of Goldsboro Road with Massachusetts Avenue (MD 336) and River Road (MD 190), and

9. Removal of three channelized right-turn lanes at the intersection of Goldsboro Road with River Road (MD 190) – the eastbound, northbound and southbound approaches.

A project location map showing more regional context is provided in Figure 3.

The proposed improvements also include drainage upgrades, reconstructing traffic signals at the intersections with Massachusetts Avenue (MD 396) and River Road (MD 190), 1,000 feet of stream restoration along the Minnehaha Branch, and installing five (5) retaining walls to minimize right-of-way and environmental impacts. Two box culvert bridges will be impacted by the improvements with one being extended (Structure S1) near Tulip Hill Terrace and the other being replaced with a larger twin box culvert (Structure S2) north of Goldleaf Drive.

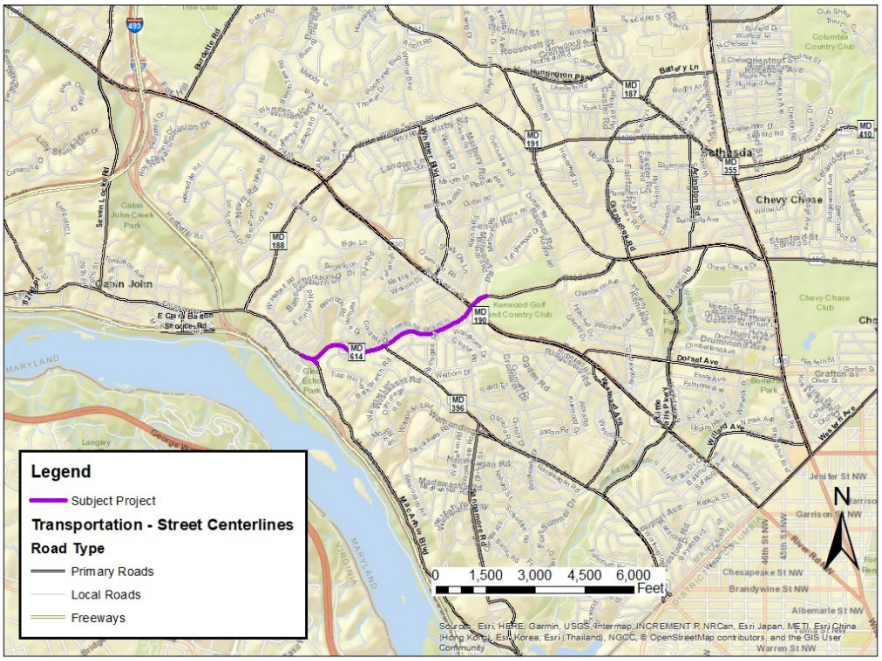


Figure 3: Project Limits – Regional Context

Goldsboro Road is classified in the Master Plan of Highways and Transitways as a two-lane arterial road between MacArthur Boulevard and Massachusetts Avenue (MD 336) and is classified as a two-lane major highway between Massachusetts Avenue and River Road (MD 190). Currently, Goldsboro Road has narrow shoulders and short segments of sidewalk. Goldsboro Road provides a key connection between MacArthur Boulevard and downtown Bethesda, and this road experiences considerable use by cars and bicycles, particularly during the weekend. The narrow road and shoulders, high speed of passing vehicles, and the horizontal and vertical geometry along this corridor makes this a high-stress corridor for bicycle travel. It is even more stressful for pedestrians, as for much of this study area, sidewalks and safe crossings are non-existent. This project will provide a continuous 5-foot-wide sidewalk along the north side of Goldsboro Road between MacArthur Boulevard and River Road, some segments of sidewalk for short sections along the south side of Goldsboro Road to provide connections to local side streets and access to bus stops, and 5-foot-wide separated bike lanes on both sides of the road. This project will significantly improve bike and pedestrian travel along Goldsboro Road.

The project is currently at the 35 percent design phase and the full design and construction of this project (excluding current design work) has been estimated to cost approximately $21.1 million. The full plan set is attached with this staff report at Attachment A.

Project Background

Goldsboro Road currently is generally characterized as a two-lane (12-foot wide travel lanes) meandering road designed within a stream valley, and as a result it has narrow shoulders with guardrail located close to the road, limited sidewalks and no specific bikeways. The road currently is typically open section (no curbs) with 1,000 linear feet of partial closed section (curbs with drainage) adjacent to homes in the eastern limits of the study area. The posted speed limit along Goldsboro Road is 35 miles per hour (mph).

In 2014, the Planning Board reviewed the Goldsboro Road Facility Planning Phase 1 study and recommended that MCDOT proceed with sidewalks and bike lanes on this road, consistent with the 2005 Countywide Bikeways Functional Master Plan. Later that year, the T&E committee reviewed the plan and recommended upgrading the bike lanes to separated bike lanes. MCDOT proceeded with the Facility Planning Phase 2 study based on the direction from the T&E committee and the 2018 Bicycle Master Plan reflects this recommendation.

Sidepath Design in vicinity of MacArthur Traffic Circle

An eight-foot-wide sidepath is proposed at two locations as shown in blue shading in Figure 4:

1. Along the east side of MacArthur Boulevard from where Goldsboro enters the circle (in front of the existing Exxon station) to Princeton Avenue (total distance of 900 feet), and

2. Along the south side of Goldsboro Road from a pedestrian crosswalk to the east of the Exxon station to the south side of the MacArthur traffic circle at a pedestrian crosswalk to cross over MacArthur Boulevard.

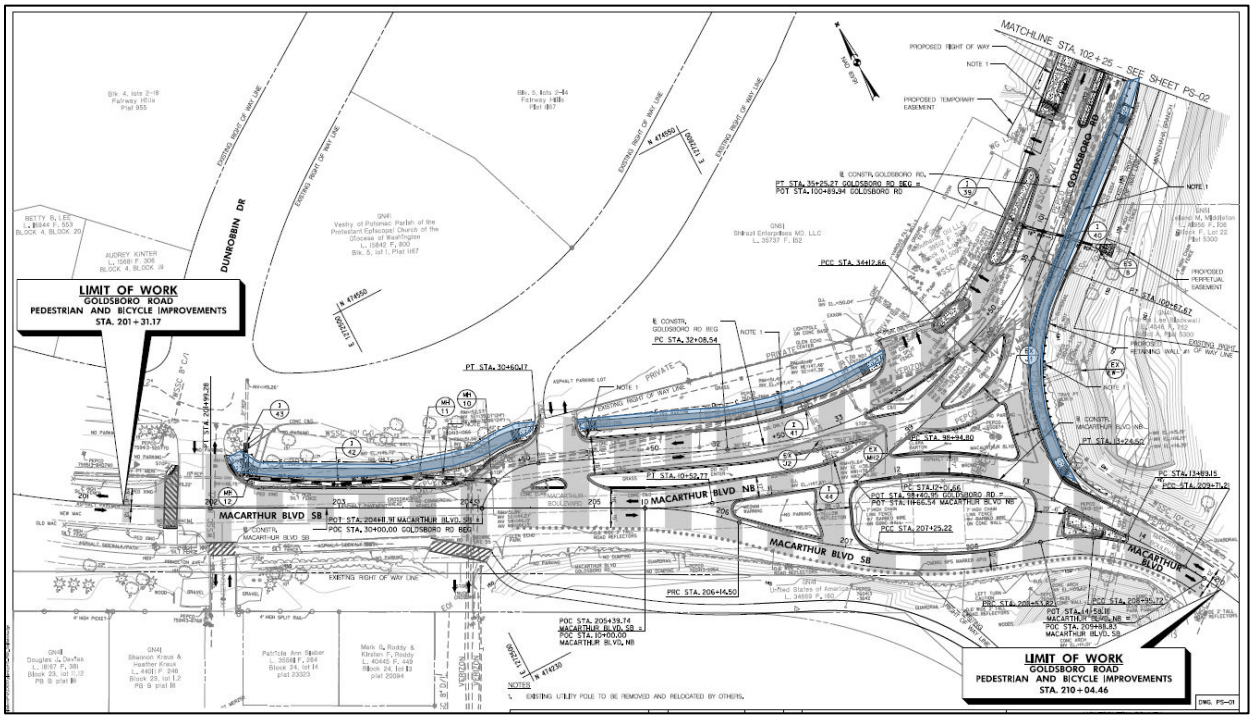


Figure 4: Goldsboro Road/MacArthur Boulevard Intersection/Circle – Proposed Sidepaths

The first sidepath will have a 6-foot-wide buffer, while the second sidepath will not have a buffer due to topographical/environmental constraints. While the project includes pedestrian and bicycle improvements at this intersection, there are no significant changes to the intersection for motor vehicles. In the 2014 review of this project, the Planning Board specifically asked MCDOT to consider intersection improvements to simplify pedestrian and bicycle crossing movements and improve the operation and safety for all intersection users. (See letter to the applicant dated September 26, 2014 and included as Attachment D).

Typical Cross Sections – Goldsboro Road

The proposed project includes a continuous 5-foot-wide sidewalk on the north side of Goldsboro Road, some intermittent sidewalks for short sections along the south side of Goldsboro Road to provide connections to local side streets and access to bus stops, and two one-way separated bike lanes on each side of the road. Figures 5 through 7 show the proposed typical cross sections between MacArthur Boulevard and just west of River Road. The buffer between the sidewalk and the curb on the north side of the road varies from zero to 6.5 feet in width with most of the corridor having a three-foot-wide buffer. The marked buffers between the separated bike lanes and the travel lanes are generally three feet wide in the westbound direction but vary between two to three feet wide in the eastbound direction. The buffer between the sidewalk on the north side of the road and guardrail or retaining wall varies between two to three feet in width and the buffer between the eastbound separated bike lane and guardrail on the south side of the road varies in width from one to two feet.

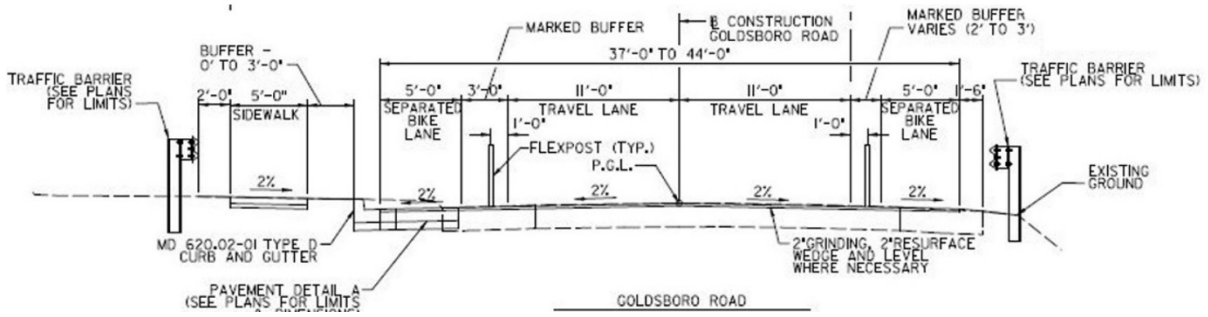


Figure 5: Proposed Typical Cross Section Design 1

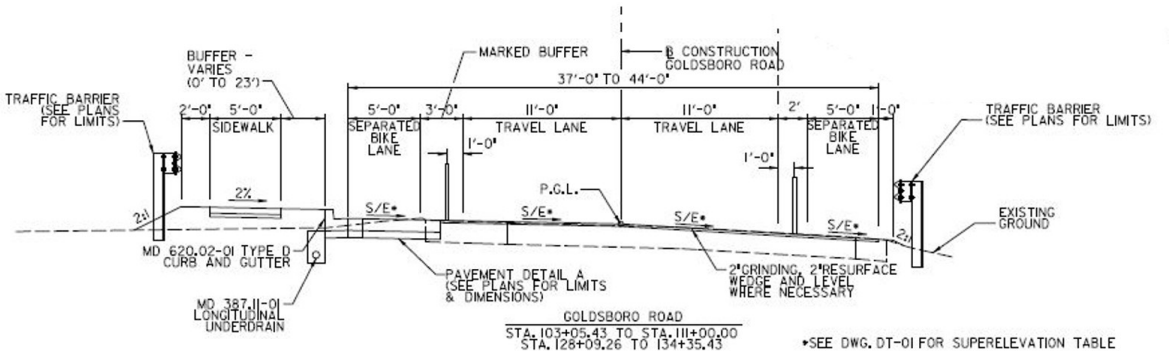


Figure 6: Proposed Typical Cross Section Design 2

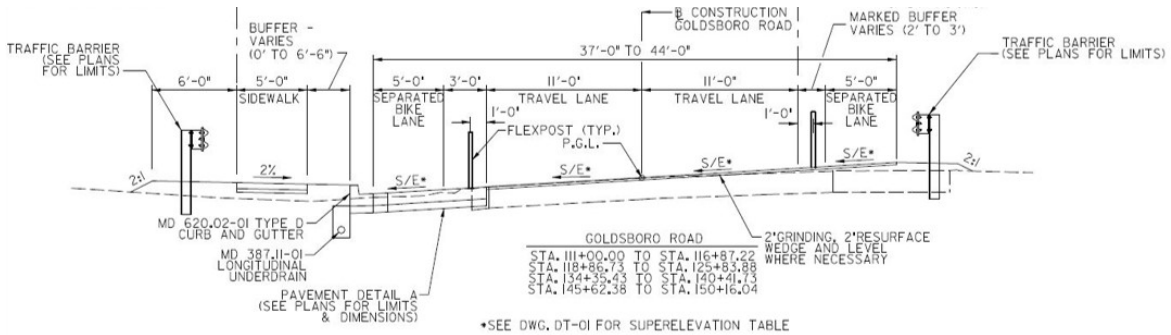


Figure 7: Proposed Typical Cross Section Design 3

The buffers between the street and the bike lanes will have flexible delineator posts that will be removed during the winter months to enable snow plowing. In effect, the bikeway will function as separated bike lanes for the majority of the year and buffered bike lanes for several months during the year.

Intersection of Goldsboro Road with Massachusetts Avenue

Figure 8 displays the proposed design of the intersection of Goldsboro Road and Massachusetts Avenue. Blue shading shows proposed sidewalks and green shading shows proposed separated bike lanes. Due to the proximity of the Minnehaha Branch stream along the north side of Goldsboro Road, all widening will occur from the south side. This will create a maximum encroachment into the existing vegetated intersection quadrants of 40 feet west of Massachusetts Avenue and 30 feet east of Massachusetts Avenue. At this intersection, two crosswalks will be added across Goldsboro Road with accessible ramps and audible pedestrian signals.

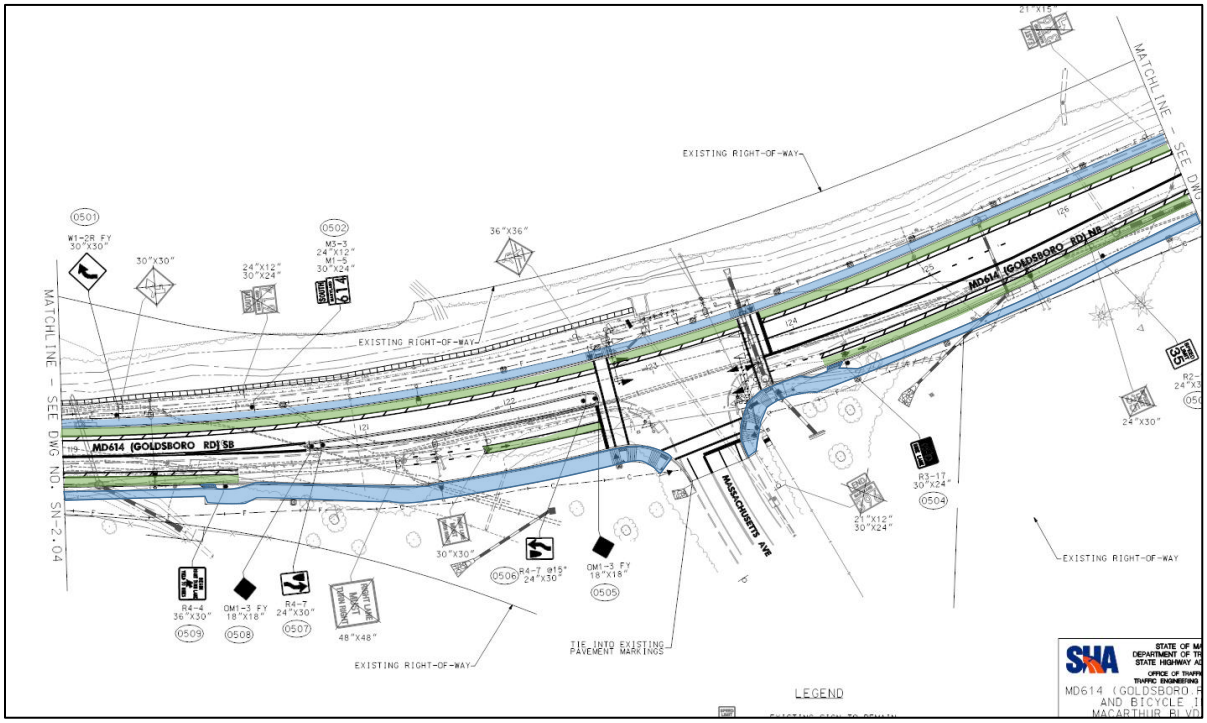


Figure 8: Proposed Intersection Design – Goldsboro Road at Massachusetts Avenue

Intersection of Goldsboro Road with River Road (MD 190)

The proposed typical cross section through the River Road intersection is shown below in Figure 9. Through this section of the design, there will be a 5 to 8-foot-wide sidewalk/shared-use path on the north side of Goldsboro Road and a 5-foot-wide sidewalk on the south side of Goldsboro Road. The sidewalk buffers will be 5'4" on the north side and 3'4" on the south side. Through the intersection area, the 5-foot-wide separated bike lanes will be marked with no buffer between the travel lanes. This can be shown more clearly in Figure 10 which displays the plan view of the intersection design. Blue shading shows proposed sidewalks and green shading shows proposed bike lanes.

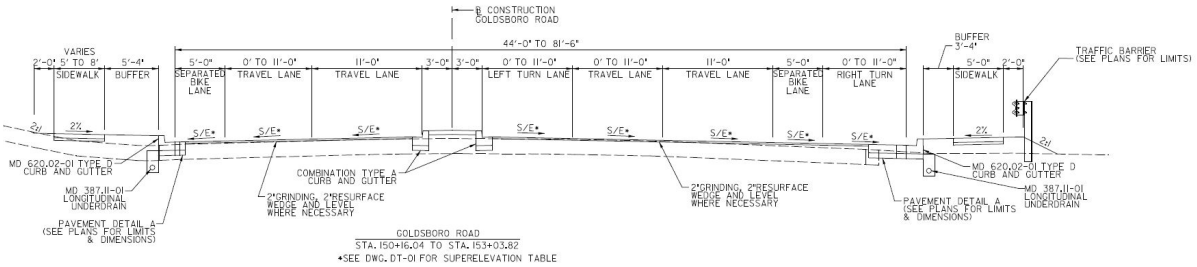


Figure 9: Proposed Typical Cross Section Design 4 – through River Road Intersection

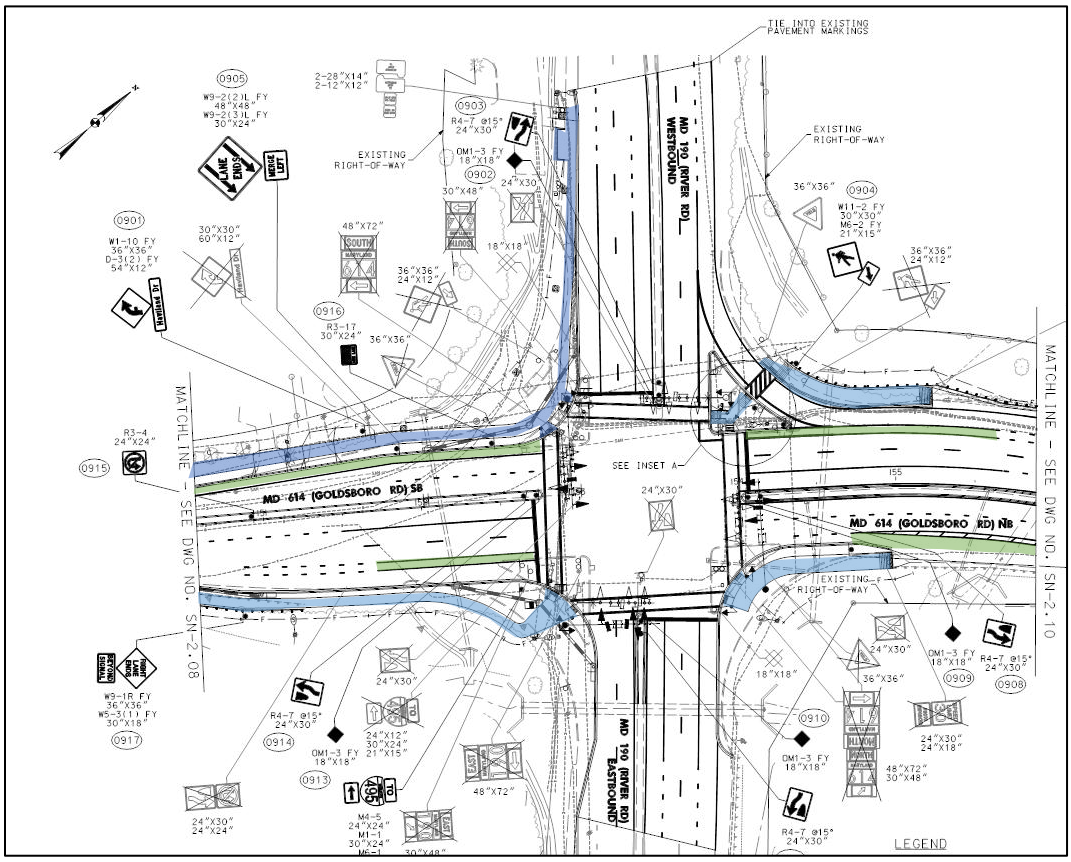


Figure 10: Intersection Design - Goldsboro Road (MD 614) at River Road (MD 190)

The intersection of Goldsboro Road with River Road (MD 190) will be improved significantly as part of this design project. The project will include the following design improvements:

- Elimination of channelized right-turn lanes on three out of the four approaches. The westbound channelized right-turn lane will remain.
- Addition of crosswalks with accessible ramps and audible pedestrian signals on the northbound, eastbound and westbound approaches. The southbound River Road approach currently has a crosswalk which will be maintained and improved, and
- Addition of 5-foot-wide bike lanes (no buffer) on Goldsboro Road through the intersection.

Mid-block Pedestrian Crosswalk Design

The project will add three new crosswalks along Goldsboro Road as mentioned previously:

- East of the Exxon gas station,
- Between Tulip Hill Terrace and Rannoch Road, and
- West of Wedgewood Road.

Figure 11 displays the design for the proposed crosswalk between Tulip Hill Terrace and Rannoch Road. The other three locations have been designed with similar elements.

Pedestrian Bridge Over Minnehaha Branch

The existing pedestrian bridge near Ramsgate Road will be replaced as part of this project with a wider bridge structure providing a 12-foot-wide clear path (distance between railings). This equates to an effective width of 8 feet.

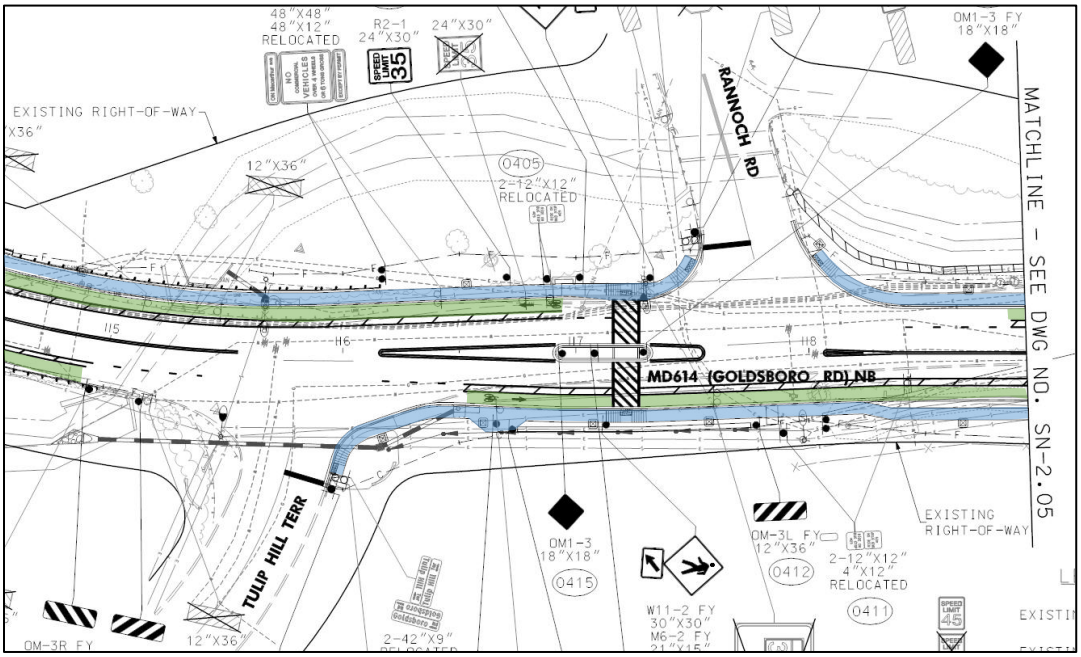


Figure 11: Mid-Block Crosswalk – Between Tulip Hill Terrace and Rannoch Road

Transportation Analysis

Design Elements - Transportation

1. General Comment: Overall, the design has been thoughtfully implemented, but fitting a cross section this wide has its challenges. It is difficult to build or widen a road that was originally designed within a stream valley. The design deviates from AASHTO and NACTO standard designs primarily in an effort to reduce the limit of disturbance (LOD), particularly along the Minnehaha Branch. This results in reduced buffers between the sidewalks and separated bike lanes (0 to 3 feet), reduced width of the bike lanes (they tend to be mostly 5 feet in width, not 6.5 feet which is preferred), reduced buffer between the travel lanes and separated bike lanes (can be as narrow

as 2 feet, not 5 feet which is preferred), and shy distances between separated bike lanes and guardrail (should be 2 feet minimum but they are 1.5 feet for short distances).

2. Separated Bike Lanes or Buffered Bike Lanes: The buffers between the street and the bike lanes will have flexible delineator posts that will be removed during the winter months to enable snow plowing. In effect, the bikeway will function as separated bike lanes for the majority of the year and buffered bike lanes for several months during the year.

3. Posted Speed Limit on Goldsboro Road: MCDOT should evaluate reducing the existing posted speed limit of Goldsboro Road from 35 mph to 30 mph with the implementation of this project. While this road does not have a target speed set within the Master Plan of Highways and Transitways, 30 mph is a more appropriate speed limit along this section of Goldsboro Road with the improvements proposed.

4. Pavement Markings for Separated Bike Lanes: The current pavement marking design is not consistent with other MCDOT bike lane projects. Dashed green paint and puppy tracks (dashed white lines) should be used for bike lanes at all driveways and intersections. Pavement markings for the separated bike lanes should be extended up to the intersections/crosswalks. A sample of the treatment on Spring Street in Silver Spring is displayed below in Figure 12.



Figure 12: Typical MCDOT Bike Lane Striping Across Intersections (Spring Street, Silver Spring, MD)

5. "No Turn on Red" signage at signalized intersections to improve bicycle and pedestrian safety: Where Goldsboro Road intersects Massachusetts Avenue and River Road, post "No Turn on Red" restrictions for all right turn movements.

6. Protected Intersections: Redesign the intersections of Goldsboro Road with Massachusetts Avenue and River Road as protected intersections, consistent with the Montgomery Planning Department's Bicycle Facility Design Toolkit (developed as part of the recently adopted Bicycle Master Plan).

7. Difficulty for left turns for bicycles while in separated bike lanes at unsignalized intersection: When a bicycle rider is traveling in a separated bike lane and desires to turn left onto a road that is not signalized, there is no clear and easy way to make that maneuver. The bicyclist can either leave the separated bike lane, becoming a vehicle, and then turn left in the travel lane; or the bike rider can stop in the bike lane and cross at a crosswalk. MCDOT should try to develop design solutions for future projects to address this issue.

Master Plan Conformance – Transportation

The project is in conformance with the 2018 Bicycle Master Plan and the 2018 Master Plan of Highways and Transitways (MPOHT). The 2018 Bicycle Master Plan recommends one-way separated bike lanes along both sides of Goldsboro Road between MacArthur Boulevard and Bradley Boulevard. The 2018 Master Plan of Highways and Transitways classifies Goldsboro Road between MacArthur Boulevard and Massachusetts Avenue (MD 336) as a two-lane arterial with a master plan right-of-way of 80 feet, and Goldsboro Road between Massachusetts Avenue (MD 336) and River Road (MD 190) as a two-lane Major Highway with a master plan right-of-way of 120 feet. The existing right-of-way along Goldsboro Road ranges from 70 to 120 feet. Goldsboro Road does not have a master planned target speed assigned by the MPOHT.

Historic Resources Analysis

Historic Preservation reviewed the latest proposal for any potential direct or indirect impacts to historic properties, including archaeological sites. While a portion of the overall limits of the project appear to be adjacent to Washington Aqueduct and the right-of-way of a 19th-century railroad, there is no ground disturbance proposed in or adjacent to these sites. There are no Master Plan or Locational Atlas properties impacted by this project. Historic Preservation staff have no further comments to add on the first Maryland Historic Trust (MHT) Review and concur that there will be no impact to historic properties as a result of this project.

Environmental Analysis

Environmental Analysis – Existing Conditions

The study area contains 38.1 acres including: 8.58 acres of forest; 0.12 acres of wetlands; 19.54 acres of stream buffer; and 9.81 acres of floodplains. The Minnehaha Branch, part of the Glen Echo Tributaries, runs parallel to Goldsboro Road. It's a Use Class 1-P stream draining into the Potomac River. The length of the stream traversing through the site is 1.31 acres. There are no rare, threatened, or endangered species within the site. The Minnehaha Branch has a narrow buffer with steep forested slopes, undulating forest stands, and a few small pocket wetlands (Figures 13 and 14). There are many large specimen trees within the associated forests and along the stream banks that hold the steep slopes in place while providing the road and stream with shade. The stream bed contains a stable rocky surface with large indigenous outcrops, fish runs, and deep pools of water that aerate the stream.

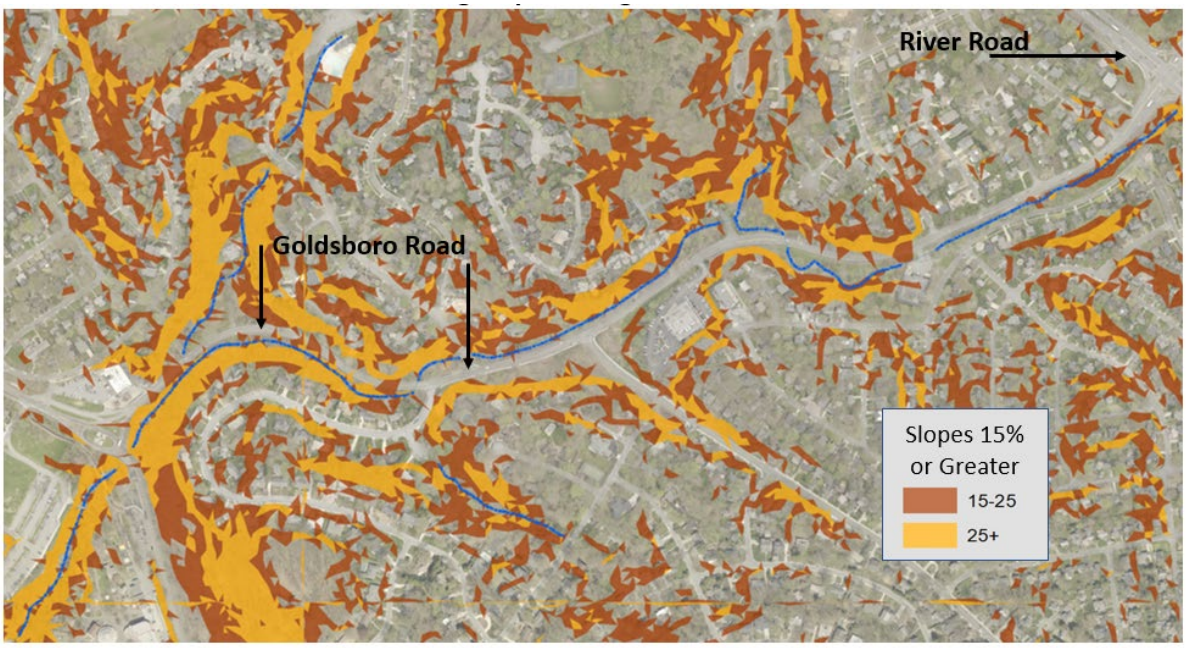


Figure 13: Existing Slopes Along Goldsboro Road



Figure 14: Existing Forest Along Goldsboro Road

Environmental Analysis – Proposed Plan

The plan proposes the removal of 3.38 acres of forest, 36 specimen trees equal to or greater than 30 inches in diameter at breast height, and portions of the wetlands. The existing forest buffer between the stream and Goldsboro Road ranges in width from 14-feet wide at its narrowest, to 57-feet at its widest. In some locations, the last remnant forested stream buffer will be removed. Two stormwater management facilities are proposed requiring the clearing of healthy forests that now provide habitat for

many species including foxes, owls, birds, and amphibians. In various locations, new and expanded stormwater outfalls will necessitate instream rip-rap and swale construction filling in stream pools. The expanded roadway will require extensive artificial stabilization measures such as gabion rip-rap, gravity and retaining walls, and other engineering methods. The proposed road improvements will dramatically alter one of the last inner beltway suburban bucolic roads with significant changes to the tree canopy and increases in impervious surfaces that are inconsistent with the road's character environmentally.

The 35% drawings submitted by the Montgomery County Department of Transportation did not include sufficient efforts to minimize impacts to the Minnihaha Branch, its buffers, and the natural resources along Goldsboro Road. Although narrow, the shaded riparian buffer serves as a critical element in protecting the stream by cooling water temperatures, filtering pollutants from Goldsboro Road, and providing a wildlife corridor linkage. The proposed expansion of the road and removal or impacts to the riparian buffer is inconsistent with the environmental recommendations found in the Environmental Guidelines, Chapter 22A of the Forest Conservation Law, and the Bethesda-Chevy Chase Master Plan. Outlined in the Specific Site Recommendations below are locations where the limits of disturbance can be reduced to save specimen trees, forested areas, wetlands, the stream buffer and its associated banks. However, the areas shown below are not the only locations where impacts should be minimized. They are specific areas of extreme concern and staff requests reconsideration to protect the unique resources found in these locations.

The following citations are found in our governing regulations, guidelines, and master plans. They support staff's position and the rationale for reducing impacts to the natural resources found along Goldsboro Road.

Montgomery County Environmental Guidelines (2000)

The Environmental Guidelines (January 2000) outlines recommended stream buffer widths based on their associated slopes, soils, and water quality. The Minnehaha Branch is a Use I/I-P stream (suitable for water contact sport and fishing). The Environmental Guidelines recommends a stream buffer of 100 feet on both sides of the stream, which can be extended to 150 feet in areas with steep slopes. Currently the area between the top of the stream bank to the edge of Goldsboro Road paving ranges from 14 to 57 feet at its widest. The proposed bikeway and sidewalks will reduce the nominal buffers even further causing increased stream temperatures, reduced water quality, and loss of terrestrial and aquatic habitat. The Environmental Guidelines allows for small amounts of clearing and grading in a buffer on a "case-by-case basis" if the applicant has demonstrated the stream buffer encroachment has been minimized. A rationale must also demonstrate that existing sensitive areas have been avoided (forest, wetlands, floodplains, and steep slopes). The applicant has not presented rationale for their encroachment into the stream buffers nor have they demonstrated that any natural resources minimization efforts were made.

Although Goldsboro Road was constructed prior to the effective date of the Environmental Guidelines, the proposed activity requires the submission of a Natural Resources Inventory/Forest Stand Delineation (NRI/FSD). NRI/FSD 420160250 was approved by the NRI/FSD staff on January 13, 2016.

Forest Conservation

The plan proposes the removal of 3.38 acres of forest, 36 specimen trees equal to or greater than 30 inches diameter at breast height (dbh), portions of wetlands, and forested stream buffers. The applicant requested an exemption from submitting a forest conservation plan under section Chapter 22A-5, of the County code. The exemption from submitting a forest conservation plan, plan number 42019041E was confirmed on November 21, 2018. Activities exempt from submitting a forest conservation plan under Chapter 22A-5 of the County code must comply with Section 22A-9. This section directs County highway projects to minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The "*constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants."* In addition, the County has not documented the number and size of specimen trees proposed for removal. A Tree Save Plan must include the trees proposed for removal and mitigation for the loss of those trees at a ratio of one-inch dbh for every four inches dbh removed.

If a County highway project proposes to cut or clear more than 20,000 square feet of forest, the County must reforest at a rate of one acre of reforestation for each acre of forest removed. The applicant has provided no information on how they will meet this requirement. Since 3.38 acres of forest is proposed for removal a planting plan is needed.

Furthermore, the applicant has not demonstrated that "*a reasonable effort to minimize the cutting or clearing of trees and other woody plants"* occurred in accordance with Chapter 22A-9 of the County code. Site-specific recommendations have been provided in this review on how the applicant could reduce the removal of trees and forests.

Bethesda-Chevy Chase Master Plan (April 1990)

A major goal of the Master Plan is to protect the moderately (15-25 percent slope) and extremely steep (25+ percent slopes), mature forests, stream quality, and floodplain valleys which are important to the quality of life for Bethesda-Chevy Chase.

The Master Plan recommends preservation of the Potomac Palisades' unique environmental features of steeply wooded slopes and vistas and the perpetuation of the open space character established in the area. It also makes general recommendations for the protection of forests along stream valleys and steeply sloped land within the Potomac Palisades.

Stormwater Management

The Department of Permitting Services approved a stormwater 'concept' plan on February 16, 2018. The stormwater management plan proposes to remove healthy mature trees and forests along with a native understory, a fox den, and other wildlife species replacing it with unshaded open bioretention systems and wet swales. The majority of the stormwater management target treatment of 19,050 cubic feet of storage is waived due to site constraints and high ground water elevations (Attachment C).

Staff does not support this concept stormwater management plan and requests MCDOT significantly modify the stormwater management plan to protect the existing forests and trees for the following reasons:

1. The objectives of the Maryland Department of the Environment (MDE) stormwater management ordinance is to effectively mimic "woods in good condition." The term "woods in good condition" is a term the state of Maryland uses to represent a natural state before development. Lands with "woods in good condition" capture and treat stormwater much better than typical residential land, because the ground is able to store, soak in, filter, evaporate and consume water. Therefore, the removal of healthy mature woods in good condition to construct a treatment facility that acts like woods in good condition is not a reasonable justification for woodland clearing.
2. Typically, it is uncommon and not acceptable to put stormwater management facilities in a stream valley buffer. For this project many of the proposed bioretention are within the stream valley, and in some instances within just a few feet from the Minnehaha Branch.

Specific Minimization Recommendations

In addition to the requirements of Chapter 22A of the County code there are specific recommendations that should be incorporated into the plan to reduce the number of specimen trees lost and the amount of forest clearing. The specific recommendations are the following:

Station: 115.5-117.5 (north side of Goldsboro)

Existing Conditions: On the northwest side of Goldsboro Road at the Rannoch Road intersection, the stream valley buffer is forested. The buffer has a mix of canopy, understory, and specimen trees.

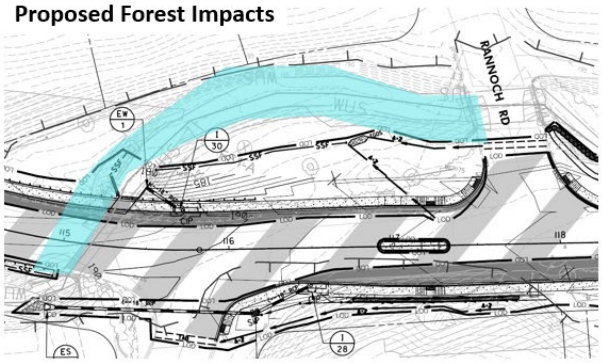
Proposal: The plan proposes the removal of the existing vegetation including specimen trees and forested slopes. The limits of disturbance include the clearing of the stream buffer exceeding the construction needs of the intended sidewalk and bus stop.

Alternative: Reduce the limits of disturbance to 2-3 feet beyond the sidewalk/bus stop allowing for construction while protecting the adjacent slopes, forest, and specimen trees.

Station 115-118
Existing Conditions



Proposed Forest Impacts



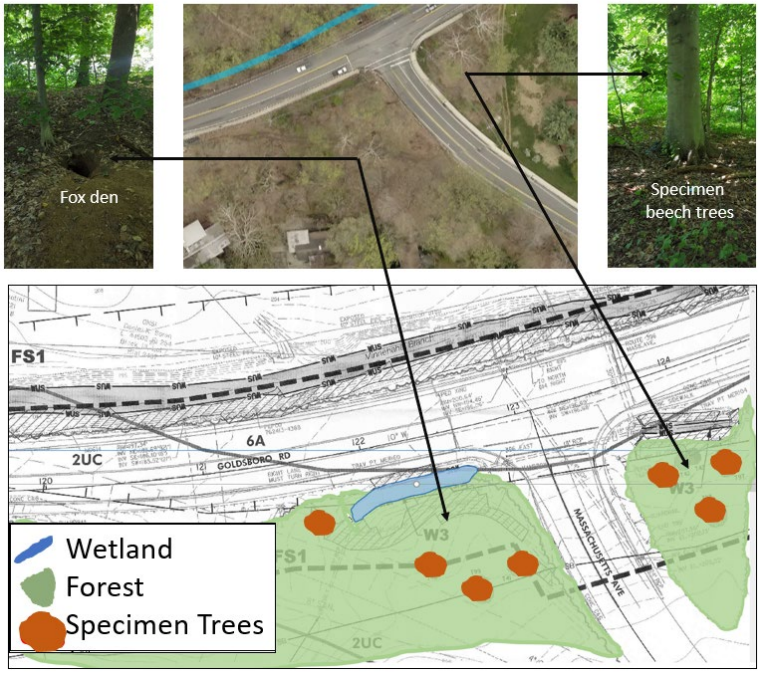
Station: 121.5-125 (south side of Goldsboro)

Existing Condition: This intersection contains two forest clusters on both sides of Massachusetts Avenue. Each includes a mix of understory, canopy, and large mature beech specimen trees. To the west of Massachusetts Avenue, the forest is part of a larger contiguous linear woodland containing a fox den, bird habitat, a feeder stream, a wetland, and amphibian habitat.

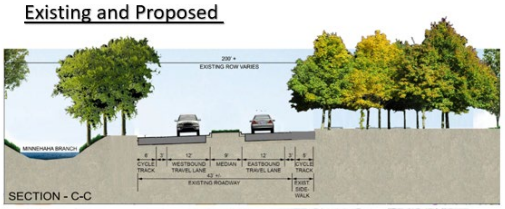
Proposal: The plan proposes to remove all vegetation and a wetland at the intersection of Goldsboro Road and Massachusetts Avenue for the construction of two open bioretention stormwater management facilities.

Alternative: Retain existing trees and forested areas. As alternatives to the large open bioretention areas, provide linear stormwater management along the neighboring streets to reduce runoff to Goldsboro Road. Consider utilizing porous surfaces for the sidewalks and bicycle lanes to reduce the need for these proposed bioretention facilities. Consider linear stormwater management in other non-forested locations.

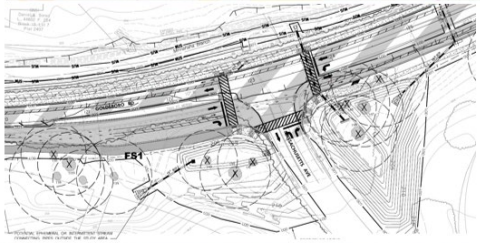
Station 121.5-117.5: Existing Forest and Tree Cluster



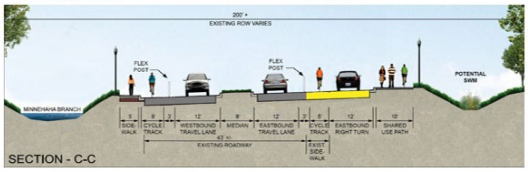
Existing and Proposed



Existing Cross Section



Proposed Stormwater Management



Post Construction Concept

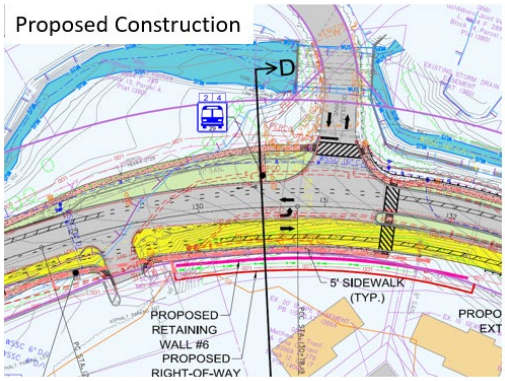
Station: 128.5-131 (north side of Goldsboro)

Existing Condition: The forest is part of stream buffer containing large specimen trees. It provides habitat for many species, performs stormwater management services, shades and cools the Minnehaha Branch, and increases property value.

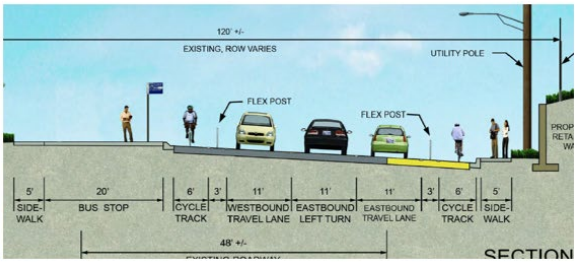
Proposal: The plan proposes to remove the entire forested stream buffer for the construction of 5-foot sidewalk, 20-foot bus stop, and a 6-foot cycle track.

Alternative: Reevaluate the need for this bus stop and relocate to reduce impacts to the forest and stream buffer.









Station: 133-131 (north side of Goldsboro)

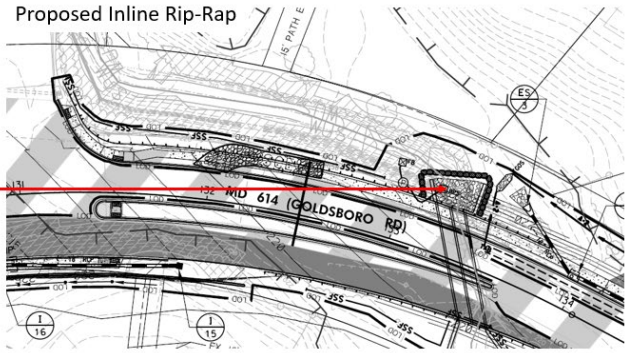
Existing Condition: There is an existing gabion wall between the stream and Goldsboro road. At station 133.5, there is a deep aquatic fish pool containing minnows where the Minnehaha Branch crosses under Goldsboro Road.

Proposal: The 35% drawings indicate the fish pool will be filled with rip-rap eliminating the fish habitat.

Alternative: Retain existing fish pool and reduce limits of disturbance.

Station 132-133.5: Existing Conditions







Community Outreach and Notification

This application was noticed in accordance with the Uniform Standards for Mandatory Referral Review. A public meeting was held on March 8, 2018 by MCDOT at Walt Whitman High School where 24 people attended. The preferred alternative to provide 5-foot wide separated bike lanes in each direction separated by a 3-foot striped buffer and flex posts space 25 to 30 feet on center was presented to the community. The overall feedback as report by the applicant was very positive with 17 of the 24 comments received expressing support for the project. Additionally, MCDOT has continuously been seeking input from stakeholders and elected officials and will continue to incorporate ideas throughout the design/build phase of the project.

Conclusion

Based on information provided by the applicant and the analysis contained in this report, staff concludes that the proposed Goldsboro Road Bicycle and Pedestrian Improvements project can be designed with some modifications to meet transportation standards; however, the current design is not compatible with its site context and does not fully meet the applicable environmental standards, guidelines, and intentions of the Bethesda-Chevy Chase Master Plan. Efforts should be made to significantly reduce the limits of disturbance to preserve individual specimen trees, forested areas, the associated stream buffer, and wetlands. Alternatives to the proposed large bioretention facilities in what is now forested areas should be considered. The proposed bicycle and pedestrian facilities will significantly improve travel along this corridor for walking and bicycling, including improving connections to existing bus stops, connections between neighborhoods along Goldsboro Road, improved pedestrian crossings at both the existing signalized crossings as well as proposed unsignalized crossings to the east of the Exxon station, between

Tulip Hill Terrace and Rannoch Drive, east of Goldleaf Drive (improvements to existing crosswalk), and west of Wedgewood Drive.

The bicycle, pedestrian and intersection improvements as proposed will be safe, adequate and efficient for all users. To minimize cost, forest loss, stormwater and stream channel impacts of this project, consider an alternative concept that includes a 10-foot-wide sidepath on one side of the road, intermittent sidewalks at bus stops on the other side of the road, and a 4-foot-wide bikeable shoulder on the eastbound side. This would reduce the total typical cross section compared to the proposed design by up to seven feet and while not consistent with the bikeway recommendation in the Bicycle Master Plan on Goldsboro Road, this alternative would be consistent with the general principles of the Bicycle Master Plan. This concept is shown in Figure 2 of the staff report.

Attachments

A. Proposed Project Plans
B. Forest Conservation Exemption Letter
C. Stormwater Management Approval Letter
D. Planning Board review of Phase I Facility Planning – Goldsboro Road

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

ATTACHMENT A

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

C.I.P. CONTRACT NO.

LIMIT OF WORK
C.I.P. PROJECT
GOLDSBORO ROAD

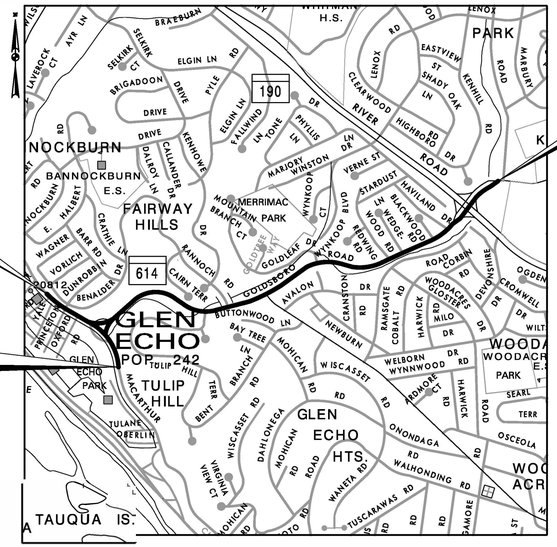
PEDESTRIAN AND BICYCLE IMPROVEMENTS
STA. 201+31.17

LIMIT OF WORK
C.I.P. PROJECT
GOLDSBORO ROAD

PEDESTRIAN AND BICYCLE IMPROVEMENTS
STA. 210+04.46

LIMIT OF WORK
C.I.P. PROJECT
GOLDSBORO ROAD

PEDESTRIAN AND BICYCLE IMPROVEMENTS
STA. 161+20.95



VICINITY MAP
SCALE: 1" = 1000'

INDEX OF SHEETS

SHEET NO.	DRAWING NO.	SHEET NAME
1	TS-01	TITLE SHEET
2	AB-01	GENERAL NOTES, ABREVIATIONS AND LEGEND
3-4	TS-01 - TS-02	TYPICAL SECTIONS
5	DT-01	PAVEMENT DETAILS AND SUPERELEVATION DATA
6-7	GS-01 - GS-02	GEOMETRY SHEETS
8-14	PS-01 - PS-07	ROADWAY PLANS
15-18	PR-01 - PR-04	PROFILE PLANS
19-22	DP-01 - DP-04	PIPE PROFILES
23-24	DD-01 - DD-02	STORMDRAIN PIPE SCHEDULE
25-26	SW-01 - SW-02	STORMWATER MANAGEMENT PLAN & DESIGN DETAILS
27	SLM-1	STRUCTURE LOCATION MAP
28	SGN-1	STRUCTURE GENERAL NOTES
29-33	RW1-1 - RW5-1	RETAINING WALL PLAN AND ELEVATIONS
34-35	RWDET-1 - RWDET-2	RETAINING WALL DETAILS
36-43	S1-1 - S3-4	STRUCTURE PLANS
44-66	TCP-01 - TCP-23	TRAFFIC CONTROL PLANS
67-76	ES-01 - ES-10	EROSION & SEDIMENT CONTROL PLANS
77-78	SG-01 - SG-02	TRAFFIC SIGNAL PLANS
79-88	SN-2.01 - SN-2.10	SIGNING AND PAVEMENT MARKING PLANS
89-97	LT-03 - LT-11	LIGHTING PLANS
98-106	LS-1 - LS-9	LANDSCAPE PLANS

DESIGN DESIGNATION	
ROADWAY	GOLDSBORO ROAD (MD 614)
CONTROLS / YEARS	2016
AVERAGE DAILY TRAFFIC (A.D.T.)	11,902
% TRUCKS	3%
DESIGN SPEED M. P. H.	40 MPH
FUNCTIONAL CLASSIFICATION	ARTERIAL
CONTROL OF ACCESS	NONE
INTENSITY OF DEVELOPMENT	URBAN
TERRAIN	ROLLING
POSTED SPEED	35 MPH

RK&K
Rummel, Klepper & Kahl, LLP
700 E. PRATT ST | BALTIMORE, MD 21202
SUITE 500
PH: (410) 728-2900 FAX: (410) 728-3160
Engineers | Construction Managers | Planners | Scientists
www.rkk.com

35% DESIGN REVIEW
FEBRUARY 2018
NOT FOR CONSTRUCTION

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY WRW DRAWN BY TJS CHECKED BY MVS

DWG.

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS
MACARTHUR BOULEVARD TO RIVER ROAD

SCALE NONE DATE FEBRUARY, 2018

SHEET NO. 1 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:15 PM
FILE: \\balwvd4\c2013\2013\13184_MCDOT\Task 9_Goldsboro\Pw2\(CADD)\plans\gSN-T001_Goldsboro.dgn

GENERAL NOTES

1. RIGHT OF WAY LINES ARE SHOWN FOR ASSISTANCE IN INTERPRETING PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL RIGHT OF WAY AND EASEMENT INFORMATION, SEE THE APPROPRIATE RIGHT OF WAY PLAT.

2. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST HOLES BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCE IS LESS THAN TWELVE (12) INCHES, THEN CONTACT THE MONTGOMERY COUNTY DOT PROJECT MANAGER AND THE APPROPRIATE UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.

3. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION WORK AT 1–800–257–7777.

4. REPAIRS TO UTILITIES OR PROPERTY DAMAGED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.

5. THE EXACT LOCATION AND TYPE OF SEDIMENT CONTROL DEVICES WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER, WHO RESERVES THE RIGHT TO ORDER ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES..

6. CONSTRUCTION EQUIPMENT SHALL HAVE TREADS /TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL /LOAD OUT SHALL BE LIFTED FROM THE LOD. ALL SEDIMENT SPILLED, DROPPED OR TRACKED ONTO THE ROAD MUST BE REMOVED IMMEDIATELY BY VACUUMING, SCRAPING OR SWEEPING

7. SAW CUTS WILL NOT BE MEASURED BUT WILL BE INCIDENTAL TO OTHER RELATED ITEMS AS SPECIFIED IN THE CONTRACT DOCUMENTS.

8. REFER TO THE CONTRACT DOCUMENTS FOR ROADWAY BORING, SOIL BORING AND INFILTRATION TESTING DATA SHEETS.

9. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE 2008 MDSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, REVISIONS THEREOF OR ADDITIONS THERETO, THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS, AND THE LATEST VERSION OF THE MARYLAND MUTCD.

10. PAVEMENT RESURFACING SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER GRINDING. PAVEMENT GRINDING OPERATIONS SHALL NOT BEGIN UNLESS THERE IS A SUFFICIENT TIME TO RESURFACE THE ROADWAY BEFORE COLD WEATHER. SEE SP509 – GRINDING ASPHALT PAVEMENT.

LEGEND

- CONCRETE SIDEWALK
- FULL DEPTH ASPHALT PAVEMENT
- PAVEMENT GRINDING & RESURFACING
- FLEXIBLE SIDEWALK
- CONCRETE ENTRANCE
- PAVEMENT OR SIDEWALK REMOVAL
- P.C.C. BUS STOP PAD
- FENCE LINE
- EXISITING RIGHT OF WAY LINE
- 135 — BASELINE OF CONSTRUCTION
- FIRE HYDRANT
- 15" RCP — EXISTING STORM DRAIN PIPE
- EXISTING INLET
- EXISTING SIGN
- PEPCO #7844-65 — UTILITY POLE
- 4" G — EXISTING GAS MAIN
- W-1 — ROADWAY BORING PLAN LOCATION
- UTILITY TEST HOLE LOCATION
- SAN — EXISTING SEWER MAIN
- W — EXISTING WATER MAIN
- SD — STORM DRAIN MANHOLE
- SS MH — SANITARY SEWER MANHOLE
- TMH — TELEPHONE MANHOLE
- W — WATER VALVE
- W.M. — WATER METER
- ES 1 — DRAINAGE STRUCTURE IDENTIFICATION
- 18" TWIN OAK — TREES
- HEDGE

ABBREVIATIONS

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
ABAND.	Abandoned
ADT.	Average Daily Traffic
AHD.	Ahead
APPROX.	Approximate
AUX.	Auxiliary
℄ or B/L	Baseline
BK	Back /Book
BIT.	Bituminous
B.C.	Bituminous Concrete
B.M.	Bench Mark
BOT.	Bottom
C.C.	Center of Curve
CAB.	Utility Cabinet
CATV	Cable Television
C.B.R.	California Bearing Ratio
℄	Centerline
CL.	Class
CLF	Chainlink Fence
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
C.O.	Cleanout
COMB.	Combination
CONC.	Concrete
CONSTR.	Construction
COR.	Corner
CORR.	Correction
DC	Degree of Curve
D.H.V.	Design Hourly Volume
D.I.	Drop Inlet
DIA.	Diameter
D.O.	Double Opening
DPS	Department of Permitting Services
E	East
E	Electric
E	External Distance
EA.	Each
EB	Eastbound
ELEV.	Elevation
E.R.C.C.P.	Elliptical Reinforced Cement Concrete Pipe
ES	End Section
EX. or EXIST.	Existing
FT.	Feet
F or FL	Flowline
F.B.D.	Flat Bottom Ditch
F.H.	Fire Hydrant
FWD.	Forward
G	Gas
G.V.	Gas Valve
H.B.	Handbox
H.D.P.E.	High Density Polyetheylene Pipe
HDWL.	Headwall
H.E.R.C.P.	Horizontal Ellipitical Reinforced Concrete Pipe
H.P.	High Point
IN	Inch
I.S.T.	Inlet Sediment Trap
INV.	Invert
J.B.	Junction Box
K	K Inlet
L	Length
L.F.	Linear Feet
L.L.	Liquid Limit
LOD	Limit of Disturbance
L.P.	Light Pole
LT.	Left
M–NCPPC	Maryland–National Capital Park and Planning Commission
MAC.	Macadam
M.C.	Moisture Content
MAX.	Maximum
M.D.D.	Maximum Dry Content
MOD.	Modified
MIN.	Minimum
N	North
NB	Northbound
N.E.	Northeast
N.P.	Non–Plastic
O.C.	On Center
OHE	Overhead Electric
O.M.	Optimum Moisture
PAV'T.	Pavement
P.C.	Point of Curvature
P.C.C.	Point of Compound Curvature
P/C	Point of Crown
P	Plate
PED.	Utility Pedestal
P/GE	Profile Grade Elevation
PGL	Profile Grade Line
P/GL	Profile Ground Line
P/R	Point of Rotation
P.I.	Plasticity Index
P.I.	Point of Intersection
P.O.C.	Point On Curve
P.O.T.	Point On Tangent
PROP.	Proposed
P.R.C.	Point of Reverse Curve
PT.	Point
P.T.	Point of Tangency
P.V.C.	Point of Vertical Curve
PVC	Polyvinyl Chloride
PVI	Point of Vertical Intersection
PVRC.	Point of Vertical Reverse Curve
PVT	Point of Vertical Tangency
R	Radius
RELOC.	Relocated
R.F.	Rock Fragments
RT	Right
RW or R/W or R.O.W.	Right of Way
R.C.P.	Reinforced Cement Pipe
R.C.C.P.	Reinforced Cement Concrete Pipe
R.Q.D.	Rock Quality Desgnation
R.M.	Rootmat
S	South
SAN.	Sanitary Sewer
SB	Southbound
S.D.	Storm Drain
S.D.D.	Surface Drain Ditch
S.E.	Super Elevation
SF	Silt Fence
S.F.	Square Feet
SHLD.	Shoulder
SHT.	Sheet
S.P.P.	Structural Plate Pipe
S.P.T.	Standard Penetration Testing
SSD	Stopping Sight Distance
SSF	Super Silt Fence
STD.	Standard
STA.	Station
SQ.	Single Opening
S.Y.	Square Yards
SWM	Stormwater Management
T	Tangent
T	Telephone
T.C.	Top of Cover
T.G.	Top of Grate
T or TL	Traverse Line
T.M.	Top of Manhole
TRAV.	Traverse
TS	Temporary Swale
T.S.	Top of Slab
T.S.	Topsoil
TYP.	Typical
U.D.	Under Drain
U.G.	Underground
U.P.	Utility Pole
U.S.D.A.	United States Department of Agriculture
VCL	Vertical Clearance
V.C.L.	Vertical Curve Length
W	Water
W	West
WB	Westbound
WB	Wetland Buffer
W.M.	Water Meter
W.S.	Wrapped Steel
W.S.S.C.	Washington Suburban Sanitation Commission
W.V.	Water Valve
X-SLOPE	Cross Slope

WASHINGTON AQUEDCUT – US ARMY CORPS OF ENGINEERS

1. WEIGHT RESTRICTION: THERE IS A SIX–TON GROSS VEHICLE WEIGHT (GVW) LIMIT ON MACARTHUR BOULEVARD. THE WASHINGTON AQUEDUCT WILL TEMPORARILY INCREASE THE GVW LIMIT TO 15 TONS DURING THE CONSTRUCTION PHASE.

2. OXFORD ROAD CROSSING: THERE IS A HEAVY DUTY CROSSING CONSISTING OF A SUBSURFACE H–20 RATED BRIDGE INSTALLED OVER THE AQUEDUCT CONDUITS AT THE INTERSECTION OF OXFORD ROAD AND MACARTHUR BOULEVARD. THIS HEAVY DUTY CROSSING IS PERPENDICULAR TO MACARTHUR BOULEVARD, SPANS ITS FULL WIDTH, AND ALLOWS OVERWEIGHT VEHICLES TO USE THE SLIP ROAD FROM GOLDSBORO ROAD TO ACCESS NEIGHBORHOODS IN THE TOWN OF GLEN ECHO SOUTH OF MACARTHUR BOULEVARD. MAINTENANCE OF TRAFFIC MUST ENSURE THAT HEAVY TRUCK TRAFFIC CROSSES THE AQUEDUCT ON THIS CROSSING.

3. CONTROL STATION: THE WASHINGTON AQUEDUCT CONTROL STATION, LOCATED WITHIN THE CENTER OF THE TRAFFIC CIRCLE, IS PROTECTED BY A CRASH RESISTANT CONCRETE BARRIER. THE CONCRETE BARRIER SHALL NOT BE RELOCATED OR IMPACTED DURING CONSTRUCTION.

4. TURNAROUND FOR BUSES: MEDIUM DUTY CROSSINGS CONSISTING OF 10" REINFORCED CONCRETE SLABS ARE LOCATED OVER THE AQUEDUCT CONDUITS IN THE ROADWAY TO THE EAST AND WEST OF THE CONTROL STATION TO ACCOMMODATE COUNTY BUSES. MAINTENANCE OF TRAFFIC MODIFYING BUS ROUTES MUST TAKE THESE CROSSINGS INTO ACCOUNT TO AVOID ADDING BUS LOADS TO UNPROTECTED PORTIONS OF THE AQUEDUCT.

5. ACCESS TO GLEN ECHO PARK: AT THE EAST SIDE OF THE CONTROL STATION, THE MEDIUM DUTY CROSSINGS EXTEND UNDER THE EXISTING ROADWAY TO THE ENTRANCE OF THE GLEN ECHO PARK PARKING LOT. MAINTENANCE OF TRAFFIC SHOULD CONSIDER HOW HEAVY TRUCK TRAFFIC USING THE MEDIUM DUTY CROSSING WILL BE MAINTAINED.

6. CONSTRUCTION ACTIVITIES: ALL SUBSURFACE EXCAVATION WITHIN THE VICINITY OF AQUEDUCT CONDUITS MUST BE HAND DUG. ALL CONSTRUCTION EQUIPMENT IS SUBJECT TO THE MODIFIED GVW LIMIT DURING THE CONSTRUCTION PHASE, IN ADDITION TO THE OTHER REQUIREMENTS LISTED. THE USE OF VIBRATORY ROLLERS IS PROHIBITED IN THE VICINITY OF THE AQUEDUCT CONDUITS.

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DESIGN SECTION
240–777–7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY WRW DRAWN BY TJS CHECKED BY MVS

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

GENERAL NOTES, ABBREVIATIONS AND LEGEND

SCALE NONE DATE FEBRUARY, 2018

DWG. AB–01

SHEET NO. 2 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:15 PM
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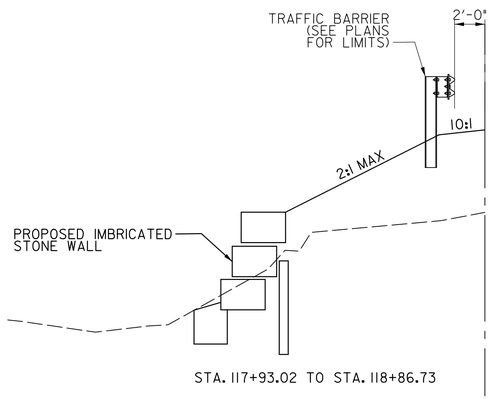
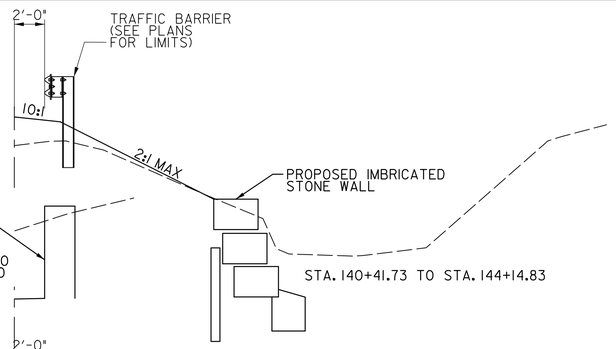


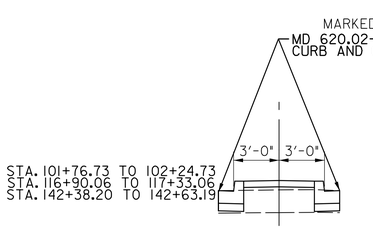
STA. 117+93.02 TO STA. 118+86.73



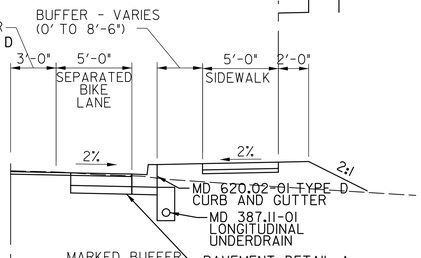
PROPOSED RETAINING WALL
(SEE PLANS FOR LIMITS)

STA. 100+67.67 TO STA. 102+50.00
STA. 116+00.00 TO STA. 117+75.00

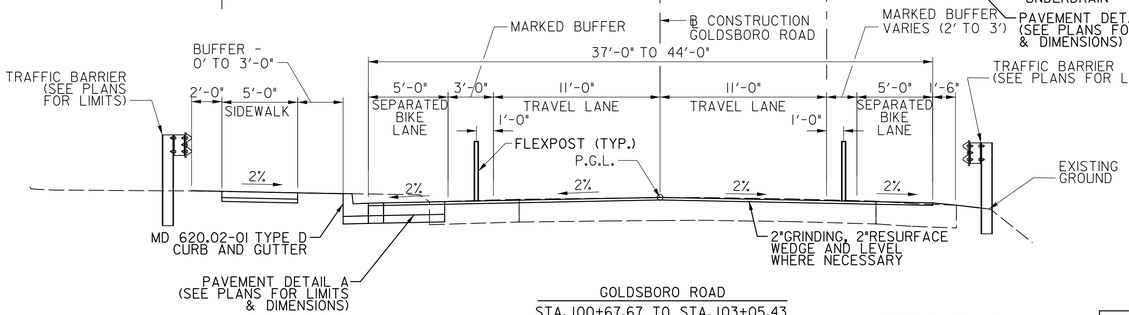
STA. 140+41.73 TO STA. 144+14.83



STA. 101+76.73 TO 102+24.73
STA. 116+90.06 TO 117+33.06
STA. 142+38.20 TO 142+63.19

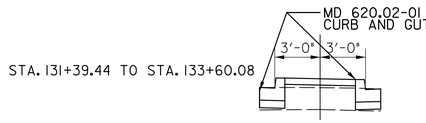


STA. 116+87.22 TO STA. 118+86.73
STA. 125+83.88 TO STA. 128+09.26
STA. 140+41.73 TO STA. 143+34.04

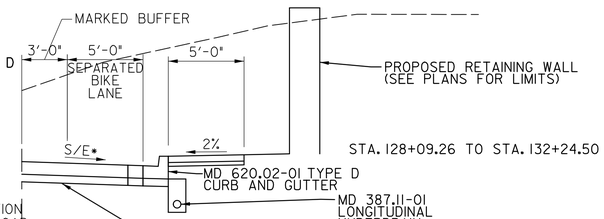


GOLDSBORO ROAD

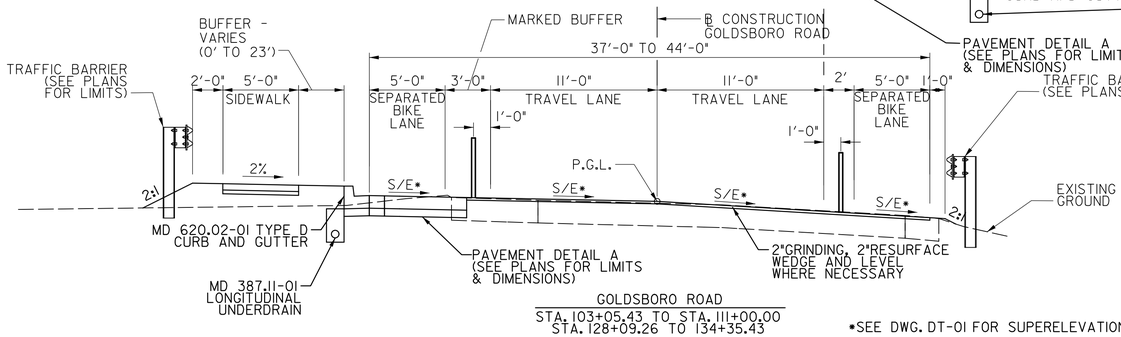
STA. 100+67.67 TO STA. 103+05.43
STA. 116+87.22 TO STA. 118+86.73
STA. 125+83.88 TO STA. 128+09.26
STA. 140+41.73 TO STA. 145+62.38



STA. 131+39.44 TO STA. 133+60.08



STA. 128+09.26 TO STA. 132+24.50



GOLDSBORO ROAD

STA. 103+05.43 TO STA. 111+00.00
STA. 128+09.26 TO 134+35.43

•SEE DWG. DT-01 FOR SUPERELEVATION TABLE

DWG. TS-01

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TYPICAL SECTIONS

SCALE 1"=5' DATE FEBRUARY, 2018

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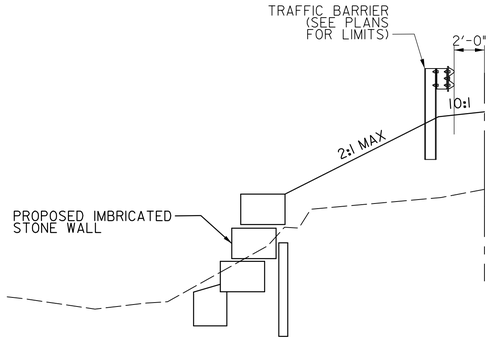
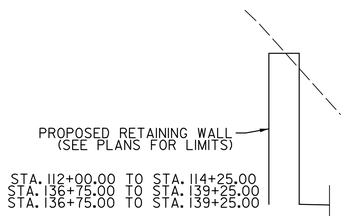
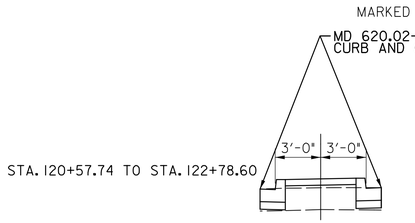


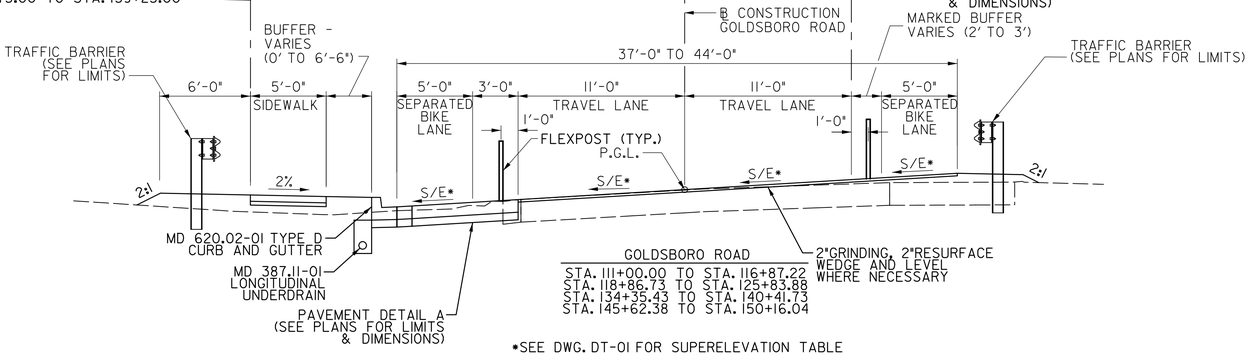
STA. 118+86.73 TO STA. 122+98.12



STA. 112+00.00 TO STA. 114+25.00
STA. 136+75.00 TO STA. 139+25.00
STA. 136+75.00 TO STA. 139+25.00

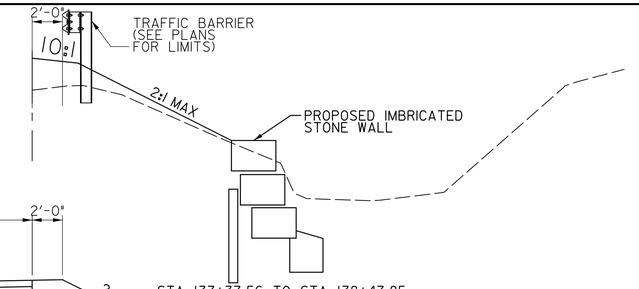


STA. 120+57.74 TO STA. 122+78.60

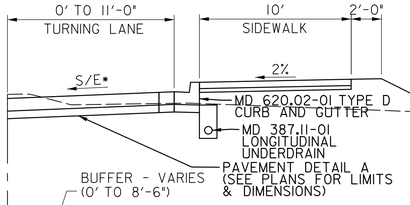


GOLDSBORO ROAD
STA. 111+00.00 TO STA. 116+87.22
STA. 118+86.73 TO STA. 125+83.88
STA. 134+35.43 TO STA. 140+41.73
STA. 145+62.38 TO STA. 150+16.04

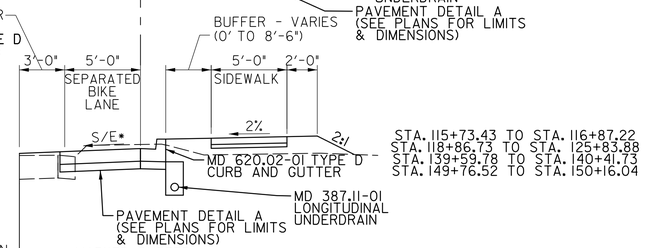
2"GRINDING, 2"RESURFACE
WEDGE AND LEVEL
WHERE NECESSARY



STA. 137+37.56 TO STA. 138+47.85
STA. 140+20.93 TO STA. 140+41.73

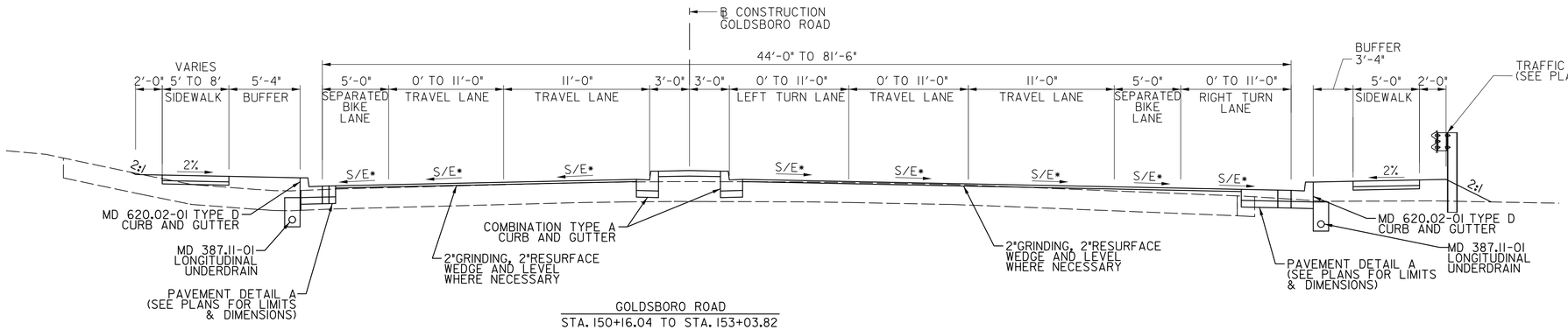


STA. 120+10.53 TO STA. 123+00.00



STA. 115+73.43 TO STA. 116+87.22
STA. 118+86.73 TO STA. 125+83.88
STA. 139+59.78 TO STA. 140+41.73
STA. 149+76.52 TO STA. 150+16.04

*SEE DWG. DT-01 FOR SUPERELEVATION TABLE



GOLDSBORO ROAD
STA. 150+16.04 TO STA. 153+03.82

*SEE DWG. DT-01 FOR SUPERELEVATION TABLE

DWG. TS-02

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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TYPICAL SECTIONS

SCALE 1"=5' DATE FEBRUARY, 2018

SHEET NO. 4 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:15 PM
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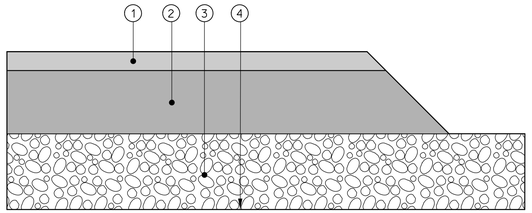
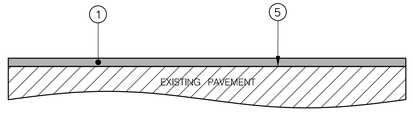


PAVEMENT DETAIL A (N.T.S.)
FULL DEPTH SUPERPAVE ASPHALT MIX PAVEMENT



PAVEMENT DETAIL B (N.T.S.)
GRINDING AND RESURFACING

PAVEMENT LEGEND

(1) 1.5" SUPERPAVE ASPHALT MIX 9.5 MM FOR SURFACE, PG 64S–22, LEVEL–2 (SINGLE LIFT)

(2) 9.0" SUPERPAVE ASPHALT MIX 19.0 MM FOR BASE, PG 64S–22, LEVEL–2 (THREE EQUAL 3.0" LIFTS)

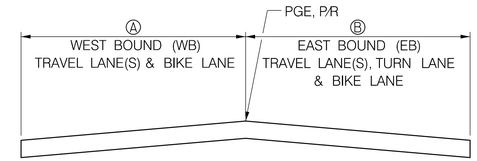
(3) 6" GRADED AGGREGATE BASE (SEE NOTE 9)

(4) TOP OF SUBGRADE AND LIMIT OF CLASS 2 EXCAVATION

(5) TOP OF EXISTING PAVEMENT AFTER 2" GRINDING (SEE NOTE 1)

GOLDSBORO ROAD SUPER ELEVATION CHART

C = 0.0005



STATION	WEST BOUND (WB) A	EAST BOUND (EB) B	REMARKS
100+67.67	–2.00%	–2.00%	FIRST NORMAL
103+05.43	–2.00%	–2.00%	BEGIN TRANSITION WB, LAST NORMAL
103+81.29	2.00%	–2.00%	END TRANSITION WB, BEGIN TRANSITION EB
104+57.15	2.00%	–6.00%	END TRANSITION EB, FIRST SUPER
106+50.00	2.00%	–6.00%	BEGIN TRANSITION WB
107+25.00	6.00%	–6.00%	END TRANSITION WB, FIRST FULL SUPER
109+86.23	6.00%	–6.00%	BEGIN TRANSITION (BOTH LANES), LAST FULL SUPER
111+00.00	0.00%	0.00%	
112+13.82	–6.00%	6.00%	END TRANSITION (BOTH LANES), FIRST FULL SUPER
115+35.50	–6.00%	6.00%	BEGIN TRANSITION (BOTH LANES), LAST FULL SUPER
116+11.36	–2.00%	2.00%	END TRANSITION WB
116+87.22	–2.00%	–2.00%	END TRANSITION EB, FIRST NORMAL
116+87.22	–2.00%	–2.00%	END TRANSITION EB, FIRST NORMAL
117+98.16	–2.00%	–2.00%	BEGIN TRANSITION EB, LAST NORMAL
118+74.02	–2.00%	2.00%	BEGIN TRANSITION WB
119+11.95	–4.00%	4.00%	END TRANSITION (BOTH LANES), FIRST FULL SUPER
124+70.09	–4.00%	4.00%	BEGIN TRANSITION (BOTH LANES), LAST FULL SUPER
125+08.02	–2.00%	4.00%	END TRANSITION WB
125+83.88	–2.00%	–2.00%	END TRANSITION EB, FIRST NORMAL
128+09.26	–2.00%	–2.00%	BEGIN TRANSITION WB, LAST NORMAL
128+85.16	2.00%	–2.00%	END TRANSITION WB, FIRST SUPER
130+73.07	2.00%	–2.00%	BEGIN TRANSITION (BOTH LANES)
130+99.63	3.40%	–3.40%	END TRANSITION (BOTH LANES), FIRST FULL SUPER
133+70.92	3.40%	–3.40%	BEGIN TRANSITION (BOTH LANES), LAST FULL SUPER
134+35.43	0.00%	0.00%	
135+92.50	–6.00%	6.00%	END TRANSITION (BOTH LANES), FIRST FULL SUPER
138+90.01	–6.00%	6.00%	BEGIN TRANSITION (BOTH LANES), LAST FULL SUPER
139+65.87	–2.00%	2.00%	END TRANSITION WB
140+41.73	–2.00%	–2.00%	END TRANSITION EB, FIRST NORMAL
145+62.38	–2.00%	–2.00%	BEGIN TRANSITION EB, LAST NORMAL
146+83.25	–2.00%	2.00%	BEGIN TRANSITION WB
147+02.73	–5.40%	5.40%	END TRANSITION (BOTH LANES), FIRST FULL SUPER
148+22.24	–5.40%	5.40%	BEGIN TRANSITION EB, LAST FULL SUPER
148+22.24	–5.40%	–2.00%	END TRANSITION EB
150+37.71	–5.40%	–2.00%	BEGIN TRANSITION WB
151+02.19	–5.40%	–2.00%	END TRANSITION WB, FIRST NORMAL
153+00.00	EX.	–2.00%	BEGIN MATCH EX
153+00.00	EX.	–2.00%	END MATCH EX

PRELIMINARY PAVEMENT NOTES

1. GRINDING SHALL BE PERFORMED AFTER PATCHING AND BASE WINDENING ARE COMPLETED.

2. REFER T0 STANDARD NO. 578.03 FOR PATCHING

   USE THE FOLLOWING FOR PARTIAL–DEPTH PATCHING:
   5" SUPERPAVE ASPHALT MIX 19.0 MM FOR PARTIAL–DEPTH PATCHING, PG64S–22, LEVEL 2 (MIN 3" AND MAX 5" LIFTS)

   USE THE FOLLOWING FOR FULL–DEPTH PATCHING:
   VARIABLE DEPTH SUPERPAVE ASPHALT MIX 19.0 MM FOR FULL–DEPTH PATCHING, PG 64S–22, LEVEL 2 (MIN 3" AND MAX 5" LIFTS)

3. REFER TO STANDARD 578.01 FOR UTILITY PATCHING.

   USE VARIABLE DEPTH SUPERPAVE ASPHALT MIX 25.0 MM FOR FULL–DEPTH PATCHING, PG 64S–22, LEVEL 2 (MIN 3" AND MAX 5" LIFTS)

4. IN AREAS WHERE THE EXISTING PAVEMENT IS BEING REMOVED, THE LIMIT OF CLASS 1 EXCAVATION SHALL BE AT THE BOTTOM OF THE BOUND MATERIALS IN THE EXISTING PAVEMENT OR AT THE TOP OF SUBGRADE, WHICHEVER IS LOWER.

5. FOR WEDGE/LEVEL LAYER 2" THICK OR LESS:
   VARIABLE DEPTH SUPERPAVE ASPHALT MIX 19.0 MM FOR WEDGE/LEVEL,
   PG 64S–22, LEVEL 2
   (MIN 1" AND MAX 2" LIFTS)

6. FOR WEDGE/LEVEL LAYER MORE THAN 2" THICK:
   VARIABLE DEPTH SUPERPAVE ASPAHLT MIX 9.5 MM FOR WEDGE/LEVEL,
   PG 64S–22, LEVEL 2
   (MIN 2" AND MAX 4" LIFTS)

7. REFER TO STANDARD MD 580.08 FOR THE HIKER/BIKER TRAIL.

8. REFER TO STANDARD MD 580.08 FOR DRIVEWAYS.

9. THE THICKNESS OF THE GRADED AGGREGATE BASE (GAB) MAY BE INCREASED BASED ON FIELD CONDITIONS SUCH THAT THE LONGITUDINAL JOINT AT WHICH THE EXISTING PAVEMENT SECTION WILL MEET THE NEW WIDENED SECTION PROVIDES PROPER SUBGRADE DRAINAGE.

DWG. DT–01

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MACARTHUR BOULEVARD TO RIVER ROAD

PAVEMENT DETAILS & SUPERELEVATION TABLES

SCALE N.T.S. DATE FEBRUARY, 2018

SHEET NO. 5 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:15 PM
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BASELINE CONTROL COORDINATES

GOLDSBORO ROAD

STATION	NORTH	EAST
POT STA 98+40.95	474,244.5216	1,272,795.6204
PC STA. 98+94.80	474,256.3718	1,272,848.1496
PI STA. 99+83.21	474,275.8261	1,272,934.3857
PT STA. 100+67.67	474,335.2977	1,272,999.7939
PC STA. 104+19.22	474,571.7979	1,273,259.9021
PI STA. 107+79.59	474,814.2340	1,273,526.5388
PT STA. 110+25.81	474,605.0970	1,273,820.0215
PC STA. 111+74.24	474,518.9616	1,273,940.8955
PI STA. 113+86.03	474,396.0504	1,274,113.3771
PT STA. 115+73.43	474,439.6545	1,274,320.6348
PC STA. 118+86.73	474,504.1547	1,274,627.2158
PI STA. 121+95.24	474,567.6708	1,274,929.1190
PT STA. 124+95.31	474,744.9138	1,275,181.6358
PC STA. 128+72.45	474,961.5847	1,275,490.3250
PI STA. 129+76.12	475,021.1436	1,275,575.1781
PCC STA. 130+78.19	475,052.5815	1,275,673.9656
PI STA. 132+39.66	475,101.5474	1,275,827.8309
PT STA. 133+92.36	475,059.8731	1,275,983.8291
PC STA. 135+65.06	475,015.3005	1,276,150.6771
PI STA. 137+54.91	474,966.3025	1,276,334.0901
PRC STA. 139+27.94	475,051.3829	1,276,503.8029
PI STA. 142+02.63	475,174.4875	1,276,749.3640
PT STA. 144+77.18	475,283.9260	1,277,001.3129
PC STA. 146+68.59	475,360.1855	1,277,176.8772
PI STA. 148+74.74	475,442.3161	1,277,365.9580
PT STA. 150+71.85	475,606.5184	1,277,490.5959
PC STA. 154+70.32	475,923.9121	1,277,731.5138
PI STA. 158+59.80	476,234.1432	1,277,966.9950
PT STA. 161+58.82	476,139.5185	1,278,344.8055

CURVE DATA

CURVE NO.	△	Dc	R	T	L	E
MACARTHURSB-1	10°33'08.96" LT.	5°17'43.29"	1,082.00'	99.92'	199.28'	4.60'
MACARTHURSB-2	17°08'02.55" RT.	22°55'05.92"	250.00'	37.66'	74.76'	2.82'
MACARTHURSB-3	10°21'54.88" LT.	9°21'43.40"	612.00'	55.51'	110.72'	2.51'
MACARTHURSB-4	20°17'53.24" LT.	15°47'02.26"	363.00'	64.98'	128.60'	5.77'
MACARTHURSB-5	18°28'05.51" RT.	44°04'25.24"	130.00'	21.13'	41.90'	1.71'
MACARTHURSB-6	24°51'29.16" RT.	32°55'42.99"	174.00'	38.35'	75.49'	4.18'
MACARTHURSB-7	11°07'25.71" RT.	15°29'07.24"	370.00'	36.03'	71.83'	1.75'
MACARTHURNB-1	8°23'56.50" LT.	15°54'55.78"	360.00'	26.43'	52.77'	0.97'
MACARTHURNB-2	34°20'02.72" RT.	27°56'56.98"	205.00'	63.33'	122.84'	9.56'
GOLDSBOROBEG-1	68°56'41.00" RT.	114°35'29.61"	50.00'	34.33'	60.17'	10.65'
GOLDSBOROBEG-2	37°43'37.47" LT.	18°28'57.03"	310.00'	105.92'	204.12'	17.59'
GOLDSBOROBEG-3	28°03'06.73" LT.	24°54'40.35"	230.00'	57.46'	112.61'	7.07'
GOLDSBORO-1	29°33'56.07" LT.	17°06'11.58"	355.00'	88.40'	172.87'	11.47'
GOLDSBORO-2	77°45'07.66" RT.	12°49'04.25"	447.00'	360.38'	606.59'	127.18'
GOLDSBORO-3	47°21'17.18" LT.	11°51'44.93"	483.00'	211.79'	399.20'	44.40'
GOLDSBORO-4	23°11'03.52" LT.	3°48'34.42"	1,504.00'	308.51'	608.58'	31.32'
GOLDSBORO-5	17°24'43.87" RT.	8°27'47.48"	677.00'	103.67'	205.74'	7.89'
GOLDSBORO-6	32°36'36.32" RT.	10°22'46.81"	552.00'	161.47'	314.17'	23.13'
GOLDSBORO-7	41°34'57.13" LT.	11°27'32.96"	500.00'	189.85'	362.88'	34.83'
GOLDSBORO-8	3°08'48.96" RT.	0°34'22.65"	10,000.00'	274.69'	549.24'	3.77'
GOLDSBORO-9	29°19'15.88" LT.	7°16'15.74"	788.00'	206.15'	403.26'	26.52'
GOLDSBORO-10	66°51'37.60" RT.	9°42'40.14"	590.00'	389.48'	688.49'	116.96'

BASELINE CONTROL COORDINATES

MACARTHUR BLVD. NORTHBOUND

STATION	NORTH	EAST
PC STA 10+00.00	474,302.9117	1,272,639.8011
PI STA. 10+26.43	474,290.6602	1,272,663.2242
PT STA. 10+52.77	474,281.9615	1,272,688.1856
PC STA. 12+01.66	474,232.9667	1,272,828.7776
PI STA. 12+64.99	474,212.1265	1,272,888.5793
PT STA. 13+24.50	474,161.1883	1,272,926.2070
PC STA. 13+89.15	474,109.1871	1,272,964.6200
PI STA. 14+23.70	474,081.3969	1,272,985.1484
PT STA. 14+58.18	474,051.4339	1,273,002.3512

BASELINE CONTROL COORDINATES

MACARTHUR BLVD. SOUTHBOUND

STATION	NORTH	EAST
PC STA 200+00.00	474,568.7102	1,272,171.1149
PI STA. 200+99.92	474,506.9666	1,272,249.6775
PT STA. 201+99.28	474,460.6549	1,272,338.2188
PC STA. 205+39.74	474,302.8577	1,272,639.9044
PI STA. 205+77.40	474,285.4022	1,272,673.2768
PRC STA. 206+14.50	474,258.8896	1,272,700.0255
PI STA. 206+70.01	474,219.8131	1,272,739.4501
PCC STA. 207+25.22	474,188.4677	1,272,785.2621
PI STA. 207+90.20	474,151.7737	1,272,838.8910
PRC STA. 208+53.82	474,135.9625	1,272,901.9190
PI STA. 208+74.95	474,130.8200	1,272,922.4186
PCC STA. 208+95.72	474,119.4485	1,272,940.2335
PI STA. 209+34.07	474,098.8150	1,272,972.5583
PCC STA. 209+71.21	474,066.5047	1,272,993.2146
PI STA. 210+07.24	474,036.1478	1,273,012.6220
PT STA. 210+43.04	474,002.6169	1,273,025.8081

BASELINE CONTROL COORDINATES

GOLDSBOROBEG

STATION	NORTH	EAST
PC STA. 30+00.00	474,362.1056	1,272,526.6309
PI STA. 30+34.33	474,386.5669	1,272,550.7160
PT STA. 30+60.17	474,372.8781	1,272,582.1972
PC STA. 32+08.54	474,313.7118	1,272,718.2661
PI STA. 33+14.46	474,271.4766	1,272,815.3973
PCC STA. 34+12.66	474,297.5061	1,272,918.0654
PI STA. 34+70.12	474,311.6261	1,272,973.7594
PT STA. 35+25.27	474,350.2787	1,273,016.2703

TRAVERSE POINTS

POINT NO.	NORTH	EAST	ELEVATION	PLAN SHEET NO.
HV9188	474,274.92000	1,272,813.42000	152.36	PS-01
MERI	474,517.87030	1,272,302.68720	151.93	PS-01
MER2	475,805.81500	1,277,592.98880	258.40	-
MER3	476,181.44010	1,278,061.98790	268.11	-
MERI00	474,479.16659	1,273,184.16429	148.09	PS-02
MERI01	474,696.89419	1,273,500.42570	157.56	PS-02
MERI02	474,505.49314	1,273,928.63227	178.22	PS-02
MERI03	474,409.15865	1,274,298.93085	189.62	PS-03
MERI04	474,690.47062	1,275,137.57374	203.63	PS-04
MERI05	475,099.50295	1,275,668.78238	216.53	PS-05
MERI06	475,004.72014	1,276,415.10912	225.98	PS-05
MERI07	475,424.13110	1,277,333.10661	245.12	PS-06
MERI50	475,870.25260	1,277,813.29982	255.65	PS-07
MERI51	475,906.44559	1,277,641.66279	258.87	PS-07
MERI52	475,659.26963	1,277,624.14287	251.68	PS-07
MERI53	475,570.74762	1,277,521.79931	248.38	PS-07
MERI54	475,323.49551	1,277,034.48481	235.39	PS-06
MERI55	475,182.50461	1,276,832.26555	231.44	PS-06
MERI56	475,064.87069	1,276,611.00055	229.01	PS-06
MERI57	475,041.02408	1,276,136.20327	222.42	PS-05
MERI58	475,115.38830	1,275,849.66610	221.59	PS-05
MERI59	475,076.93541	1,275,611.74753	213.44	PS-04
MERI60	474,594.0457	1,274,939.5663	200.31	PS-04
MERI80	474,086.76142	1,272,951.1437	150.69	PS-01
MERI70	474,290.79175	1,272,953.96831	151.07	PS-01
MERI71	474,224.34575	1,272,965.66476	150.35	PS-01
MERI72	474,704.56929	1,273,580.79082	160.13	PS-02
MERI73	474,407.46496	1,274,156.68291	188.88	PS-03
MERI74	474,484.91151	1,274,319.52076	187.69	PS-03
MERI75	474,514.14398	1,274,471.14137	191.55	PS-03

DWG. GS–01

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DESIGN SECTION
240–777–7221

NO.	REVISION	DATE	BY

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ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

GEOMETRY SHEET

SCALE 1"=100' DATE FEBRUARY, 2018

SHEET NO. 6 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:15 PM
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DWG. GS-02

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NOTES:

1. SEE SHEET GS-01 FOR BASELINE CONTROL COORDINATES, CURVE DATA AND TRAVERSE POINTS.

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

GEOMETRY SHEET

SCALE 1"=100' DATE FEBRUARY, 2018

SHEET NO. 7 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:15 PM
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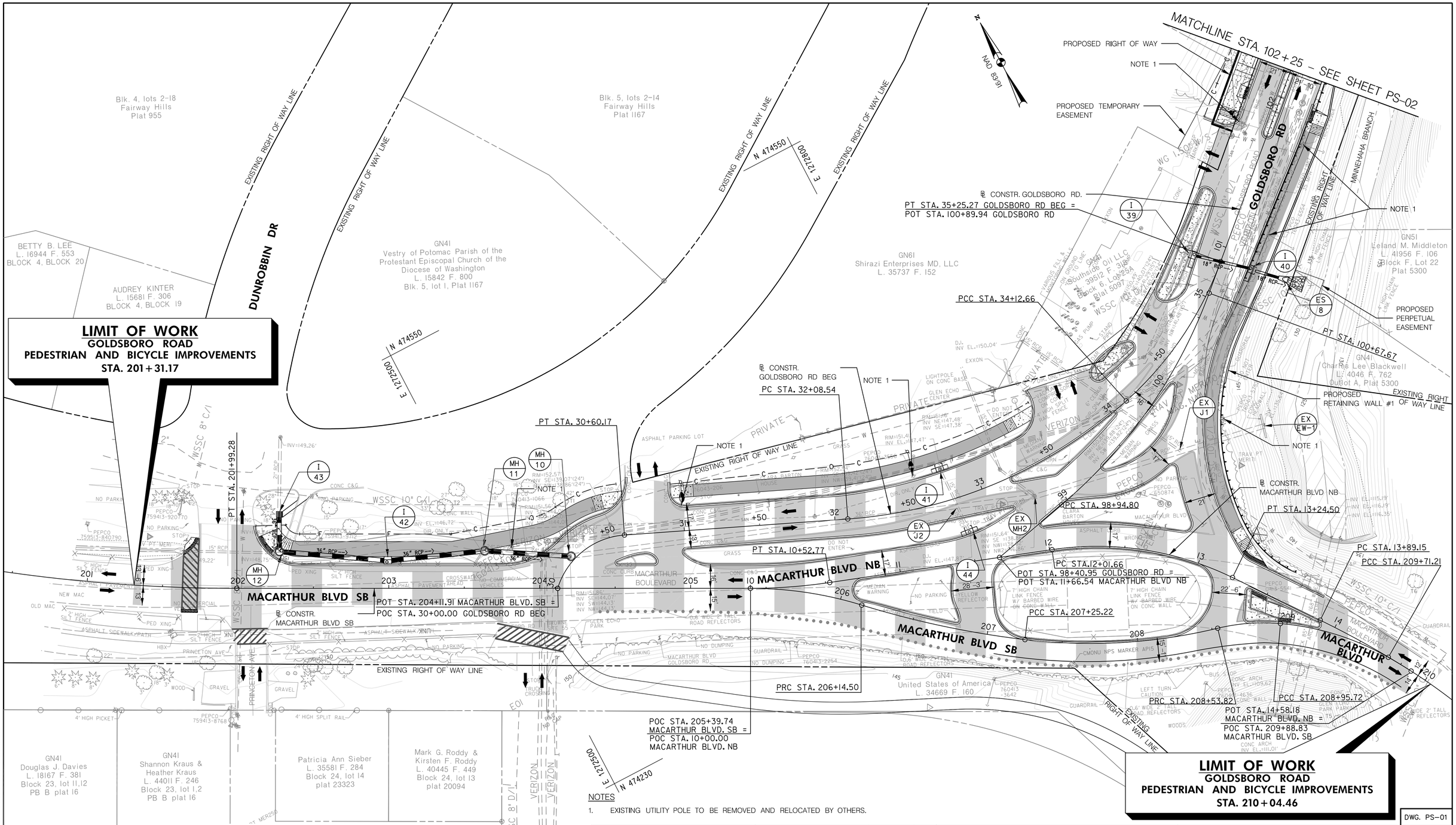

LIMIT OF WORK
GOLDSBORO ROAD
PEDESTRIAN AND BICYCLE IMPROVEMENTS
STA. 201+31.17

LIMIT OF WORK
GOLDSBORO ROAD
PEDESTRIAN AND BICYCLE IMPROVEMENTS
STA. 210+04.46

NOTES

1. EXISTING UTILITY POLE TO BE REMOVED AND RELOCATED BY OTHERS.

DWG. PS-01

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING AND RESURFACING
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- TRAFFIC FLOW ARROW

30' 0 30' 60'
SCALE: 1" = 30'

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Chief, Division of Transportation Engineering — Date

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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS
MACARTHUR BOULEVARD TO RIVER ROAD
ROADWAY PLAN

SCALE 1"=30' DATE FEBRUARY, 2018

SHEET NO. 8 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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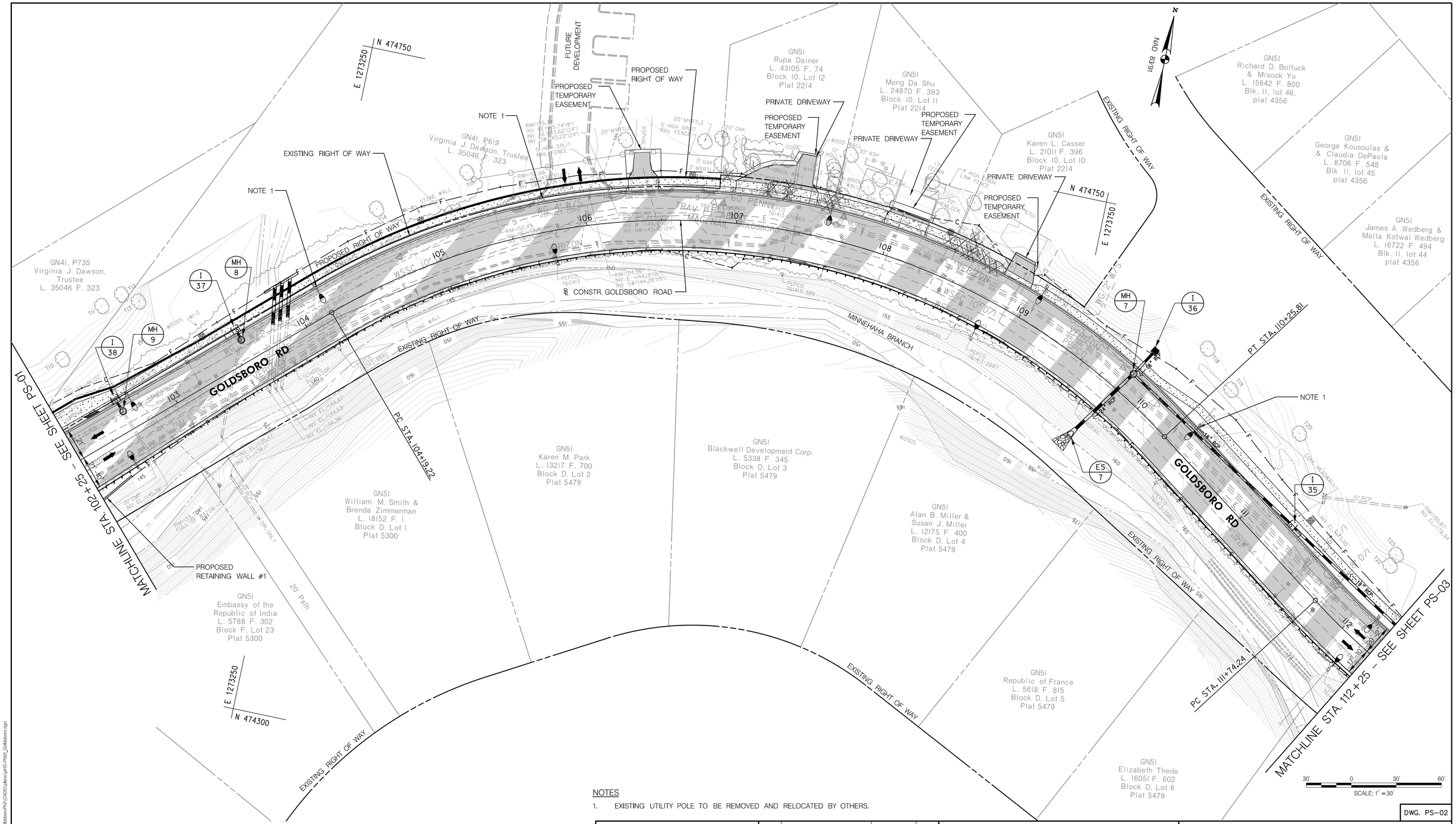

NOTES

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LEGEND

- FULL DEPTH PAVEMENT
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MONTGOMERY COUNTY
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PLAN

SCALE 1"=30' DATE FEBRUARY, 2018

SHEET NO. 9 OF 106

DWG. PS-02

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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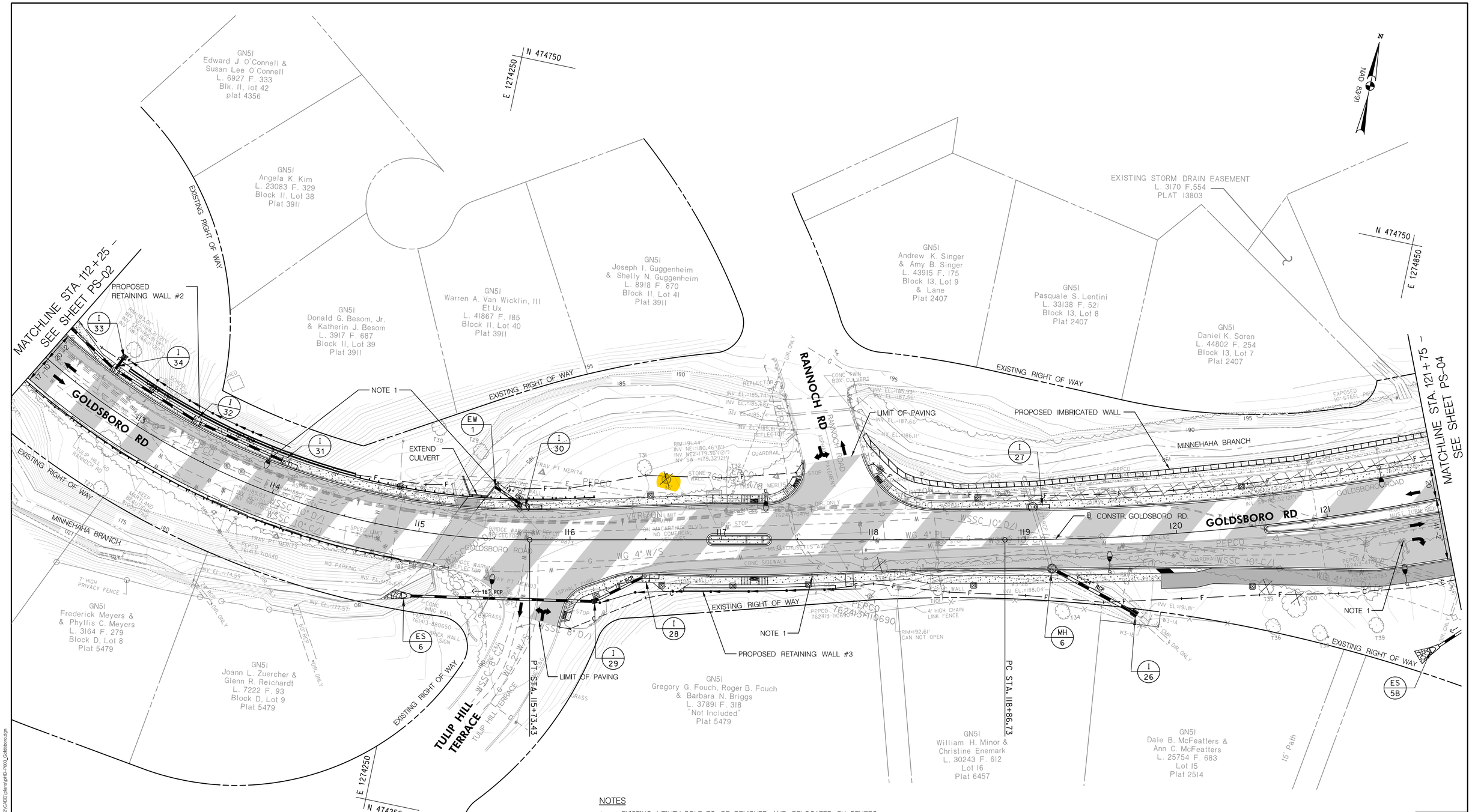

NOTES

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DWG. PS-03

LEGEND

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PLAN

SCALE 1"=30' DATE FEBRUARY, 2018

SHEET NO. 10 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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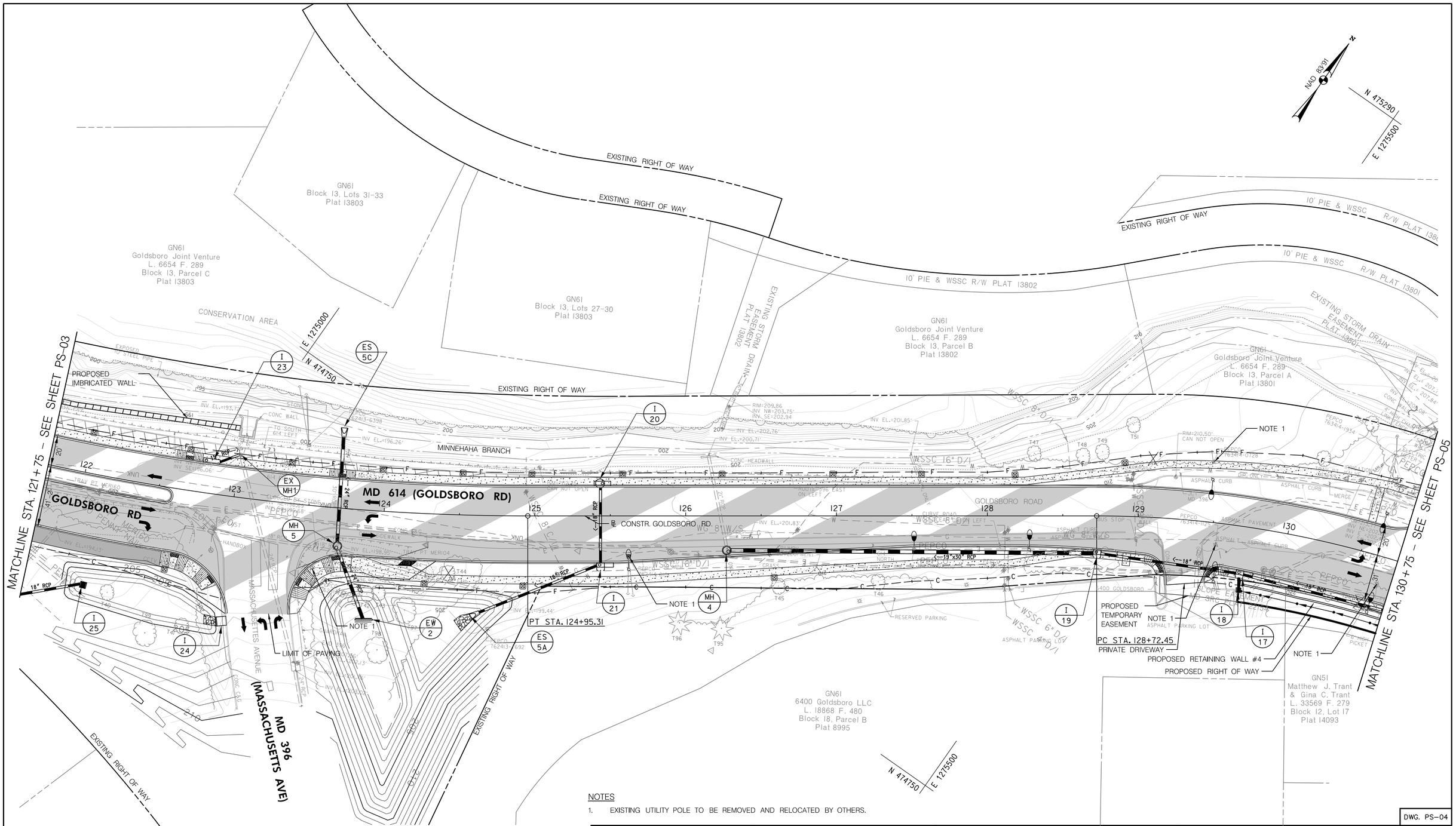

NOTES

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DWG. PS-04

LEGEND

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PLAN

SCALE 1"=30' DATE FEBRUARY, 2018

SHEET NO. 11 OF 106

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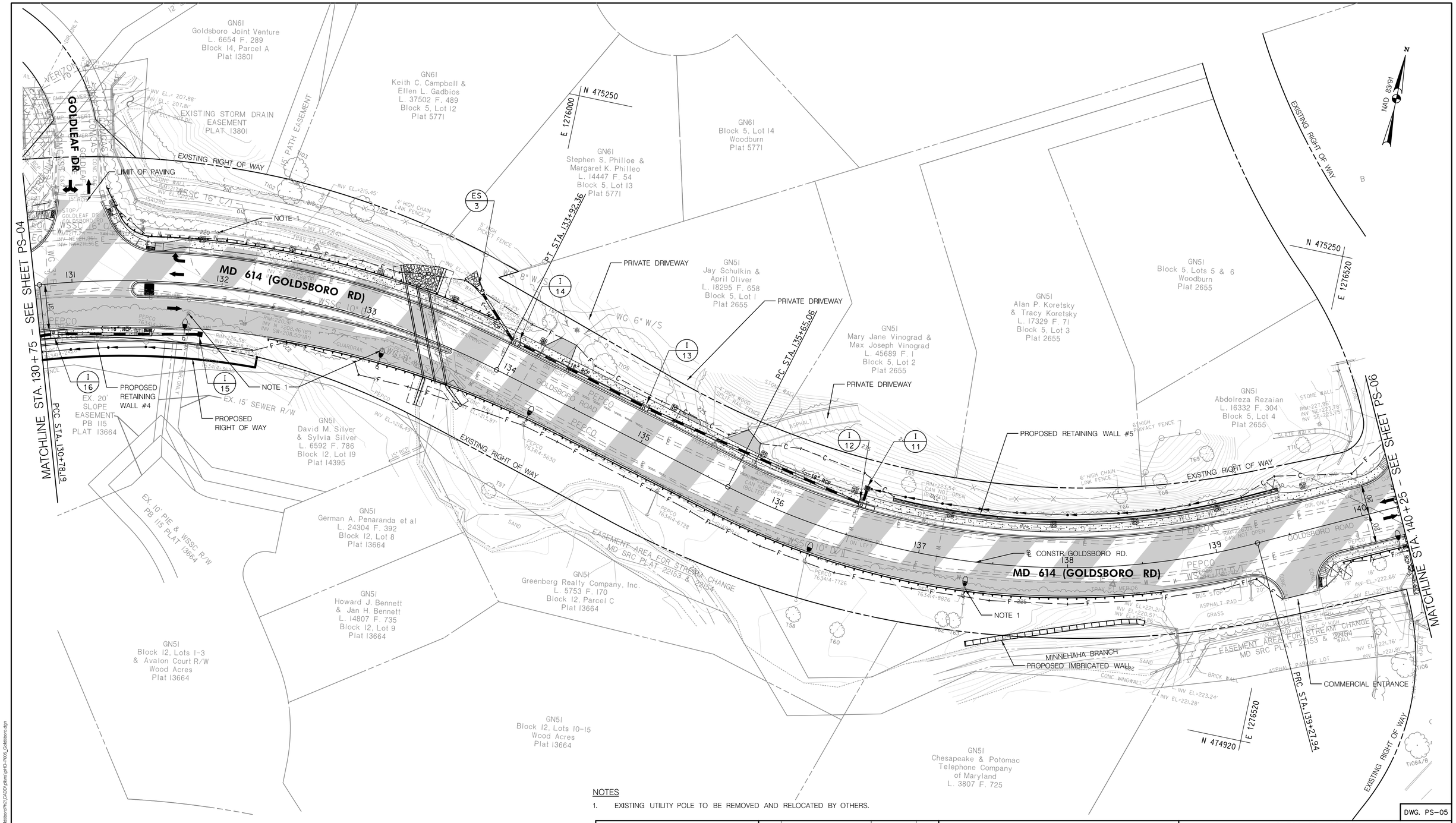

NOTES

1. EXISTING UTILITY POLE TO BE REMOVED AND RELOCATED BY OTHERS.

DWG. PS-05

LEGEND

- FULL DEPTH PAVEMENT
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PLAN

SCALE 1"=30' DATE FEBRUARY, 2018

SHEET NO. 12 OF 106

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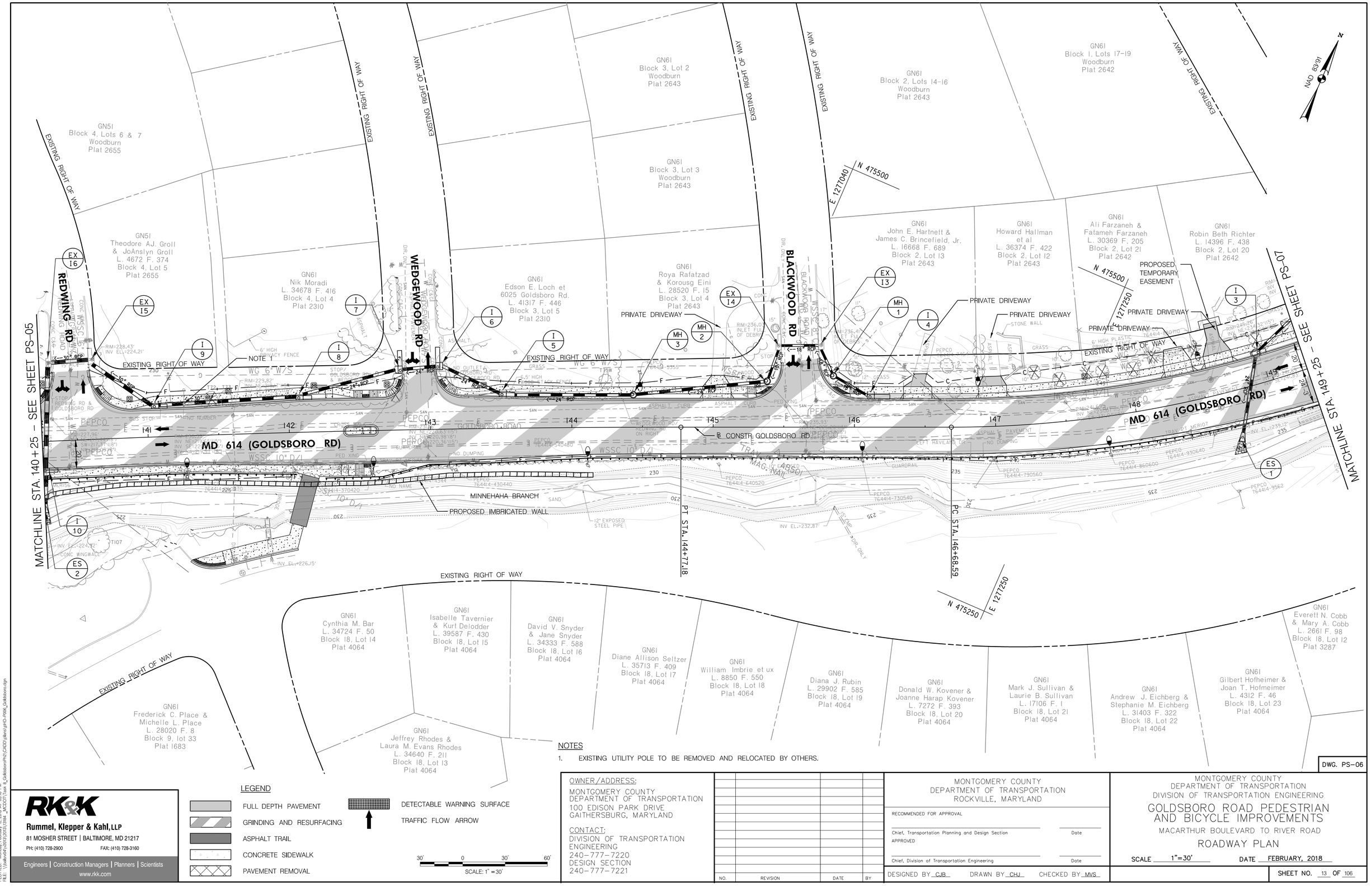

NOTES

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LEGEND

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DWG. PS-06

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240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY CJB DRAWN BY CHJ CHECKED BY MVS

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

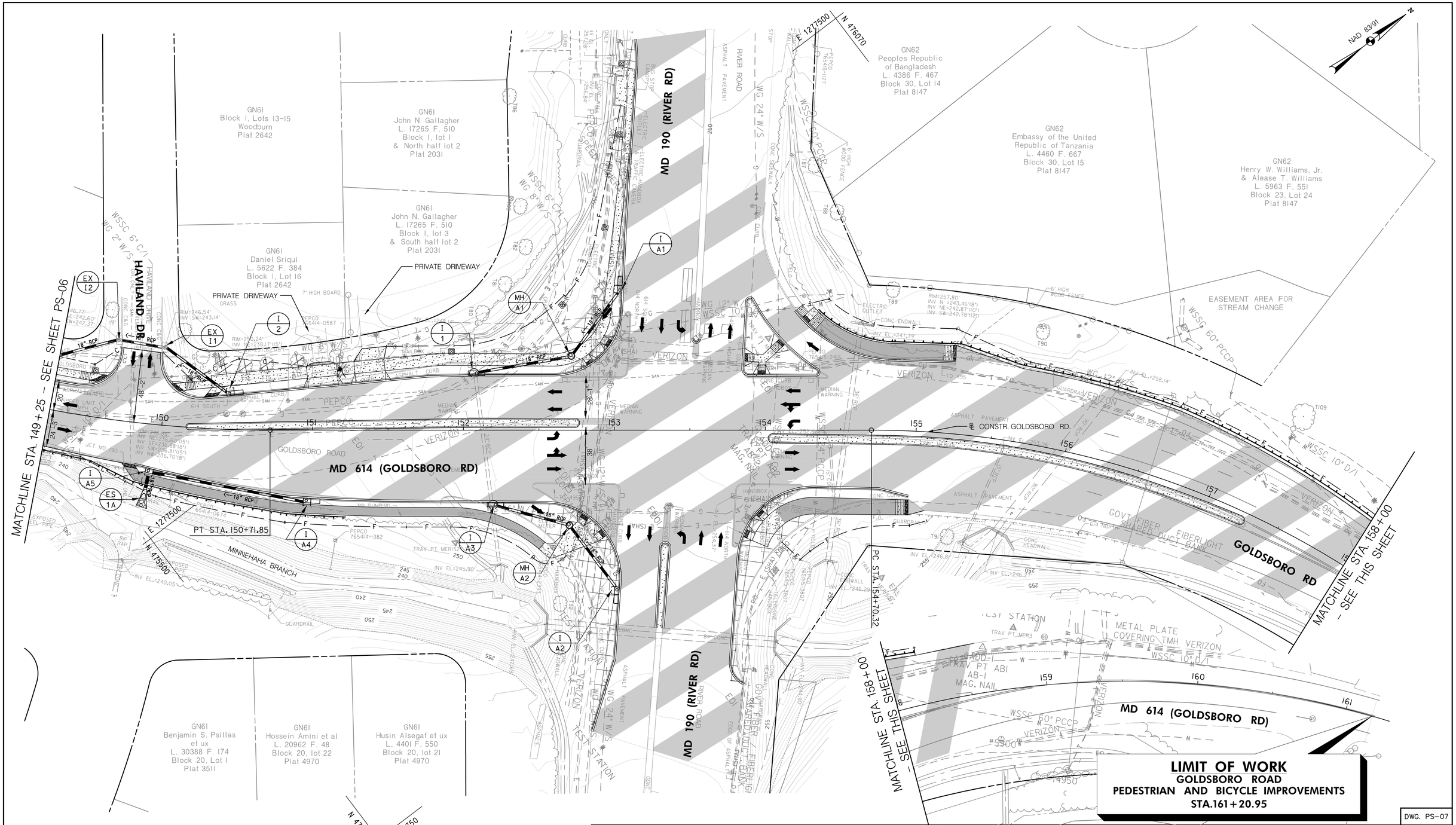
MACARTHUR BOULEVARD TO RIVER ROAD

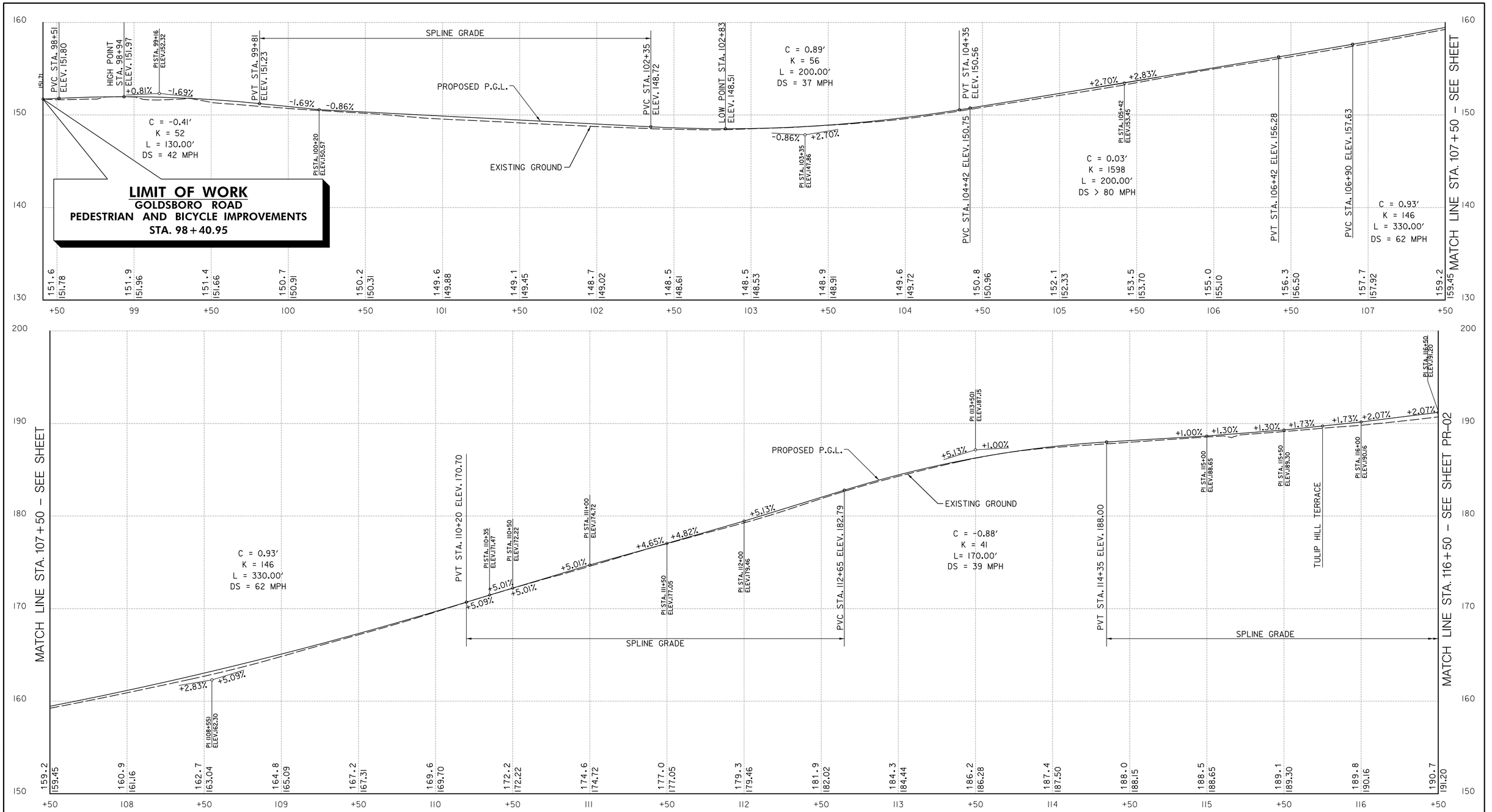
ROADWAY PLAN

SCALE 1"=30' DATE FEBRUARY, 2018

SHEET NO. 13 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\Ballon04\c2013\2013\13984_MCDOT\Task 9_Goldsboro\Ph2\CADD\plans\pH2-P006_Goldsboro.dgn


MATCHLINE STA. 149+25 – SEE SHEET PS-06
HAVILAND DR
HAVILAND DRIVE
MD 190 (RIVER RD)
RIVER ROAD
MD 614 (GOLDSBORO RD)
GOLDSBORO ROAD
CONSTR. GOLDSBORO RD.
GOLDSBORO RD
MATCHLINE STA. 158+00 – SEE THIS SHEET
MATCHLINE STA. 158+00 – SEE THIS SHEET
PRIVATE DRIVEWAY
PRIVATE DRIVEWAY
EASEMENT AREA FOR STREAM CHANGE
MINNEHAHA BRANCH
PT STA. 150+71.85
PC STA. 154+70.32
E 1277500
N 475500
E 1277750
N 476070
NAD 83/91
GN61
Block I, Lots 13-15
Woodburn
Plat 2642
GN61
John N. Gallagher
L. 17265 F. 510
Block I, lot I
& North half lot 2
Plat 2031
GN61
John N. Gallagher
L. 17265 F. 510
Block I, lot 3
& South half lot 2
Plat 2031
GN61
Daniel Sriqui
L. 5622 F. 384
Block I, Lot 16
Plat 2642
GN62
Peoples Republic
of Bangladesh
L. 4386 F. 467
Block 30, Lot 14
Plat 8147
GN62
Embassy of the United
Republic of Tanzania
L. 4460 F. 667
Block 30, Lot 15
Plat 8147
GN62
Henry W. Williams, Jr.
& Alease T. Williams
L. 5963 F. 551
Block 23, Lot 24
Plat 8147
GN61
Benjamin S. Psillas
et ux
L. 30388 F. 174
Block 20, Lot 1
Plat 3511
GN61
Hossein Amini et al
L. 20962 F. 48
Block 20, lot 22
Plat 4970
GN61
Husin Alsegaf et ux
L. 4401 F. 550
Block 20, lot 21
Plat 4970
WSSC 6" C/I
WG 2" W/S
WSSC 6" C/I
WG 8" W/S
WSSC 60" PCCP
WG 24" W/S
WSSC 10" D/I
WG 12" W/S
WSSC 60" PCCP
WSSC 60" PCCP
WSSC 10" D/I
WSSC 60" PCCP
WSSC 10" D/I
WG 24" W/S
WG 12" W/S
WSSC 10" D/I
WSSC 60" PCCP
WSSC 10" D/I
WSSC 60" PCCP
WSSC 10" D/I
WSSC 60" PCCP



DWG. PR–01

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GOLDSBORO RD
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

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DESIGNED BY CJB DRAWN BY CHJ CHECKED BY MVS

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

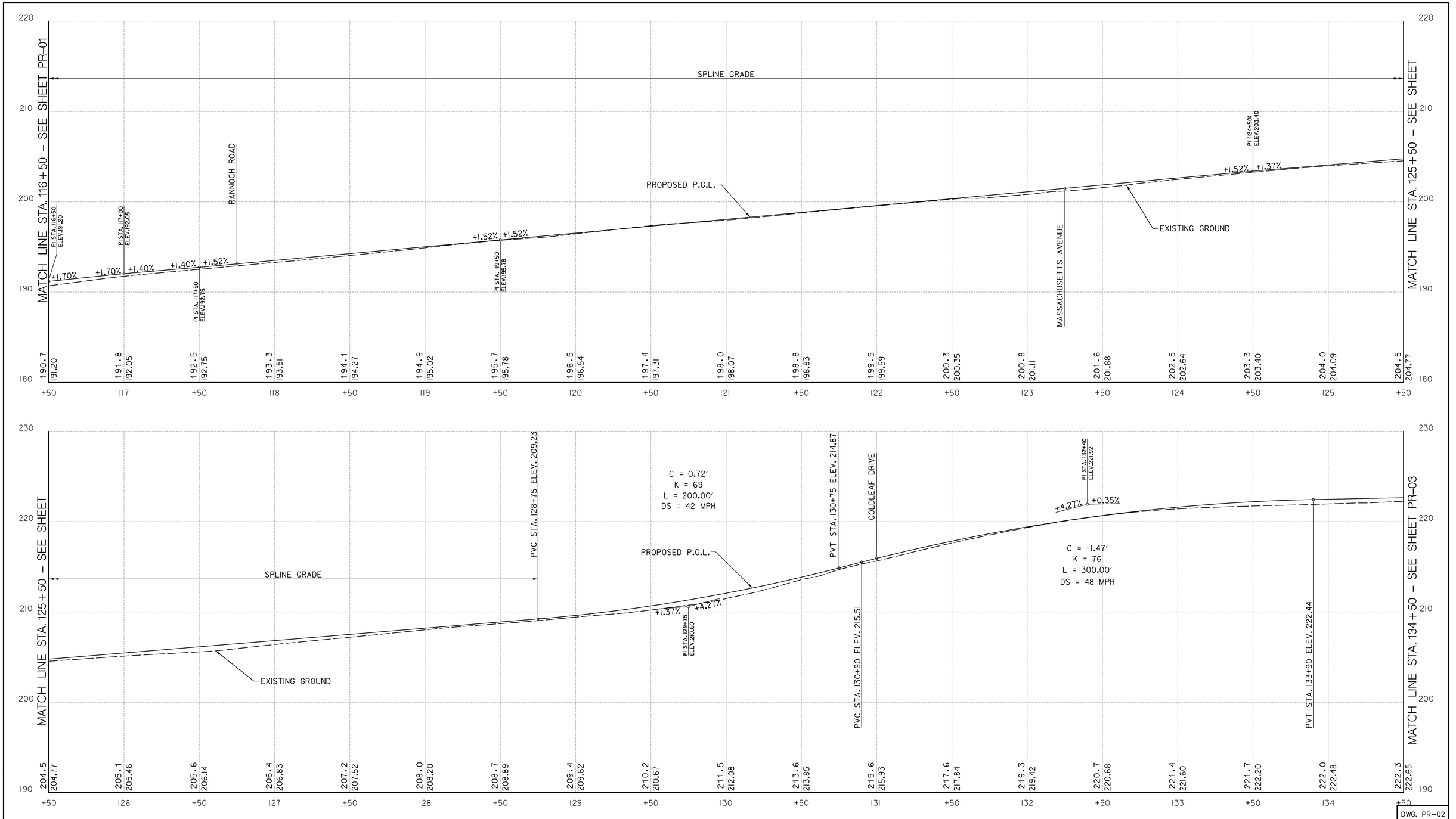
MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PROFILES

SCALE AS SHOWN DATE FEBRUARY, 2018

SHEET NO. 15 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\balto-fs01\2013\2013\13984_MCDOT\Task 9_GoldsboroPh2\CADD\plans\pH-V001_Goldsboro.dgn



DWG. PR-02

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ROCKVILLE, MARYLAND

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Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PROFILES

SCALE AS SHOWN DATE FEBRUARY, 2018

SHEET NO. 16 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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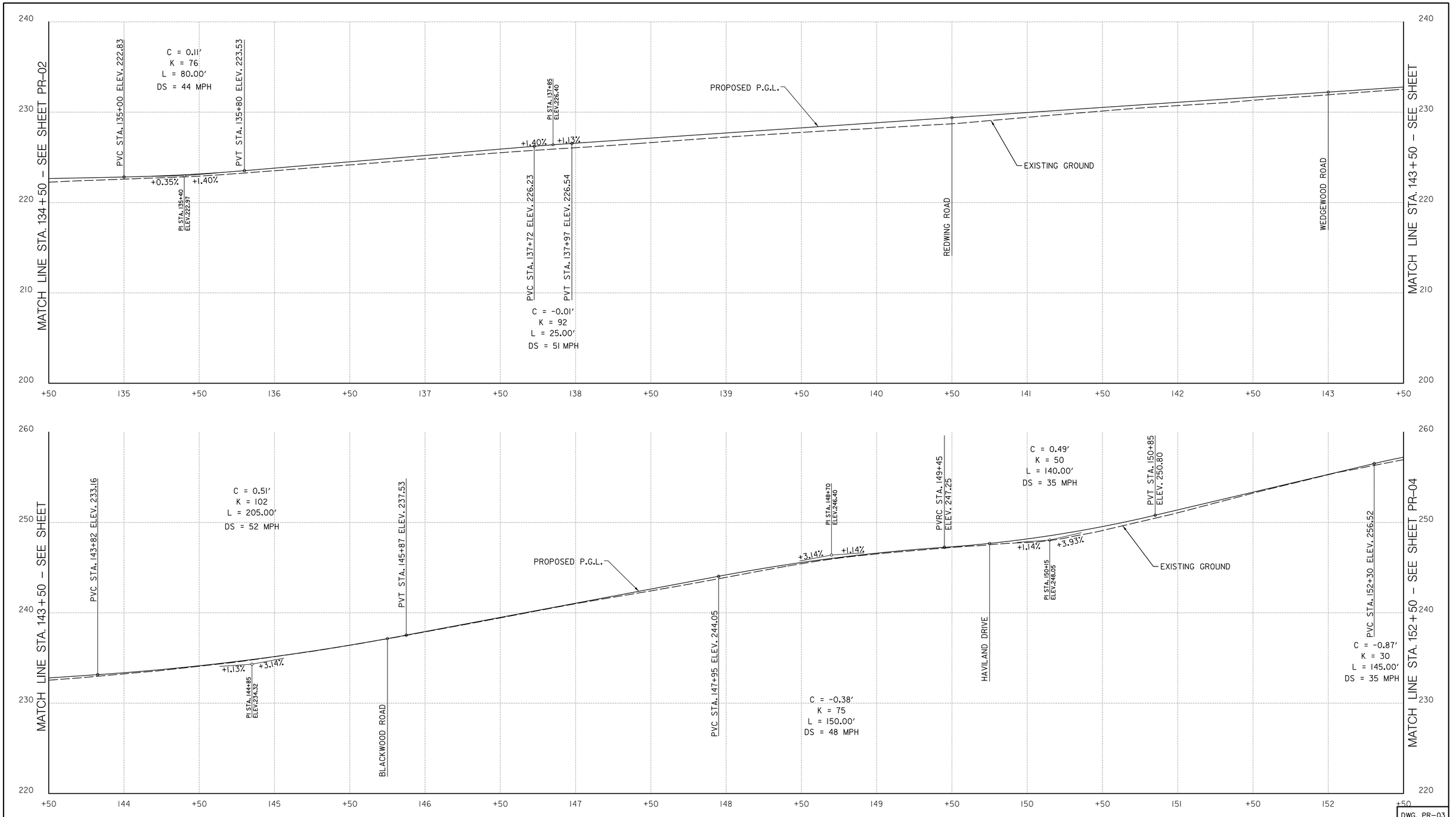

DWG. PR-03

GOLDSBORO RD

SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PROFILES

SCALE AS SHOWN DATE FEBRUARY, 2018

SHEET NO. 17 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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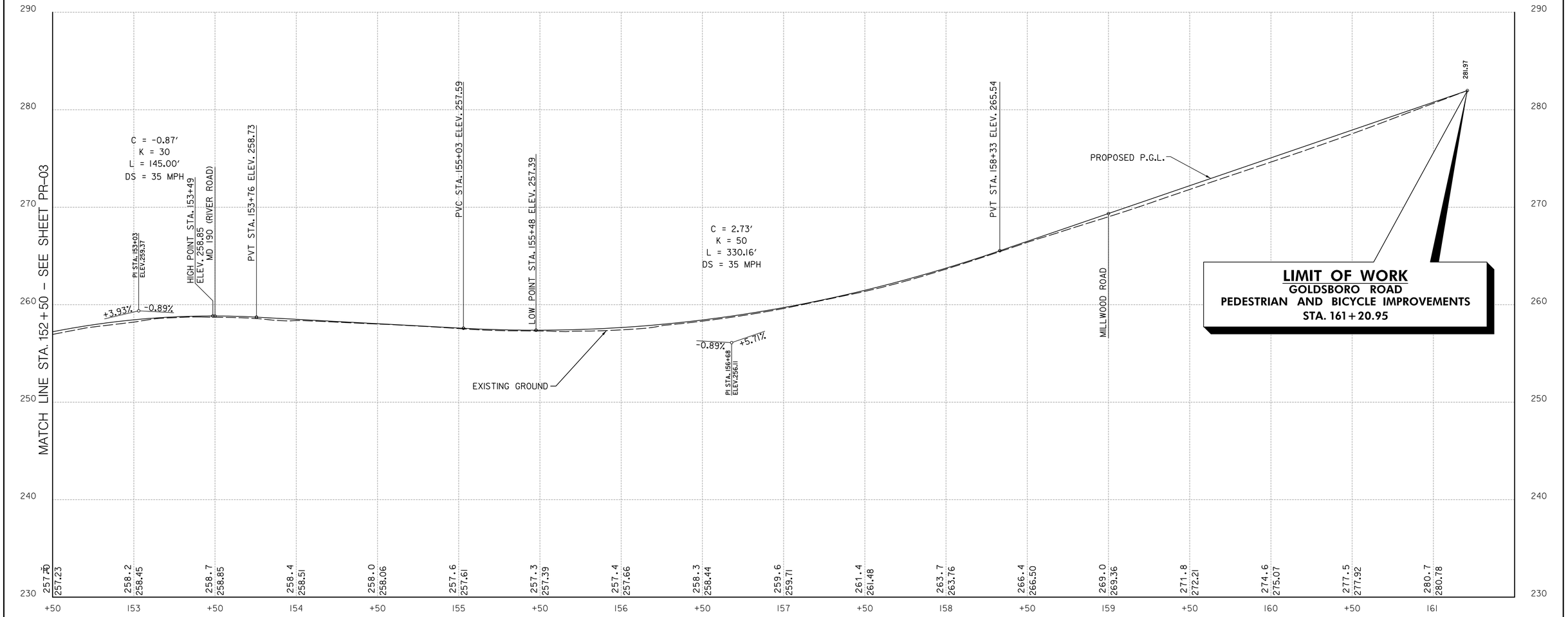

DWG. PR-04

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MACARTHUR BOULEVARD TO RIVER ROAD

ROADWAY PROFILES

SCALE AS SHOWN DATE FEBRUARY, 2018

SHEET NO. 18 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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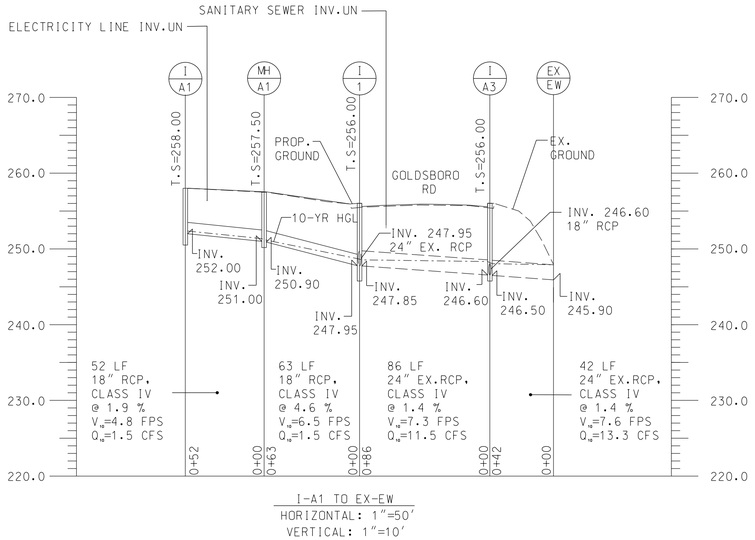
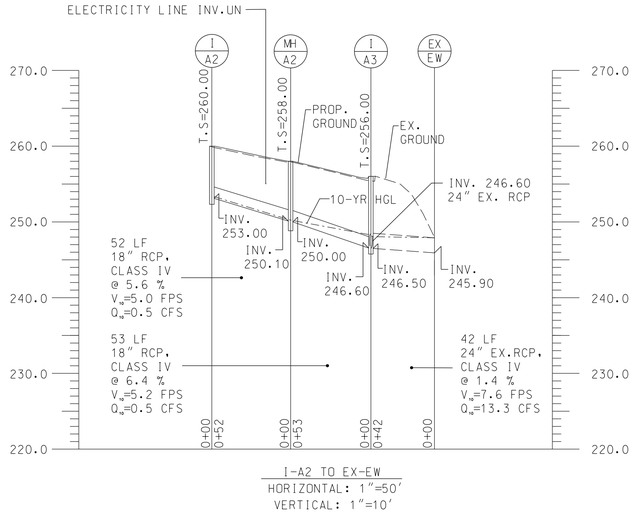
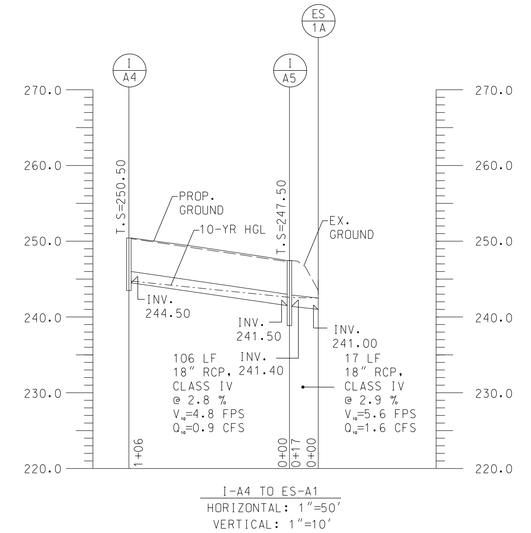


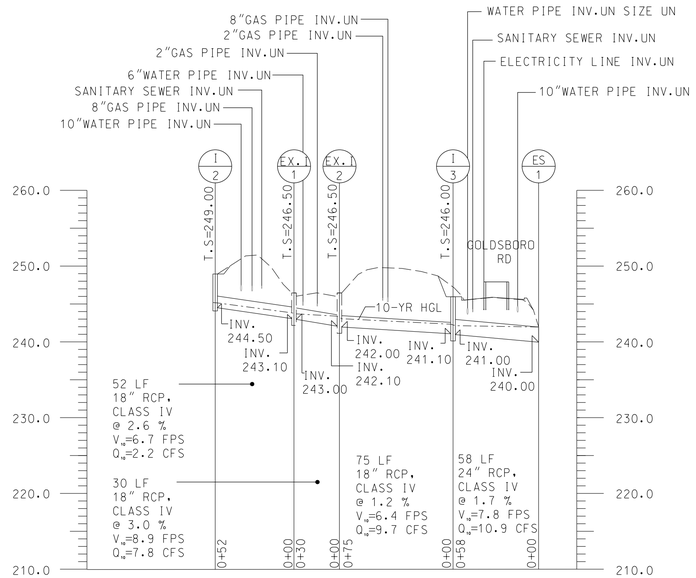
I-A1 TO EX-EW
HORIZONTAL: 1"=50'
VERTICAL: 1"=10'



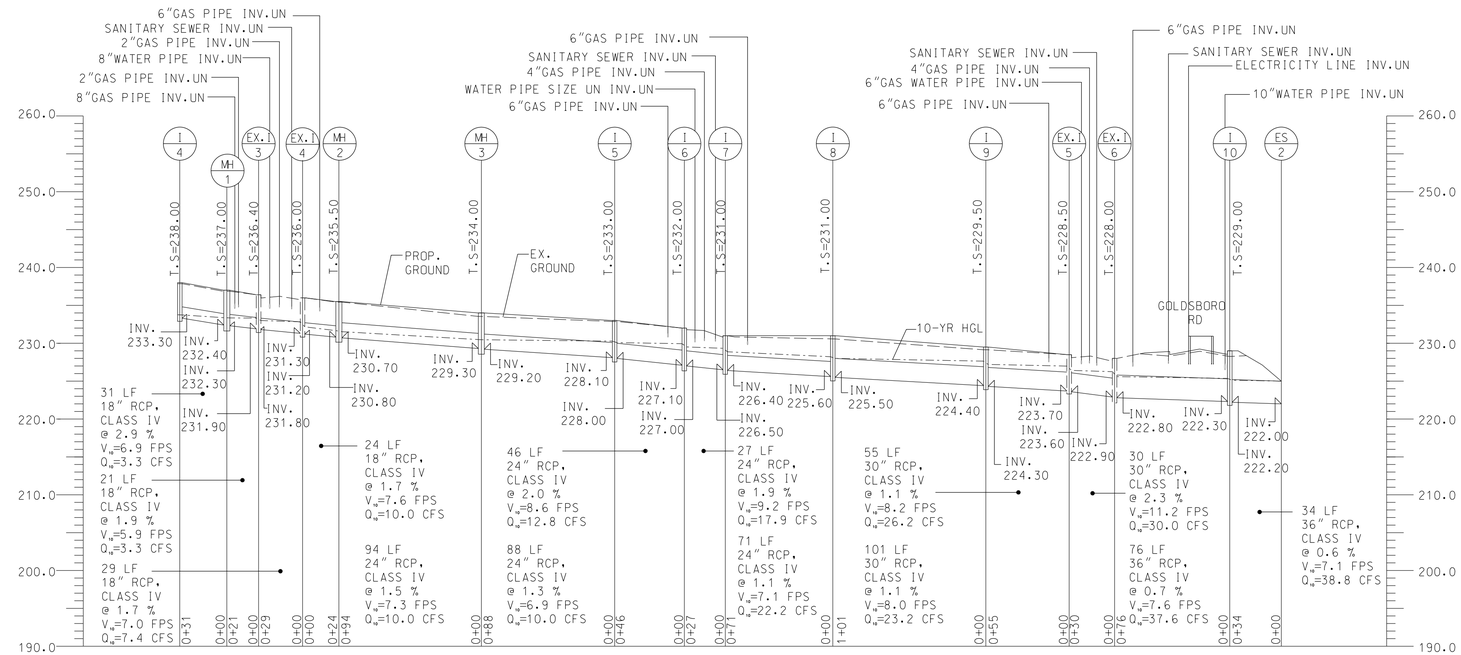
I-A2 TO EX-EW
HORIZONTAL: 1"=50'
VERTICAL: 1"=10'



I-A4 TO ES-A1
HORIZONTAL: 1"=50'
VERTICAL: 1"=10'



I-2 TO ES-1
HORIZONTAL: 1"=50'
VERTICAL: 1"=10'



I-4 TO ES-2
HORIZONTAL: 1"=50'
VERTICAL: 1"=10'

DWG. DP-01

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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

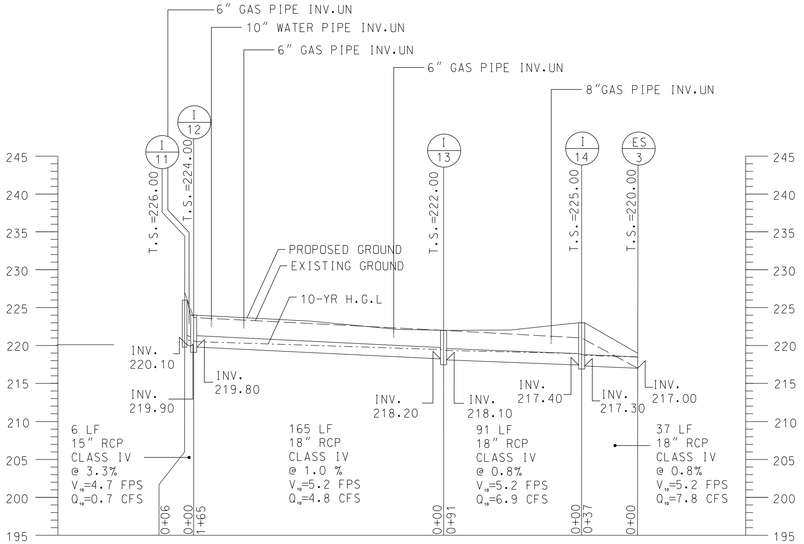
MACARTHUR BOULEVARD TO RIVER ROAD

PIPE PROFILES

SCALE AS NOTED DATE DEC. 2017

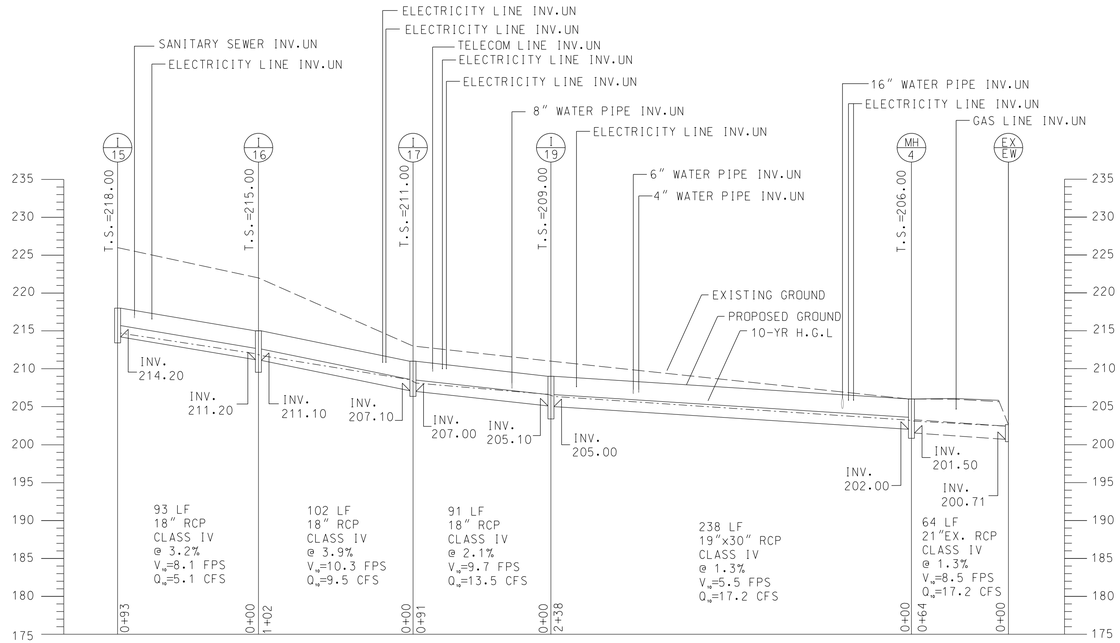
SHEET NO. 19 OF 106

PLOTTED: SOMETIMES
FILE: SFILES



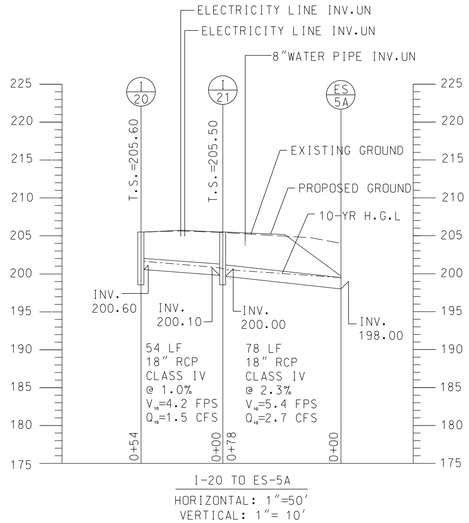
I-11 TO ES-3

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



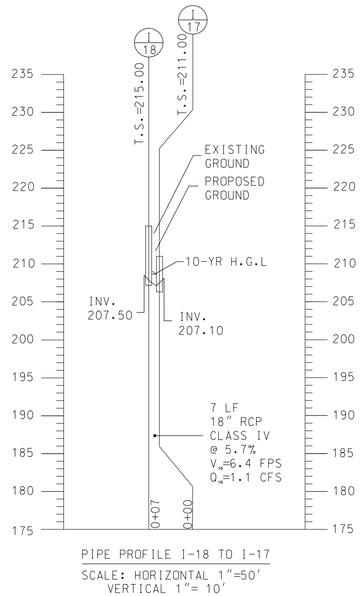
PIPE PROFILE I-15 TO EX-EW

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'



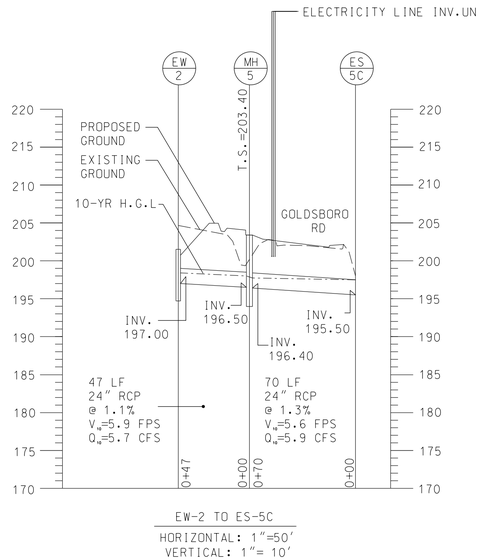
I-20 TO ES-5A

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



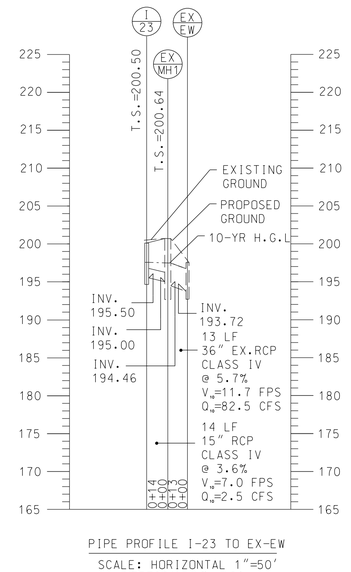
PIPE PROFILE I-18 TO I-17

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'



EW-2 TO ES-5C

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



PIPE PROFILE I-23 TO EX-EW

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'

DWG. DP-02

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FILE: SFILES

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MONTGOMERY COUNTY
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ROCKVILLE, MARYLAND

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

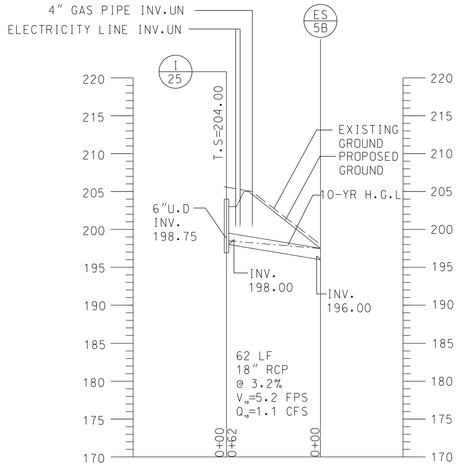
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

PIPE PROFILES

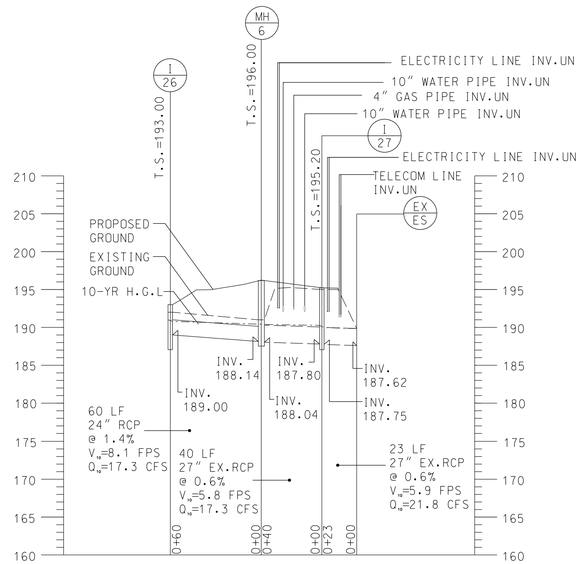
SCALE AS NOTED DATE DEC. 2017

SHEET NO. 20 OF 106



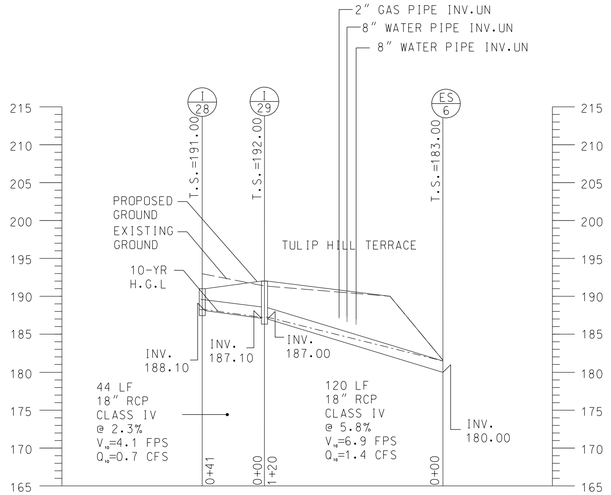
I-24 TO ES-5B

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



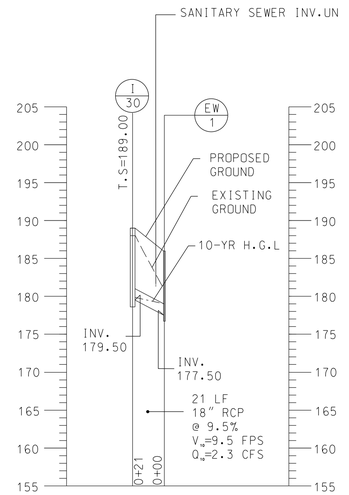
I-26 TO EX-ES

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



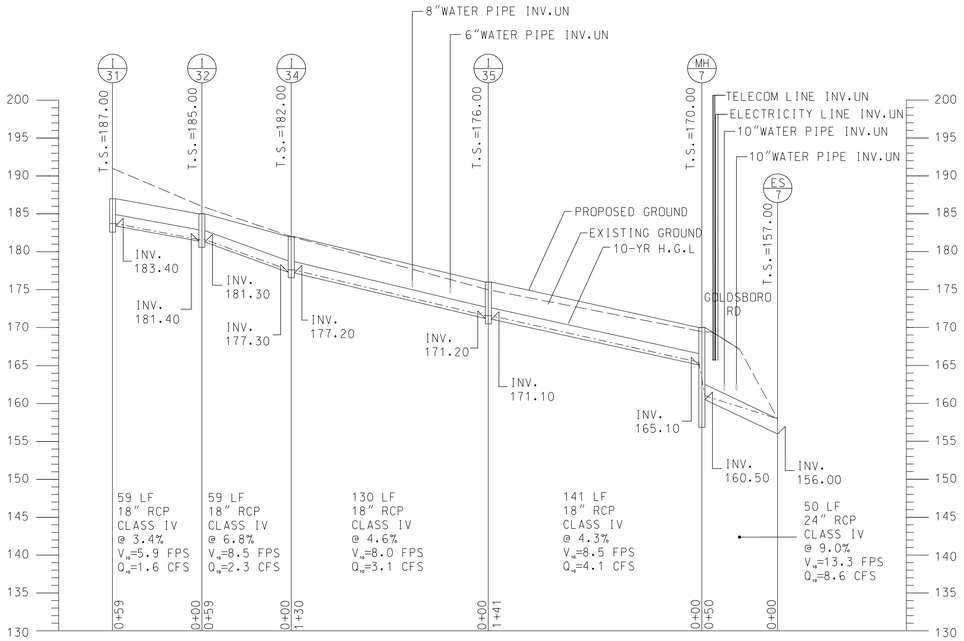
PIPE PROFILE I-28 TO ES-6

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'



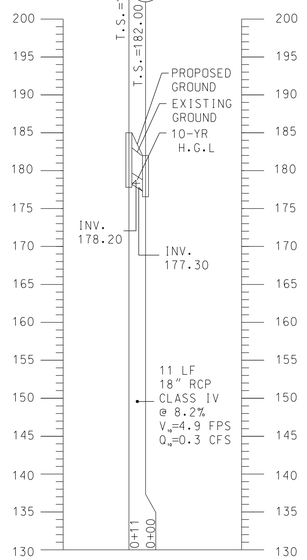
I-30 TO EW-1

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



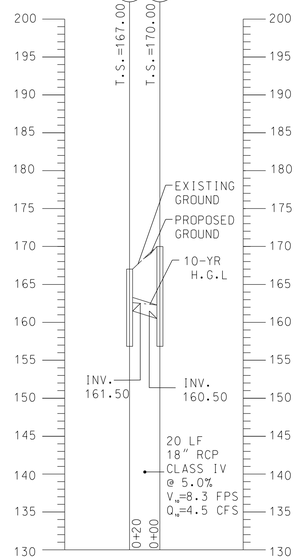
PIPE PROFILE I-31 TO ES-7

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'



PIPE PROFILE I-33 TO I-34

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'



PIPE PROFILE MH-7 TO I-36

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"= 10'

DWG. DP-03

iDesign Engineering, Inc.

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FILE: SFILES

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

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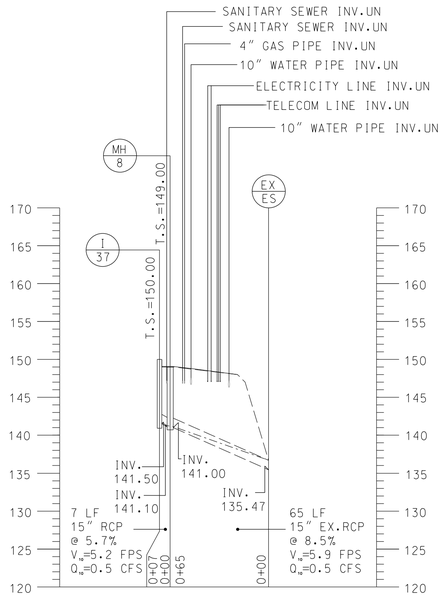
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

PIPE PROFILES

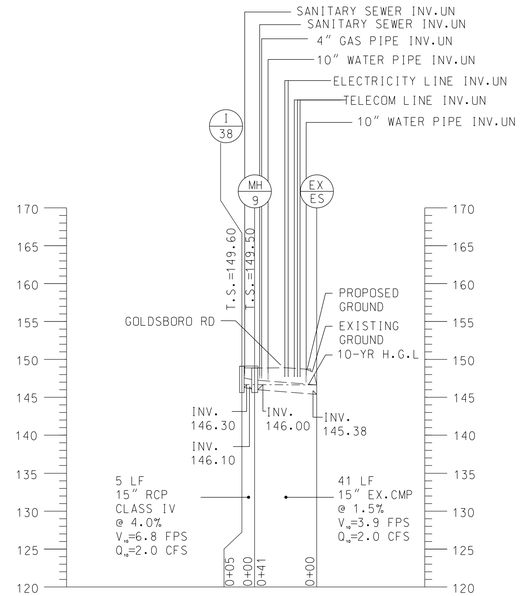
SCALE AS NOTED DATE DEC. 2017

SHEET NO. 21 OF 106



I-37 TO EX-ES

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



I-38 TO EX-ES

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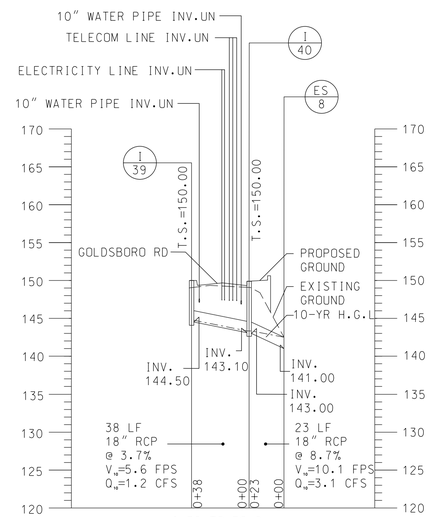
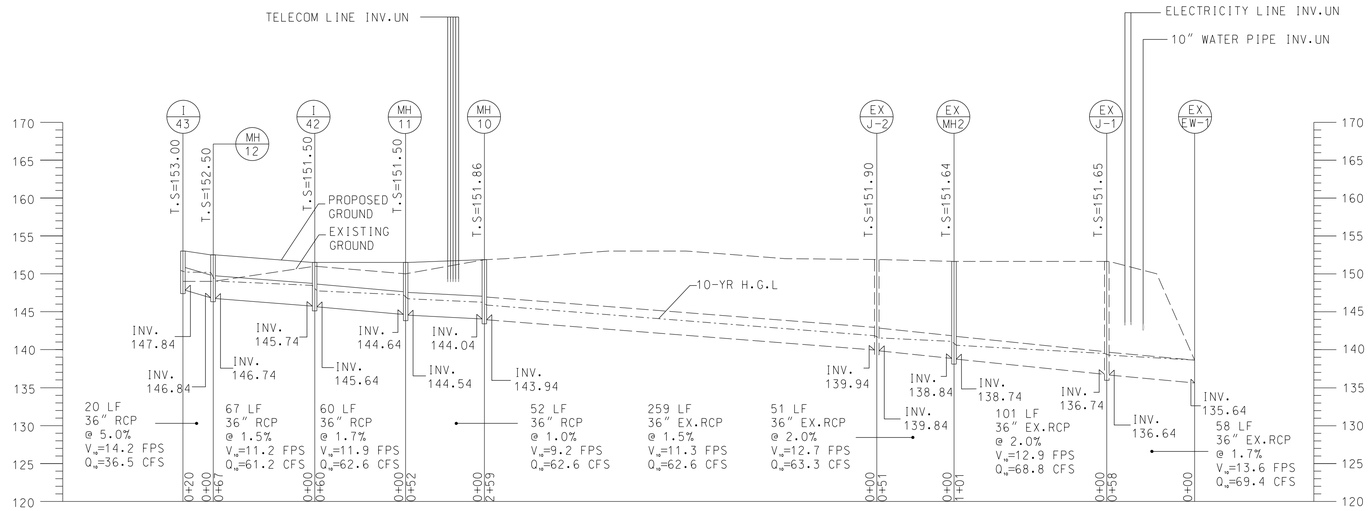
VERTICAL: 1"= 10'



I-39 TO ES-8

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'



I-42 TO EX.EW-1

HORIZONTAL: 1"=50'
VERTICAL: 1"= 10'

DWG. DP-04

iDesign Engineering, Inc.

PLOTTED: $DATETIMES
FILE: $FILES

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

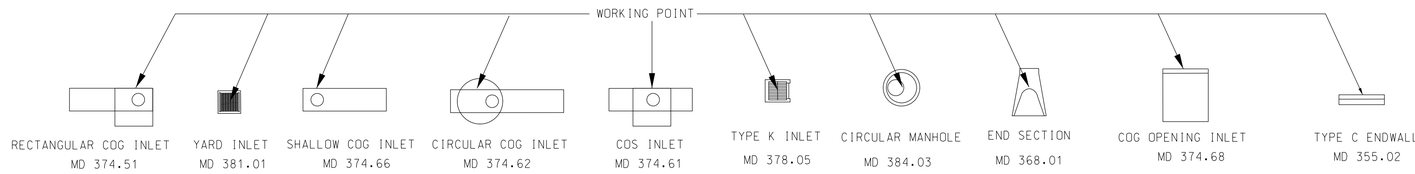
PIPE PROFILES

SCALE AS NOTED DATE DEC. 2017

SHEET NO. 22 OF 106

STRUCTURE SCHEDULE						
STRUCTURE #	STATION	OFFSET (FT)	TOP ELEV.	INV.(IN)	INV.(OUT)	REFERENCE DETAIL
I-A1	153+08	94 LT	258.00'	N/A	252.00'	MD 374.51
I-A2	153+08	106 RT	260.00'	N/A	253.00'	MD 374.51
I-A3	152+19	47 RT	256.00'	246.60'	246.50'	MD 374.62
I-A4	151+00	46 RT	250.50'	N/A	244.50'	MD 374.51
I-A5	150+00	32 RT	247.50'	241.50'	241.40'	MD 374.51
I-1	152+14	38 LT	255.50'	247.81'	247.71'	MD 374.62
I-2	150+50	25 LT	249.00'	N/A	244.50'	MD 374.51
I-3	149+00	22 LT	246.00'	241.10'	241.00'	MD 374.62
I-4	146+12	22 LT	238.00'	N/A	233.30'	MD 374.51
I-5	143+50	29 LT	233.00'	228.10'	228.00'	MD 374.51
I-6	143+07	50 LT	232.00'	227.10'	227.00'	MD 374.51
I-7	142+82	48 LT	231.00'	226.50'	226.40'	MD 374.51
I-8	142+10	28 LT	231.00'	225.60'	225.50'	MD 374.51
I-9	141+07	24 LT	229.50'	224.40'	224.30'	MD 374.51
I-10	140+30	18 RT	229.00'	222.30'	222.20'	MD 374.51
I-11	136+60	33 LT	226.00'	N/A	220.10'	MD 378.05
I-12	136+60	23 LT	224.00'	219.90'	219.80'	MD 374.51
I-13	134+93	20 LT	222.00'	218.20'	218.10'	MD 374.51
I-14	133+97	18 LT	225.00'	217.40'	217.30'	MD 374.51
I-15	131+85	37 RT	218.00'	N/A	214.20'	MD 381.01
I-16	130+87	37 RT	215.00'	211.20'	211.10'	MD 374.51
I-17	129+75	34 RT	211.00'	207.10'	207.00'	MD 374.51
I-18	129+75	46 RT	215.00'	N/A	207.50'	MD 378.05
I-19	128+73	27 RT	209.00'	205.10'	205.00'	MD 374.51
I-20	125+42	17 LT	205.60'	N/A	200.60'	MD 374.62
I-21	125+45	35 RT	205.50'	200.10'	200.00'	MD 374.51
I-23	122+78	18 LT	200.50'	N/A	195.50'	MD 374.66
I-24	123+00	86 RT	205.00'	N/A	N/A	MD 374.68
I-25	122+13	78 RT	204.00'	N/A	198.00'	MD 381.01
I-26	119+72	56 RT	193.00'	N/A	189.00'	MD 381.01
I-27	119+06	18 LT	195.20'	187.80'	187.75'	MD 374.62
I-28	116+56	24 RT	191.00'	N/A	188.10'	MD 374.51
I-29	116+16	39 RT	192.00'	187.10'	187.00'	MD 378.05
I-30	115+71	24 LT	189.00'	N/A	179.50'	MD 374.62
I-31	114+00	24 LT	187.00'	N/A	183.40'	MD 374.51
I-32	113+31	24 LT	185.00'	181.40'	181.30'	MD 374.51

STRUCTURE SCHEDULE (CONTINUED)						
STRUCTURE #	STATION	OFFSET (FT)	TOP ELEV.	INV.(IN)	INV.(OUT)	REFERENCE DETAIL
I-33	112+66	35 LT	185.00'	N/A	178.20'	MD 378.05
I-34	112+66	24 LT	182.00'	177.30'	177.20'	MD 374.51
I-35	111+26	24 LT	176.00'	171.20'	171.10'	MD 374.51
I-36	109+80	38 LT	167.00'	N/A	161.50'	MD 381.01
I-37	103+60	24 LT	150.00'	N/A	141.50'	MD 374.51
I-38	102+67	24 LT	149.60'	N/A	146.30'	MD 374.61
I-39	100+90	20 LT	150.00'	N/A	144.50'	MD 374.51
I-40	100+94	19 RT	150.00'	143.10'	143.00'	MD 374.51
I-41	206+50	104 LT	151.50'	N/A	147.50'	MD 374.61
I-42	203+00	18 LT	151.50'	145.74'	145.64'	MD 374.51
I-43	202+25	49 LT	153.00'	N/A	147.84'	MD 378.05
I-44	206+82	65 LT	151.00'	N/A	147.87'	MD 374.61
MH-A1	152+80	47 LT	257.50'	252.10'	252.00'	MD 384.01
MH-A2	152+72	63 RT	258.00'	250.10'	250.00'	MD 384.01
MH-1	145+87	37 LT	237.00'	232.40'	232.30'	MD 384.01
MH-2	145+42	35 LT	235.50'	230.80'	230.70'	MD 384.01
MH-3	144+47	27 LT	234.00'	229.30'	229.20'	MD 384.01
MH-4	126+29	26 RT	206.00'	202.00'	201.50'	MD 384.03
MH-5	123+70	29 RT	203.40'	196.50'	196.60'	MD 384.03
MH-6	119+17	22 RT	196.00'	188.14'	188.04'	MD 384.01
MH-7	109+79	17 LT	170.00'	165.10'	160.50'	MD 384.01
MH-8	103+60	16 LT	149.00'	141.10'	141.00'	MD 384.01
MH-9	102+67	15 LT	149.50'	146.10'	146.00'	MD 384.01
MH-10	204+20	21 LT	151.86'	144.04'	143.94'	MD 384.03
MH-11	203+64	25 LT	151.50'	144.64'	144.54'	MD 384.03
MH-12	202+25	24 LT	152.50'	146.84'	146.74'	MD 384.03
ES-1A	150+00	50 RT	N/A	N/A	241.00'	MD 368.01
ES-1	148+75	33 RT	N/A	N/A	240.00'	MD 368.01
ES-2	140+28	45 RT	N/A	N/A	222.00'	MD 368.01
ES-3	133+61	41 LT	N/A	N/A	217.00'	MD 368.01
ES-5A	124+66	64 RT	N/A	N/A	198.00'	MD 369.00
ES-5B	121+50	100 RT	N/A	N/A	196.00'	MD 368.01
ES-5C	123+70	45 LT	N/A	N/A	195.50'	MD 368.01
ES-6	115+00	39 RT	N/A	N/A	180.00'	MD 368.01
ES-7	109+80	38 RT	N/A	N/A	156.00'	MD 368.01
ES-8	100+94	38 RT	N/A	N/A	141.00'	MD 368.01
EW-1	115+50	37 LT	N/A	N/A	177.50'	MD 355.02
EW-2	123+89	76 RT	N/A	N/A	197.00'	MD 355.02



DWG. DD-01

iDesign Engineering, Inc.

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240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STORMDRAIN PIPE SCHEDULE

SCALE NONE DATE DEC. 2017

PLOTTED: $DATETIME$
FILE: $FILES

PIPE SCHEDULE							
FROM STRU.	TO STRU.	PIPE TYPE	PIPE SIZE	CLASS	LENGTH	INV.(IN)	INV.(OUT)
I-A1	MH-A1	R.C.P.	18"	IV	52'	252.00'	251.00'
MH-A1	I-1	R.C.P.	18"	IV	63'	250.90'	247.95'
I-A2	MH-A2	R.C.P.	18"	IV	52'	253.00'	250.10'
MH-A2	I-A3	R.C.P.	18"	IV	53'	250.00'	246.60'
I-A4	I-A5	R.C.P.	18"	IV	106'	244.50'	241.50'
I-A5	ES-1A	R.C.P.	18"	IV	17'	241.40'	241.00'
I-2	EX.I-1	R.C.P.	18"	IV	52'	244.50'	243.10'
EX.I-1	EX.I-2	R.C.P.	18"	IV	30'	243.00'	242.10'
EX.I-2	I-3	R.C.P.	18"	IV	75'	242.00'	241.10'
I-3	ES-1	R.C.P.	24"	IV	58'	241.00'	240.00'
I-4	MH-1	R.C.P.	18"	IV	31'	233.30'	232.40'
MH-1	EX.I-3	R.C.P.	18"	IV	21'	232.30'	231.90'
EX.I-3	EX.I-4	R.C.P.	18"	IV	29'	231.80'	231.30'
EX.I-4	MH-2	R.C.P.	18"	IV	24'	231.20'	230.80'
MH-2	MH-3	R.C.P.	24"	IV	94'	230.70'	229.30'
MH-3	I-5	R.C.P.	24"	IV	88'	229.20'	228.10'
I-5	I-6	R.C.P.	24"	IV	46'	228.00'	227.10'
I-6	I-7	R.C.P.	24"	IV	27'	227.00'	226.50'
I-7	I-8	R.C.P.	24"	IV	71'	226.40'	225.60'
I-8	I-9	R.C.P.	30"	IV	101'	225.50'	224.40'
I-9	EX.I-5	R.C.P.	30"	IV	55'	224.30'	223.70'
EX.I-5	EX.I-6	R.C.P.	30"	IV	30'	223.60'	222.90'
EX.I-6	I-10	R.C.P.	36"	IV	76'	222.80'	222.30'
I-10	ES-2	R.C.P.	36"	IV	34'	222.20'	222.00'
I-11	I-12	R.C.P.	18"	IV	6'	220.10'	219.90'
I-12	I-13	R.C.P.	18"	IV	165'	219.80'	218.20'
I-13	I-14	R.C.P.	18"	IV	91'	218.10'	217.40'
I-14	ES-3	R.C.P.	18"	IV	37'	217.30'	217.00'
I-15	I-16	R.C.P.	18"	IV	93'	214.20'	211.20'
I-16	I-17	R.C.P.	18"	IV	102'	211.10'	207.10'
I-17	I-19	R.C.P.	18"	IV	91'	207.00'	205.10'

PIPE SCHEDULE (CONTINUED)							
FROM STRU.	TO STRU.	PIPE TYPE	PIPE SIZE	CLASS	LENGTH	INV.(IN)	INV.(OUT)
I-19	MH-4	R.C.P.	19"X30"	IV	238'	205.00'	202.80'
I-21	ES-5A	R.C.P.	18"	IV	78'	200.00'	198.00'
I-18	I-17	R.C.P.	18"	IV	7'	207.50'	207.10'
I-20	I-21	R.C.P.	18"	IV	54'	200.60'	200.10'
EW-2	MH-5	R.C.P.	24"	IV	47'	197.00'	196.50'
MH-5	ES-5C	R.C.P.	24"	IV	70'	196.40'	195.50'
I-25	ES-5B	R.C.P.	18"	IV	62'	198.00'	196.00'
I-23	EX.MH1	R.C.P.	15"	IV	14'	195.50'	195.00'
I-26	MH-6	R.C.P.	24"	IV	60'	189.00'	188.14'
MH-6	I-27	R.C.P.	27"	IV	40'	188.04'	187.80'
I-27	EX.ES	R.C.P.	27"	IV	23'	187.75'	187.62'
I-28	I-29	R.C.P.	18"	IV	41'	188.10'	187.10'
I-29	ES-6	R.C.P.	18"	IV	120'	187.00'	180.00'
I-30	EW-1	R.C.P.	18"	IV	21'	179.50'	177.50'
I-31	I-32	R.C.P.	18"	IV	59'	183.40'	181.40'
I-32	I-34	R.C.P.	18"	IV	59'	181.30'	177.30'
I-33	I-34	R.C.P.	18"	IV	11'	178.20'	177.30'
I-34	I-35	R.C.P.	18"	IV	130'	177.20'	171.20'
I-35	MH-7	R.C.P.	18"	IV	141'	171.10'	165.10'
MH-7	ES-7	R.C.P.	24"	IV	50'	160.50'	156.00'
I-36	MH-7	R.C.P.	15"	IV	20'	161.50'	160.50'
I-37	MH-8	R.C.P.	15"	IV	7'	141.50'	141.10'
I-38	MH-9	R.C.P.	15"	IV	5'	146.30'	146.10'
I-39	I-40	R.C.P.	18"	IV	38'	144.50'	143.10'
I-40	ES-8	R.C.P.	18"	IV	23'	143.00'	141.00'
I-43	MH-12	R.C.P.	36"	IV	20'	147.84'	146.84'
MH-12	I-42	R.C.P.	36"	IV	67'	146.74'	145.74'
I-42	MH-11	R.C.P.	36"	IV	60'	145.64'	144.64'
MH-11	MH-10	R.C.P.	36"	IV	52'	144.54'	144.04'

DWG. DD-02

iDesign Engineering, Inc.

PLOTTED: 30ATEMES
FILE: SFILES

OWNER/ADDRESS:
MONTGOMERY COUNTY
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100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

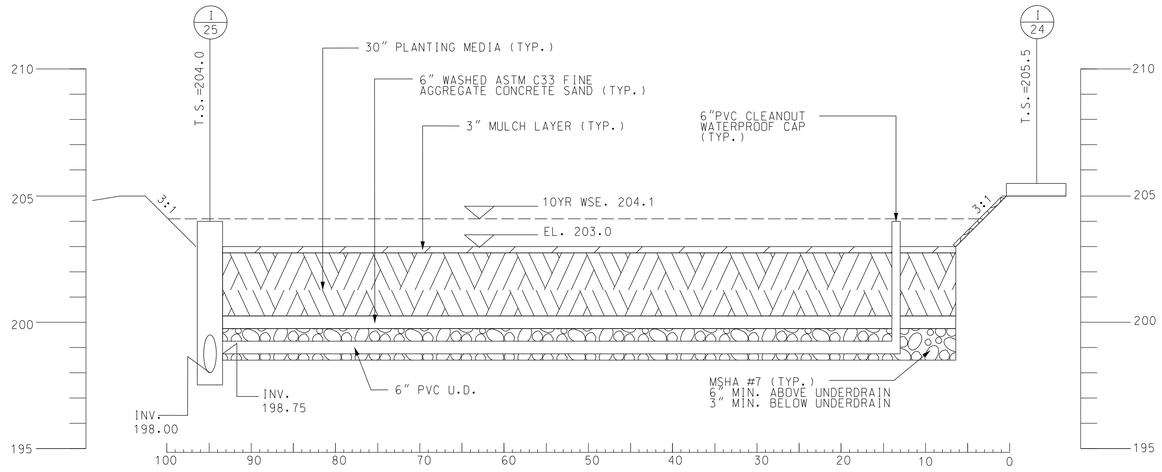
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STORMDRAIN PIPE SCHEDULE

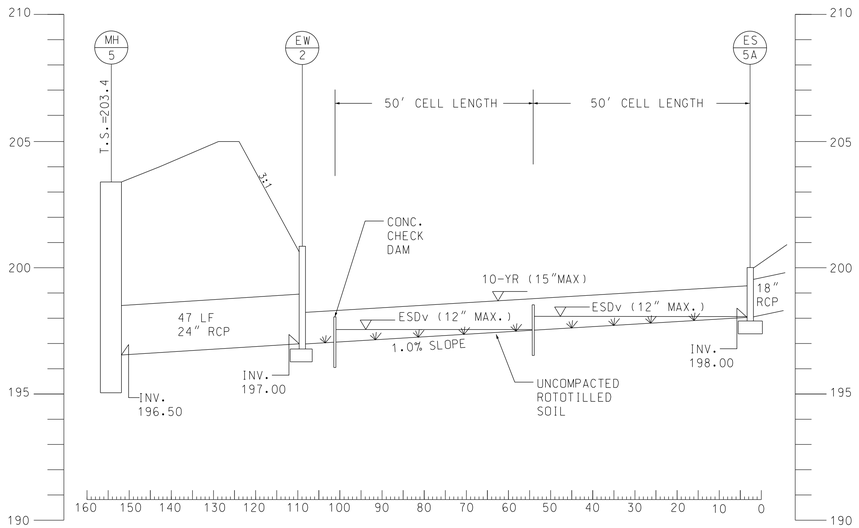
SCALE NONE DATE DEC. 2017

SHEET NO. 24 OF 106



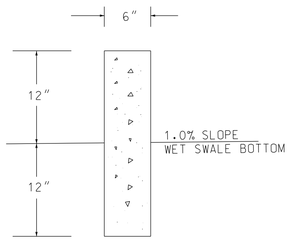
PROFILE OF MICRO-BIORETENTION BMP-1

HORIZONTAL SCALE 1" = 10'
VERTICAL SCALE 1" = 3'



PROFILE OF WET SWALE BMP-2

HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 3'



CONCRETE CHECK DAM TYPICAL DETAIL
(FY'=3500 PSI)
N.T.S.

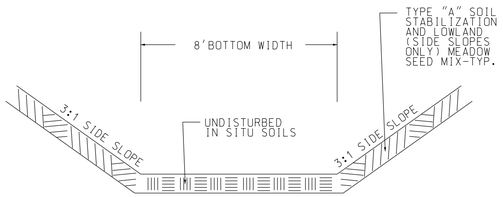


MICRO-BIORETENTION BMP-1 AND WET SWALE BMP-2 PLAN

SCALE 1" = 30'

STORM WATER MANAGEMENT FEATURES								
BMP NO.	BMP TYPE	DRAINAGE AREA (SF)	MIN. SURFACE AREA (SF)	PROVIDED SURFACE AREA (SF)	SURFACE ELEV. (FT)	PONDING DEPTH (IN)	PLANTING MEDIA DEPTH (IN)	STORAGE VOLUME (CF)
BMP-1	MICRO-BIORETENTION	18754	375	991	203.0	12.0	24	1633
BMP-2	WET SWALE	41029	820	864	VARIES	12.0	N/A	1103

SUBDRAIN SCHEDULE					
BMP NO.	BMP TYPE	SLOPE	DESCRIPTION	INVERT EL.(FT)	QTY (LF)
BMP-1	MICRO-BIORETENTION	0.00%	6" PERF CIRC UNDERDRAIN	198.75	79.8



WET SWALE TYPICAL SECTION
N.T.S.

DWG. SW-01

iDesign Engineering, Inc.

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GAITHERSBURG, MARYLAND

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MONTGOMERY COUNTY
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STORMWATER MANAGEMENT PLAN AND DESIGN DETAILS

SCALE AS NOTED DATE DEC. 2017

SHEET NO. 25 OF 106

PLOTTED: $DATETIMES
FILE: $FILES

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DWG. SW-02

iDesign
Engineering, Inc.

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GAITHERSBURG, MARYLAND

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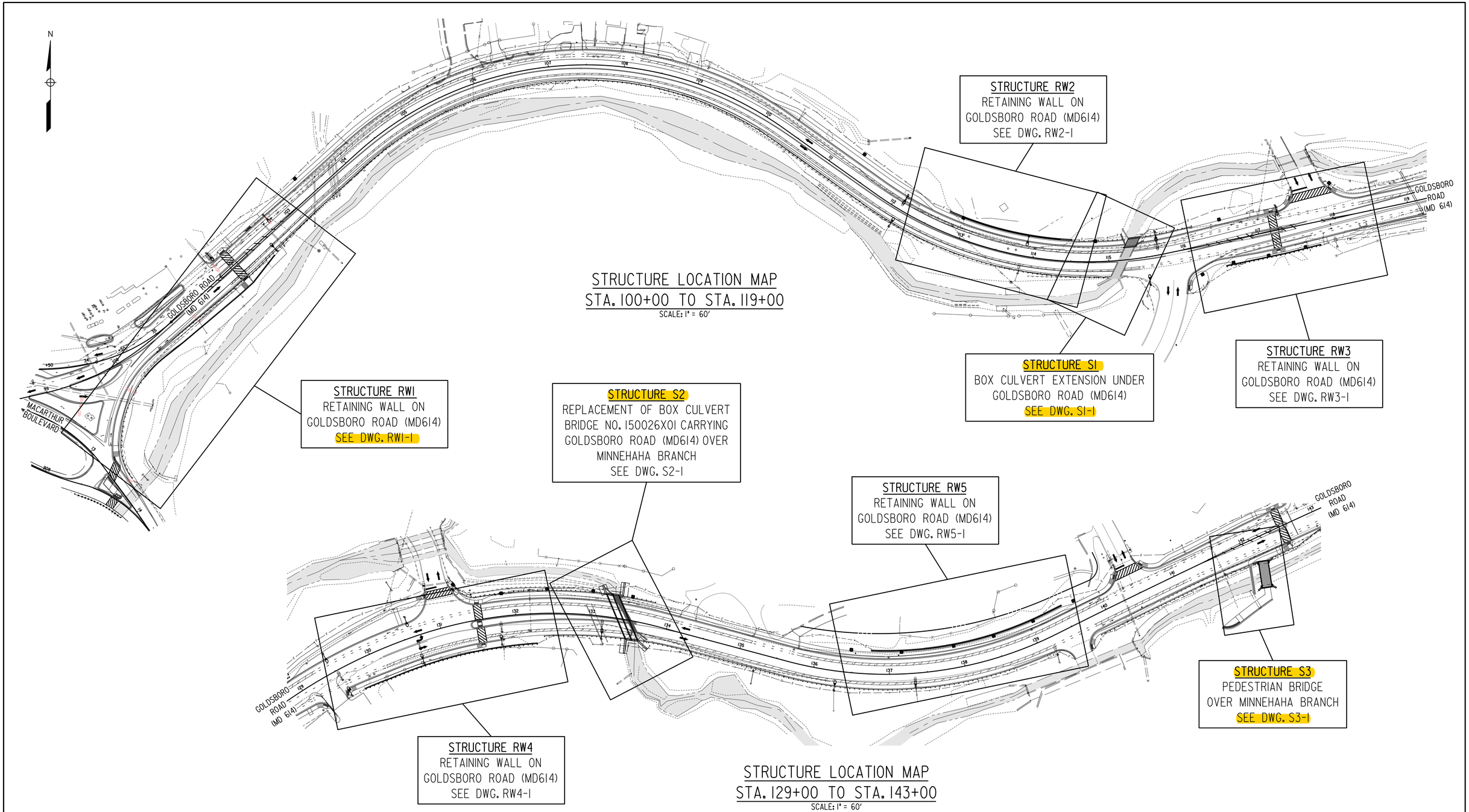
MACARTHUR BOULEVARD TO RIVER ROAD

STORMWATER MANAGEMENT PLAN AND DESIGN DETAILS

SCALE NTS DATE DEC. 2017

SHEET NO. 26 OF 106

PLOTTED: $DATE$TIME$
FILE: $FILES



DWG. SLM-1

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STRUCTURE LOCATION MAP

SCALE 1" = 60' DATE FEBRUARY, 2018

SHEET NO. 27 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\balfor04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pST-10_GN02_Goldsboro.dgn

GENERAL NOTES

SPECIFICATIONS:
- SHA SPECIFICATIONS DATED JULY, 2008
- REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS DATED 2012 AND ALL INTERIMS.

CONCRETE: LOAD AND RESISTANCE FACTOR DESIGN METHOD.
THE DESIGN COMPRESSIVE STRENGTH SHALL BE
f'c = 3000 PSI FOR ELEMENTS USING MIX NO. 3 CONCRETE AND
f'c = 4000 PSI FOR ELEMENTS USING MIX NO. 6 CONCRETE

REINFORCING STEEL: fy = 60 000 PSI.

STRUCTURAL STEEL: LOAD AND RESISTANCE FACTOR DESIGN METHOD.

LOADING:
HL-93 FOR CULVERTS

H-10 FOR PEDESTRIAN BRIDGE

CONCRETE:
ALL CONCRETE FOR RETAINING WALL CIP FASCIA AND TEXTURED FINISH SHALL BE MIX NO. 6 (4500 PSI).

ALL CONCRETE IN CULVERT TOP SLAB SHALL BE MIX NO. 6 (4500 PSI).
ALL OTHER CULVERT CONCRETE SHALL BE MIX NO. 3 (3500 PSI).

ALL CONCRETE FOR PEDESTRIAN BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE CONCRETE SHALL BE MIX NO. 6 (4500 PSI).

ALL CONCRETE FOR CAISSONS SHALL BE MIX NO. 3 (3500 PSI).

REINFORCING STEEL:
REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60.

ONLY GRADE 60 CAN BE USED ON THIS PROJECT.

ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE TOP OF PIERS AND BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

ALL REINFORCING IN THE TOP MAT OF THE TOP SLAB INCLUDING TRUSS BARS AND WALL STEEL EXTENDING INTO THE TOP SLAB IF A PORTION IS BENT TO BE A LAYER OF STEEL IN THE TOP SLAB AND ALL REINFORCING EXTENDING FROM THE TOP MAT INTO SIDEWALKS AND PARAPETS, AND ALL SIDEWALK AND PARAPET REINFORCING SHALL BE EPOXY COATED.

ALL EXPOSED UNCOATED EXISTING REINFORCING STEEL THAT IS EXTENDING INTO AN AREA WHERE EXISTING REINFORCING IS EPOXY COATED OR THE PROPOSED REINFORCING IS EPOXY COATED SHALL BE CLEANED AND EPOXY COATED. REFER TO SECTION 421.03.07.

PAINT COLOR:
THE COLOR FOR THE FINISH COAT SHALL MATCH FEDERAL STANDARD 595B COLOR NO. XXXXX.

KEYS:
ALL CONCRETE CONSTRUCTION KEYS ARE NOMINAL SIZE.

EXISTING STRUCTURE:
ALL DIMENSIONS AFFECTED BY THE GEOMETRICS, AND/OR LOCATION OF THE EXISTING STRUCTURE(S) SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR, BEFORE ANY CONSTRUCTION IS DONE, AND BEFORE ANY MATERIAL IS ORDERED OR FABRICATED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY THE ENGINEER WITH ALL FIELD DIMENSIONS REQUIRED TO CHECK DETAIL DRAWINGS. THE ± MARKS SHOWN WITH DIMENSIONS AND STATIONS DO NOT INDICATE ANY DEGREE OF PRECISION. THESE MARKS (±) INDICATE EXISTING DIMENSIONS AND STATIONS THAT MAY VARY AND DO REQUIRE FIELD VERIFICATION BY THE CONTRACTOR.

EXISTING STRUCTURE(S) SHOWN IN LONG DASHED LINES.

PORTIONS OF EXISTING STRUCTURE(S) SHOWN HATCHED TO BE REMOVED.

GENERAL NOTES cont'd

HYDROLOGICAL AND HYDRAULIC DATA:
FOR HYDROLOGICAL AND HYDRAULIC DATA, SEE SHEET TITLED '_____'.

COVER FOR CONCRETE BOXES, PIPES AND/OR PIPE ARCHES:
NO CONSTRUCTION EQUIPMENT SHALL BE PERMITTED TO PASS OVER THE CULVERT UNTIL A MINIMUM OF 3 FEET OF COMPACTED FILL HAS BEEN PLACED OVER THE CULVERT.

RESTRICTIONS FOR PLACING AND USING EQUIPMENT ON EXISTING OR NEW STRUCTURE/OR STORING MATERIALS ON/OR AGAINST STRUCTURES:
THERE ARE RESTRICTIONS ON PLACING EQUIPMENT ON EXISTING AND NEW STRUCTURE(S) AND STORING MATERIALS ON/OR AGAINST EXISTING AND NEW STRUCTURE(S) ELEMENTS. THE LIMITATIONS BASICALLY RELATE TO LOADS THAT ARE BEYOND MARYLAND'S LEGAL VEHICLES AND/OR POSTED LOAD LIMITS (WHERE APPLICABLE) AND MATERIALS STOCKPILED ON/OR AGAINST STRUCTURE'S OR STRUCTURES' ELEMENTS. FOR DETAILS OF SUCH RESTRICTIONS SEE SECTION TC 6.14 TITLED "RESTRICTIONS FOR PLACING AND USING EQUIPMENT ON STRUCTURES, OR STORING MATERIALS ON/OR AGAINST STRUCTURES" IN THE CONTRACT DOCUMENTS.

IN ORDER TO COMPLY WITH THIS ARTICLE, THE CONTRACTOR SHALL READ SECTION TC 6.14 PRIOR TO COMMENCING ANY WORK ON STRUCTURE(S) IN THIS CONTRACT.

RESTRICTIONS FOR VEHICLES ON MACARTHUR BLVD:
THERE ARE POSTED LOAD LIMITS FOR VEHICLES ON MACARTHUR BOULEVARD. LOAD LIMITS ARE IN EFFECT FOR ENTIRE TRAFFIC CIRCLE AT INTERSECTION OF MACARTHUR BOULEVARD AND GOLDSBORO ROAD.

GEOTECH:
FOR BORINGS AND DRIVE TESTS, SEE THE PRELIMINARY SUBSURFACE EXPLORATIONS AND GEOTECHNICAL EVALUATION - GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS, MONTGOMERY COUNTY, MARYLAND, DATED DECEMBER 9, 2016.

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DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Transportation Planning and Design Section — Date

APPROVED
Chief, Division of Transportation Engineering — Date

DESIGNED BY GG DRAWN BY MHB CHECKED BY JJF

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

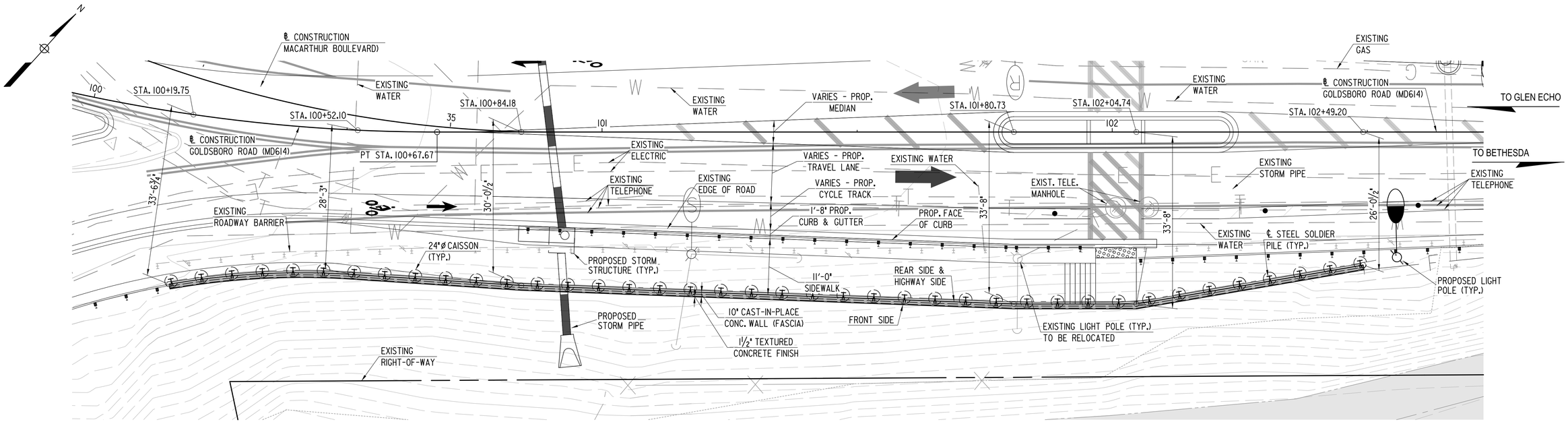
RETAINING WALLS - GENERAL NOTES

SCALE NO SCALE DATE FEBRUARY, 2018

DWG. SGN-1

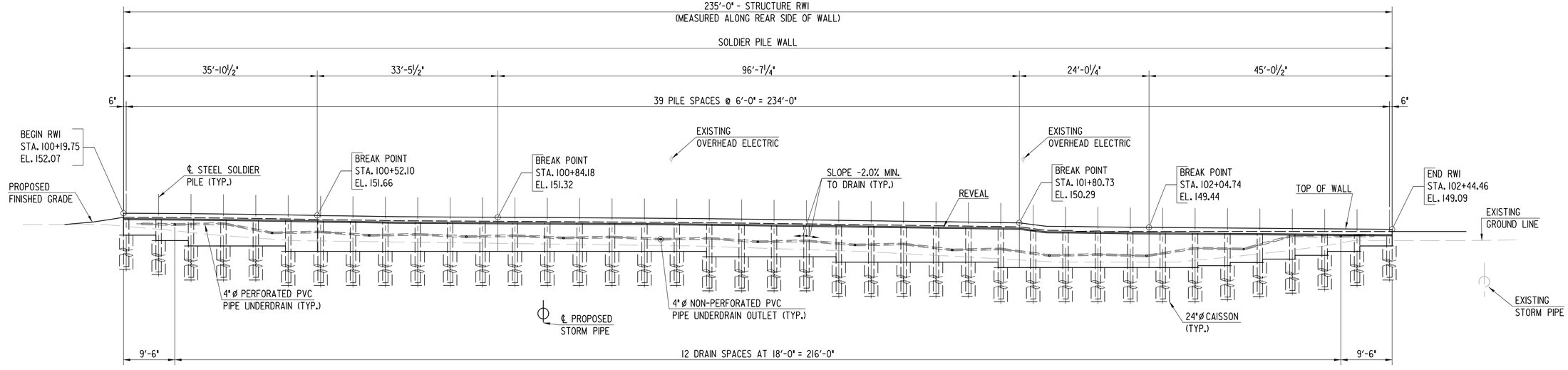
SHEET NO. 28 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\baltrvr01\2013\2013\13184_MCDOT\Task 8_Goldsboro Phase\CADD\plans\ps01-09_GN01_Goldsboro.dgn



PLAN

SCALE: 1" = 10'-0"



DEVELOPED ELEVATION

SCALE: 1" = 10'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR SOLDIER PILE WALL TYPICAL SECTIONS AND DETAILS, SEE DWG. RWDET-1.
3. FOR ROADWAY TYPICAL SECTIONS, SEE DWG. TS-01 AND TS-02.

DWG. RW1-1

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

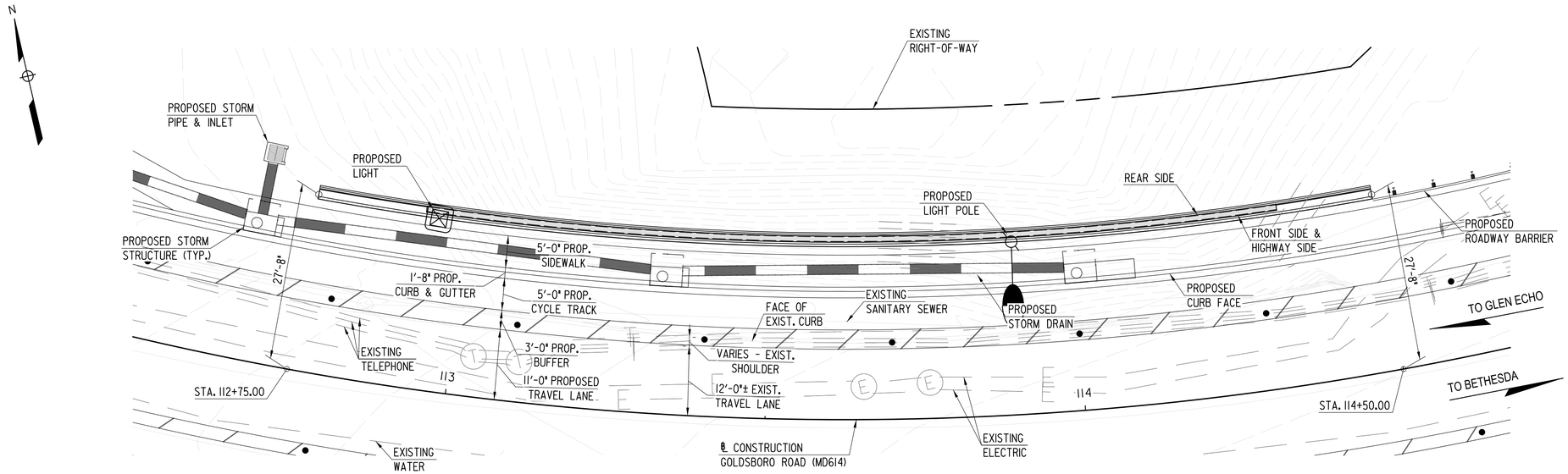
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE RW1
GENERAL PLAN AND ELEVATION

SCALE 1" = 10'-0" DATE FEBRUARY, 2018

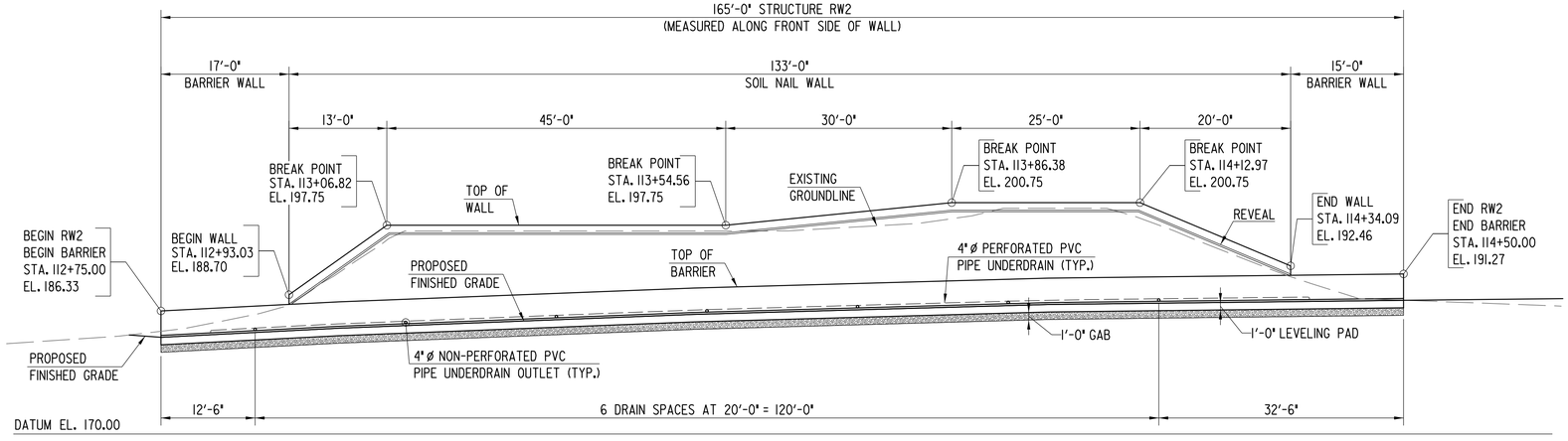
SHEET NO. 29 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\balfor04\v2013\2013\13184 _MCDOT\Task 8_GoldsboroPh2\CADD\plans\pST-01_rw1_01_gpe_Goldsboro.dgn



PLAN

SCALE: 1" = 10'-0"



DEVELOPED ELEVATION

SCALE: 1" = 10'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR SOIL NAIL WALL TYPICAL SECTIONS AND DETAILS, SEE DWG. RWDET-2.
3. FOR ROADWAY TYPICAL SECTIONS, SEE DWG. TS-01 AND TS-02.

DWG. RW2-1

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Chief, Division of Transportation Engineering — Date

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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STRUCTURE RW2
GENERAL PLAN AND ELEVATION

SCALE 1" = 10'-0" DATE FEBRUARY, 2018

SHEET NO. 30 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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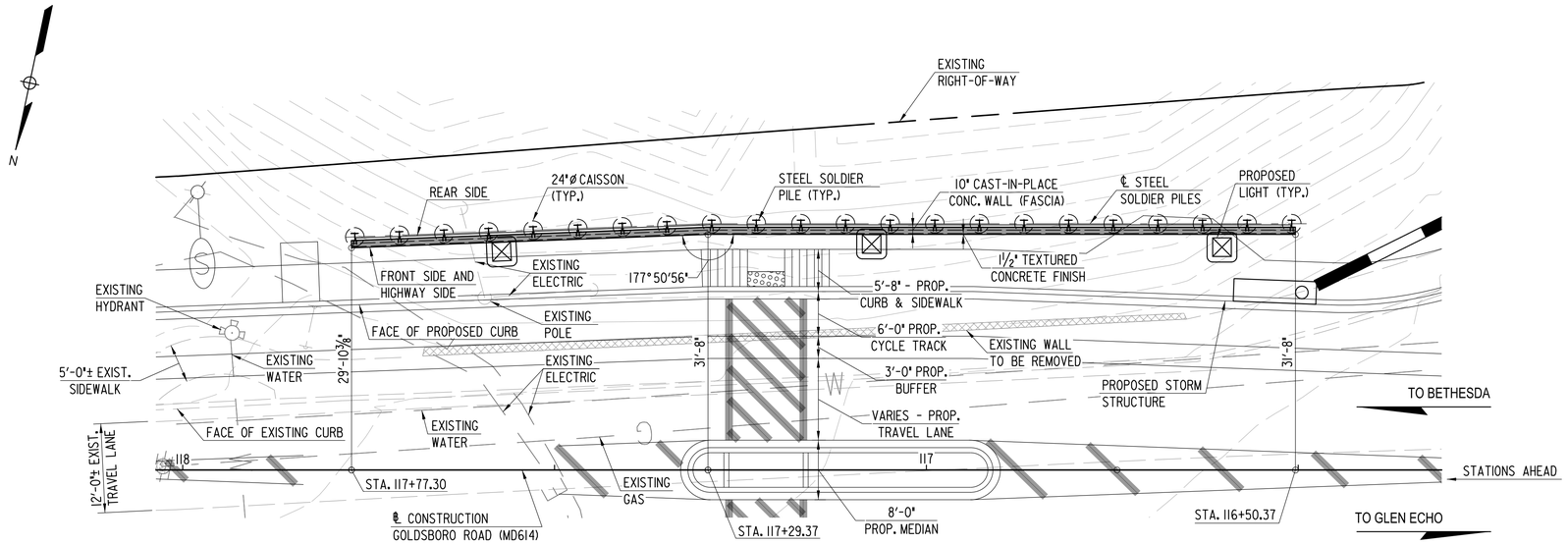
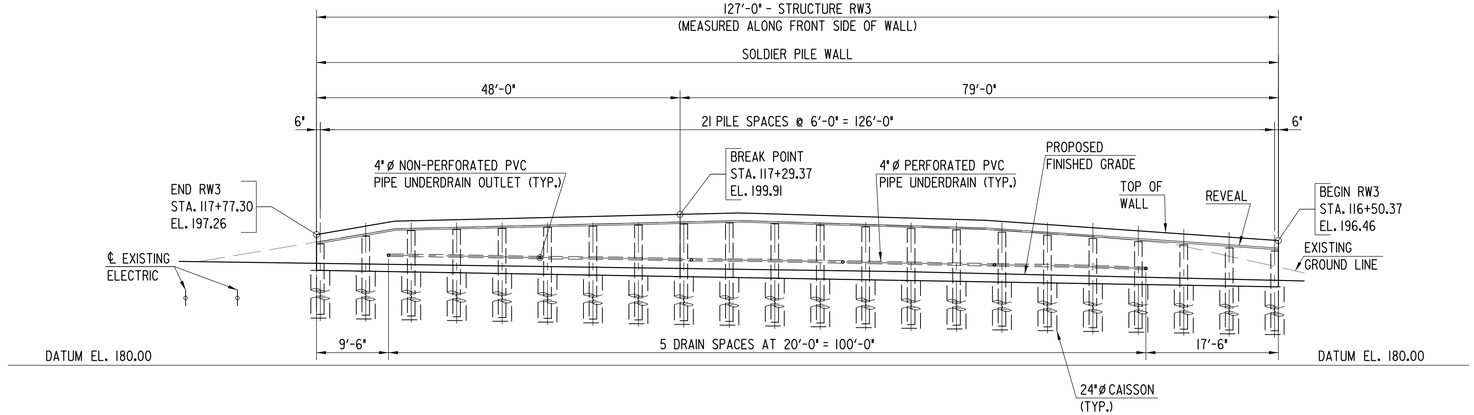


PLAN

SCALE: 1" = 10'-0"

PLAN VIEW DOES NOT MATCH ORIENTATION OF HIGHWAY PLANS



DEVELOPED ELEVATION

SCALE: 1" = 10'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR SOLDIER PILE WALL TYPICAL SECTIONS AND DETAILS, SEE DWG. RWDET-1.
3. FOR ROADWAY TYPICAL SECTIONS, SEE DWG. TS-01 AND TS-02.

DWG. RW3-1

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE RW3
GENERAL PLAN AND ELEVATION

SCALE 1" = 10'-0" DATE FEBRUARY, 2018

SHEET NO. 31 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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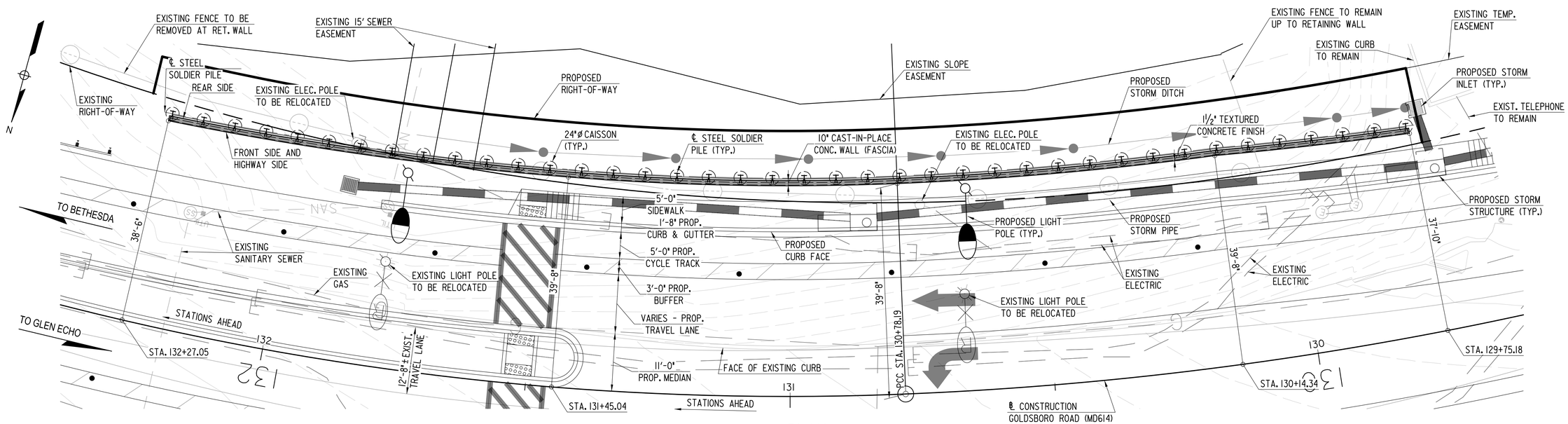
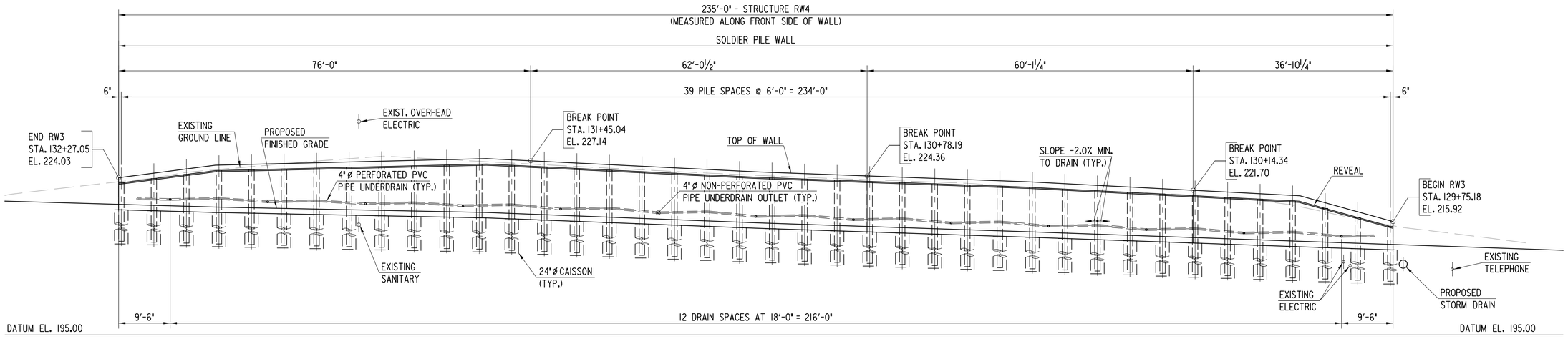


PLAN

SCALE: 1" = 10'-0"

PLAN VIEW DOES NOT MATCH ORIENTATION OF HIGHWAY PLANS



DEVELOPED ELEVATION

SCALE: 1" = 10'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR SOLDIER PILE WALL TYPICAL SECTIONS AND DETAILS, SEE DWG. RWDET-1.
3. FOR ROADWAY TYPICAL SECTIONS, SEE DWG. TS-01 AND TS-02.

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DWG. RW4-1

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DIVISION OF TRANSPORTATION ENGINEERING

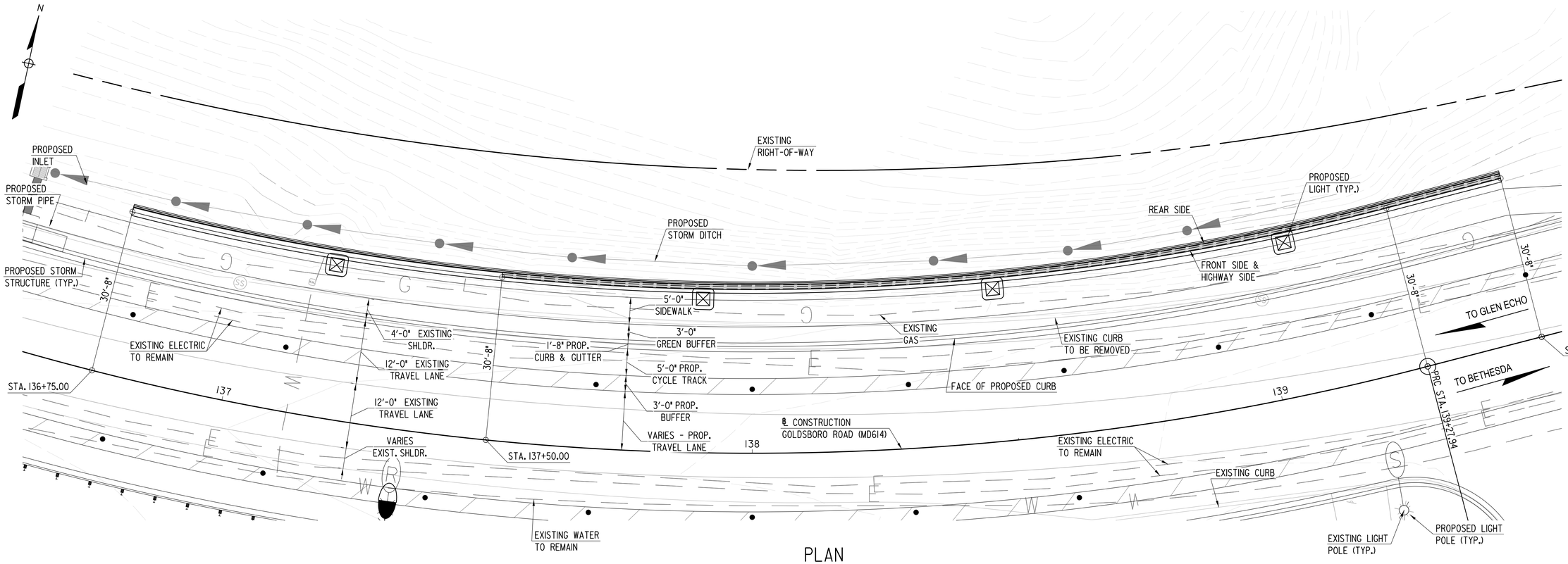
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE RW4
GENERAL PLAN AND ELEVATION

SCALE 1" = 10'-0" DATE FEBRUARY, 2018

SHEET NO. 32 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\balrv04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pST-04_rw4_01_gpo_Goldsboro.dgn



PLAN

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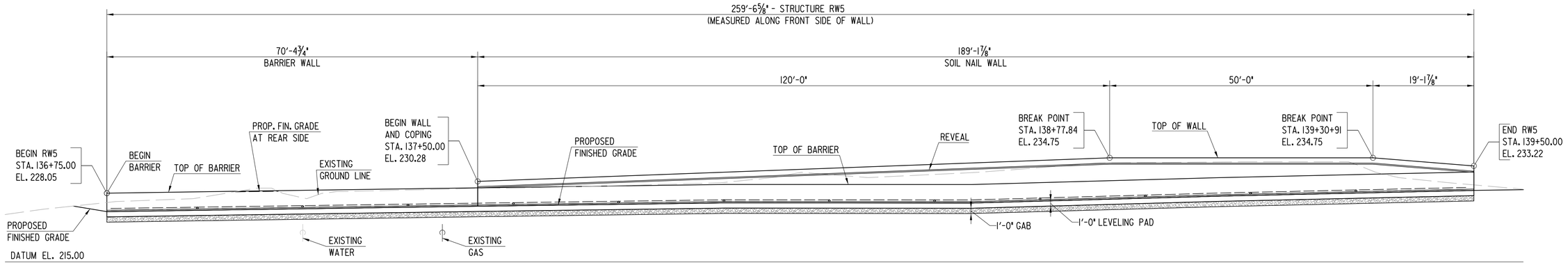

DEVELOPED ELEVATION

SCALE: 1" = 10'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR SOIL NAIL WALL TYPICAL SECTIONS AND DETAILS, SEE DWG. RWDET-2.
3. FOR ROADWAY TYPICAL SECTIONS, SEE DWGS. TS-01 AND TS-02.

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DWG. RW5-1

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE RW5
GENERAL PLAN AND ELEVATION

SCALE 1" = 10'-0" DATE FEBRUARY, 2018

SHEET NO. 33 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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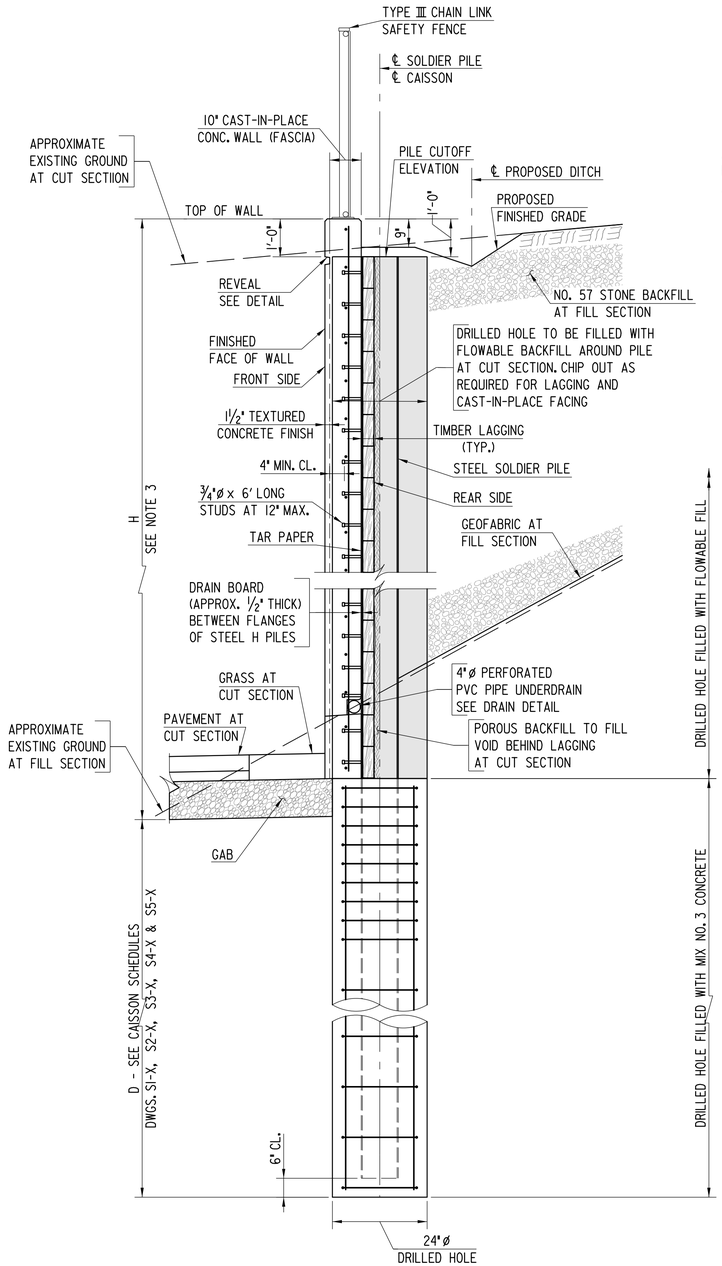
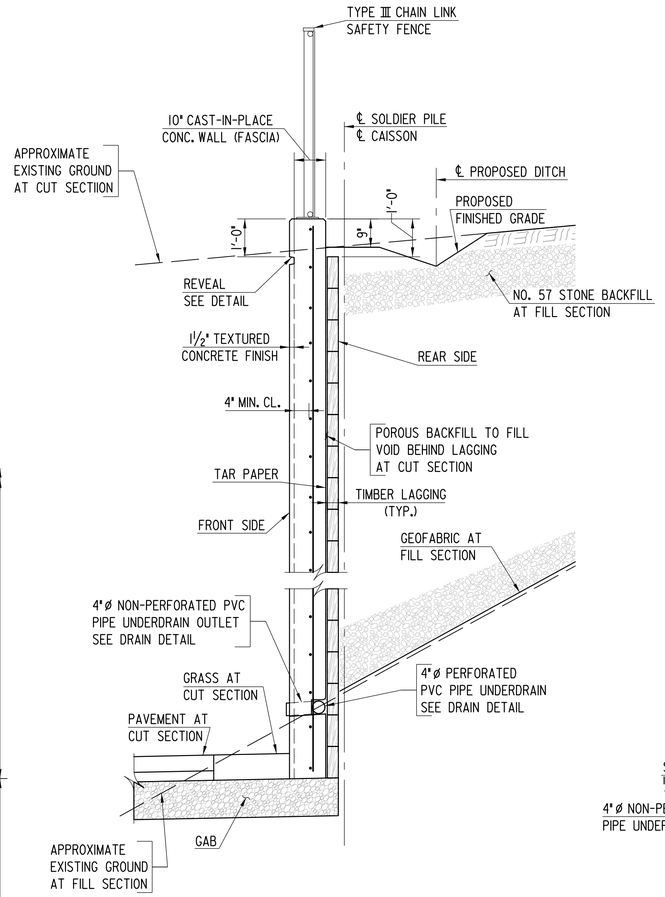


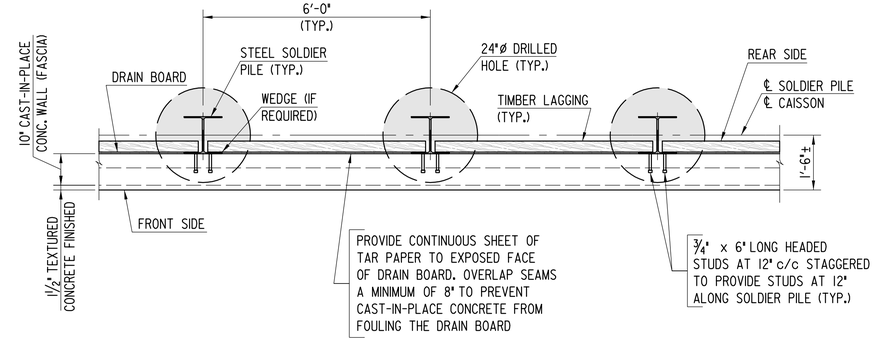
TYPICAL SOLDIER PILE WALL SECTION

REFER TO DWGS. RW1-1, RW3-1, RW4-1
SCALE: ½" = 1'-0"



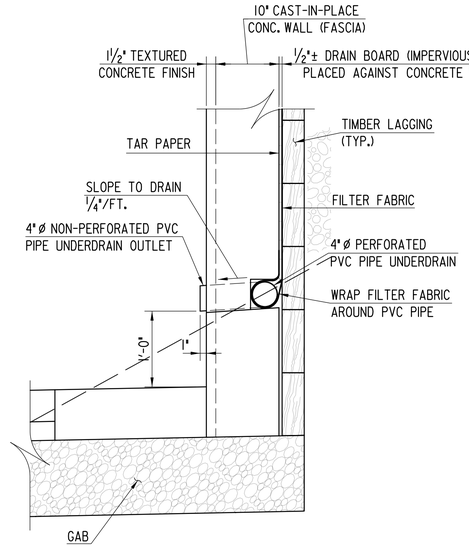
TYPICAL SOLDIER PILE WALL SECTION BETWEEN PILES

REFER TO DWGS. RW1-1, RW3-1, RW4-1
SCALE: ½" = 1'-0"



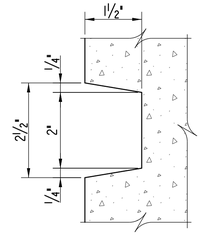
TYPICAL PLAN SECTION

SCALE: ½" = 1'-0"



DRAIN DETAIL

SCALE: 1" = 1'-0"



REVEAL DETAIL

(GROOVE AT PARAPET SHOWN)
SCALE: 6" = 1'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR GENERAL PLAN AND ELEVATION, SEE DWGS. RW1-1 THRU RW5-1,
3. FOR SEQUENCE OF CONSTRUCTION NOTES, SEE DWG. RWDET-2.

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Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

RETAINING WALL DETAILS – 1

SCALE AS NOTED DATE FEBRUARY, 2018

DWG. RW DET-1

SHEET NO. 34 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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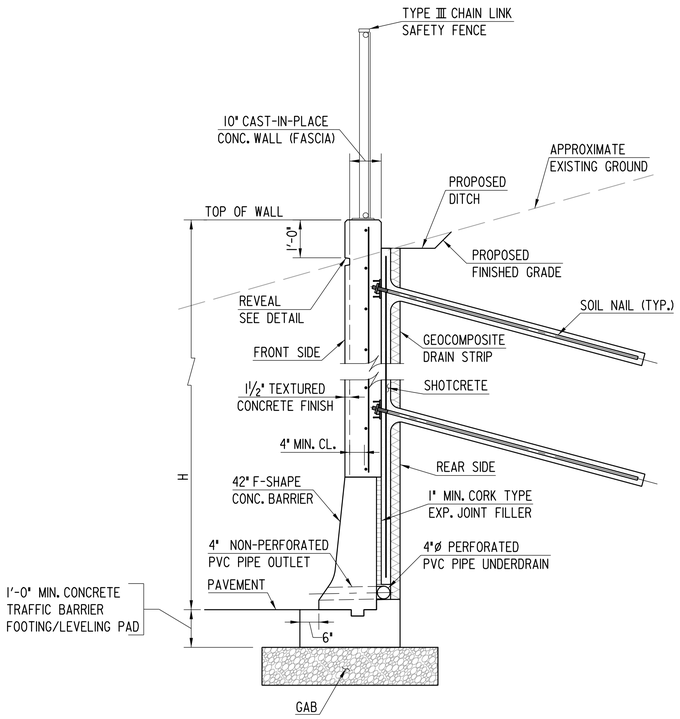
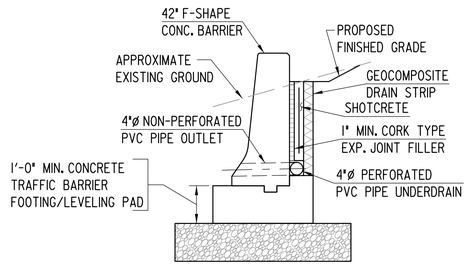


TYPICAL SOIL NAIL WALL SECTION

SCALE: ½" = 1'-0"



TYPICAL BARRIER WALL SECTION

SCALE: ½" = 1'-0"

REVEAL DETAIL

(GROOVE AT PARAPET SHOWN)
SCALE: 6" = 1'-0"

SEQUENCE OF CONSTRUCTION

SOIL NAIL WALL

I EXCAVATE SOIL/ROCK LIFT TO THE FIRST LEVEL OF SOIL NAILS.

2. DRILL NAIL HOLES AND INSTALL NAIL AND TREMIE GROUT HOLE.

3. INSTALL WALL DRAIN AND REINFORCING.

4. APPLY SHOTCRETE. WET-SET THE BEARING PLATE, ALIGNED WITH THE NAILS.

5. WHEN GROUT AND SHOTCRETE ARE CURED (EST. 80% OF DESIGN STRENGTH) TEST THE SOIL NAIL TO VERIFY DESIGN NAIL CAPACITY.

6. LOCK-OFF SOIL NAILS AT THE DESIGN LOCK-OFF LOAD.

7. REPEAT SEQUENCE I THROUGH 6 FOR EACH LEVEL OF NAILS.

8. INSTALL CIP CONCRETE LEVELING PAD, CONCRETE BARRIER AND CONCRETE FASCIA CONNECTED TO THE COMPLETED SHOTCRETED STRUCTURE.

SOLDIER PILE WALL

1. DRILL 24" DIA. HOLE TO ELEVATION REQUIRED.

2. INSTALL REINFORCING CAGE FOR CONCRETE CAISSON.

3. INSTALL STEEL SOLDIER PILE PLUMB.

4. PLACE CAISSON CONCRETE TO REQUIRED ELEVATION.

5. FILL REMAINING HOLE WITH FLOWABLE FILL TO PILE CUTOFF ELEVATION AT CUT SECTIONS.

6. CHIP OUT FLOWABLE FILL AS REQUIRED TO START PLACEMENT OF FIRST TIMBER LAGGING.

7. CONTINUE TO EXCAVATE SOIL AND CHIP OUT FLOWABLE FILL AS REQUIRED TO ALLOW FIRST LAG TO SLIDE DOWN BETWEEN SOLDIER PILES AND TO ALLOW PLACEMENT OF FOLLOWING LAYERS OF LAGGING AS EXCAVATION PROCEEDS AT CUT SECTIONS.

8. PLACE LAGGING AT FILL SECTIONS. PLACE GEOFABRIC OVER EXPOSED SLOPE AT FILL SECTIONS.

9. BACKFILL OVER-EXCAVATED AREA OR FILL AREA BEHIND LAGGING WITH #57 STONE.

10. INSTALL TIEBACK SYSTEM WHEN EXCAVATION IS NO MORE THAN 2'-0" BELOW LEVEL OF THE TIEBACK. SEE SPECIAL PROVISIONS.

11. INSTALL DRAIN BOARDS AND PVC PIPES.

12. PLACE BASE STONE, POUR LEVELING PAD AND CAST FASCIA CONCRETE. ALTERNATE PANELS MAY BE POURED AT THE SAME TIME. ALLOW FORTY (40) HOURS BETWEEN ADJACENT PANEL POURS.

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.

2. FOR GENERAL PLAN AND ELEVATION, SEE DWGS. RW1-1 THRU RW5-1.

3. FOR ROADWAY TYPICAL SECTIONS, SEE DWG. TS-01 AND TS-02.

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Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

RETAINING WALL DETAILS – 2

SCALE NO SCALE DATE FEBRUARY, 2018

DWG. RW DET-2

SHEET NO. 35 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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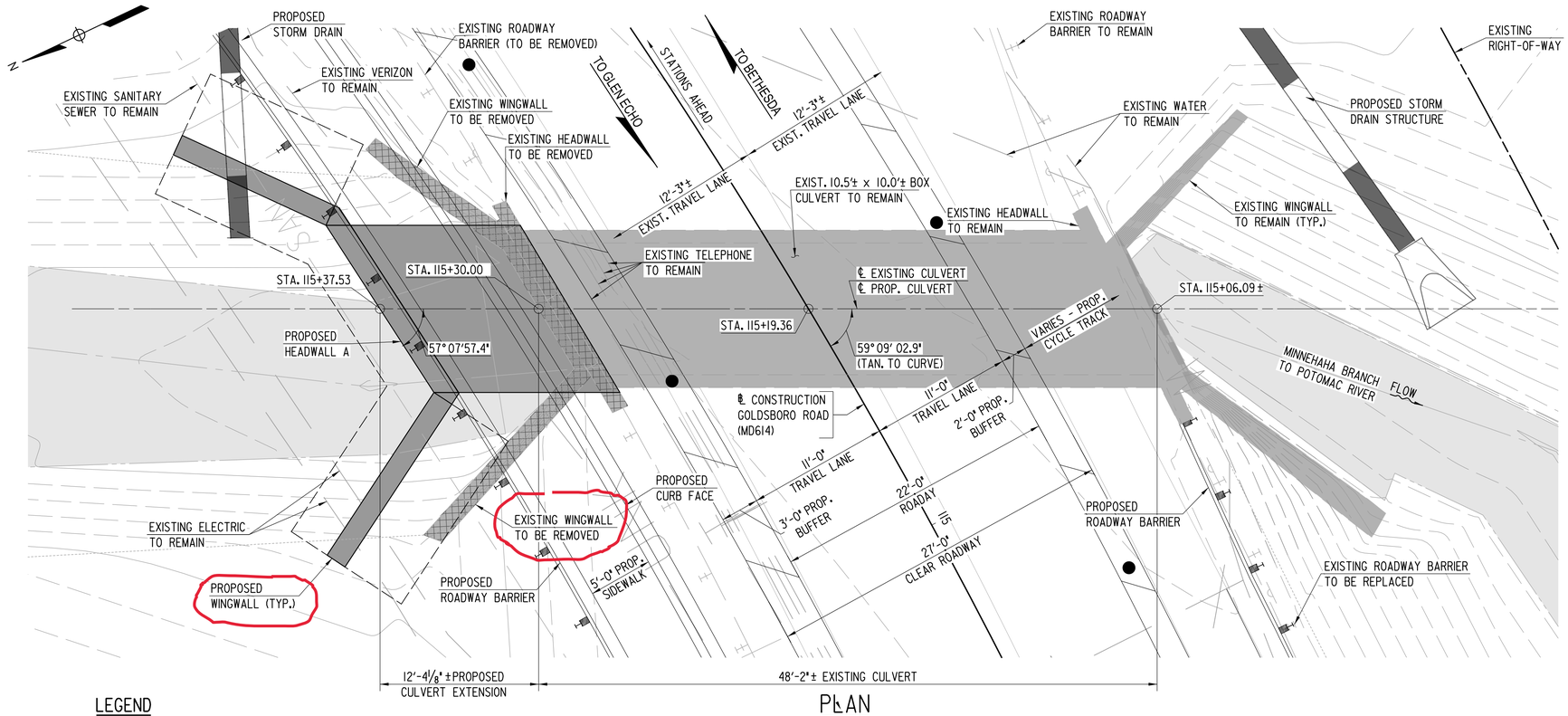
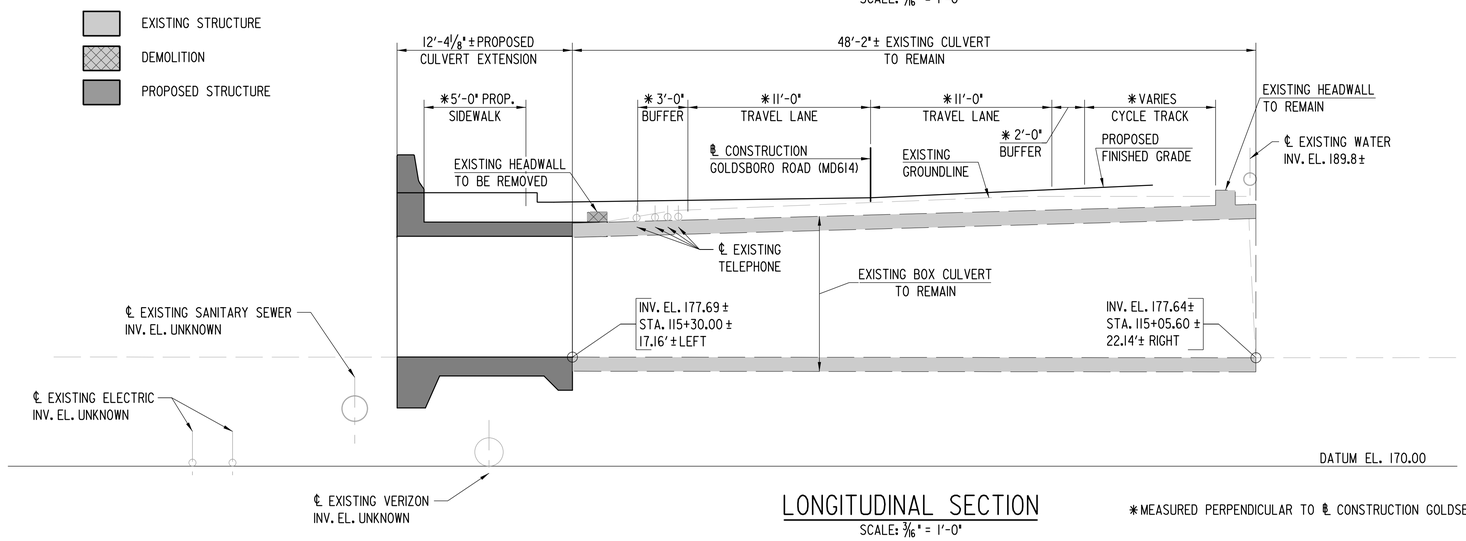


PLAN
SCALE: 3/16" = 1'-0"

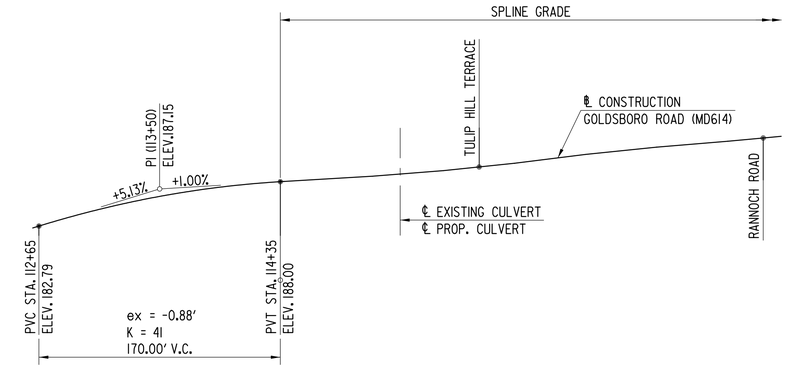
LEGEND

- EXISTING STRUCTURE
- DEMOLITION
- PROPOSED STRUCTURE



LONGITUDINAL SECTION
SCALE: 3/16" = 1'-0"

*MEASURED PERPENDICULAR TO ℄ CONSTRUCTION GOLDSBORO ROAD (MD614)



VERTICAL CURVE
NO SCALE

REPAIR NOTES:

1. REMOVE THE UPSTREAM HEADWALL, THE TOP SLAB OF THE CULVERT TO SOUND CONCRETE A MINIMUM OF 4 LINEAR FEET, THE TOPS OF THE EAST AND WEST RETAINING WALLS TO SOUND CONCRETE TO MATCH THE REMOVAL OF THE TOP SLAB, AND INSTALL THE UPSTREAM CULVERT EXTENSION.
2. REMOVE ANY UNSOUND CONCRETE ON THE REMAINING UNDERSIDE OF THE TOP SLAB, PATCH THE AREAS WITH CONCRETE, CLEAN AND REMOVE THE EFFLORESCENCE PRESENT AT THE REMAINING FULL-WIDTH CRACKS ON THE UNDERSIDE OF THE TOP SLAB, AND SEAL THE CRACKS WITH A POLYURETHANE SEALANT.
3. REMOVE ANY UNSOUND CONCRETE AROUND THE SPALL AT THE TOP OF THE WEST WALL AND PATCH THE AREA WITH CONCRETE.
4. FILL IN THE AREA OF UNDERMINING PRESENT ALONG THE SOUTH END OF THE WEST WALL WITH GROUT BAGS.
5. REPAIR THE LARGE SPALL AT THE SOUTHWEST END OF THE CULVERT AND SOUTHWEST WING WALL. CLEAN THE VERTICAL JOINT BETWEEN THE SLAB AND THE TOP OF THE WING WALL AND SEAL THE JOINT. REPAIR THE AREA AS PER THE STRUCTURAL RECOMMENDATIONS.
6. SEAL THE CRACK ALONG THE TOP OF THE SOUTHEAST WING WALL. CLEAN THE VERTICAL JOINT BETWEEN THE SLAB AND TOP OF THE WING WALL AND SEAL THE JOINT.
7. REMOVE ANY UNSOUND CONCRETE AROUND THE SPALL AT THE TOP OF THE NORTHEAST RETAINING WALL TO REMAIN AND INSTALL THE UPSTREAM WALL EXTENSION.

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR TYPICAL SECTION - EXTENSION, SEE DWG SI-2.

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Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE S1
GENERAL PLAN AND LONGITUDINAL SECTION

SCALE 3/16" = 1'-0" DATE FEBRUARY, 2018

DWG. S1-1

SHEET NO. 36 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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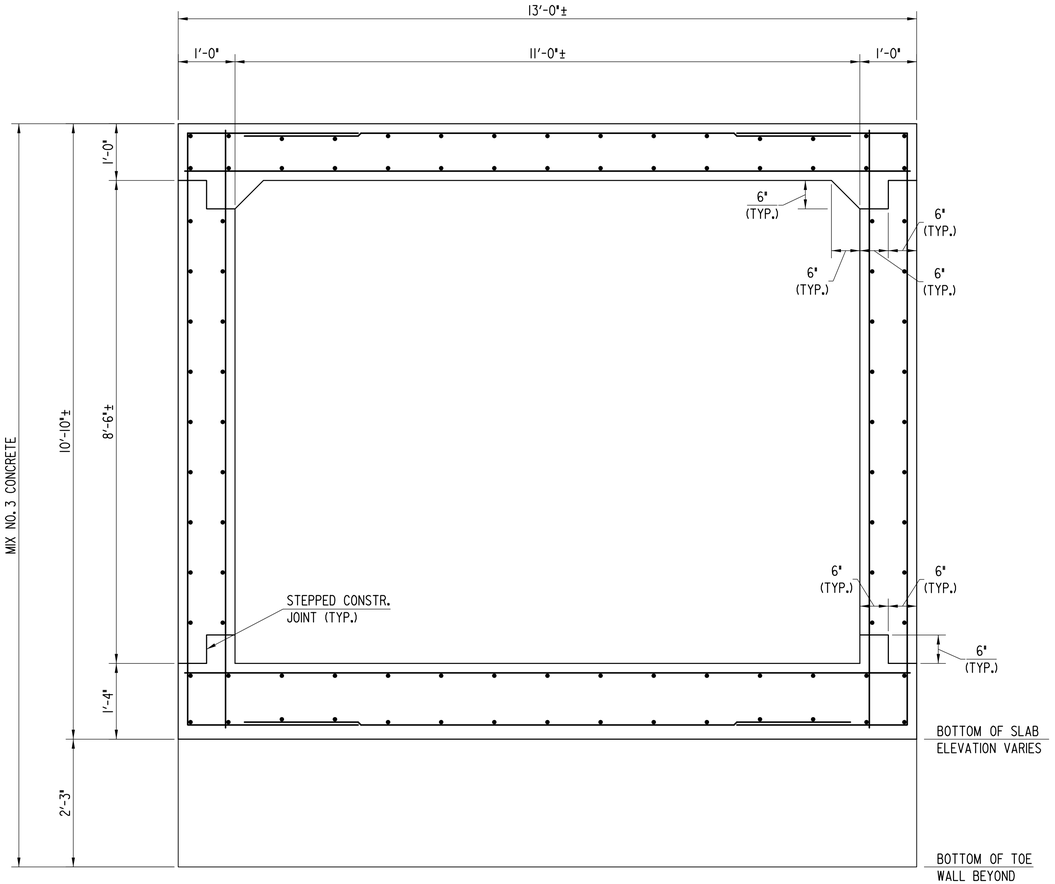
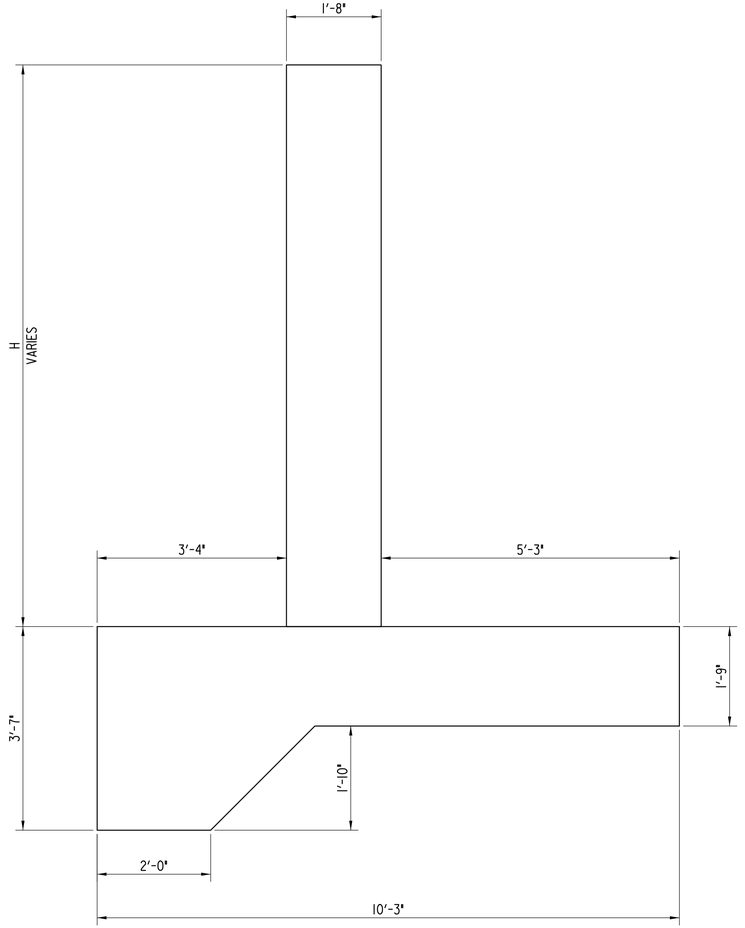


TYPICAL SECTION - EXTENSION

SCALE: ¾" = 1'-0"



TYPICAL SECTION - WINGWALL

SCALE: ¾" = 1'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR GENERAL PLAN AND LONGITUDINAL SECTION, SEE DWG. S1-1.

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STRUCTURE S1 - DETAILS

SCALE ¾" = 1'-0" DATE FEBRUARY, 2018

DWG. S1-2

SHEET NO. 37 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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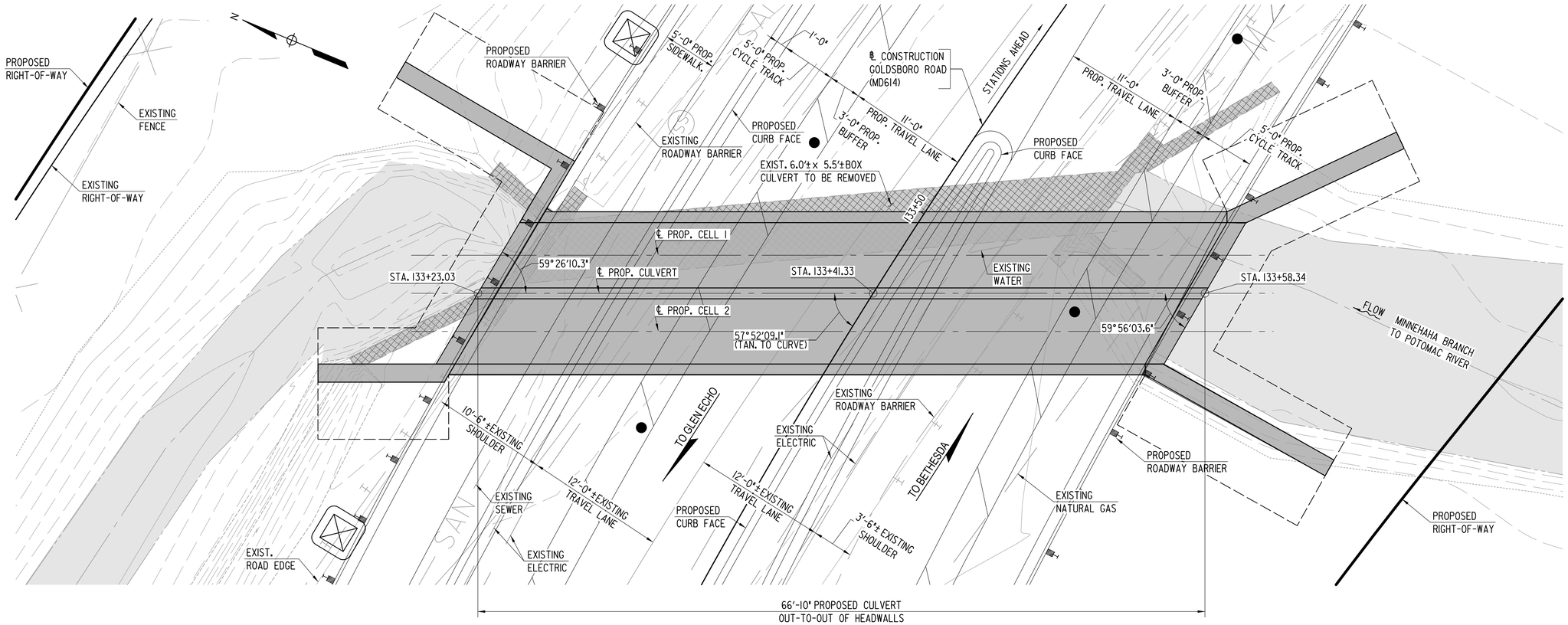
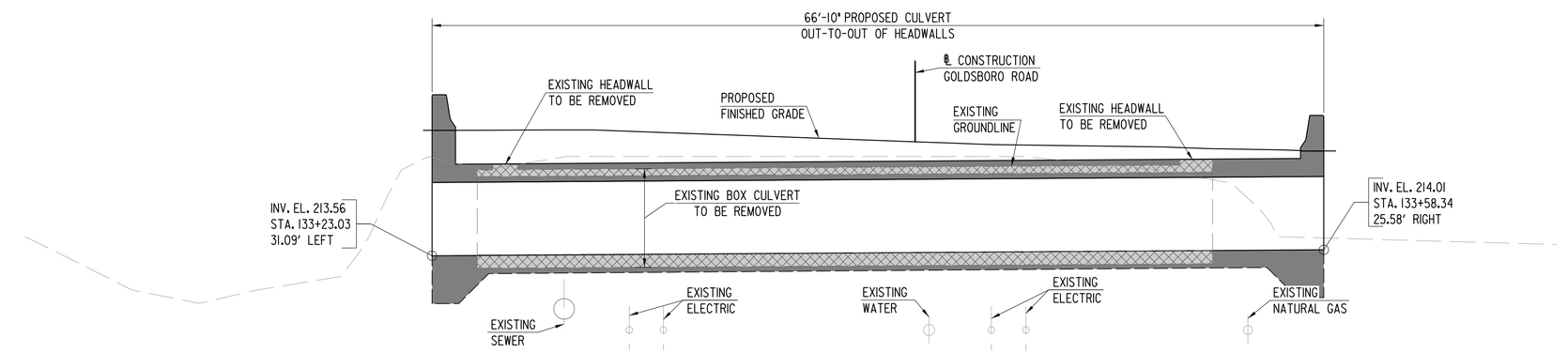


PLAN

SCALE: 3/16" = 1'-0"



✱ MEASURED PERPENDICULAR TO ℄ CONSTRUCTION GOLDSBORO ROAD (MD614)

LONGITUDINAL SECTION

SCALE: 3/16" = 1'-0"

LEGEND

- EXISTING STRUCTURE
- DEMOLITION
- PROPOSED STRUCTURE

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR TYPICAL SECTION - EXTENSION, SEE DWG S2-2.

DWG. S2-1

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE S2
GENERAL PLAN AND LONGITUDINAL SECTION

SCALE 3/16" = 1'-0" DATE FEBRUARY, 2018

SHEET NO. 38 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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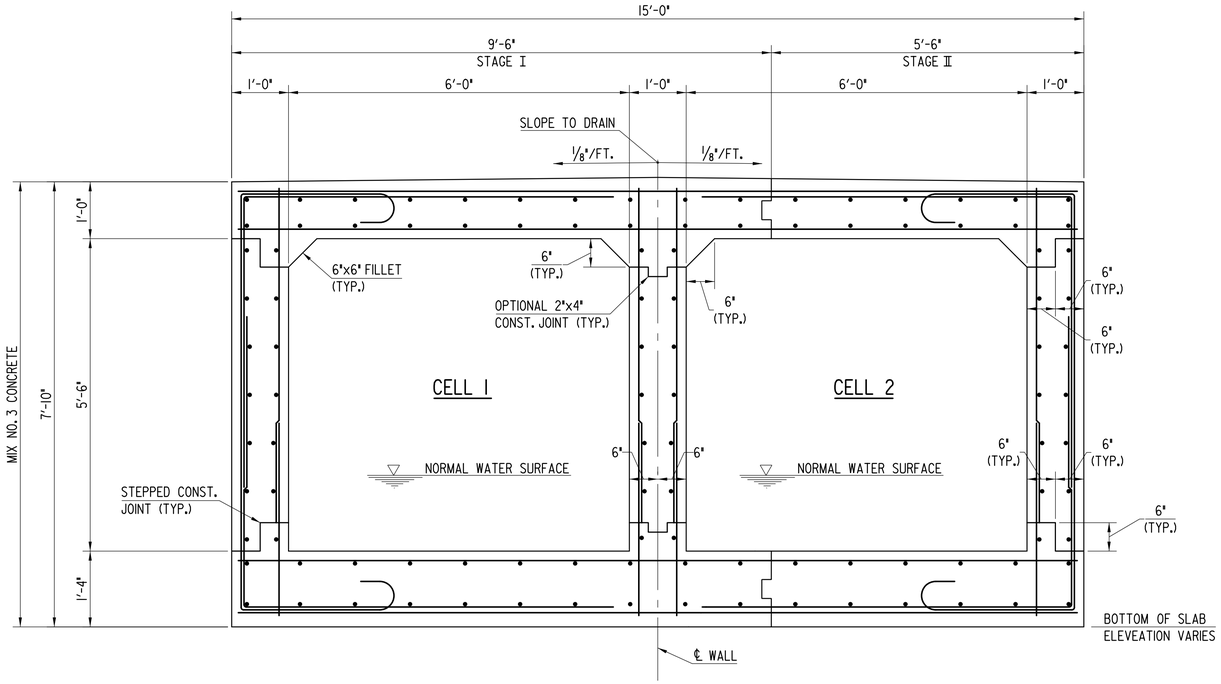
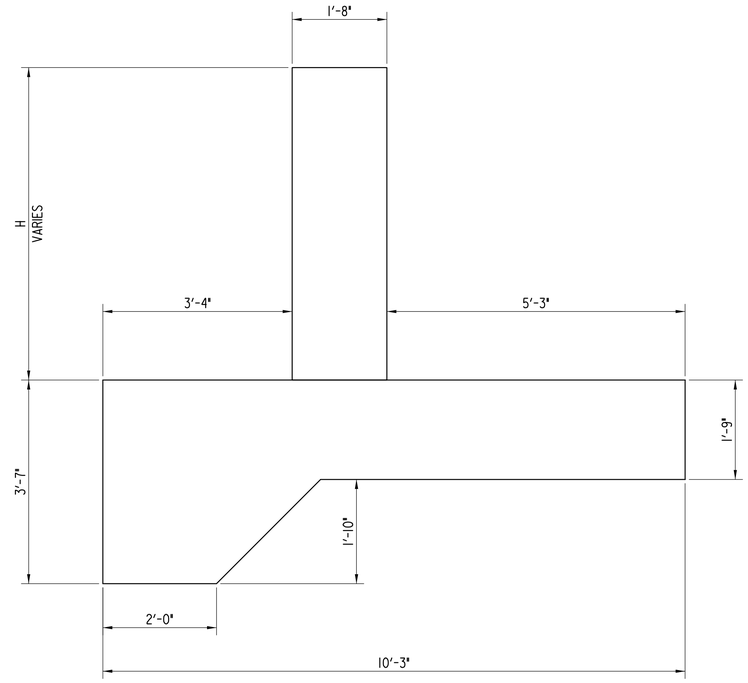


TYPICAL SECTION - CULVERT

SCALE: 3/4" = 1'-0"



TYPICAL SECTION - WINGWALL

SCALE: 3/4" = 1'-0"

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR GENERAL PLAN AND LONGITUDINAL SECTION, SEE DWG. S2-1.

DWG. S2-2

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MACARTHUR BOULEVARD TO RIVER ROAD

STRUCTURE S2 – DETAILS

SCALE 3/4" = 1'-0" DATE FEBRUARY, 2018

SHEET NO. 39 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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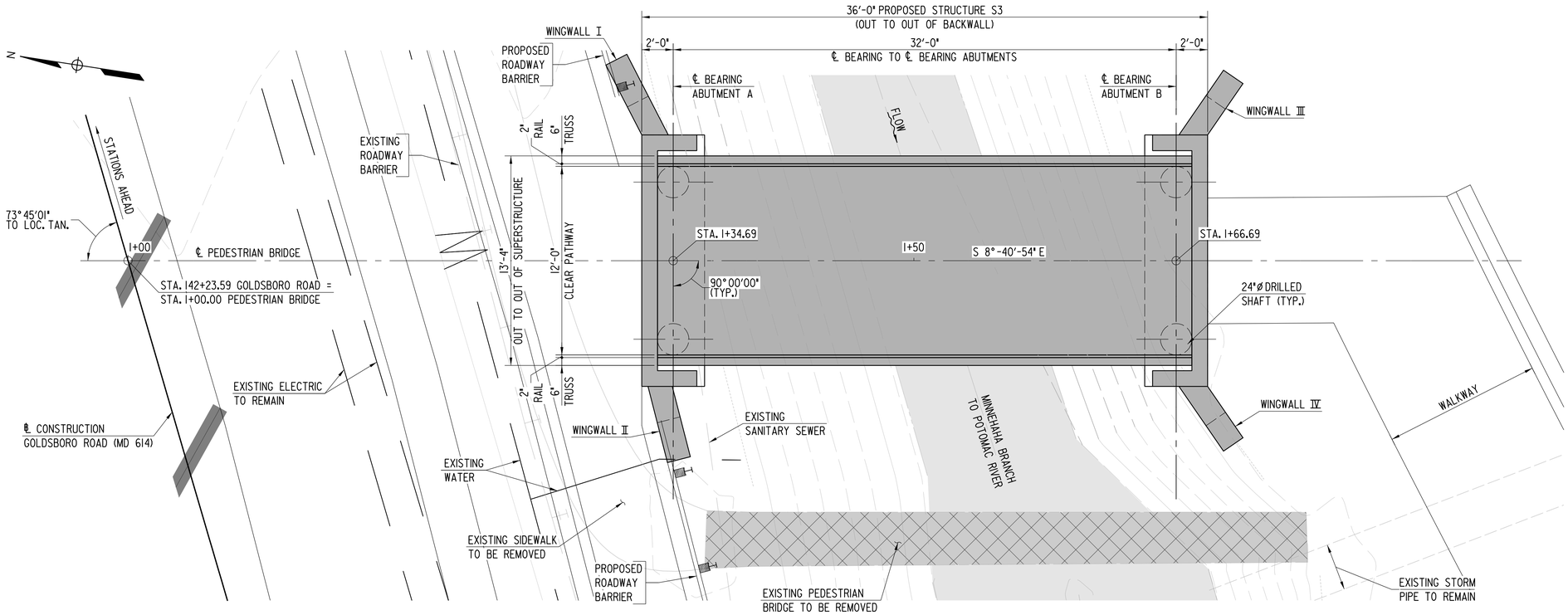
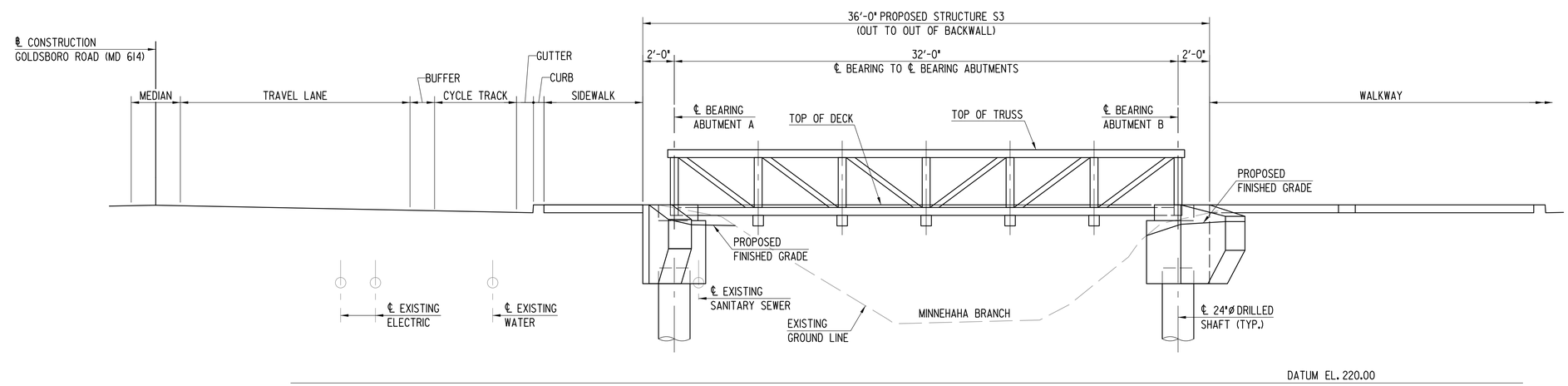


PLAN
SCALE: 1/4" = 1'-0"



ELEVATION
SCALE: 1/4" = 1'-0"

LEGEND

- DEMOLITION
- PROPOSED STRUCTURE

REFERENCE NOTES:

1. FOR GENERAL NOTES, SEE DWG. SGN-1.
2. FOR ABUTMENT A PLAN AND ELEVATION, SEE DWG. S3-2.
   FOR ABUTMENT B PLAN AND ELEVATION, SEE DWG. S3-3.
3. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. S3-4.

DWG. S3-1

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE S3
GENERAL PLAN AND ELEVATION

SCALE 1/4" = 1'-0" DATE FEBRUARY, 2018

SHEET NO. 40 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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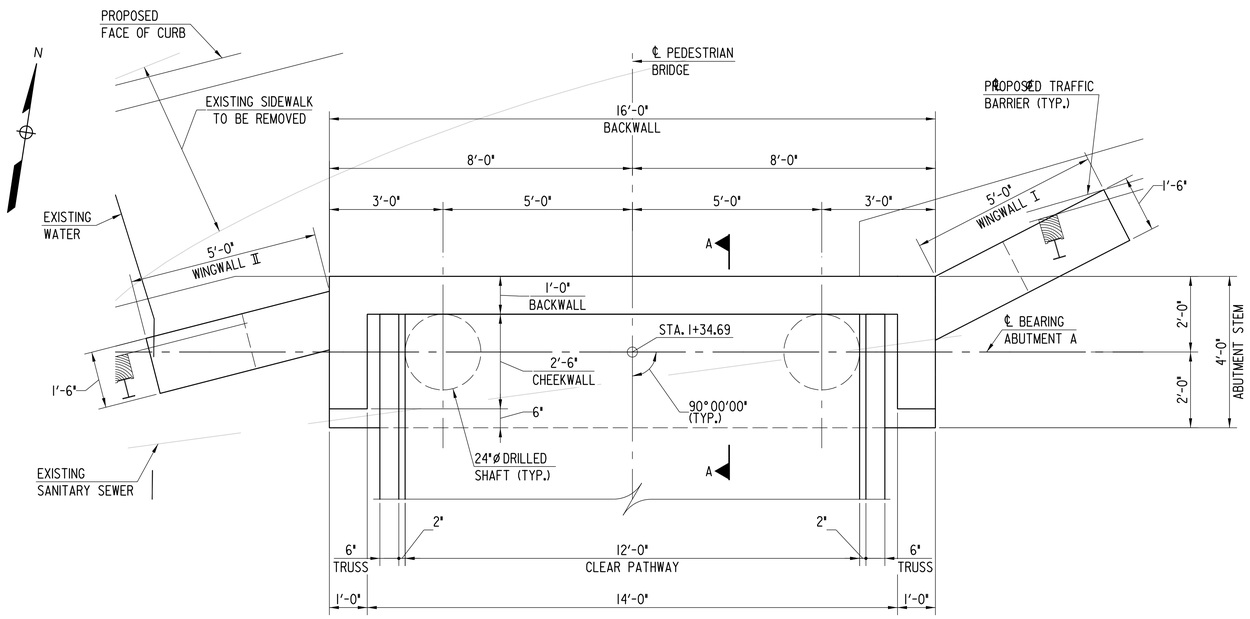
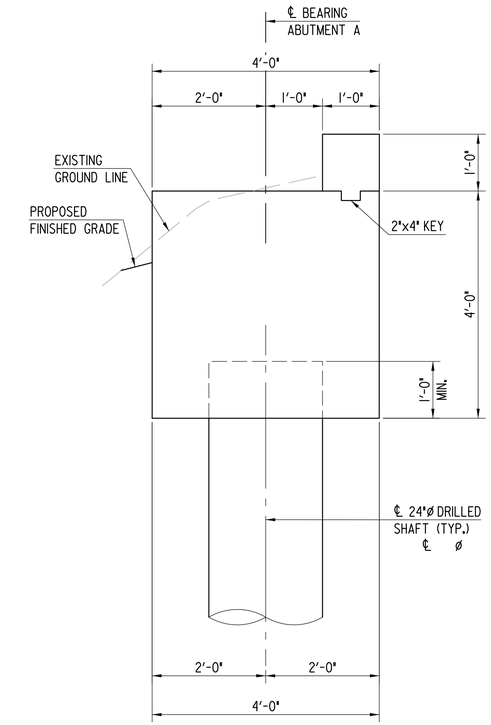


NOTE:

BACKWALL TO BE POURED AFTER THE SUPERSTRUCTURE HAS BEEN SET. ADJUST BACKWALL HEIGHT AS NECESSARY TO ACCOMMODATE SUPERSTRUCTURE DESIGN.

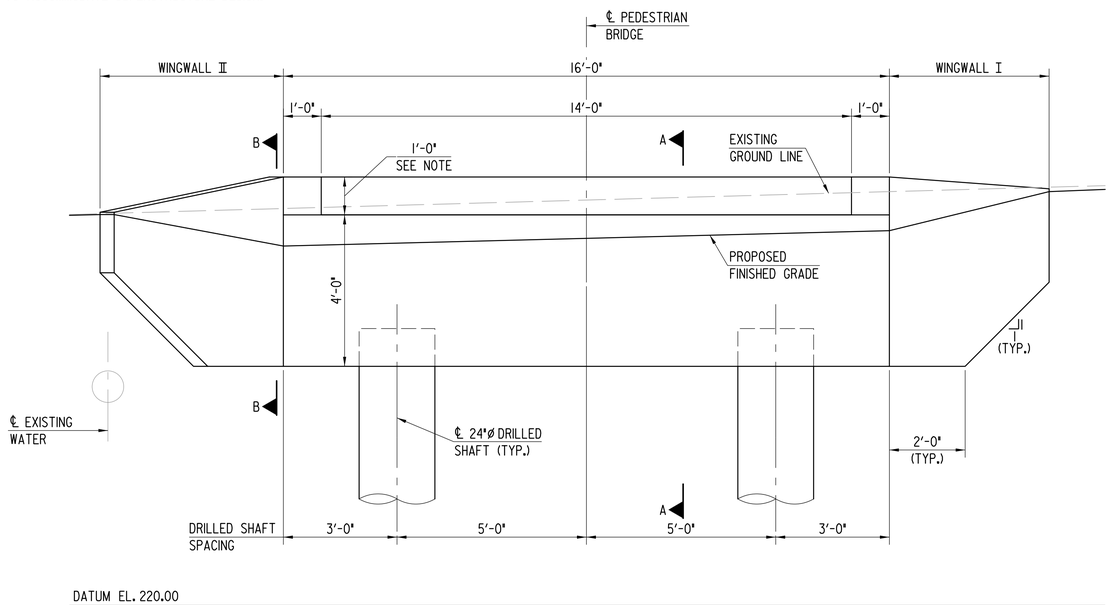
PLAN

SCALE: 1/2" = 1'-0"



SECTION A-A

SCALE: 3/4" = 1'-0"



ELEVATION

SCALE: 1/2" = 1'-0"

REFERENCE NOTES:

1. FOR SECTION B-B, SEE DWG. S3-3.
2. FOR GENERAL PLAN AND ELEVATION, SEE DWG. S3-1.
3. FOR GENERAL NOTES, SEE DWG. SGN-1.

DWG. S3-2

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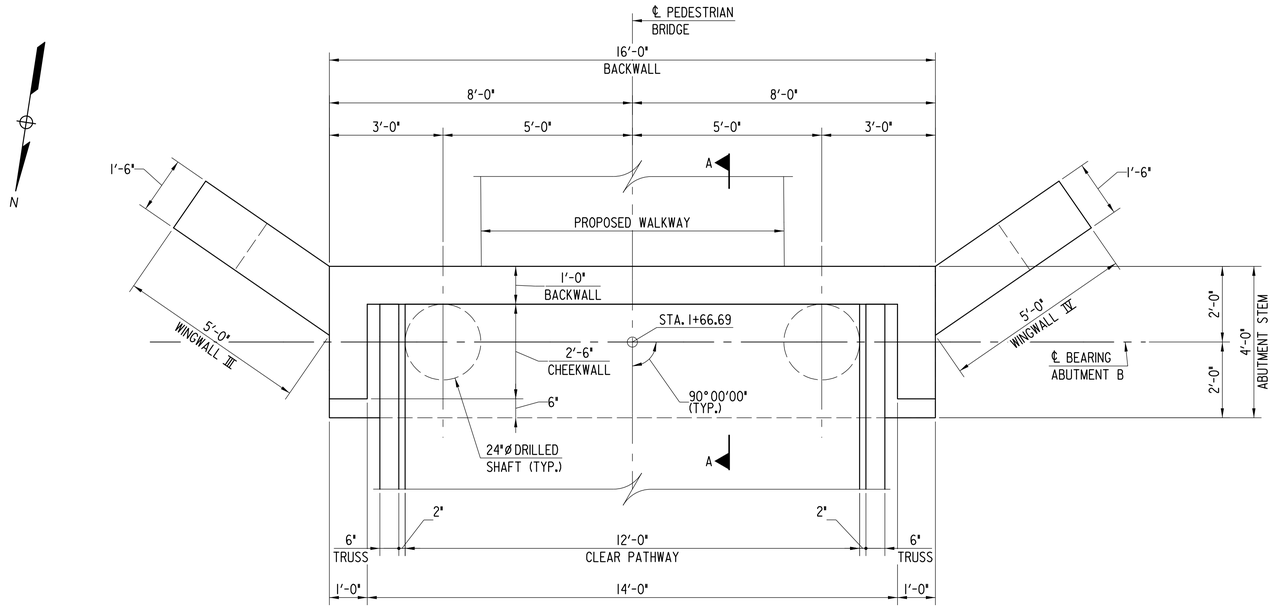
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE S3
ABUTMENT A PLAN AND ELEVATION

SCALE 1/2" = 1'-0" DATE FEBRUARY, 2018

SHEET NO. 41 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\balrvd41\v2013\2013\13184_MCDOT\Task 8_GoldsboroPhD\CADD\plans\pST-08_st3_02_dot_Goldsboro.dgn

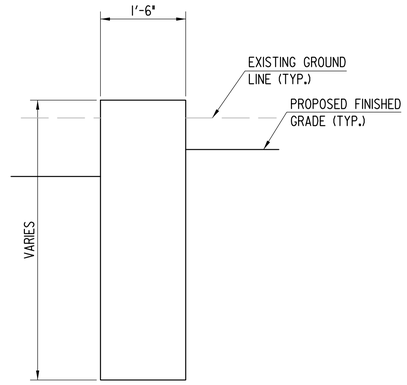


PLAN

SCALE: ½" = 1'-0"

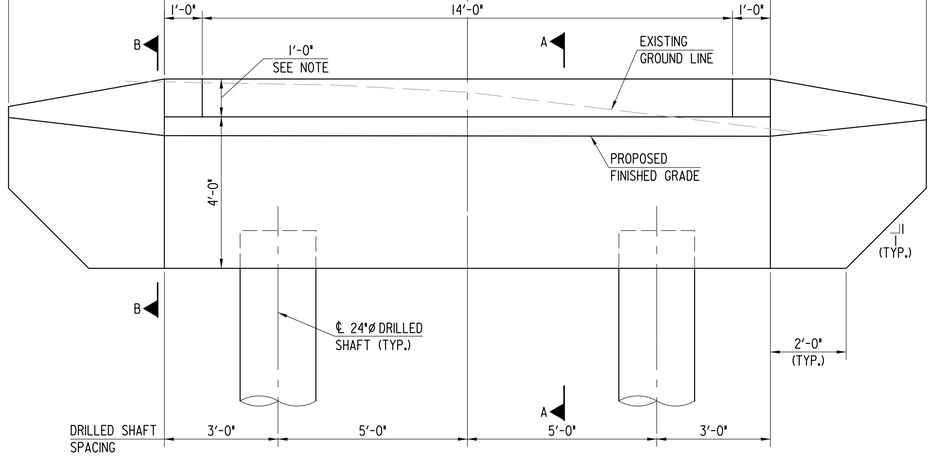
NOTE:

BACKWALL TO BE POURED AFTER THE SUPERSTRUCTURE HAS BEEN SET. ADJUST BACKWALL HEIGHT AS NECESSARY TO ACCOMMODATE SUPERSTRUCTURE DESIGN.



SECTION B-B

SCALE: ¾" = 1'-0"



DATUM EL. 220.00

ELEVATION

SCALE: ½" = 1'-0"

REFERENCE NOTES:

1. FOR SECTION A-A, SEE DWG. S3-2.
2. FOR GENERAL PLAN AND ELEVATION, SEE DWG. S3-1.
3. FOR GENERAL NOTES, SEE DWG. SGN-1.

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

STRUCTURE S3
ABUTMENT B PLAN AND ELEVATION

SCALE ½" = 1'-0" DATE FEBRUARY, 2018

DWG. S3-3

SHEET NO. 42 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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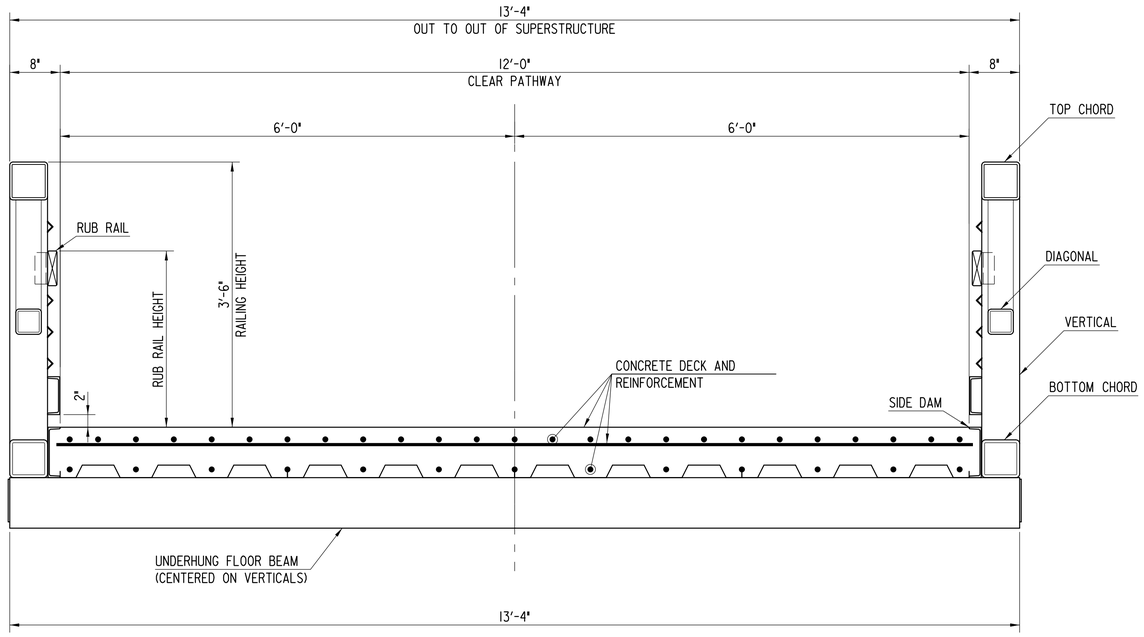

TYPICAL SECTION

SCALE: 1" = 1'-0"

REFERENCE NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE DWG. S3-1.
2. FOR GENERAL NOTES, SEE DWG. SGN-1

DWG. S3-4

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DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY GG DRAWN BY MHB CHECKED BY JJF

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD
STRUCTURE S3
SUPER STRUCTURE TYPICAL SECTION

SCALE 1" = 1'-0" DATE FEBRUARY, 2018

SHEET NO. 43 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
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GENERAL NOTES

1. MAINTAIN ACCESS TO ALL ROADWAYS AND ENTRANCES AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE LATEST VERSION OF FHWA'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS WELL AS MDSHA'S "BOOK OF STANDARDS" AND "SUPPLEMENT TO MUTCD".
3. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED OFF THE TRAVEL LANES AND PEDESTRIAN FACILITIES AT ALL TIMES.
4. EXISTING REGULATORY SIGNS IN THE WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE ENGINEER. SIGNS THAT ARE NOT APPLICABLE SHALL BE REMOVED OR COMPLETELY COVERED WITH NONTRANSPARENT MATERIAL.
5. REFER TO THE SP 104 FOR WORK RESTRICTIONS AND TEMPORARY LANE /SHOULDER CLOSURE SCHEDULE.
6. REFER TO SPI 104.31 FOR ACCESSIBLE PEDESTRIAN MAINTENANCE OF TRAFFIC.
7. MAINTAIN POSITIVE DRAINAGE ALONG THE ROADWAY SURFACE THROUGHOUT CONSTRUCTION.
8. LONGITUDINAL DISTANCES OF ALL TEMPORARY SIGNING AND CHANNELIZING DEVICES MAY BE ADJUSTED DUE TO INTERSECTING STREETS, ENTRANCES AND/OR FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
9. TEMPORARY PAVEMENT MARKINGS SHALL BE AS SHOWN ON THE PLANS. EXISTING PAVEMENT MARKINGS WHICH ARE NO LONGER APPLICABLE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
10. DRUMS FOR MAINTENANCE OF TRAFFIC ARE SHOWN GRAPHICALLY AND DO NOT REPRESENT THE ACTUAL NUMBER OF DRUMS NEEDED. DRUMS SHALL BE PLACED IN ACCORDANCE WITH MDSHA'S "BOOK OF STANDARDS".
11. MISS UTILITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS (TTCTA)

FOR PHASE 1, 2, 3 AND 4 THE FOLLOWING TTCTA FROM THE SHA BOOK OF STANDARDS ARE TO BE FOLLOWED AS APPROPRIATE:

MD 104.03–01 TO MD 104.03–18 – TEMPORARY LANE AND SHOULDER CLOSURES

MD 104.06–01 TO MD 104.06–04 – INSTALLING AND REMOVING CLOSURE SETUPS

MD 104.01–28 AND MD 104.06–15 TO MD 104.06–19 – PAVEMENT EDGE DROP–OFFS

SEQUENCE OF CONSTRUCTION

PHASE 1A: (NOT SHOWN ON PLANS)

1. INSTALL PHASE 1A TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS PER TTCTA LISTED ABOVE. REFER TO SP 104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS.
2. INSTALL PHASE 1A EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
3. WITHIN THE FOLLOWING LIMITS:
   STA. 201+63 TO 201+74, LT.
   STA. 201+63 TO 201+74, RT.
   STA. 202+11 TO 202+57, LT.
   STA. 204+50 TO 204+79, LT.
   STA. 204+94 TO 98+90, LT.
   STA. 206+05 TO 206+81, LT.
   STA. 207+03 TO 208+55, LT.
   STA. 11+96 TO 13+01, LT.
   STA. 98+91 TO 99+88, LT.
   STA. 99+30 TO 100+19, RT.
   STA. 208+68 TO 209+20, LT.
   CONSTRUCT CURB AND GUTTER, PERFORM EXISTING PAVEMENT AND SIDEWALK REMOVAL; PERFORM FULL–DEPTH PAVEMENT WIDENING. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT. CONSTRUCT STORM DRAIN SYSTEM IN AN UPSTREAM DIRECTION.
   COMPLETE ALL WORK WITHIN ONE LIMIT BEFORE MOVING TO A SUBSEQUENT LIMIT.

PHASE 1B:

1. REMOVE PHASE 1A TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 1B TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 1B SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
3. INSTALL PHASE 1B EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
4. BEGIN PHASE ON SOUTH SIDE OF GOLDSBORO ROAD. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION. CONSTRUCT RETAINING WALL, CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; PERFORM EXISTING PAVEMENT REMOVAL; INSTALL LIGHTING.
5. MOVE CONSTRUCTION TO THE NORTH SIDE OF GOLDSBORO ROAD. CONTINUE CONSTRUCTION OF DRAINAGE IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER; SIDEWALK; PEDESTRIAN RAMPS; PERFORM EXISTING PAVEMENT REMOVAL; LIGHTING; AND GRADING.

PHASE 1C: (NOT SHOWN ON PLANS)

1. REMOVE PHASE 1B TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 1C EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
3. WITHIN THE FOLLOWING LIMITS:
   STA. 101+77 TO 102+75, LT & RT.
   CONSTRUCT CURB AND GUTTER ISLAND; SIDEWALK; PEDESTRIAN RAMPS; AND PERFORM EXISTING PAVEMENT REMOVAL.

SEQUENCE OF CONSTRUCTION (CONT'D.)

PHASE 2A:

1. REMOVE PHASE 1C TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 2A TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 2A SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
3. INSTALL PHASE 2A EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
4. BEGIN PHASE ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; PERFORM EXISTING PAVEMENT REMOVAL; LIGHTING; AND GRADING. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.

PHASE 2B:

1. REMOVE PHASE 2A TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 2B TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 2B SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
3. INSTALL PHASE 2B EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
4. BEGIN PHASE ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. CONSTRUCT TRAFFIC BARRIER; EXISTING PAVEMENT REMOVAL; TRAFFIC BARRIER LIGHTING; AND GRADING.

PHASE 3A:

1. REMOVE PHASE 2B TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 3A TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 3A SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
3. INSTALL PHASE 3A EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
4. BEGIN PHASE ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. MAINTAIN ACCESS TO EXISTING SIDEWALK THROUGH WORK ZONE AND BUS STOP AT STA. 118+35 RT. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; RETAINING WALL; LIGHTING; AND GRADING.
5. CONSTRUCT TEMPORARY BUS STOP AT STA. 124+30 RT.

PHASE 3B:

1. CLOSE BUS STOP AT STA. 118+35 RT AND OPEN BUS STOP AT STATION 124+30 RT. SHIFT PEDESTRIANS TO NEW SIDEWALK CONSTRUCTED UNDER PHASE 3A.
2. REMOVE PHASE 3A TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
3. INSTALL PHASE 3B TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 3B SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
4. INSTALL PHASE 3B EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
5. BEGIN PHASE ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. CONSTRUCT FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.

PHASE 3C:

1. CLOSE TEMPORARY BUS STOP AT STA. 124+30 RT. OPEN PERMANENT BUS STOP AT STA. 117+80 RT.
2. REMOVE PHASE 3B TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
3. INSTALL PHASE 3C TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 3C SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
4. INSTALL PHASE 3C EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
5. BEGIN PHASE ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. MAINTAIN ACCESS TO EXISTING SIDEWALK THROUGH WORK ZONE AND BUS STOP AT STA. 129+00 RT. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; RETAINING WALL; LIGHTING; AND GRADING.

SEQUENCE OF CONSTRUCTION (CONT'D.)

PHASE 3D:

1. CLOSE BUS STOP AT STA. 129+00 RT, BUS STOP PROVIDED AT STA. 124+30 RT. SHIFT PEDESTRIANS TO NEW SIDEWALK CONSTRUCTED UNDER PHASE 3C.
2. REMOVE PHASE 3C TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
3. INSTALL PHASE 3D TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 3D SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
4. INSTALL PHASE 3D EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
5. BEGIN PHASE ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. CONSTRUCT FULL DEPTH PAVEMENT FROM MD 396 to STA. 129+20, RT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.
6. FROM STA. 129+40 RT, WORK IN AN UP–STATION DIRECTION. MAINTAIN ACCESS TO EXISTING BUS STOP AT STA. 139+10, RT. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; INSTALL LIGHTING; AND GRADING. CONSTRUCT FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.

PHASE 3E:

1. REMOVE PHASE 3D TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 3E TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 3E SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
3. INSTALL PHASE 3E EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
4. CONSTRUCT PEDESTRIAN BRIDGE MAINTAINING ACCESS MAINTAINING ACCESS TO EXISTING PEDESTRIAN BRIDGE. ONCE NEW PEDESTRIAN BRIDGE IS COMPLETED CONSTRUCT ADJACENT SIDEWALK AND DEMOLISH EXISTING PEDESTRIAN BRIDGE.
5. BEGIN ON WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; INSTALL LIGHTING; AND GRADING. CONSTRUCT FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.
6. AFTER COMPLETION OF NEW BUS STOP AT STA. 142+20, RT. CONSTRUCT CURB AND GUTTER, AND GRADING FROM STA. 138+60 TO 139+30, RT PER TTCTA.

PHASE 4A:

1. REMOVE PHASE 3E TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.
2. INSTALL PHASE 4 TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 3E SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.01–05. INSTALL TEMPORARY PAVEMENT MARKINGS AS INDICATED ON THE PLANS REDUCING LANE WIDTHS AND SHIFTING TRAFFIC.
3. INSTALL PHASE 4 EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
4. CONSTRUCT PHASE 4 "BLOCK–BY–BLOCK" COMPLETING ALL WORK WITHIN ONE BLOCK BEFORE MOVING ON TO THE NEXT STARTING ON THE WEST SIDE OF WEST SIDE OF WORK ZONE AND WORK IN AN UP–STATION DIRECTION.
   A. FROM RANNOCH ROAD TO GOLDLEAF DRIVE. STARTING AT RANNOCH ROAD WORK IN AN UP–STATION DIRECTION. CONSTRUCT TEMPORARY BUS STOP AT STATION 131+50, LT. THEN CLOSE EXISTING BUS STOP AT STATION 130+50, LT. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; INSTALL LIGHTING; AND GRADING.
   B. FROM GOLDLEAF DRIVE TO REDWING RD. STARTING AT RANNOCH ROAD WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; INSTALL LIGHTING; AND GRADING.
   C. FROM REDWING ROAD TO WEDGEWOD ROAD. CLOSE EXISTING BUS STOP, PROVIDE TEMPORARY BUS STOP ON NEWLY CONSTRUCTED SIDEWALK AT STA. 140+00, LT. STARTING AT REDWING ROAD WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; LIGHTING; GRADING; AND FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.
   D. FROM WEDGEWOOD ROAD TO BLACKWOOD ROAD. OPEN NEW BUS STOP AT STA. 142+50. STARTING AT WEDGEWOOD ROAD WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; LIGHTING; GRADING; AND FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.
   E. FROM BLACKWOOD ROAD TO HAVILAND ROAD. STARTING AT BLACKWOOD ROAD WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; LIGHTING; GRADING; AND FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.
   F. FROM HAVILAND ROAD TO RIVER ROAD. STARTING AT HAVILAND ROAD WORK IN AN UP–STATION DIRECTION. CONSTRUCT STORMWATER SYSTEM IN AN UPSTREAM DIRECTION UTILIZING TTCTA LISTED ABOVE FOR WORK WITHIN THE ROAD. CONSTRUCT CURB AND GUTTER, SIDEWALK AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; LIGHTING; AND GRADING.

DWG. TCP01

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY WRW DRAWN BY WRW CHECKED BY RJG

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE N.T.S. DATE FEBRUARY, 2018

SHEET NO. 44 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:16 PM
FILE: \\balsrv04\v2013\2013\13184 _MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-0001_Goldsboro.dgn

SEQUENCE OF CONSTRUCTION (CONT'D.)

PHASE 4B: (NOT SHOWN ON PLANS)

1. INSTALL PHASE 4B TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS PER TTCTA LISTED ON SHEET TCP01. REFER TO SP 104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS.

2. INSTALL PHASE 4B EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.

3. WITHIN THE FOLLOWING LIMITS:
   STA. 116+90 TO 117+30, LT. & RT.
   STA. 120+57 TO 122+78, LT. & RT.
   STA. 131+39 TO 133+60, LT. & RT.
   STA. 142+38 O 142+63, LT. & RT.
   CONSTRUCT CURB AND GUTTER ISLANDS, PERFORM EXISTING PAVEMENT AND SIDEWALK REMOVAL; SIDEWALK AND PEDESTRIAN RAMPS; PERFORM EXISTING PAVEMENT REMOVAL.

PHASE 5A:

1. REMOVE PHASE 4B TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.

2. INSTALL PHASE 5A TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 5A SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.03–13.

3. CONSTRUCT PHASE 5A "BLOCK BY BLOCK" COMPLETING ALL WORK WITHIN ONE BLOCK BEFORE MOVING ON TO THE NEXT. CONSTRUCT CURB AND GUTTER, SIDEWALK, AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; LIGHTING; GRADING; AND FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.

PHASE 5B:

1. REMOVE PHASE 5A TEMPORARY TRAFFIC CONTROL DEVICES, EROSION AND SEDIMENT CONTROL DEVICES AND SIGNS THAT ARE NO LONGER NEEDED.

2. INSTALL PHASE 5B TEMPORARY TRAFFIC CONTROL DEVICES AS INDICATED ON PLANS. REFER TO SP104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS. INSTALL PHASE 5A SIGNS AS INDICATED ON PLANS AND IN ACCORDANCE WITH STD. NO. 104.03–13.

3. CONSTRUCT PHASE 5B "BLOCK BY BLOCK" COMPLETING ALL WORK WITHIN ONE BLOCK BEFORE MOVING ON TO THE NEXT. CONSTRUCT CURB AND GUTTER, SIDEWALK, AND PEDESTRIAN RAMPS; TRAFFIC BARRIER; LIGHTING; GRADING; AND FULL DEPTH PAVEMENT. USE FULL DEPTH ASPHALT BASE TO FINAL GRADE AS NECESSARY TO ALLOW FOR TRAFFIC MOVEMENT IN SUBSEQUENT PHASES.

PHASE 6 (NOT SHOWN ON PLANS):

1. INSTALL PHASE 6 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS PER TTCTA LISTED ON SHEET TCP01. REFER TO SP 104 FOR TEMPORARY LANE AND SHOULDER CLOSURE RESTRICTIONS.

2. PERFORM PARTIAL DEPTH PATCHES, GRIND, WEDGE/LEVEL, AND OVERLAY PAVEMENT WITHIN THE PROJECT LIMITS AS SHOWN ON THE ROADWAY PLANS. INSTALL PERMANENT SIGNING AND PAVEMENT MARKINGS AS SHOWN ON THE SIGNING AND PAVEMENT MARKING PLANS.

3. INSTALL PERMANENT LANDSCAPING.

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Chief, Division of Transportation Engineering — Date

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DWG. TCP02

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

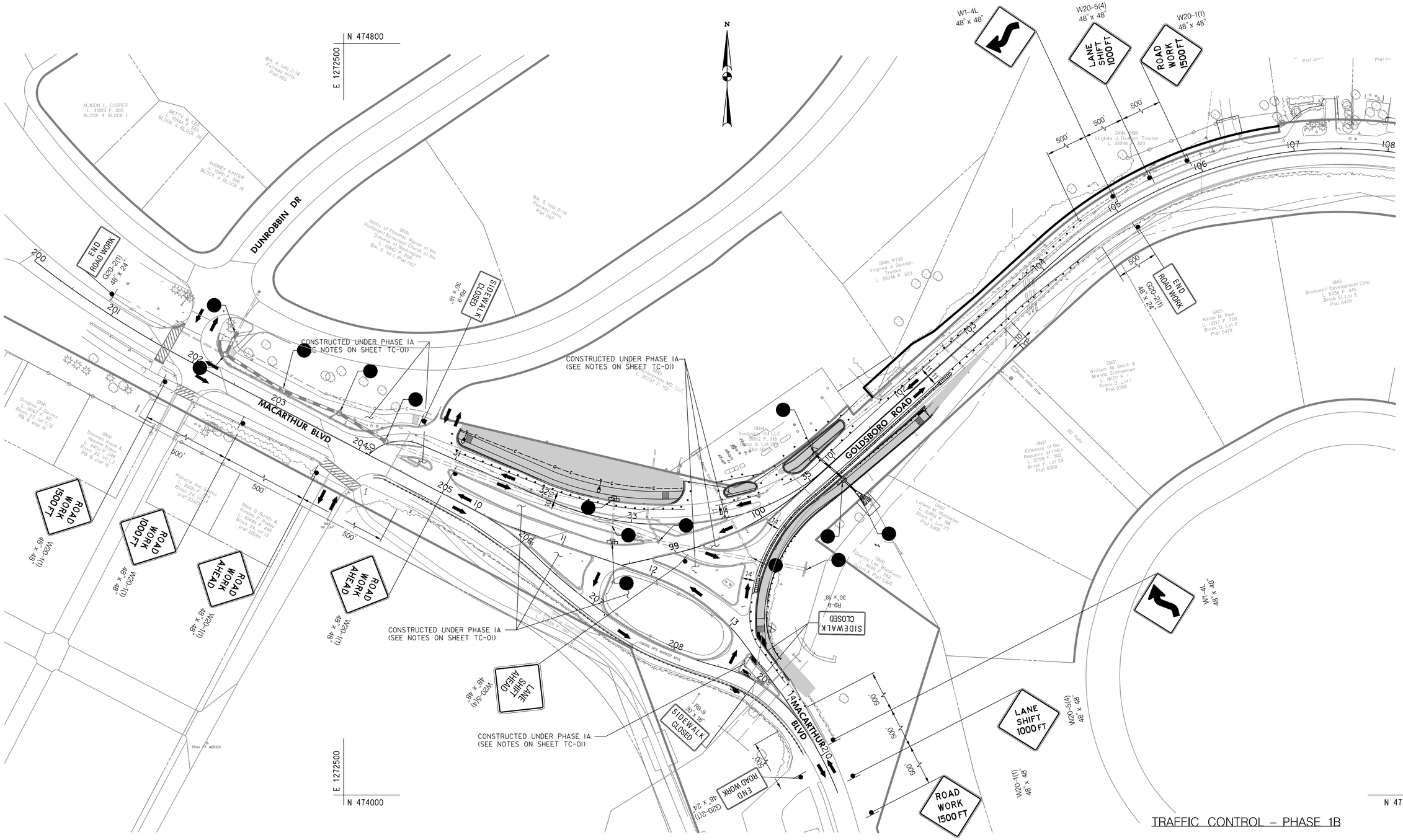
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE N.T.S. DATE FEBRUARY, 2018

SHEET NO. 45 OF 106

PLOTTED: Monday, February 12, 2018, AT 03:16 PM
FILE: \\balmn04\rk\2013\2013\3184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-0002_GAldsboro.dgn



TRAFFIC CONTROL – PHASE 1B

DWG. TCP03

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- WORK ZONE
- FULL DEPTH PAVEMENT
- PAVEMENT REMOVAL
- DRUMS
- TEMPORARY TRAFFIC SIGN
- TRAFFIC FLOW ARROW
- TEMPORARY TYPE E TRAFFIC BARRIER
- TEMPORARY BARRIER

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APPROVED

Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

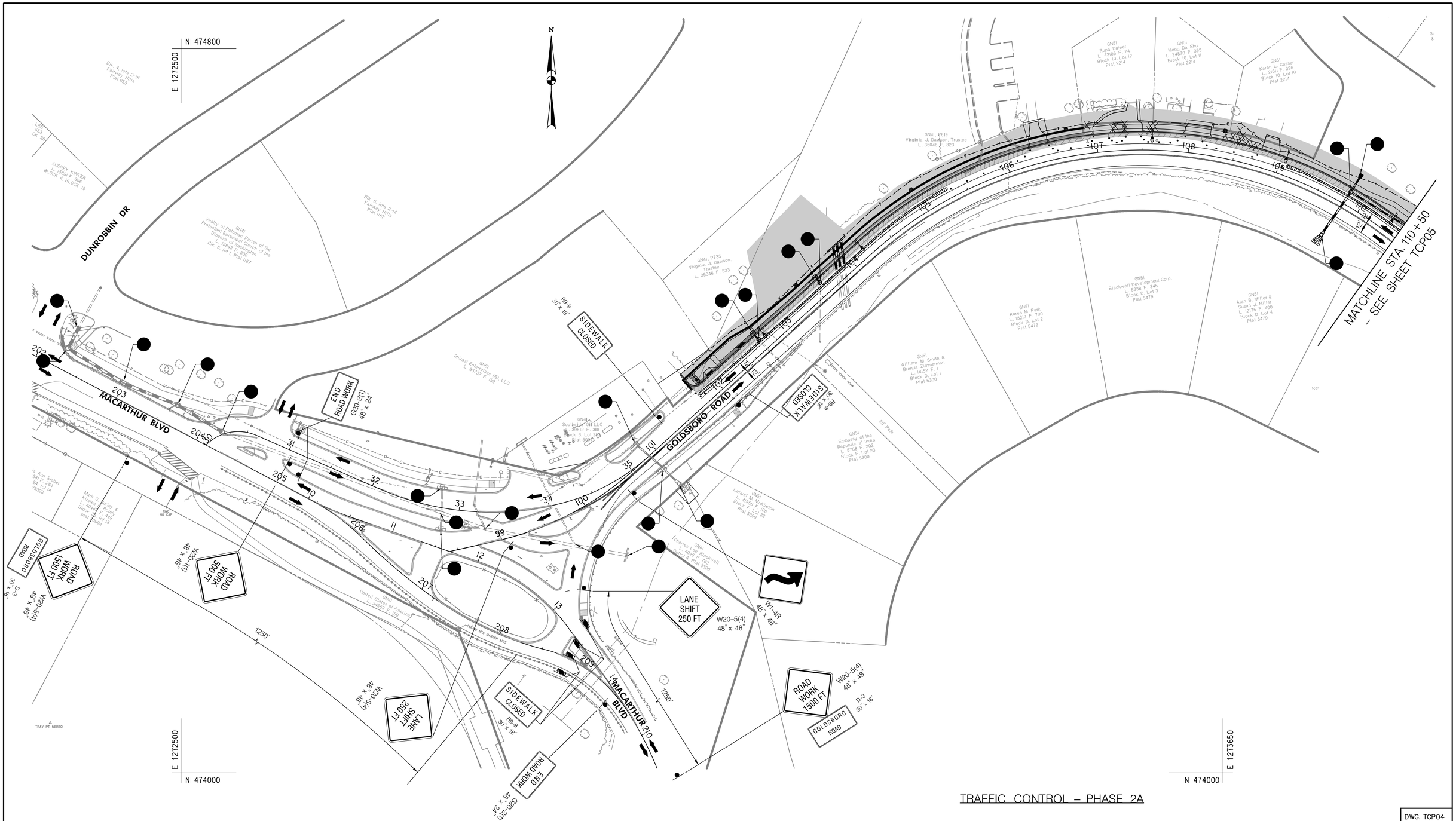
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 46 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balmv04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPhd\CADD\plans\pMT-1001_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 2A

DWG. TCP04

LEGEND

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- FULL DEPTH PAVEMENT
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

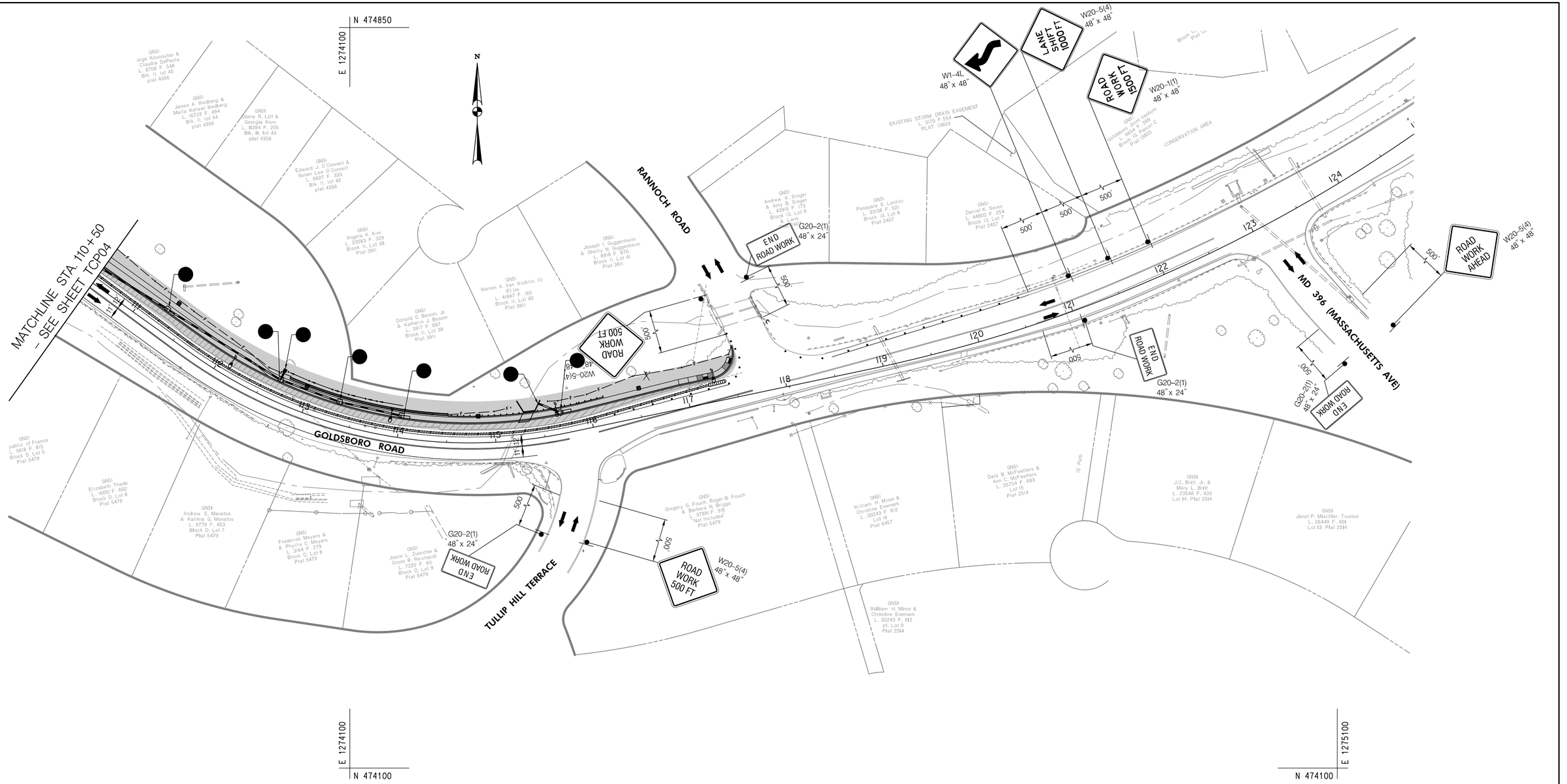
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 47 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balfrv04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-2001_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 2A

DWG. TCP05

WORK ZONE	TRAFFIC FLOW ARROW
FULL DEPTH PAVEMENT	TEMPORARY TYPE E TRAFFIC BARRIER
PAVEMENT REMOVAL	TEMPORARY BARRIER
DRUMS	
TEMPORARY TRAFFIC SIGN	

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

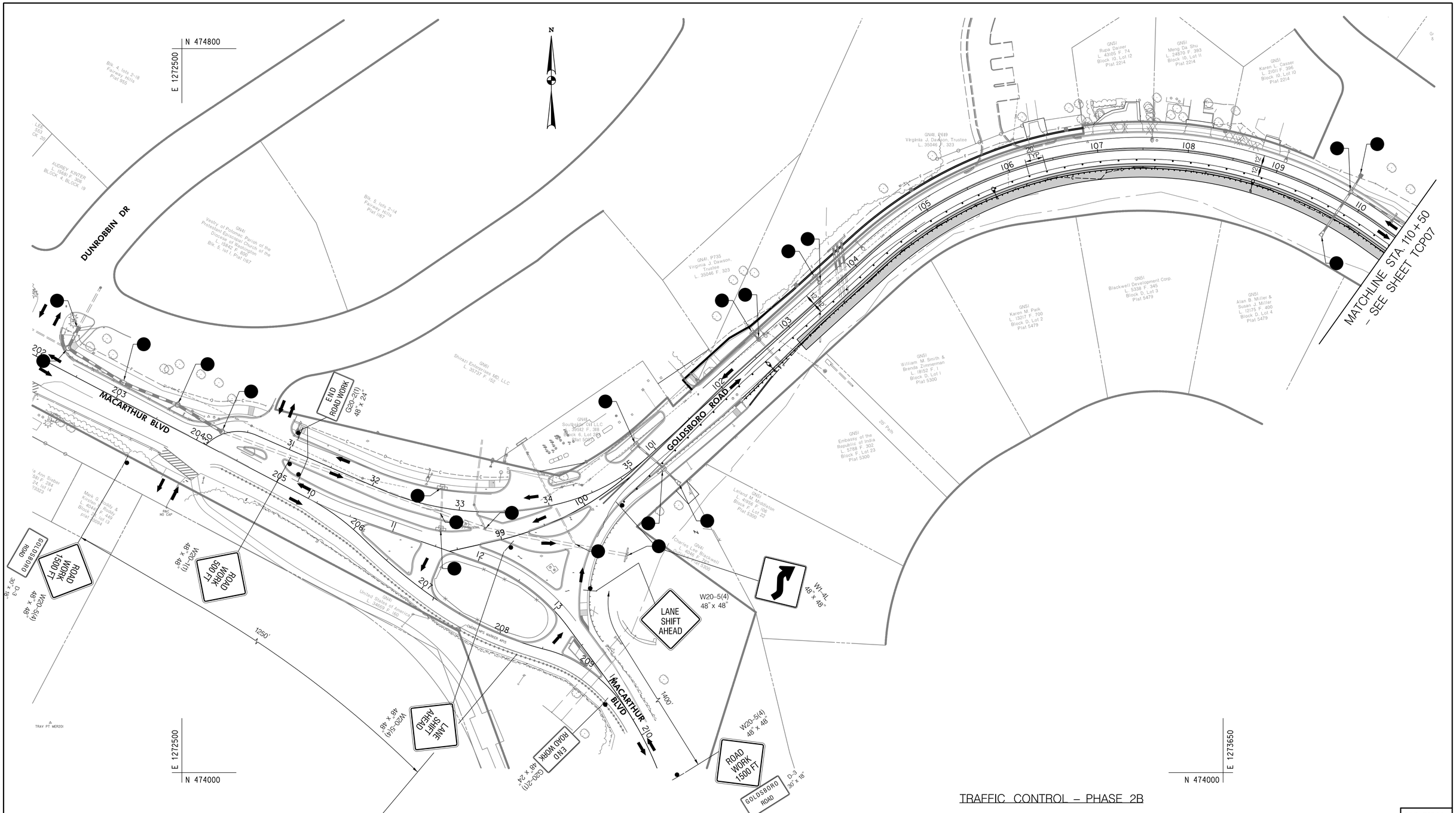
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 48 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balsrv04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-2002_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 2B

DWG. TCP06

WORK ZONE	TRAFFIC FLOW ARROW
FULL DEPTH PAVEMENT	TEMPORARY TYPE E TRAFFIC BARRIER
PAVEMENT REMOVAL	TEMPORARY BARRIER
DRUMS	
TEMPORARY TRAFFIC SIGN	

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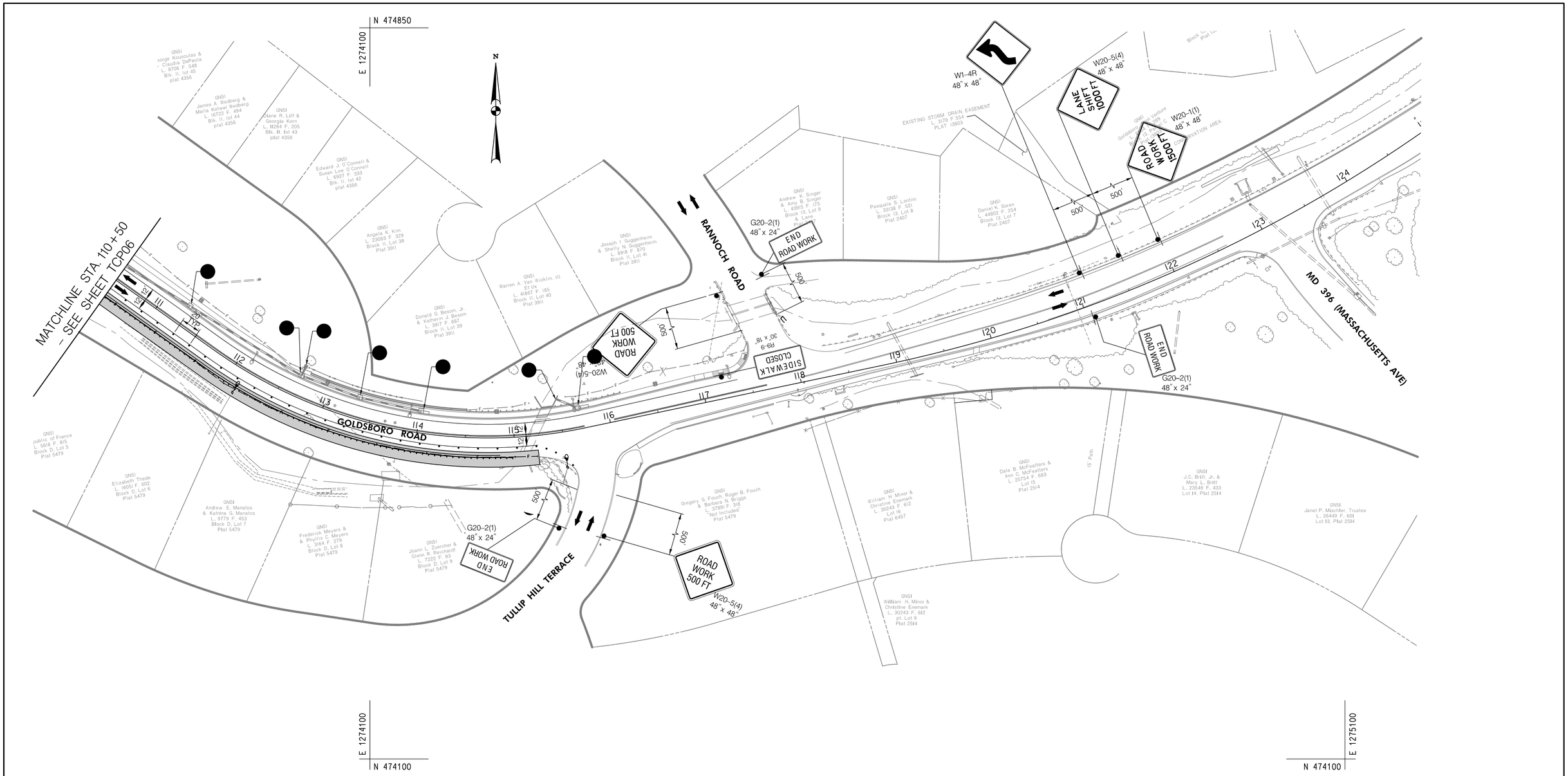
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 49 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balfor04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-2003_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 2B

DWG. TCP07

LEGEND

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

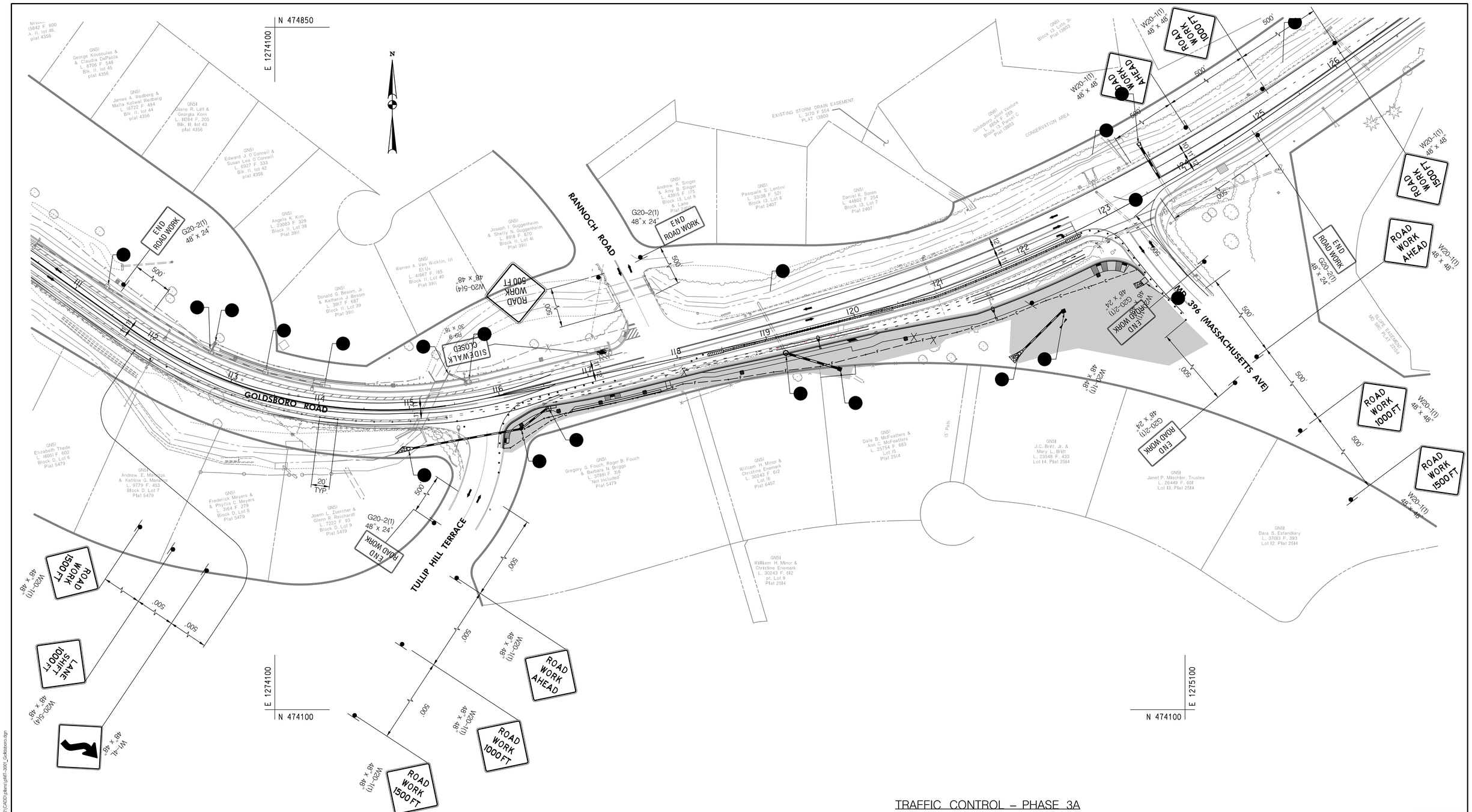
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 50 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balsrv04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-2004_Goldsboro.dgn



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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

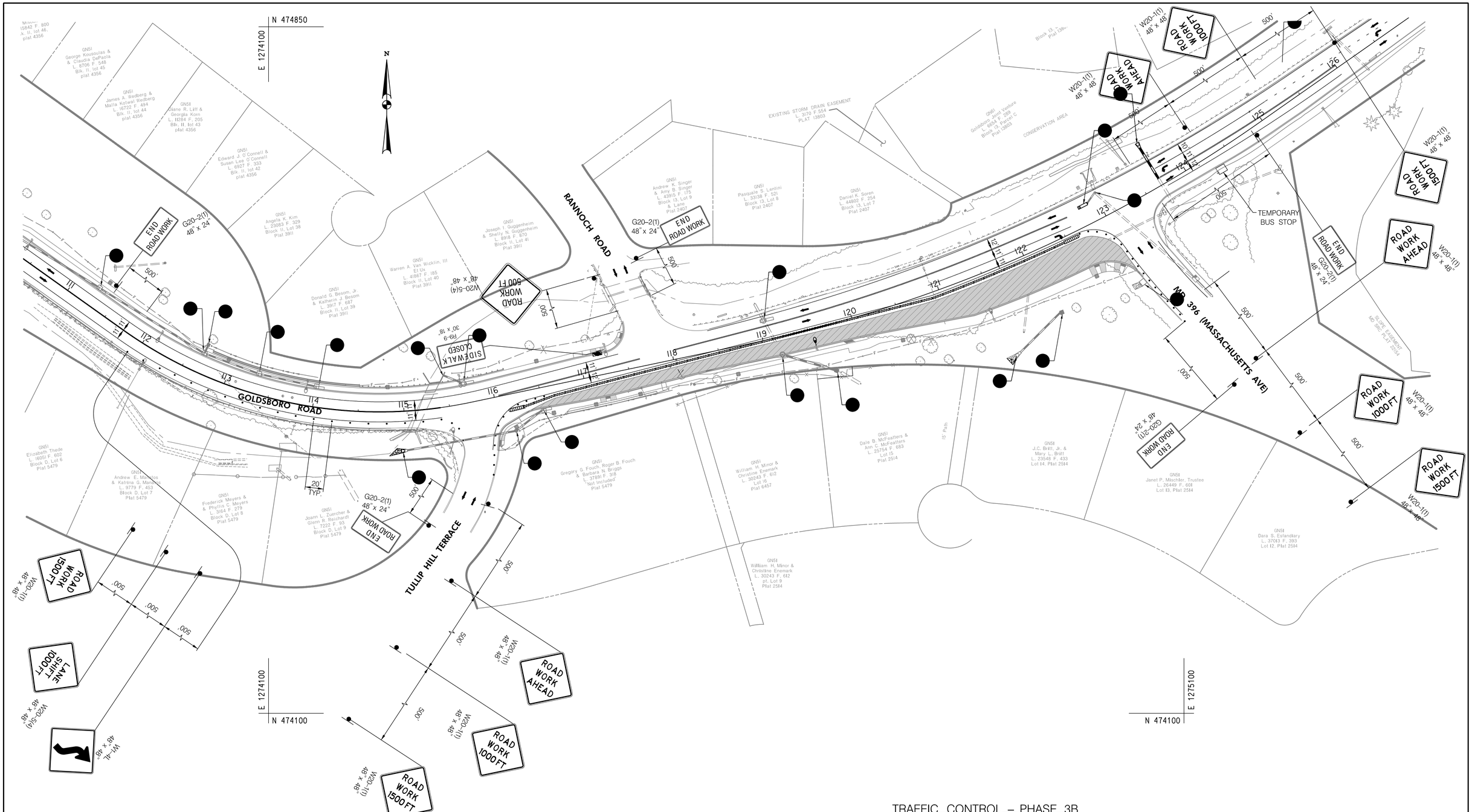
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 51 OF 106

PLOTTED: Monday, February 12, 2018, AT 03:17 PM
FILE: \\balbvdr04\vl2013\13184_MCDOT\Task 8_Goldsboro\Ph2\CADD\plans\pMT-3301_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 3B

DWG. TCP09

LEGEND

- WORK ZONE
- FULL DEPTH PAVEMENT
- PAVEMENT REMOVAL
- DRUMS
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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 52 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balrvd4\v2013\2013\13184 _MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-3002_Goldsboro.dgn

N 475200
E 1274500

N 475200
E 1275400

E 1275400
N 474650

N

G20-2(1)
48" x 24"
END ROAD WORK

500'

ROAD WORK 1500 FT
W20-1(1)
48" x 48"

W1-4L
48" x 48"

LANE SHIFT 1000 FT
W20-5(4)
48" x 48"

ROAD WORK 1000 FT
W20-1(1)
48" x 48"

ROAD WORK AHEAD
W20-1(1)
48" x 48"

G20-2(1)
48" x 24"
END ROAD WORK

W20-1(1)
48" x 48"

ROAD WORK 1000FT

ROAD WORK 1500FT

W20-1(1)
48" x 48"

G20-2(1)
48" x 24"
END ROAD WORK

W20-1(1)
48" x 48"

ROAD WORK AHEAD

W20-1(1)
48" x 48"

ROAD WORK 1000 FT

W20-1(1)
48" x 48"

ROAD WORK 1500 FT

W20-1(1)
48" x 48"

G20-2(1)
48" x 24"
END ROAD WORK

W20-5(4)
48" x 48"

ROAD WORK 500 FT

SIDEWALK CLOSED
R9-9
30" x 24"

GOLDLEAF DR

GOLDSBORO ROAD

RANNOCH ROAD

MD 396 (MASSACHUSETTS AVE)

TULLIP HILL TERRACE

EXISTING STORM DRAIN EASEMENT PLAT 13801

EXISTING STORM DRAIN EASEMENT PLAT 13803

CONSERVATION AREA

EX. 20' SLOPE EASEMENT PB 115 PLAT 13664

EX. 10' PIE & WSSC R/W PB 115 PLAT 13664

EX. 20' SLOPE EASEMENT MB 360 PLAT 2054

EX. 15' SEWER EASEMENT

GN6I
Goldsboro Joint Venture
L. 6654 F. 289
Block 15, Parcel C
Plat 13803

GN6I
Goldsboro Joint Venture
L. 6654 F. 289
Block 15, Parcel A
Plat 13801

GN6I
Block I3, Lots 27-30
Plat 13803

GN6I
Block I3, Lots 31-33
Plat 13803

GN6I
Potomac Electric Power Company
L. 3636 F. 567
Block 18, Parcel B
Plat 8655

GN6I
6499 Goldsboro, LLC
L. 38668 F. 460
Block 18, Parcel B
Plat 8655

GN6I
Matthew C. Trant
& Diane C. Trant
L. 23568 F. 279
Block I2, Lot 17
Plat 13665

GN5I
Block I2, Lots 1-3
& Avalon Court R/
Wood Acres
Plat 13664

GN5I
Andrew K. Singer
& Amy B. Singer
L. 43915 F. 175
Block I3, Lot 9
& Lane
Plat 2407

GN5I
Pasquale S. Lentini
L. 39138 F. 521
Block I3, Lot 8
Plat 2407

GN5I
Daniel K. Soren
L. 44802 F. 254
Block I3, Lot 7
Plat 2407

GN5I
Joseph I. Guggenheim
& Shelly N. Guggenheim
L. 8918 F. 870
Block II, Lot 41
Plat 3911

GN5I
Dale B. McFeatters &
Ann C. McFeatters
L. 25754 F. 683

GN5I
n. Enoch

15 Pulls

TRAFFIC CONTROL – PHASE 3C

DWG. TCP10

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MONTGOMERY COUNTY
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

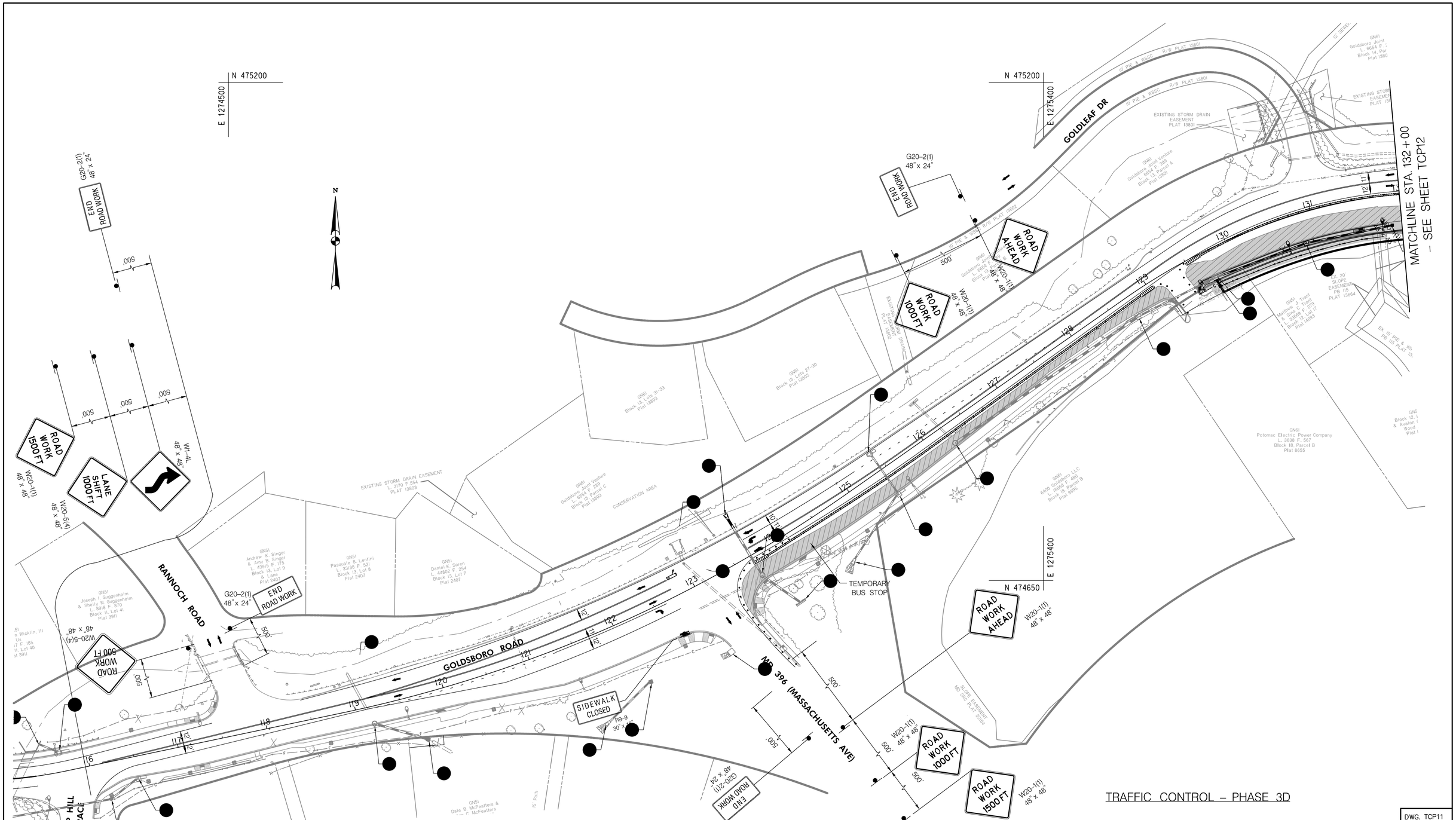
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 53 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balex04\v2013\2013\13184_MCDOT\Task 9_Goldsboro\Plot\CADD\Plans\pMT-3009_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 3D

DWG. TCP11

LEGEND

- WORK ZONE
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- TEMPORARY BARRIER

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

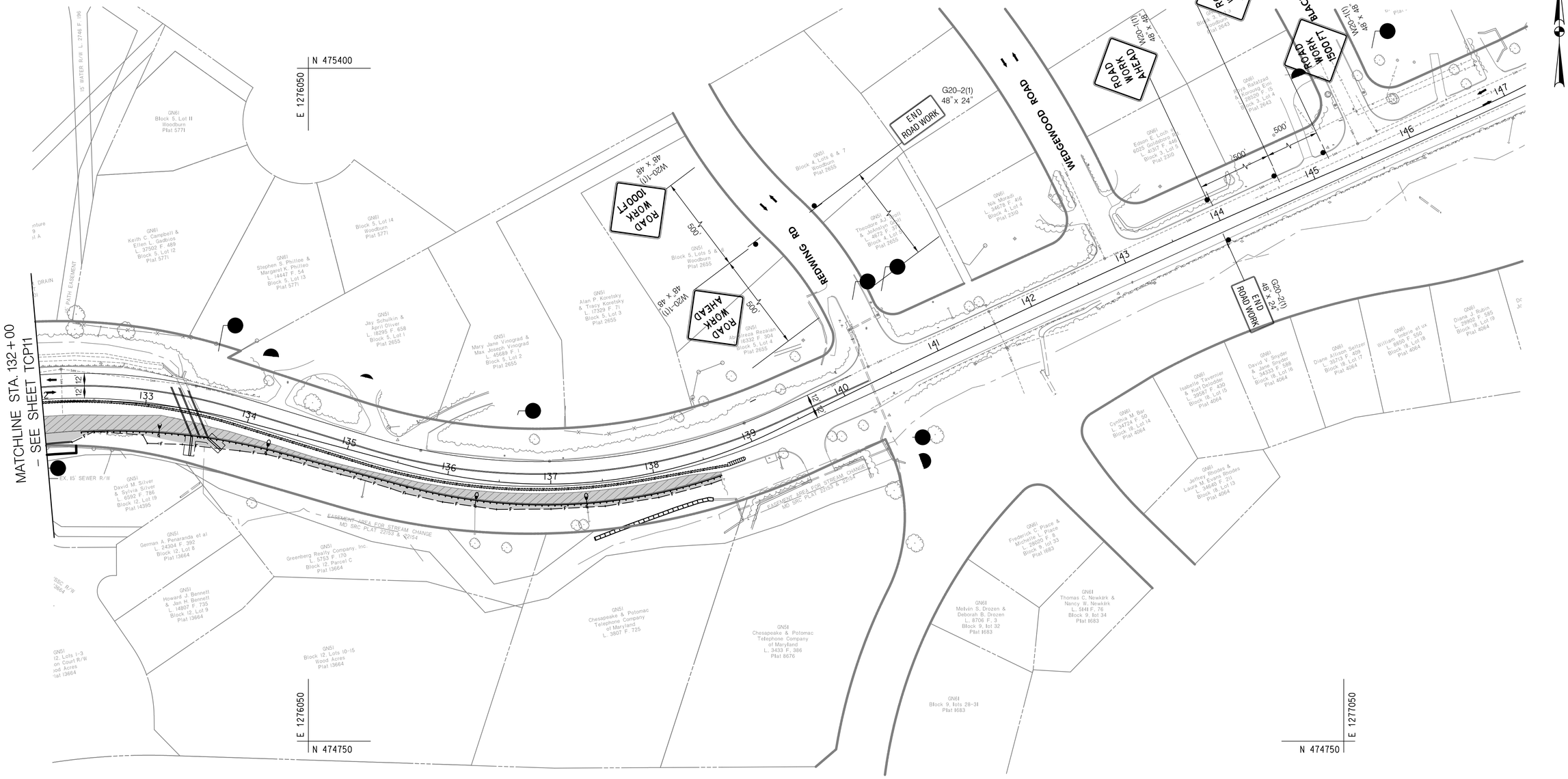
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 54 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balmd04\v2013\2013\13184 _MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-3004_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 3D

DWG. TCP12

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- DRUMS
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- TRAFFIC FLOW ARROW
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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

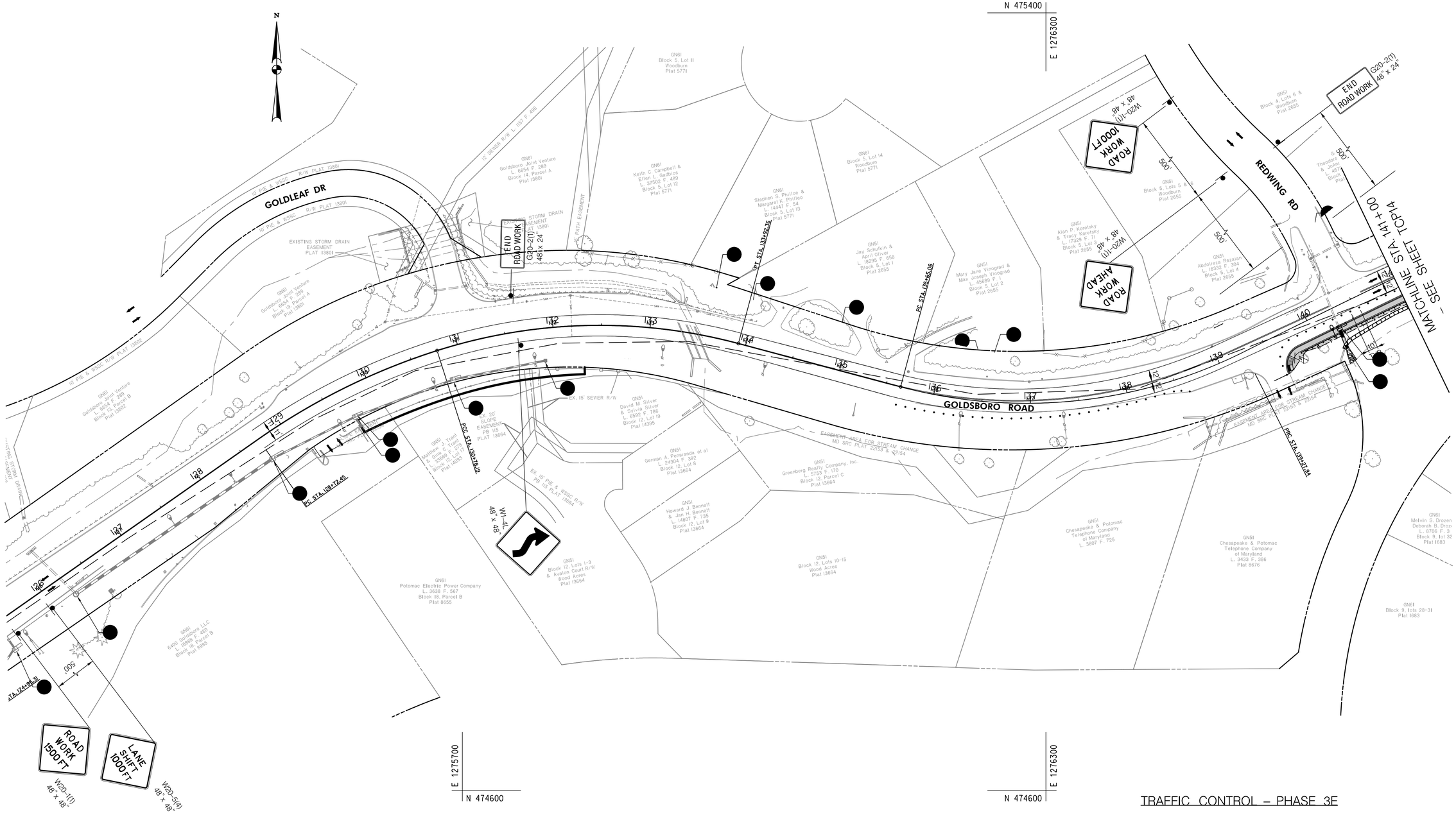
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 55 OF 106

PLOTTED: Monday, February 12, 2018, AT 03:17 PM
FILE: \\balfen04\2013\2013\13184_MCDOT\Task 8_GoldsboroPed\CADD\plans\pMT-3006_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 3E

DWG. TCP13

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MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 56 OF 106

PLOTTED: Monday, February 12, 2018, AT 03:17 PM
FILE: \\balbvdx04\c\0103\2013\13164_MCDOT\Task 8_Goldsboro\Ph2\CADD\plans\pMT-3006_Goldsboro.dgn

MATCHLINE STA. 141+00
– SEE SHEET TCP13

WEDGEWOOD ROAD

BLACKWOOD ROAD

HAVILAND ROAD

GOLDSBORO ROAD

E 1277000
N 475650

E 1277000
N 474850

N 475650
E 1277100

MD 190
(RIVER ROAD)

ROAD WORK AHEAD
W20-1(1)
48" x 48"

END ROAD WORK
G20-2(1)
48" x 24"

ROAD WORK 1000 FT
W20-1(1)
48" x 48"

ROAD WORK 1500 FT
W20-1(1)
48" x 48"

GOLDSBORO ROAD
D-3
30" x 18"

END ROAD WORK
G20-2(1)
48" x 24"

ROAD WORK 1500 FT
W20-1(1)
48" x 48"

ROAD WORK 1000 FT
W20-1(1)
48" x 48"

GOLDSBORO ROAD
D-3
30" x 18"

ROAD WORK AHEAD
W20-1(1)
48" x 48"

GOLDSBORO ROAD
D-3
30" x 18"

END ROAD WORK
G20-2(1)
48" x 24"

500'

10' TYP.

EASEMENT AREA FOR INTERIM USE

TRAFFIC CONTROL – PHASE 3E

DWG. TCP14

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LEGEND

- WORK ZONE
- FULL DEPTH PAVEMENT
- PAVEMENT REMOVAL
- DRUMS
- TEMPORARY TRAFFIC SIGN
- TRAFFIC FLOW ARROW
- TEMPORARY TYPE E TRAFFIC BARRIER
- TEMPORARY BARRIER

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

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DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 57 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\Ballm04\Jobs\3\3013\3384_MCDOT\Task 9_Goldsboro\Phs\CADD\plans\pMT-3307_Goldsboro.dgn

N 474850
E 1274100

MATCHLINE STA. 141+00
– SEE SHEET TCP16

PT STA.100+25.81

G20-2(1)
48" x 24"
END ROAD WORK
500'

RANNOCH ROAD

G20-2(1)
48" x 24"
END ROAD WORK
500'

ROAD WORK 500 FT
W20-5(4)
48" x 48"
500'

PC STA.101+74.24

GOLDSBORO ROAD

PC STA.118+86.23

MD 396 (MASSACHUSETTS AVE)

500'
G20-2(1)
48" x 24"
END ROAD WORK

ROAD WORK AHEAD
W20-1(1)
48" x 48"
500'

ROAD WORK 1000 FT
W20-1(1)
48" x 48"
500'

ROAD WORK 1500 FT
W20-1(1)
48" x 48"

G20-2(1)
48" x 24"
END ROAD WORK
500'

TULLIP HILL TERRACE

ROAD WORK 1500FT
W20-1(1)
48" x 48"
500'
500'
500'

LANE SHIFT 1000FT
W20-5(4)
48" x 48"

W1-4R
48" x 48"

ROAD WORK AHEAD
W20-1(1)
48" x 48"
500'

E 1274100
N 474100

E 1275100
N 474100

GNSI
Elizabeth Thede
L. 16051 F. 602
Block D, Lot 6
Plat 5479

GNSI
Andrew E. Marcellos
& Katrina G. Marcellos
L. 9779 F. 453
Block D, Lot 7
Plat 5479

GNSI
Frederick Meyers &
& Phyllis C. Meyers
L. 3164 F. 279
Block D, Lot 8
Plat 5479

GNSI
Joann L. Zuercher &
Glenn S. Reichardt
L. 7222 F. 93
Block D, Lot 9
Plat 5479

GNSI
Gregory G. Fouch, Roger B. Fouch
& Barbara A. Briggs
L. 37891 F. 318
Not Included
Plat 5479

GNSI
William H. Minor &
Christine Enemark
L. 30043 F. 612
Lot 16
Plat 6457

GNSI
Dale B. McFeatters &
Ann C. McFeatters
L. 25754 F. 683
Lot 15
Plat 2514

GNSI
William H. Minor &
Christine Enemark
L. 30243 F. 612
pt. Lot 9
Plat 2514

GNSI
J.C. Britt, Jr. &
Mary L. Britt
L. 23548 F. 433
Lot 14, Plat 2514

GNSI
Janet P. Mischler, Trustee
L. 26449 F. 601
Lot 13, Plat 2514

GNSI
Dara S. Esfandiary
L. 37013 F. 393
Lot 12, Plat 2514

GNSI
Andrew K. Singer
& Amy B. Singer
L. 43915 F. 175
Block I3, Lot 9
& Lane
Plat 2407

GNSI
Pasquale S. Lentini
L. 33138 F. 521
Block I3, Lot 8
Plat 2407

GNSI
Daniel K. Soren
L. 44809 F. 254
Block I3, Lot 7
Plat 2407

GNSI
Joseph I. Guggenheim
& Shelly N. Guggenheim
L. 8918 F. 870
Block H, Lot 41
Plat 3911

GNSI
Warren A. Van Wicklin, III
Et Ux
L. 41847 F. 185
Block H, Lot 40
Plat 3911

GNSI
Donald G. Beson, Jr
& Katherin J. Beson
L. 3917 F. 687
Block H, Lot 39
Plat 3911

GNSI
Angela K. Kim
L. 23083 F. 329
Block H, Lot 38
Plat 3911

GNSI
Edward J. O'Connell &
Susan Lee O'Connell
L. 6927 F. 333
Blk. H, lot 42
plat 4356

GNSI
Diane R. Liff &
Georgia Korn
L. 11284 F. 205
Blk. H, lot 43
plat 4356

GNSI
James A. Redberg &
Malta Kotwal Redberg
L. 16722 F. 494
Blk. H, lot 44
plat 4356

GNSI
George Kousoulas
& Claudia DePaola
L. 8706 F. 548
Blk. H, lot 45
plat 4356

Melanie
15842 F. 800
k. H, lot 46,
plat 4356

GNSI
Block I3, Lot 3
Plat 13803

EXISTING STORM DRAIN EASEMENT
L. 3179 F. 554
PLAT 13803

GNSI
Goldsboro Road Venture
Block I3, Parcel C
Plat 13803

CONSERVATION AREA

15 Path

30' SHA EASEMENT
MD SHC
PLAT 2514

TRAFFIC CONTROL – PHASE 4A

WORK ZONE
FULL DEPTH PAVEMENT
PAVEMENT REMOVAL
DRUMS
TEMPORARY TRAFFIC SIGN
TRAFFIC FLOW ARROW
TEMPORARY TYPE E TRAFFIC BARRIER
TEMPORARY BARRIER

DWG. TCP15

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APPROVED
Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 58 OF 106

PLOTTED: Monday, February 12, 2018, AT 03:17 PM
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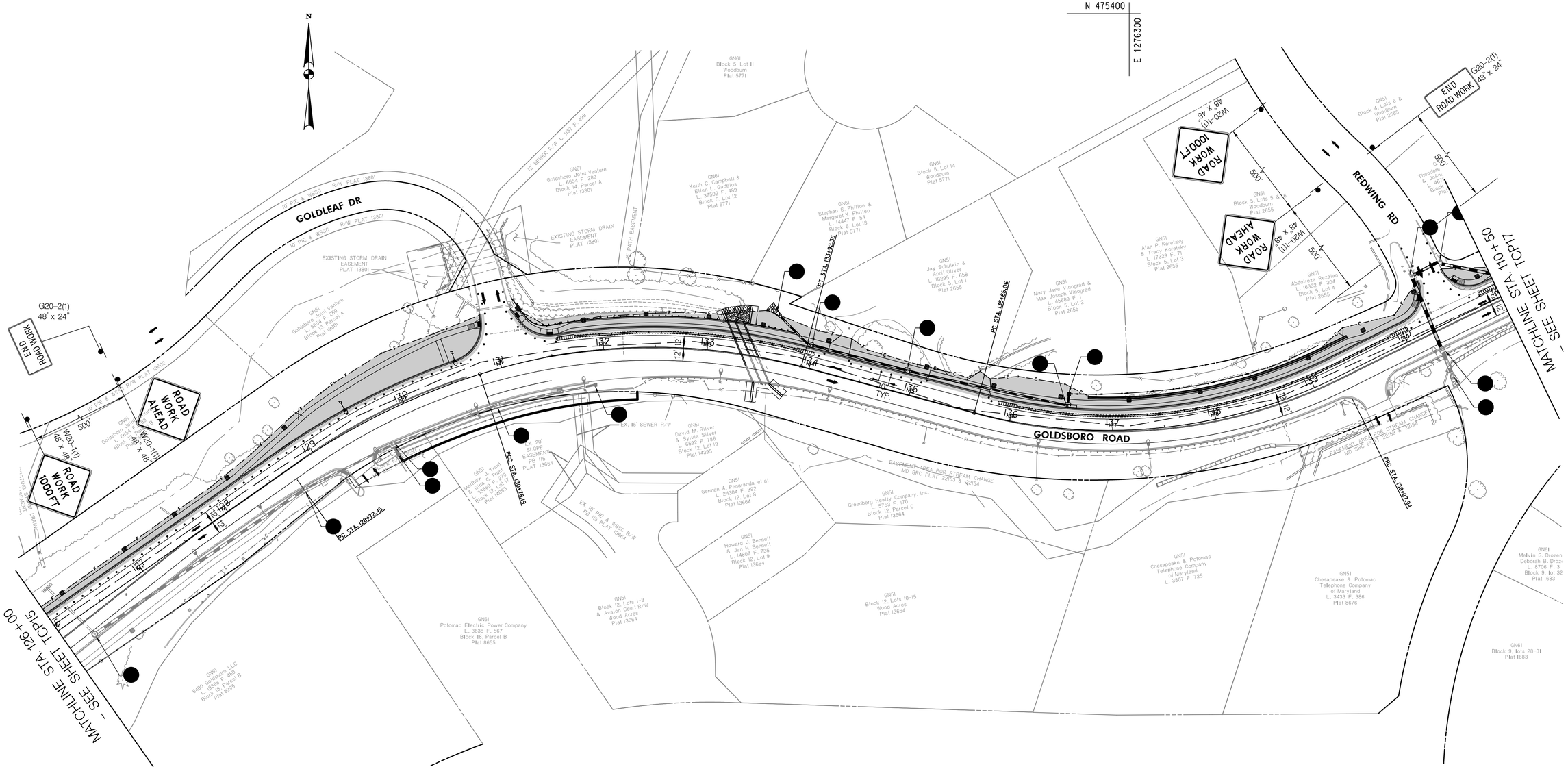

TRAFFIC CONTROL – PHASE 4A

DWG.TCP16

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LEGEND

- WORK ZONE
- FULL DEPTH PAVEMENT
- PAVEMENT REMOVAL
- DRUMS
- TEMPORARY TRAFFIC SIGN
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- TEMPORARY TYPE E TRAFFIC BARRIER
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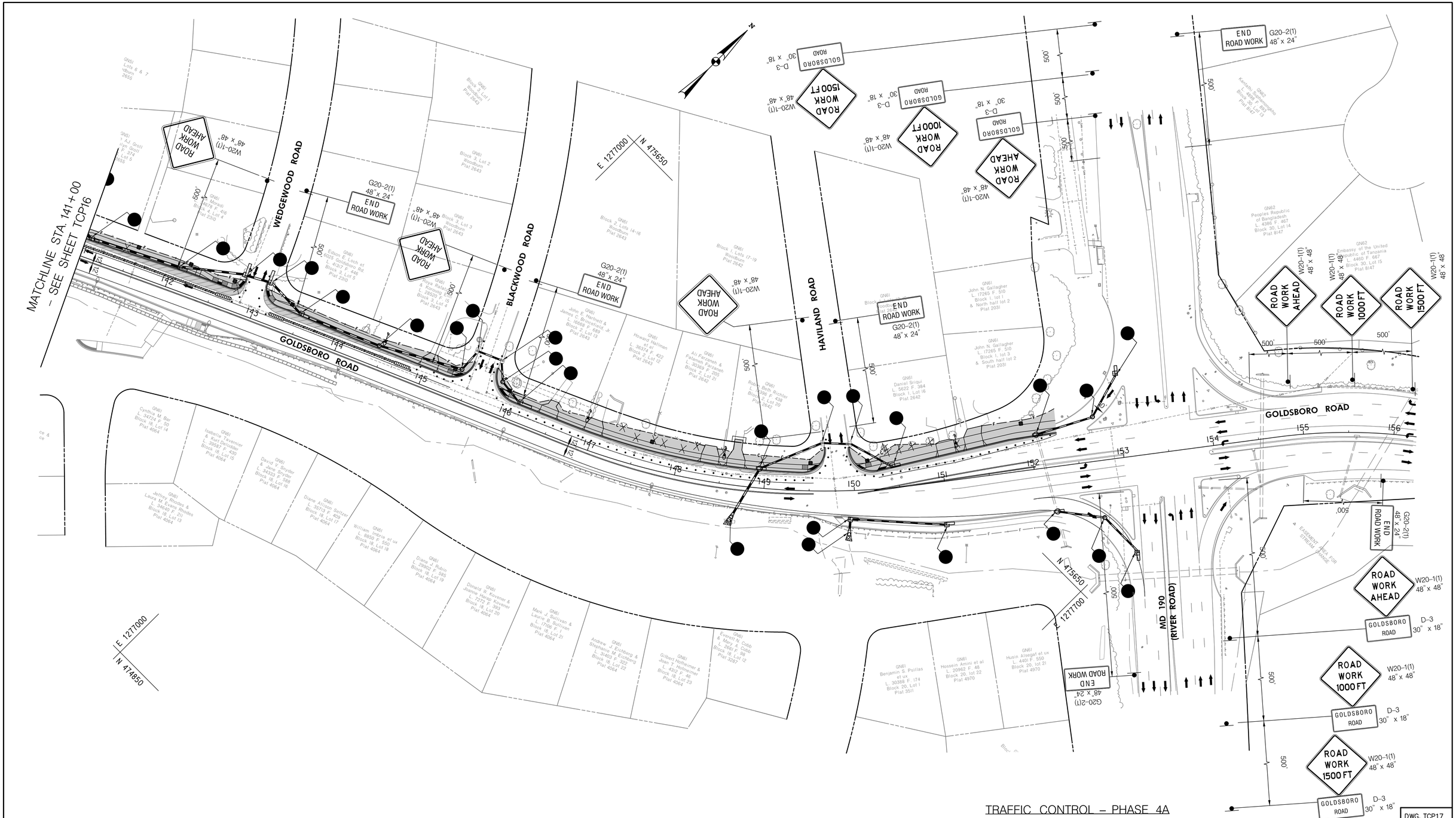
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 59 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balkrvol4\c2013\2013\13184_MCDOT\Task 8_Goldsboro\Plot\CADD\plans\pltT-4400_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 4A

DWG. TCP17

LEGEND

- WORK ZONE
- FULL DEPTH PAVEMENT
- PAVEMENT REMOVAL
- DRUMS
- TEMPORARY TRAFFIC SIGN
- TRAFFIC FLOW ARROW
- TEMPORARY TYPE E TRAFFIC BARRIER
- TEMPORARY BARRIER

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 60 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balinv04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-4003_Goldsboro.dgn

MATCHLINE SEE SHEET TCP19

HAVILAND ROAD

GOLDSBORO ROAD

MD 190 (RIVER ROAD)

600' TAPER

500'

E 1277500 / N 476250

E 1278150 / N 476250

E 1277500 / N 475200

EASEMENT AREA FOR STREAM CHANGE

ROAD WORK AHEAD
W20-1(1)
48" x 48"

G20-2(1)
48" x 24"
END ROAD WORK

R3-7(4)
24" x 30"
RIGHT TURN LANE

1,100'

700'

200' SHOULDER TAPER

W4-2R
48" x 48"

W20-5(1)
48" x 48"
RIGHT LANE CLOSED 1500 FT

W20-5(1)
48" x 48"
RIGHT LANE CLOSED 1/2 MILE

W20-1(1)
48" x 48"
ROAD WORK 1 MILE

RIGHT TURN LANE
R3-7(4)
24" x 30"

W4-2R
48" x 48"

W20-5(1)
48" x 48"
RIGHT LANE CLOSED 1500 FT

W20-5(1)
48" x 48"
RIGHT LANE CLOSED 1/2 MILE

W20-1(1)
48" x 48"
ROAD WORK 1 MILE

G20-2(1)
48" x 24"
END ROAD WORK

147 148 149 150 151 152 153 154 155 156 157 158 159 160 161

MATCHLINE SEE SHEET TCP20

TRAFFIC CONTROL – PHASE 5A

DWG. TCP18

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- PAVEMENT REMOVAL
- DRUMS
- TEMPORARY TRAFFIC SIGN
- TRAFFIC FLOW ARROW
- TEMPORARY TYPE E TRAFFIC BARRIER
- TEMPORARY BARRIER

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MONTGOMERY COUNTY
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

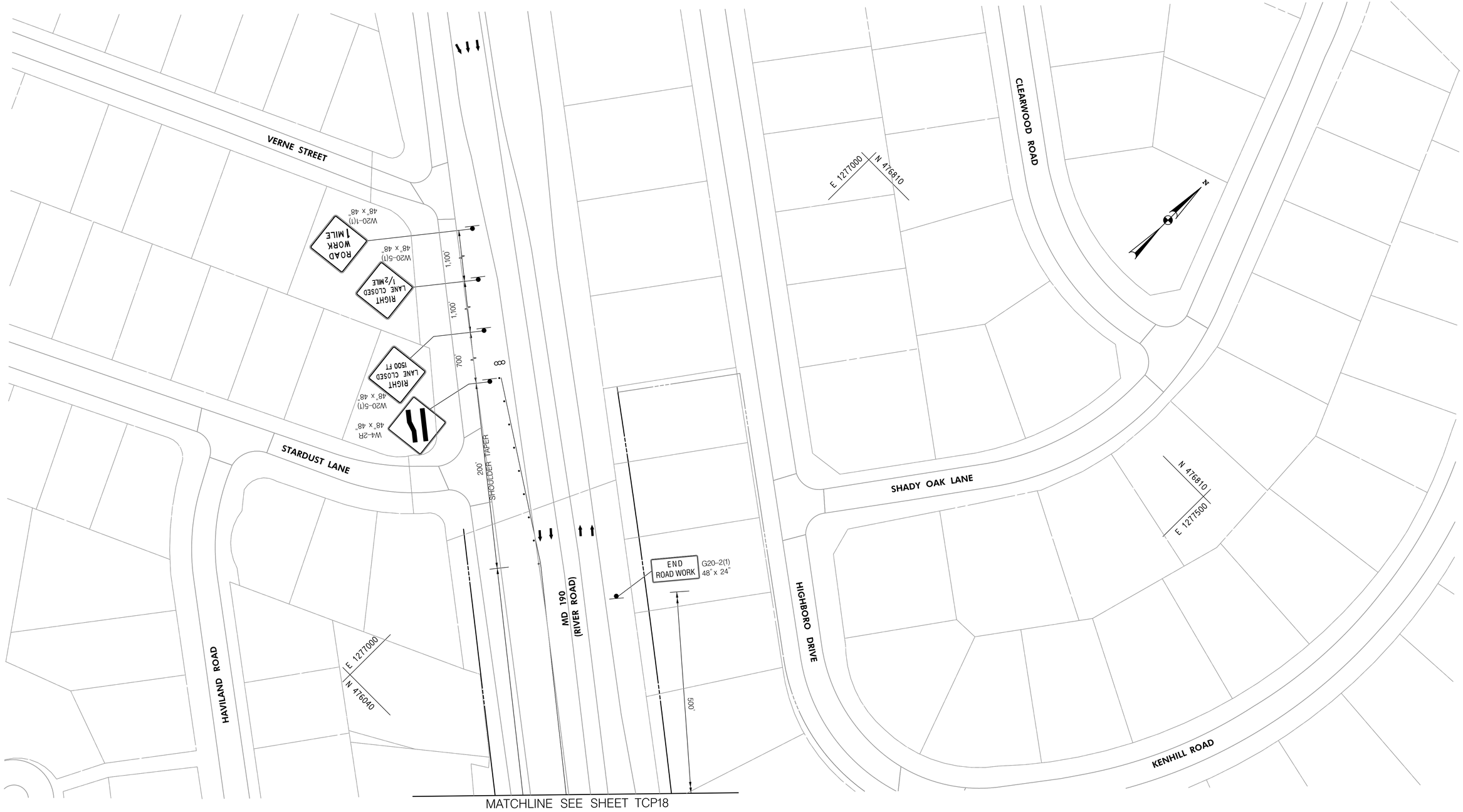
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 61 OF 106

PLOTTED: Monday, February 12, 2018, AT 03:17 PM
FILE: \\balfiles04\Work\2013\13184_MCDOT\Task 8_Goldsboro Phase\CADD\Plans\pMT-5000_Goldsboro.dgn



MATCHLINE SEE SHEET TCP18

TRAFFIC CONTROL – PHASE 5A

DWG. TCP19

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DRUMS
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TRAFFIC FLOW ARROW
TEMPORARY TYPE E TRAFFIC BARRIER
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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 62 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balfs\vol4\v2013\j3184_MCDOT\Task 8_Goldsboro\Ph2\CADD\plans\pMT-5000_Goldsboro.dgn

MATCHLINE SEE SHEET TCP18

E 1277500
N 475000

CROMWELL DRIVE

DEVONSHIRE DRIVE

MD 190
(RIVER ROAD)

500'

TAPER

600'

N 475750
E 1278250

N 475000
E 1278250

END ROAD WORK
G20-2(1)
48" x 24"

SHOULDER TAPER

200'

W4-2R
48" x 48"

700'

W20-5(1)
48" x 48"
RIGHT LANE CLOSED 1500 FT

1,100'

W20-5(1)
48" x 48"
RIGHT LANE CLOSED 1/2 MILE

1,100'

W20-1(1)
48" x 48"
ROAD WORK 1 MILE

N

WORK ZONE
FULL DEPTH PAVEMENT
PAVEMENT REMOVAL
DRUMS
TEMPORARY TRAFFIC SIGN
TRAFFIC FLOW ARROW
TEMPORARY TYPE E TRAFFIC BARRIER
TEMPORARY BARRIER

TRAFFIC CONTROL – PHASE 5A

DWG. TCP20

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

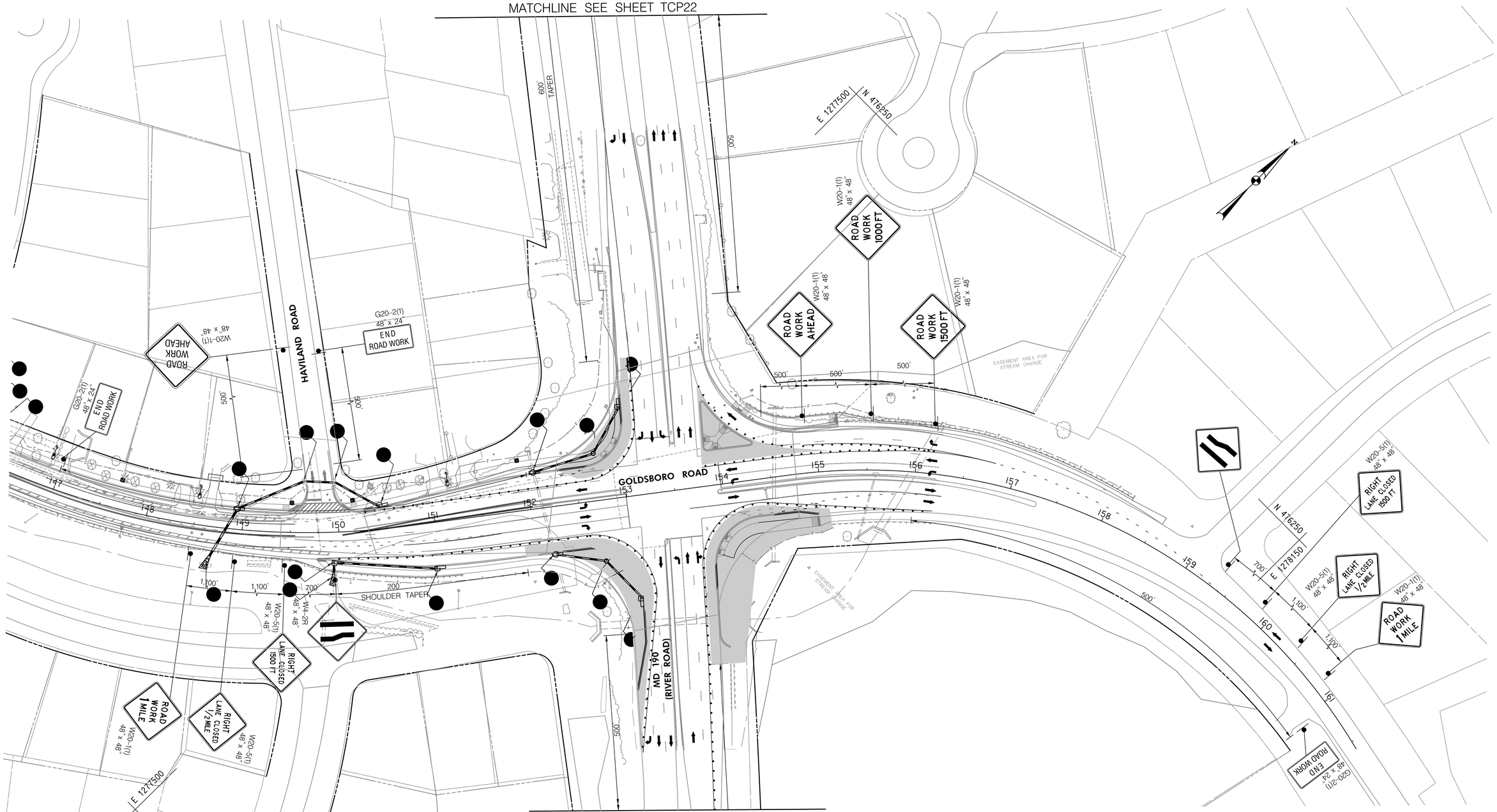
MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 63 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balto404\c2013\2013\13984_MCDOT\Task 9_Goldsboro\Ph2\CADD\plans\pMT-5003_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 5B

DWG. TCP21

WORK ZONE	TRAFFIC FLOW ARROW
FULL DEPTH PAVEMENT	TEMPORARY TYPE E TRAFFIC BARRIER
PAVEMENT REMOVAL	TEMPORARY BARRIER
DRUMS	
TEMPORARY TRAFFIC SIGN	

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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

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SHEET NO. 64 OF 106

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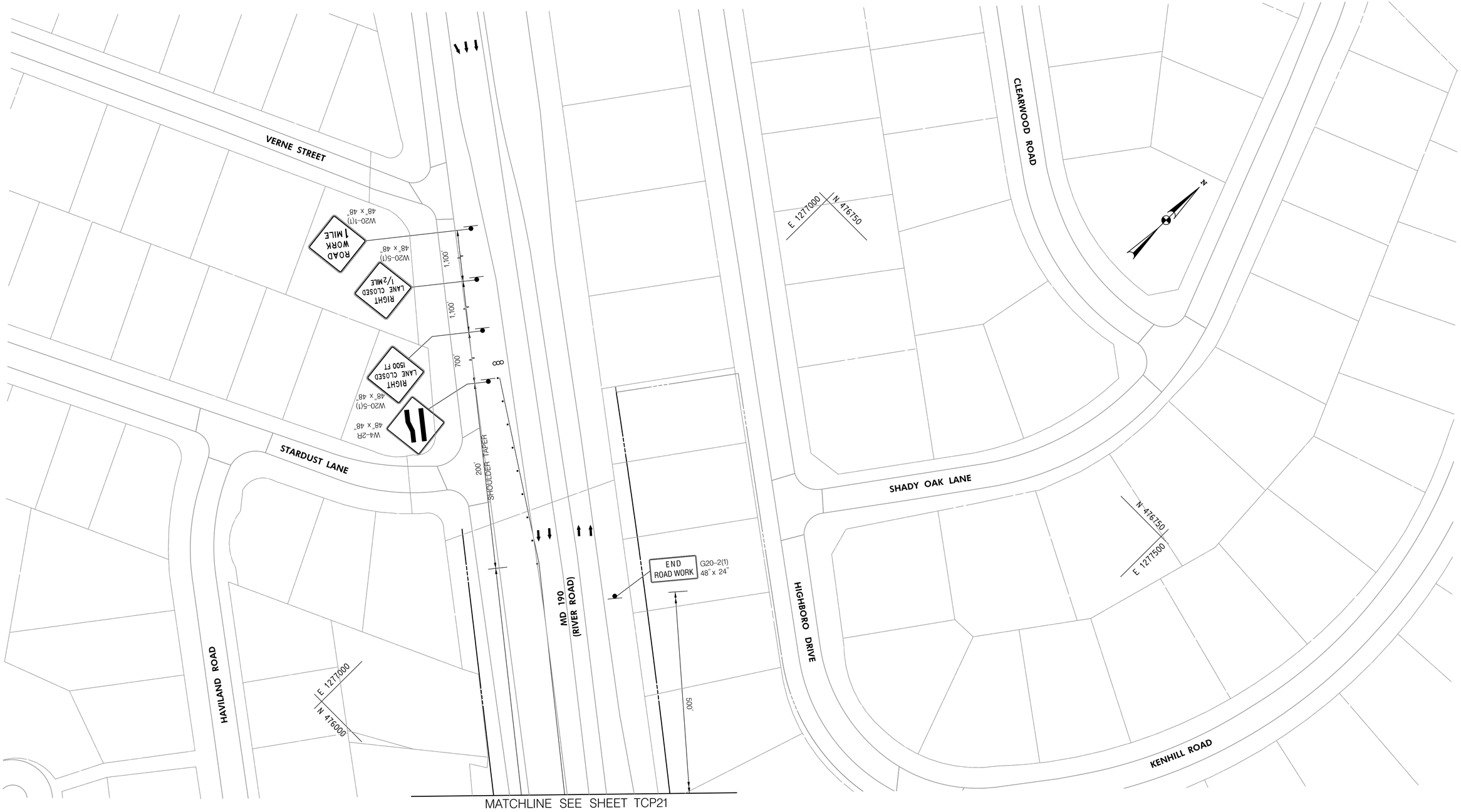
FILE: \\balfor04\v2013\2013\13184_MCDOT\Task 8_GoldsboroPh2\CADD\plans\pMT-5004_Goldsboro.dgn



TRAFFIC CONTROL – PHASE 5B

DWG. TCP22

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WORK ZONE

FULL DEPTH PAVEMENT

PAVEMENT REMOVAL

DRUMS

TEMPORARY TRAFFIC SIGN

TRAFFIC FLOW ARROW

TEMPORARY TYPE E TRAFFIC BARRIER

TEMPORARY BARRIER

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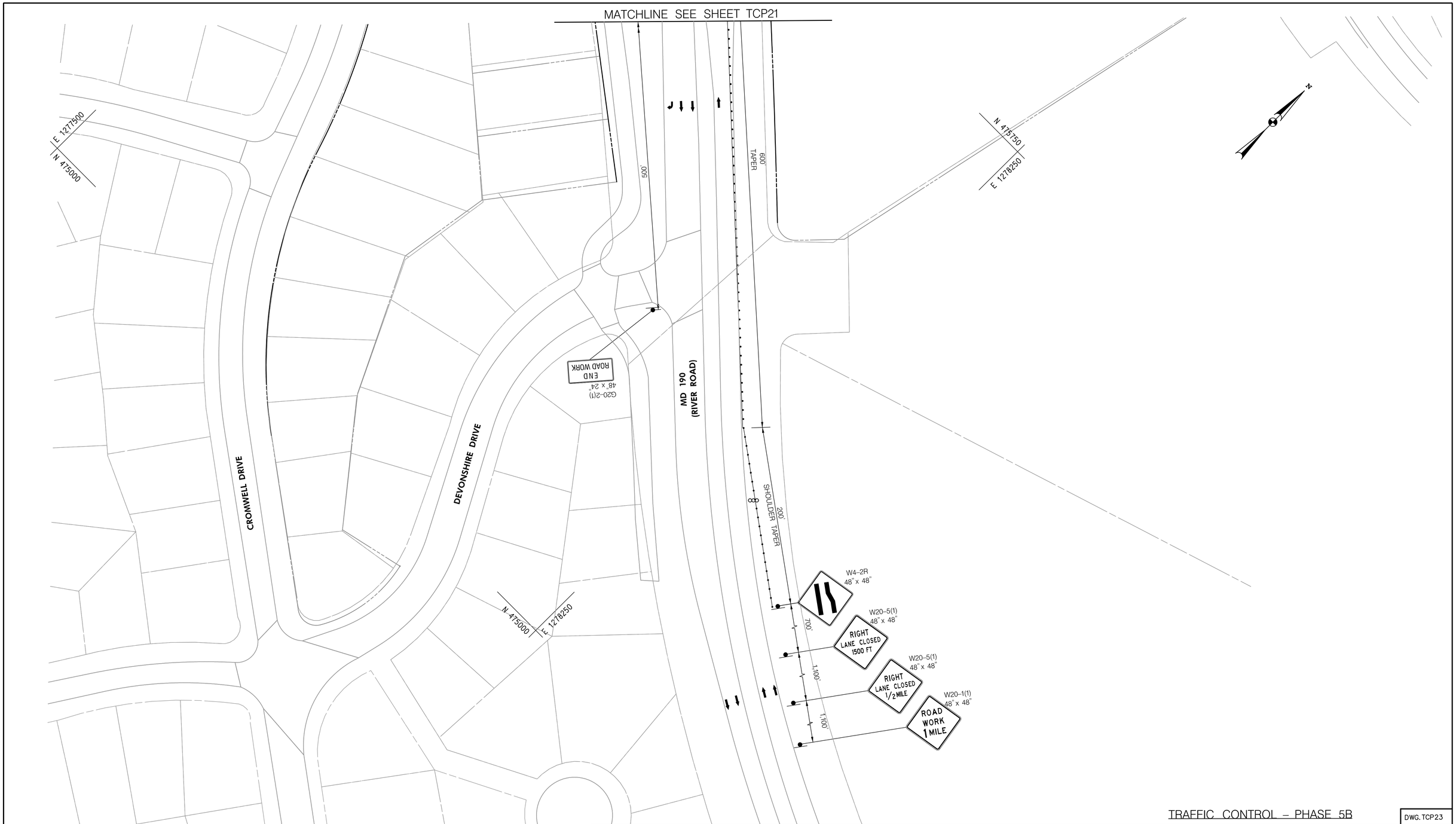

TRAFFIC CONTROL – PHASE 5B

DWG. TCP23

WORK ZONE	TRAFFIC FLOW ARROW
FULL DEPTH PAVEMENT	TEMPORARY TYPE E TRAFFIC BARRIER
PAVEMENT REMOVAL	TEMPORARY BARRIER
DRUMS	
TEMPORARY TRAFFIC SIGN	

RK&K
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240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY WRW DRAWN BY WRW CHECKED BY RJG

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

TRAFFIC CONTROL PLAN

SCALE 1"=50' DATE FEBRUARY, 2018

SHEET NO. 66 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
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STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY–EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE–CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.
2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
   A. AT THE REQUIRED PRE–CONSTRUCTION MEETING.
   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
   C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   E. PRIOR TO FINAL ACCEPTANCE.
3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.
4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.
5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.
8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.
9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SCSM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.
10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NONMAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW–MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.
15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY–FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY–EIGHT (48) HOURS AFTER THE END OF A RAINFALL.
16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.
17. ALL INLETS IN NON–SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.
18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.
19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
21. SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE–HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST–III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.
22. SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.
23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK.
25. OFF–SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.
26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:
   A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON–SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR
   B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON–EROSIVE OUTLET; OR
   C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON–WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA. REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.
27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.
28. TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE *STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS*.

EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

1. PRIOR TO CLEARING TREES, INSTALLING SEDIMENT CONTROL MEASURES OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON–SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240–777–0311). 48 HOURS ADVANCE NOTICE IS REQUIRED.
2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION OR OTHER LAND DISTURBING ACTIVITIES.
3. STORM DRAIN SYSTEMS SHALL BE CONSTRUCTED FROM THE DOWNSTREAM ENDS UNLESS OTHERWISE NOTED ON PLAN. DITCHES SHALL BE STABILIZED WITH SEEDING AND TYPE A SOIL STABILIZATION MATTING AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS IMMEDIATELY AFTER THE FINAL GRADING. INLET PROTECTIONS SHALL BE INSTALLED IMMEDIATELY AFTER THE INLET INSTALLATIONS AS SHOWN ON THE PLANS. AREAS THAT ARE NOT DRAINING TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICES SHALL BE STABILIZED AT THE END OF EACH WORKING DAY.
4. CLEAR AND GRUB FOR INSTALLATION OF SEDIMENT CONTROL DEVICES.
5. INSTALL PERIMETER CONTROL DEVICES INCLUDING STABILIZED CONSTRUCTION ENTRANCES, SILT FENCE, SUPER SILT FENCE AND OTHER SEDIMENT CONTROL DEVICES AS PER THE EROSION AND SEDIMENT CONTROL PLANS. THE LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES SHOWN ON THE PLANS ARE APPROXIMATE, AND EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD WITH APPROVAL FROM THE ENGINEER AND COUNTY INSPECTOR. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING OR GRADING.
6. PROCEED WITH CONSTRUCTION IN PHASES ACCORDING TO THE MAINTENANCE OF TRAFFIC PLAN. CONSTRUCT STORM DRAIN SYSTEMS FROM THE DOWNSTREAM ENDS. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER EACH INLET IS INSTALLED. AREAS THAT ARE NOT DRAINING TO AN APPROVED EROSION AND SEDIMENT CONTROL DEVICE SHALL BE STABILIZED AT THE END OF EACH WORK DAY. CONSTRUCTION IN OR CROSSING STREAMS SHALL BE PERFORMED IN STAGES WHILE MAINTAINING THE STREAM FLOW.
7. ONCE ALL DISTURBED AREAS ARE FULLY STABILIZED, REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL DEVICES WITH PERMISSION OF DPS INSPECTOR. STABILIZE ALL AREAS DISTURBED DUE TO REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES.

NOTES:

– ALL DISTURBED AREAS SHALL BE SEEDED WITH MDE MIX NO.4 USING RED FESCUE.

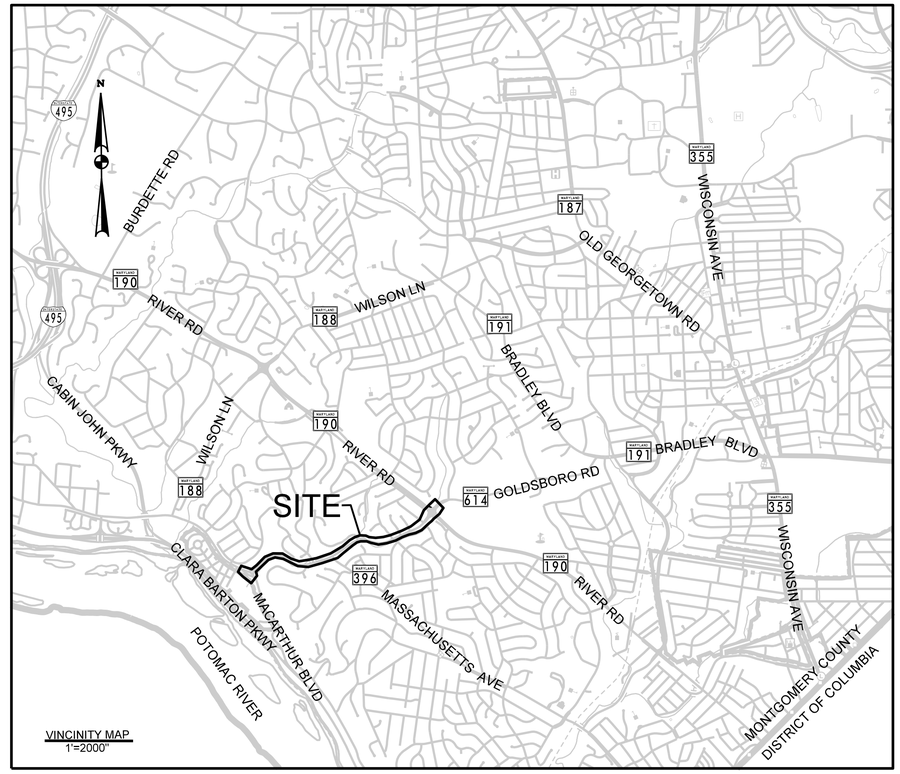
– PRIOR TO VEGETATIVE STABILIZATION, ALL DISTURBED AREAS MUST BE TOPSOILED PER THE MDE "STANDARDS AND SPECIFICATIONS FOR TOPSOILING".

OWNER:

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION,
BRUCE JOHNSTON, P.E. MONTGOMERY COUNTY DOT,
100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878.
PHONE # 240–777–7267.

DESIGNER:

iDESIGN ENGINEERING, INC.
12057–A TECH RD.
SILVER SPRING, MD 20904
PHONE # 301–234–6234.



VINCINITY MAP
1"=2000'

STANDARD SYMBOLS

CIP	CURB INLET PROTECTION	MIP	MEDIA INLET PROTECTION
A–2	TYPE A–2 EARTH DIKE	DF	DIVERSION FENCE
TGOS	TEMPORARY GABION OUTLET STRUCTURE	SIP	STANDARD INLET PROTECTION
	TEMPORARY ASPHALT BERM	ST – II	SEDIMENT TRAP ST II
	RIPRAP INFLOW PROTECTION		SAND BAGS
SSF	SUPER SILT FENCE	SFOP	SILT FENCE ON PAVEMENT
		RPS	REMOVABLE PUMPING STATION
P	PUMP	SP	SUMP PIT
SCE	STABILIZED CONSTRUCTION ENTRANCE	FB	FILTER BAG

DWG. ES–01

iDesign Engineering, Inc.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25423, EXPIRATION DATE: 07/18/2018."

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100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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240–777–7220
DESIGN SECTION
240–777–7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL GENERAL NOTES

SCALE AS NOTED DATE DEC. 2017

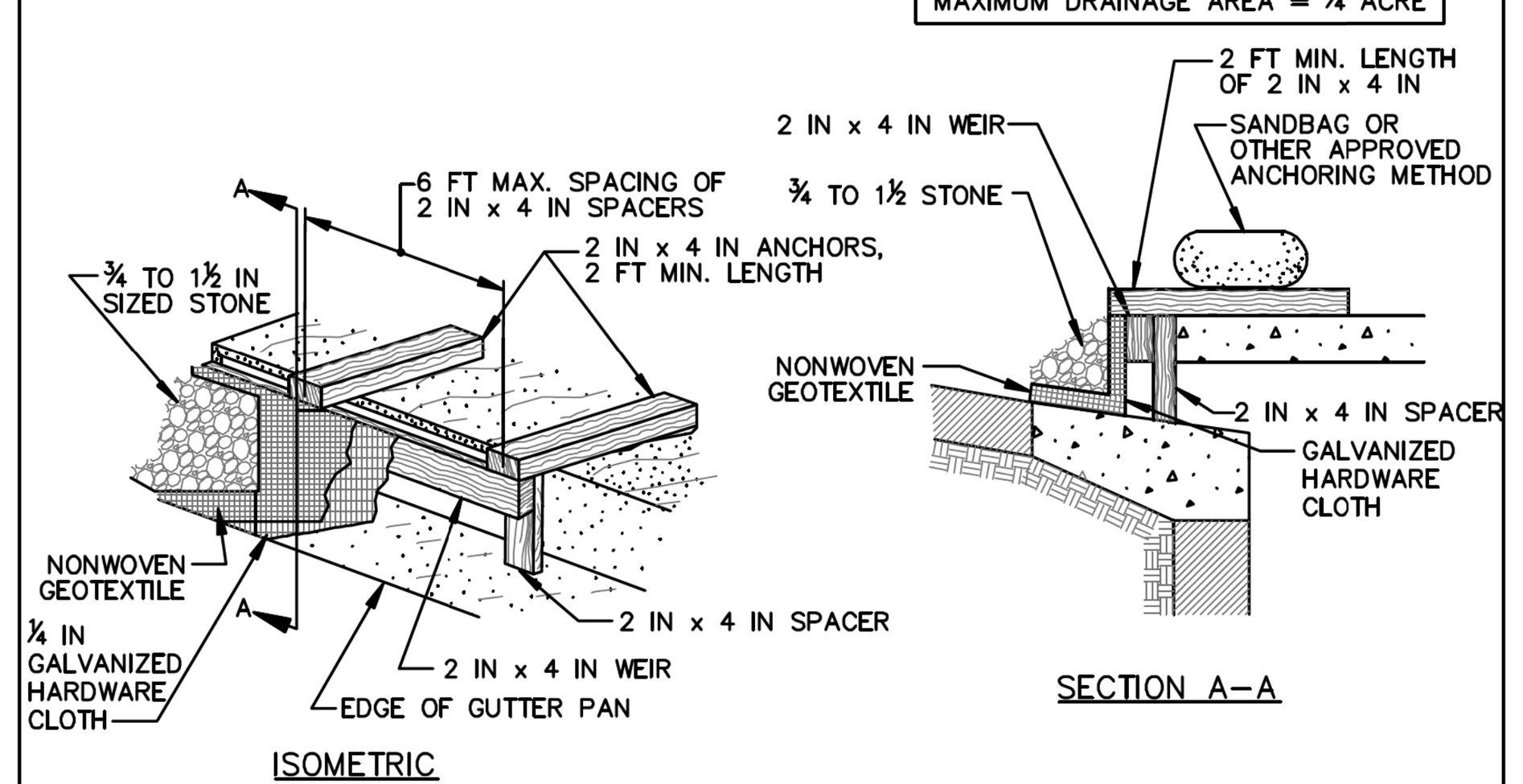
SHEET NO. 67 OF 106

PLOTTED: 30ATETIMES
FILE: SFILES

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON–SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

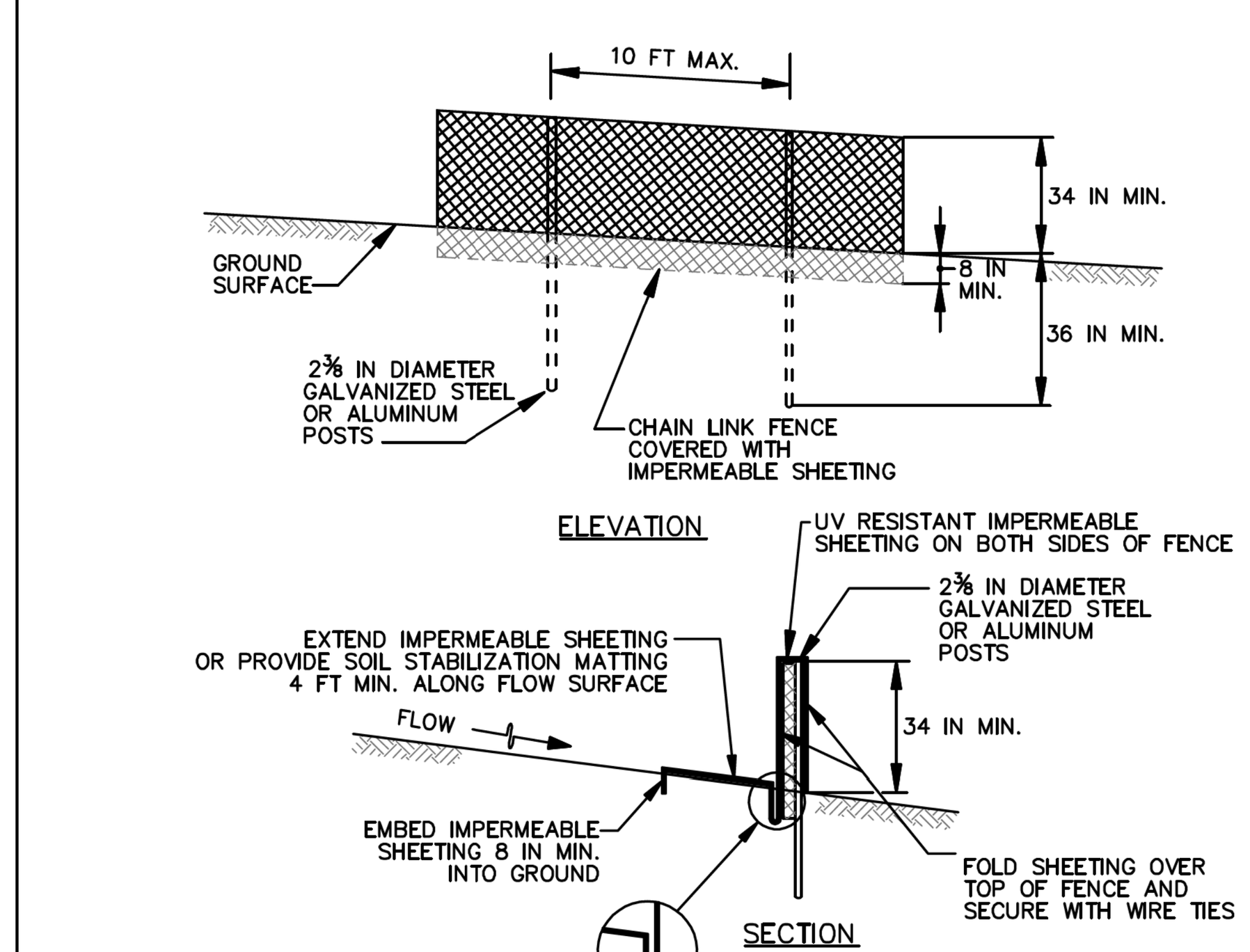
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.27

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: —DF—

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

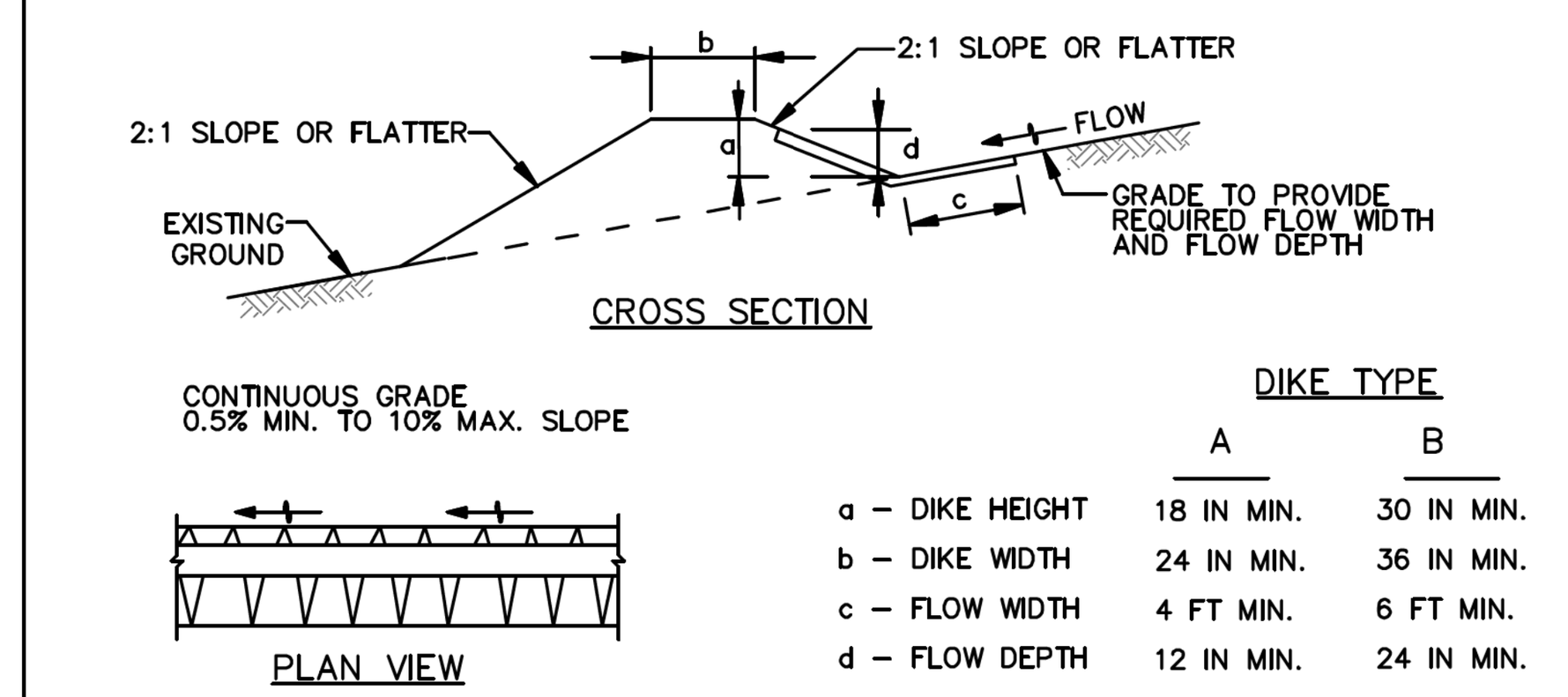
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

C.27

DETAIL C-1 EARTH DIKE

STANDARD SYMBOL: A–1 (PLACE DESIGNATION (e.g. A–1) ON FLOW CHANNEL SIDE OF DIKE.)



DIKE TYPE

	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A–1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A–2/B–2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A–3/B–3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

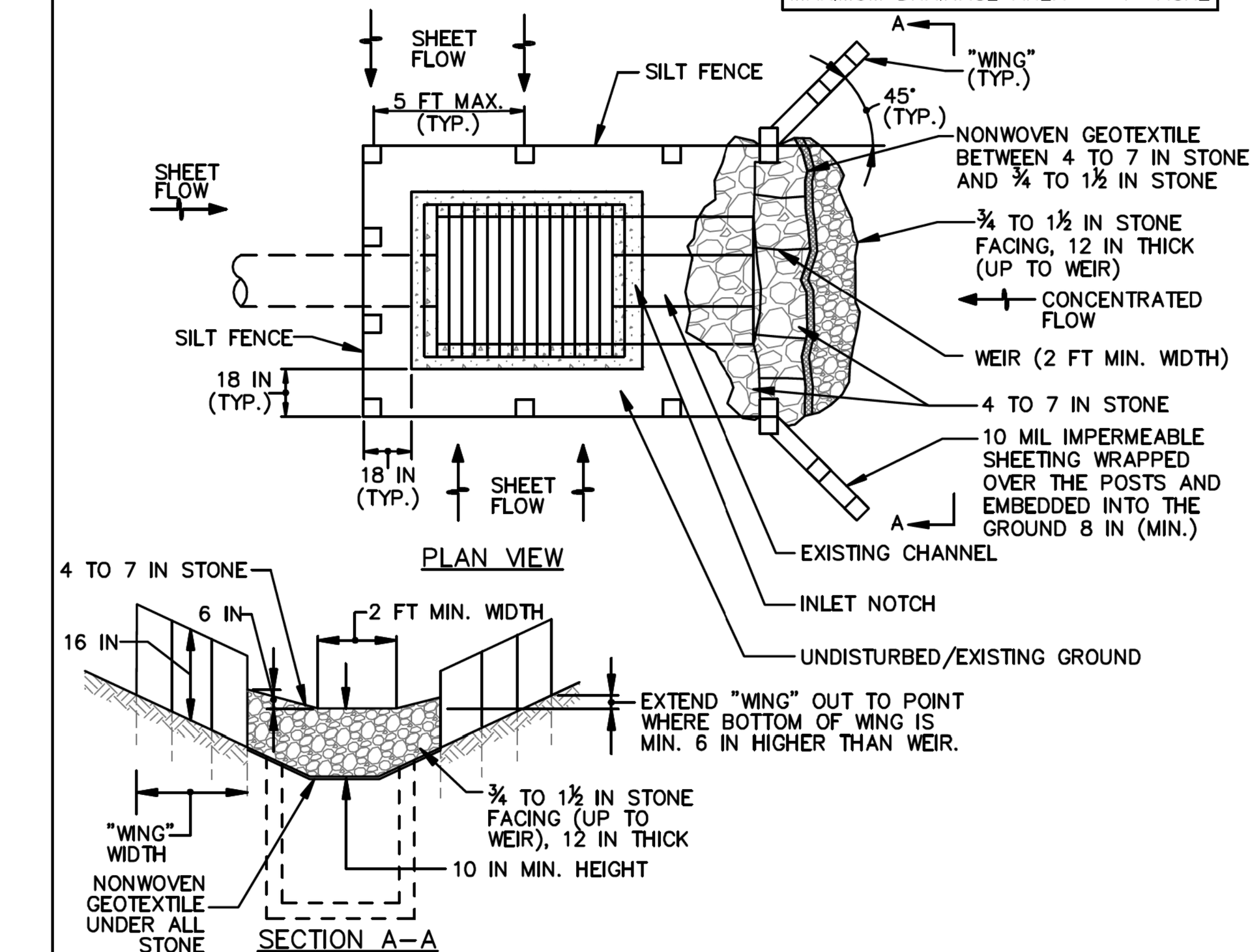
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

C.5

DETAIL E-9-4 MEDIAN INLET PROTECTION

STANDARD SYMBOL: MIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E–1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.
3. INSTALL STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C–9.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

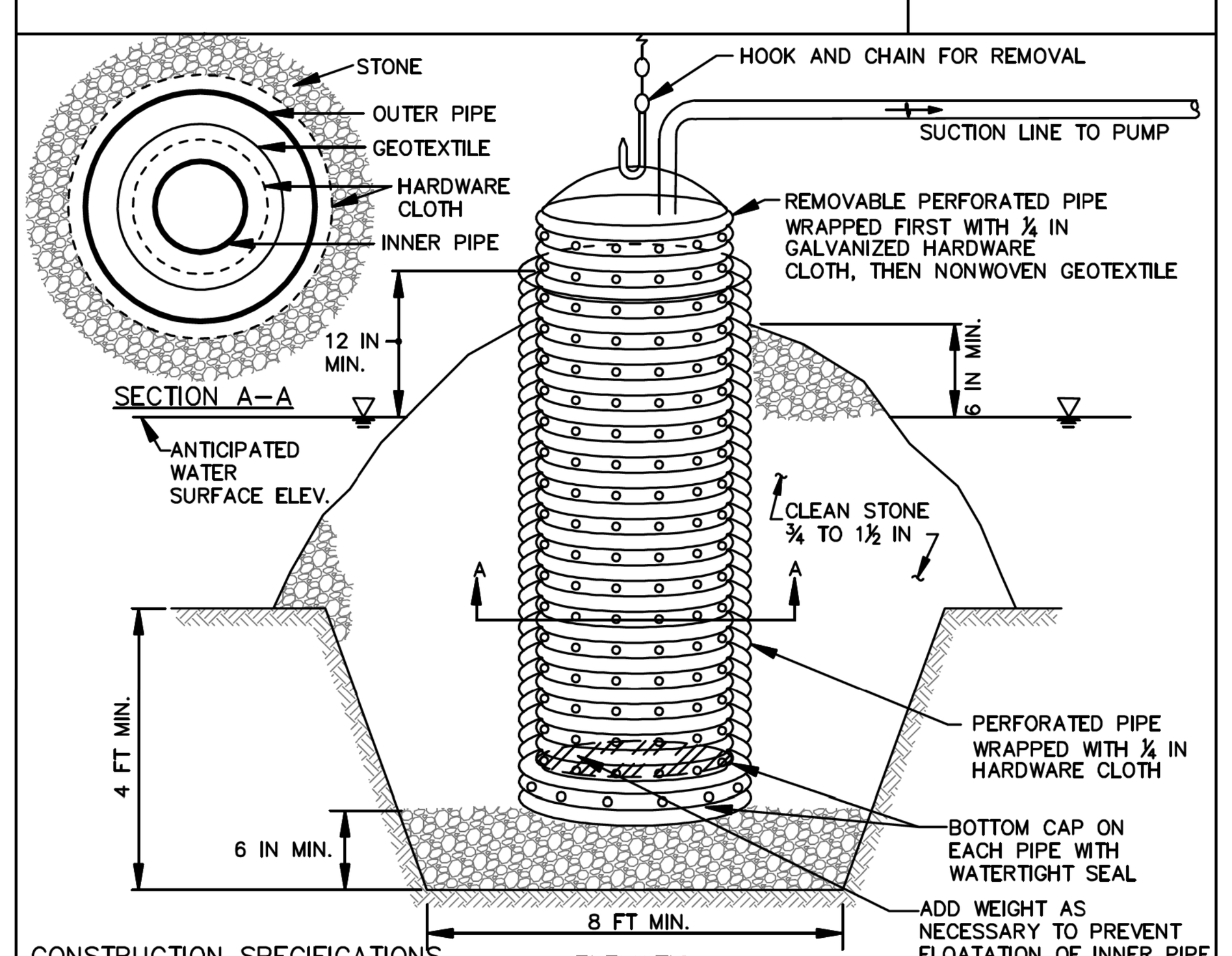
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.28

DETAIL F-1 REMOVABLE PUMPING STATION

STANDARD SYMBOL: ☒RPS



CONSTRUCTION SPECIFICATIONS

1. USE CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS 6 INCHES ON CENTER.
2. USE A MINIMUM 12 INCH DIAMETER INNER PIPE WITH AN OUTER PIPE A MINIMUM 6 INCHES LARGER IN DIAMETER. BOTTOM OF EACH PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
3. WRAP EACH PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH. ON INNER PIPE WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE HARDWARE CLOTH.
4. EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
5. SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).
6. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
7. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

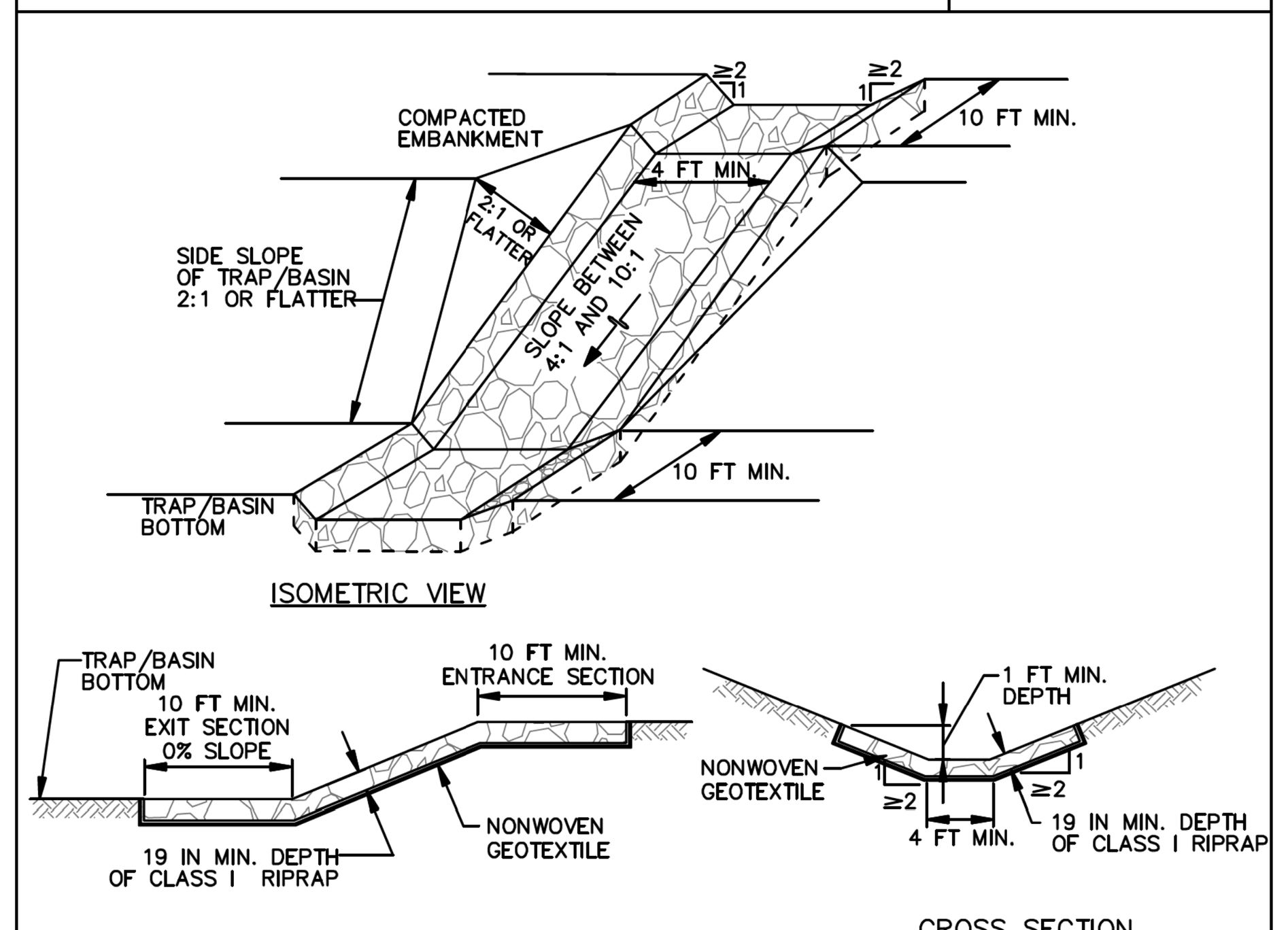
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

F.3

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

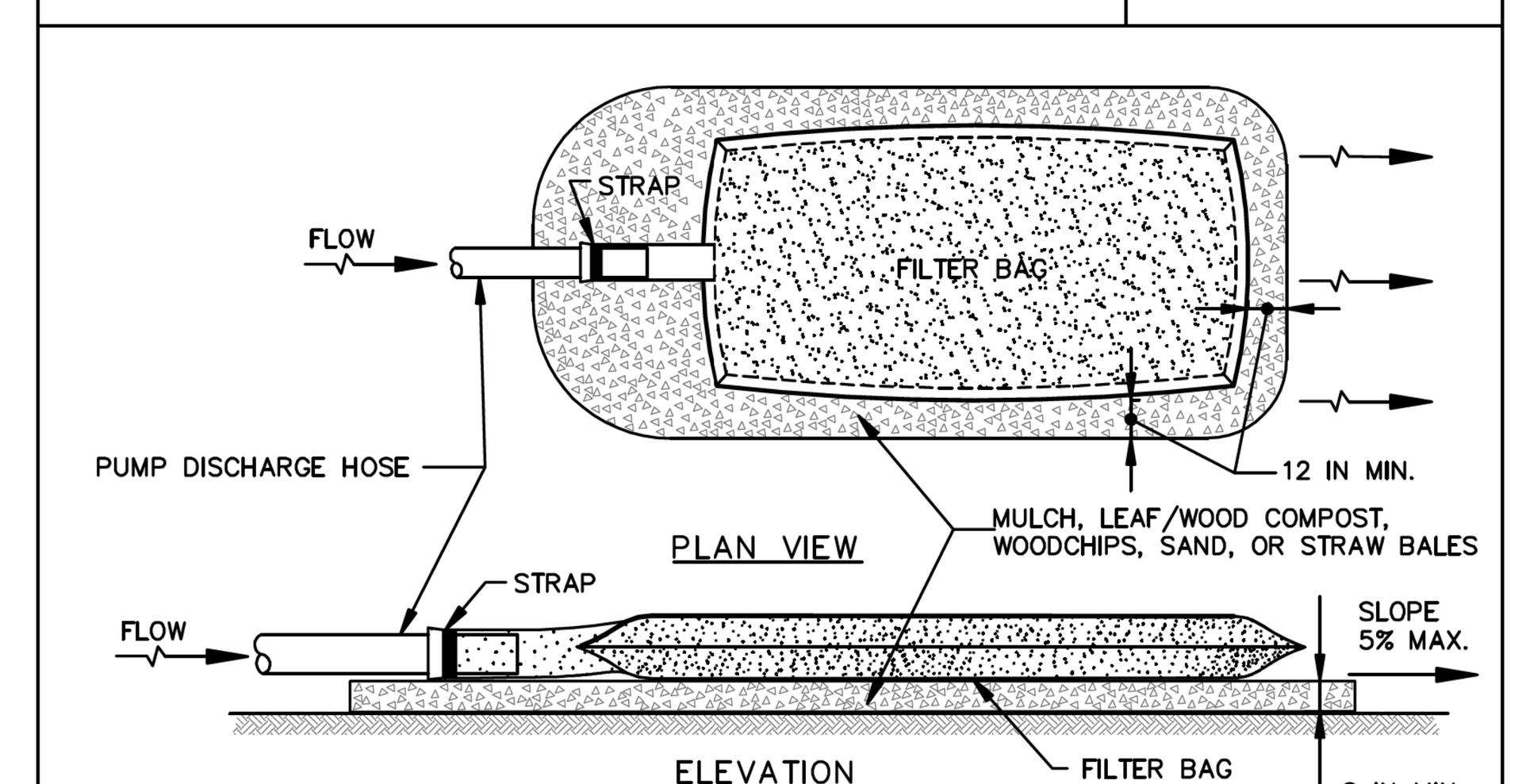
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

D.10

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ☒FB



CONSTRUCTION SPECIFICATIONS

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

GRAB TENSILE	250 LB	ASTM D–4632
PUNCTURE	150 LB	ASTM D–4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D–4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D–4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D–4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D–4751
SEAM STRENGTH	90%	ASTM D–4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

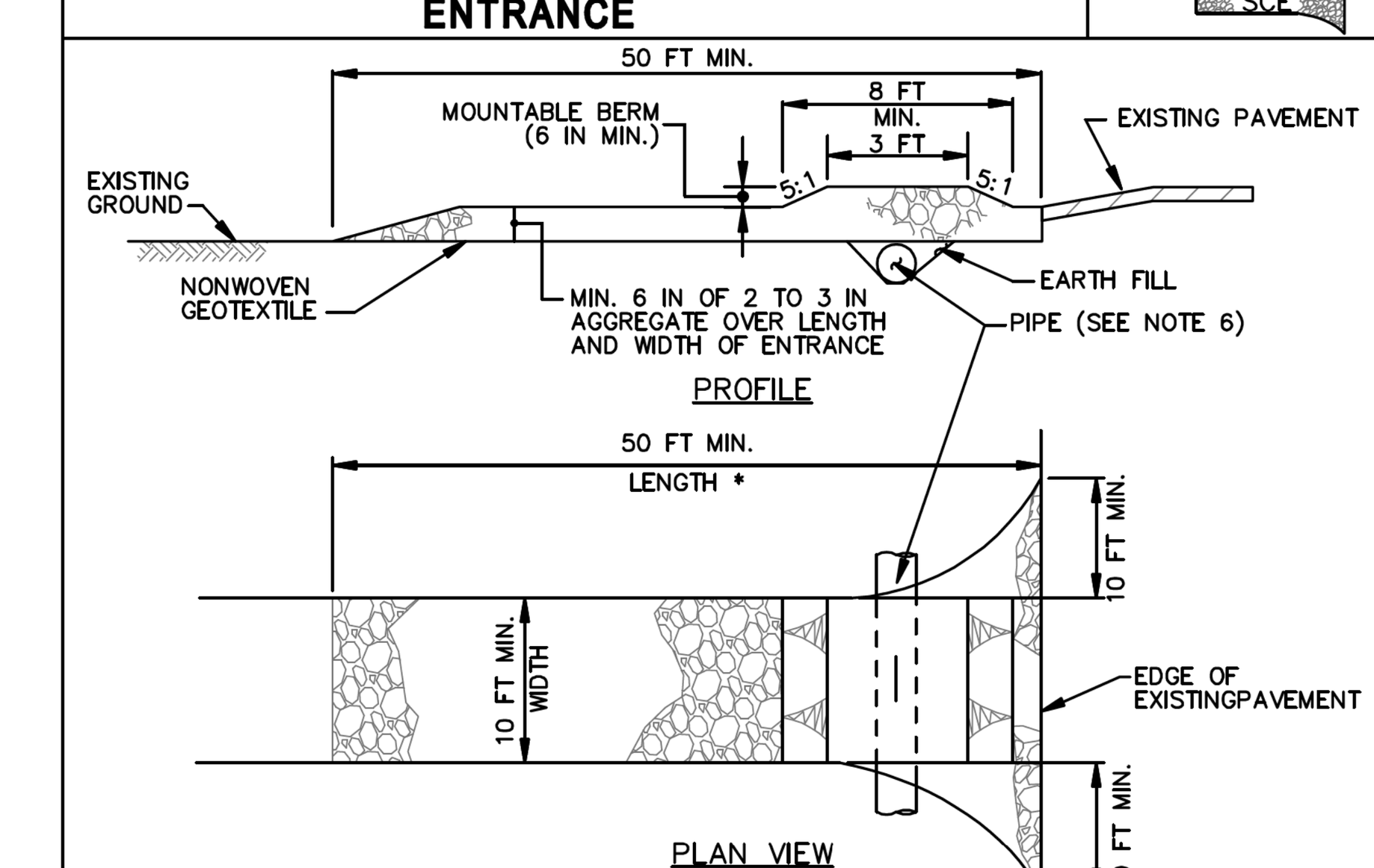
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

F.9

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

B.2

DWG. ES–02

iDesign Engineering, Inc.

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
240–777–7220
DESIGN SECTION
240–777–7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS — DRAWN BY FS — CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL DETAILS

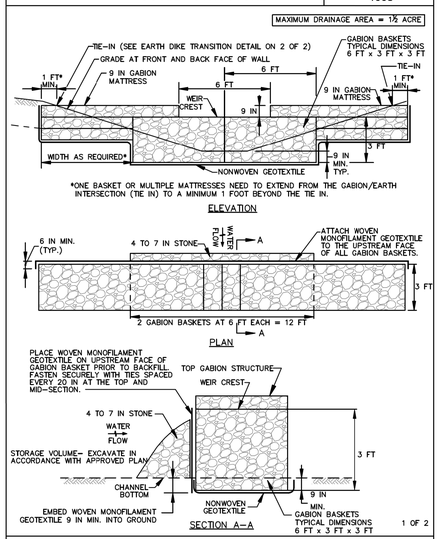
SCALE NTS — DATE DEC. 2017

SHEET NO. 68 OF 106

PLOTTED: $DATETIME$
FILE: $FILE$

DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL: TGOS



1 OF 2

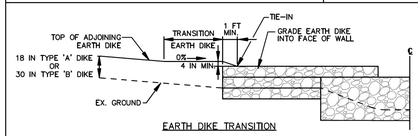
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.21

DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL: TGOS



NOTES:

1. PROVIDE TRANSITION LENGTH AND HEIGHT AS SPECIFIED ON PLAN. HEIGHT OF TRANSITION EARTH DIKE MUST EXCEED 4 INCH MINIMUM FREEBOARD ABOVE TOP OF GABION AND EXTEND AT THIS ELEVATION UNTIL IT INTERCEPTS THE TOP OF ADJOINING EARTH DIKE.
2. PROVIDE POSITIVE DRAINAGE ALONG EARTH DIKE TO GABION OUTLET STRUCTURE.
3. COMPACT FILL.
4. SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED ON PLAN. BANK PROJECTIONS OR IRREGULARITIES ARE NOT ALLOWED.

CONSTRUCTION SPECIFICATIONS

1. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
2. USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.
3. USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H–1 MATERIALS.
4. INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
5. EMBED THE GABION OUTLET STRUCTURE INTO THE SOIL A MINIMUM OF 9 INCHES. PROVIDE NONWOVEN GEOTEXTILE UNDER ALL GABIONS.
6. FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WIRE MESH.
7. MAKE THE WEIR CREST OF THE GABION OUTLET STRUCTURE 9 INCHES LOWER THAN THE TOP OF THE ADJACENT GABIONS.
8. PROVIDE A MINIMUM WEIR CREST OF 6 FEET.
9. ATTACH WOVEN MONOFILAMENT GEOTEXTILE TO THE UPSTREAM FACE OF GABION BASKETS AND COVER WITH 4 TO 7 INCH STONE.
10. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 12 INCHES OF THE WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO FUNCTION. MAINTAIN LINE, GRADE, AND CROSS SECTION.
11. UPON REMOVAL OF GABION OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

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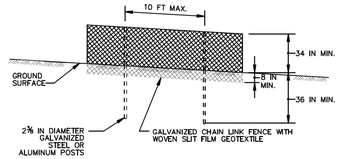
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.22

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

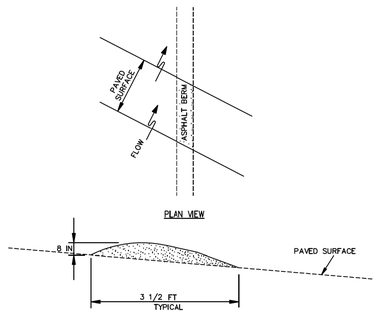
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.7

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBOL: SB



CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.
2. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 8 INCHES MINIMUM AND APPROXIMATE WIDTH OF 3½ FEET.
3. PROVIDE OUTLET PROTECTION AS REQUIRED ON PLAN.
4. COMPACT ASPHALT BERM.
5. REPAIR DAMAGED ASPHALT. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.
6. UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED PLAN.

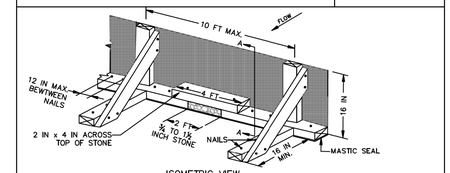
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

C.18

DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT–LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 400 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

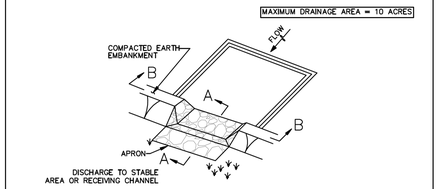
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.5

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STANDARD SYMBOL: ST–II



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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

G.11

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STANDARD SYMBOL: ST–II

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
4. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
6. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
7. USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.
8. PLACE 1 FOOT OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.
9. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
10. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
11. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.
12. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
13. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

G.12

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STANDARD SYMBOL: ST–II

STONE/RIPRAP OUTLET SEDIMENT TRAP ST–II, TRAP NO. _____

DRAINAGE AREA – INITIAL		ACRES
DRAINAGE AREA – INTERIM		ACRES
DRAINAGE AREA – FINAL		ACRES
TOTAL STORAGE REQUIRED		CF
TOTAL STORAGE PROVIDED		CF
WET STORAGE REQUIRED		CF
WET STORAGE PROVIDED		CF
DRY STORAGE REQUIRED		CF
DRY STORAGE PROVIDED		CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)		FT
TRAP BOTTOM ELEVATION		FT
TRAP BOTTOM DIMENSIONS		FT x FT
WEIR LENGTH		FT
WEIR CREST (DRY STORAGE) ELEVATION		FT
CLEANOUT ELEVATION		FT
TOP OF EMBANKMENT ELEVATION		FT
SIDE SLOPE		H:V RATIO
EMBANKMENT TOP WIDTH		FT
OUTLET PROTECTION – LENGTH		FT
OUTLET PROTECTION – DEPTH		IN

3 OF 3

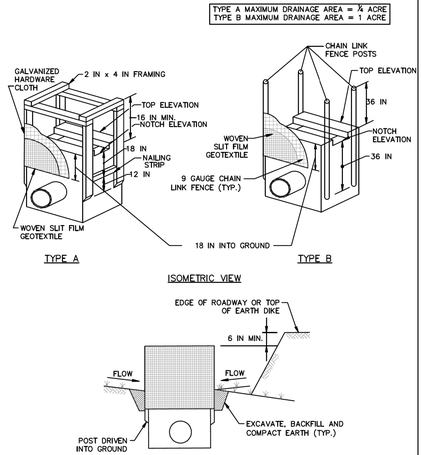
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

G.13

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.24

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

E.25

DWG. ES–03

iDesign Engineering, Inc.

PLOTTED: $DATETIME$
FILE: $FILES

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DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
240–777–7220
DESIGN SECTION
240–777–7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

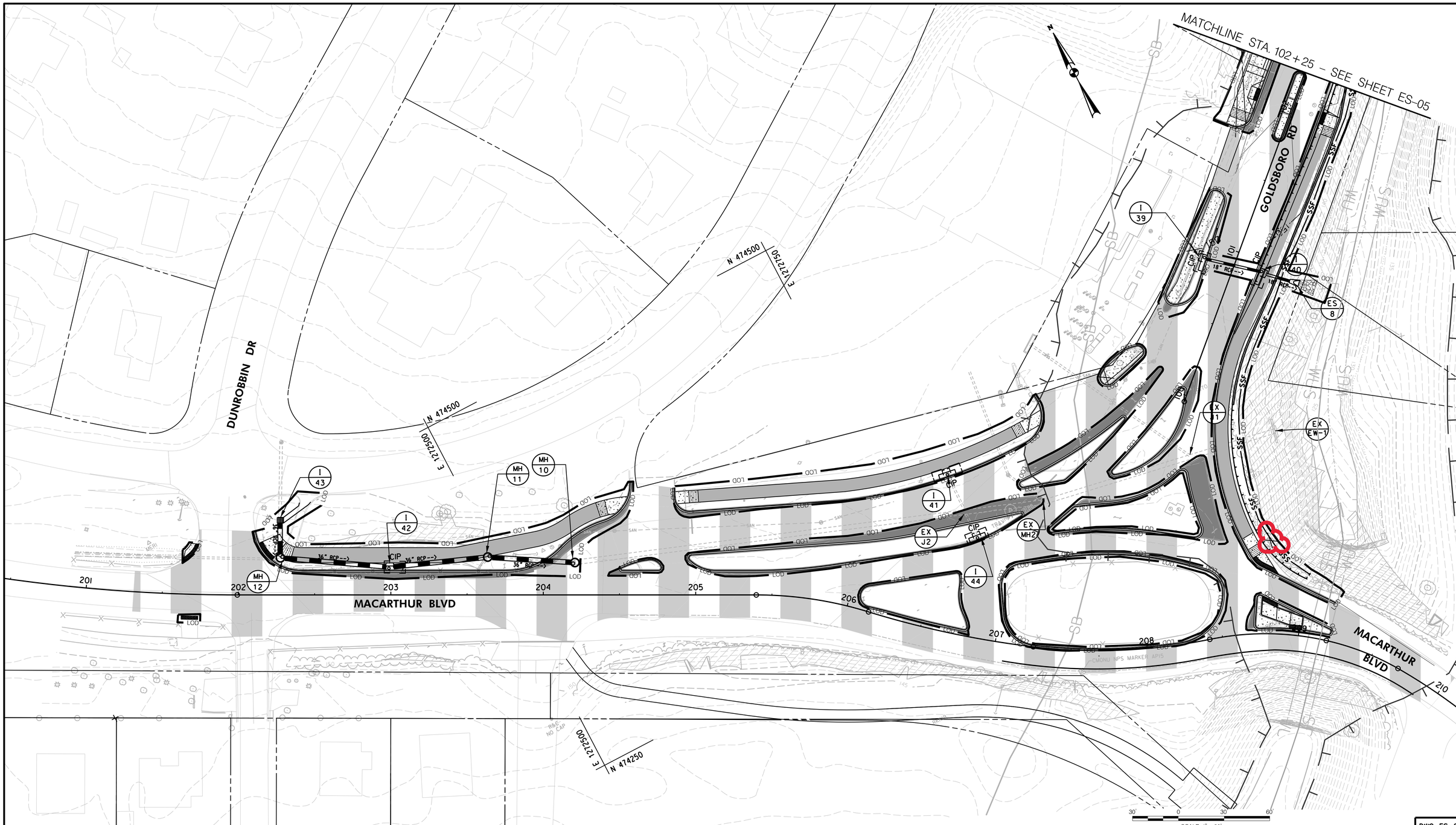
GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL DETAILS

SCALE NTS DATE DEC. 2017

SHEET NO. 69 OF 106



DWG. ES-04

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING AND RESURFACING
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- PAVEMENT REMOVAL

iDesign Engineering, Inc.

OWNER/ADDRESS:
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100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

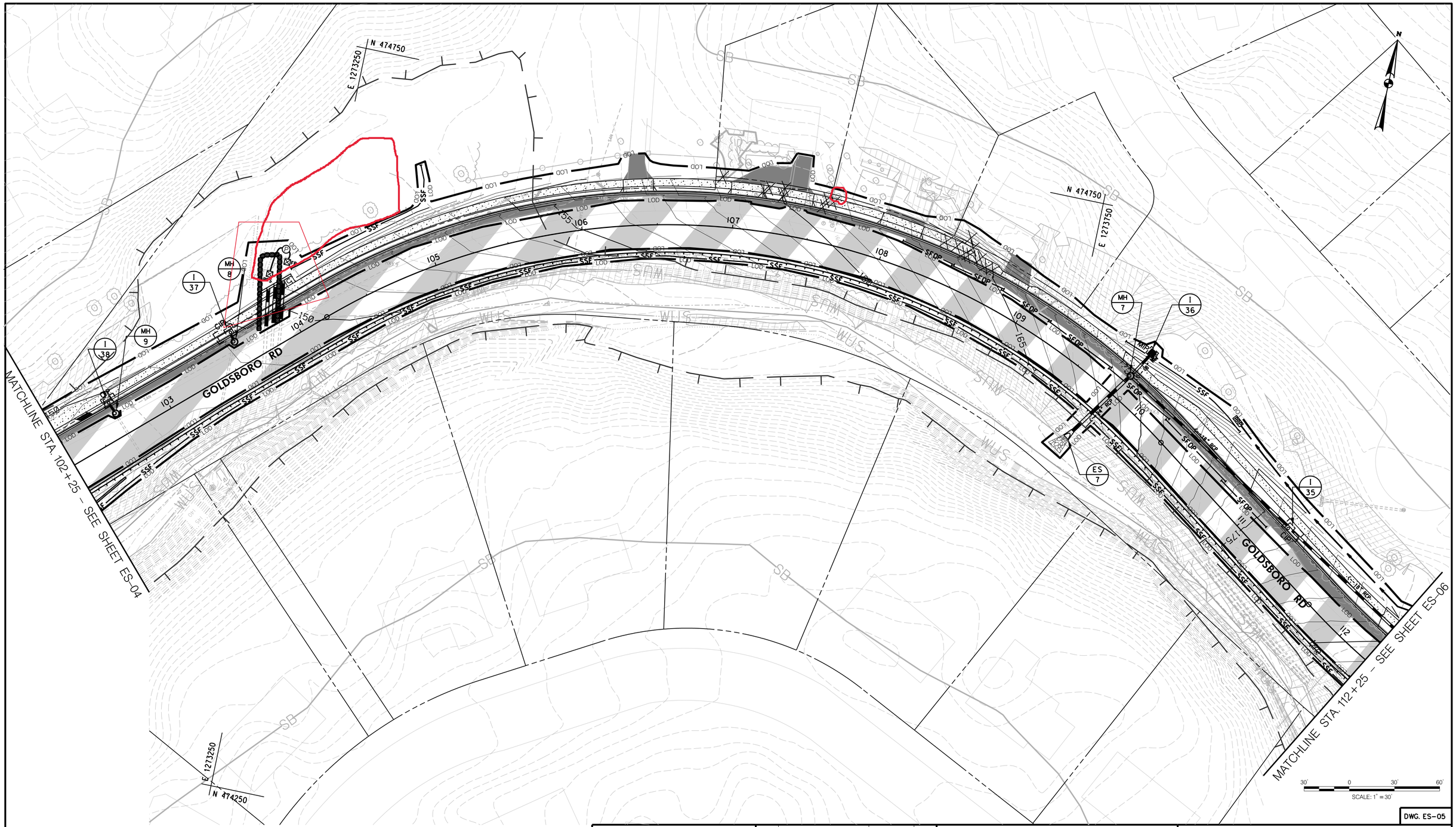
MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 70 OF 106

PLOTTED: $DATETIMES
FILE: $FILES



DWG. ES-05

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING AND RESURFACING
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- PAVEMENT REMOVAL

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MONTGOMERY COUNTY
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ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

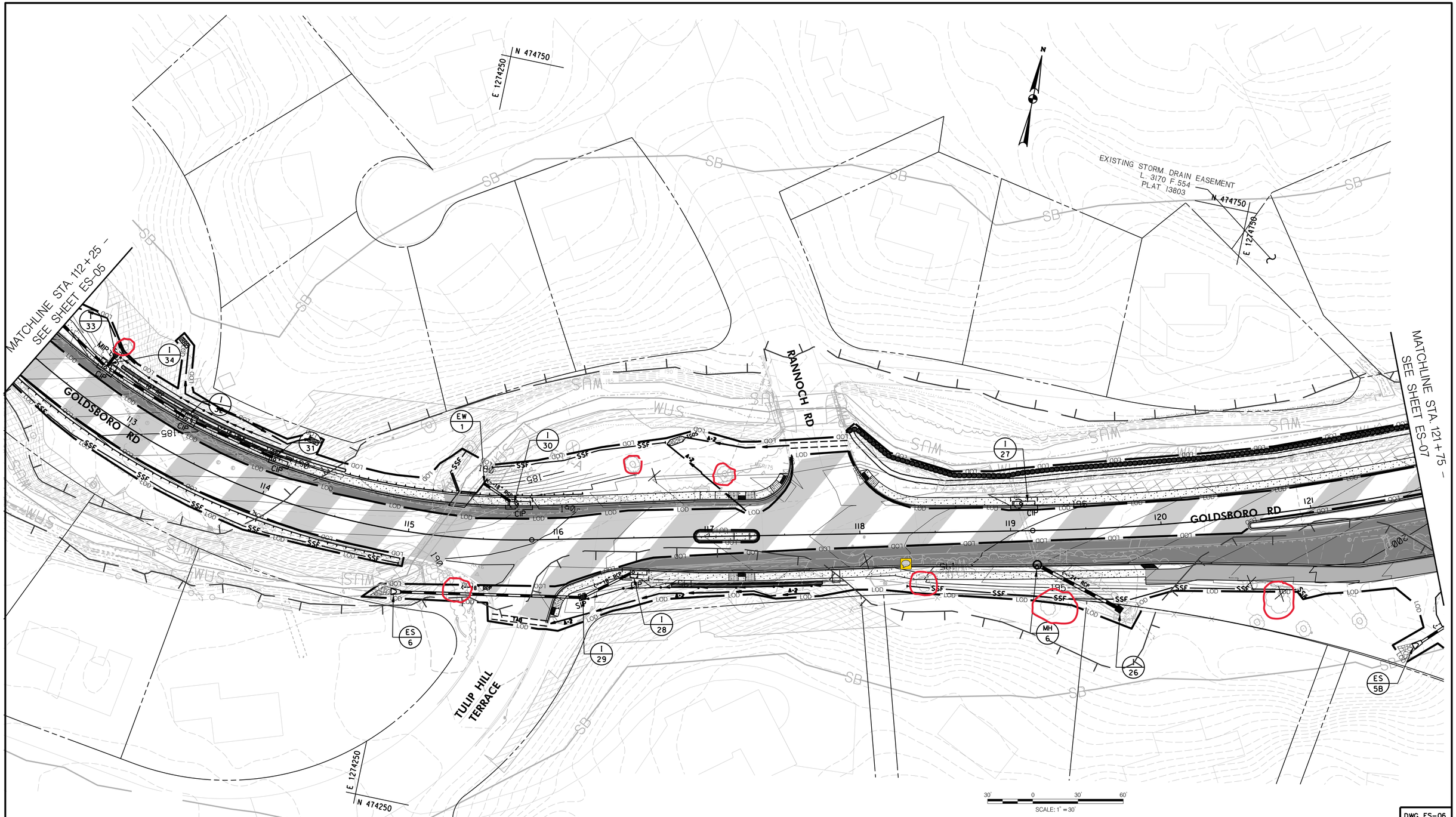
MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 71 OF 106

PLOTTED: $DATETIMES
FILE: $FILES



DWG. ES-06

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING AND RESURFACING
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- PAVEMENT REMOVAL

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240-777-7221

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

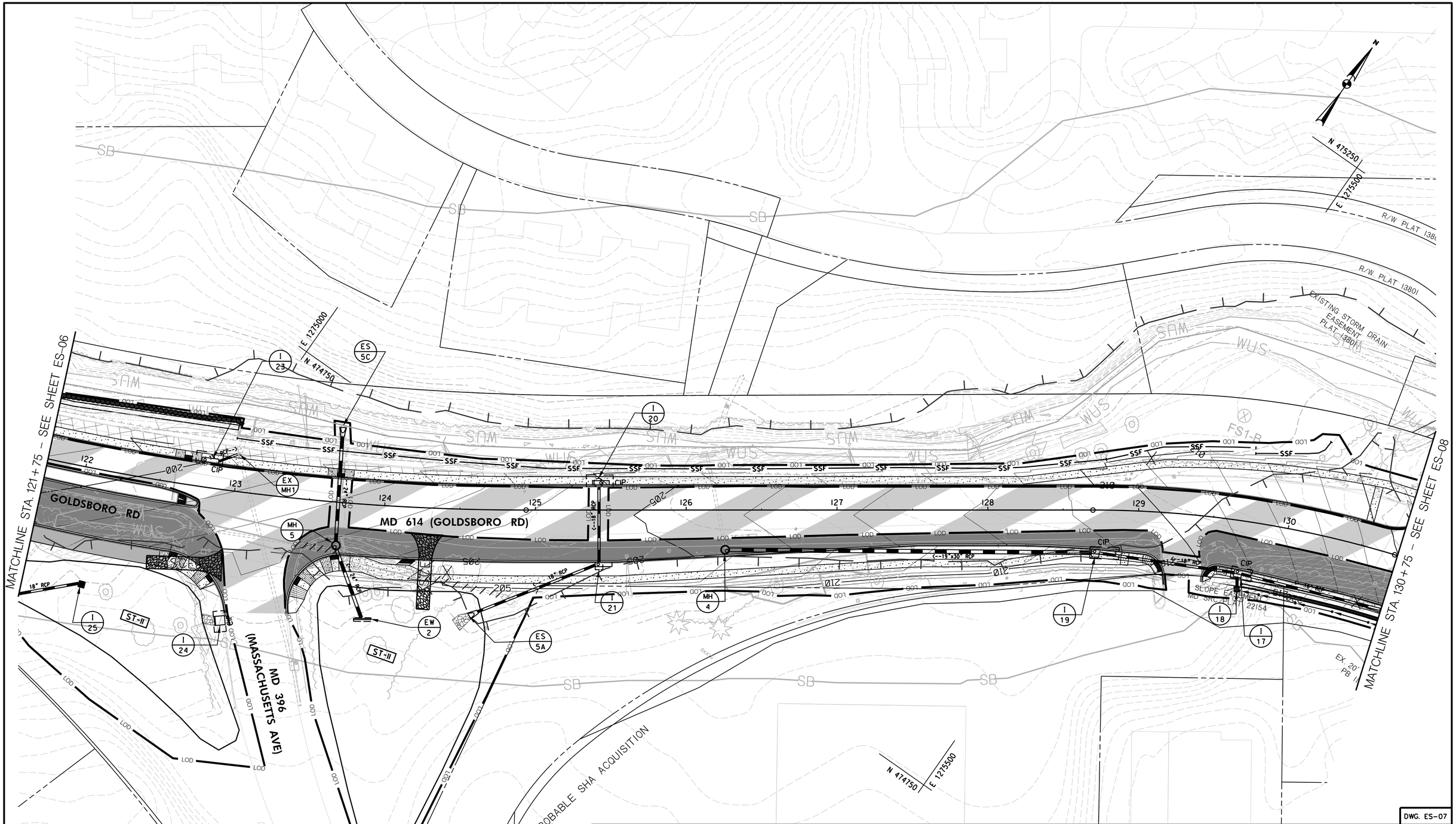
MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 72 OF 106

PLOTTED: $DATETIME$
FILE: $FILE$



DWG. ES-07

iDesign Engineering, Inc.

FULL DEPTH PAVEMENT
GRINDING AND RESURFACING
ASPHALT TRAIL
CONCRETE SIDEWALK
PAVEMENT REMOVAL

30' 0 30' 60'
SCALE: 1" = 30'

OWNER/ADDRESS:
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100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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240-777-7221

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY FS DRAWN BY FS CHECKED BY JW

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 73 OF 106

PLOTTED: $DATETIME$
FILE: $FILES

MATCHLINE STA. 130+75 – SEE SHEET ES-07

MATCHLINE STA. 140+25 – SEE SHEET ES-09

MD 614 (GOLDSBORO RD)

EXISTING STORM DRAIN EASEMENT PLAT 13801

15' PATH EASEMENT

N 475250
E 1276000

N 475250
E 1276500

N 475000
E 1276500

EX. 15' SEWER R/W

SLOPE EASEMENT PLAT 13664

EX. 10' PIE & WSSC R/W PB 115 PLAT 13664

EASEMENT AREA FOR STREAM CHANGE MD SRC PLAT 22153 & 22154

PAVED PARKING LOT MACADAM

BRICK WALL

(SDMH) TOP OF RIM = 232.45
(E) 15" RCP INV. IN = 226.28
(W) 15" RCP INV. OUT = 226.00

SCALE: 1" = 30'

DWG. ES-08

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING AND RESURFACING
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- PAVEMENT REMOVAL

iDesign Engineering, Inc.

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100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
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DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

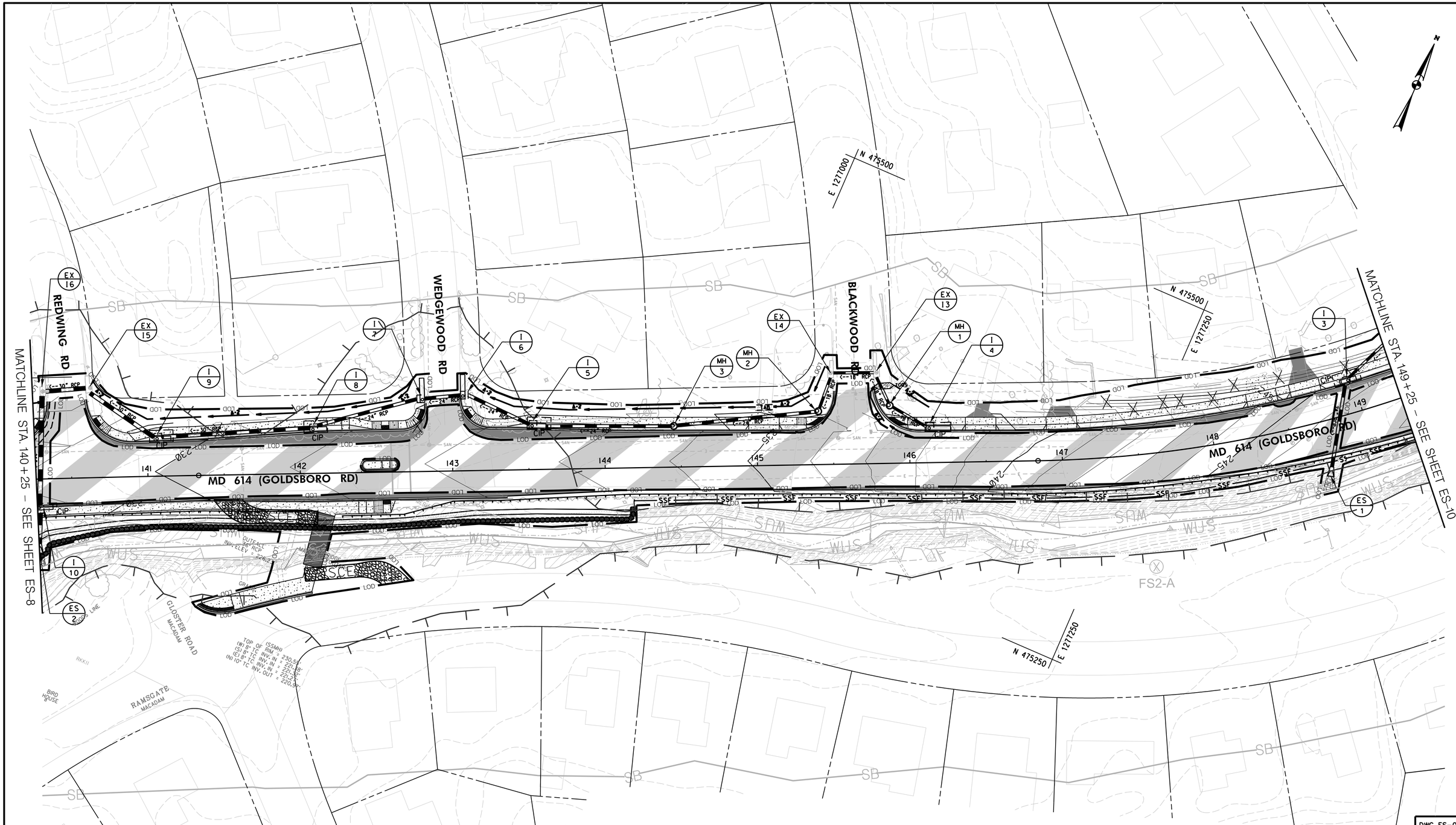
MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 74 OF 106

PLOTTED: SDATETIME$
FILE: SFILE$



DWG. ES-09

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING AND RESURFACING
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- PAVEMENT REMOVAL

30' 0 30' 60'
SCALE: 1" = 30'

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ROCKVILLE, MARYLAND

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Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

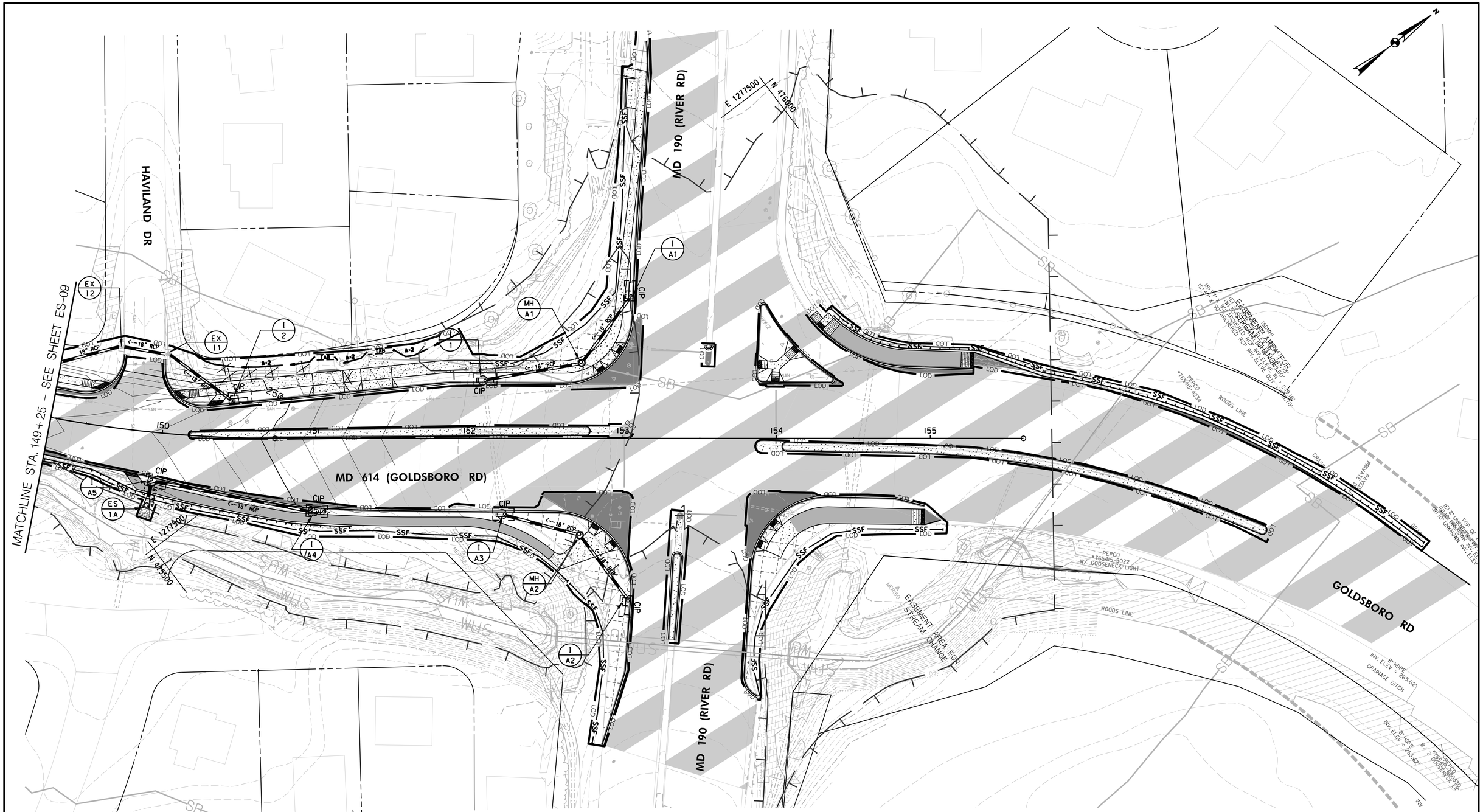
MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 75 OF 106

PLOTTED: $DATETIME$
FILE: $FILE$



DWG. ES-10

FULL DEPTH PAVEMENT
GRINDING AND RESURFACING
ASPHALT TRAIL
CONCRETE SIDEWALK
PAVEMENT REMOVAL

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ROCKVILLE, MARYLAND

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

EROSION AND SEDIMENT CONTROL PLAN

SCALE 1"=30' DATE DEC. 2017

SHEET NO. 76 OF 106

PLOTTED: SDATETIMES
FILE: SFILES

MD 614 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION

PROPOSED ACCESSIBLE PEDESTRIAN PUSHBUTTONS AND SIGNS

14	15	16,18	17,19
			
MASSACHUSETTS AVE R10-3(1) 9"X15"	MASSACHUSETTS AVE R10-3(1) 9"X15"	GOLDSBORO RD R10-3(1) 9"X15"	GOLDSBORO RD R10-3(1) 9"X15"

EXISTING SIGNS TO BE REMOVED

14a	15a	21a
		
9"X15"	9"X15"	30"X36"

20c



96"X16"

20d



96"X16"

PROPOSED SIGNS

20a

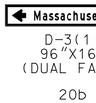


D-3(1) 96"X16" (DUAL FACE)

20b



D-3(1) 96"X16" (DUAL FACE)

21,23	22
	
R3-5(R) 30"X36"	R3-5(L) 30"X36"

EXISTING SIGNS TO REMAIN

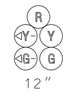
24	25a	26
		
78"X16"	96"X16"	48"X72"

25b



96"X16"

EXISTING SIGNALS TO BE REMOVED

8a,9a	1a,2a,5a	3a,4a
		
16"	12"	12"

EXISTING LED SIGNALS TO REMAIN

6,7



12"

PROPOSED LED SIGNALS

1,2,5	3,4	8,9,10, 11,12,13
		
12"	12"	16"

d,e



PROPOSED IP-BASED VIDEO DETECTION

f,g



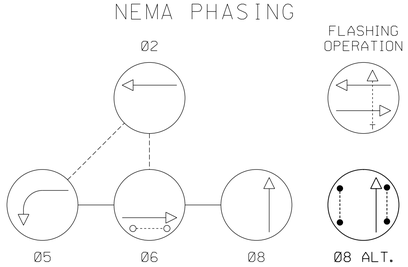
EXISTING IP-BASED VIDEO DETECTION TO BE REMOVED

NOTE:
PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.
PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

a,b,c

EXISTING IP-BASED VIDEO DETECTION TO REMAIN

NEMA PHASING



BY: jwilson –

GEOMETRIC LEGEND
EXISTING
PROPOSED

UTILITY LEGEND
SD STORM DRAIN
G GAS MAIN
W WATER MAIN
S SEWER MAIN
E ELECTRIC CABLES
A AERIAL CABLES
T TELEPHONE CABLES
F FIBER-OPTIC

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ASST. DIV. CHIEF
DIVISION CHIEF
OFFICE DIRECTOR

ORIGINAL ON FILE

REVISIONS

B	SIGNAL MODIFICATIONS DUE TO GEOMETRIC IMPROVEMENTS SHA NO.XX, TIMS NO.XX					03-2017
WFW BJG						
A	TRAFFIC SIGNAL RECONSTRUCTION SHA NO.XY1455185, TIMS NO.M429					01-2015
SR	TZ	DJD	RWB	WG	TH	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 614 (GOLDSBORO RD) AT MD 396 (MASSACHUSETTS AVE)
BETHESDA, MARYLAND

TRAFFIC SIGNAL PLAN

SCALE 1"=20" DATE _____ CONTRACT NO. M402-501-385

DESIGNED BY H.KILION COUNTY MONTGOMERY
DRAWN BY H.KILION LOGMILE 15061400.46
CHECKED BY _____ TIMS NO. _____
FAP NO. SEE TITLE SHEET TOD NO. _____

TS NO. 1810B | DRAWING SG-01 OF 2 | SHEET NO. 77 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:17 PM
FILE: \\balsrv04\v2013\2013\13184 _MCDOT\Task 8_GoldsboroPh2\CADD\plans\pSG-0001_Goldsboro@Massachusetts.dgn

MD 190 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION

EXISTING SIGNS TO REMAIN

41 — YIELD ON FLASHING RED ARROW AFTER STOP — 30"X36" (1 EA.)

42a — Goldsboro RD <5900> — VAR.X16" (DUAL FACE)

42b — Goldsboro RD 5900> — VAR.X16" (DUAL FACE)

EXISTING SIGNS TO BE REMOVED

32c — Goldsboro RD 6000> — 66"X16" (DUAL FACE)

32d — Goldsboro RD <6000 — 66"X16" (DUAL FACE)

27a, 30a — PUSH BUTTON TO CROSS RIVER RD — R10-3(1) 9"X15"

33a,37a — ONLY — 30"X36"

34a,38a — 30"X36"

35a,39a — LANE ENDS MERGE LEFT — 30"X36"

31a — YIELD ON FLASHING RED ARROW AFTER STOP — 30"X36"

36c,36d, 40c,40d — River RD — 42"X16" (DUAL FACE)

PROPOSED ACCESSIBLE PEDESTRIAN PUSHBUTTONS AND SIGNS

23,25 — GOLDSBORO RD R10-3(1) 9"X15"

24,26 — GOLDSBORO RD R10-3(1) 9"X15"

27,29 — RIVER RD R10-3(1) 9"X15"

28,30 — RIVER RD R10-3(1) 9"X15"

PROPOSED SIGNS

31 — YIELD ON FLASHING RED ARROW AFTER STOP — R10-12(2) 48"X36"

32a,32b — Goldsboro RD — D-3 66"X16"

36a,36b, 40a,40b — River RD — D-3 42"X16"

33,37 — ONLY — R3-5L 30"X36"

34,38 — R3-6L 30"X36"

35,39 — LANE ENDS MERGE LEFT — W9-2(4)L_FY 30"X42"

PROPOSED LED SIGNALS

2,5 — 12"

3,4, 11,14 — 12"

9,10, 12,13 — 12"

15,16,17,18, 19,20,21,22 — 16"

EXISTING LED SIGNALS TO REMAIN

1,6 — 12"

7,8 — 12"

EXISTING LED SIGNALS TO BE REMOVED

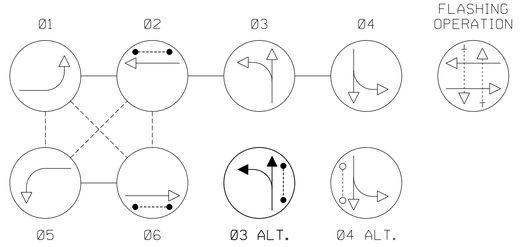
2a,5a — 12"

3a,4a, 11a,14a — 12"

9a,10g, 12a,13a — 12"

19a,22a — 16"

NEMA PHASING



NOTE:
PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.
PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

b,c,e,f, — PROPOSED IP-BASED VIDEO DETECTION

a,d — EXISTING IP-BASED VIDEO DETECTION TO REMAIN

EXISTING IP-BASED VIDEO DETECTION TO BE REMOVED (4 EA.)

TO MD 396

TO MD 191

EXISTING RIGHT-OF-WAY

MD 614 (GOLDSBORO RD) NORTHBOUND

MD 190 (RIVER RD) WESTBOUND

MD 190 (RIVER RD) EASTBOUND

MD 614 (GOLDSBORO RD) SOUTHBOUND

GEOMETRIC LEGEND
- EXISTING
- PROPOSED

UTILITY LEGEND
- SD — STORM DRAIN
- G — GAS MAIN
- W — WATER MAIN
- S — SEWER MAIN
- E — ELECTRIC CABLES
- A — AERIAL CABLES
- T — TELEPHONE CABLES
- F — FIBER-OPTIC

BY: jwilson

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TEAM LEADER

ASST. DIV. CHIEF

DIVISION CHIEF

OFFICE DIRECTOR

ORIGINAL ON FILE

REVISIONS

G — SIGNAL MODIFICATION, INSTALL APS/CPS SHA NO. .TIMS NO. — 03-2017

F — REBUILD TRAFFIC SIGNAL SHA NO. XX4395185.TIMS NO. K981 — 02-2013

E — RED LIGHT CAMERA INSTALLATION TIMS NO. L440 — 06-08-2012

WFW	BJG				
JHB	NML	MK	DBD	RDB	FCM	CJW
			DBD	RDB	MLP	CJW

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 190 (RIVER RD) AT MD 614 (GOLDSBORO RD)

BETHESDA, MARYLAND

TRAFFIC SIGNAL PLAN

SCALE 1"=20" DATE 06-12-1991 CONTRACT NO. M651501377

DESIGNED BY W.J.NIES (FOR STS)
DRAWN BY W.J.NIES (FOR STS)
CHECKED BY RRZ (FOR STS)
FAP NO.

COUNTY MONTGOMERY
LOGMILE 15019013.83
TIMS NO.
TOD NO.

TS NO. 3179F | DRAWING SG-2 OF 2 | SHEET NO. 78 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:18 PM
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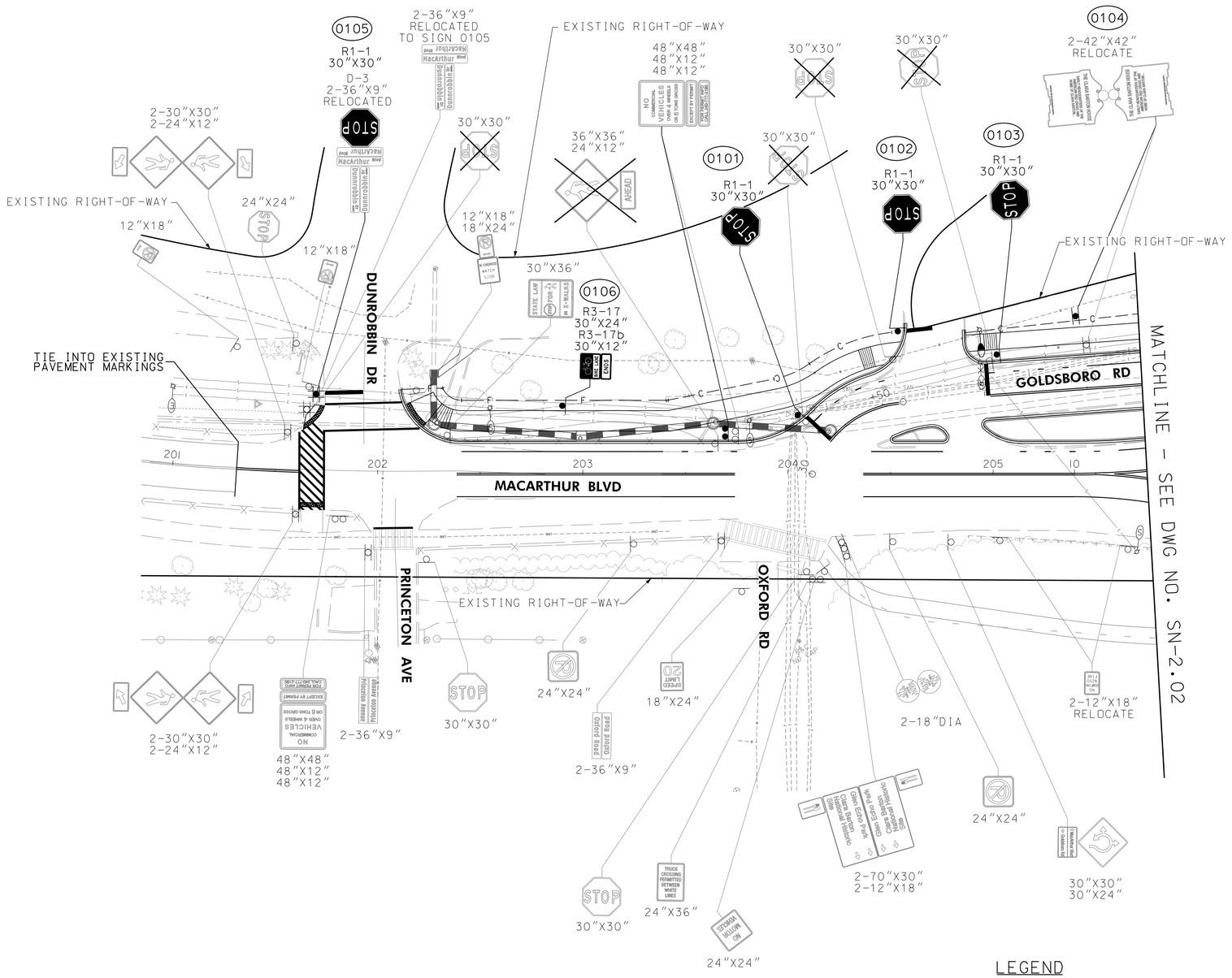

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SCALE 1"=30' DATE FEB 2018 CONTRACT NO.

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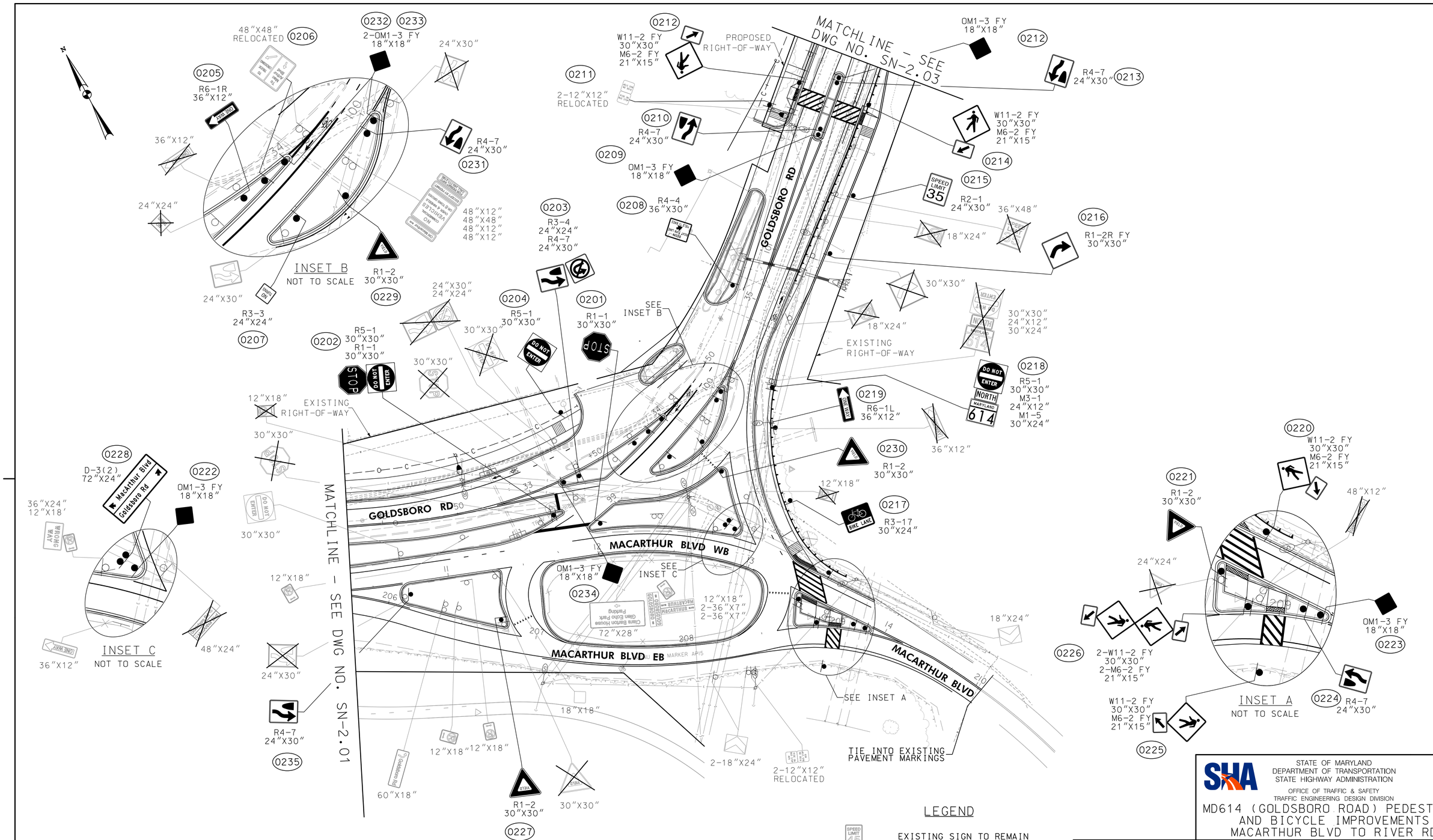

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DRAWING NO. SN-2.02 OF 10 SHEET NO. 80 OF 106

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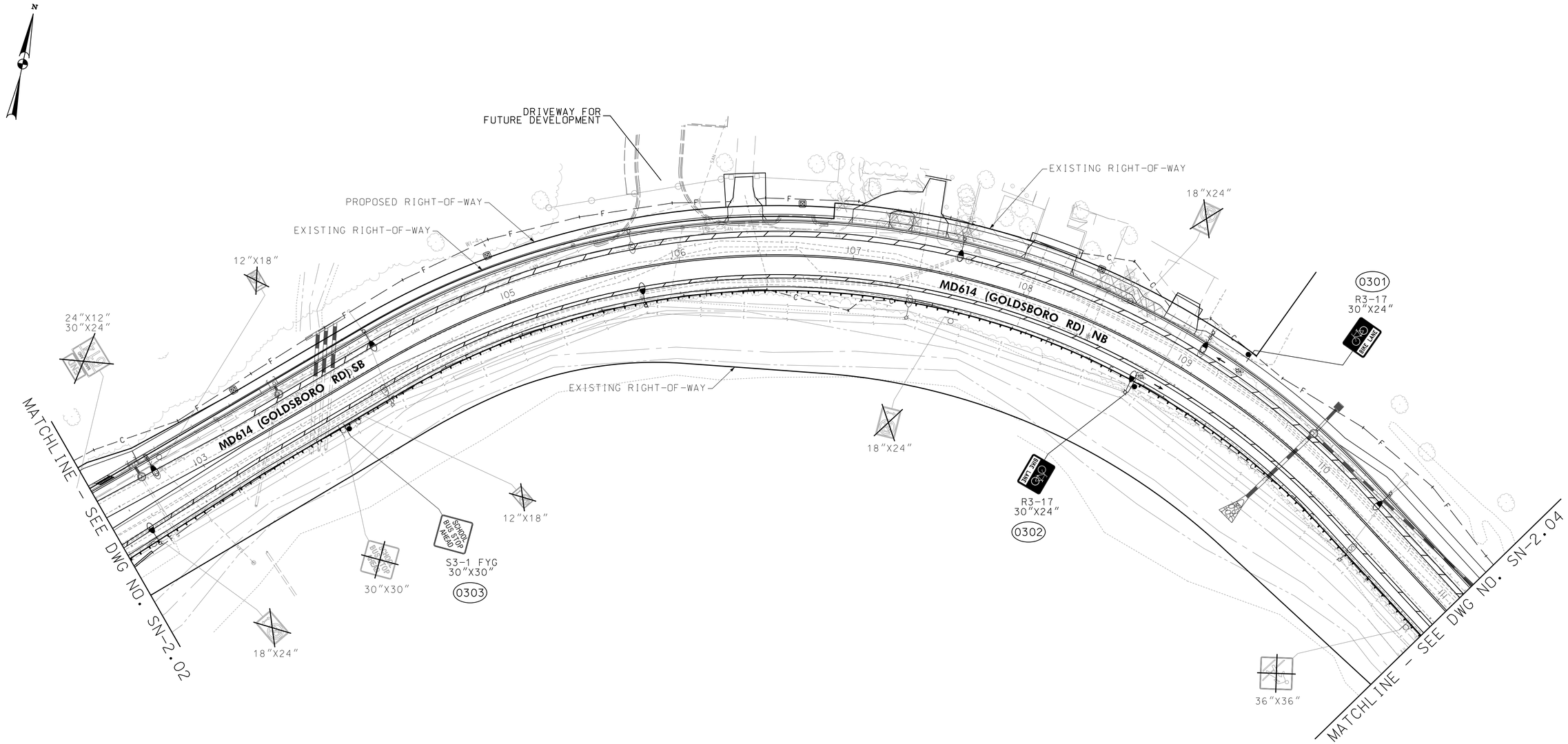

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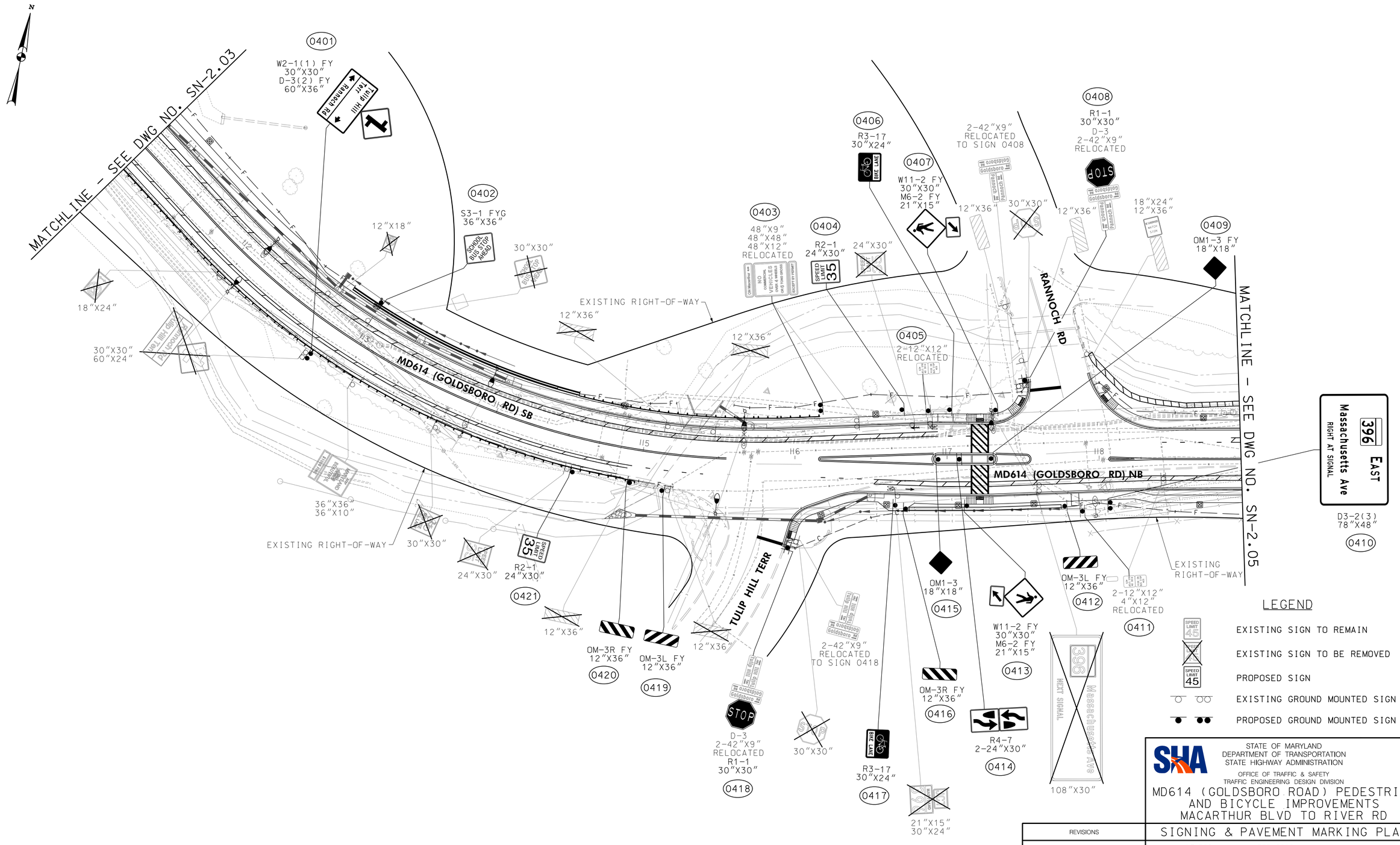

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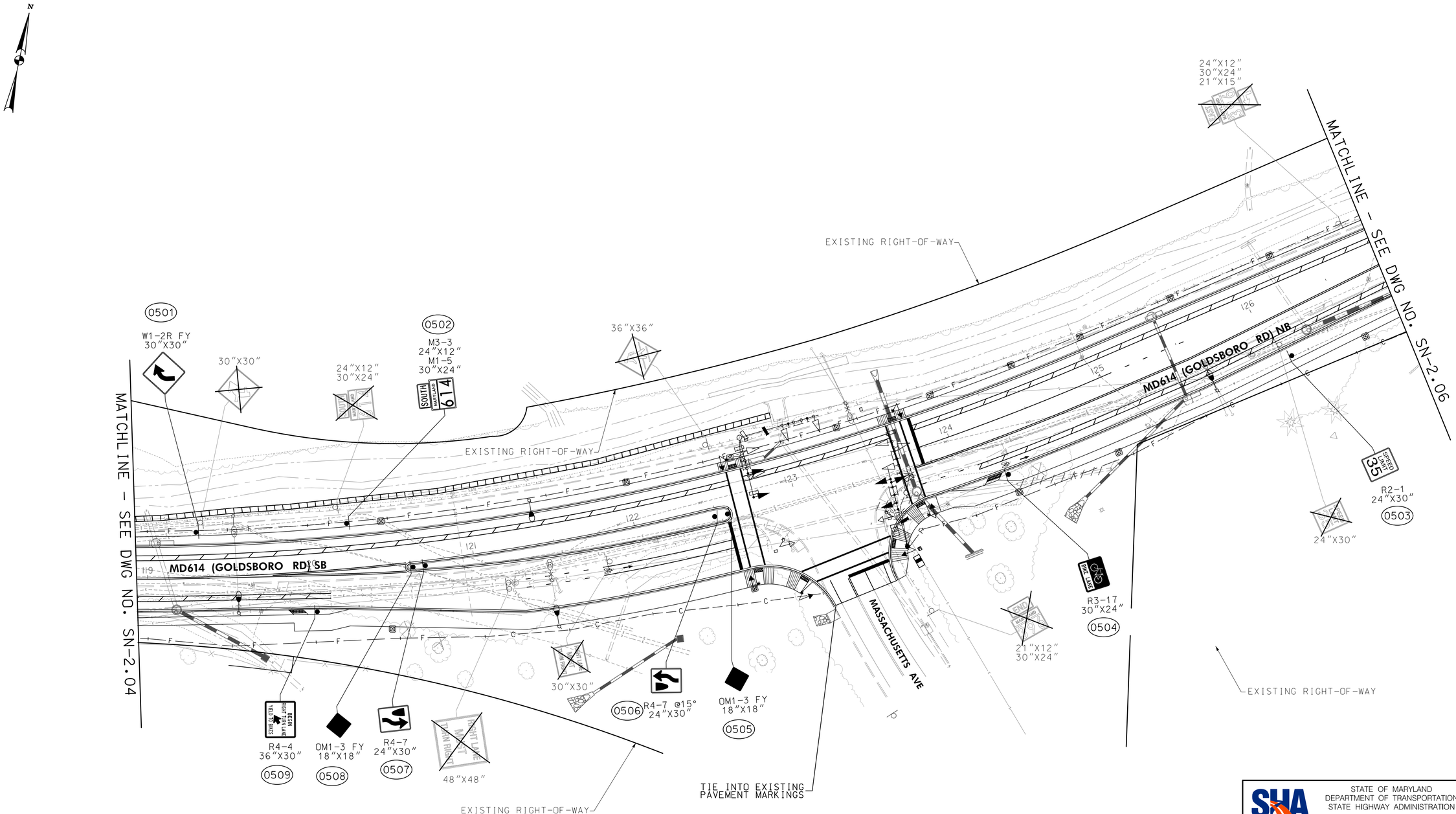

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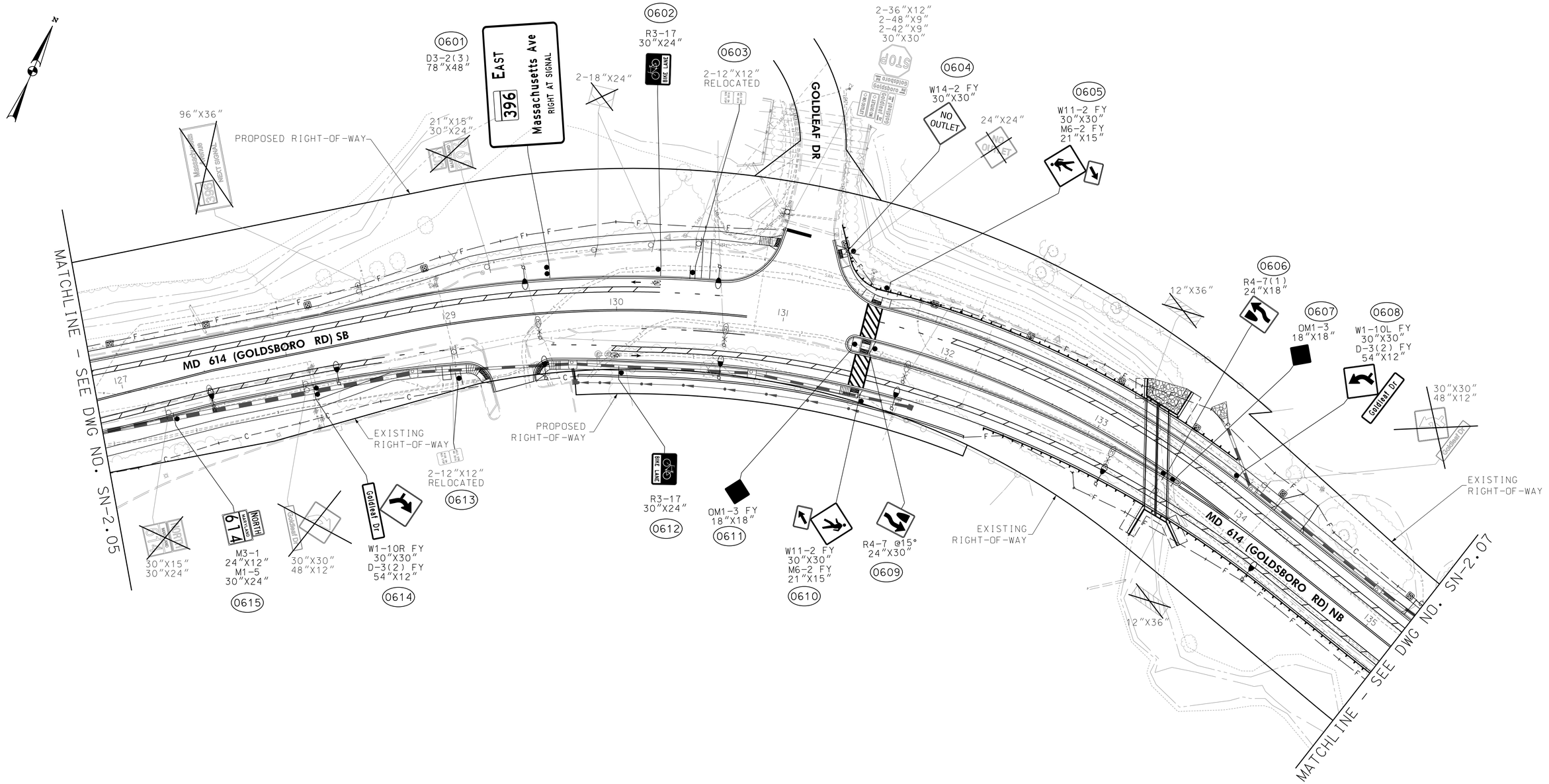

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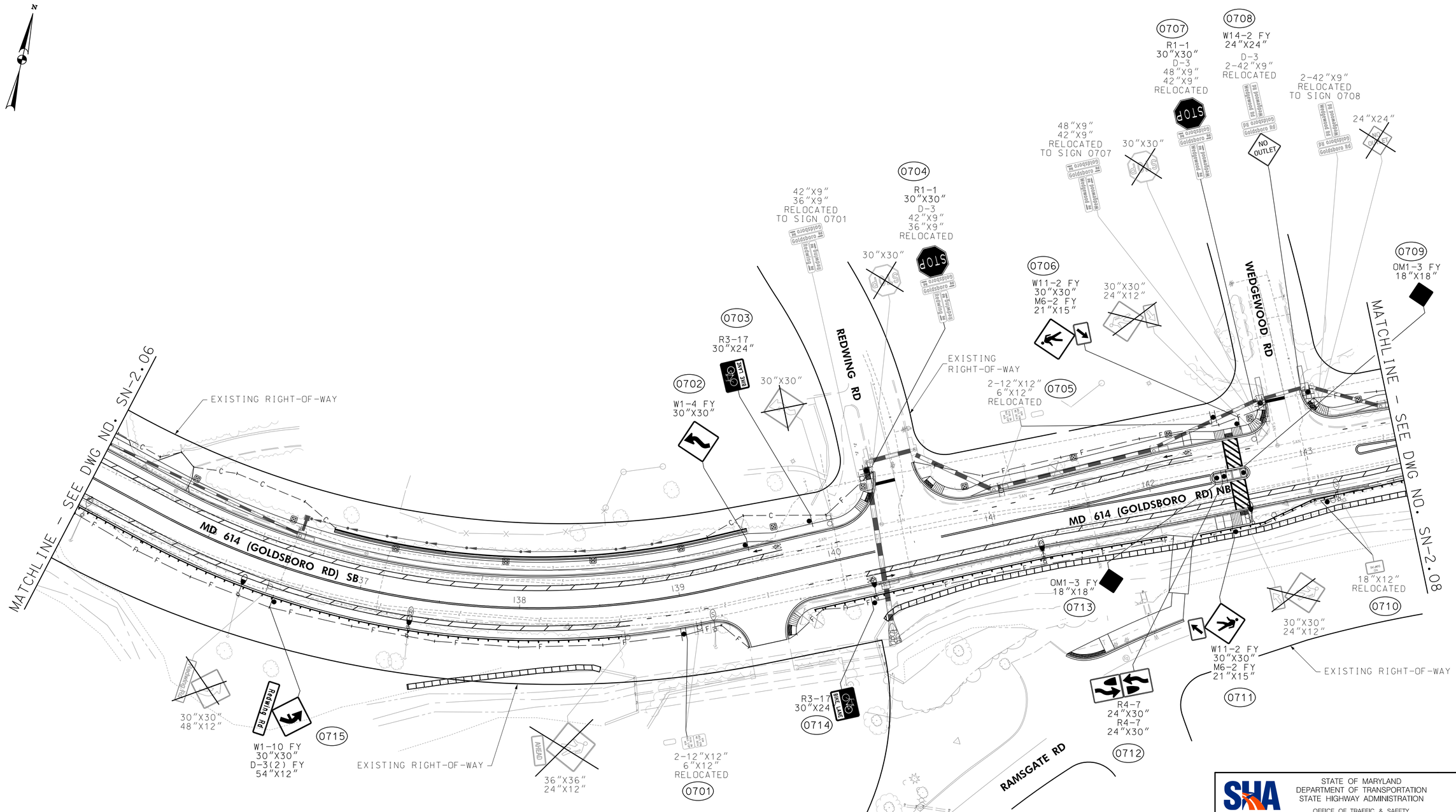

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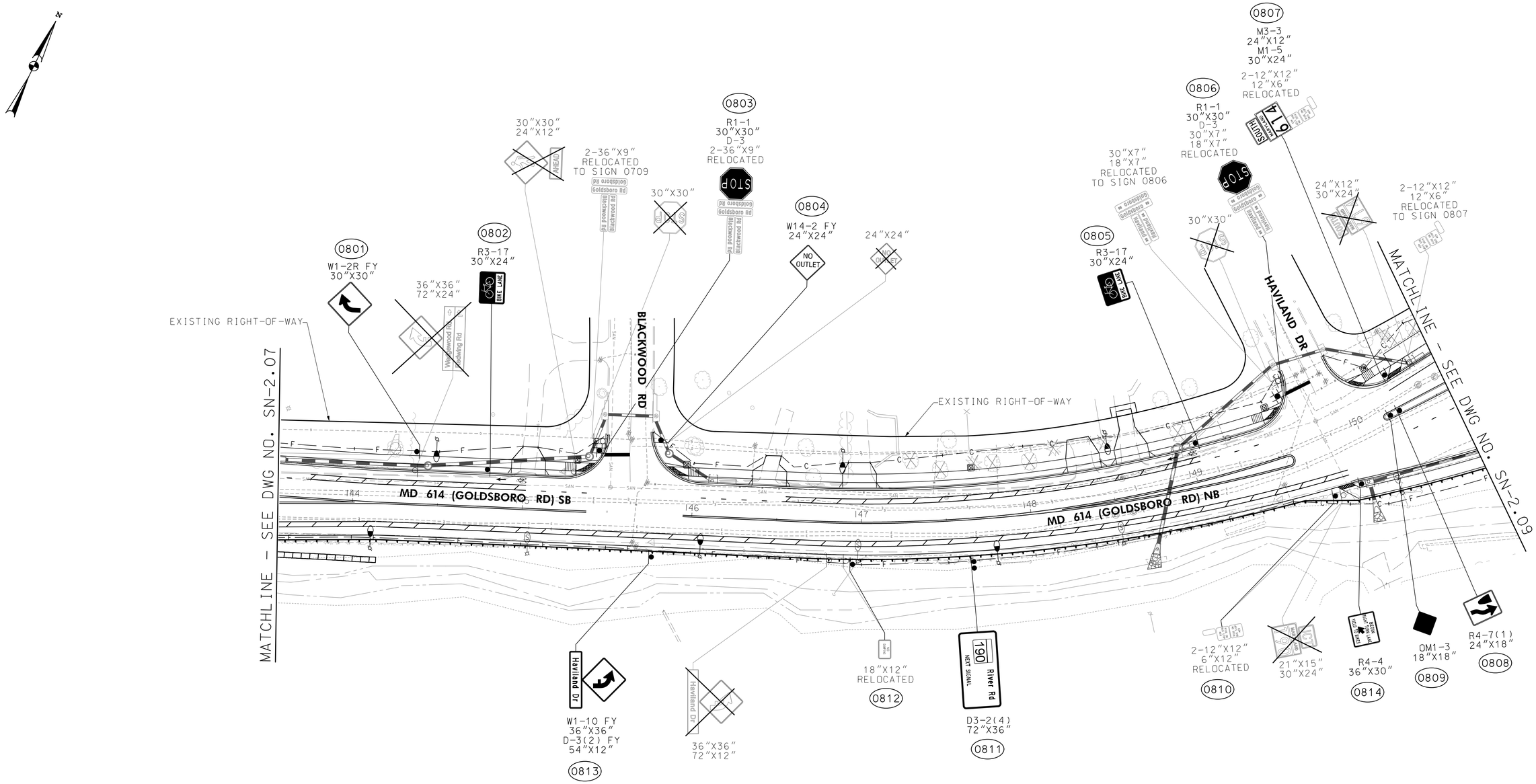

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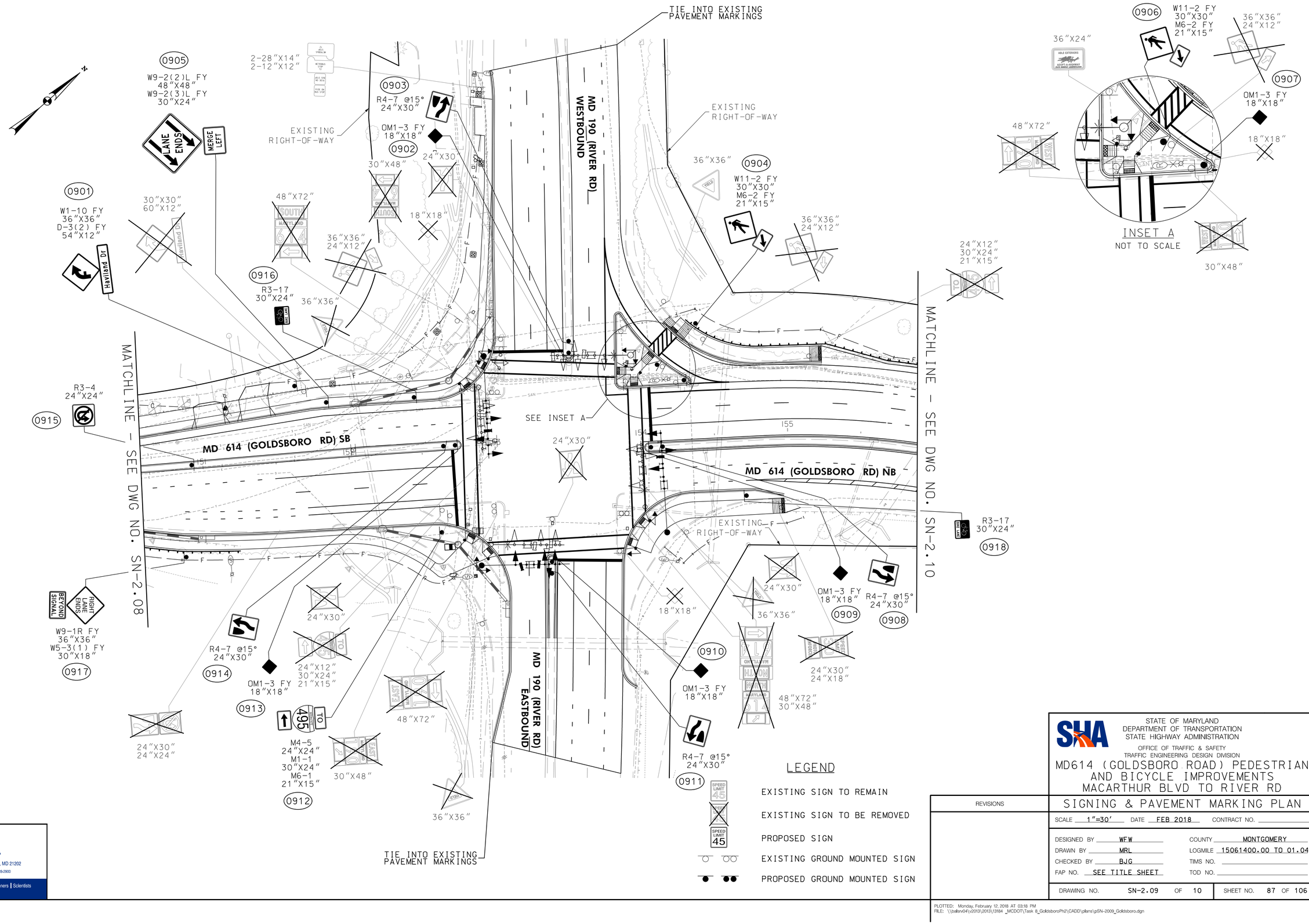

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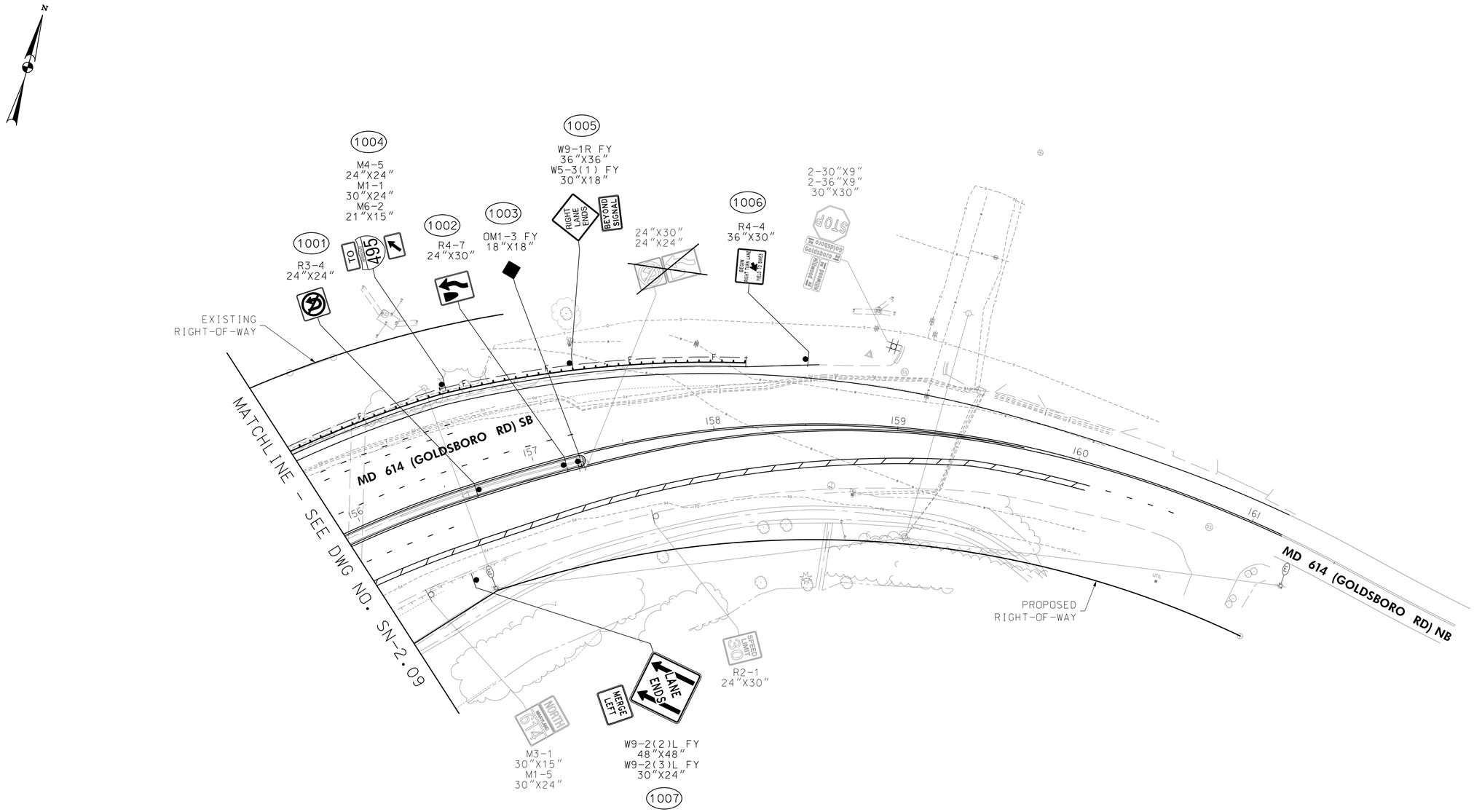

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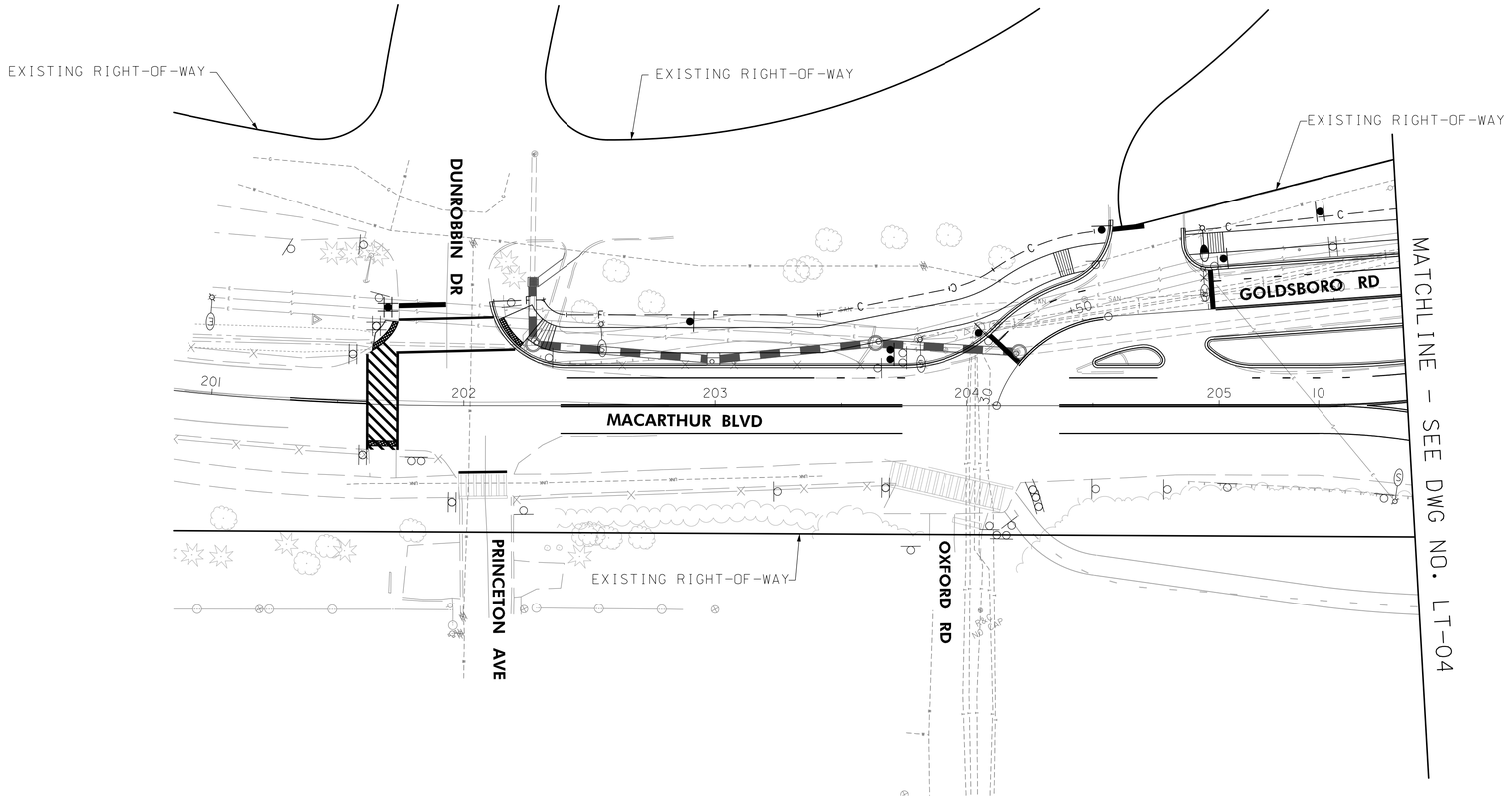

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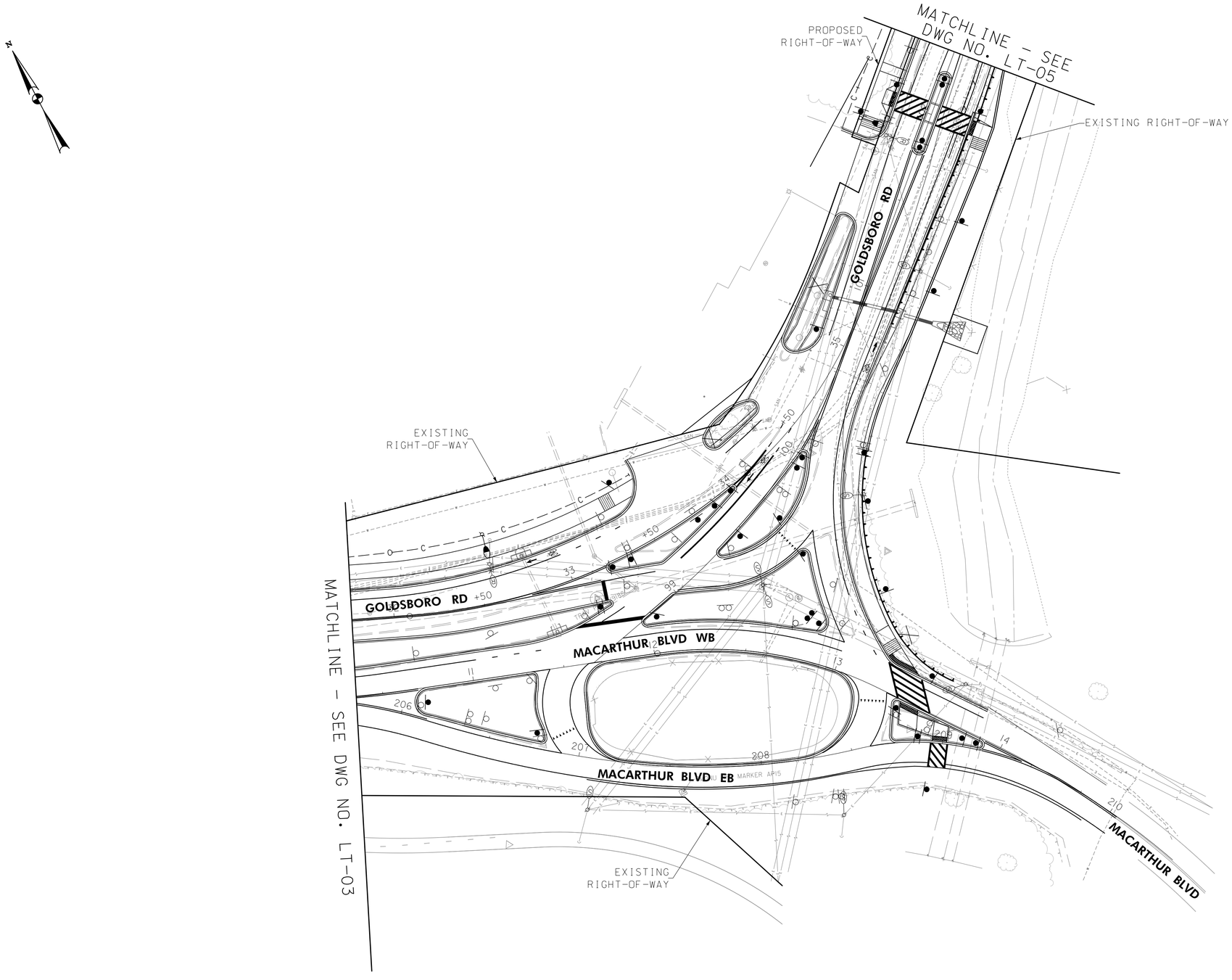

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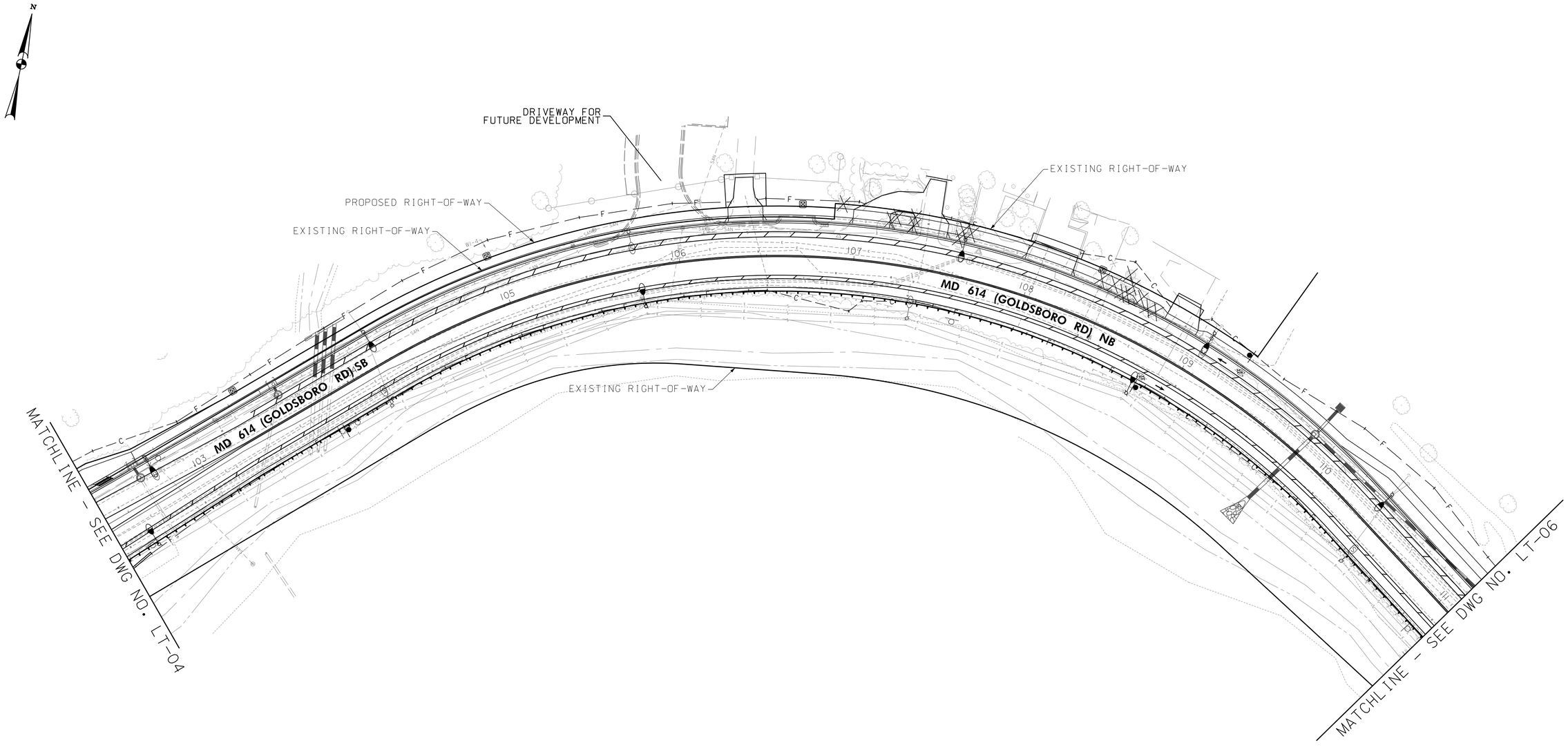

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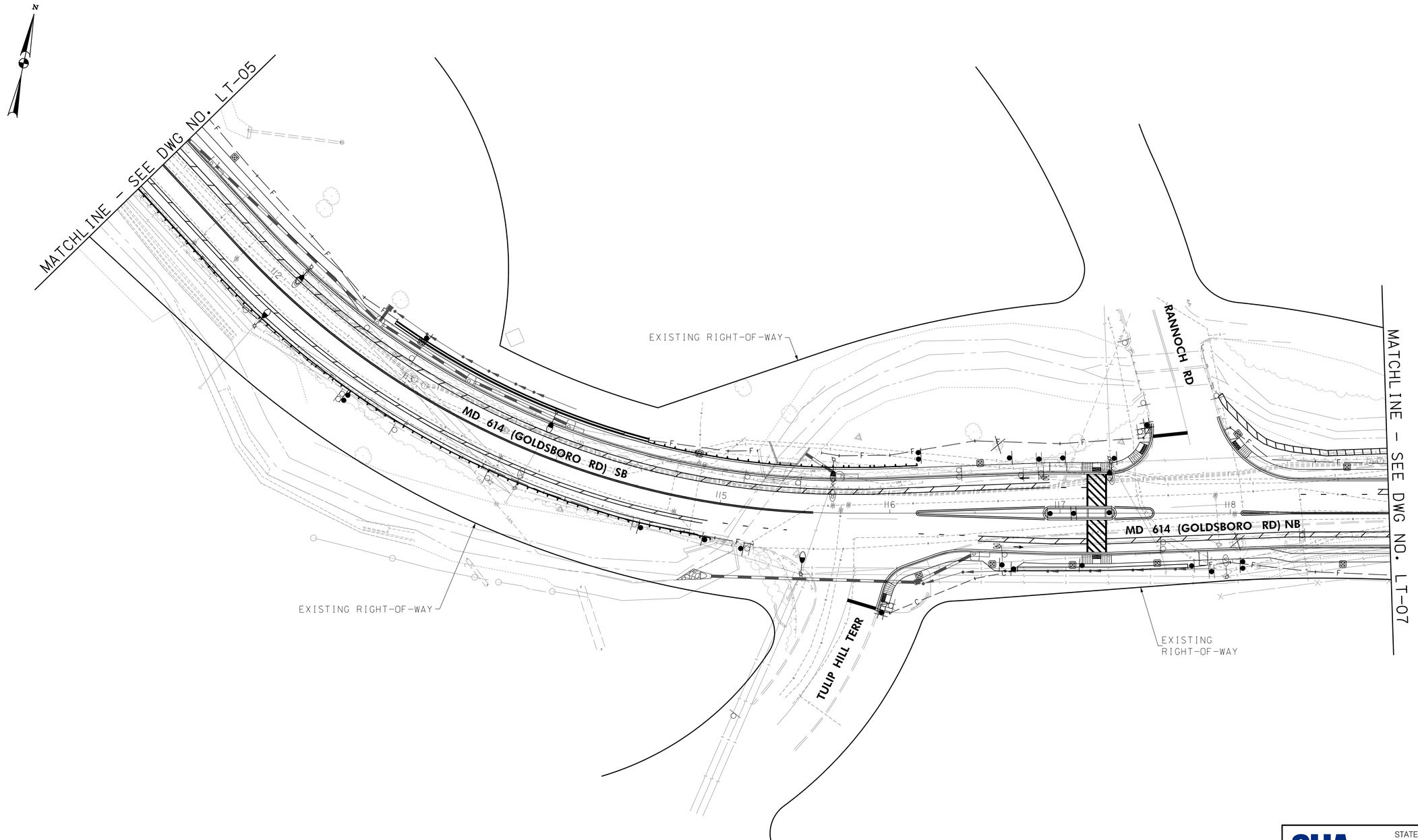

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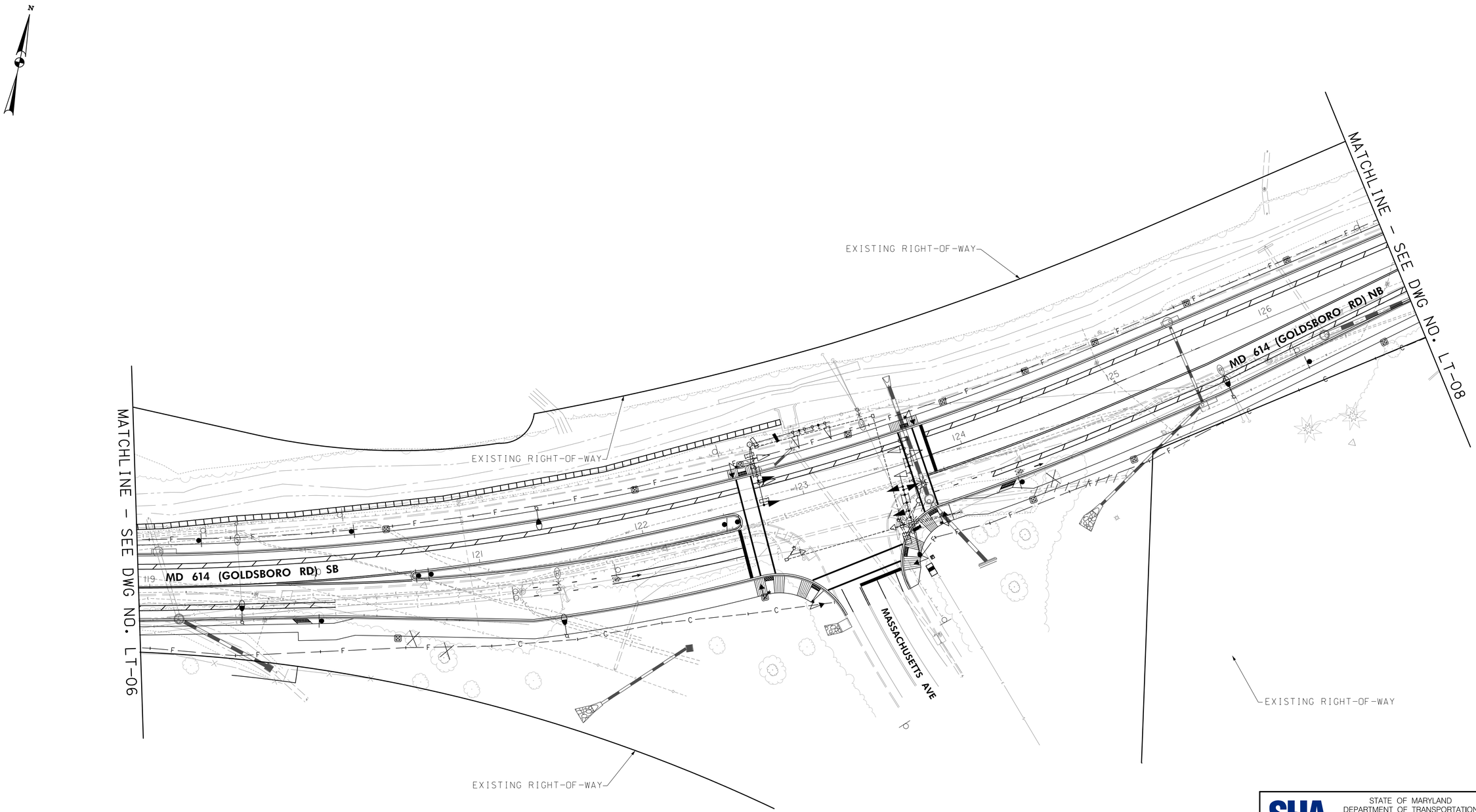

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DRAWING NO. LT-07 OF 11 SHEET NO. 93 OF 106

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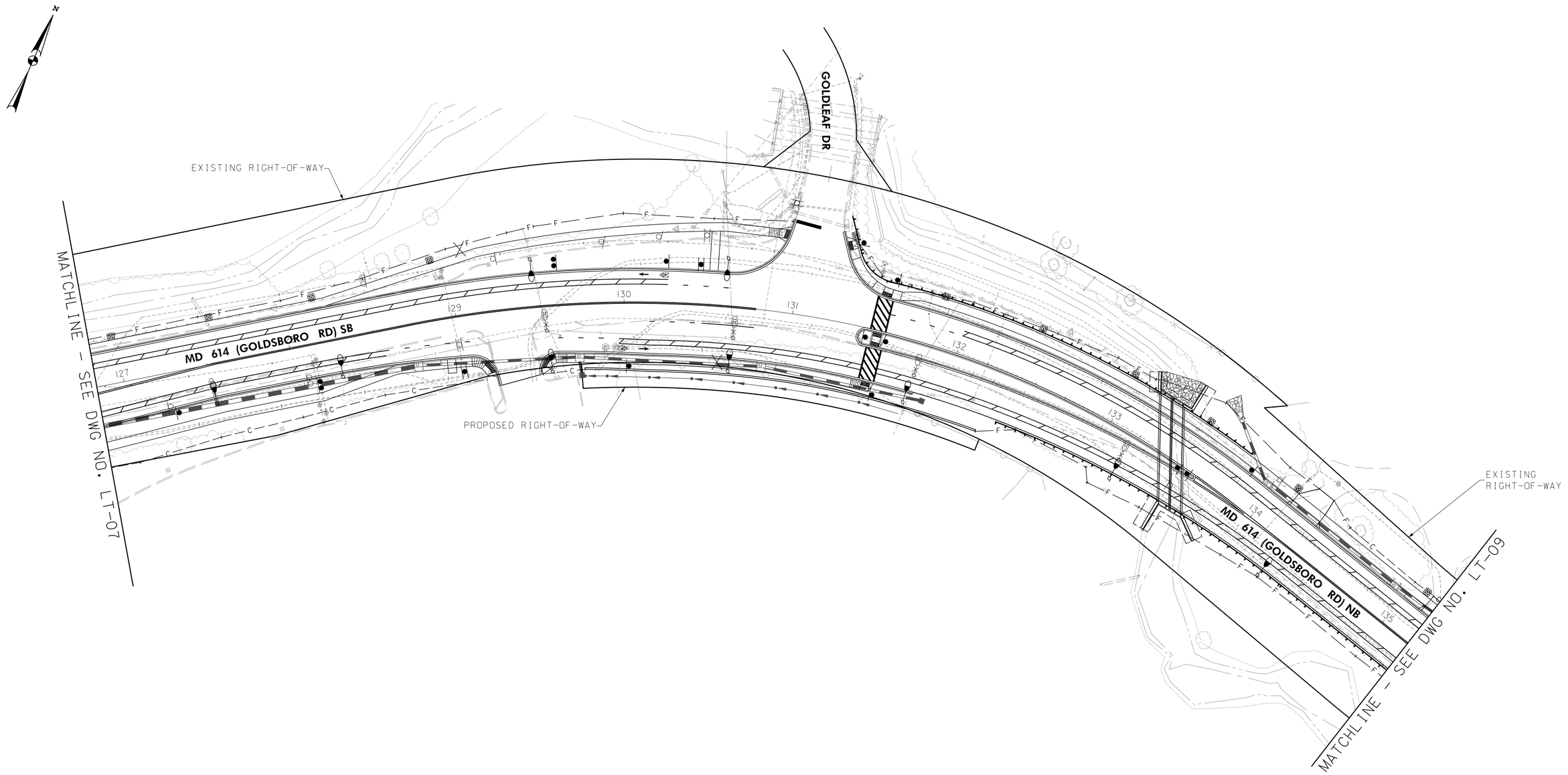
FILE: \\baltlanv04\v2013\2013\13184 _MCDOT\Task 6_GoldsboroPh2\CADD\plans\pLT-0007_Goldsboro.dgn



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Rummel, Klepper & Kahl, LLP
700 EAST PRATT STREET | BALTIMORE, MD 21202
SUITE 500 PH: (410) 728-2900
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BY: jwilson –

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 614 (GOLDSBORO ROAD) PEDESTRIAN AND BICYCLE IMPROVEMENTS MACARTHUR BLVD TO RIVER RD

REVISIONS

LIGHTING PLAN

SCALE 1"=30' DATE FEB 2018 CONTRACT NO.

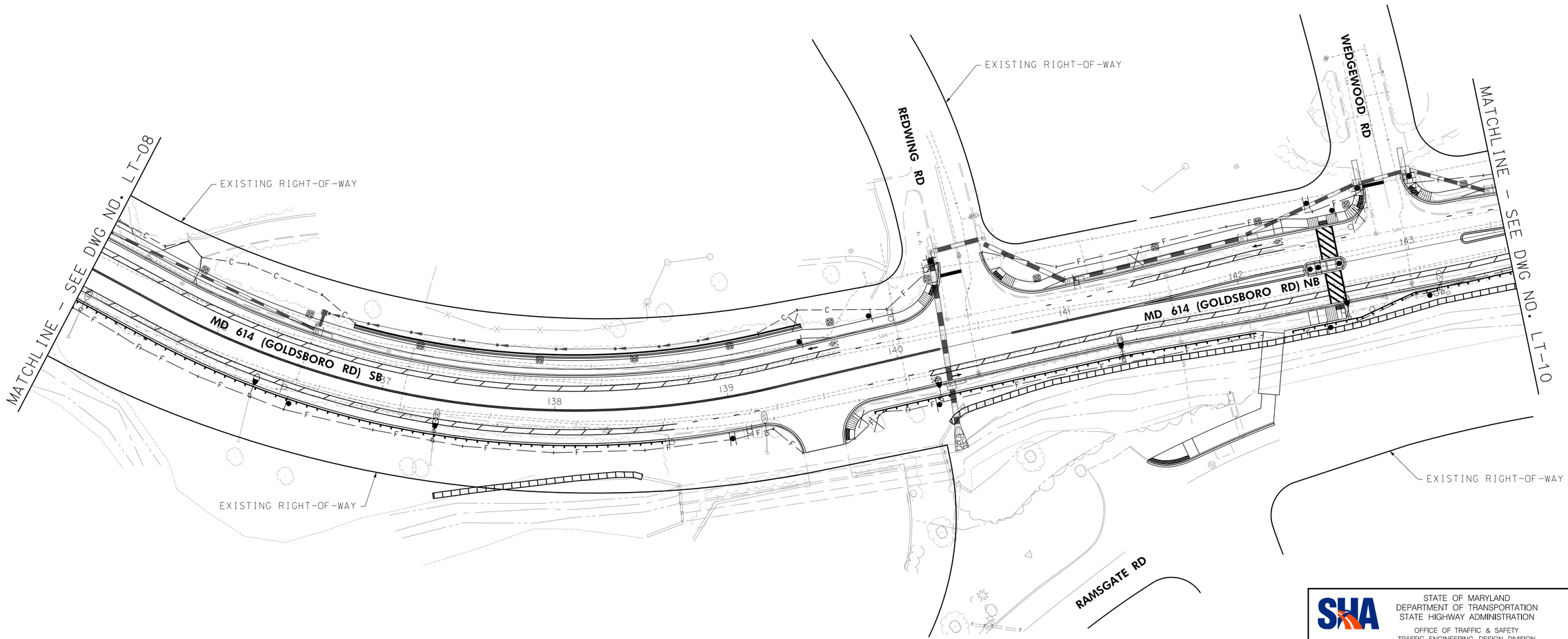
DESIGNED BY WFW
DRAWN BY WFW
CHECKED BY BJG
FAP NO. SEE TITLE SHEET

COUNTY MONTGOMERY
LOGMILE 15061400.00 TO 01.04
TIMS NO.
TOD NO.

DRAWING NO. LT-08 OF 11

SHEET NO. 94 OF 106

PLOTTED: Monday, February 12, 2018 AT 03:18 PM
FILE: \\balsrv04\c2013\2013\13184 _MCDOT\Task 8_GoldsboroPh2\CADD\plans\pLT-0008_Goldsboro.dgn



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COUNTY MONTGOMERY
LOGMILE 15061400.00 TO 01.04
TIMS NO.
TOD NO.

DRAWING NO. LT-09 OF 11 SHEET NO. 95 OF 106

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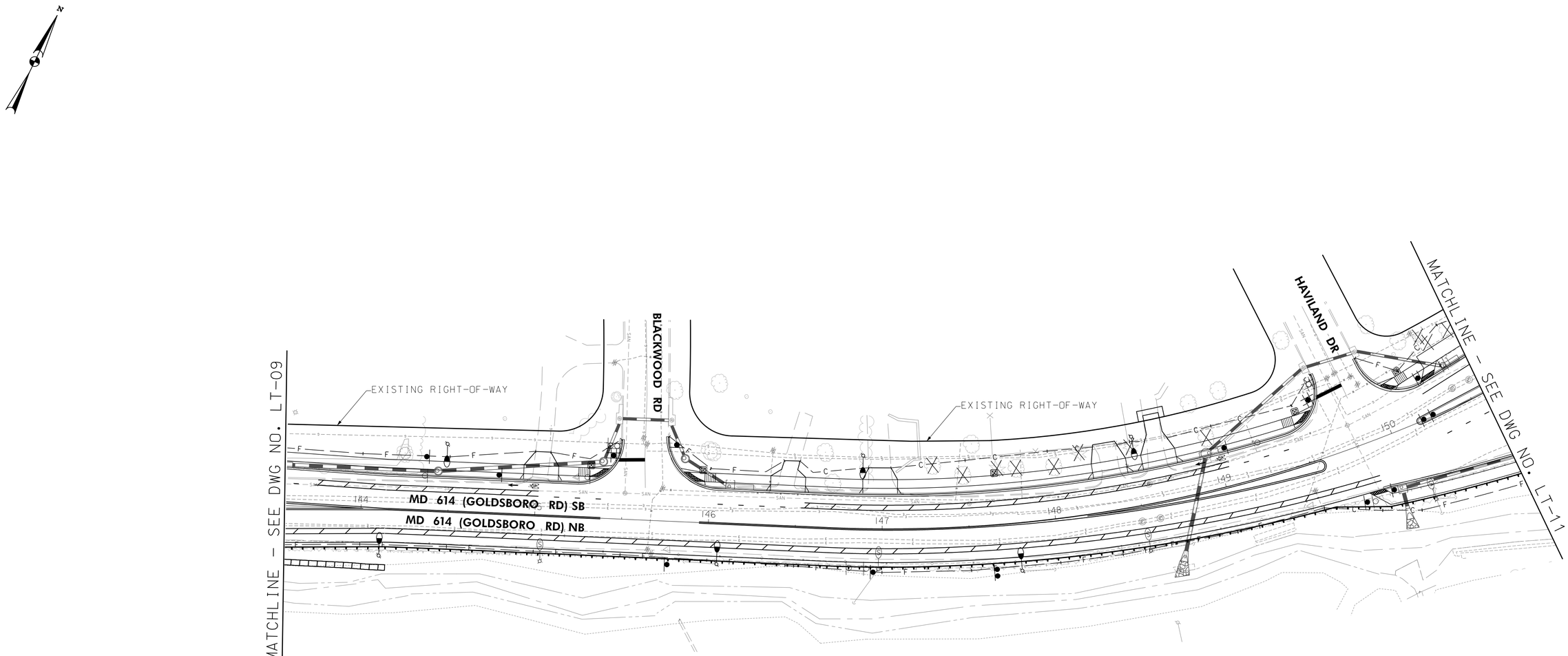

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STATE HIGHWAY ADMINISTRATION
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TRAFFIC ENGINEERING DESIGN DIVISION

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COUNTY MONTGOMERY
LOGMILE 15061400.00 TO 01.04
TIMS NO.
TOD NO.

DRAWING NO. LT-10 OF 11 SHEET NO. 96 OF 106

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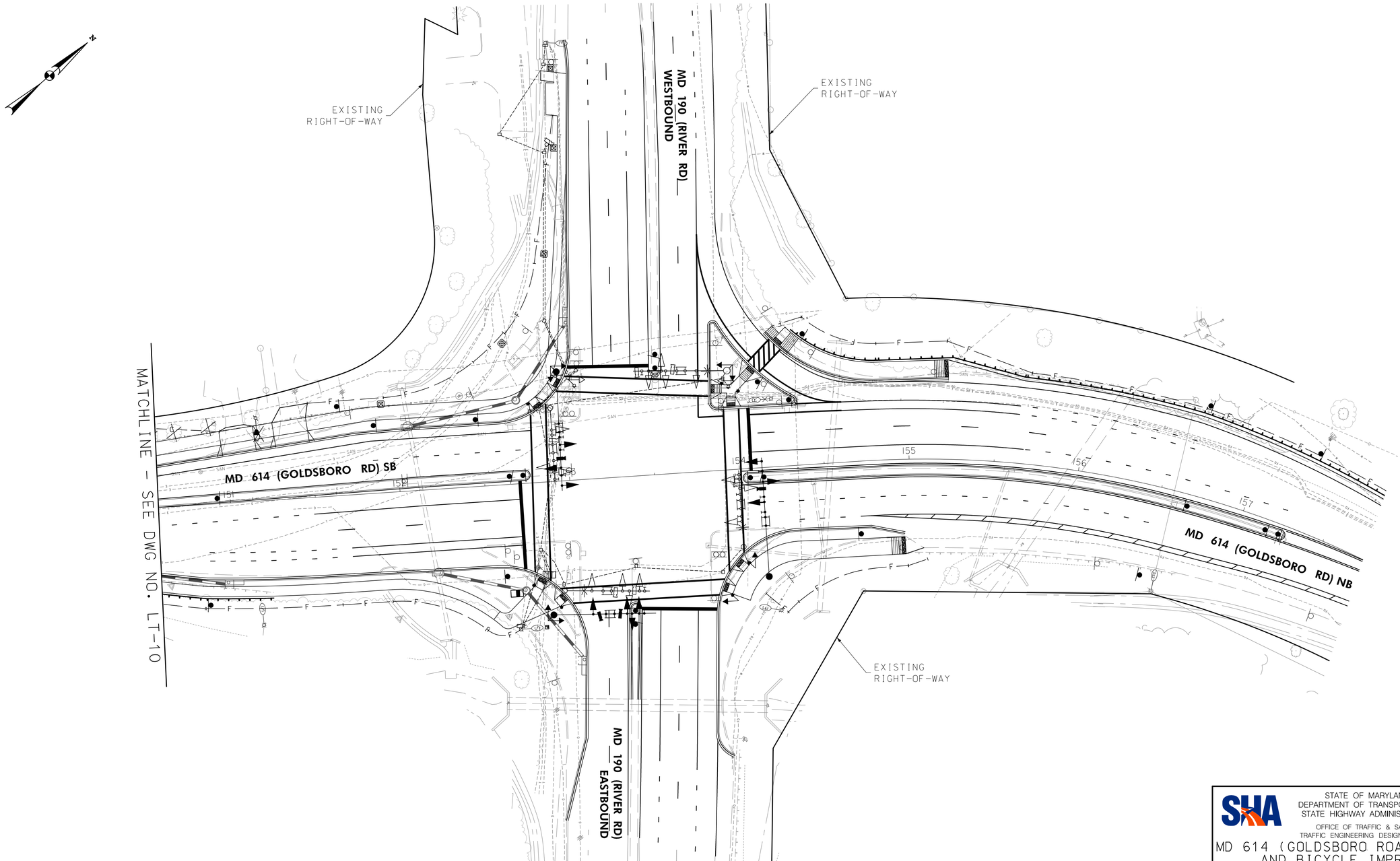

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TRAFFIC ENGINEERING DESIGN DIVISION

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DRAWING NO. LT-11 OF 11 SHEET NO. 97 OF 106

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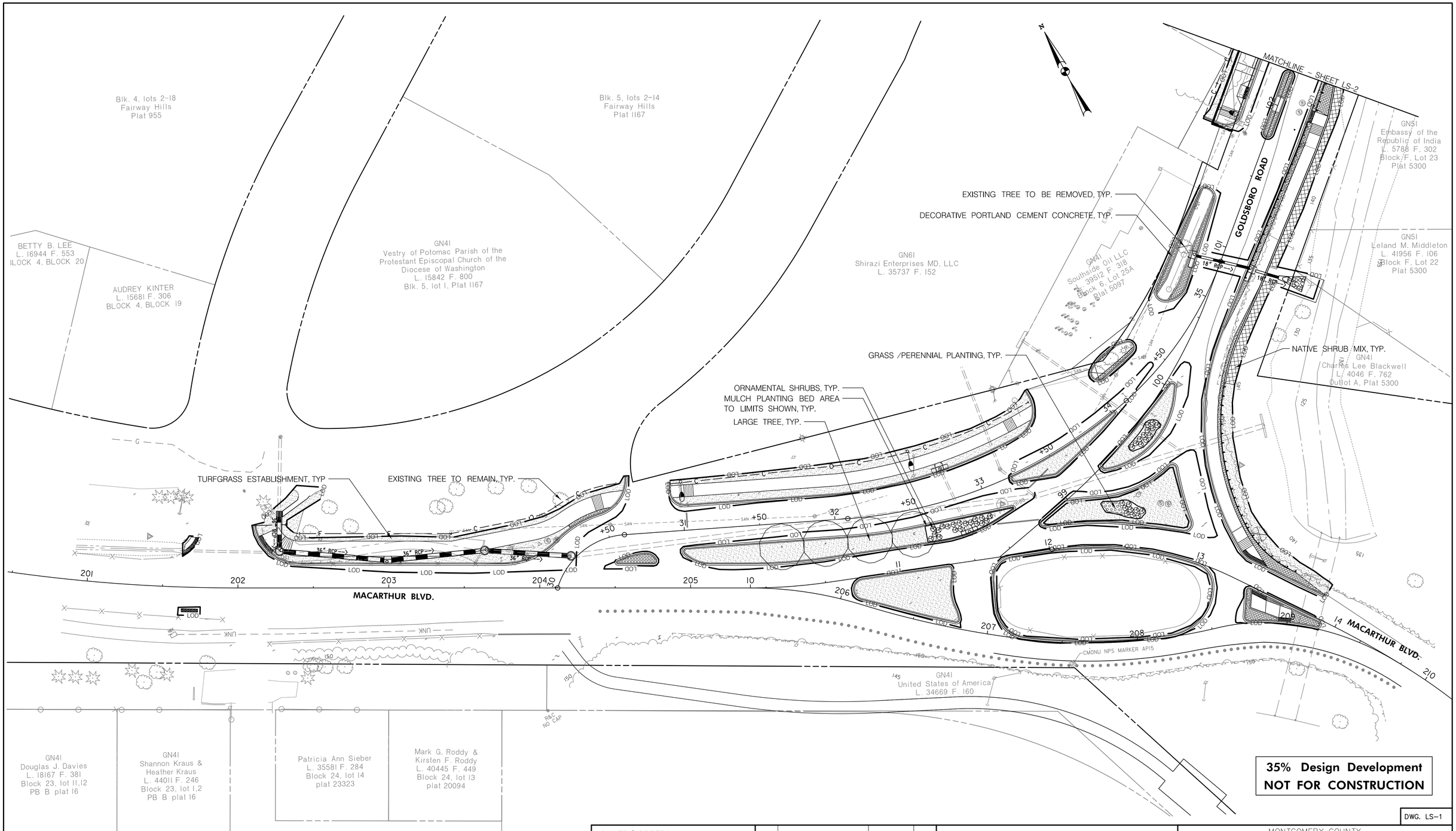

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS-1

TooleDesignGroup

TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

EXISTING TREE TO REMAIN
SMALL TREE
LARGE TREE
EXISTING TREE TO BE REMOVED
ORNAMENTAL SHRUBS
NATIVE SHRUB MIX
GRASSES / PERENNIALS
TURFGRASS ESTABLISHMENT
SWM SOIL MIX
DECORATIVE PORTLAND CEMENT CONCRETE

30' 0 30' 60'
SCALE: 1" = 30'

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION
ENGINEERING
240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY CJB DRAWN BY JMC CHECKED BY EMG

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

SCALE 1"=30' DATE FEBRUARY 2018

SHEET NO. 98 OF 106

PLOTTED: Wednesday, February 07, 2018 AT 02:10 PM
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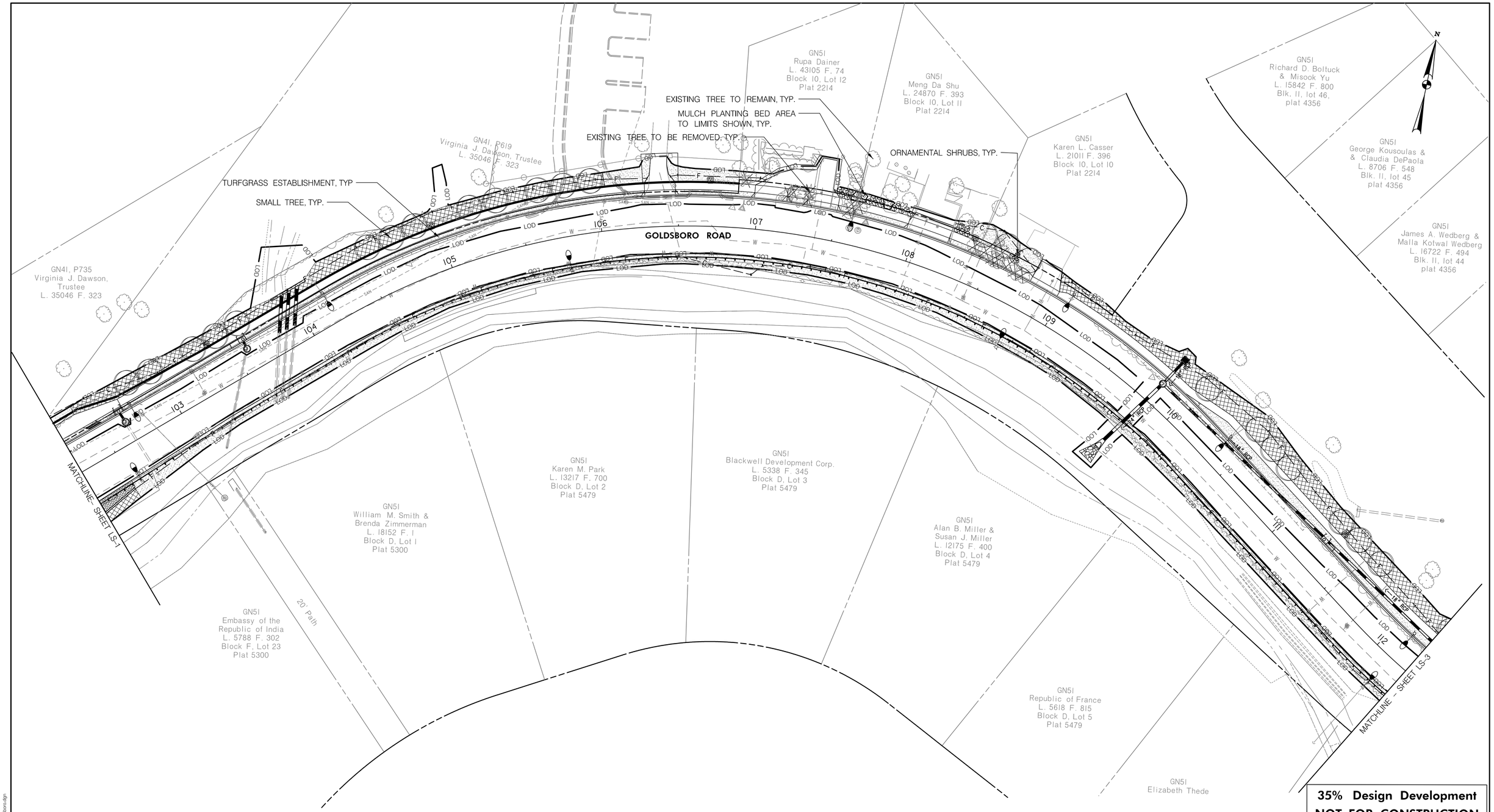

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS-2

EXISTING TREE TO REMAIN
SMALL TREE
LARGE TREE
EXISTING TREE TO BE REMOVED
ORNAMENTAL SHRUBS
NATIVE SHRUB MIX
GRASSES / PERENNIALS
TURFGRASS ESTABLISHMENT
SWM SOIL MIX
DECORATIVE PORTLAND CEMENT CONCRETE

30' 0 30' 60'
SCALE: 1" = 30'

TooleDesignGroup
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

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DESIGN SECTION
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GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

SCALE 1"=30' DATE FEBRUARY 2018

SHEET NO. 99 OF 106

PLOTTED: Wednesday, February 07, 2018 AT 02:10 PM
FILE: H:\5000\5439.05 Goldsboro Road\DESIGN\CAD\PLD-0000_Goldsboro.dgn

N

GN5I
Angela K. Kim
L. 23083 F. 329
Block II, Lot 38
Plat 3911

GN5I
Donald G. Besom, Jr.
& Katherin J. Besom
L. 3917 F. 687
Block II, Lot 39
Plat 3911

GN5I
Warren A. Van Wicklin, III
Et Ux
L. 41867 F. 185
Block II, Lot 40
Plat 3911

GN5I
Joseph I. Guggenheim
& Shelly N. Guggenheim
L. 8918 F. 870
Block II, Lot 41
Plat 3911

GN5I
Andrew K. Singer
& Amy B. Singer
L. 43915 F. 175
Block 13, Lot 9
& Lane
Plat 2407

GN5I
Pasquale S. Lentini
L. 33138 F. 521
Block 13, Lot 8
Plat 2407

EXISTING STORM DRAIN EASEMENT
L. 3170 F.554
PLAT 13803

GN5I
Daniel K. Soren
L. 44802 F. 254
Block 13, Lot 7
Plat 2407

MATCHLINE - SHEET LS-2

MATCHLINE - SHEET LS-4

RANNOCH RD.

NATIVE SHRUB MIX, TYP.

SMALL TREE, TYP.

DECORATIVE PORTLAND CEMENT CONCRETE, TYP.

GOLDSBORO ROAD

GN5I
Frederick Meyers &
& Phyllis C. Meyers
L. 3164 F. 279
Block D, Lot 8
Plat 5479

GN5I
Joann L. Zuercher &
Glenn R. Reichardt
L. 7222 F. 93
Block D, Lot 9
Plat 5479

GN5I
Gregory G. Fouch, Roger B. Fouch
& Barbara N. Briggs
L. 37891 F. 318
"Not Included"
Plat 5479

TULIP HILL TERRACE

GRASS /PERENNIAL PLANTING, TYP.

ORNAMENTAL SHRUBS, TYP.

MULCH PLANTING BED AREA TO LIMITS SHOWN, TYP.

EXISTING TREE TO BE REMOVED, TYP.

EXISTING TREE TO REMAIN, TYP.

TURFGRASS ESTABLISHMENT, TYP

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS-3

EXISTING TREE TO REMAIN
SMALL TREE
LARGE TREE
EXISTING TREE TO BE REMOVED
ORNAMENTAL SHRUBS
NATIVE SHRUB MIX
GRASSES / PERENNIALS
TURFGRASS ESTABLISHMENT
SWM SOIL MIX
DECORATIVE PORTLAND CEMENT CONCRETE

30' 0 30' 60'
SCALE: 1" = 30'

TooleDesignGroup
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

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SHEET NO. 100 OF 106

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GN6I
Block 13, Lots 31-33
Plat 13803

GN6I
Goldsboro Joint Venture
L. 6654 F. 289
Block 13, Parcel C
Plat 13803

CONSERVATION AREA

GN6I
Block 13, Lots 27-30
Plat 13803

EXISTING STORM DRAIN EASEMENT PLAT 13802

10' PIE & WSSC R/W PLAT 13802

GN6I
Goldsboro Joint Venture
L. 6654 F. 289
Block 13, Parcel B
Plat 13802

10' PIE & WSSC R/W PLAT 13801

EXISTING STORM DRAIN EASEMENT PLAT 13801

GN6I
Goldsboro Joint Venture
L. 6654 F. 289
Block 13, Parcel A
Plat 13801

MATCHLINE - SHEET LS-3

NATIVE SHRUB MIX, TYP.

TURFGRASS ESTABLISHMENT, TYP

EXISTING TREE TO REMAIN, TYP.

GOLDSBORO ROAD

MASSACHUSETTS AVE.

MULCH PLANTING BED AREA TO LIMITS SHOWN, TYP.

SWM PLANTING AREA, TYP.

ORNAMENTAL SHRUBS, TYP.

GRASS /PERENNIAL PLANTING, TYP.

LARGE TREE, TYP.

SMALL TREE, TYP.

EXISTING TREE TO BE REMOVED, TYP.

MATCHLINE - SHEET LS-5

GN6I
6400 Goldsboro LLC
L. 18868 F. 480

GN5I
Matthew J. Trant
& Gina C. Trant
L. 33569 F. 279
Block 12, Lot 17
Plat 14093

EXISTING TREE TO REMAIN
EXISTING TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
SMALL TREE
ORNAMENTAL SHRUBS
SWM SOIL MIX
LARGE TREE
NATIVE SHRUB MIX
DECORATIVE PORTLAND CEMENT CONCRETE
GRASSES / PERENNIALS

30' 0 30' 60'
SCALE: 1" = 30'

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS-4

Toole DesignGroup
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

SCALE 1"=30' DATE FEBRUARY 2018

SHEET NO. 101 OF 106

PLOTTED: Wednesday, February 07, 2018 AT 02:10 PM
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GN6I
Goldsboro Joint Venture
L. 6654 F. 289
Block 14, Parcel A
Plat 13801

EXISTING STORM DRAIN EASEMENT PLAT 13801

GN6I
Keith C. Campbell &
Ellen L. Gadbios
L. 37502 F. 489
Block 5, Lot 12
Plat 5771

15' PATH EASEMENT

GN6I
Block 5, Lot 14
Woodburn
Plat 5771

GN6I
Stephen S. Philloe &
Margaret K. Philleo
L. 14447 F. 54
Block 5, Lot 13
Plat 5771

GOLDLEAF DR.

MULCH PLANTING BED AREA TO LIMITS SHOWN, TYP.

ORNAMENTAL SHRUBS, TYP.

SMALL TREE, TYP.

LARGE TREE, TYP.

GN5I
Jay Schulkin &
April Oliver
L. 18295 F. 658
Block 5, Lot 1
Plat 2655

GN5I
Block 5, Lots 5 & 6
Woodburn
Plat 2655

GN5I
Alan P. Koretsky
& Tracy Koretsky
L. 17329 F. 71
Block 5, Lot 3
Plat 2655

GN5I
Mary Jane Vinograd &
Max Joseph Vinograd
L. 45689 F. 1
Block 5, Lot 2
Plat 2655

MATCHLINE - SHEET LS-4

131 132 133 134 135 136 137 138 139 140

GOLDSBORO RD.

18" RCP

EX. 20' SLOPE EASEMENT PB 115 PLAT 13664

EX. 15' SEWER R/W

GN5I
David M. Silver
& Sylvia Silver
L. 6592 F. 786
Block 12, Lot 19
Plat 14395

EX 10' PIE & WSSC R/W PB 115 PLAT 13664

GN5I
German A. Penaranda et al
L. 24304 F. 392
Block 12, Lot 8
Plat 13664

EASEMENT AREA FOR STREAM CHANGE MD SRC PLAT 22153 & 22154

GN5I
Greenberg Realty Company, Inc.
L. 5753 F. 170
Block 12, Parcel C
Plat 13664

GN5I
Howard J. Bennett
& Jan H. Bennett
L. 14807 F. 735
Block 12, Lot 9
Plat 13664

GN5I
Block 12, Lots 1-3
& Avalon Court R/W
Wood Acres
Plat 13664

GN5I
Block 12, Lots 10-15
Wood Acres
Plat 13664

GN5I
Chesapeake & Potomac
Telephone

GN5I
Abdolreza Rezaian
L. 16332 F. 304
Block 5, Lot 4
Plat 2655

NATIVE SHRUB MIX, TYP.

TURFGRASS ESTABLISHMENT, TYP

MATCHLINE - SHEET LS-6

EASEMENT AREA FOR STREAM CHANGE MD SRC PLAT 22153 & 22154

EXISTING TREE TO BE REMOVED, TYP.

EXISTING TREE TO REMAIN, TYP.

N

35% Design Development
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EXISTING TREE TO REMAIN
SMALL TREE
LARGE TREE
EXISTING TREE TO BE REMOVED
ORNAMENTAL SHRUBS
NATIVE SHRUB MIX
GRASSES / PERENNIALS
TURFGRASS ESTABLISHMENT
SWM SOIL MIX
DECORATIVE PORTLAND CEMENT CONCRETE

30' 0 30' 60'
SCALE: 1" = 30'

Toole Design Group
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
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240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY CJB DRAWN BY JMC CHECKED BY EMG

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

SCALE 1"=30' DATE FEBRUARY 2018

DWG. LS-5

SHEET NO. 102 OF 106

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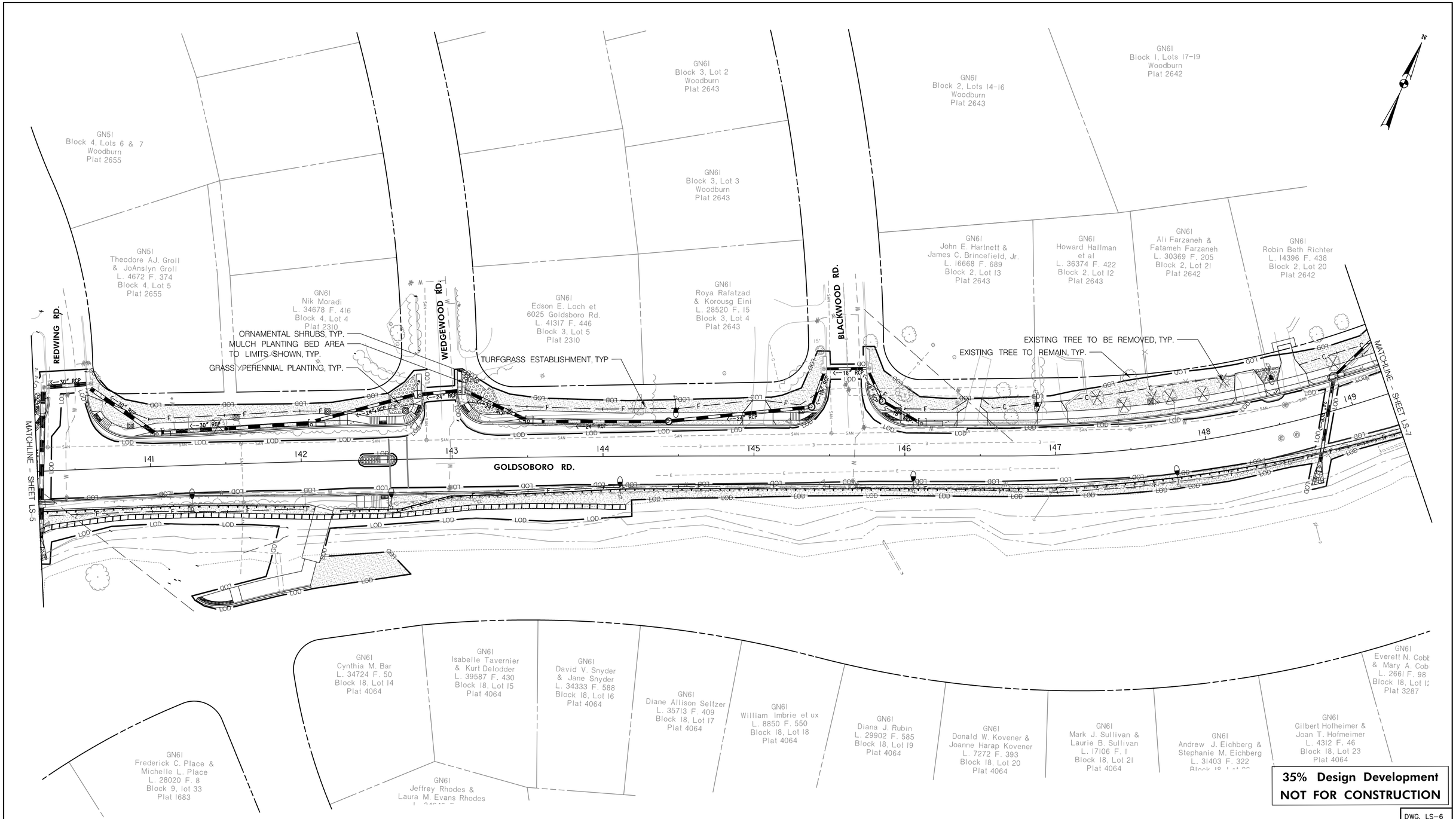

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TOOLE DESIGN GROUP
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SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

EXISTING TREE TO REMAIN
SMALL TREE
LARGE TREE
EXISTING TREE TO BE REMOVED
ORNAMENTAL SHRUBS
NATIVE SHRUB MIX
GRASSES / PERENNIALS
TURFGRASS ESTABLISHMENT
SWM SOIL MIX
DECORATIVE PORTLAND CEMENT CONCRETE

30' 0 30' 60'
SCALE: 1" =30'

OWNER/ADDRESS:
MONTGOMERY COUNTY
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GAITHERSBURG, MARYLAND

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ROCKVILLE, MARYLAND

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APPROVED
Chief, Division of Transportation Engineering — Date

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

SCALE 1"=30' DATE FEBRUARY 2018

SHEET NO. 103 OF 106

PLOTTED: Wednesday, February 07, 2018 AT 02:11 PM
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GN61
Block 1, Lots 13-15
Woodburn
Plat 2642

GN61
John N. Gallagher
L. 17265 F. 510
Block 1, lot 1
& North half lot 2
Plat 2031

GN61
John N. Gallagher
L. 17265 F. 510
Block 1, lot 3
& South half lot 2
Plat 2031

GN61
Daniel Sriqui
L. 5622 F. 384
Block 20, Lot 16
Plat 2642

GN62
Peoples Republic
of Bangladesh
L. 4386 F. 467
Block 30, Lot 14
Plat 8147

GN62
Embassy of the United
Republic of Tanzania
L. 4460 F. 667
Block 30, Lot 15
Plat 8147

GN62
Henry W. Williams, Jr.
& Alease T. Williams
L. 5963 F. 551
Block 23, Lot 24
Plat 8147

GN61
Benjamin S. Psillas
et ux
L. 30388 F. 174
Block 20, Lot 1
Plat 3511

GN61
Hossein Amini et al
L. 20962 F. 48
Block 20, lot 22
Plat 4970

GN61
Husin Alsegaf et ux
L. 4401 F. 550
Block 20, lot 21
Plat 4970

HAVILAND DR.

RIVER RD.

GOLDSBORO RD.

SPEED DOWN

MATCHLINE - SHEET LS-6

EXISTING TREE TO BE REMOVED, TYP.

GRASS / PERENNIAL PLANTING, TYP.

MULCH PLANTING BED AREA TO LIMITS SHOWN

ORNAMENTAL SHRUBS, TYP.

SHRUB SEEDING, TYP.

TURFGRASS ESTABLISHMENT, TYP.

EXISTING TREE TO REMAIN, TYP.

SMALL TREE, TYP.

EASEMENT AREA FOR STREAM CHANGE

150 151 152 153 154 155 156 157 158

18" RCP

LOD

SAN

F

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS-7

EXISTING TREE TO REMAIN
SMALL TREE
LARGE TREE
EXISTING TREE TO BE REMOVED
ORNAMENTAL SHRUBS
NATIVE SHRUB MIX
GRASSES / PERENNIALS
TURFGRASS ESTABLISHMENT
SWM SOIL MIX
DECORATIVE PORTLAND CEMENT CONCRETE

30' 0 30' 60'
SCALE: 1" = 30'

TooleDesignGroup
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
FAX: (301) 927-2800

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
240-777-7220
DESIGN SECTION
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DESIGNED BY CJB DRAWN BY JMC CHECKED BY EGM

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

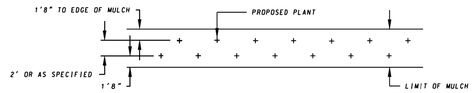
MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING PLAN

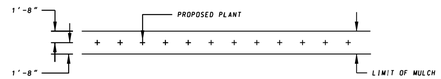
SCALE 1"=30' DATE FEBRUARY 2018

SHEET NO. 104 OF 106

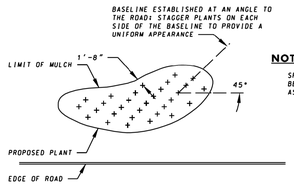
PLOTTER: Wednesday, February 07, 2018 AT 02:11 PM
FILE: H:\0000\349.00 Goldsboro Road\DESIGN\CAD\PLD-0000_Goldsboro.dgn



STAGGERED DOUBLE ROW



SINGLE ROW



NOTE

SPACING OF SHRUBS AND WIDTH OF BED ARE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

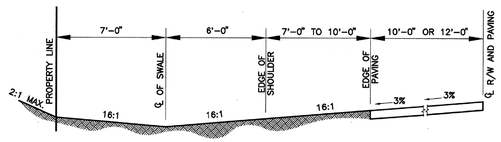
IRREGULAR BED

SPECIFICATION	CATEGORY CODE ITEMS
710	

APPROVED Kirk G. McClelland
DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 10-28-97	APPROVAL 4-18-97
REVISED 10-1-01	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PLANT BED MULCHING AND PLANT LAYOUT ON FLAT AREAS AND SLOPES FLATTER THAN 4:1
STANDARD NO. MD 710.03-11



SWALE CAPACITY AT 4" DEPTH		
SLOPE (%)	Q MAX. (c.f.s.)	VELOCITY(F.P.S.)
2.0	2.3	1.3
2.5	2.5	1.4
3.0	2.7	1.6
3.5	3.0	1.7
4.0	3.2	1.8
4.5	3.4	1.9
5.0	3.6	2.0
5.5	3.7	2.1
6.0	3.9	2.2
6.5	4.1	2.3
7.0	4.2	2.4
7.5	4.4	2.4
8.0	4.5	2.5
8.5	4.6	2.6
9.0	4.8	2.7
9.5	4.9	2.8
10.0	5.0	2.8

NOTE :
THIS STANDARD MAY BE USED ALONG OPEN SECTION ROADS ONLY WHERE FLOW QUANTITIES ARE EQUAL TO OR LESS THAN INDICATED, AND ONLY UPON SPECIFIC DOT APPROVAL CONSIDERING POTENTIAL FOR FLOODING. IT MAY NOT BE USED IN RESIDENTIAL AREAS.

P:\DOT\STD\MC810I01 7-12-94 9:05:53 am EST

APPROVED JAN 5 1996
DATE
DIRECTOR, DEPT. OF TRANS.
CHIEF, DIV. OF ENG. SERVICES

REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

SWALE SECTION

STANDARD NO. MC-810.01

Use of staking and guying is not recommended unless trees will be planted in areas subject to sustained wind, vandalism, or higher level of pedestrian and vehicular traffic. All staking and guying materials should be removed within six months to one year.

See Department of Permitting Services Staking and Guying Detail for more information.

Trees shall meet all requirements for plant materials in ANSI Z60.1 (American Standard for Nursery Stock)

Install tree guard to protect trunk from sun, equipment and animals. Remove before trunk becomes constricted

At least one-eighth of root ball should be above grade (or up to one-third for poorly drained sites)

Apply maximum of 2-3 inches of shredded wood mulch DO NOT place any mulch adjacent to tree trunk

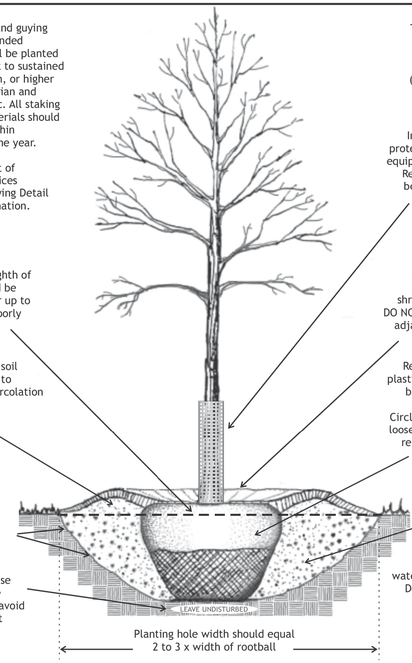
A raised ring of soil may be formed to increase the percolation of water on dry or sloped sites

Remove basket wire, plastic, rope, twine and burlap from top half of root ball Circling roots should be loosened, spread out or removed if necessary

Slope sides of planting hole and breakup glazed surfaces on slopes

Use original soil for backfill Do not add soil amendments unless needed to improve drainage, soil structure or water-holding capacity Do not add fertilizer or nutrients unless prescribed by soil test

Leave soil at base of planting hole undisturbed to avoid over-settlement of footballl



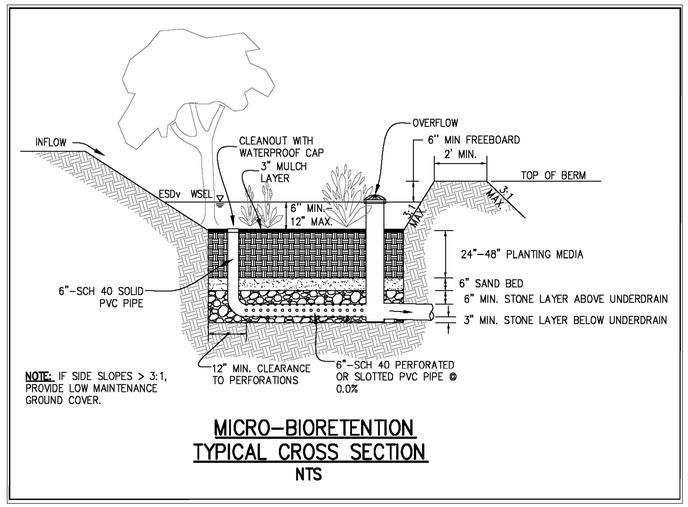
This detail is based on *ANSI A300 (Part 6) 2012 Planting and Transplanting*, and its companion publication, *Best Management Practices: Tree Planting*, copyright 2005 by *the International Society of Arboriculture*

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES

TREE PLANTING DETAIL FOR BALLED AND BURLAP NURSERY STOCK

DATE: 6 /14

SCALE: NONE



NOTE: IF SIDE SLOPES > 3:1, PROVIDE LOW MAINTENANCE GROUND COVER.

MICRO-BIORETENTION
TYPICAL CROSS SECTION
NTS

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS-8

ToolDesignGroup
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927-1900
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100 EDISON PARK DRIVE
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240-777-7220
DESIGN SECTION
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

DESIGNED BY CJB DRAWN BY JMC CHECKED BY EMG

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS
MACARTHUR BOULEVARD TO RIVER ROAD
LANDSCAPING DETAILS

SCALE _____ DATE FEBRUARY 2018

SHEET NO. 105 OF 106

PLOTTED: Wednesday, February 07, 2018 AT 02:11 PM
FILE: H:\(000)\5439\05 Goldsboro Road\DESIGN\CAD\PDT\-0000_Goldsboro.dgn

LANDSCAPE NOTES

SHA LANDSCAPE NOTES:
LANDSCAPE CONSTRUCTION WITHIN THE RIGHT OF WAY OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (SHA) SHALL CONFORM TO THESE NOTES. FOR GUIDANCE REGARDING PLAN ADJUSTMENTS, REFER TO SHA LANDSCAPE DESIGN GUIDE AND SHA LANDSCAPE ESTIMATING MANUAL AT HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=25

SHA STANDARD SPECIFICATIONS:
LANDSCAPE CONSTRUCTION SHALL CONFORM TO SECTIONS 701 THROUGH 716, AND LANDSCAPE MATERIALS SHALL CONFORM TO SECTION 920 OF THE SHA 2008 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, INCLUDING ALL REVISIONS AND SUPPLEMENTS, AND AS SPECIFIED IN THESE NOTES. THESE REQUIREMENTS SHALL SUPERSEDE ALL OTHER SPECIFICATIONS FOR WORK WITHIN THE SHA RIGHT OF WAY. ALL SHA SPECIFICATIONS FOR LANDSCAPING AND LANDSCAPE MATERIALS PUBLISHED IN 2008 HAVE BEEN REPLACED. CURRENT SPECIFICATIONS ARE AT HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=44

SHA STANDARD DETAILS FOR TREES, SHRUBS AND PLANTING BEDS:
THE INSTALLATION OF TREES, SHRUBS, PLANTING BEDS AND OTHER LANDSCAPE CONSTRUCTION IN THE SHA RIGHT OF WAY
RELATED TO SECTION 710 OF THE SHA STANDARD SPECIFICATIONS SHALL CONFORM TO THE *SHA BOOK OF STANDARDS FOR HIGHWAY & INCIDENTAL STRUCTURES – CATEGORY 7.* CURRENT SHA STANDARD DETAILS ARE AT HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZSTDSSPECS/DESMANUALSTDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/TOCCAT7.ASP.

EROSION AND SEDIMENT CONTROL MANAGER (ESCM):
SOIL DISTURBANCE SUCH AS GRADING, EXCAVATION, SOIL PLACEMENT OR OTHER ACTIVITIES THAT INVOLVE SOIL DISTURBANCE WITHIN THE SHA RIGHT OF WAY SHALL BE SUPERVISED BY AN ESCM MANAGER WITH A VALID SHA *YELLOW CARD* IN CONFORMANCE WITH SHA 2008 SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND ANY APPLICABLE EROSION AND SEDIMENT CONTROL PERMIT.

TEMPORARY STABILIZATION SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 704 TO ENSURE THAT AREAS OF SOIL DISTURBANCE ARE PROTECTED FROM WIND, RAINFALL AND FLOWING WATER UNTIL PERMANENT STABILIZATION IS INSTALLED.
1. TEMPORARY MULCH, EITHER AS TEMPORARY STRAW MULCH OR TEMPORARY MATTING MULCH, SHALL BE INSTALLED AT THE END OF EACH WORKING DAY TO PROVIDE *SAME DAY STABILIZATION* UNLESS OTHER APPROVED STABILIZATION IS INSTALLED.
2. TEMPORARY STRAW MULCH SHALL BE INSTALLED ON AREAS AND SLOPES FLATTER THAN 4:1; TEMPORARY MATTING MULCH SHALL BE APPLIED ON SLOPES 4:1 AND STEEPER, AND TO AREAS WITHIN CHANNELS.
3. TEMPORARY SEED SHALL BE INSTALLED IN LIEU OF TEMPORARY MULCH WHEN SOIL REDISTURBANCE IS EXPECTED MORE THAN 30 DAYS AFTER SOIL DISTURBANCE. THE REQUIRED APPLICATION RATE OF 15–30–15 FERTILIZER SHALL BE REDUCED TO 150 LBS PER ACRE.

EXCAVATION AND DEBRIS REMOVAL:
DEBRIS RELATED TO THE DEMOLITION OF SIDEWALKS, DRIVEWAYS, CURBS, TREES, STUMPS, ROOTS, FENCING, PIPES, AND OTHER MATERIALS THAT MAY INTERFERE WITH LANDSCAPE INSTALLATION OR FUTURE MAINTENANCE WITHIN THE SHA RIGHT OF WAY SHALL BE EXCAVATED AS NECESSARY FOR THEIR COMPLETE REMOVAL AND DISPOSAL.

SOIL RESTORATION. AREAS OF PAVEMENT REMOVAL:
EXCAVATION OR DRILLING IN LANDSCAPED AREAS SHALL REMOVE EXCAVATED DEBRIS AND RESTORE THE SUBGRADE WITH APPROVED SUBSOIL AND TOPSOIL PLACED IN CONFORMANCE WITH SECTION 701 OF THE SHA STANDARD SPECIFICATIONS.

1. A LAYER OF APPROVED TOPSOIL OF AT LEAST A 4 INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS FLATTER THAN 2:1 AND IN ALL CHANNELS PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
2. A LAYER OF APPROVED TOPSOIL OF AT LEAST A 2 INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS 2:1 AND STEEPER PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED. WHEN STORMWATER INFILTRATION FACILITIES ARE PROPOSED WITHIN SHA*S RIGHT OF WAY, THE FOLLOWING NOTE SHALL BE ADDED TO THE FOREGOING:
3. BIORETENTION SOIL MIX (BSM) AND OTHER MATERIALS INSTALLED IN CONJUNCTION WITH SPI 316 – STORMWATER FILTRATION FACILITIES SHALL BE INSTALLED IN CONFORMANCE WITH THE SHA LANDSCAPE NOTES, PLANS, AND PERTINENT SPECIFICATIONS.

TURFGRASS SOD ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURBED AREAS OF THE SHA RIGHT OF WAY, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 708 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20–16–12 FERTILIZER SHALL BE REDUCED TO 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOV. 15 TO MAR. 1.

SOIL STABILIZATION MATTING SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 709 OF THE SHA STANDARD SPECIFICATIONS, IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT PER SECTION 705 OR MEADOW ESTABLISHMENT PER SECTION 707 AS FOLLOWS:
1. AREAS FLATTER THAN 6:1. TYPE A OR TYPE E MATTING MAY BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT.
2. AREAS STEEPER THAN 6:1 AND FLATTER THAN 4:1. TYPE A OR TYPE E MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE ON THE PLANS.
3. CHANNELS, STORMWATER MANAGEMENT FACILITIES, AND SLOPES 4:1 AND STEEPER TYPE A SOIL STABILIZATION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE ON THE PLANS. WHEN STORMWATER MANAGEMENT FACILITIES (SWM), STREAM RESTORATION AREAS, CHANNELS, OR OTHER DELINEATED AREAS ARE SPECIFIED FOR INSTALLING MEADOW ESTABLISHMENT AND TYPE D SOIL STABILIZATION MATTING SUCH AS THE SURFACE OF INFILTRATION FACILITIES, THE FOLLOWING NOTE SHALL BE ADDED TO THE FOREGOING:
4. IN AREAS OF MEADOW ESTABLISHMENT WITH TYPE D SOIL STABILIZATION MATTING, THE MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS. WHEN CHANNELS MEET FLOW VELOCITY OR SHEAR STRESS REQUIREMENTS FOR TYPE B SOIL STABILIZATION MATTING AS DEFINED IN THE *ESTIMATING MANUAL* THE AREA OF TYPE B SSM SHALL BE DELINEATED AND THE FOLLOWING NOTE SHALL BE ADDED TO THE FOREGOING:
5. IN HIGH VELOCITY CHANNELS WITH TURFGRASS ESTABLISHMENT, TYPE B SOIL STABILIZATION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.

ROADSIDE TREE PERMIT:
TREE REMOVAL, TREE INSTALLATION, TREE ROOT AND BRANCH PRUNING, AND OTHER REGULATED IMPACTS TO TREES IN THE SHA RIGHT OF WAY SHALL CONFORM TO THE REQUIREMENTS OF THE ROADSIDE TREE PERMIT (RTP) OF THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, OR THE FOREST CONSERVATION ACT (FCA) APPROVAL OF THE LOCAL AUTHORITY.
1. A COPY OF THE RTP OR FCA APPROVAL SHALL BE SUBMITTED TO THE SHA OFFICE OF ENVIRONMENTAL DESIGN BEFORE WORK IS PERFORMED, AND A COPY OF THE RTP OR FCA APPROVAL SHALL BE REPRODUCED IN THE PLANS OR BE IN POSSESSION OF THE APPLICANT AT THE PROJECT SITE WHEN THE PERMITTED WORK IS PERFORMED.
2. A MARYLAND LICENSED TREE EXPERT SHALL PERFORM THE SPECIFIED TREE OPERATIONS IN CONFORMANCE WITH THE SHA STANDARD SPECIFICATIONS AND ANSI A300 STANDARDS FOR TREE CARE OPERATIONS.

TREES AND OTHER PLANT MATERIAL INSTALLATION. TREES, SHRUBS, PERENNIALS, ANNUALS, BULBS, LANDSCAPE BEDS AND SIMILAR MATERIALS INSTALLED IN THE SHA RIGHT OF WAY SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 710 AND 711 OF THE SHA STANDARD SPECIFICATIONS. TREE AND SHRUBS SHALL BE PRUNED AT THE TIME OF INSTALLATION TO ENSURE SIDEWALK CLEARANCE FOR PEDESTRIANS IS MAINTAINED TO A HEIGHT OF 8 FEET. NO TREE OR SHRUB SHALL BE INSTALLED WITHIN 3 FEET OF CURBS, SIDEWALKS, OR PAVEMENT EDGES.

35% Design Development
NOT FOR CONSTRUCTION

DWG. LS–9

Toole Design Group
TOOLE DESIGN GROUP
8484 GEORGIA AVE SUITE 800
SILVER SPRING, MD 20910
PHONE: (301) 927–1900
FAX: (301) 927–2800

OWNER/ADDRESS:
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
240–777–7220
DESIGN SECTION
240–777–7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
ROCKVILLE, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

DESIGNED BY CJB DRAWN BY JMC CHECKED BY EMG

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

GOLDSBORO ROAD PEDESTRIAN AND BICYCLE IMPROVEMENTS

MACARTHUR BOULEVARD TO RIVER ROAD

LANDSCAPING NOTES

SCALE _____ DATE FEBRUARY 2018

SHEET NO. 106 OF 106

PLOTTED: Wednesday, February 07, 2018 AT 02:11 PM
FILE: H:\000\54439.05 Goldsboro Road\DESIGN\CAD\PDT-0000_Goldsboro.dgn

ATTACHMENT B

MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

November 21, 2018

MCDOT – Division of Transportation Engineering
c/o John B. Thomas
100 Edison Park Dr. Fourth Floor SE
Gaithersburg, MD 20878

Re: Goldsboro Road Bicycle and Pedestrian Improvements – 35% design
Forest Conservation Exemption Request and Simplified NRI/FSD No. 42019041E
Conditionally Confirmed and Approved on 11/21/2018

Dear John B Thomas:

On November 21, 2018, Development Applications and Regulatory Coordination staff of the Montgomery County Planning Department received a revised Simplified Natural Resource Inventory / Forest Stand Delineation "Simplified NRI/FSD" for Goldsboro Road Bicycle and Pedestrian Improvements. The forest conservation exemption requested is for a county road construction activity.

The review of the forest conservation exemption request is complete. The project is part of the approved Capital Improvement Program (CIP). The revised Simplified NRI/FSD submitted today, November 21, 2018, depicts a 35% design and is part of a larger Mandatory Referral county project review. This Simplified NRI/FSD is not for construction use. The Simplified NRI/FSD shows the proposed clearing of approximately 3.38 acres of forest including portions of forest within stream buffer. Specimen trees are shown to be removed. Each sheet of this Simplified NRI/FSD notes how a Tree Save Plan (Chapter 22A-9 plan) will be submitted for review and approval at the time of sediment control permit.

Forest Conservation Exemption Request No. 42019041E for the Goldsboro Road Bicycle and Pedestrian Improvements is confirmed with conditions. The revised Simplified NRI/FSD submitted on November 21, 2018 for the project is approved with conditions.

The conditions of approval are (1.) A Chapter 22A-9 Plan "Tree Save Plan" be submitted to the Planning Department for review and approval at the time of sediment control permit. (2) The Tree Save Plan must provide perimeter tree save measures which protect and mitigate damage to adjacent save trees and forest. (3) The Tree Save Plan must provide reforestation (forest planting) equal to the rate of forest cleared. (4). The standards of reforestation (forest planting) described in the Forest Conservation Law (Chapter 22A) subsections 22A-12(e), (g) and (h), must be met on the Tree Save Plan. and (5) The Planning Department requires onsite or nearby mitigation tree planting for the removal of specimen trees and this mitigation planting must be shown on the Tree Save Plan.

If there are subsequent modifications to the approved Simplified NRI/FSD, a separate amendment may be required for Planning Department review and approval prior to those activities occurring.

Sincerely,
Stephen Peck
Stephen Peck
Senior Planner and Inspector
Development Applications and Regulatory Coordination
M-NCPPC - Montgomery County Planning Department

CC: Sally Kishter, RK&K

ATTACHMENT C

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

February 16, 2018

Ms. Joan Wang
iDesign Enginering Inc.
12057-A Tech Rd.
Sivler Spring, MD 20904

Re: **COMBINED STORMWATER MANAGEMENT CONCEPT/*SITE DEVELOPMENT STORMWATER MANAGEMENT PLAN*** for
Request for Goldsboro Road Improvements
Preliminary Plan #: NA
SM File #: 283095
Tract Size/Zone: 21.97
Total Concept Area: 8.15
Watershed: Potomac Direct

Dear Joan:
Based on a review by the Department of Permitting Services Review Staff, the Stormwater Management Concept for the above mentioned site is **acceptable**. The Stormwater Management Concept proposes to meet required stormwater management goals via MicroBioretention in County ROW and a Wet Swale in SHA ROW.

The following items will need to be addressed during the detailed sediment control/stormwater management plan stage:

1. The proposed Microbioretention BMP1 for Goldsboro Rd. just West of Massachusetts Rd. is within the Montgomery County right of way and thus must be designed to Montgomery County standards. The maximum credited treatment for this practice is limited to the runoff from the 1-yr 2.6" rain event and must be computed corrected at detailed plan review.
2. The proposed Wet Swale BMP-2 for Goldsboro Rd. just East of Massachusetts Rd. is within the State right of way and thus must be designed to State standards. The practice must be designed, inspected and maintained by State Highway. The proposed practice utilized check dams, which are not acceptable for Montgomery County swales. If the ownership or maintenance responsibility of this practice change to County responsibility, the Wet Swale practice is not to be installed and the stormwater management treatment provided by this practices is waived.
3. The majority of the stormwater management target treatment of 19,050 cf. of storage is waived due to site constraints and high ground water elevations.
4. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
5. An engineered sediment control plan must be submitted for this development.
6. All filtration media for manufactured best management practices, whether for new development or redevelopment, must consist of MDE approved material.

This list may not be all-inclusive and may change based on available information at the time.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Bill Musico at 240-777-6340.

Sincerely,

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: me WJM

cc: C. Conlon
SM File # 283045

ESD: Required/Provided 19,050 cf / 4,152 cf
PE: Target/Achieved: 1.8"/0.3"
STRUCTURAL: 0.0 cf

ATTACHMENT D

MONTGOMERY COUNTY PLANNING BOARD
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

OFFICE OF THE CHAIR

September 26, 2014

Arthur Holmes, Jr. Director
Montgomery County Department of Transportation
1010 Monroe Street, 10th Floor
Rockville, Maryland 20850

RE: Goldsboro Road Pedestrian and Bicycle Improvements Project Phase I Facility Planning

Dear Mr. Holmes,

The Planning Board reviewed the Project Prospectus for the Goldsboro Road Pedestrian and Bicycle Improvements project on September 18, 2014, and made the following recommendations:

1. The Goldsboro Road Bicycle and Pedestrian Improvements project should proceed to Phase II of the facility planning process to develop a detailed design for the completion of the Preferred Alternative (#2).
2. MCDOT should conduct a future facility planning study to further evaluate ways to reconfigure the intersection of MacArthur Boulevard and Goldsboro Road to simplify pedestrian and bicycle crossing movements and improve the operation and safety for all intersection users.

Thank you for your attention to this matter. If you have any questions or comments concerning our review, please contact David Anspacher 301-495-2191.

Sincerely,

Casey Anderson
Chair

8787 Georgia Avenue, Silver Spring, Maryland 20910 Phone: 301.495.4605 Fax: 301.495.1320
www.montgomeryplanningboard.org E-Mail: mcp-chair@mncppc-mc.org