

Application for Section 404/401 Individual Permit

**Grandover West Development
Guilford College Road, Greensboro,
Guilford County, North Carolina**

**Prepared for:
Grandover Development & Koury Corporation**

**Prepared by:
ECS Southeast, LLP**

**APRIL 3, 2019
ECS PROJECT NO. 49: 1671-C**

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1.0 Executive Summary

The environmental report was prepared by ECS Southeast, LLP (ECS) for use by the Koury Corporation, also known as the “applicant”, in order to obtain an individual permit that will allow installation of proposed sewer lines, residential development, and a culvert and road crossing. Stream, wetland, pond, and buffer impacts are required for the completion of the proposed project. The purpose of the environmental report and narrative is to provide sufficient information for project evaluation by the United States Army Corps of Engineers (USACE) and the North Carolina Department of Environmental Quality (NCDEQ) Division of Water Resources (DWR).

The site had previous 404/401 permit approvals associated with the construction of Grandover Development, SAW-1997-00557. The previous project consisted of the excavation, culverting, and fill of 2.67 acres of jurisdictional waters and wetlands associated with unnamed tributaries of Reddick's Creek, including 3,690 linear feet of stream channel impacts. The stream impacts included the loss of 1,760 linear feet of stream channel by filling to install culverts and construct earthen dams, and 1,300 linear feet of stream channel by flooding. The proposed project was associated with the construction of a regional commercial retail center and office centers included in the master plan for the Koury Ventures Ltd., Partnership's Grandover Development.

As a special condition to the permit, the permittee mitigated for unavoidable impacts to wetlands by creating approximately 2.1 acres (total) of wetlands in a former pond bed, establishing vegetative zones of bottomland hardwood, scrub/shrub, emergent/herbaceous, and open water/aquatic. In addition to the proposed wetland creation, approximately 4 acres of scrub-shrub and emergent wetlands adjacent to the mitigation site were enhanced by increasing the duration of flooding and saturation. The wetland creation also protected by preventing further drainage of the pond bed through the continuous incising of Reddick's Creek over time. To mitigate for stream impacts associated with the project, approximately 3,060 linear feet of stream restoration was conducted by removing debris and obstructions, re-vegetating and stabilizing banks, removing pipes, redirecting normal flow to reduce bank erosion, enhancing and repairing existing riffle and pool areas, and providing forested buffer along each side of the stream. The restoration was proposed to occur along approximately 5,000 linear feet of headwater tributaries to South Buffalo Creek that are in various stages of degradation within Koury Corporation property on Holden Road in the vicinity of the Grandover development.

The overall project, known as Grandover West, is comprised of two smaller project boundaries; Grandover 8 West Apartments and Sewer line, and the Grandover West Commercial Sewer line and Road Crossing.

Grandover 8 West Apartments & Sewer line:

The project purpose is to develop a multifamily/residential community to meet the housing demand of the local market and compliment the neighboring commercial development. The project is located south of Gate City Boulevard and east of Guilford College Road, and consists of a proposed multifamily/residential community and associated sanitary sewer outfall utility, all of which account for approximately 13.33 acres of the approximate 1,500 acre Grandover Development. Upon completion, the development will be owned and managed by the Koury Corporation and the sewer outfall utility by the City of Greensboro.

ECS conducted the site reconnaissance on March 11, 2016. During the reconnaissance, the site was observed for evidence of ponds, streams, and wetlands. Streams and wetlands were observed on the site. The attached PJD letter Figure 6 shows the approximate location of the features delineated. ECS received the PJD letter dated January 30, 2017, from Mr. David Bailey with the USACE Raleigh Regional Office.

The site offers key components for a multifamily/residential community, including central location, ease of access to interstates, major and minor arterial and collector roads, sufficient property size for the required building configurations, and appropriate and safe traffic flow for the future residents. The physical location of the multifamily/residential community serves as a complimenting buffer between the previously developed Grandover Resort golf course and adjacent single-family residential lots, and current commercial development across Grandover Village Road. The proposed community is also complimentary to the existing commercial and residential developments in the vicinity along West Gate City Boulevard and Jamestown Parkway.

Grandover West Commercial Sewer line & Road Crossing:

The project purpose is to provide the necessary sanitary sewer infrastructure and road crossing access for the adjacent commercial/retail development on Guilford College Road and Grandover Village Road. The project area consists of sanitary sewer outfall utility to serve a proposed commercial and retail development, all of which account for approximately 41.71 acres of the approximate 1,500 acre Grandover Development. Upon completion, the development will be owned and managed by the Koury Corporation and the sewer outfall utility by the City of Greensboro.

ECS conducted the site reconnaissance on July 16, 2018. During the reconnaissance, the site was observed for evidence of ponds, streams, and wetlands. Streams and ponds were observed on site. The attached PJD letter Figure 6 shows the approximate location of the features delineated. ECS received the PJD letter dated September 18, 2018, from Ms. Jean Gibby with the USACE Raleigh Regional Office.

The project proposes to install a sanitary sewer line within an easement that is approximately 2,335 feet long by 60 feet wide. The current design for the sanitary sewer outfall includes a roadway crossing for ingress/egress access, and is the best design given the current development of the roads, existing infrastructure, and topography.

Alternate routes for the proposed sanitary sewer lines, the installation of retaining walls, and the avoidance of jurisdictional wetlands/waters, were determined to not be feasible during conceptual design. Alternate designs impacted the ability to buffer the adjacent development from the current commercial developments and road infrastructure, reduced the overall development density and required parking, were extremely cost prohibitive, indicated complex maintenance issues associated with existing topography, including depth required to the proposed utilities.

The alternative residential locations that were considered for the proposed apartments are located within the Grandover Development and exist on land owned by the Koury Corporation. Due to the fact that the surrounding properties are already owned by the Koury Corporation, most other locations outside Grandover Development proved to be cost prohibitive and were discounted as viable options; therefore, other locations for the apartments outside of the Grandover Development were largely not considered. The preferred alternatives were selected

due to limited impacts to the environment, costs of development, operations, local market demands, and logistics associated with utilities required to support the proposed infrastructure.

Avoidance and minimization of waters was performed to the greatest extent possible with respect to the waters on-site and the space needed to allow successful installment of the sewer lines, proposed developments, and road crossing. The project as proposed has been designed in an effort to minimize the impacts to the remaining waters and the stream buffers on site. Due to the listed alternatives, the most feasible and cost effective designs were put in place as the preferred options. All other design attempts to move the sewer line into a different location were either not feasible due to design and construction constraints, maintenance issues, and/or would result in additional impacts to waters of the U.S. Avoidance and minimization of waters was performed to the greatest extent possible with respect to the waters on-site and the space needed to allow successful installment of the developments. No other impacts to waters are proposed for the remainder of the project.

The project as proposed will permanently impact 144 LF of stream, 0.011 acres of open water (ponds), 0.15 acre of wetland, 441 LF and 0.372 acre (16, 214 SF) of Zone 1 stream buffer, and 1,032 LF and 0.369 acre (16,077 SF) of Zone 2 stream buffer. As part of the Buffer Mitigation, required by DWR (Randleman Buffer Rules) and the City of Greensboro, the impact totals for Zone 2 have a 1.5 multiplier and Zone 1 have a 3 multiplier, equating to required mitigation for 24,116 square feet of Zone 2 buffer and 48,642 square feet of Zone 1 buffer. ECS performed the North Carolina Stream Assessment Method (NCSAM) and North Carolina Wetland Assessment Method (NCWAM) on the stream and wetland proposed for impact. Both assessments resulted in a rating of Low, so the applicant is proposing a mitigation ratio of 1:1. The applicant will pursue mitigation of the wetlands, streams, and riparian buffers through the North Carolina Division of Mitigation Services. (NCDMS).

2.0 Purpose and Need

Grandover 8 West Apartments & Sewer line (Multifamily/Residential Community Development) – Purpose and Need:

The project purpose is to develop a multifamily/residential community to meet the housing demand of the local market and compliment the neighboring commercial development. The project is located south of Gate City Boulevard and east of Guilford College Road, and consists of a proposed multifamily/residential community and associated sanitary sewer outfall utility, all of which account for approximately 13.33 acres of the approximate 1,500 acre Grandover Development. Upon completion, the development will be owned and managed by the Koury Corporation and the sewer outfall utility by the City of Greensboro.

Grandover West Commercial Sewer line & Road Crossing (Commercial/Retail Development) – Purpose and Need:

The project purpose is to provide the necessary sanitary sewer infrastructure and road crossing access for the adjacent commercial/retail development on Guilford College Road and Grandover Village Road. The project area consists of sanitary sewer outfall utility to serve a proposed commercial and retail development, all of which account for approximately 41.71 acres of the approximate 1,500 acre Grandover Development. Upon completion, the development will be owned and managed by the Koury Corporation and the sewer outfall utility by the City of Greensboro.

3.0 Background

Grandover 8 West Apartments & Sewer line (ECS Project No. 49: 1671):

The site is located at the intersection of Guilford College Road and West Gate City Boulevard in Greensboro, Guilford County, North Carolina. The site consists of an approximate 12 acre portion of a parent parcel totaling approximate 15 acres. According to the Guilford County Online GIS Database website, the Parcel Identification Number (PIN) is 7832205335 (14.76 acres). The site consists of wooded land, cleared areas undergoing site development, and fields. The surrounding properties consist of wooded land, fields, commercial properties, single-family residences, and the Grandover golf course. Based on the United States Geological Survey (USGS) Topographic Map, an unnamed tributary to Reddicks Creek is depicted on site.

Grandover West Commercial Sewer line & Road Crossing (ECS Project No. 49: 7334):

The site is located off of Guilford College Road in Greensboro, Guilford County, North Carolina. The site consists of a proposed sewer line which is approximately 2,335 LF by 60 foot wide and 3.22 acre portion of a parent parcel totaling approximately 195 acres. According to the Guilford County Online GIS Database website, the Parcel Identification Number (PIN) is 7831278989 (194.56 acres). The site consists of wooded land and fields. The surrounding properties consist of wooded land, fields, commercial properties, single-family residences, and the Grandover golf course. Based on the United States Geological Survey (USGS) Topographic Map, ponds and an unnamed tributary to Reddicks Creek are depicted on site.

Jurisdictional Determinations

USACE Jurisdictional Determinations (JDs) were issued in conjunction with USACE approvals for the project area are described below and included as attachments:

- SAW-2016-02169 – Grandover 8 West Apartments & Sewer line
 - Preliminary Jurisdictional Determination (PJD) – ECS received the PJD letter dated January 30, 2017, from Mr. David Bailey with the USACE Raleigh Regional Office. The waters approximate boundaries of these waters are included in the attachments. Additionally, the waters are listed in the following table.

| <u>Table 1. SAW-2016-02169: Verified Waters</u> | | | |
|--|---|-------------------------------------|------------------|
| Feature | Aquatic resources in review area (Acreage or LF) | Type of Aquatic Resource | Authority |
| Stream SA | ~439 LF | Non-wetland | Section 404 |
| Wetland WA | ~0.06 Acres | Wetland | Section 404 |
| Wetland WA-100 | ~0.19 acres | Wetland | Section 404 |
| Wetland WB | ~0.14 | Wetland | Section 404 |

- SAW-2018-01827 – Grandover West Commercial Sewer line & Road Crossing
 - Preliminary Jurisdictional Determination (PJD) – ECS received the PJD letter dated September 18, 2018, from Ms. Jean Gibby with the USACE Raleigh Regional Office. The waters approximate boundaries of these waters are included in the attachments. Additionally, the waters are listed in the following table.

| Table 2. SAW-2018-01827: Verified Waters | | | |
|---|---|---------------------------------|------------------|
| Feature | Aquatic resources in review area (Acreage or LF) | Type of Aquatic Resource | Authority |
| Stream SA | ~178 LF | Non-wetland | Section 404 |
| Pond PA | ~0.22 acres | Non-wetland | Section 404 |

Permitting

Section 404/401 permit approvals associated with the construction of Grandover Development are described below and included as attachments:

- SAW-1997-00557 – Grandover Development
 - Department of the Army Permit – The proposed project consists of the excavation, culverting, and fill of 2.67 acres of jurisdictional waters and wetlands associated with the unnamed tributaries of Reddick's Creek, including 3,690 linear feet of stream channel impacts. These stream impacts include the loss of 1,760 linear feet of stream channel by filling to install culverts and construct earthen dams, and 1,300 linear feet of stream channel by flooding. The proposed project is associated with the construction of a regional commercial retail center and office centers included in the master plan for the Koury Ventures Ltd., Partnership's Grandover Development.

As a special condition to the permit, the permittee shall mitigate for unavoidable impacts to wetlands by creating approximately 2.1 acres (total) of wetlands in a former pond bed, establish vegetative zones of bottomland hard, scrub/shrub, emergent/herbaceous, and open water/aquatic. In addition to the proposed wetland creation, approximately 4 acres of scrub-shrub and emergent wetlands adjacent to the mitigation site will be enhanced by increasing the duration of flooding and saturation. The wetland creation also protected by preventing further drainage of the pond bed through the continuous incising of Reddick's Creek over time. To mitigate for stream impacts associated with the project, approximately 3,060 linear feet of stream restoration will be conducted by removing debris and obstructions, re-vegetating and stabilizing banks, removing pipes, redirecting normal flow to reduce bank erosion, enhancing and repairing existing riffle and pool areas, and providing forested buffer along each side of the stream. This restoration is proposed to occur along approximately 5,000 linear feet of headwater tributaries to South Buffalo Creek that are in various stages of degradation within Koury Corporation property on Holden Road in the vicinity of the Grandover development.

| Table 3. SAW-1997-00557: Previous Impacts | | | | | |
|--|--------------|-------------|-------------|---------------|-----------------|
| Feature | Acres | S.F. | L.F. | Impact | Duration |
| Stream 1 | NA | NA | 1,760 | Culvert | Permanent |
| Stream 2 | NA | NA | 1,300 | Flooding | Permanent |
| Stream 3 | NA | NA | 630 | Fill | Permanent |
| Stream Total | NA | NA | 3,690 | NA | NA |
| Wetland | 2.67 | NA | NA | NA | Permanent |

4.0 Existing Site Conditions

4.1 Literature Review

ECS reviewed the USGS Topographic Map, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey for Guilford County, the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), and the Geologic Map of North Carolina to obtain information regarding the site.

- The USGS Topographic Map, Guilford and High Point East, North Carolina Quadrangles, depicts unnamed tributaries to Reddicks Creek on site (Figure 2).
- The USDA-NRCS Web Soil Survey for Guilford County does not depict surface waters on site (Figure 3). The site is mapped as Enon fine sandy loam (EnB, EnC, & EnD) and Mecklenburg sandy clay loam (MhB2 & MhC2). Enon fine sandy loam is well drained and occurs on hillslopes on ridges. Mecklenburg sandy clay loam is well drained and occurs on hillslopes on ridges. The soils listed on site do not appear on the National Hydric Soils list for Guilford County.
- ECS reviewed the FEMA FIRM Service Center website. The site is depicted on FIRM panels 3710783100J and 3710783200J, dated June 18, 2007 (Figure 4). The map indicates that the site is located in an area that has been classified as Zone X, an area outside the 0.2% annual chance floodplain.
- ECS reviewed the USFWS NWI Map of the site (Figure 5). The map depicts a Freshwater Forested/Shrub Wetland (PFO1A) and Riverine Wetland (R5UBH) on site.
- The Geologic Map of North Carolina indicates that the site is located in the Piedmont Physiographic Province. The soils encountered in this area are the residual product of in-place chemical weathering of rock presently underlying the site. In general, shallow unconfined groundwater movement within the overlying soils is controlled largely by topographic gradients. Recharge occurs primarily by infiltration along higher elevations and typically discharges into streams or other surface water bodies. The elevation of the shallow water table is transient and can vary greatly with seasonal fluctuations in precipitation. Movement in this water table is generally from higher to lower elevations. As such, shallow groundwater would be expected to flow beneath the site to the east and south towards unnamed tributaries to Reddick's Creek.

4.2 Site Reconnaissance

Grandover 8 West Apartments & Sewer line: Mr. Brandon Fulton, LSS, PWS and Mr. Ken Vilagos of ECS conducted the site reconnaissance on March 11, 2016. During the reconnaissance, the site was observed for evidence of ponds, streams, and wetlands. Streams and wetlands were observed on the site. The attached PJD Letter Figure 6 shows the approximate location of the features delineated.

Grandover West Sewer line & Road Crossing: Mr. Ken Vilagos conducted the site reconnaissance on July 16, 2018. During the reconnaissance, the site was observed for evidence of ponds, streams, and wetlands. Streams and ponds were observed on site. The attached PJD letter Figure 6 shows the approximate location of the features delineated.

4.3 Streams

The project area contains two streams. The stream classifications and approximate length and area are listed in the following table:

| Table 4. Stream Table | | | |
|--|------------------------------|----------------------------------|--------------------------------|
| Feature | Stream Classification | Approximate Length (L.F.) | Approximate Area (S.F.) |
| <u>Grandover 8 West Apartments & Sewer line:</u> | | | |
| Stream SA | Intermittent | 439 | 1,887 |
| <u>Grandover West Commercial Sewer line:</u> | | | |
| Stream SA | Intermittent | 178 | 534 |
| Total | | 615 | 2,421 |

Two separate tributaries, both labeled as SA, are located transecting both sites. The streams varied from approximately one to three feet in width and less than a foot to two feet in depth. The streams had well defined bed and bank, portions of flowing water, exhibited evidence of an Ordinary High Water Mark (OHWM), and assorted substrate. Stream SA on the Grandover West site originates from a headwater wetland area. Stream SA on the Grandover West Commercial Sewer line site originates from a headcut.

4.4 Wetlands

The site contains three wetland areas. The wetland designations and approximate areas are listed in the following table:

| Table 5. Wetlands Table | |
|--|---------------------------------|
| Feature | Approximate Area (Acres) |
| <u>Grandover 8 West Apartments & Sewer line:</u> | |
| Wetland WA | 0.06 |
| Wetland WA-100 | 0.19 |
| Wetland WB | 0.14 |
| <u>Grandover West Commercial Sewer line:</u> | |
| None | NA |
| Total | 0.38 |

Wetlands WA and WA-100 are located on the Grandover 8 West Apartments & Sewerline portion of the site. Wetland WA is classified as a headwater wetland and Wetland WA-100 is classified as an abutting floodplain wetland. Wetland WB is considered a headwater wetland area and is adjacent to the other waters on-site.

The wetlands on site consisted of areas of saturation, a high water table, and hydric soils. Vegetation, including Green Ash, Sweetgum, American hornbeam, American elm, and Green-briar vine were observed in the wetland areas. The wetland area exhibited wetland indicators of hydrophytic vegetation, wetland hydrology, and hydric soils during the site reconnaissance. The wetland areas on site are separated by distinct breaks in topography, vegetation and/or soil. The upland areas surrounding the wetland areas consist of bright soils that are well drained.

4.5 Open Waters

The site contains a portion of one open water Pond. The pond classifications and approximate area are listed in the following table:

| Table 6. Open Waters Table | |
|--|---------------------------------|
| Feature | Approximate Area (Acres) |
| <u>Grandover West Commercial Sewer line:</u> | |
| Pond PA | 0.22 |
| Total | 0.22 |

The pond PA is located on the Grandover West Sewer line portion of the project. The pond had a distinctive OHWM and surface water was observed during the site reconnaissance. Stream SA flows into pond PA, which eventually discharges south off-site; therefore, the pond exhibits physical hydrological connections to on-site, and down-gradient off-site jurisdictional waters.

4.6 Watershed Classification

The site is located in the Cape Fear River Basin, which is not a state mandated river basin subject to the 50-foot riparian buffer zone; however, the site is located in the Randleman Watershed, which is subject to the Randleman Watershed Riparian Buffer Rules. Surface waters within the Randleman watershed are subject to a 50-foot riparian buffer zone. Riparian buffers exist on both sides of surface waters, including intermittent and perennial streams; lakes and ponds, as determined by the most recent USGS Topographic Map and/or most recently published soil survey, and must be protected and maintained in accordance with the NCDWR rules.

4.7 Vegetation

The site currently consists of undeveloped, wooded land and fields. The fields have been altered due to clearing activities associated with neighboring development or previous infrastructure. The fields were observed to consist of various grass and weed species, including Fescue (*Festuca* sp.), Bermudagrass (*Cynodon dactylon*), Crabgrass (*Digitaria* sp.), Broomsedge (*Andropogon virginicus*), Ragweed (*Ambrosia artemisiifolia*), Lespedeza (*Lespedeza cuneata*), and Dogfennel (*Eupatorium capillifolium*).

The wooded land on site consists of mixed pine and hardwood species including various oak, hickory, cedar, gum, maple, beech, and elm species. Understory vegetation includes Christmas fern (*Polystichum acrostichoides*), Green-briar vine (*Smilax rotundifolia*), Muscadine grape (*Vitis rotundifolia*), and Blackberry brambles (*Rubus* sp.).

4.8 Cultural Resources

ECS reviewed the Online SHPO GIS database (<http://gis.ncdcr.gov/hpoweb/>). During the database review, ECS did not identify recorded historical sites on the subject site. The database review did not identify recorded historical sites on the subject site or within 1,500 feet of the site (Figure 3). The database review did not identify other Indian religious sites, historic structures or historic places located within 1,500 feet from the site. A copy of the viewer image is included as an attachment.

Based on our site visit, the field visits and the review of the Online SHPO GIS, ECS did not identify significant architectural or archaeological resources on the subject site or in the surrounding vicinity; therefore, the project should have no effect on cultural resources as proposed.

4.9 Biological Resources/Endangered Species

ECS reviewed the NC NHP and the USFWS IPaC websites to review potentially Threatened and Endangered Species and other Biological Resources associated with the project. ECS was able to review the attached NC NHP response letter and the IPaC USFWS species list. The IPaC species list states lists the Small Whorled Pogonia and Schweinitz's Sunflower to be species considered for the project.

ECS did not observe the Small-whorled Pogonia or potential habitat during multiple visits to the site. Therefore, the project is not likely to adversely affect the Small-whorled Pogonia species on site.

ECS did not observe Schweinitz's Sunflower during multiple visits to the site. The Schweinitz's Sunflower was added to the USFWS's Threatened and Endangered Species list for Guilford County in an updated list dated October 4, 2018. ECS contacted the USFWS on March 18, 2019, for an informal inquiry into the known locations of Schweinitz's Sunflower in Guilford County. The USFWS informed ECS that the species has been observed in the southeastern portion of the county adjoining Randolph County, which was previously listed as a county with known observations of the species. The USFWS stated that observations and known locations of the plant in the southwestern portions of Guilford County were not known at the time of correspondence. ECS did not observe the Schweinitz's Sunflower or potential habitat during multiple visits to the site. Based on the lack of observations, the projects location, and the distance from known populations, the project is not likely to affect Schweinitz's Sunflower species on site.

ECS does not believe the project as proposed has potential to affect threatened and endangered species on site. The letters are included as attachments.

5.0 Project Construction

Proposed Design Details

Grandover 8 West Apartments & Sewer line (Multifamily/Residential Community Development) - Proposed Action and Design Details:

The site offers key components for a multifamily/residential community, including central location, ease of access to interstates, major and minor arterial and collector roads, sufficient property size for the required building configurations, and appropriate and safe traffic flow for the future residents. The physical location of the multifamily/residential community serves as a complimenting buffer between the previously developed Grandover Resort golf course and adjacent single-family residential lots, and current commercial development across Grandover Village Road. The proposed community is also complimentary to the existing commercial and residential developments in the vicinity along West Gate City Boulevard and Jamestown Parkway. The proposed multifamily/residential community will consist of five apartment buildings, specifically:

1. Building 1 – 32,211 SF, 24 units, and 3 story
2. Building 2 – 32,211 SF, 24 units, and 3 story
3. Building 3 – 51,763 SF, 136 units, and 5 story
4. Building 4 – 32,211 SF, 24 units, and 3 story
5. Building 5 – 42, 840 SF, 30 units, and 3 story

The apartments will have 238 units total, consisting of a mixture of 1, 2, and 3 bedroom layouts. The total amount of parking spaces is 448 spaces and the buildings will have 40 garages. Upon completion, the total proposed development will be approximately 7.65 acres with a built upon area of 57.4%.

The current design is the best use given the current development of the roads and the existing infrastructure in comparison with the original Grandover Master Plan. (Note: The development of Grandover Village Road was not contemplated on the original Grandover Master Plan.)

Grandover West Commercial Sewer line (Commercial/Retail Development) - Proposed Action and Design Details:

The project proposes to install a sanitary sewer line easement that is approximately 2,335 feet long by 60 feet wide. The current design for the sanitary sewer outfall and a roadway crossing for ingress/egress access is the best design given the current development of the roads, existing infrastructure, and topography.

The proposed culvert and roadway crossing will extend east of Guilford College Road approximately 144 LF. There are existing roadway extensions from both Guilford College Road and Grandover Village Road. Approximately 110 LF of the stream will be impacted as a result of the installation of the sanitary sewer line; therefore, piping the 110 LF of stream will allow for the proper installation, and grading activities around and over the new sanitary sewer line. By installing in this location, it will greatly improve the permanent water management of storm water flowing from Guilford College Road and the adjacent future commercial development. The placement of the culvert in this location also prevents stormwater erosion, while also providing increased stability for the future development and roadway shoulders.

The last 34 LF of culvert is to be constructed to allow for road access construction for the future development of Parcel F, as outlined in Section 2 of Exhibit A, attached hereto. The roadway crossing allows the construction of adjacent commercial/retail entry/exit access point and adjacent parking structures, while also meeting the City of Greensboro standards for multiple access entrances/exits to a development. Additionally, the roadway crossing adheres to good development practices as it relates to traffic flow and emergency ingress and egress. The existing roadway curb cut for this ingress/egress location was installed by NCDOT during the original construction of Guilford College Road anticipating the entry into this future parcel.

The commercial location offers key components for commercial/retail development, including central location and ease of access to interstates, major and minor arterial and collector roads, and appropriate and safe traffic flow for the future patrons. The physical location is complimentary to the existing proposed residential developments in the vicinity along West Gate City Boulevard and Jamestown Parkway. The proposed development consists of approximately 170,000+ square feet of commercial facilities, see attached concept plan for specifics.

General Work in Impact Areas:

The proposed installation of the sewer lines, grading activities for the building footprints, and proposed culvert and roadway crossing will be implemented broadly in the following sequences:

1. The limits of waters of the U.S. and the extents of the disturbance limits will be surveyed and marked in the field.
2. Install temporary and permanent sediment control devices.
3. Clear and grub.
4. Construct coffer dams and install pump around system.
5. Begin placement of fill.
6. Install culvert, utilities, etc.
7. Removed coffer dams and pump around system.
8. Restore stream banks to similar pre-construction conditions.
9. Place stabilization matting, live stakes, and seed.
10. Install roadway storm drainage and utilities.
11. Seed per NCDEQ requirements.
12. Finalize desired grades and devices:
 - For permanent devices, finish construction, filling, grading, and paving (if necessary) to designed elevations.
 - For temporary disturbances and devices, return to existing grades and remove equipment and materials from locations.
13. Once disturbed areas are stabilized, removed any of the temporary control devices and seed.

The sequence of the construction phases has been designed to minimize areas of bare and exposed soil. Erosion and control measures will be inspected and maintained as needed to prevent issues with distribution of sediments to nearby surface waters, including streams. Exposed and bare soil will be temporarily stockpiled and will be moved as quickly as possible, with relation to project timelines. Disturbed areas will be reseeded in an effort to prevent erosion and capture sediments. The Grandover Development has an approved stormwater management plan with the City of Greensboro.

6.0 Alternatives to the Proposed Action

6.1 Project Summary

Twenty three years ago the development depicted in Section 1 of the Grandover Development Concept, outlined in the original permit dated 1997-2001, included a conceptual development plan consisting of 450 single-family, residential units and 520,000 SF of commercial and office space, and a prescribed road network. Over time, and not until approximately 2010, NCDOT/City of Greensboro/Town of Jamestown commenced with the task of improving the traffic corridor between the jurisdictions by way of realigning Guilford College Road, the installation of the Jamestown Bypass (W. Gate City Boulevard widening/improvement), and the improvement to Jamestown's Main Street, all of which would ultimately have an adverse effect on the development tract in question and to any adjacent proposed development projects.

As a byproduct of NCDOT, GDOT, and Jamestown's efforts to improve traffic flow, in 2013 a City of Greensboro Road, Grandover Village Road, was permitted and constructed dissecting Section I, connecting the Town of Jamestown's Main Street to W. Gate City Boulevard. This resulted in a plan now consisting of a reduction to the developable area in Section 1 to only support approximately 238 multifamily dwelling units and 100,000 SF of commercial and office space.

Also at that time, the jurisdiction lines separating the City of Greensboro from the Town of Jamestown shifted. Based on the Grandover Master Plan associated with the original permit, one half of Section 1 and 2, and a portion of Section 5 now officially fall within the Town of Jamestown's jurisdiction, and not within the City of Greensboro's jurisdiction. The originally contemplated utility routes dating back 23 years to serve these tracts are no longer viable. As a result, the sanitary sewer utility designed to serve the proposed development in question, can no longer connect to the sanitary sewer lines running west and parallel to Grandover Village Road (utility lines that are now the Town of Jamestown utility lines), and must be served by the City of Greensboro. Only the properties on the west side of the road, which is the jurisdiction line, can connect into Town of Jamestown's utility lines.

Due to economic influences in the greater piedmont triad area, municipal transportation upgrades, extra-territorial jurisdiction changes, etc., the majority of the development plan that was initially proposed within the 1997-2001 permit application depicting the Grandover Concept Development has neither commenced nor been completed.

23 years into the project and the current statistics are as follows:

- Only 6% of the conceptual 2,376 Single Family Residential Units have been constructed to date,
- 0% of Multifamily Units have been constructed,
- 0% of the Care Facility units have been constructed,
- Only 6% of Office and Commercial space has been constructed,
- Only 37% of the Hotels rooms have been constructed, and;
- 0% of Exhibition space has been constructed.

The proposed apartments would not share any amenities associated with the Grandover Resort, and will utilize new infrastructure engineered to relate to local development, Town and City jurisdiction changes, and configuration dictated by roadway improvements.

6.2 Previously Permitted vs. Impacted

The previous permit, SAW-1997-00557, had six proposed impact locations that were permitted. The following list shows the impact areas and indicates a Yes, No, or Maybe if the areas were impacted or not.

Impact Area #1 (Impacted vs. Permitted Figures 1 & 2)

Permitted: 1.58 acres – Wetlands/Streams – Commercial Retail

Impacted: 1.58 acres – Yes – Filled and graded – Not Developed

Impact Area #2 (Impacted vs. Permitted Figures 3 & 4)

Permitted: 0.34 acres – Ponds/Waters – Dammed to create Ponds & Mitigation Site

Impacted: 0.34 acres – Yes – Dammed to create Ponds & Mitigation Site

Impact Area #3 (Impacted vs. Permitted Figures 5 through 8)

Permitted: 0.28 acres – Wetlands – Developed with Office Parcel

Impacted: 0.28 acres – Split into two wetland areas:

1. Impact Area #3-1 – Yes – Filled and graded – Not Developed
2. Impact Area #3-2 – Maybe – Appears to be cleared and graded – Not Developed

Impact Area #4 (Impacted vs. Permitted Figures 9 through 11)

Permitted: 0.08 acres – Wetlands – Office Parcel

Impacted: 0.08 acres – Maybe – Surrounding area was cleared and graded. Not clear on Impact Area #4.

Impact Area #5 (Impacted vs. Permitted Figures 12 & 13)

Permitted: 0.05 acres – Pond/Waters – Office Parcel & Wet Pond

Impacted: 0.05 acres – Yes – Wet Pond Created & Eastern adjoining commercial development

Impact Area #6 (Impacted vs. Permitted Figures 14 & 15)

Permitted: 0.3 acres – Wetlands – Road Crossing

Impacted: 0.3 acres – Yes – Grandover Parkway Road Crossing

ECS has also provided the following exhibits that show the six permitted and impacted locations from previous permit. The exhibits are aerial shots from Google Earth imagery that indicate the approximate locations as detailed in the previous permit. The impacted vs. permitted figures 16 and 17 show the approximate mitigation locations. A copy of the exhibits are included as attachments.

6.3 Alternative Designs & Analysis

Alternate routes for the proposed sanitary sewer lines, the installation of retaining walls, and the avoidance of jurisdictional wetlands/waters, were determined to not be feasible during conceptual design. Alternate designs impacted the ability to buffer the adjacent development from the current commercial developments and road infrastructure, reduced the overall development density, and required parking, were extremely cost prohibitive, indicated complex

maintenance issues associated with existing topography, and depth required to the proposed utilities.

Grandover 8 West Apartments & Sewer line (Multifamily/Residential Community Development) - Alternative Route & Locations:

On-Site Alternatives Analysis

Sewer line:

1. Alternative Sewer Route – A – Install a sanitary sewer line west of the dwelling units running south along Grandover Village Road to the Guildford College Road/ Grandover Village Road intersection. Engineering assessments of this route suggest this route to be infeasible and is cost prohibitive due to the topography of the land as it relates to the lowest finished floor elevation of the dwelling units. The sewer line depths would simply become extremely deep and would result in another complicated crossing of the Colonial Gas line, the Piedmont Natural gas line, and the Duke Energy powerline easements. This route also results in complex maintenance issues for the City of Greensboro. See attached Exhibit B.
2. Alternative Sewer Route – B – Install a sanitary sewer line East of the dwelling units on the adjacent Grandover Resort property running South within the 8th fairway of the Grandover Resort Golf Course. Engineering assessments of this route suggest this route to be infeasible due to the fact that the two contiguous properties are owned and managed by different entities. Additionally, this route would be prohibited due to the cost of impacts associated with interrupting the Golf Course. See attached Exhibit B.
3. Sewer line Alternative Installation Option # 1 – Options for jack and bore for the sanitary sewer line installation were reviewed for the project and determined to not be a buildable option. The existing grades at the start point are already designed to be at the lowest grade allowable for a proper tie-in into the end point of the sewer line. Lowering the grade further would cause the proposed natural gravity flow sewer line to not function and in turn call for the installation of a sanitary pump station. The installation of a pump station is cost prohibitive.
4. No Build Alternative – Under the no build alternative, the sewerline as proposed could not be constructed and installed. The property would be without the necessary utilities to serve the proposed residential development and the land as it is currently zoned; therefore, the area would remain undeveloped and the need for residential developments to support the market demand in the area would not be fulfilled.

Residential Development:

5. Alternative Site Layout – F – The Alternate Layout as outlined depicts the option of removing a building and altering the layout of the development. The alternate layout proposes lowering the density of the community to 168 dwelling units and relocating the sanitary sewer line severing the adjacent structures to an alternate location. Although the need to impact the 0.15 acre wetland is eliminated in this layout, the economics associated with this layout are severely affected. These factors include the decrease in density, the increase in the amount of acreage remaining undeveloped, and the inability to meet the current market

demands. This layout is detrimental to the development and therefore not economically feasible. Under this layout, the costs associated with the development of the project would not be offset by the long-term projected profits; therefore, this option is not feasible.

6. Alternative Site Layout – G – The Alternate Layout as outlined depicts the installation of a 425' long by 20' high retaining wall and the relocation of the sanitary sewer line. In order to construct and install the retaining wall, the undertaking and costs are estimated to be \$358,500.00. The proposed sewer line in this layout is severing the adjacent structures and is moved to an alternate location, and does not propose impacts to the 0.15 acre wetland area. This layout is neither economically feasible nor esthetically pleasing. Although the wetland impact is eliminated, the economics associated with this layout are severely affected by the increase in the development cost associated with the construction of a retaining wall and the unsightly aesthetics of the wall to the neighboring golf community. Additionally, the movement of the sewer line is impractical with this proposed layout because the line would be installed behind the retaining wall and approximately under 20' of parking lot. This would also present issues for future maintenance needs as the line would not only be buried beneath the parking lot, but also 20 feet below ground surface.
7. Alternative Site Layout – H – The Alternate Layout as outlined depicts the installation of a 425' long by 20' high retaining wall. In order to construct and install the retaining wall, the undertaking and costs are estimated to be \$358,500.00. This layout is neither economically feasible nor esthetically pleasing. Although the permanent impact is eliminated, a temporary impact remains for the installment of the proposed sewer line. The proposed mitigation costs for the project as proposed in the preferred alternative layout are approximately \$71,000.00. That is nearly 20% of the cost and undertaking to install the retaining wall; therefore, economics associated with this layout are severely affected by the increase in the development cost for construction of the retaining wall, as they do not offset the mitigation fees. Additionally, the unsightly aesthetics of the wall to the neighboring golf community present a negative component of this alternate layout.
8. No Build Alternative – Under the no build alternative, the residential development as proposed could not be constructed and installed. The property would not be developed with the proposed residential development and the land as it is currently zoned; therefore, the area would remain undeveloped and the need for residential developments to support the market demand in the area would not be fulfilled.

Off-Site Alternatives Analysis

The following alternative residential locations that were considered for the proposed apartments are located within the Grandover Development and exist on land owned by the Koury Corporation. Due to the fact that the surrounding properties are already owned by the Koury Corporation, most other locations outside Grandover Development proved to be cost prohibitive and were discounted as viable options; therefore, other locations for the apartments outside of the Grandover Development were largely not considered.

9. Alternative Residential Location #2 – Both the size of the parcel, the reality that most of this parcel is unbuildable due to the existing topography, and the "Cu-PDM - Approved Zoning and Land Use" uses outlined in the original approved City of Greensboro "Grandover Mixed

Use Development Plan (Unified Development Plan)", as outlined in the original DA Permit No. SAW-1997-00557, eliminate this location as a viable alternate location. Also, significant stream, pond, and buffer impacts would be proposed in order to fully execute this option and it would propose the most impacts to the environment. See attached Exhibit E.

10. Alternative Residential Locations #3 & #4 – The "Cu-PDM - Approved Zoning and Land Use" uses outlined in the original approved City of Greensboro "Grandover Mixed Use Development Plan (Unified Development Plan)", as outlined in the original DA Permit No. SAW-1997-00557, allows up to 550,000 SF of Office & commercial development. Also, impacts to approximately 1.57 acres of waters of the U.S. in locations #3 & #4 were initially proposed for commercial development in the original DA Permit No. SAW-1997-00557 as depicted on Section 2 of the Grandover Master Plan. In order to execute the development of the locations #3 and #4, the intended use for commercial development will be implemented. Locations #3 & #4 to date have been cleared, filled, and the development type has commenced. The area is currently being marketed to the public as such and thus is not viable alternate location. See attached Exhibit E.
11. Alternative Residential Location #5 – The "Cu-PDM - Approved Zoning and Land Use" matches the intended use of the area as outlined in the original approved City of Greensboro "Grandover Mixed Use Development Plan (Unified Development Plan)", as outlined in the original DA Permit No. SAW-1997-00557, allows up to 520,000 SF. of "Office & Commercial Development", "450 Single Family/Multifamily Residential Units", and "450 Single Family/Town House/Condominium Residential Units". This "Office & Commercial Development" type has commenced and is currently being constructed and marketed to the public as Grandover Village Shopping Center and thus is not viable alternate location. See attached Exhibit E.
12. Alternative Residential Location #6 – This location falls within the Town of Jamestown and was not a viable option to be considered under the original "Cu-PDM - Approved Zoning and Land Use" uses outlined in the original approved City of Greensboro "Grandover Mixed Use Development Plan (Unified Development Plan)". This location has been developed and is currently being used by the public for its' intended purpose and thus not a viable alternate location. See attached Exhibit E.
13. No Build Alternative – Under the no build alternative, residential and multifamily dwellings would not be built for the community. The proposed location of the multifamily/residential community serves as a complimenting buffer between the previously developed Grandover Resort golf course and adjacent single-family residential lots, and current commercial development across Grandover Village Road. Additionally, of the originally proposed Grandover Master Plan, only 6% of the conceptual 2,376 Single Family Residential Units and 0% of Multifamily Units have been constructed to date. In the no build alternative, the current need for additional multi-family housing will not be met, and the beneficial buffer surrounding the current and proposed commercial development would not be fulfilled.

Grandover West Commercial Sewer line & Road Crossing (Commercial/Retail Development) - Alternative Route & Locations:

On-site Alternatives

Sewer line:

1. Commercial Sewer line Alternative Location #1: - The options to install the sanitary line closer to the existing curb line alongside Guilford College Road were considered as an alternative layout. However, this option was ruled out due to the existence of the City of Greensboro water lines and Duke Energy's powerlines within this footprint. Therefore, this option is not feasible from a construction and design aspect.
2. Commercial Sewer line Alternative Installation Option # 1 – The options for jack and bore for the sanitary sewer line installation were reviewed for the project. The existing grades at the start point, an elevation of 794 feet point in order to clear the existing 72 foot storm pipe, are virtually even with the end point. The intermediate area between the start point and the finish point would result in the sewer line needing to be installed at approximately 35' below existing grade. Due to the proposed depth below ground surface, the issues for future maintenance would make this option not feasible. Therefore, this alternate layout was determined to not be a buildable option.

Roadway:

3. Alternative Roadway Location # 1 - Alternate locations for Commercial/Retail ingress/egress drive, to be located on the East side of Guilford College Road and adjacent to the golf course pond, as outlined in Exhibit "A" section 2, are not a possibility due to its close proximity to the Guilford College Road/Grandover Village Road intersection. Additionally, this option does not utilize the best use of density and space on site.
4. Alternative Roadway Location # 2 - Alternate site layouts for the proposed Commercial/Retail parking field, to be located on the East side of Guilford College Road and adjacent to the golf course pond, as outlined in Exhibit "A" section 2, are not a possibility due to the decrease in the developable square footage as it relates to the needed parking counts for the proposed development.

Off-site Alternatives

Sewer line:

5. Alternative Sewer Route – A – Install an East-to-West crossing under Guilford College Road (South of the impact area) to serve the Western large development tract and then again West-to-East to serve the Eastern small development tract (North of the impact area). Engineer assessments of this route suggest this route to be infeasible. Due to topography, the sewer line depths would be 20 to 30 feet below existing road grade, this route results in

complex maintenance issues for the City of Greensboro and is cost prohibitive. See attached Exhibit C.

6. Alternative Sewer Route – B – Serve “Parcel F” by installing a sanitary sewer line running northeast toward the existing sanitary sewer outfall located at the South end of Whaitley Lane. This path results in a complicated crossing of the Colonial Gas line, the Piedmont Natural gas line, and the Duke Energy powerline easements. Due to topography, this crossing would be airborne, above the existing grade of the easement. Construction activities of this nature would not follow the guidelines of the existing easement and thus would not be allowed. See attached Exhibit D.
7. No Build Alternative – Under the no build alternative, the proposed commercial development west and across Guilford College Road would not be supplied with sewer line utilities through the City of Greensboro. Also, impacts to approximately 1.57 acres of waters of the U.S. in locations #3 & #4 were initially proposed for commercial development in the original DA Permit No. SAW-1997-00557 as depicted on Section 2 of the Grandover Master Plan. In order to execute the development of the locations #3 and #4, the intended use for commercial development will be implemented. Locations #3 & #4 to date have been cleared, filled, and the development type has commenced. The need to supply the necessary sanitary sewer access for this portion of the City of Greensboro would not be fulfilled. Additionally, the impacts of 1.57 acres of waters of the U.S. and the intended use of those impacts would not be fulfilled.

Roadway:

8. No Build Alternative – Options for an off-site roadway crossing are not possible; therefore, this option was reviewed and considered as a No Build Alternative. Under the no build alternative, the commercial lot would only have one ingress/egress along Grandover Village Road. The commercial/retail lot, also known as Parcel F, is currently zoned for such use. The City of Greensboro planning and zoning requires at least two ingress/egress locations for commercial/retail developments to adhere to good development practices as it relates to traffic flow and emergency ingress and egress. By not extending the current roadway from Guilford College Road to Grandover Village Road, the property would not meet the City of Greensboro development requirements and would not utilize the lot as currently zoned.

7.0 Proposed Impacts

The proposed project will require impacts to two intermittent streams, one wetland area, a pond, and riparian buffer zones 1 and 2. The following tables outline the impacts:

| Table 7. Proposed Impact Table: Grandover 8 West Apartments & Sewer line | | | | |
|---|--------------------|--------------------|-----------------------|--------------------------------------|
| Feature | Impact (LF) | Impact (SF) | Impact (Acres) | Type & Duration of Impact |
| Streams: | | | | |
| Stream SA | 10 | 30 | 0.0007 | Utility (Temporary) |
| Wetlands: | | | | |
| Wetland WB | NA | 3,525 | 0.08 | Culvert (Temporary) |
| Wetland WB | NA | 6,534 | 0.15 | Fill (Permanent) |
| Riparian Buffer: | | | | |
| Zone 1 Impact | 111 | 2,223 | 0.051 | Utility (Permanent) |
| Zone 2 Impact | 227 | 4,588 | 0.105 | Utility (Permanent) |

| Table 8. Proposed Impact Table: Grandover West Commercial Sewer line & Road Crossing | | | | |
|---|--------------------|--------------------|-----------------------|--------------------------------------|
| Feature | Impact (LF) | Impact (SF) | Impact (Acres) | Type & Duration of Impact |
| Streams: | | | | |
| Stream SA | 144 | 718 | 0.016 | Culvert (Permanent) |
| Pond: | | | | |
| Pond PA | NA | 403 | 0.009 | Fill (Permanent) |
| Pond PA | NA | 85 | 0.002 | Fill (Permanent) |
| Pond PA | NA | 995 | 0.023 | Fill (Temporary) |
| Riparian Buffer: | | | | |
| Zone 1 Impact | 108 | 988 | 0.023 | Fill (Temporary) |
| Zone 1 Impact | 330 | 13,991 | 0.321 | Utility (Permanent) |
| Zone 2 Impact | 805 | 11,489 | 0.264 | Utility (Permanent) |

| Table 9. Total Project Impact Table | | | | | |
|--|-------------------------------|-------------------------------|----------------------------------|----------------------------------|---------------------------------|
| Feature | Permanent Impacts (LF) | Temporary Impacts (LF) | Permanent Impacts (Acres) | Temporary Impacts (Acres) | Permanent Impacts (S.F.) |
| Streams | 144 | 10 | 0.016 | 0.0007 | 718 |
| Wetland | NA | NA | 0.15 | 0.08 | 6,534 |
| Pond | NA | NA | 0.011 | 0.023 | 488 |
| Zone 1 Impact | 441 | 108 | 0.372 | 0.023 | 16,214 |
| Zone 2 Impact | 1,032 | NA | 0.369 | NA | 16,077 |

The riparian buffer impacts for the Grandover 8 West Apartments and Sewerline have already been approved through an Authorization Certificate issued by the City of Greensboro, dated January 9, 2019. A copy of the Authorization Certification is included in the appendices.

The riparian buffer impacts for the Grandover West Sewerline and Road Crossing will be submitted by use of a Determination of No Practical Alternative. The determination will be submitted and approved through the City of Greensboro.

8.0 Avoidance and Minimization

Grandover 8 West Apartment & Sewer line:

Avoidance and minimization of waters was performed to the greatest extent possible with respect to the waters on-site and the space needed to allow successful installment of the sewerline and parking lot. The sewerline easement as proposed has been designed in an effort to minimize the impacts to the remaining waters and the stream buffers on site. The sewerline as proposed remains outside of the areas proposed for grading and remains on the property, while also limiting additional impacts to other wetland areas and incurring additional buffer impacts. The sewerline will cross the stream at a 90-degree angle, which greatly minimizes the amount of temporary stream impacts.

The project proposes 0.15 acres of permanent wetland impacts for apartment building pad, as well as permanently maintained sewer right of way. The wetland area is proposed to be graded and filled in order to construct the appropriate parking needed to support needs of the residential development and future tenants. The placement of a retaining wall was analyzed; however, after several design and engineering attempts, it was determined to be not feasible due to topography, logistics, and the size of the retaining wall. Additionally, the estimated cost to install the wall would be around \$358,000.00.

Grandover West Commercial Sewer line & Road Crossing:

Due to the previously listed alternatives, the most feasible and cost effective design was to place the sewer line in this location. All other design attempts to move the sewer line into a different location were either not feasible due to design and construction constraints, maintenance issues, and/or would incur additional impacts to waters of the U.S.

The proposed culvert and roadway crossing will extend east of Guilford College Road approximately 144 LF. There are existing roadway extensions from both Guilford College Road and Grandover Village Road. Approximately 110 LF of the stream will be impacted as a result of the installation of the sanitary sewer line; therefore, piping the 144 LF of stream will allow for proper installation, and will assist grading activities around and over the new sanitary sewer line.

Avoidance and minimization of waters was performed to the greatest extent possible with respect to the waters on-site and the space needed to allow successful installment of the sewer line.

No other impacts to waters are proposed for the remainder of the project.

9.0 Proposed Mitigation

The applicant has shown an attempt to avoid and minimize to the reasonable extent possible and will compensate for the remaining unavoidable losses with mitigation.

Grandover 8 West Apartments & Sewer line:

The project as proposed will permanently impact 0.15 acres of wetlands, 227 LF and 0.11 acres (4,588 SF) of Zone 2 stream buffer, and 111 LF and 0.05 acres (2,223 SF) of Zone 1 stream buffer. As part of the Buffer Mitigation – Required by DWR, the impact totals for Zone 2 have a 1.5 multiplier and Zone 1 have a 3 multiplier, equating to required mitigation for 6,882 square feet of Zone 2 buffer mitigation and 6,669 square feet of Zone 1 buffer mitigation. Also, ECS performed the North Carolina Assessment Method (NCWAM) on the wetland proposed for impact, which resulted in a rating of Low. The applicant is proposing a mitigation ratio of 1:1.

Grandover West Commercial Sewer line & Road Crossing:

The project as proposed will permanently impact 144 LF of stream, 0.011 acres of open waters (ponds), 805 LF and 0.264 acres (11,489 SF) of Zone 2 stream buffer, and 330 LF and 0.321 acres (13,991 SF) of Zone 1 stream buffer. As part of the Buffer Mitigation – Required by DWR, the impact totals for Zone 2 have a 1.5 multiplier and Zone 1 have a 3 multiplier, equating to required mitigation for 17,234 square feet of Zone 2 buffer mitigation and 41,973 square feet of Zone 1 buffer mitigation. Due to the size of the impacts and quality of the open waters (Pond PA) on site, the applicant is not proposing mitigation on the pond. Also, ECS performed the North Carolina Stream Assessment Method (NCSAM) on the stream proposed for impact, which resulted in a rating of Low. The applicant is proposing a mitigation ratio of 1:1.

The total permanent impacts for the project are listed in the table below.

| Table 10. Proposed Mitigation & Required Credits | | | |
|---|----------------------------------|----------------------|----------------|
| <u>Type</u> | <u>Proposed Mitigation Ratio</u> | <u>Impact Amount</u> | <u>Credits</u> |
| Wetland | 1 | 0.15 acres | 0.15 |
| Stream | 1 | 144 LF | 144 |
| Buffer - Zone 1 | 3 | 16,214 SF | 48,642 |
| Buffer - Zone 2 | 1.5 | 16,077 SF | 24,116 |

Based on the NCDMS Credit Reservation letter, wetland and stream credits are reserved in the Cape Fear, HUC code 03030003 and riparian buffer credits are reserved in the Cape Fear – Randleman watershed to meet the mitigation requirement. Please see attached NCWAM Form, NCSAM Form, Rating Sheet, and NCDMS Credit Reservation letter.

10.0 References

- USGS Topographic Map, Guilford, North Carolina Quadrangle, dated 1951, revised 1994.
- USGS Topographic Map, High Point East, North Carolina Quadrangle, dated 1950.
- North Carolina Geological Survey Geologic Map of North Carolina, dated 1985.
- U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey of Guilford County, <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- U.S. Department of Agriculture, Natural Resources Conservation Service Soil Survey, Published 1977, Sheet No. 32
- Federal Emergency Management Act Flood Insurance Rate Map, Panels 3710783100J and 3710783200J, dated June 18, 2007
- U.S. Fish and Wildlife Service National Wetland Inventory Maps
<http://www.fws.gov/wetlands/Data/Mapper.html>
- North Carolina State Historic Preservation Office, Listings in the National Register of Historic Places <http://www.hpo.ncdcr.gov/NR-PDFs.html>
- North Carolina State Historic Preservation Office, Web GIS Service
<http://gis.ncdcr.gov/hpoweb/>
- U.S. Fish and Wildlife, List of Threatened and Endangered Species in Guilford County, Dated October 4, 2018, <http://www.fws.gov/raleigh/species/cntylist/guilford.html>

11.0 Appendices

Appendix I

Figure 1 – Site Vicinity Map

Figure 2 – USGS Topographic Map

Figure 3 – USDA-NRCS Web Soil Survey Map

Figure 4 – FEMA FIRM Map

Figure 5 – National Wetlands Inventory Map

Figure 6 – Wetland/Stream Flagging Location Map

Figure 7 – Adjoining Property Figure

Adjoining Property Owner Table

Impacted vs. Permitted Map Exhibit & Figures 1-17

Appendix II – Stream/Wetland Impact Exhibits

Appendix III – USACE PJD Letters



Appendix IV – Previous Permit Approvals

Appendix V – Alternative Analysis Exhibits

Appendix VI – NCSAM & NCWAM Forms

Appendix VI – NCDMS Letter dated April 2, 2019

Legend

-  Grandover 8 West Apartments & Sewerline
-  Grandover West Commercial Sewerline



Client:

KOURY
CORPORATION

Project:

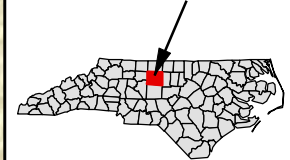
GRANDOVER
WEST SITE

GUILFORD
COLLEGE ROAD
GREENSBORO,
NORTH CAROLINA

Title:

SITE LOCATION
MAP

GUILFORD COUNTY



Drawn By:

PMS

Scale:

1" = 5,000'

Approved By:

WBF

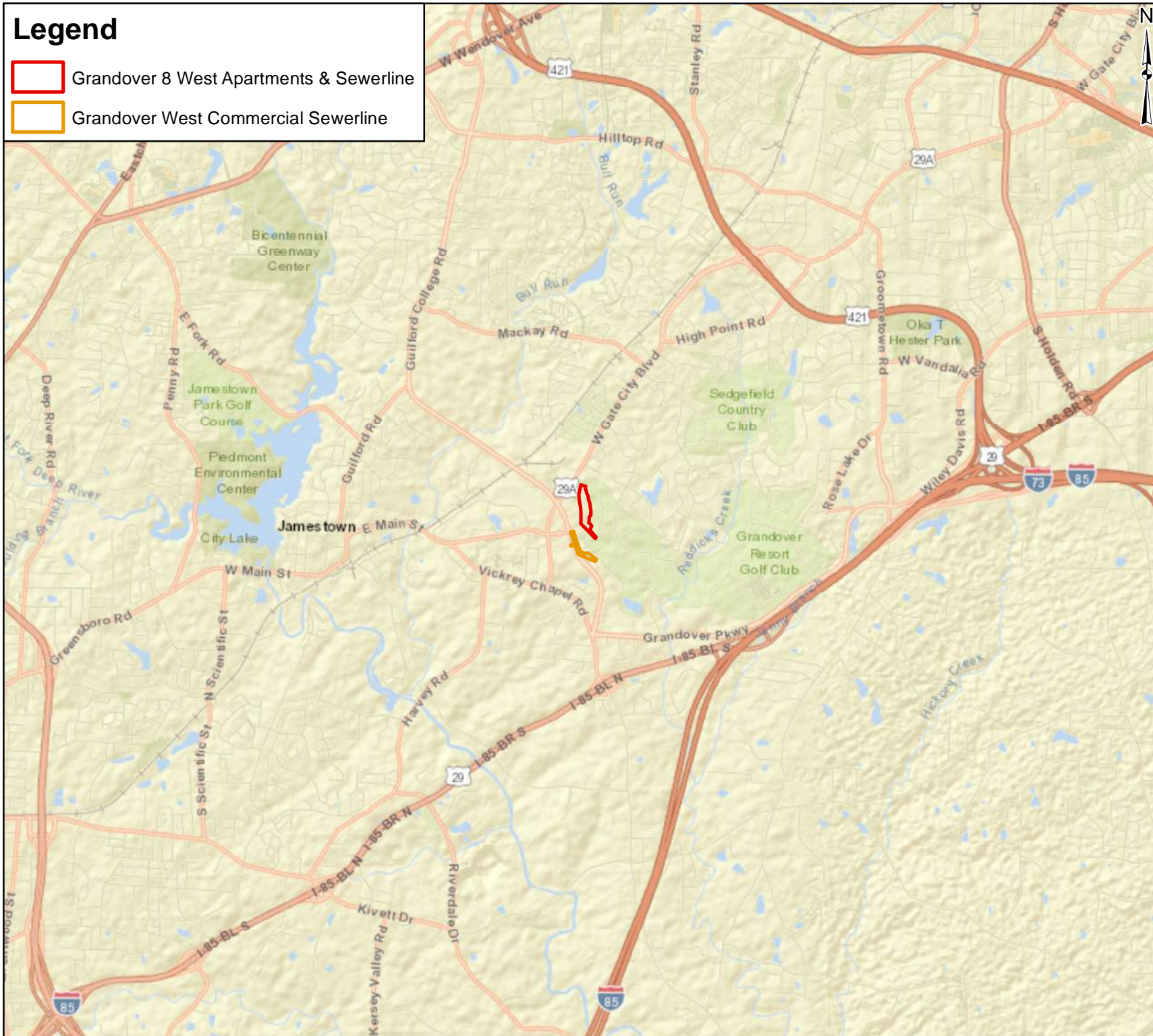
Date:

2/11/2019



ECS Project No.

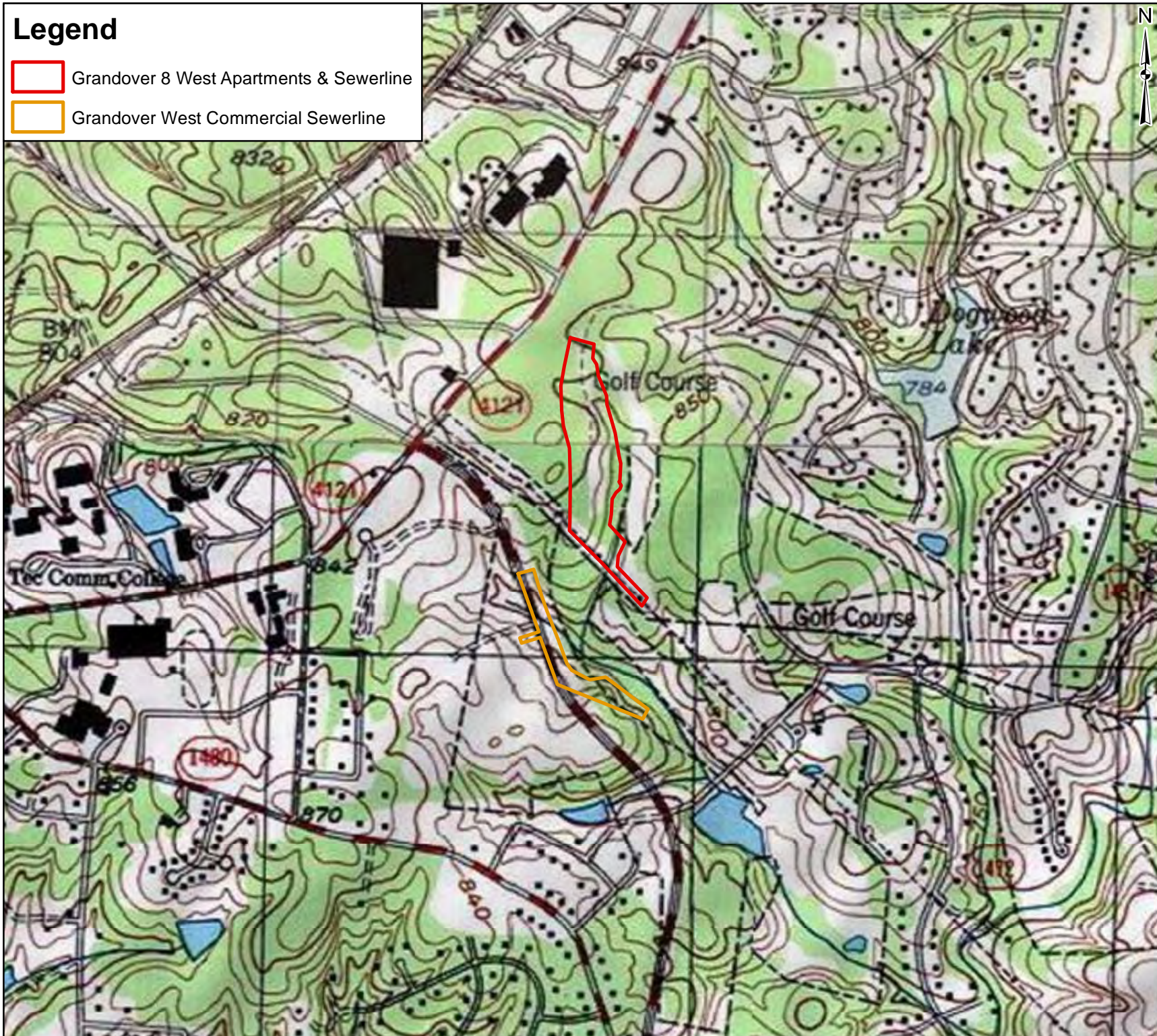
49:1671-C

FIGURE 1



Legend

-  Grandover 8 West Apartments & Sewerline
-  Grandover West Commercial Sewerline



Client:

KOURY
CORPORATION

Project:

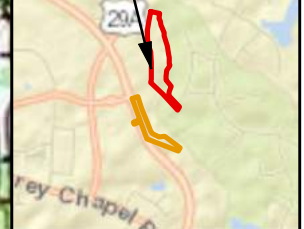
GRANDOVER
WEST SITE

GUILFORD
COLLEGE ROAD
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

USGS TOPOGRAPHIC
MAPS
GUILFORD, DATED: 1951,
REVISED: 1994;
HIGH POINT EAST,
DATED: 1950
NC QUADRANGLES

PROJECT STUDY AREA



Drawn By:

PMS

Scale:

1" = 1,000'

Approved By:

WBF

Date:

2/11/2019

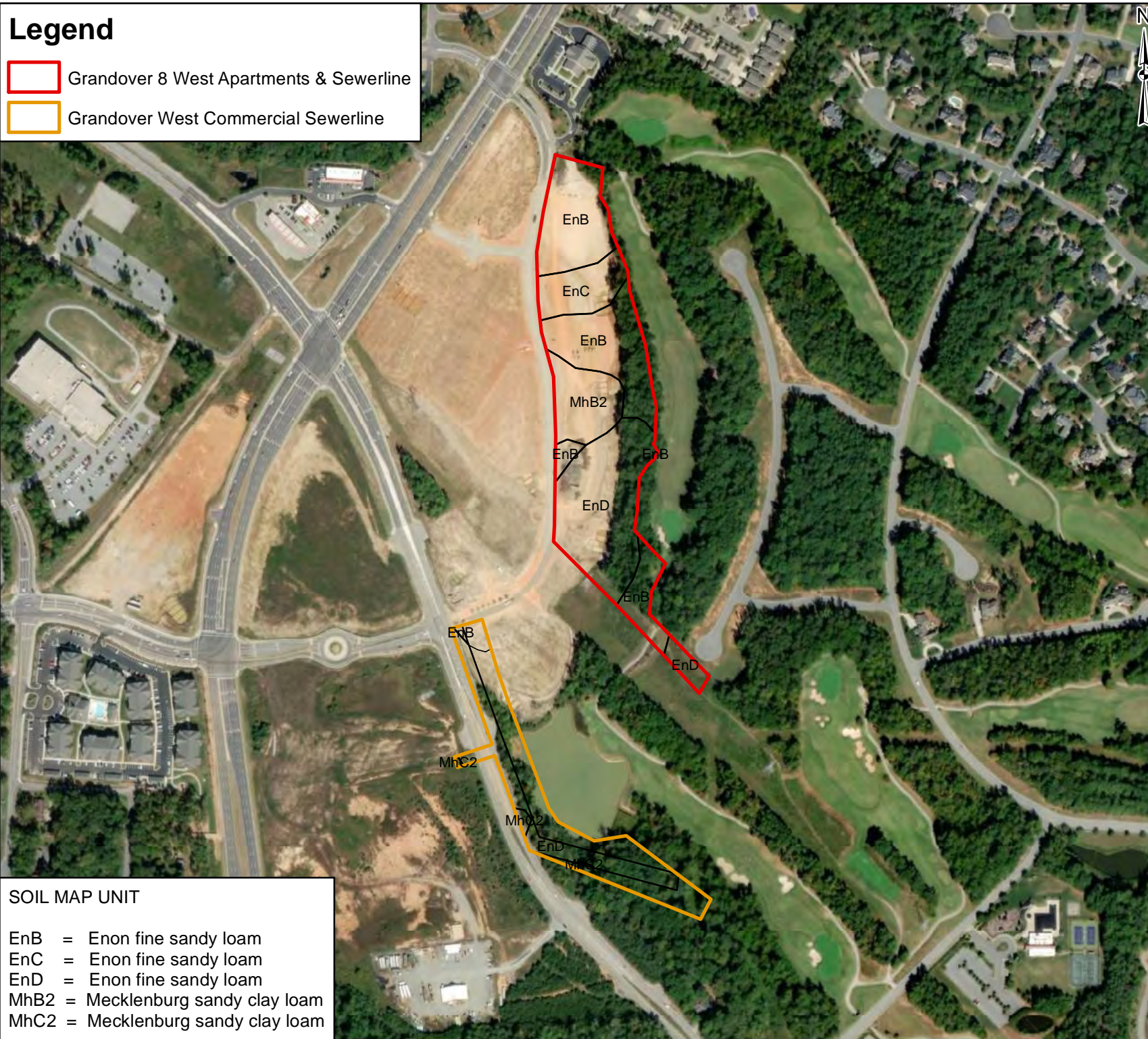
ECS Project No.

49:1671-C

FIGURE 2

Legend

- Grandover 8 West Apartments & Sewerline
- Grandover West Commercial Sewerline



Client:

**KOURY
CORPORATION**

Project:

**GRANDOVER
WEST SITE**

**GUILFORD
COLLEGE ROAD
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA**

Title:

**USDA - NRCS
WEB SOIL SURVEY**

**GUILFORD
COUNTY**

PROJECT STUDY AREA



Drawn By:

PMS

Scale:

1" = 500'

Approved By:

WBF

Date:

2/11/2019

ECS Project No.

49:1671-C

FIGURE 3

SOIL MAP UNIT

- EnB = Enon fine sandy loam
- EnC = Enon fine sandy loam
- EnD = Enon fine sandy loam
- MhB2 = Mecklenburg sandy clay loam
- MhC2 = Mecklenburg sandy clay loam

Legend

- Grandover 8 West Apartments & Sewerline
- Grandover West Commercial Sewerline

VN ETJ
DED)

371078320
eff. 6/18/20

AREA OF MINIMAL FLOOD HAZARD
Zone X



Client:

KOURY
CORPORATION

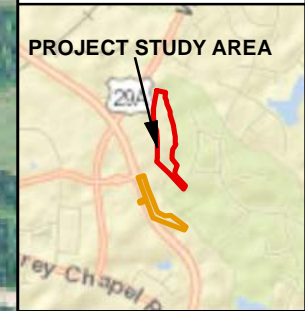
Project:

GRANDOVER
WEST SITE

GUILFORD
COLLEGE ROAD
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title: **FEMA - NFHL
FLOOD ZONE MAP**

PANELS: 3710783100J
& 3710783200J
DATED: 6/18/2007
GUILFORD COUNTY



| | |
|--------------|-----------|
| Drawn By: | Scale: |
| PMS | 1" = 500' |
| Approved By: | Date: |
| WBF | 2/11/2019 |

ECS Project No.
49:1671-C

FIGURE 4

Legend

Grandover 8 West Apartments & Sewerline

Grandover West Commercial Sewerline

Wetlands

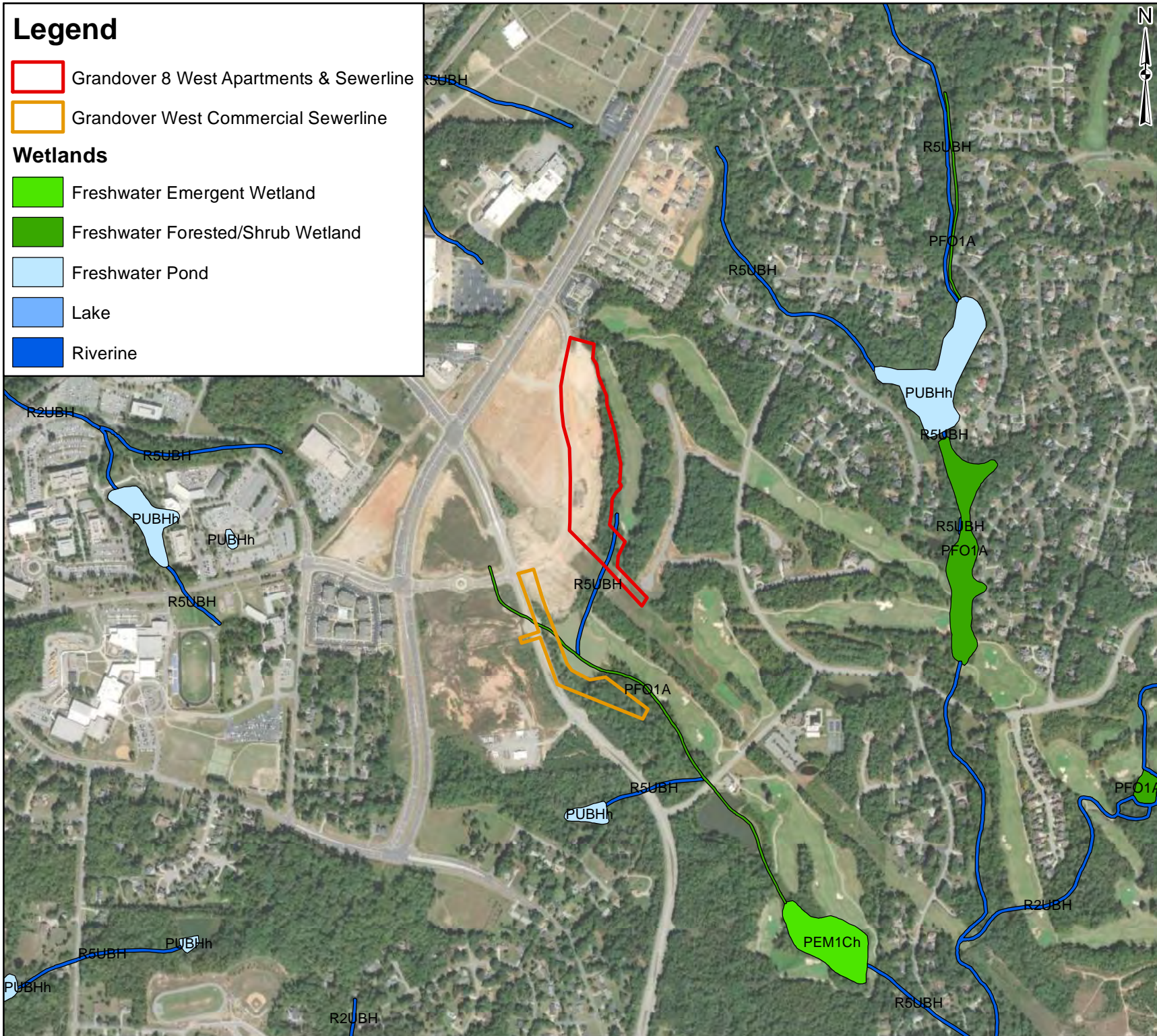
Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Riverine



Client:

**KOURY
CORPORATION**

Project:

**GRANDOVER
WEST SITE**

**GUILFORD
COLLEGE ROAD
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA**

Title:

**USFWS
NATIONAL WETLANDS
INVENTORY MAP**

HU8 03030003

PROJECT STUDY AREA



Drawn By:

PMS

Scale:

1" = 1,000'

Approved By:

WBF

Date:

2/11/2019

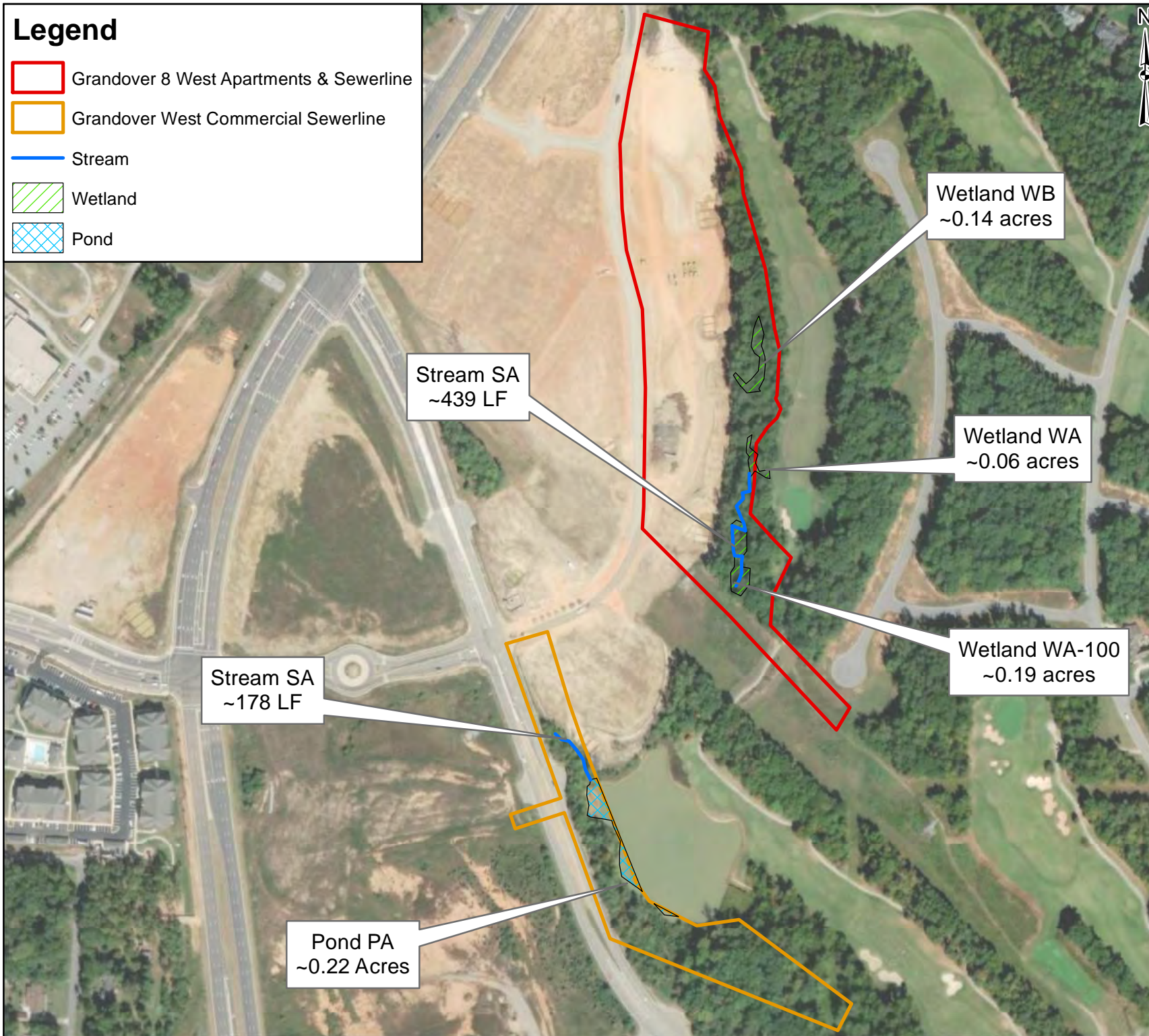
ECS Project No.

49:1671-C

FIGURE 5

Legend

- Grandover 8 West Apartments & Sewerline
- Grandover West Commercial Sewerline
- Stream
- Wetland
- Pond



Client:

**KOURY
CORPORATION**

Project:

**GRANDOVER
WEST SITE**

**GUILFORD
COLLEGE ROAD
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA**

Title:

**WETLAND/STREAM
FLAGGING
LOCATION MAP**

PROJECT STUDY AREA



Drawn By:

PMS

Scale:

1 " = 375 '

Approved By:

WBF

Date:

2/12/2019

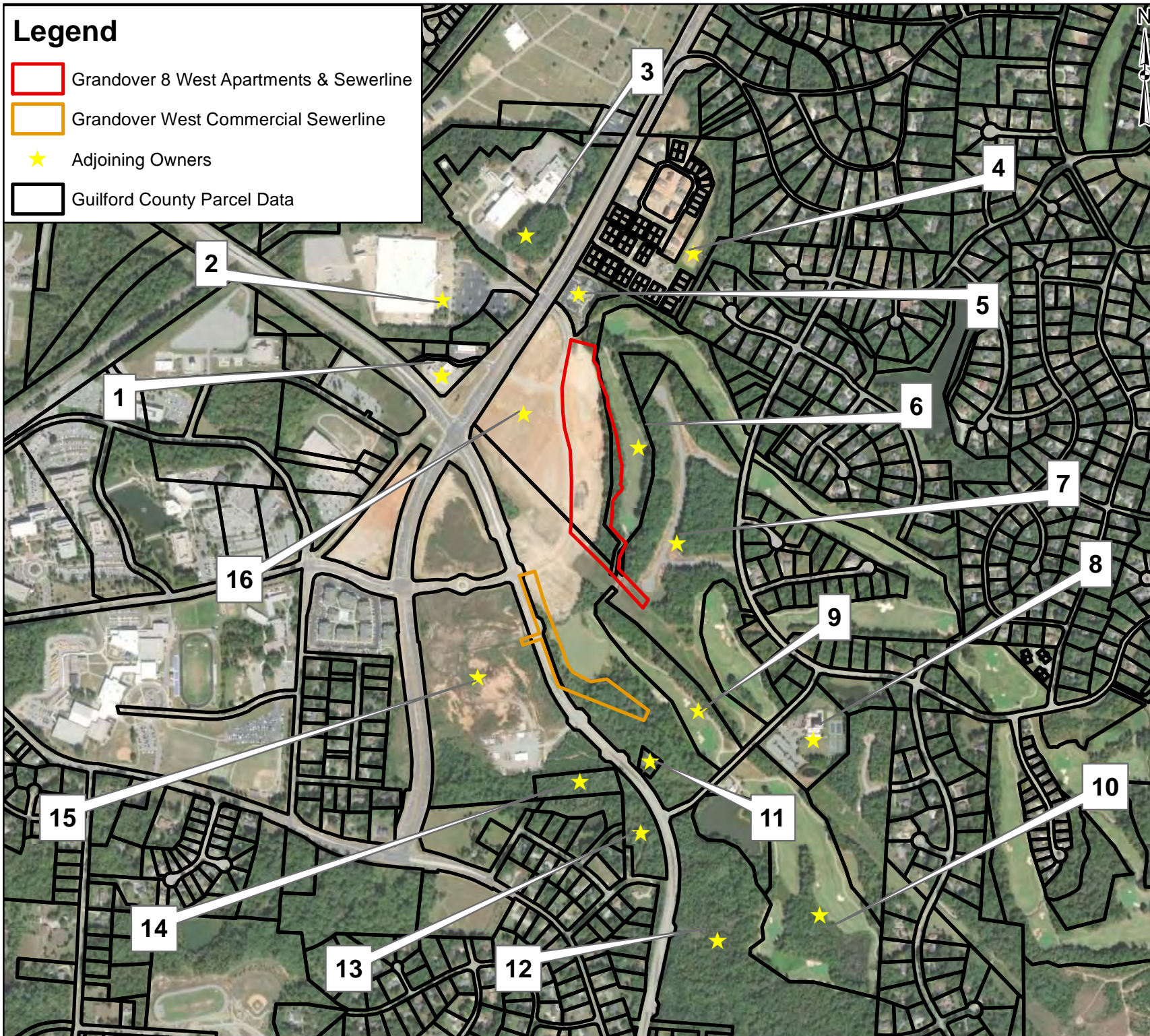
ECS Project No.

49:1671-C

FIGURE 6

Legend

- Grandover 8 West Apartments & Sewerline
- Grandover West Commercial Sewerline
- ★ Adjoining Owners
- Guilford County Parcel Data



Client:

**KOURY
CORPORATION**

Project:

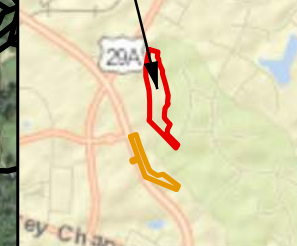
**GRANDOVER
WEST SITE**

**GUILFORD
COLLEGE ROAD
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA**

Title:

**ADJOINING
PROPERTY
FIGURE**

PROJECT STUDY AREA



Drawn By:

PMS

Scale:

1" = 1,000'

Approved By:

WBF

Date:

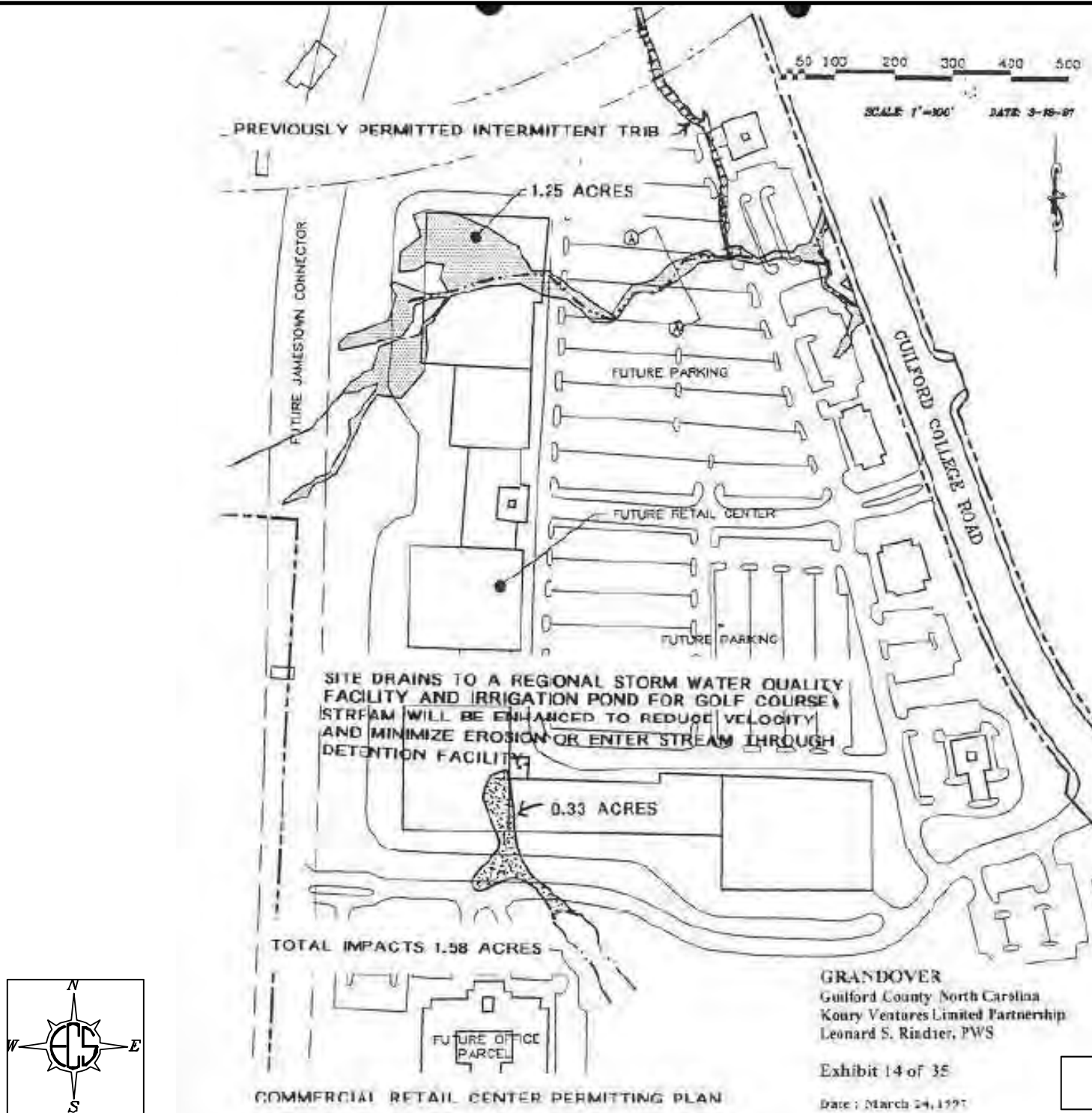
3/25/2019

ECS Project No.

49:1671-C

FIGURE 7

| Map Number | PIN | Owner Name | Street Address | City | State | Zip |
|------------|------------|--|---------------------------------|-------------|----------------|-------|
| 1 | 7832103677 | Leomat Inc. | 1926 Greentree Road | Cherry Hill | New Jersey | 8003 |
| 2 | 7832110504 | The Trustees of Guilford Technical Community College | PO Box 309 | Jamestown | North Carolina | 27282 |
| 3 | 7832210901 | Alberdingk Boley Inc. | 6008 West Gate City Boulevard | Greensboro | North Carolina | 27407 |
| 4 | 7832310259 | Villas at Sedgefield Homeowners Association Inc. | 4125G Walker Avenue | Greensboro | North Carolina | 27407 |
| 5 | 7832213289 | State Employees Credit Union | PO Box 26807 | Raleigh | North Carolina | 27611 |
| 6 | 7831784393 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 7 | 7831279972 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 8 | 7831471899 | Grandover Community Association Inc. | 400 Four Seasons Town Center | Greensboro | North Carolina | 27407 |
| 9 | 7831784393 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 10 | 7831784393 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 11 | 7831279921 | Nowell, Sidney P. | 4501 Guilford College Road | Greensboro | North Carolina | 27407 |
| 12 | 7831279972 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 13 | 7831279972 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 14 | 7831274510 | Clark, Thomas Russell | 4705 Hollister Drive | Greensboro | North Carolina | 27407 |
| 15 | 7831279972 | Koury Ventures Limited Partnership | 2275 Vanstory Street | Greensboro | North Carolina | 27403 |
| 16 | 7832200210 | KV Grandover Village LLC | 2275 Vanstory Street, Suite 200 | Greensboro | North Carolina | 27403 |



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 1

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

Not to Scale

FIGURE 1

Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 1

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 2

Impact Area 1 - 1.25 Acres (Wetlands)

Impact Area 1 - 0.33 Acres (Wetlands)

Camelot-Dr

Millis-Rd

Roundtable-Rd

Vickrey Chapel Rd N

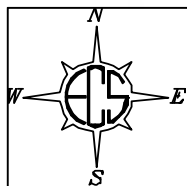
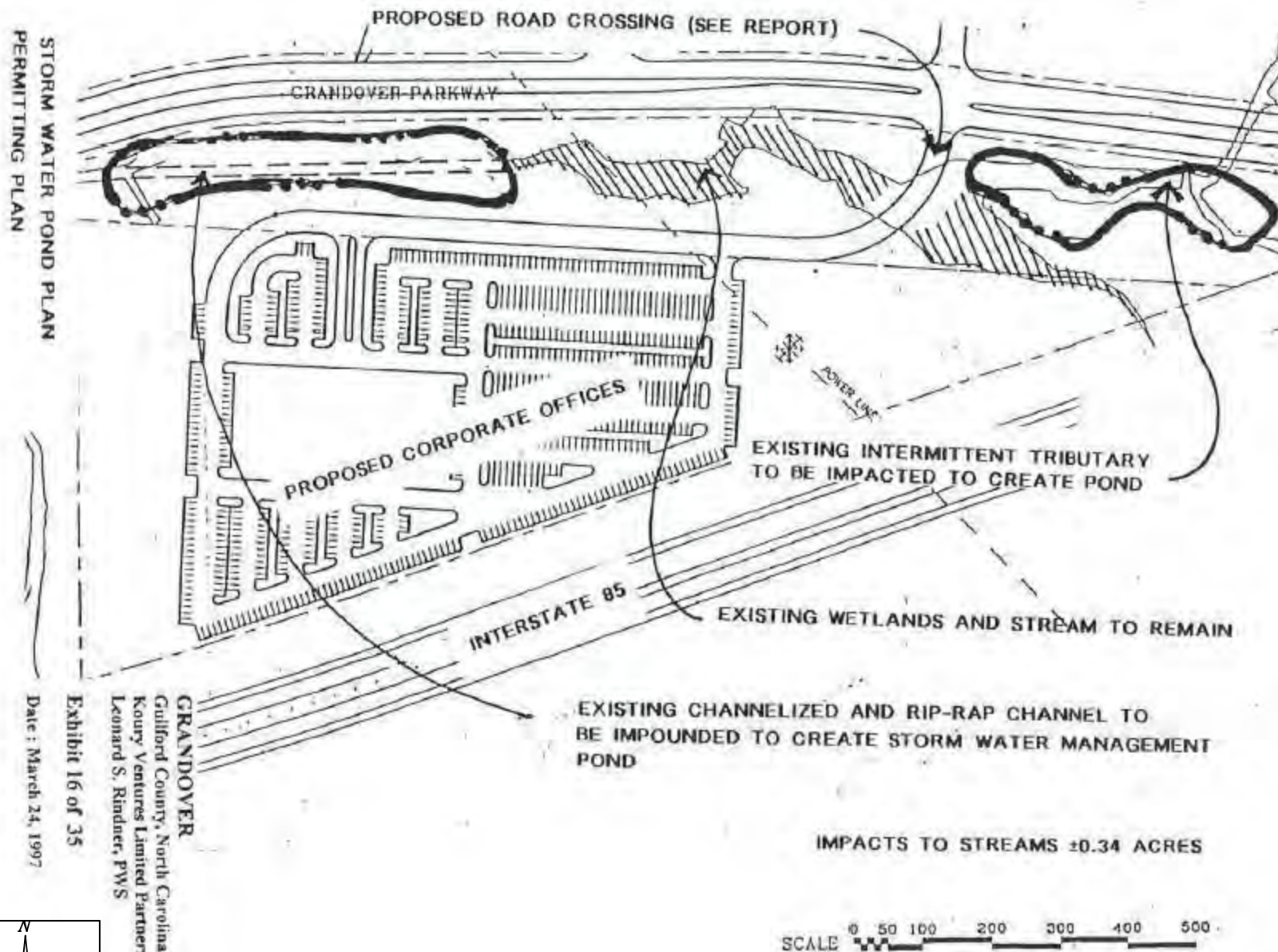
Guilford College Rd

© 2018 Google

Hollister-Rd

Not to Scale





Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 2

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

Not to Scale

FIGURE 3

Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 2

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

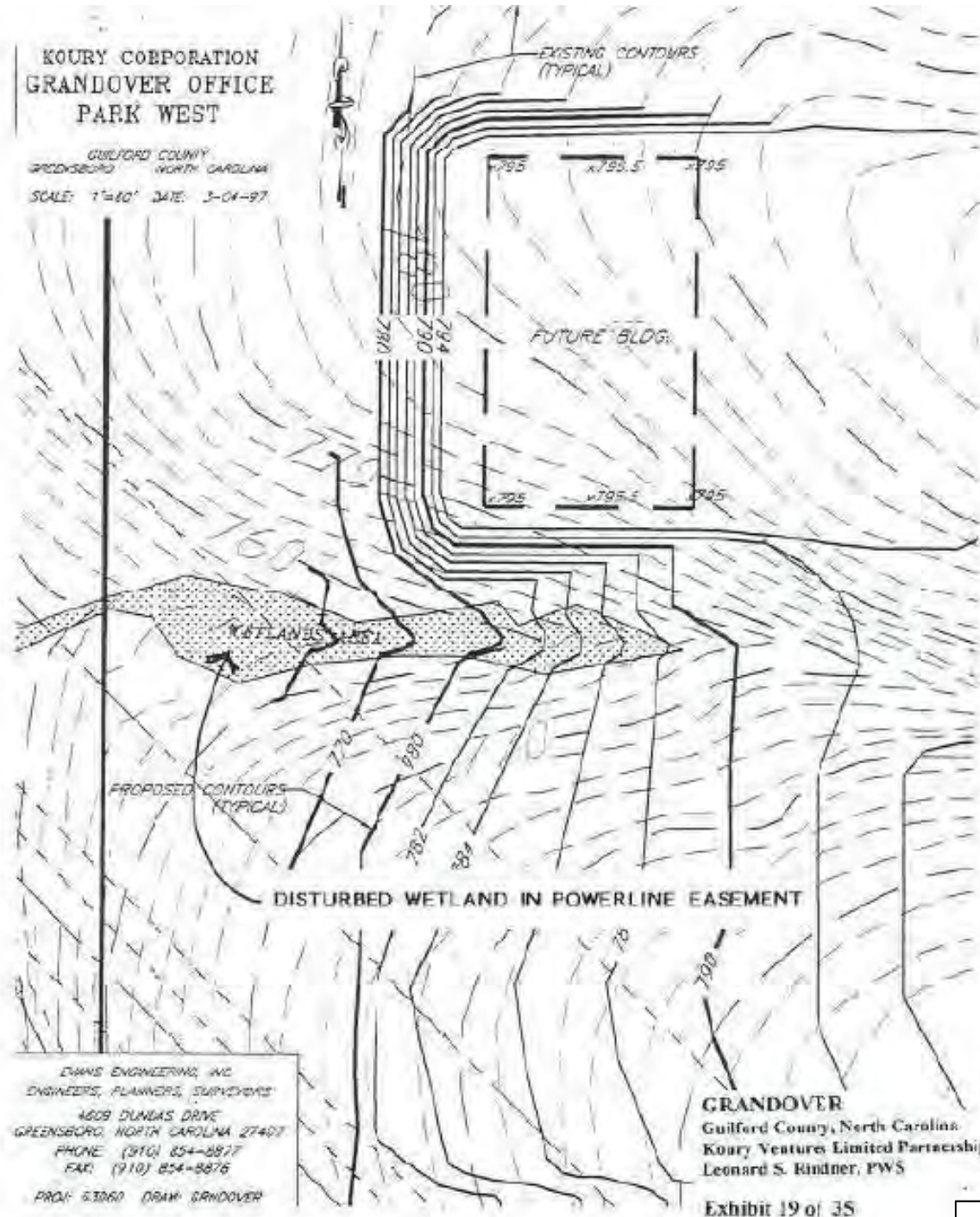
Not to Scale

FIGURE 4



KOURY CORPORATION
GRANDOVER OFFICE
PARK WEST

GUILFORD COUNTY
GREENSBORO NORTH CAROLINA
SCALE: 1"=40' DATE: 3-04-97



DWANE ENGINEERING, INC.
ENGINEERS, PLANNERS, SUPERVISORS
4609 DUNDAS DRIVE
GREENSBORO, NORTH CAROLINA 27407
PHONE: (910) 854-8877
FAX: (910) 854-8876
PROJ: 63060 DRAW: GRANDOVER

PARCEL #5 GRADING PLAN

GRANDOVER
Guilford County, North Carolina
Koury Ventures Limited Partnership
Leonard S. Rindner, PWS

Exhibit 19 of 35

Date: March 31, 1997

Not to Scale



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 3-2

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 7

Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 3

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

Not to Scale

FIGURE 8

Impact Area 3-2 - 0.28 Acres (Wetlands)

Impact Area 3-1 - 0.28 Acres (Wetlands)

Grandover Pkwy

© 2018 Google





Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

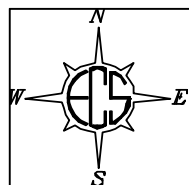
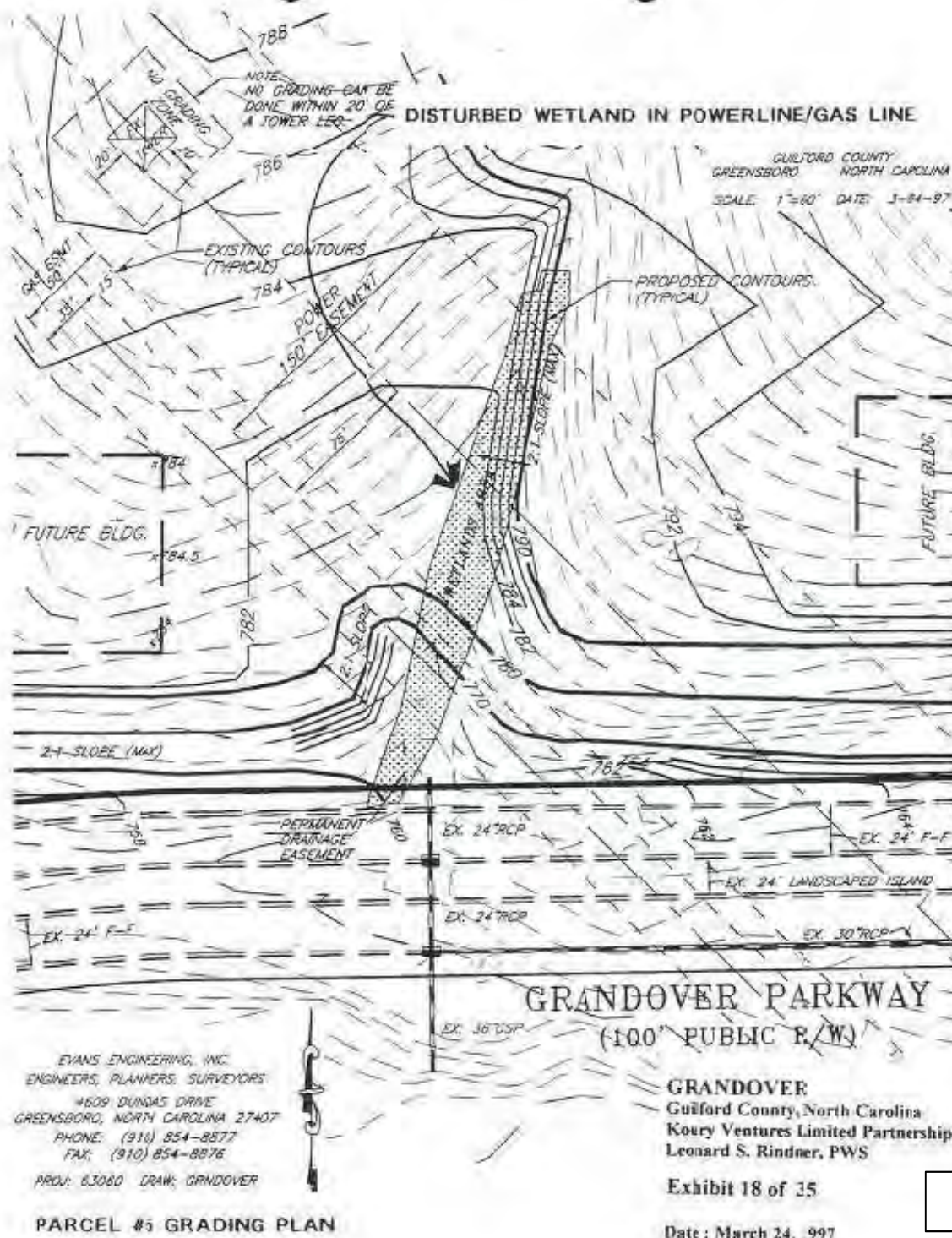
Impact Location:
Impact # 4

Approved By:
WBF

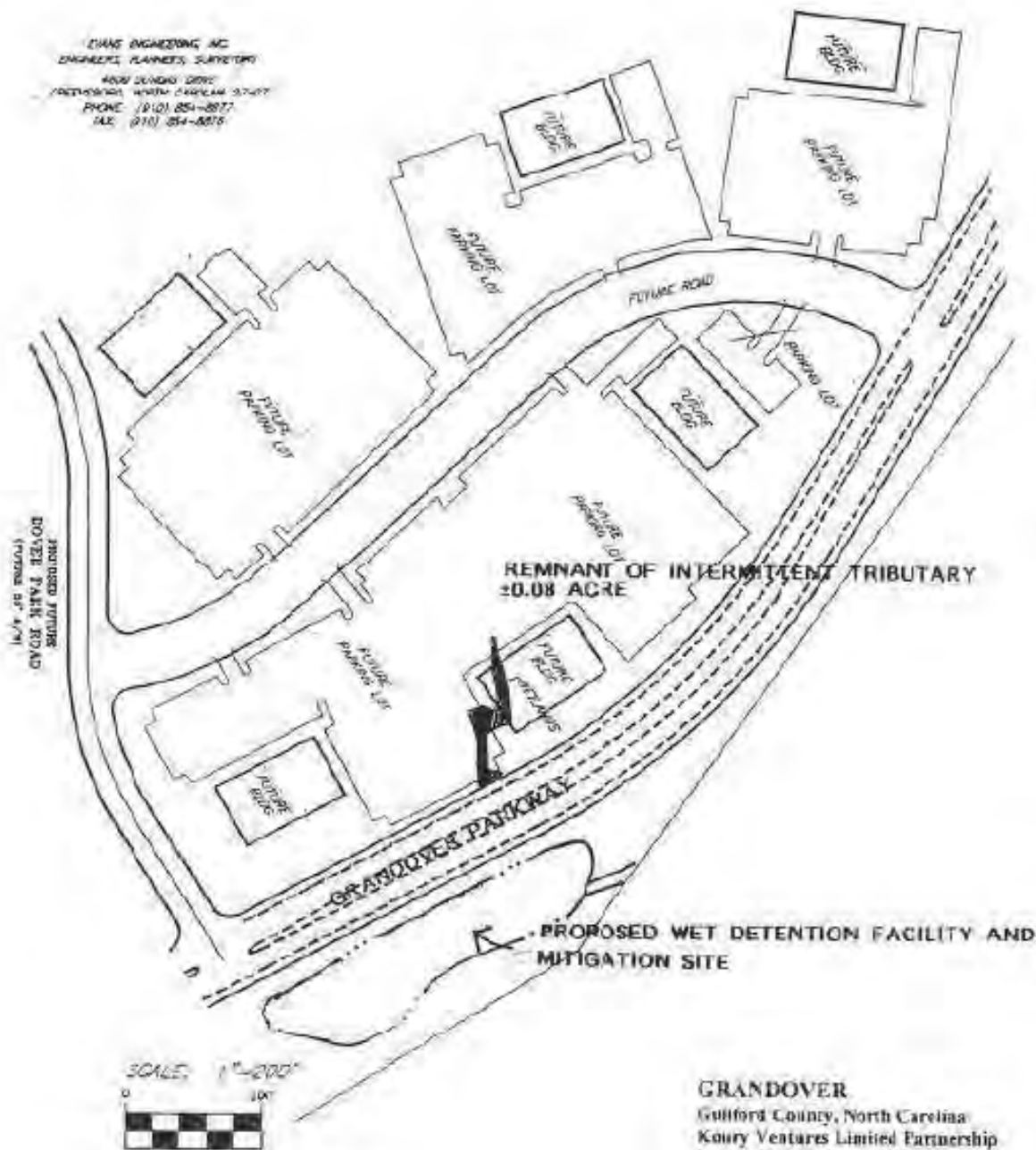
Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 9



Not to Scale



SCHEMATIC SITE PLAN
PARCEL - 8 PERMITTING PLAN

GRANDOVER
Guilford County, North Carolina
Koury Ventures Limited Partnership
Leonard S. Rindner, PWS

Exhibit 20 of 35

Date: March 24, 1997

Not to Scale



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 4

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 10

Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 4

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 11

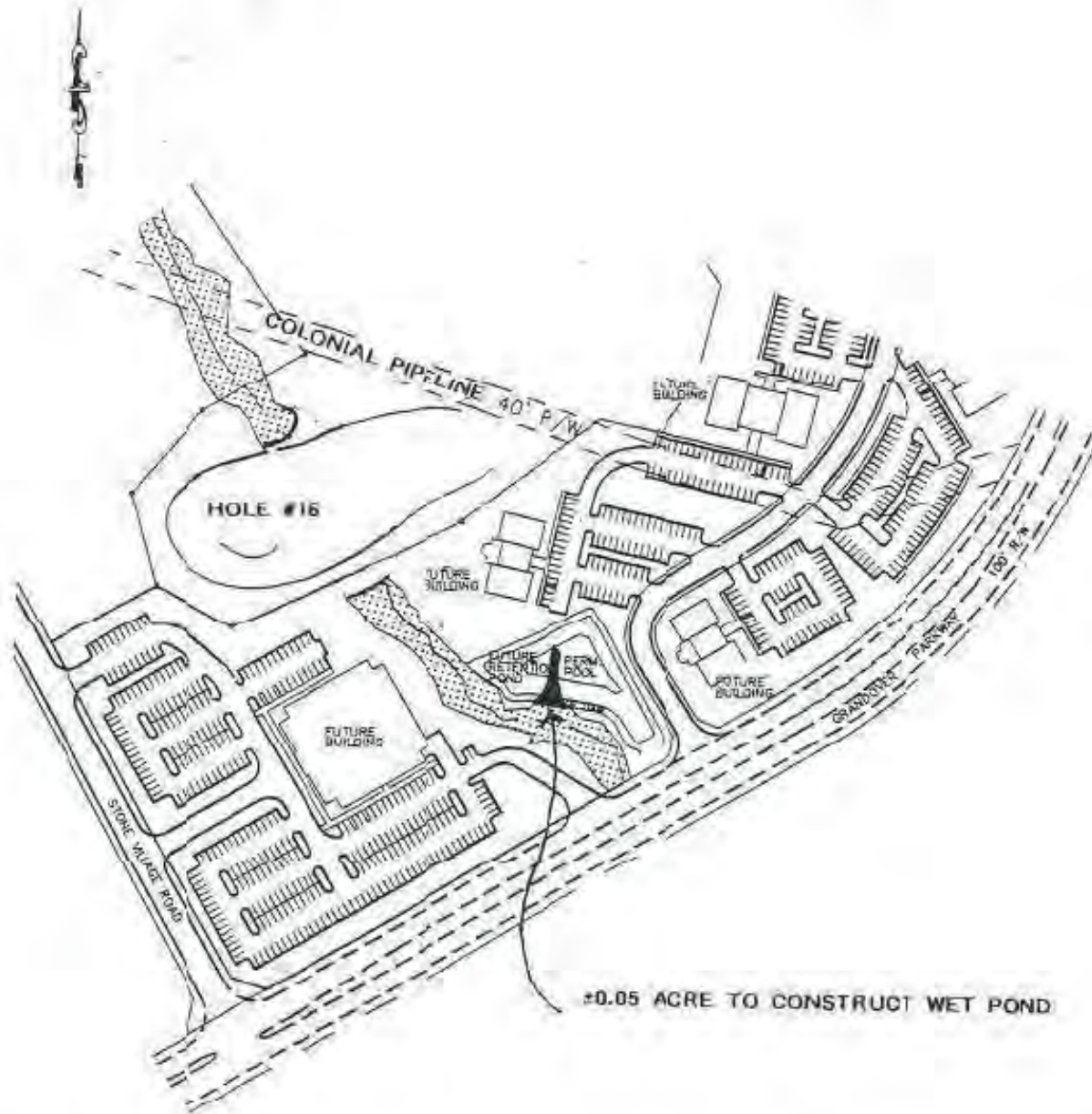
Dover Park Rd

Impact Area 4 - 0.08 Acres (Wetland)

© 2018 Google

Not to Scale





SCALE: 1"=200'



PARCEL 9 - PERMITTING PLAN

GRANDOVER
 Guilford County, North Carolina
 Koury Ventures Limited Partnership
 Leonard S. Rindner, PWS

Exhibit 22 of 35

Date: March 24, 1997

Not to Scale



Client:

KOURY CORPORATION

Project:

GRANDOVER
 WEST SITE

GUILFORD COLLEGE ROAD,
 GREENSBORO,
 GUILFORD COUNTY,
 NORTH CAROLINA

Title:

IMPACTED VS.
 PERMITTED MAP

GOOGLE AERIAL
 MAP
 DATED 2018



GUILFORD COUNTY,
 NORTH CAROLINA

Drawn By:
 PMS1

Impact Location:
 Impact # 5

Approved By:
 WBF

Date:
 4/2/2019

ECS Project No:
 49: 1671-C

FIGURE 12

Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 5

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

Not to Scale

FIGURE 13

Impact Area 5 - 0.05 Acres (Wet Pond)



Grandover Pkwy

© 2018 Google

US Hwy 70





Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 6

Approved By:
WBF

Date:
4/2/2019

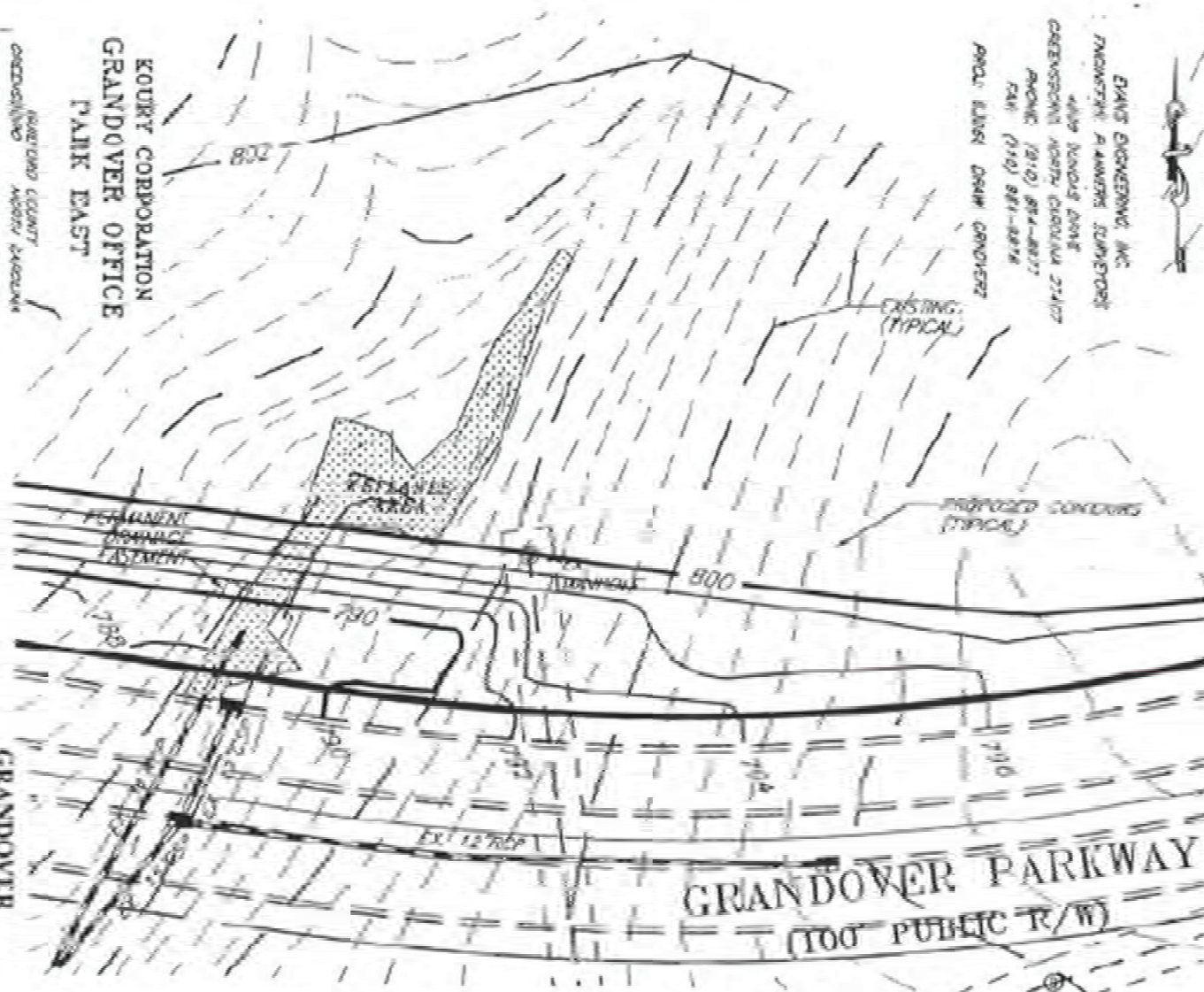
ECS Project No:
49: 1671-C

FIGURE 14

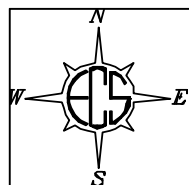
PARCEL #6 GRADING PLAN

KOURY CORPORATION
GRANDOVER OFFICE
PAIR EAST

SCALE 1"=40' DATE 3-04-97



Not to Scale



GRANDOVER
Guilford County, North Carolina
Koury Ventures Limited Partnership
Leased S. Bladen, PWS

EXHIBIT 21 of 35

Date: March 24, 1997

Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

IMPACTED VS.
PERMITTED MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

Impact Location:
Impact # 6

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 15

Impact Area 6 - 0.3 Acres (Stream)

Grandover Pkwy

© 2018 Google



Not to Scale

MITIGATION SITE LOCATIONS

WETLAND MITIGATION SITE - CREATION



WETLAND MITIGATION SITE - RESTORATION / CREATION



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

MITIGATION MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

ALL MITIGATION
LOCATIONS

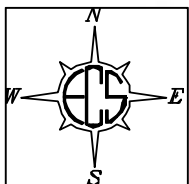
Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

Not to Scale

FIGURE 16



Legend



Approximate Site Location



Client:

KOURY CORPORATION

Project:

GRANDOVER
WEST SITE

GUILFORD COLLEGE ROAD,
GREENSBORO,
GUILFORD COUNTY,
NORTH CAROLINA

Title:

MITIGATION MAP

GOOGLE AERIAL
MAP
DATED 2018



GUILFORD COUNTY,
NORTH CAROLINA

Drawn By:
PMS1

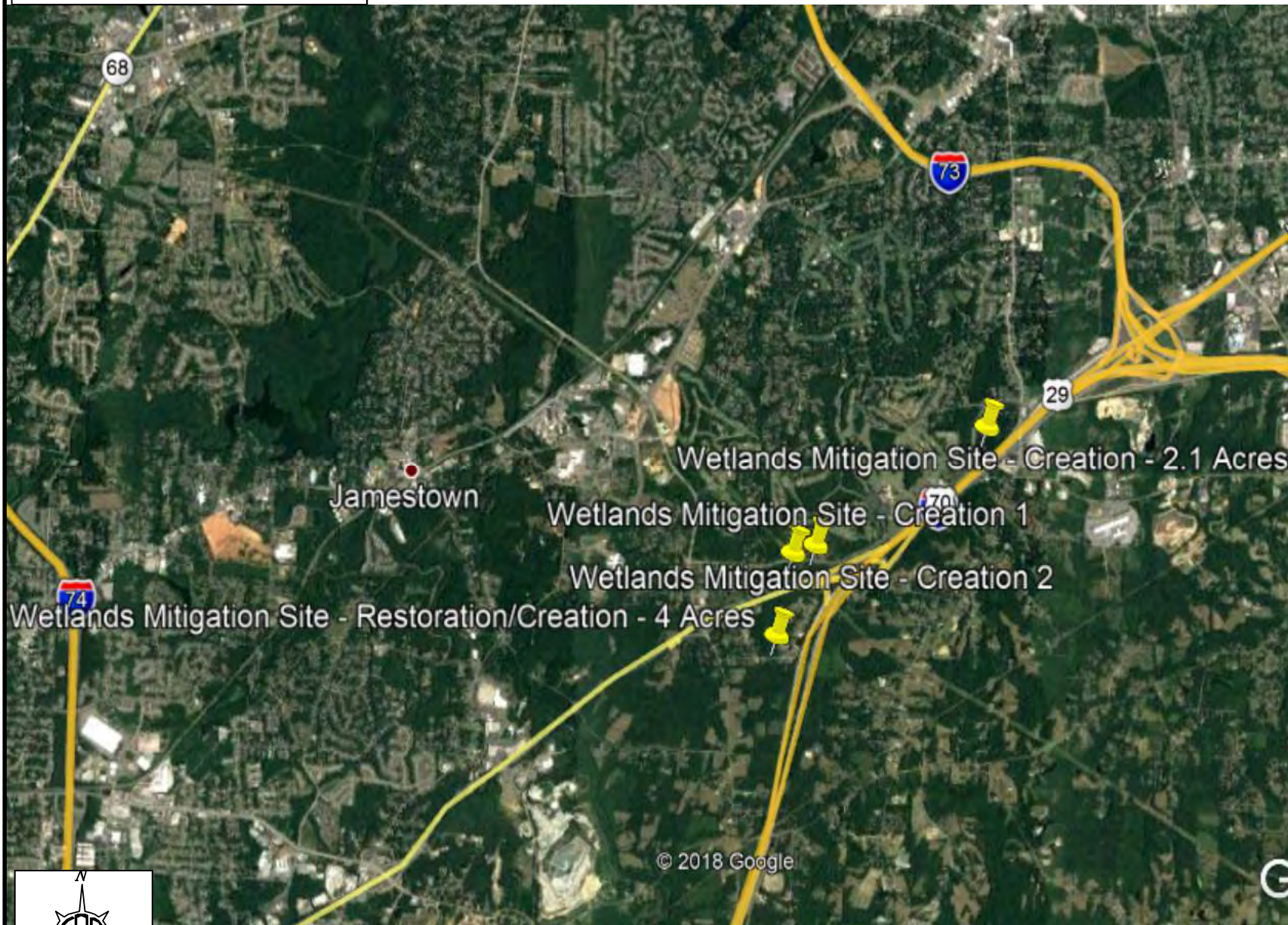
ALL MITIGATION
LOCATIONS

Approved By:
WBF

Date:
4/2/2019

ECS Project No:
49: 1671-C

FIGURE 17



Not to Scale

- LEGEND :
- EXISTING IRON PIPE
 - NEW IRON PIPE
 - EXISTING CONCRETE MONUMENT
 - COMPUTED POINT
 - UTILITY POLE
 - OVERHEAD UTILITY
 - TELEPHONE PEDESTAL
 - FIBEROPTIC MARKER
 - RIGHT OF WAY
 - DEED BOOK
 - PLAT BOOK
 - PAGE
 - EXISTING BUILDING
 - PROPOSED
- LEGEND :
- EXISTING IRON PIPE
 - NEW IRON PIPE
 - EXISTING CONCRETE MONUMENT
 - COMPUTED POINT
 - UTILITY POLE
 - OVERHEAD UTILITY
 - TELEPHONE PEDESTAL
 - FIBEROPTIC MARKER
 - RIGHT OF WAY
 - DEED BOOK
 - PLAT BOOK
 - PAGE
 - EXISTING BUILDING
 - PROPOSED

- NOTES:
- ALL NEW DUMPSTER PAD CONSTRUCTIONS MUST MEET THE CITY OF GREENSBORO SPECIFICATIONS FOR SINGLE PADS/ENCLOSURES.
 - SINGLE DUMPSTER PADS SHOULD BE 10 FEET WIDE. IF THE DUMPSTER PAD IS GOING TO HAVE AN ENCLOSURE, THEN THE OPENING/ENTRANCE TO ENCLOSURE SHOULD BE 12 FEET WIDE, 2 FEET WIDER THAN THE PAD.
 - ALWAYS CALL TO SCHEDULE A SITE VISIT PRIOR POURING OF CONCRETE FOR ANY NEW DUMPSTER PAD. BARRY MURRAY FIELD OPERATIONS, SOLID WASTE DIVISION 373-4676 430-6102 BARRY.MURRAY@GREENSBORO-NC.GOV

NOTE:
C.O.C. DRIVEWAY PERMIT REQUIRED FOR THE TWO DRIVES THAT OUTLET ONTO GRANDOVER VILLAGE ROAD.

NOTE:
PROPOSED DEVELOPMENT COMPLIES WITH THE OUTDOOR LIGHTING STANDARDS OF THE ORDINANCE, INCLUDING COMPLIANCE WITH THE LIGHT TRESPASS REQUIREMENTS IN 30-9-6.6.

WETLAND NOTE:
ALL OF THE NECESSARY APPROVALS HAVE BEEN/WILL BE OBTAINED FROM THE STATE OF CORPS FOR ANY STREAM CROSSING / WETLAND DISTURBANCE.

- LEGEND:
- EXISTING IRON PIPE
 - NORTH CAROLINA GEODETIC SURVEY
 - RIGHT OF WAY
 - DEED BOOK
 - PLAT BOOK
 - PAGE
 - EXISTING BUILDING
 - PROPOSED

KOURY VENTURES LIMITED PARTNERSHIP,
PART OF TAX PARCEL ID 0095139
PART OF 1999 TAX MAP 11-682-887-3
PART OF D.B. 4104 PG. 0925 TR XVII

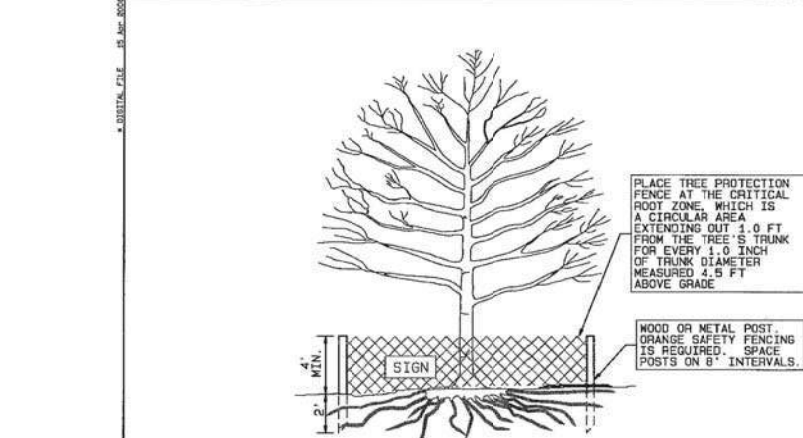
5' WIDE VEHICULAR USE SCREENING BUFFER, INSTALL 2 UNDERSTORY TREES AND 18 EVERGREEN SHRUBS EVERY 100' LINEAR FEET

THIS TRACT TO BE RECOMBINED WITH GOLF COURSE. RECOMMENDATION DEED WILL BE RECORDED IN GUILFORD COUNTY REGISTRY OF DEEDS.

STATE EMPLOYEES CREDIT UNION
PART OF TAX PARCEL ID 0217894
PART OF 1999 TAX MAP 91-6805-886-10
TAX MAP 91-6805-886-10
P.B. 7283 PG. 2471
D.B. 179 PG. 87
ZONING PUD

TREE CONSERVATION AREA NOTE:
THIS SITE IS PART OF THE GRANDOVER DEVELOPMENT. THERE HAS BEEN A MASTER TREE CONSERVATION AREA (TCA) PLAN APPROVED FOR THIS GRANDOVER DEVELOPMENT. THE ADDING TREES ON THE GOLF COURSE WILL BE PROTECTED BY INSTALLING TCA FENCINGS.

TCA REQUIRED = 10% X 12.99 AC. = 1.299 AC.
TCA PROVIDED (PER APPROVED PLAN) = 57.64 AC.



NOTES:

- ALL CONSTRUCTION TO BE TO THE CITY OF GREENSBORO, & NCENR STANDARDS AND SPECIFICATIONS.
- CLEANOUTS IN LOAD BEARING AREAS TO BE JOSAM 55000.
- INSTALL ALL APPLICABLE WATER AND SEWER TO COG/NCENR STANDARDS.
- NO NEW TREES OR THE PROJECTED MATURE CANOPY ALLOWED WITHIN 10 FEET OF EXISTING OR PROPOSED PUBLIC WATER OR SEWER.
- CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR TO COMPLY WITH THE NEW O.S.H.A. REGULATIONS CONCERNING TRENCHING FOR INSTALLATION OF UTILITIES.
- NO SUBSURFACE INVESTIGATION CONDUCTED BY EVANS ENGINEERING, INC.
- NO OVERHEAD POWER LINES EXIST WITHIN THE PROPERTY LIMITS OR LESS THAN TEN FEET OUTSIDE THE LIMITS.
- ANY STRUCTURE TO BE REMOVED SHALL REQUIRE A DEMOLITION PERMIT FROM BUILDING INSPECTIONS.
- EXTERIOR EXIT DISCHARGE ILLUMINATION/LIGHTING SHALL BE REQUIRED FROM ALL EXIT DOORS TO THE PUBLIC WAY IN COMPLIANCE WITH NCBC 1006.

CITY OF GREENSBORO
STANDARD TREE PROTECTION DETAIL
STD. NO. 448
REV. 10/10

SECTION 5
SECTION 1

NOLE 8W

GRANDOVER VILLAGE ROAD
(60' PUBLIC R/W (COLLECTOR))
PB. 197 PG. 49

KOURY VENTURES LIMITED PARTNERSHIP,
PART OF TAX PARCEL ID 0097609
PART OF 1999 TAX MAP 11-682-887-3
PART OF D.B. 4104 PG. 0925 TR XIII AND XVII
20.11 ACRES

ZONING REQUIREMENTS PER
GRANDOVER UNIFIED DEVELOPMENT PLAN:

ZONING REQUIREMENTS: MULTI- FAMILY (MF-B)

| | |
|-------------------------------|---------------|
| MIN. LOT SIZE (SF) | 12,000 |
| MIN. LOT WIDTH (INTERIOR LOT) | 60 |
| MIN. LOT WIDTH (CORNER LOT) | 60 |
| MIN. STREET FRONTAGE | 50 |
| MIN. STREET SETBACK | 10 |
| LOCAL SUBCOLLECTOR (FRONT) | 10 |
| LOCAL SUBCOLLECTOR (SIDE) | 25 |
| MINOR THOROUGHFARE | 10 |
| MAJOR THOROUGHFARE | 10 |
| INTERIOR SIDE YARD SETBACKS | 5' |
| REAR YARD SETBACK | 20' |
| MAX. BUILDING HEIGHT | 50' / 60' (f) |
| MAX. BUILDING COVERAGE | 60% |
| MIN. BUILDING SEPARATION | 20 FT. |

(f) MAXIMUM HEIGHT WITHOUT / WITH ADDITION SETBACKS:
INCREASE ALL SETBACKS BY ONE (1) FOOT FOR EVERY ONE (1) FOOT IN HEIGHT BETWEEN FIFTY (50) AND EIGHTY (80) FEET. BUT NOT FOR ADDITIONAL HEIGHT ABOVE EIGHTY (80) FEET. PROVIDED, HOWEVER THAT NO STRUCTURE SHALL EXCEED A HEIGHT OF EIGHTY (80) FEET WITHOUT PLANNING BOARD APPROVAL.
NOTE: UP TO 80' BUILDING HEIGHT ALLOWED FOR SIDE OF BUILDING FACING GOLF COURSE.

NOTE:
ALL ELECTRICAL GATE OPERATORS, WHERE PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325, GATES INTENDED FOR AUTOMATIC OPERATION SHAP BE DESIGNED, CONSTRUCTED AND INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ASTM F 2200.

OPEN SPACE/ COMMON ELEMENTS AREA:
ONE OF THE ZONING CONDITIONS FOR ENTIRE GRANDOVER DEVELOPMENT IS THAT THERE SHALL BE A MINIMUM OF 82 ACRES OF PLATTED OPEN SPACE/ COMMON ELEMENTS. THE GRANDOVER GOLF COURSE IS CONSIDERED OPEN SPACE/ COMMON ELEMENT. BELOW I HAVE LISTED SEVERAL FINAL PLATS OF THE GOLF COURSE (AND THEIR RESPECTIVE ACREAGE) THAT TOTAL MORE THAN THE REQUIRED 82 ACRES.

| PLAT BOOK & PAGE: | GOLF COURSE ACREAGE |
|-------------------|---------------------|
| P.B. 121 PG. 30 | 24,633 ACRES |
| P.B. 125 PG. 30 | 36,205 ACRES |
| P.B. 125 PG. 96 | 48,829 ACRES |
| TOTAL: | 109,667 ACRES |

NOTES:
THE REQUIRED STREET PLANTING YARD MUST HAVE A MINIMUM WIDTH OF 10 FEET (AS MEASURED FROM THE OUTSIDE EDGE OF THE RIGHT-OF-WAY OR THE BACK OF THE SIDEWALK, WHICHEVER IS FURTHER FROM THE STREET CENTERED) AND INCLUDED AT LEAST 2 CANOPY TREES AND 17 SHRUBS PER 100 LINEAR FEET OF REQUIRED STREET PLANTING YARD NOT INCLUDED ALLOWED DRIVEWAY.

PARKING LOT LANDSCAPING REQUIREMENTS: 1 CANOPY TREE FOR EVERY 12 PARKING SPACES PROVIDED.

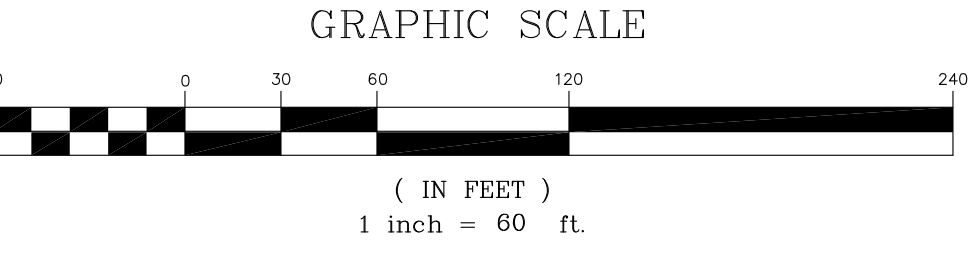
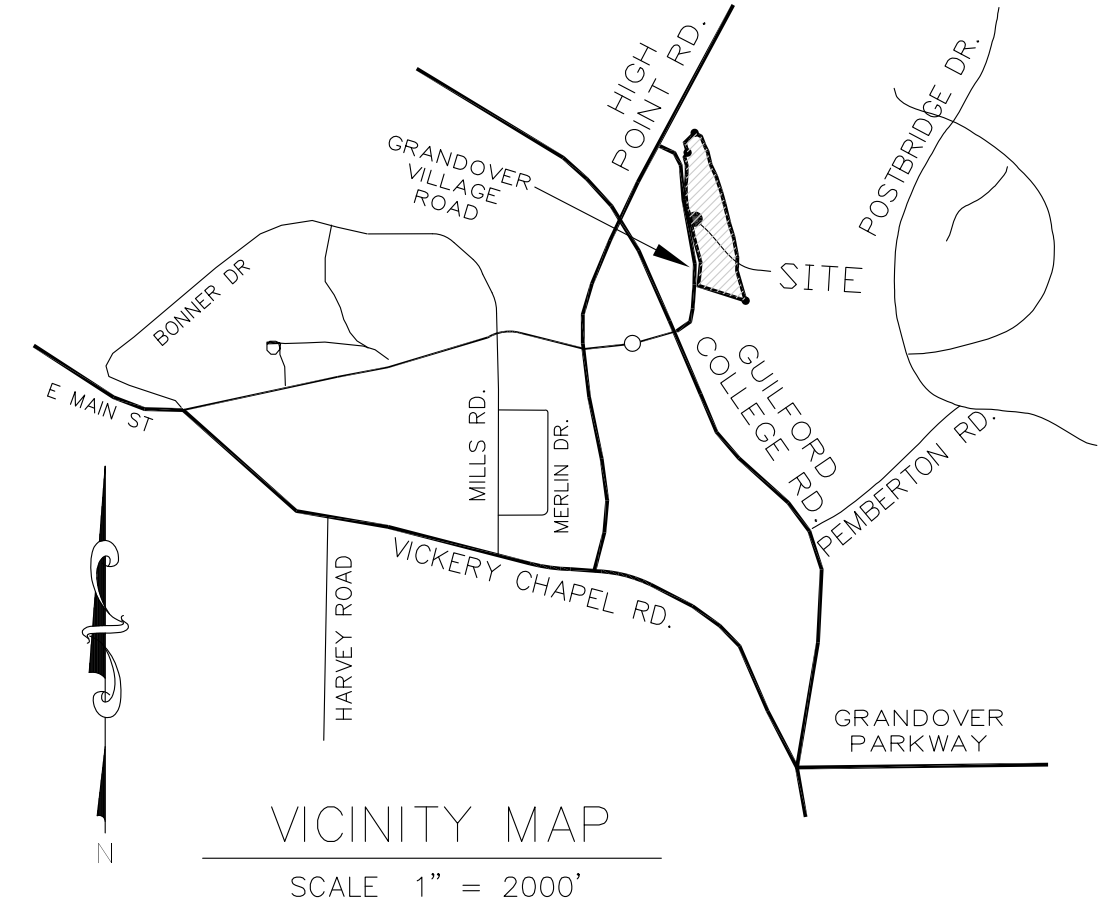
PARKING CALCULATIONS:
120 TOTAL UNITS
MINIMUM PARKING REQUIREMENTS:
90 1 BEDROOM UNITS * 1.25 SPACES/UNIT = 112 SPACES
12 2 BEDROOM UNITS * 1.5 SPACES/UNIT = 180 SPACES
16 3 BEDROOM UNITS * 2.0 SPACES/UNIT = 32 SPACES
CLUBHOUSE PARKING 1 / 25 DWELLING UNITS = 9 SPACES
TOTAL SPACES REQUIRED = 351 SPACES

(NOTE: A MINIMUM OF 2 OF THESE SPACES SHALL BE HANDICAP SPACES)
TOTAL NUMBER OF REGULAR PARKING SPACES SHOWN = 392 SPACES
HANDICAP PARKING SPACES SHOWN = 24 SPACES
GARAGE SPACES SHOWN = 30 SPACES
TOTAL SPACES PROVIDED = 455 SPACES

(L.D.P.)
LIGHT DUTY
ASPHALT PAVING DETAIL
N.T.S.

(H.D.P.)
HEAVY DUTY
ASPHALT PAVING DETAIL
N.T.S.

NOTE: THIS IS A CONCEPTUAL LANDSCAPE PLAN. THE APPLICANT MUST SUBMIT A DETAILED LANDSCAPE PLAN (WHICH DEPICTS THE PLANT TYPES AND LOCATIONS) WITHIN 90 DAYS FROM THE ISSUANCE OF THE BUILDING PERMIT, FOR REVIEW BY THE PLANNING DEPARTMENT. THE LANDSCAPE PLAN MUST BE APPROVED BY THE PLANNING DEPARTMENT PRIOR TO RECEIVING AN INSPECTION FOR THE CERTIFICATE OF OCCUPANCY.



PROJECT TITLE: GRANDOVER 8 WEST APARTMENTS
6029 YV W GATE CITY BLVD
SUMMER/JAMESTOWN TOWNSHIP GUILFORD COUNTY GREENSBORO, NORTH CAROLINA

APPLICANT/OWNER/OPERATOR: KOURY VENTURES LIMITED PARTNERSHIP
2275 VANSATORY STREET
GREENSBORO, NORTH CAROLINA 27407
PHONE: 336-299-9200 CONTACT: RICHARD VANDRE
RVANDRE@KOURYCORP.COM

Evans Engineering, Inc.
19773
Engineers Surveyors Planners
4609 Dundas Drive Greensboro, NC 27407
Phone: 336-854-8877 Fax: 336-854-8879
CONTACT: ADRIAN EVANS-ENG.COM
FIRM LICENSE #C-01616
DESIGN BY: ADL DRAWN BY: DLY
PROJECT: 630-264
SHEET NO. 3 OF 16

OWNER NAME AND ADDRESS
KOURY VENTURES LIMITED PARTNERSHIP,
2275 VANSATORY STREET
GREENSBORO, N.C. 27403
PHONE: 336-299-9200
CONTACT: RICHARD VANDRE
RVANDRE@KOURYCORP.COM

LEGEND:

EIP EXISTING IRON PIPE
N.C.G.S. NORTH CAROLINA GEODETIC SURVEY
R/W RIGHT OF WAY
DB DEED BOOK
PB PLAT BOOK
PG PAGE
EX. EXISTING
BLDG. BUILDING
PROP. PROPOSED

JURISDICTIONAL WETLANDS DATA:

| | SF | AC | LF |
|-------------------------------|---------|--------|------|
| TOTAL JURISDICTIONAL WETLANDS | 16,553 | 0.38 | |
| TOTAL JURISDICTIONAL STREAMS | 1,887 | | ±629 |
| TOTAL UPLAND AREA | 549,292 | ±12.61 | |
| TOTAL SITE ACREAGE | | ±12.99 | |

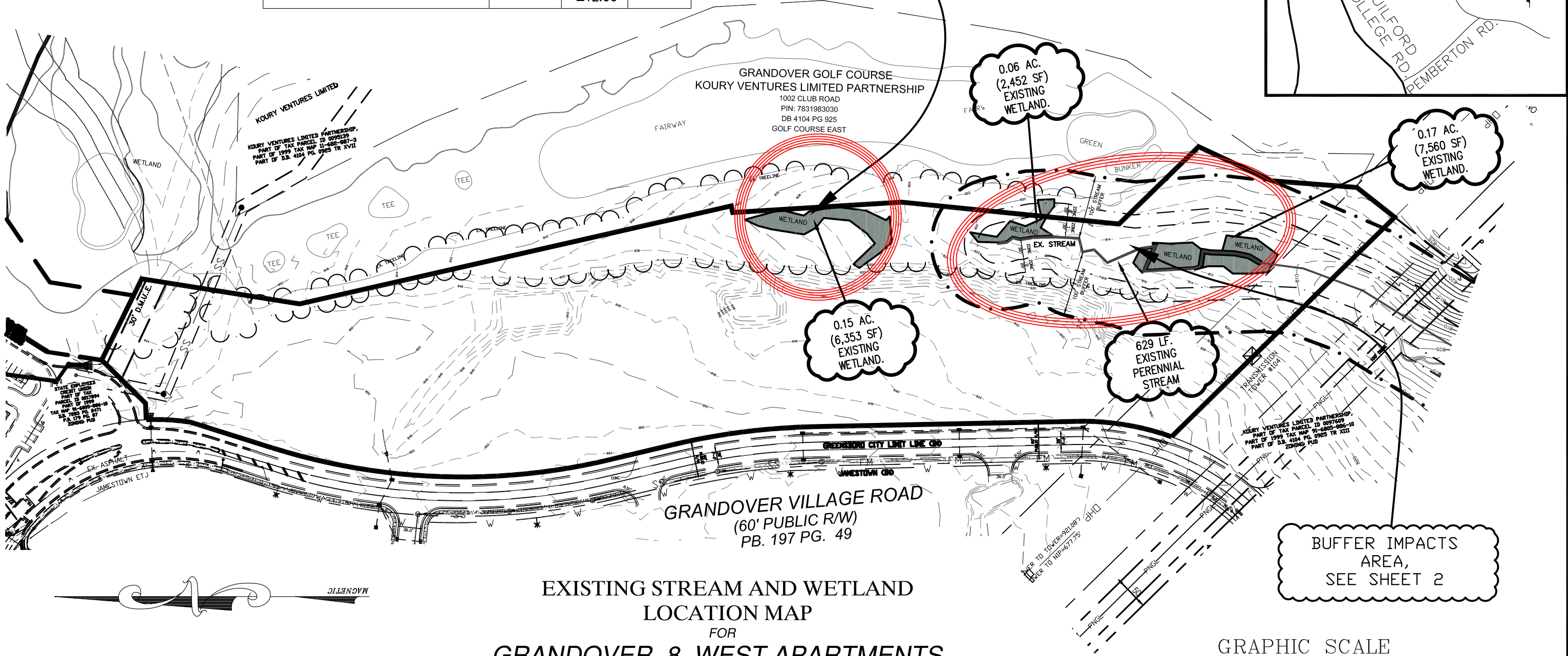
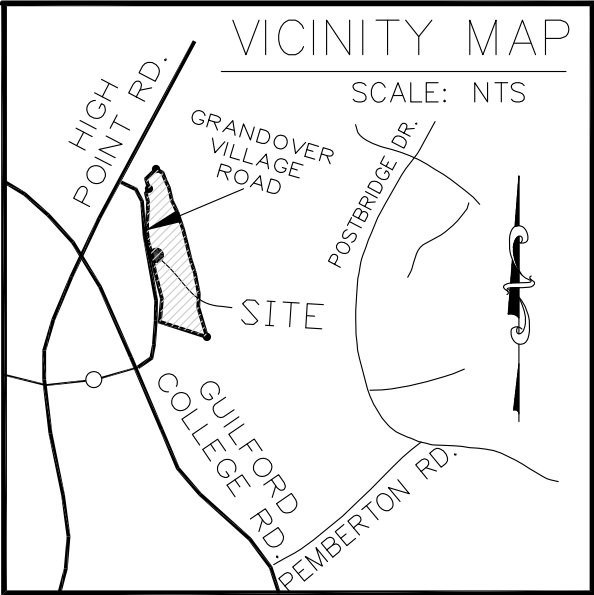
WETLAND IMPACTS
AREA
SEE SHEET 2

SITE DATA:

TAX PARCEL #0095139
PROPERTY REFERENCE: D.B. 6568 PG. 2468
EXISTING ZONING: CD-PD-M
EXISTING LAND USE: VACANT
PROPOSED LAND USE: APARTMENTS
TOTAL AREA: 12.99 ACRES

VICINITY MAP

SCALE: NTS



EXISTING STREAM AND WETLAND
LOCATION MAP
FOR
GRANDOVER 8 WEST APARTMENTS

6029 YY W GATE CITY BLVD
SUMNER/JAMESTOWN TOWNSHIP GUILFORD COUNTY
GREENSBORO, NORTH CAROLINA

JULY 13, 2018

OWNER NAME AND ADDRESS



KOURY VENTURES LIMITED PARTNERSHIP,
2275 VANSTORY STREET
GREENSBORO, N.C. 27403
PHONE: 336-299-9200
CONTACT: RICHARD VANDRE

GRAPHIC SCALE

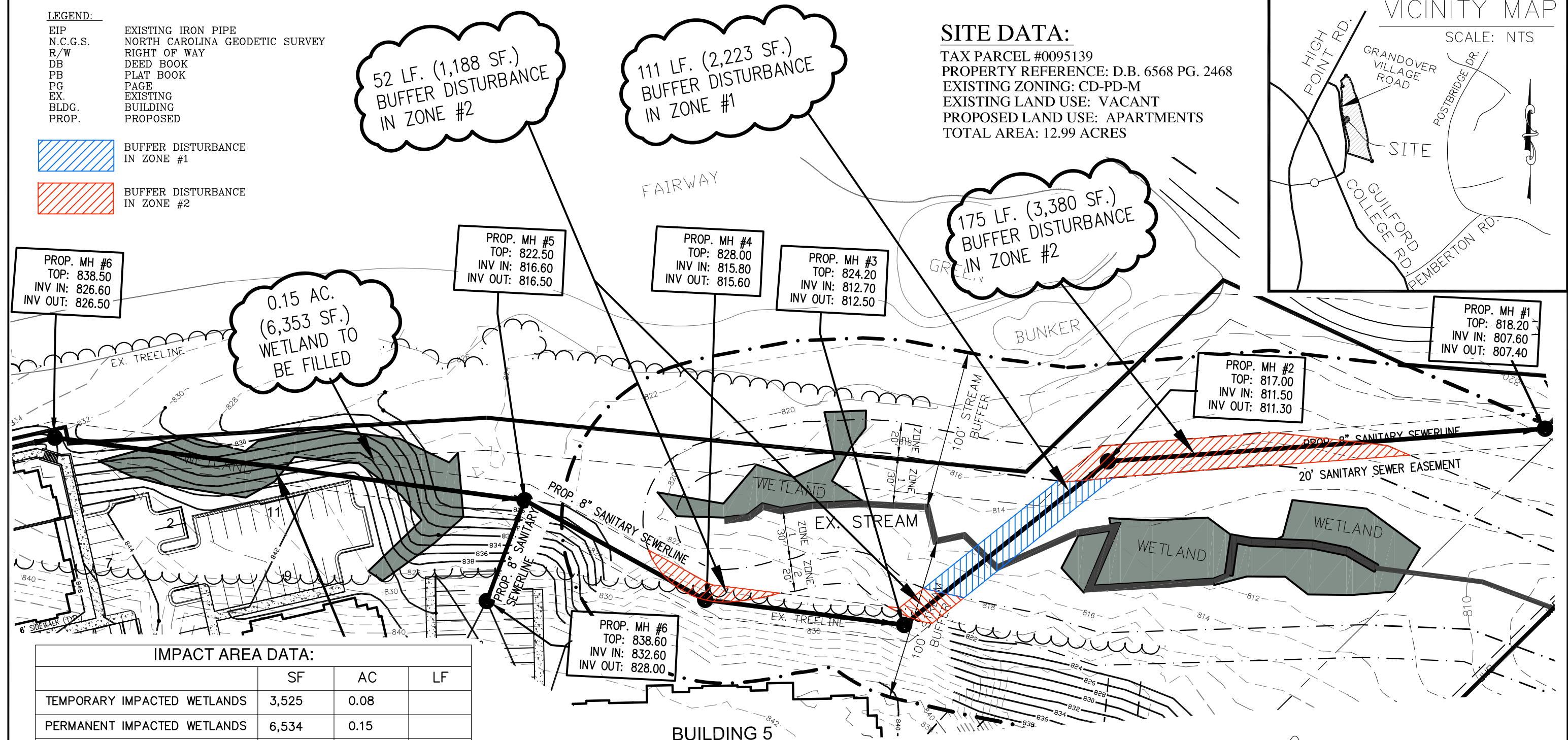
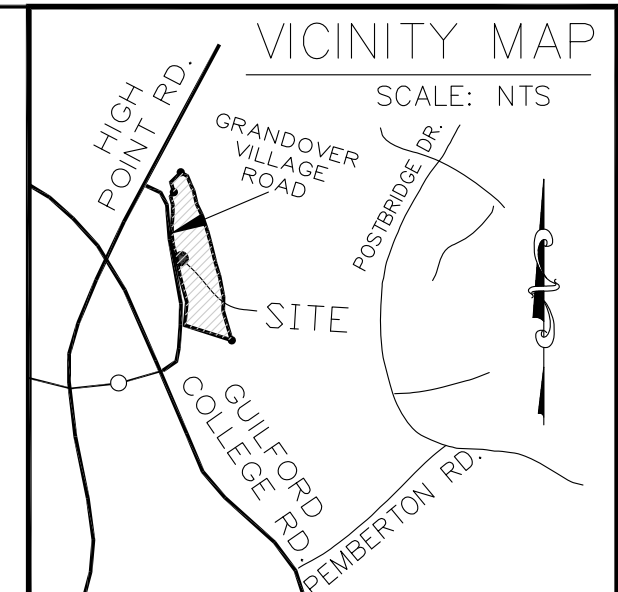


(IN FEET)
1 inch = 150 ft.

LEGEND:
EIP EXISTING IRON PIPE
N.C.G.S. NORTH CAROLINA GEODETIC SURVEY
R/W RIGHT OF WAY
DB DEED BOOK
PB PLAT BOOK
PG PAGE
EX. EXISTING
BLDG. BUILDING
PROP. PROPOSED

 BUFFER DISTURBANCE
IN ZONE #1
 BUFFER DISTURBANCE
IN ZONE #2

SITE DATA:
TAX PARCEL #0095139
PROPERTY REFERENCE: D.B. 6568 PG. 2468
EXISTING ZONING: CD-PD-M
EXISTING LAND USE: VACANT
PROPOSED LAND USE: APARTMENTS
TOTAL AREA: 12.99 ACRES



IMPACT AREA DATA:

| | SF | AC | LF |
|-----------------------------|-------|------|-----|
| TEMPORARY IMPACTED WETLANDS | 3,525 | 0.08 | |
| PERMANENT IMPACTED WETLANDS | 6,534 | 0.15 | |
| TEMPORARY IMPACTED STREAMS | ±30 | | ±10 |
| ZONE 2 PERMANENT IMPACT | 4,588 | | 227 |
| ZONE 1 PERMANENT IMPACT | 2,223 | | 111 |

OWNER NAME AND ADDRESS

KOURY VENTURES LIMITED PARTNERSHIP,
2275 VANSTORY STREET
GREENSBORO, N.C. 27403
PHONE: 336-299-9200
CONTACT: RICHARD VANDRE

STREAM AND
WETLAND IMPACT
FOR
GRANDOVER 8 WEST APARTMENTS

6029 YY W GATE CITY BLVD
SUMNER/JAMESTOWN TOWNSHIP GUILFORD COUNTY
GREENSBORO, NORTH CAROLINA

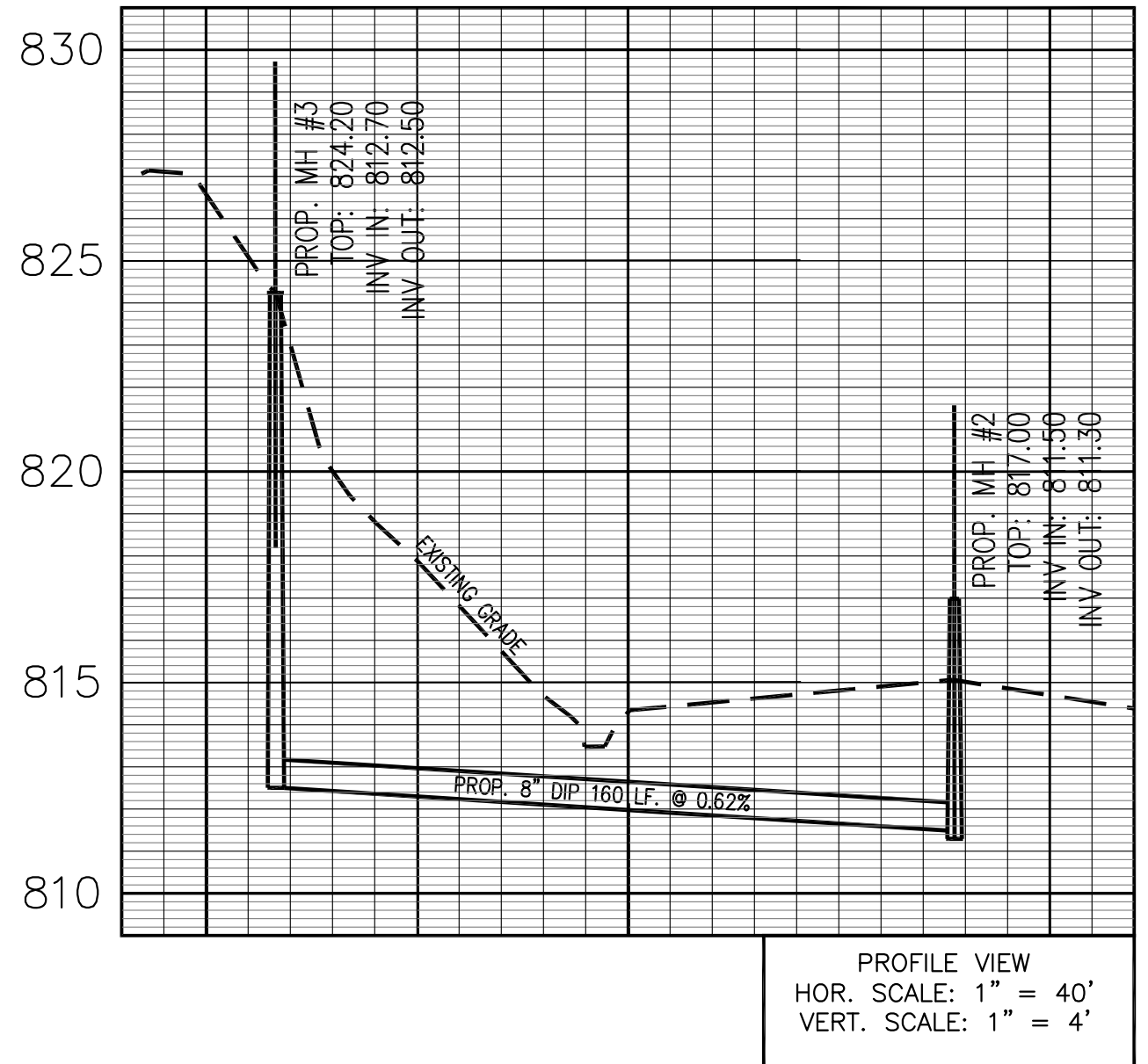
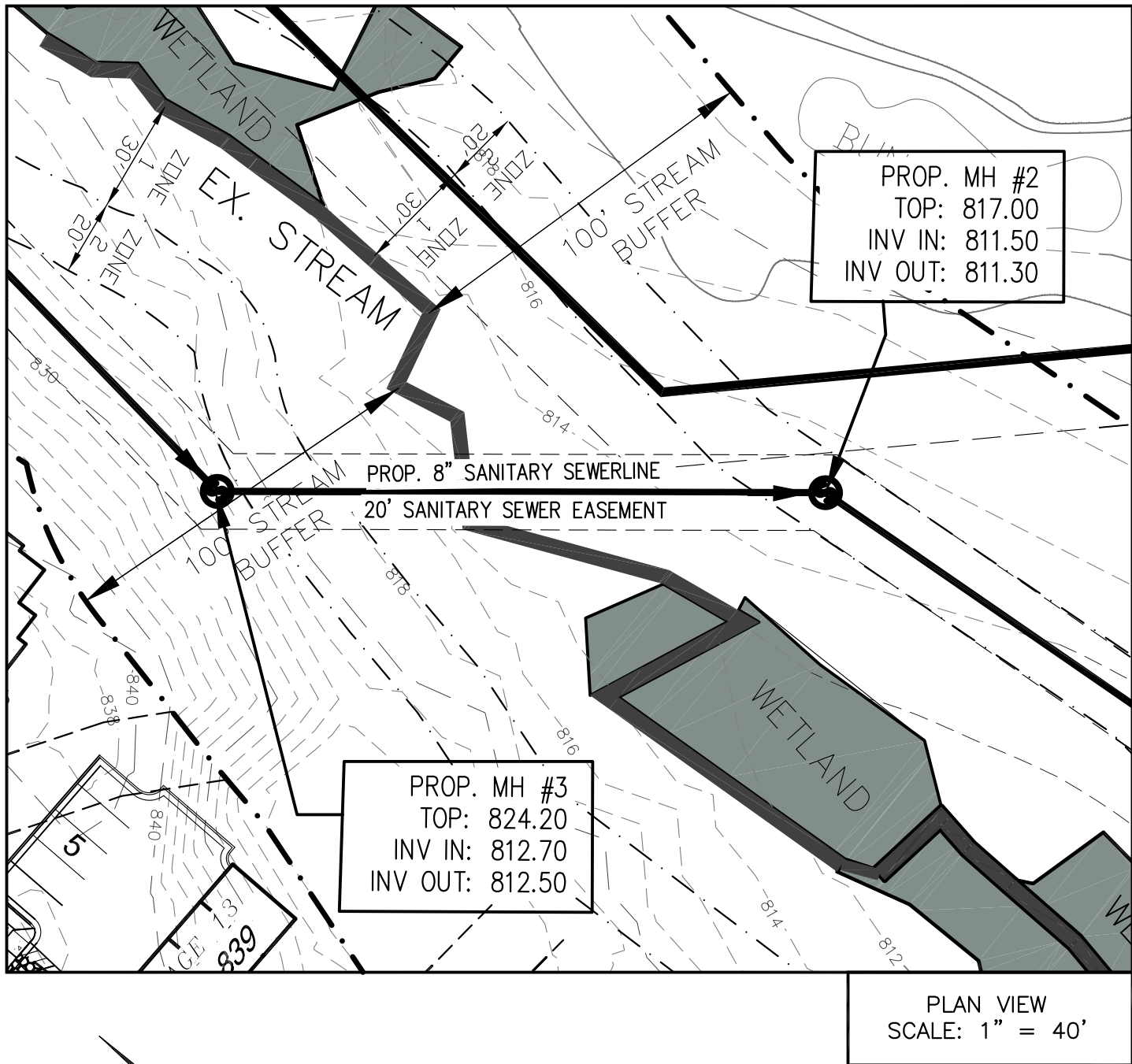
JULY 13, 2018

H:\DRAWINGS\KOURYRANDOVER VILLAGE SHOPPING CENTERrandover 8 West Apartmentsrandover 8 West Apartments-06-06-18.dwg

GRAPHIC SCALE



(IN FEET)
1 inch = 150 ft.

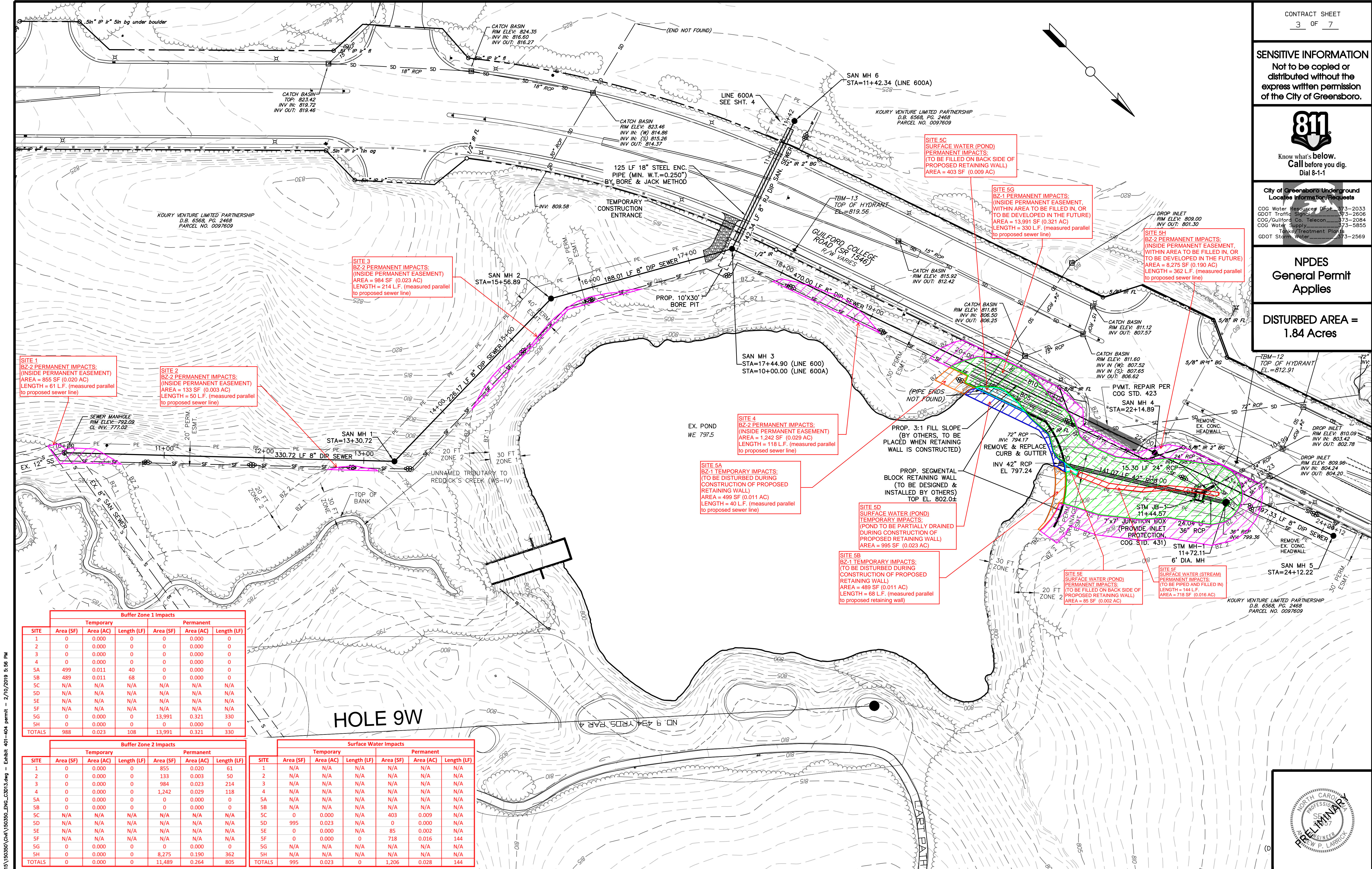


SANITARY SEWER PIPE
STREAM CROSSING PROFILE
FOR
GRANDOVER 8 WEST APARTMENTS
6029 YY W GATE CITY BLVD
SUMNER/JAMESTOWN TOWNSHIP GUILFORD COUNTY
GREENSBORO, NORTH CAROLINA
JULY 13, 2018

OWNER NAME AND ADDRESS

KOURY VENTURES LIMITED PARTNERSHIP,
2275 VANSTORY STREET
GREENSBORO, N.C. 27403
PHONE: 336-299-9200
CONTACT: RICHARD VANDRE

DRAWING NAME: P:\2015\150350\CH\150350_ENG_C3013.dwg - Exhibit 401-404 permit - 2/10/2019 5:56 PM



| Buffer Zone 1 Impacts | | | | | | |
|-----------------------|-----------|-----------|-------------|-----------|-----------|-------------|
| SITE | Temporary | | | Permanent | | |
| | Area (SF) | Area (AC) | Length (LF) | Area (SF) | Area (AC) | Length (LF) |
| 1 | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 2 | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 3 | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 4 | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 5A | 499 | 0.011 | 40 | 0 | 0.000 | 0 |
| 5B | 489 | 0.011 | 68 | 0 | 0.000 | 0 |
| 5C | N/A | N/A | N/A | N/A | N/A | N/A |
| 5D | N/A | N/A | N/A | N/A | N/A | N/A |
| 5E | N/A | N/A | N/A | N/A | N/A | N/A |
| 5F | N/A | N/A | N/A | N/A | N/A | N/A |
| 5G | 0 | 0.000 | 0 | 13,991 | 0.321 | 330 |
| 5H | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| TOTALS | 988 | 0.023 | 108 | 13,991 | 0.321 | 330 |

| Buffer Zone 2 Impacts | | | | | | |
|-----------------------|-----------|-----------|-------------|-----------|-----------|-------------|
| SITE | Temporary | | | Permanent | | |
| | Area (SF) | Area (AC) | Length (LF) | Area (SF) | Area (AC) | Length (LF) |
| 1 | 0 | 0.000 | 0 | 855 | 0.020 | 61 |
| 2 | 0 | 0.000 | 0 | 133 | 0.003 | 50 |
| 3 | 0 | 0.000 | 0 | 984 | 0.023 | 214 |
| 4 | 0 | 0.000 | 0 | 1,242 | 0.029 | 118 |
| 5A | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 5B | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 5C | N/A | N/A | N/A | N/A | N/A | N/A |
| 5D | N/A | N/A | N/A | N/A | N/A | N/A |
| 5E | N/A | N/A | N/A | N/A | N/A | N/A |
| 5F | N/A | N/A | N/A | N/A | N/A | N/A |
| 5G | 0 | 0.000 | 0 | 0 | 0.000 | 0 |
| 5H | 0 | 0.000 | 0 | 8,275 | 0.190 | 362 |
| TOTALS | 0 | 0.000 | 0 | 11,489 | 0.264 | 805 |

| Surface Water Impacts | | | | | | |
|-----------------------|-----------|-----------|-------------|-----------|-----------|-------------|
| SITE | Temporary | | | Permanent | | |
| | Area (SF) | Area (AC) | Length (LF) | Area (SF) | Area (AC) | Length (LF) |
| 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 2 | N/A | N/A | N/A | N/A | N/A | N/A |
| 3 | N/A | N/A | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A | N/A | N/A |
| 5A | N/A | N/A | N/A | N/A | N/A | N/A |
| 5B | N/A | N/A | N/A | N/A | N/A | N/A |
| 5C | 0 | 0.000 | N/A | 403 | 0.009 | N/A |
| 5D | 995 | 0.023 | N/A | 0 | 0.000 | N/A |
| 5E | 0 | 0.000 | N/A | 85 | 0.002 | N/A |
| 5F | 0 | 0.000 | 0 | 718 | 0.016 | 144 |
| 5G | N/A | N/A | N/A | N/A | N/A | N/A |
| 5H | N/A | N/A | N/A | N/A | N/A | N/A |
| TOTALS | 995 | 0.023 | 0 | 1,206 | 0.028 | 144 |

0' 40' 80'
SCALE: 1" = 40' HORIZ

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ENGINEERS & SURVEYORS
6415 OLD PLANK RD, HIGH POINT, NC 27265
T: (336) 886-4821 | F: (336) 886-4458 | WWW.DMP-INC.COM | LICENSE: F-0245

| REVISIONS | TYPE | CONTRACT | CONTRACTOR | AS-BUILT | AUTH. DATE | BENCHMARKS |
|-----------|----------|----------|------------|----------|------------|------------|
| | ROADWAY | | | | | |
| | SEWER | | | | | |
| | WATER | | | | | |
| | SIDEWALK | | | | | |

| |
|------------------------|
| JOB NO. 150350 |
| DESIGNED 9/2017 BY APL |
| CONST. SURVEY BY DMP |
| CHECKED BY APL |
| SCALE: AS NOTED |

CITY OF GREENSBORO
ENGINEERING DIVISION
KOURY CORPORATION SEWER IMPROVEMENTS
TO GRANDOVER WEST DEVELOPMENT
SEWER LINE 600 STA. 10+00 - STA. 24+12

K-
SHEET NO.
4A OF **7**

CONTRACT SHEET
3 OF 7

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City of Greensboro Underground
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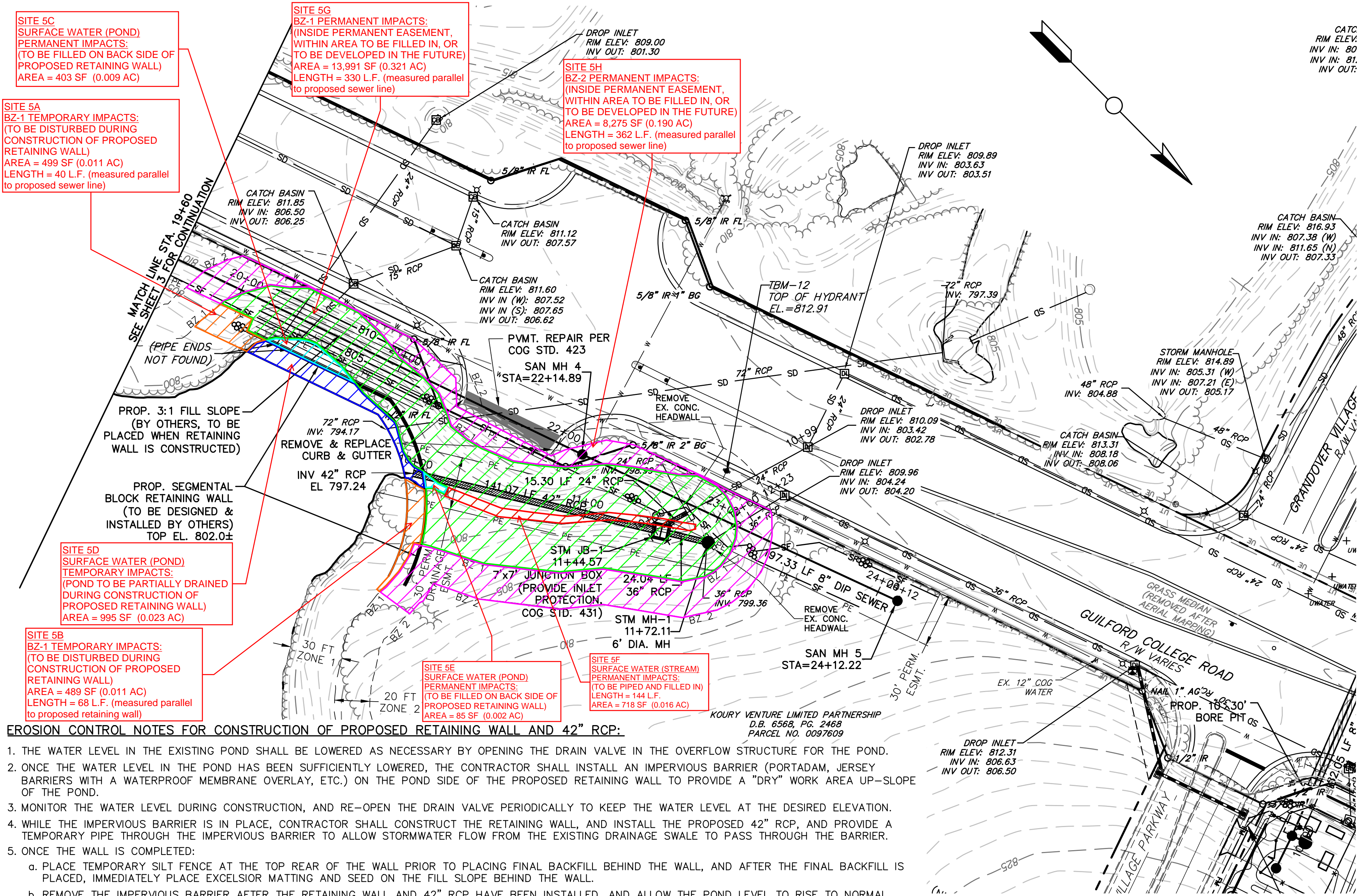
COG Water Resources Dept. 373-2033
COG Traffic Signal 373-2606
COG Guilford Co. 373-2084
COG Water Supply 373-5855
Tanks/Treatment Plants
GDOT Storm Water 373-2569

NPDES
General Permit
Applies

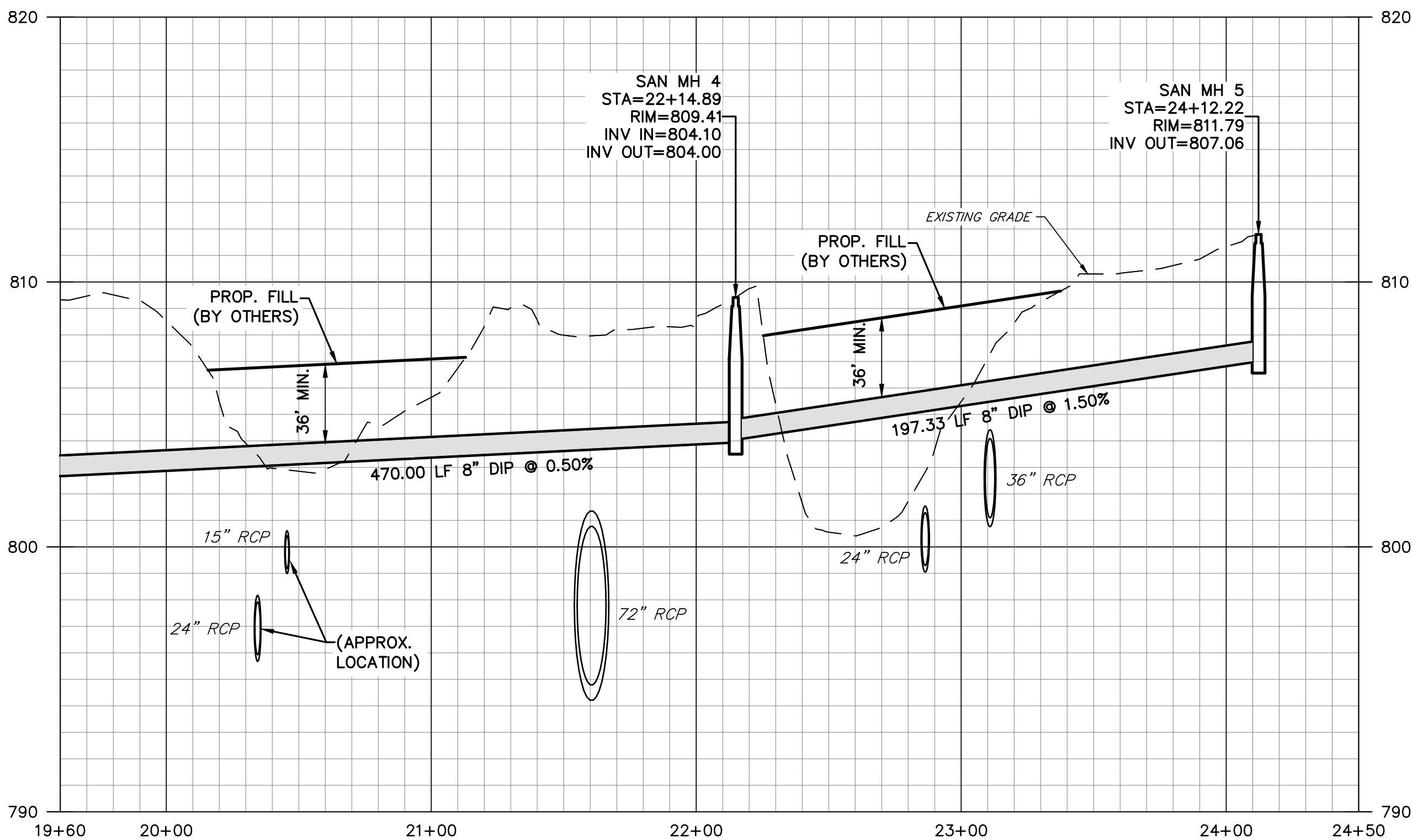
DISTURBED AREA =
1.84 Acres



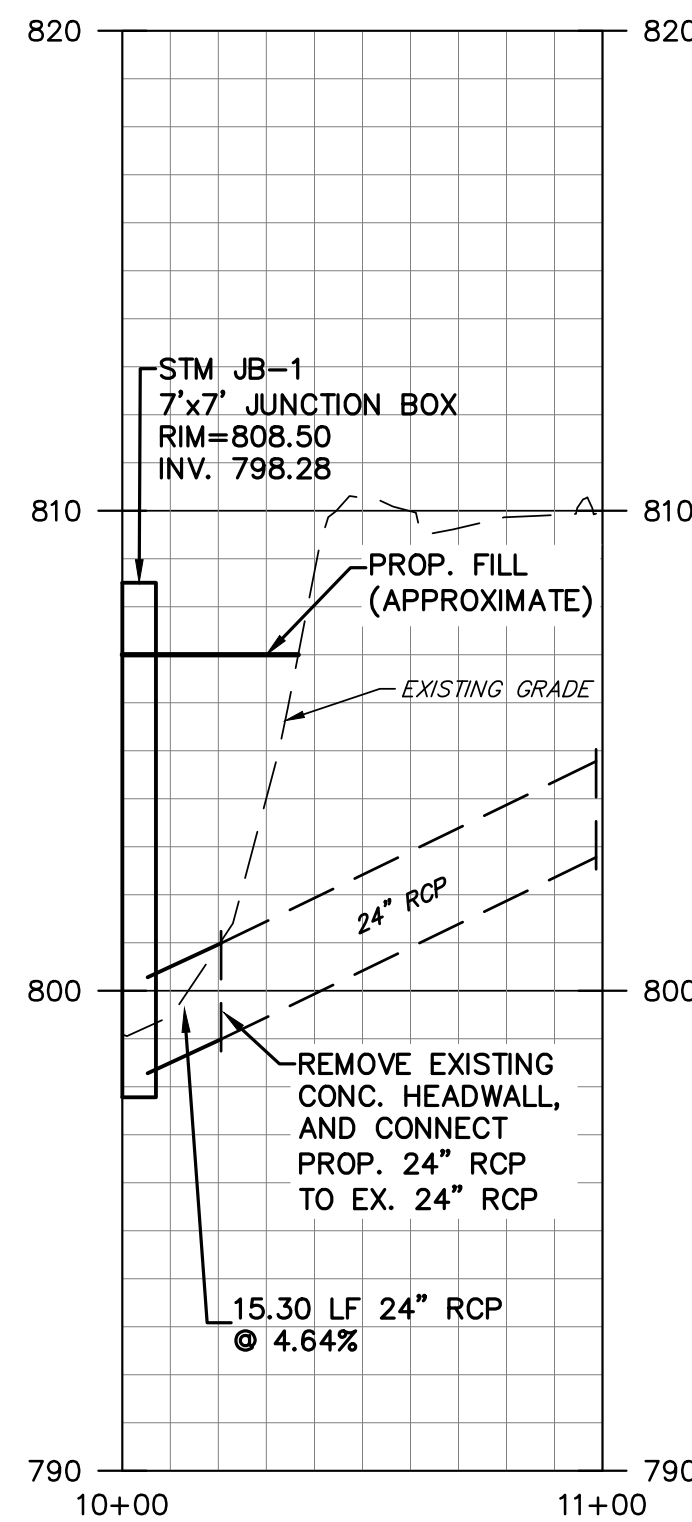
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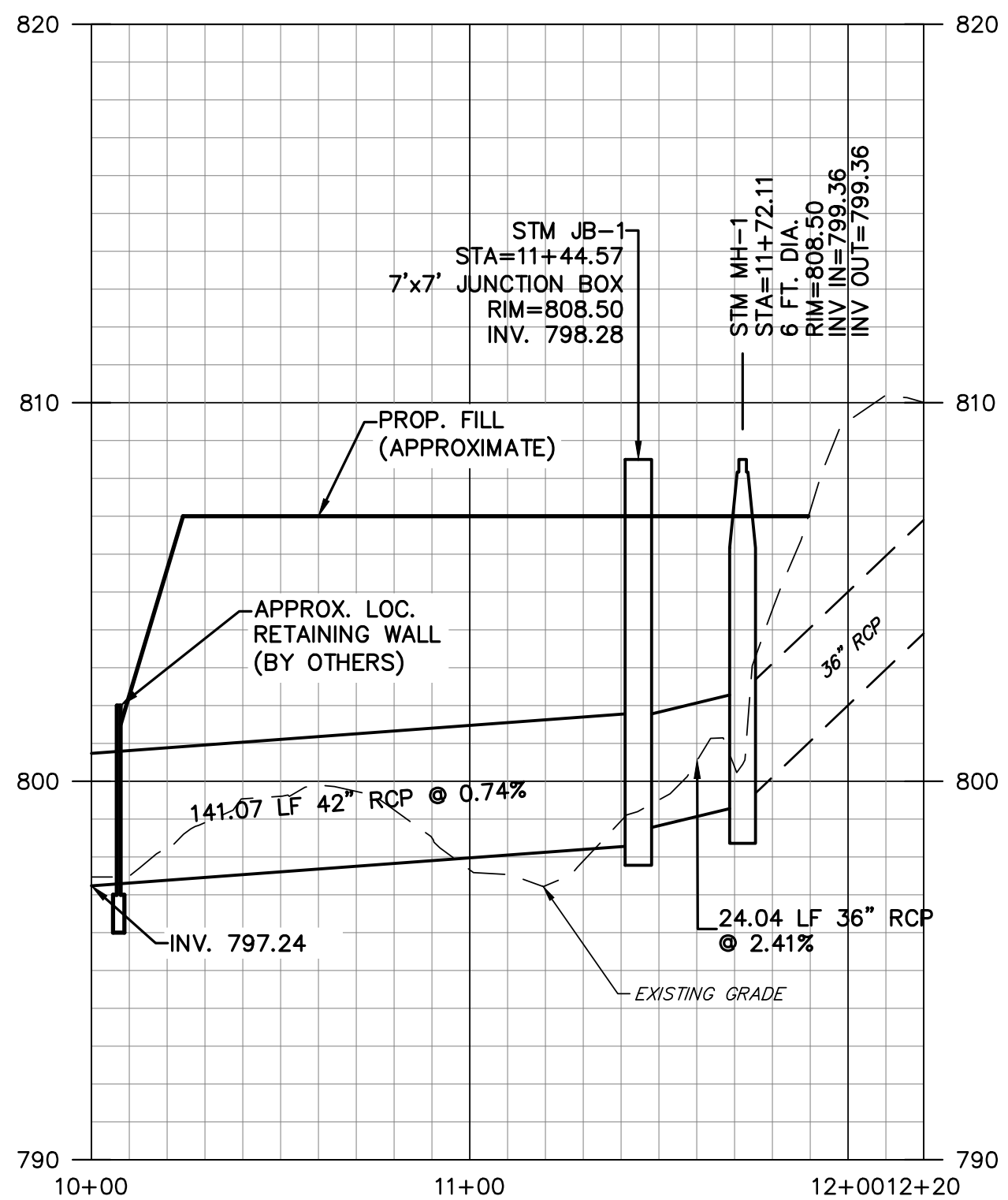
LINE 600



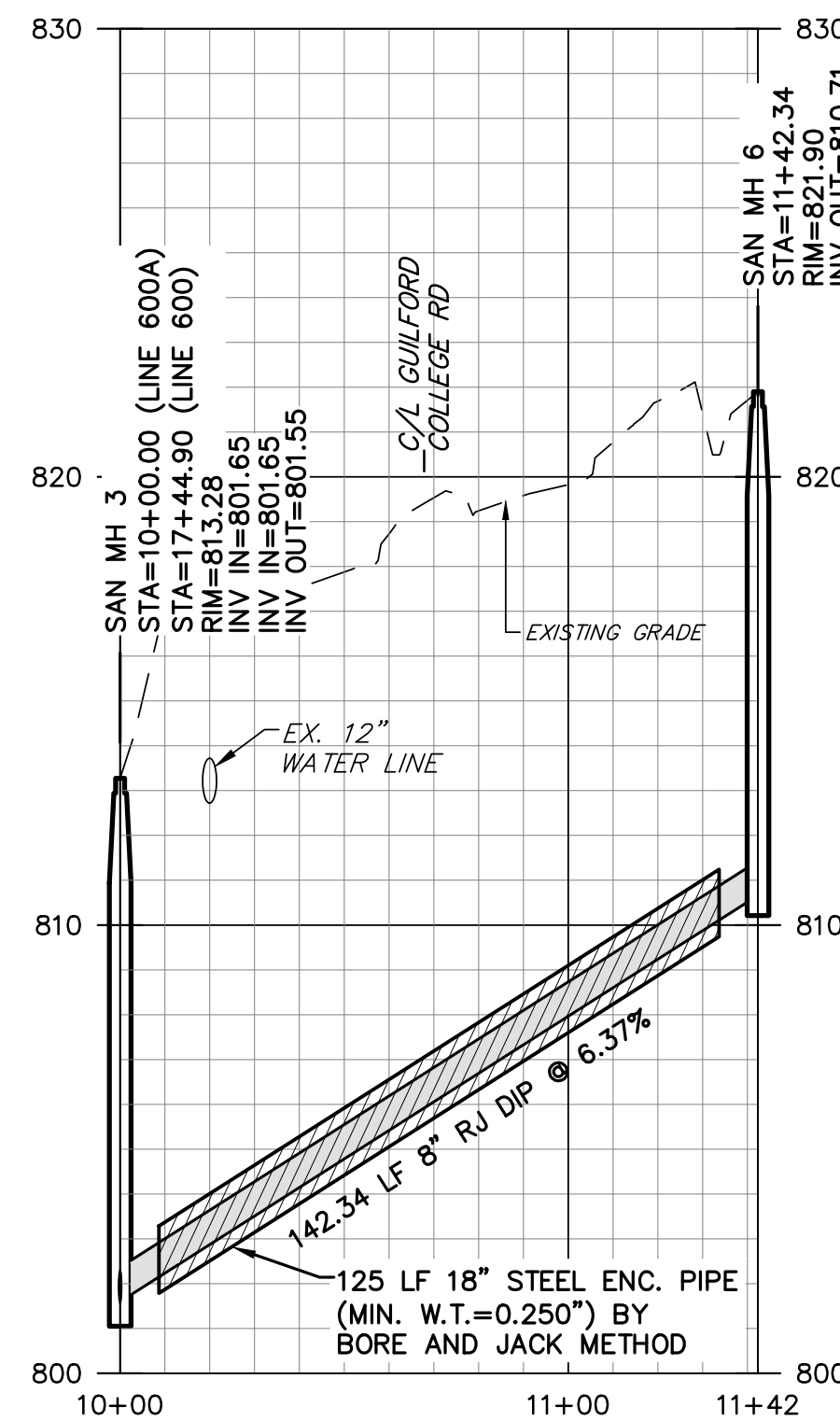
24" CULVERT EXTENSION



36"/42" CULVERT EXTENSION



LINE 600-A



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T: (336) 886-4821 | F: (336) 886-4458 | WWW.DMP-INC.COM | LICENSE: F-0245

REVISIONS

| NO. | DESCRIPTION |
|-----|-------------------|
| 1 | ISSUED FOR PERMIT |

TYPE

| |
|---------|
| ROADWAY |
| SEWER |
| WATER |
| SIDWALK |

CONTRACT

| |
|--------|
| 150350 |
|--------|

CONTRACTOR

| |
|-------------------|
| KOURY CORPORATION |
|-------------------|

AS-BUILT

| |
|--|
| |
|--|

AUTH. DATE

| |
|--------|
| 9/2017 |
|--------|

BENCHMARKS

| |
|--|
| |
|--|

JOB NO. 150350

| |
|------------------------|
| DESIGNED 9/2017 BY APL |
| CONST. SURVEY BY DMP |
| CHECKED BY APL |
| SCALE: AS NOTED |

CITY OF GREENSBORO
ENGINEERING DIVISION
KOURY CORPORATION SEWER IMPROVEMENTS
TO GRANDOVER WEST DEVELOPMENT
SEWER LINE 600 STA. 19+60 - STA. 24+12.22
SEWER LINE 600A STA. 10+00 - STA. 11+42.34 & CULVERT EXTENSIONS

K-

SHEET NO.

4 OF 7

CONTRACT SHEET

4 OF 7

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GDOT Traffic Signs 373-2606
COG/Guilford Co. Telecon 373-2084
COG Water Supply 373-5855
Tanks/Treatment Plants
GDOT Storm Water 373-2569

NPDES
General Permit
Applies

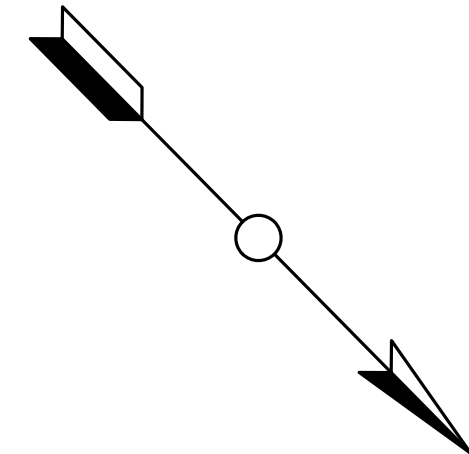
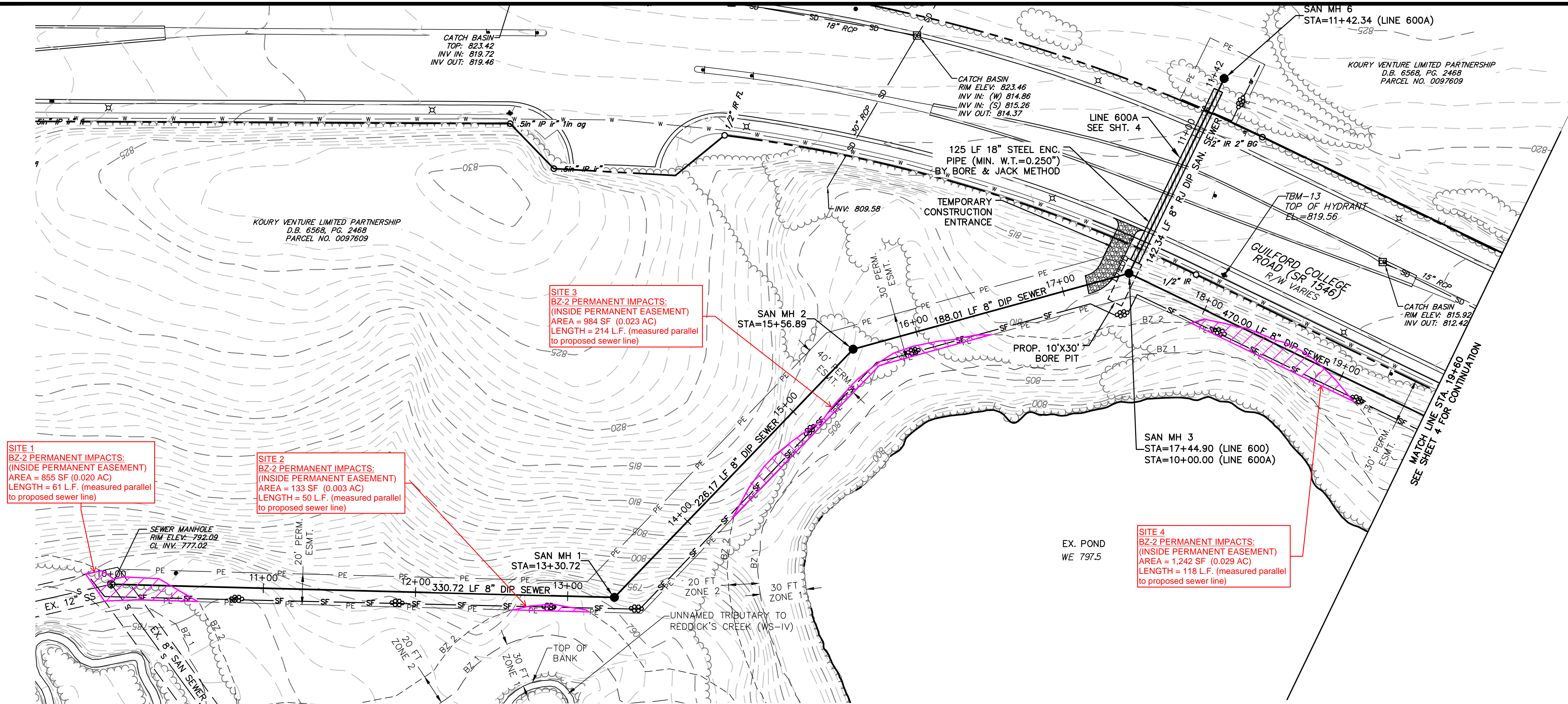
DISTURBED AREA =
1.84 Acres

0 40' 80'

SCALE: 1" = 40' HORIZ
1" = 4' VERT



DRAWING NAME: P:\2019\150350\GWA\150350_ENG_C3013.dwg - P&P SEWER LINE 600 - 2/10/2019 5:37 PM



CONTRACT SHEET
3 OF 7

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City of Greensboro Underground
Locates Information Requests

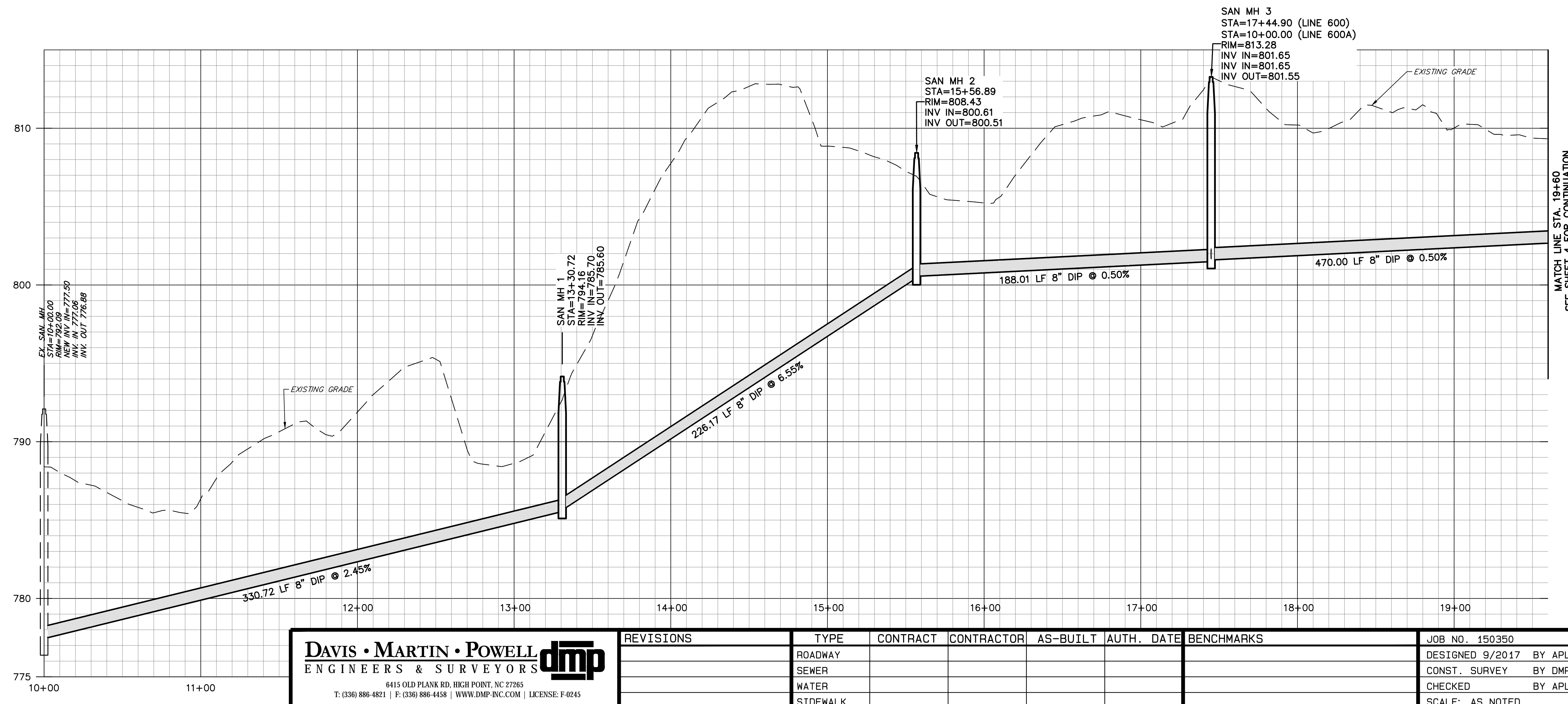
COG Water Resources Dept. 373-2033
GDOT Traffic Signal 373-2606
COG/Guilford Co. Telecon 373-2084
COG Water Supply 373-5855
Tanks/Treatment Plants
GDOT Storm Water 373-2569

**NPDES
General Permit
Applies**

**DISTURBED AREA =
1.84 Acres**



SCALE: 1" = 40' HORIZ
1" = 4' VERT



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T: (336) 886-4821 | F: (336) 886-4458 | WWW.DMP-INC.COM | LICENSE: F-0245

| REVISIONS | TYPE | CONTRACT | CONTRACTOR | AS-BUILT | AUTH. DATE | BENCHMARKS |
|-----------|----------|----------|------------|----------|------------|------------|
| | ROADWAY | | | | | |
| | SEWER | | | | | |
| | WATER | | | | | |
| | SIDEWALK | | | | | |

| |
|------------------------|
| JOB NO. 150350 |
| DESIGNED 9/2017 BY APL |
| CONST. SURVEY BY DMP |
| CHECKED BY APL |
| SCALE: AS NOTED |

**CITY OF GREENSBORO
ENGINEERING DIVISION**
KOURY CORPORATION SEWER IMPROVEMENTS
TO GRANDOVER WEST DEVELOPMENT
SEWER LINE 600 STA. 10+00 - STA. 19+60

K-
SHEET NO.
3 OF 7



U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2016-02169 County: Guilford U.S.G.S. Quad: NC-HIGH POINT EAST

NOTIFICATION OF JURISDICTIONAL DETERMINATION

| | | | |
|-------------------------|---|---------------------|--|
| Applicant: | <u>Koury Corporation</u> <u>attn: Richard Vanore</u> | Agent: | <u>ECS Southeast, LLP</u> <u>attn: Ken Vilagos</u> |
| Address: | <u>2275 Vanstory Street, Suite 200</u> <u>Greensboro, NC 27403</u> | Address: | <u>4811 Koger Boulevard</u> <u>Greensboro, NC 27407</u> |
| Size (acres) | <u>~8.5</u> | Nearest Town | <u>Greensboro</u> |
| Nearest Waterway | <u>UT to Reddicks Creek</u> | River Basin | <u>Deep</u> |
| USGS HUC | <u>03030003</u> | Coordinates | <u>36.999990° N, -79.904448° W</u> |

Location description: The project area is located approximately 0.15 mile south of West Gate City Boulevard, and 0.25 mile north of Guilford College Road, and 0.2 mile east of their intersection, along the western border of the western-most Grandover Resort golf fairway, in Greensboro, Guilford County, North Carolina. The project area boundaries are shown as the “Approximate Location of Project study Area” on the attached sketch labeled “Figure 5, Approximate Stream/Wetland Flag Location Map.”

Indicate Which of the Following Apply:

A. Preliminary Determination

- ☒ There are waters, including wetlands, on the above described project area, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The waters, including wetlands, have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.
- ☐ There are wetlands on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). However, since the waters have not been properly delineated, this preliminary jurisdiction determination may not be used in the permit evaluation process. Without a verified wetland delineation, this preliminary determination is merely an effective presumption of CWA/RHA jurisdiction over all of the waters at the project area, which is not sufficiently accurate and reliable to support an enforceable permit decision. We recommend that you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

B. Approved Determination

- ☐ There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ There are waters of the U.S., including wetlands, on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ We recommend you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

— The waters of the U.S., including wetlands, on the above described project area have been delineated and the delineation has been verified by the Corps. If you wish to have the delineation surveyed, the Corps can review and verify the survey upon completion. Once verified, this survey will provide an accurate depiction of all areas subject to CWA and/or RHA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

— The waters of the U.S., including wetlands, have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

— There are no waters of the U.S., to include wetlands, present on the above described project area which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

— The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Morehead City, NC, at (252) 808-2808 to determine their requirements.

Placement of dredged or fill material within waters of the US, including wetlands, without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). Placement of dredged or fill material, construction or placement of structures, or work within navigable waters of the United States without a Department of the Army permit may constitute a violation of Sections 9 and/or 10 of the Rivers and Harbors Act (33 USC § 401 and/or 403). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **David Bailey at (919) 554-4884 X 30** or **David.E.Bailey2@usace.army.mil**.

C. Basis For Determination:

The project area exhibits water bodies with indicators of ordinary high water marks and wetland criteria as defined in the applicable regional supplement to the 1987 wetland delineation manual. The water bodies on the site are listed in the attached table. This determination is based on a field verification by David E. Bailey (USACE) on 10/27/2016.

D. Remarks:

The water bodies in the Project Area were flagged by ECS and are approximated on the attached sketch labeled "Figure 5, Approximate Stream/Wetland Flag Location Map."

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **N/A**.

****It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.****

Corps Regulatory Official: _____



Digitally signed by BAILEY.DAVID.E.1379283736
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=BAILEY.DAVID.E.1379283736
Date: 2017.01.30 15:30:14 -05'00'

Date: **January 30, 2017**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Copy furnished:

Sue Homewood, NCDEQ-DWR, 450 W. Hanes Mill Rd, Suite 300, Winston-Salem, NC 27105

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: January 27, 2017

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Richard Vanore, 2275 Vanstory Street, Suite 200 , , NC, 27403.

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Wilmington, Grandover West / 6029 West Gate City Boulevard / Greensboro / Guilford County / Commercial, SAW-2016-02169

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: The project area is located approximately 0.15 mile south of West Gate City Boulevard, and 0.25 mile north of Guilford College Road, and 0.2 mile east of their intersection, along the western border of the western-most Grandover Resort golf fairway, in Greensboro, Guilford County, North Carolina.

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: NC

County/parish/borough: Guilford City: Greensboro

Center coordinates of site (lat/long in degree decimal format): Lat.: 35.9999903334562° Long.: -79.9044476616294°

Universal Transverse Mercator:

Name of nearest waterbody: UT to Bull Run

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): 10/27/2016

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

| Site Number | Latitude (decimal degrees) | Longitude (decimal degrees) | Estimated amount of aquatic resources in review area (acreage and linear feet, if applicable) | Type of aquatic resources (i.e., wetland vs. non-wetland waters) | Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404) |
|-------------|----------------------------|-----------------------------|---|--|---|
| SA | 35.998478 | -79.903876 | ~439 linear feet | non-wetland | Section 404 |
| WA | 35.998777 | -79.903782 | ~0.06 acres | wetland | Section 404 |
| WA-100 | 35.997859 | -79.903913 | ~0.19 acres | wetland | Section 404 |
| WB | 35.999554 | -79.903702 | ~0.14 | wetland | Section 404 |
| | | | | | |
| | | | | | |

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| | | |
|---|------------------------------------|-------------------------------|
| Applicant: Koury Corporation | File Number: SAW-2016-02169 | Date: January 30, 2017 |
| Attached is: | | See Section below |
| <input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission) | A | |
| <input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission) | B | |
| <input type="checkbox"/> PERMIT DENIAL | C | |
| <input type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION | D | |
| <input checked="" type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION | E | |

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

**District Engineer, Wilmington Regulatory Division
attn: David E. Bailey
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587**

If you only have questions regarding the appeal process you may also contact:

**Mr. Jason Steele, Administrative Appeal Review Officer
CESAD-PDO
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137**

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | | |
|----------------------------------|-------|-------------------|
| Signature of appellant or agent. | Date: | Telephone number: |
|----------------------------------|-------|-------------------|

For appeals on Initial Proffered Permits send this form to:

District Engineer, Wilmington Regulatory Division, David Bailey, 69 Darlington Avenue, Wilmington, North Carolina 28403

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Jason Steele, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801
Phone: (404) 562-5137**

Legend

- Project Study Area
- Stream
- Wetland



Client:

**KOURY
CORPORATION**

Project:

**GRANDOVER WEST
GUILFORD COUNTY
NORTH CAROLINA**

Title:

**APPROXIMATE WATERS
OF THE U.S. AND
WETLANDS LOCATION
MAP**

Notes:

1. Jurisdictional waters of the U.S. were delineated by ECS during the field reviews conducted on March 11, 2016. Features were marked with flagging tape and positions were recorded using a Trimble GeoXH 2005 hand-held GPS unit.

2. The features depicted were verified by the USACE or NCDEQ-DWR on October 26, 2016.

This map is intended for planning purposes.

Drawn By:

KJV

Checked By:

WBF

Approved By:

WBF

Date:

06/21/2018

ECS Project No.

49:1671-A

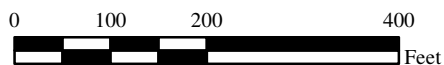
FIGURE 6

SA
~439 linear feet
35.998478, -79.903876

WA -100
~0.19 acres
35.997859, -79.903913

WB
~0.14 acres
35.999554, -79.903702

WA
~0.06 acres
35.998777, -79.903782



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: January 27, 2017

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Richard Vanore, 2275 Vanstory Street, Suite 200 , , NC, 27403.

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Wilmington, Grandover West / 6029 West Gate City Boulevard / Greensboro / Guilford County / Commercial, SAW-2016-02169

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: The project area is located approximately 0.15 mile south of West Gate City Boulevard, and 0.25 mile north of Guilford College Road, and 0.2 mile east of their intersection, along the western border of the western-most Grandover Resort golf fairway, in Greensboro, Guilford County, North Carolina.

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: NC

County/parish/borough: Guilford City: Greensboro

Center coordinates of site (lat/long in degree decimal format): Lat.: 35.9999903334562° Long.: -79.9044476616294°

Universal Transverse Mercator:

Name of nearest waterbody: UT to Bull Run

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): 10/27/2016

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

| Site Number | Latitude (decimal degrees) | Longitude (decimal degrees) | Estimated amount of aquatic resources in review area (acreage and linear feet, if applicable) | Type of aquatic resources (i.e., wetland vs. non-wetland waters) | Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404) |
|-------------|----------------------------|-----------------------------|---|--|---|
| SA | 35.998478 | -79.903876 | ~439 linear feet | non-wetland | Section 404 |
| WA | 35.998777 | -79.903782 | ~0.06 acres | wetland | Section 404 |
| WA-100 | 35.997859 | -79.903913 | ~0.19 acres | wetland | Section 404 |
| WB | 35.999554 | -79.903702 | ~0.14 | wetland | Section 404 |
| | | | | | |
| | | | | | |


- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Aerial, soils, and topo maps (ECS)
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____
- ☐ Data sheets prepared by the Corps: _____
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas: _____
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 Guilford/High Point East Quads
- ☒ Natural Resources Conservation Service Soil Survey. Citation: Guilford Co. Soil Survey
- ☐ National wetlands inventory map(s). Cite name: _____
- ☐ State/local wetland inventory map(s): _____
- ☐ FEMA/FIRM maps: _____
- ☐ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date): Guilford Co. GIS 2015
or ☐ Other (Name & Date): _____
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☒ Other information (please specify): LiDAR (NC Floodmaps)

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.


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BAILEY.DAVID.E.1379283736
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=USA,
cn=BAILEY.DAVID.E.1379283736
Date: 2017.01.30 15:02:05 -05'00'

Signature and date of Regulatory
staff member completing PJD



Signature and date of person
requesting PJD (REQUIRED,
unless obtaining the signature
is impracticable)¹

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2018-01827 County: Guilford County U.S.G.S. Quad: High Point East

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Applicant: Koury Corporation
Richard Vanore
Address: 2275 Vanstory Street, Suite 200
Greensboro, NC, 27403

Telephone Number:

| | | | |
|------------------|-----------------------|--------------|---|
| Size (acres) | <u>3.22+/-</u> | Nearest Town | <u>Jamestown</u> |
| Nearest Waterway | <u>Reddicks Creek</u> | River Basin | <u>Cape Fear</u> |
| USGS HUC | <u>03030003</u> | Coordinates | Latitude: <u>35.996315298554</u> Longitude: <u>-79.9043815332258</u> |

Location description: A 2,500 linear foot corridor ranging between 20-50 feet in width, running parallel along the east side of Guilford College Road, immediately south of East Main Street, in Jamestown, NC. PIN 783127898

Indicate Which of the Following Apply:

A. Preliminary Determination

- ☒ There are waters, including wetlands, on the above described project area, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The waters, including wetlands, have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.
- ☐ There are wetlands on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). However, since the waters, including wetlands, have not been properly delineated, this preliminary jurisdiction determination may not be used in the permit evaluation process. Without a verified wetland delineation, this preliminary determination is merely an effective presumption of CWA/RHA jurisdiction over all of the waters, including wetlands, at the project area, which is not sufficiently accurate and reliable to support an enforceable permit decision. We recommend that you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

B. Approved Determination

- ☐ There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ There are waters of the U.S., including wetlands, on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ We recommend you have the waters of the U.S. on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

— The waters of the U.S., including wetlands, on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

— The waters of the U.S., including wetlands, have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are no waters of the U.S., to include wetlands, present on the above described project area which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Morehead City, NC, at (252) 808-2808 to determine their requirements.

Placement of dredged or fill material within waters of the US, including wetlands, without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). Placement of dredged or fill material, construction or placement of structures, or work within navigable waters of the United States without a Department of the Army permit may constitute a violation of Sections 9 and/or 10 of the Rivers and Harbors Act (33 USC § 401 and/or 403). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Jean Gibby at (919) 554-4884 X 24 or Jean.B.Gibby@usace.army.mil**.

C. Basis For Determination: N/A. An Approved JD has not been completed.

D. Remarks: Site was visited with Brandon Fulton with ECS on 10 Aug 18. The flagged wetland was removed due to the lack of evidence supporting hydric soils and active hydrology.

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information for Approved Jurisdiction Determinations (as indicated in Section B. above)

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by_____.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: _____



Digitally signed by GIBBY,JEAN.B.1229783633
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA,
cn=GIBBY,JEAN.B.1229783633
Date: 2018.09.18 15:24:10 -04'00'

Date: **September 18, 2018**

Expiration Date:

SAW-2018-01827

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Copy Furnished:

ECS Limited

Attn: Mr. Ken Vilagos

4811 Koger Blvd

Greensboro, NC, 27407

Legend

- Project Study Area
- Stream
- Wetland
- Pond
- Stream Buffer (50')
- Upland Data Point



Client:

**KOURY
CORPORATION**

Project:

**GRANDOVER WEST
GUILFORD COUNTY
NORTH CAROLINA**

Title:

**APPROXIMATE WATERS
OF THE U.S. LOCATION
MAP**

Notes:

1. Jurisdictional waters of the U.S. were delineated by ECS during the field reviews conducted on July 16, 2018. Features were marked with flagging tape and positions were approximated using a Trimble GeoXH 2005 hand-held GPS unit.

2. The features depicted were verified by the USACE on August 10, 2018.

This map is intended for preliminary planning purposes.

Drawn By:

KJV

Checked By:

WBF

Approved By:

WBF

Date:

**07/17/2018
Rev: 9/20/18**

ECS Project No.

49:7334

FIGURE 6



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| | | |
|--|------------------------------------|--|
| Applicant: Richard Vanore Koury Corporation | File Number: SAW-2018-01827 | Date: <u>September 18, 2018</u> |
|--|------------------------------------|--|

| | |
|---|-------------------|
| Attached is: | See Section below |
| <input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission) | A |
| <input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission) | B |
| <input type="checkbox"/> PERMIT DENIAL | C |
| <input type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION | D |
| <input checked="" type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION | E |

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

**District Engineer, Wilmington Regulatory Division,
Attn: Jean Gibby**

If you only have questions regarding the appeal process you may also contact:

Mr. Jason Steele, Administrative Appeal Review Officer
CESAD-PDO
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | | |
|---|-------|-------------------|
| _____ Signature of appellant or agent. | Date: | Telephone number: |
|---|-------|-------------------|

For appeals on Initial Proffered Permits send this form to:

District Engineer, Wilmington Regulatory Division, Attn: Jean Gibby, 69 Darlington Avenue, Wilmington, North Carolina 28403

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Jason Steele, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801
Phone: (404) 562-5137**

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM**BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR PJD:** 9/18/2018**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Kenneth Vilagos, 4811 Koger Blvd. Greensboro, NC 27407**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

SAW-2018-01827 (Vanore, Richard / Koury Ventures Limited Partnership / 8 - West Apartments)

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: NC County/parish/borough: Guilford City: Greensboro

Center coordinates of site (lat/long in degree decimal format):

Lat.: 35.994954 Long.: -79.904556

Universal Transverse Mercator:

Name of nearest waterbody: UT to Reddicks Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):☐ Office (Desk) Determination. Date:☒ Field Determination. Date(s): 8/10/2018**TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.**

| Site number | Latitude (decimal degrees) | Longitude (decimal degrees) | Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable) | Type of aquatic resource (i.e., wetland vs. non-wetland waters) | Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404) |
|-------------|----------------------------|-----------------------------|--|---|---|
| SA | 35.996419 | -79.905478 | ~178 linear feet | non-wetland | section 404 |
| | | | | | |
| Pond | 35.996024 | -79.905285 | ~0.22 acres | non-wetland | section 404 |
| | | | | | |
| | | | | | |
| | | | | | |


- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)


Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Figures 1-6.
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____.
- ☐ Data sheets prepared by the Corps: _____.
- ☐ Corps navigable waters' study: _____.
- ☐ U.S. Geological Survey Hydrologic Atlas: _____.
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 High Point East.
- ☐ Natural Resources Conservation Service Soil Survey. Citation: _____.
- ☒ National wetlands inventory map(s). Cite name: Figure 5 (HUC 0303003 Deep River).
- ☐ State/local wetland inventory map(s): _____.
- ☒ FEMA/FIRM maps: Figure 4 (Panel 03710783100J).
- ☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): Figure 6
or ☒ Other (Name & Date): Site Photographs
- ☐ Previous determination(s). File no. and date of response letter: _____.
- ☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.


Digitally signed by
BAILEY.DAVID.E.1379283736
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=USA,
cn=BAILEY.DAVID.E.1379283736
Date: 2018.09.26 10:35:32 -04'00'

Signature and date of
Regulatory staff member
completing PJD


Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



City of Greensboro
North Carolina

Authorization Certificate

January 9, 2019

Mr. Anthony D. Lester, PE, PLS
Evans Engineering, Inc.
4609 Dundas Drive
Greensboro, NC 27407

Re: Authorization Certification (Determination of No Practical Alternative) for Stream Buffer Disturbance project for 8 West Apartments @ Grandover West (TRC# 2018-1228)

Dear Mr. Lester:

In accordance with the State of North Carolina's Rule 15A NCAC 02B.0250-Randleman Lake Water Supply Watershed; Protection and Maintenance of Riparian Areas, any applicant that intends to disturb Zone 1 and Zone 2 of the stream buffer must show that there is "No Practical Alternative" than to impact the stream buffer. The applicant submitted a "No Practical Alternative Request" on December 3, 2018 stating that the stream buffer disturbances in Zone 1 and Zone 2 were necessary for sanitary sewer impacts.

It was determined that the three permanent impacts are for: 1) the perpendicular crossing is 2319 square feet in Zone 1 and 714 square feet in Zone 2; 2) East Side non-perpendicular impacts of 213 square feet in Zone 2; 3) West Side non-perpendicular impacts of 2427 square feet of the Randleman Watersupply Watershed stream buffer were necessary to install the sanitary sewer main required for the proposed development.

This approval is valid only for the purpose and design that was described in the application. If any modifications are made to the project a written notification describing the changes, must be submitted to the City of Greensboro Water Resources Department, Engineering Division. If the property is sold, the new owner must be given a copy of the certification and approval letter and is thereby responsible for complying with all conditions. This letter completes the review of The City of Greensboro, Water Resources Department, Engineering Division (Stormwater Engineering Section) under the Determination of No Practical Alternative. If you have any questions, please contact Virginia Spillman at 336-373-3260.

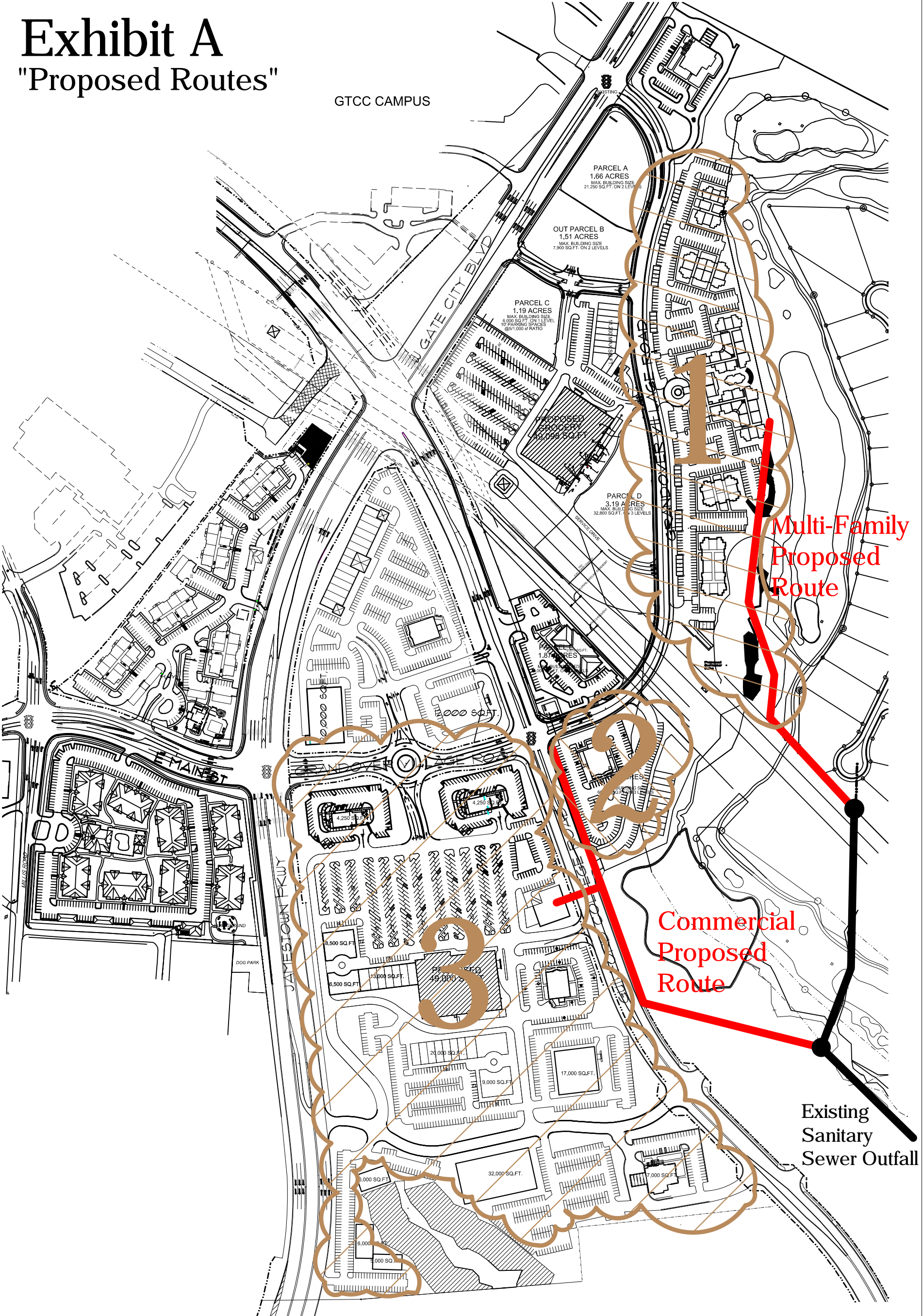
Sincerely,

Virginia Spillman, PE
Water Resources Engineering Supervisor

Cc: Sue Homewood, DWQ Winston Salem Regional Office
David Bailey, U.S. Army Corps of Engineers, Raleigh Regulatory Field Office

Exhibit A

"Proposed Routes"



Grandover Village

Master Site Plan

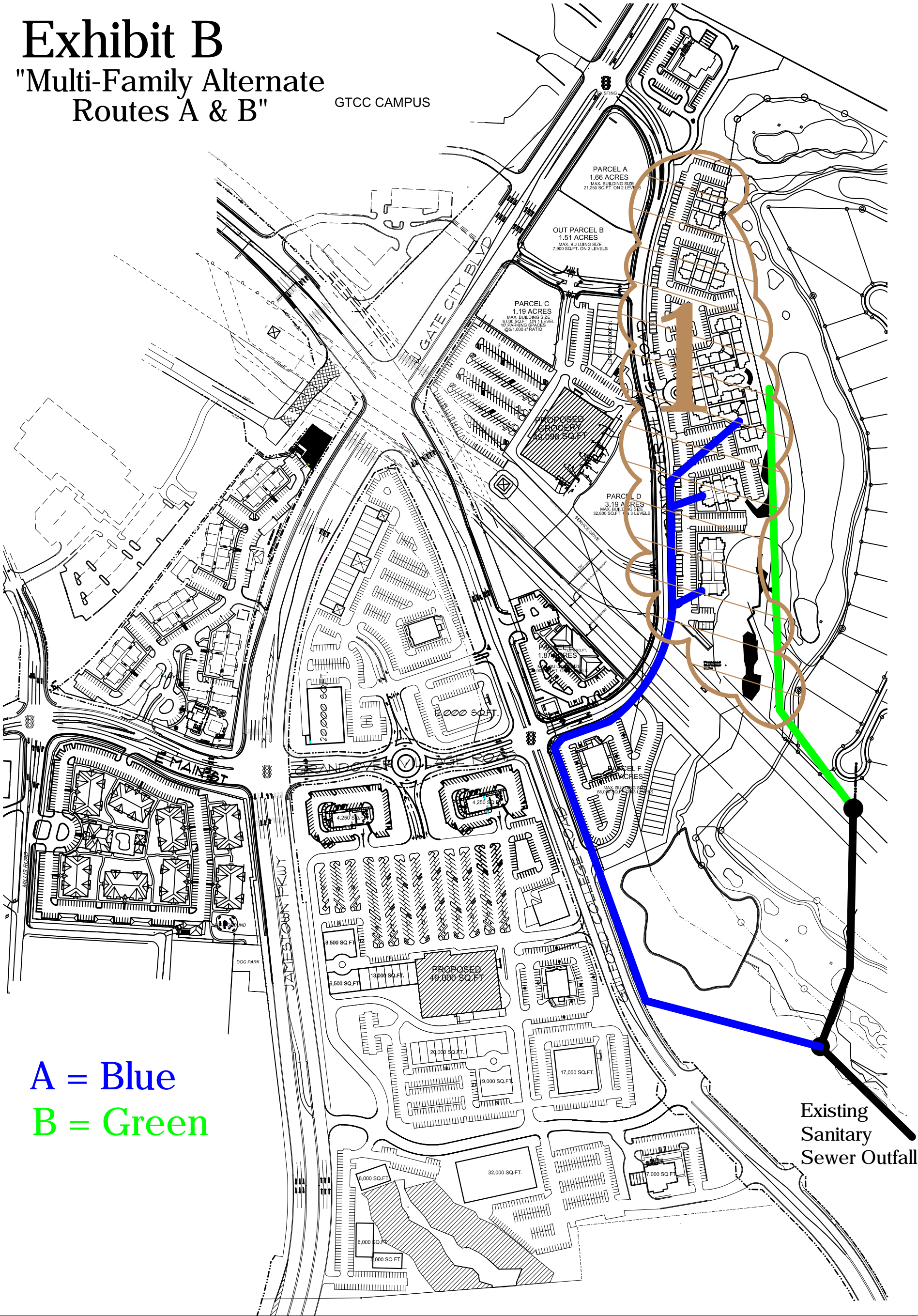
KOURY
CORPORATION
BUILDER & DEVELOPER

2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

Exhibit B

"Multi-Family Alternate Routes A & B"

GTCC CAMPUS



A = Blue
B = Green

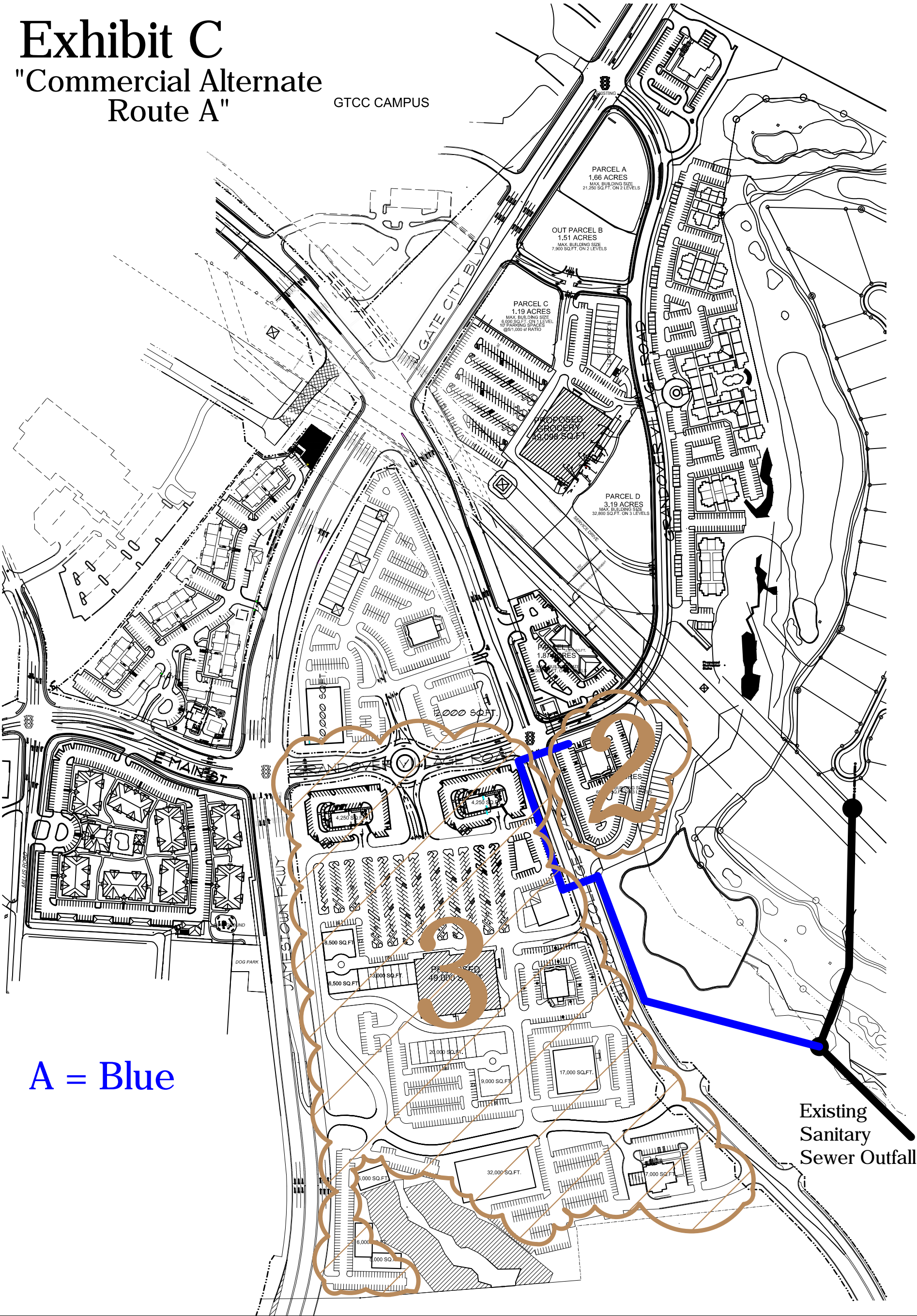
Grandover Village Master Site Plan

KOURY
CORPORATION
BUILDER & DEVELOPER
2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

Exhibit C

"Commercial Alternate Route A"

GTCC CAMPUS



Existing
Sanitary
Sewer Outfall

Grandover Village Master Site Plan

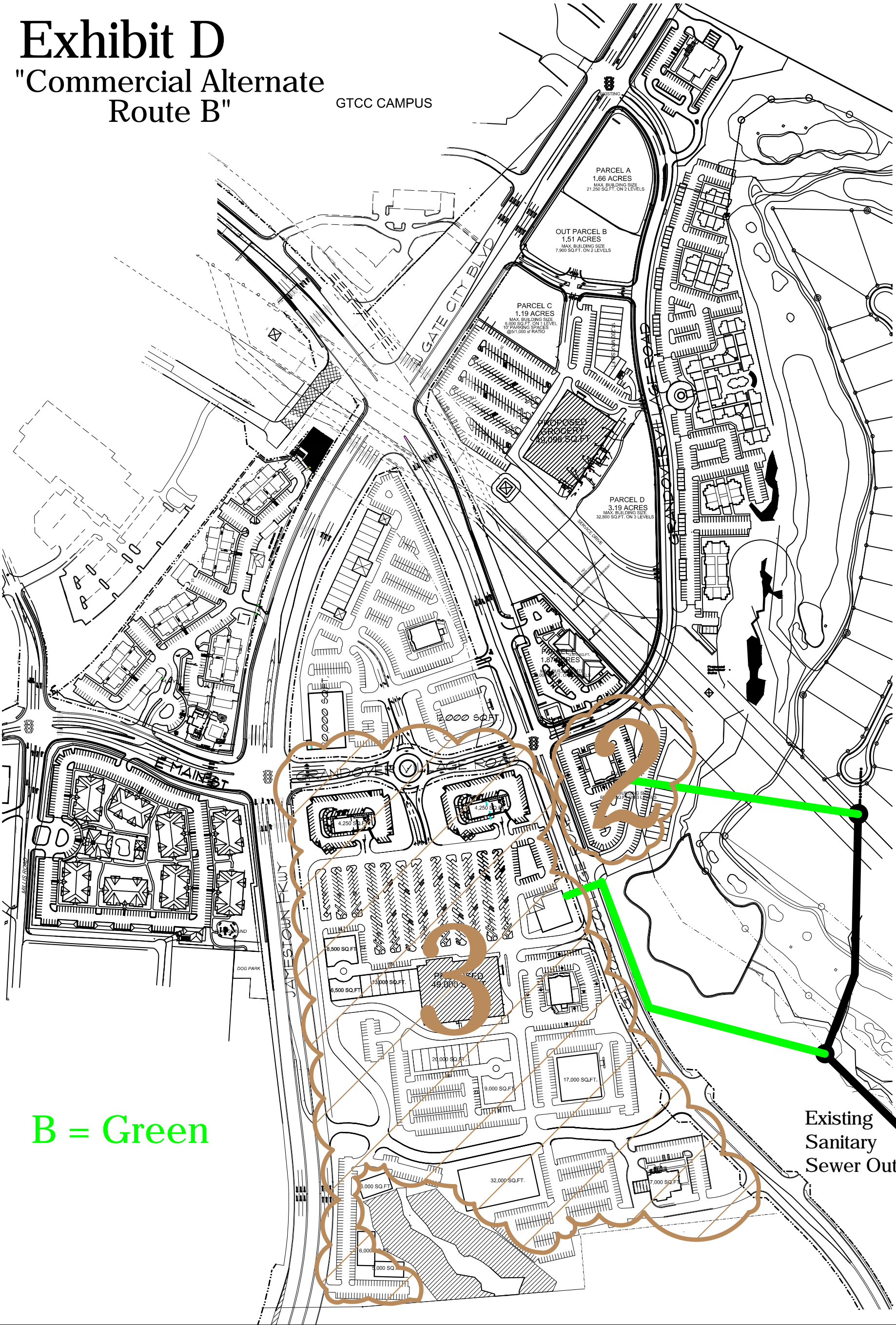
KOURY
CORPORATION
BUILDER & DEVELOPER

2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

Exhibit D

"Commercial Alternate Route B"

GTCC CAMPUS



B = Green

Existing
Sanitary
Sewer Outfall

Grandover Village Master Site Plan

KOURY
CORPORATION
BUILDER & DEVELOPER

2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

GTCC CAMPUS

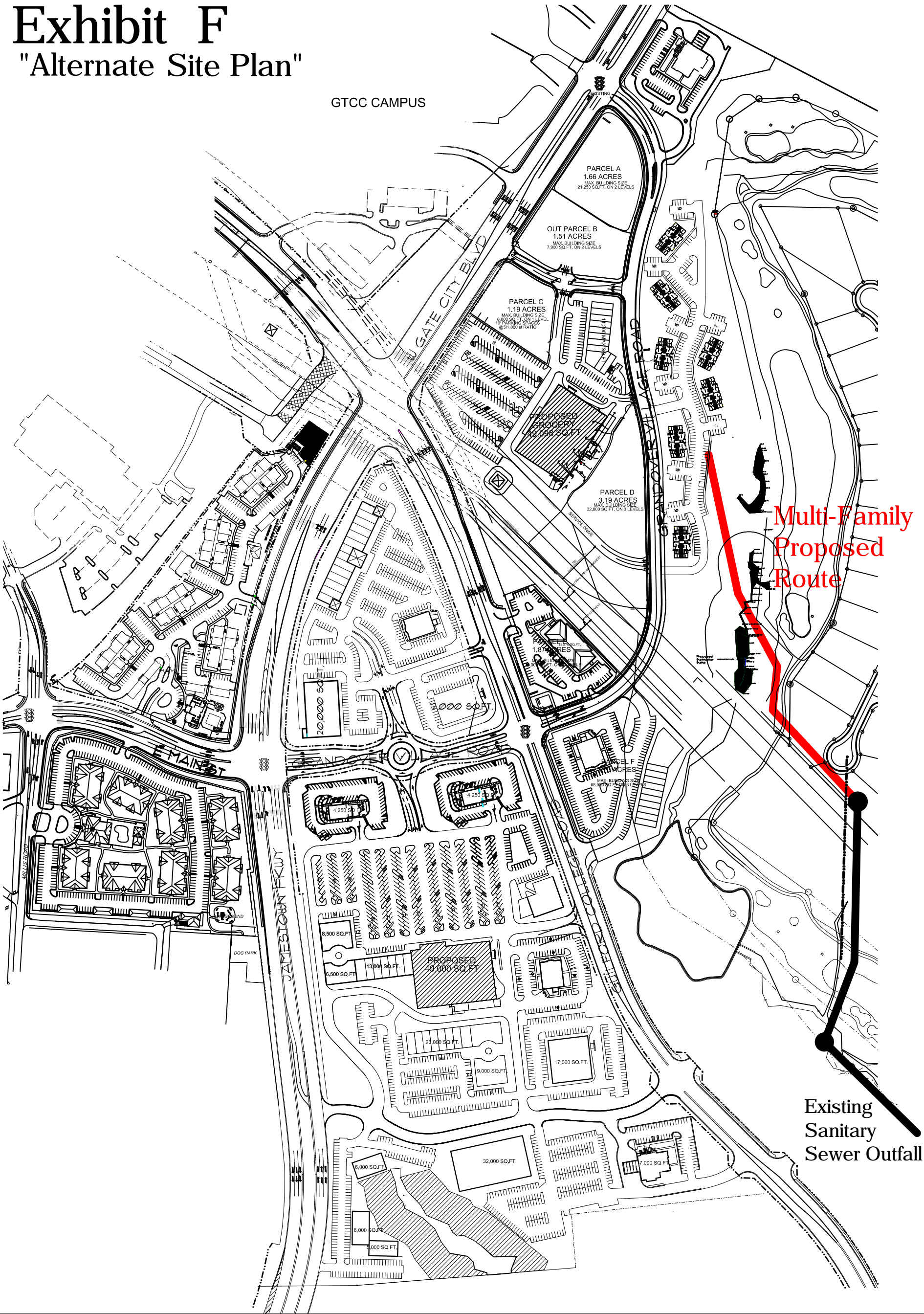


KOURY
CORPORATION
BUILDER & DEVELOPER

2275 VANSTORY STREET
GREENSBORO,NORTH CAROLINA, 27403

Exhibit F

"Alternate Site Plan"



Grandover Village

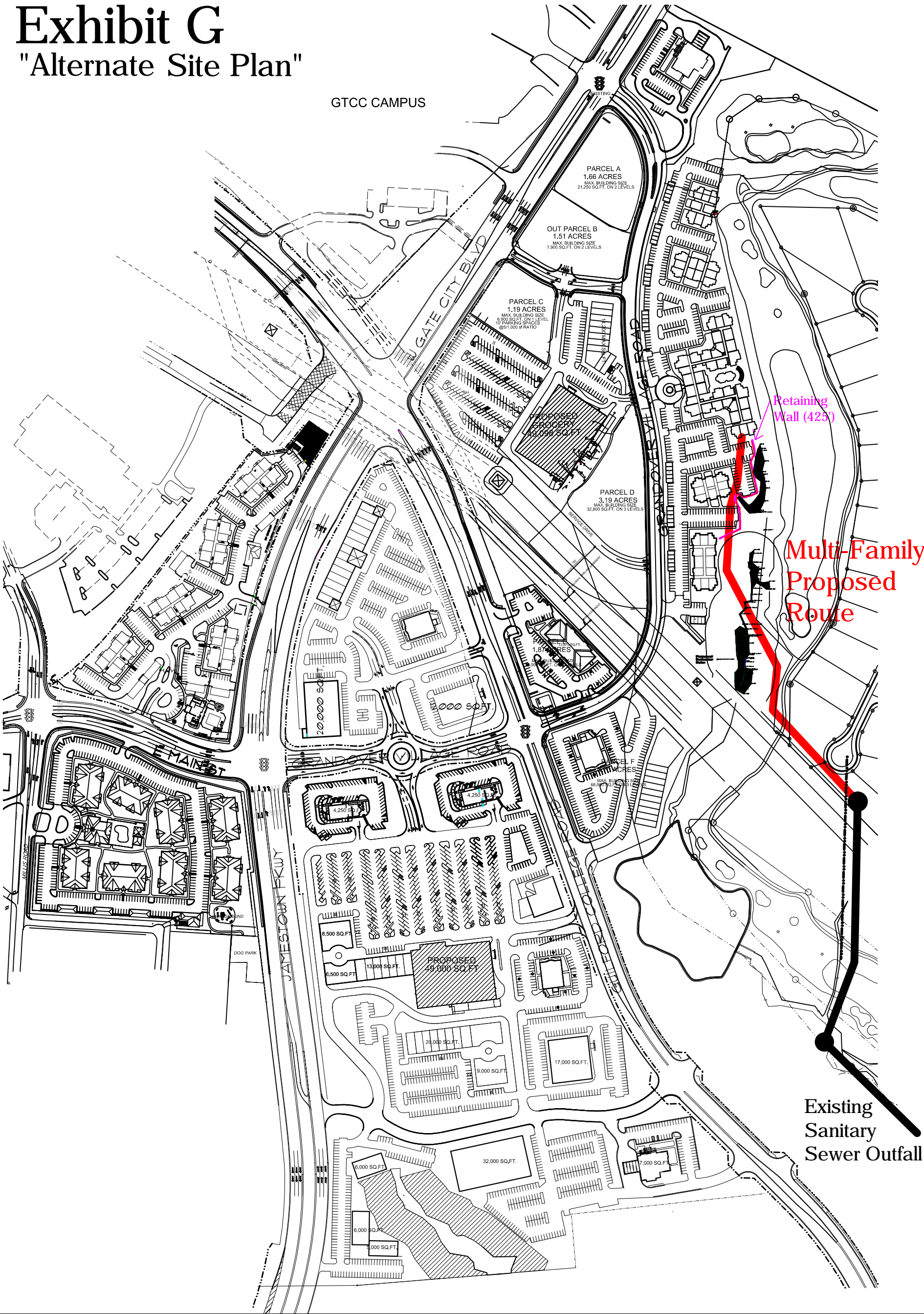
Master Site Plan

KOURY
CORPORATION
BUILDER & DEVELOPER

2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

Exhibit G

"Alternate Site Plan"



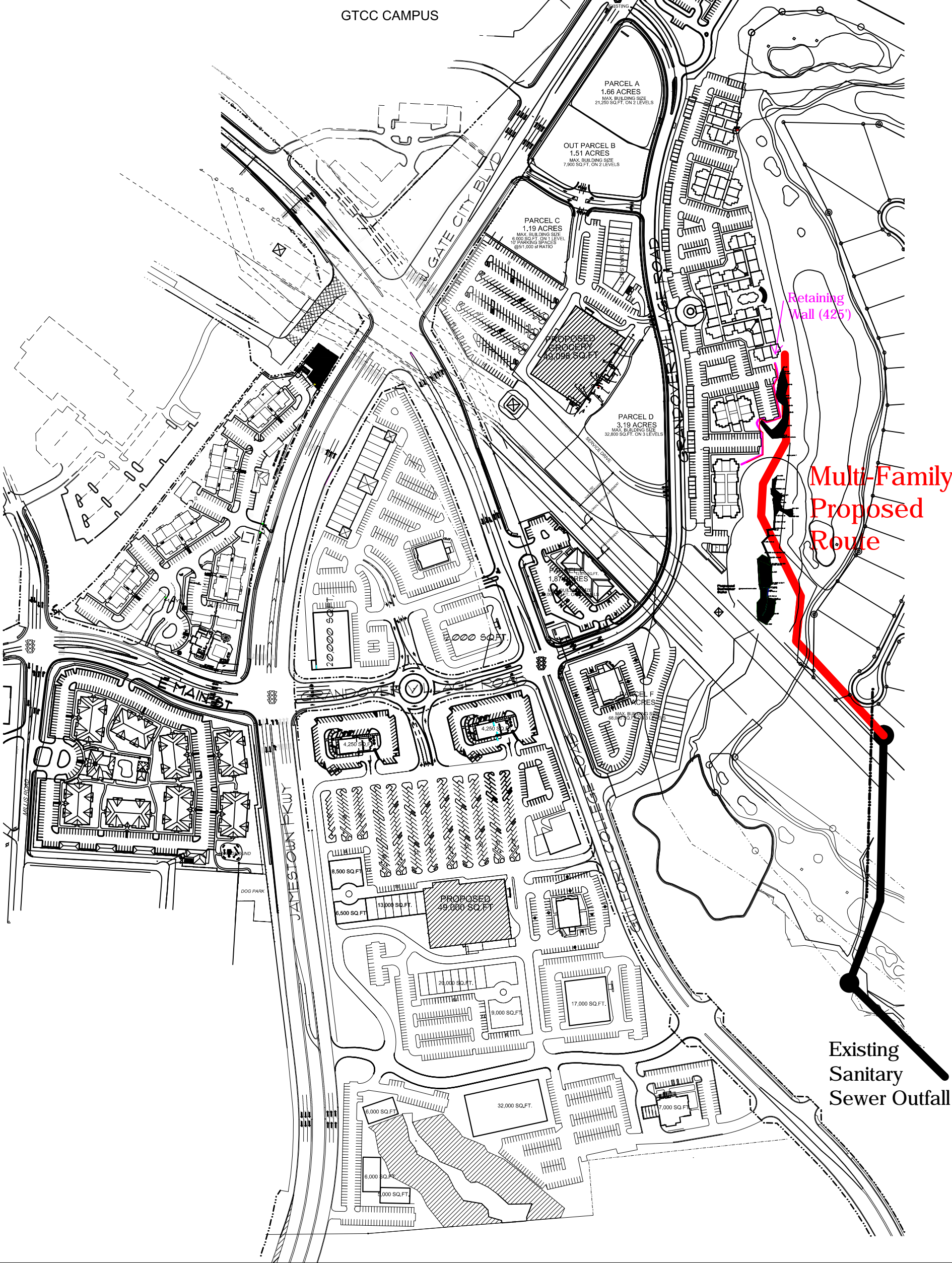
Grandover Village

Master Site Plan

KOURY
CORPORATION
BUILDER & DEVELOPER
2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

Exhibit H

"Alternate Site Plan"



Grandover Village

Master Site Plan

KOURY
CORPORATION
BUILDER & DEVELOPER

2275 VANSTORY STREET
GREENSBORO, NORTH CAROLINA, 27403

NC WAM WETLAND ASSESSMENT FORM
Accompanies User Manual Version 5

| | | | |
|--|--|--|--|
| USACE AID#: | | NCDWR #: | |
| Project Name <u>Grandover 8 West</u> | | Date of Evaluation <u>October 26, 2016</u> | |
| Applicant/Owner Name <u>Koury Corporation</u> | | Wetland Site Name <u>Wetland B</u> | |
| Wetland Type <u>Headwater Forest</u> | | Assessor Name/Organization <u>ECS</u> | |
| Level III Ecoregion <u>Piedmont</u> | | Nearest Named Water Body <u>Reddicks Creek</u> | |
| River Basin <u>Cape Fear</u> | | USGS 8-Digit Catalogue Unit <u>03030003</u> | |
| County <u>Guilford</u> | | NCDWR Region <u>Winston-Salem</u> | |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Precipitation within 48 hrs? | | Latitude/Longitude (deci-degrees) <u>-79.903702, 35.999554</u> | |

Evidence of stressors affecting the assessment area (may not be within the assessment area)

Please circle and/or make note on last page if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, approximately within 10 years). Noteworthy stressors include, but are not limited to the following.

- Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.)
- Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.)
- Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.)
- Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)

Is the assessment area intensively managed? ☐ Yes ☒ No

Regulatory Considerations - Were regulatory considerations evaluated? ☒ Yes ☐ No If Yes, check all that apply to the assessment area.

- ☒ Anadromous fish
- ☐ Federally protected species or State endangered or threatened species
- ☐ NCDWR riparian buffer rule in effect
- ☐ Abuts a Primary Nursery Area (PNA)
- ☐ Publicly owned property
- ☐ N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer)
- ☐ Abuts a stream with a NCDWQ classification of SA or supplemental classifications of HQW, ORW, or Trout
- ☐ Designated NCNHP reference community
- ☐ Abuts a 303(d)-listed stream or a tributary to a 303(d)-listed stream

What type of natural stream is associated with the wetland, if any? (check all that apply)

- ☒ Blackwater
- ☒ Brownwater
- ☐ Tidal (if tidal, check one of the following boxes) ☐ Lunar ☐ Wind ☐ Both

Is the assessment area on a coastal island? ☐ Yes ☒ No

Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No

Does the assessment area experience overbank flooding during normal rainfall conditions? ☐ Yes ☒ No

1. Ground Surface Condition/Vegetation Condition – assessment area condition metric

Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual). If a reference is not applicable, then rate the assessment area based on evidence of an effect.

- | GS | VS | |
|---------------------------------------|---------------------------------------|--|
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> A | Not severely altered |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Severely altered over a majority of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], hydrologic alteration) |

2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric

Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|--|
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> A | Water storage capacity and duration are not altered. |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: draining, flooding, soil compaction, filling, excessive sedimentation, underground utility lines). |

3. Water Storage/Surface Relief – assessment area/wetland type condition metric (skip for all marshes)

Check a box in each column for each group below. Select the appropriate storage for the assessment area (AA) and the wetland type (WT).

- | | AA | WT | |
|-----|---------------------------------------|---------------------------------------|---|
| 3a. | <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> A | Majority of wetland with depressions able to pond water > 1 foot deep |
| | <input type="checkbox"/> B | <input type="checkbox"/> B | Majority of wetland with depressions able to pond water 6 inches to 1 foot deep |
| | <input type="checkbox"/> C | <input type="checkbox"/> C | Majority of wetland with depressions able to pond water 3 to 6 inches deep |
| | <input type="checkbox"/> D | <input type="checkbox"/> D | Depressions able to pond water < 3 inches deep |
| 3b. | <input type="checkbox"/> A | | Evidence that maximum depth of inundation is greater than 2 feet |

- ☐ B Evidence that maximum depth of inundation is between 1 and 2 feet
- ☐ C Evidence that maximum depth of inundation is less than 1 foot

4. Soil Texture/Structure – assessment area condition metric (skip for all marshes)

Check a box from each of the three soil property groups below. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the 12 inches. Use most recent National Technical Committee for Hydric Soils guidance for regional indicators.

- 4a. ☐ A Sandy soil
☒ B Loamy or clayey soils exhibiting redoximorphic features (concentrations, depletions, or rhizospheres)
☐ C Loamy or clayey soils not exhibiting redoximorphic features
☐ D Loamy or clayey gleyed soil
☐ E Histosol or histic epipedon
- 4b. ☐ A Soil ribbon < 1 inch
☒ B Soil ribbon ≥ 1 inch
- 4c. ☒ A No peat or muck presence
☐ B A peat or muck presence

5. Discharge into Wetland – opportunity metric

Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.

- | Surf | Sub | |
|---------------------------------------|---------------------------------------|---|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Little or no evidence of pollutants or discharges entering the assessment area |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation, odor) |

6. Land Use – opportunity metric (skip for non-riparian wetlands)

Check all that apply (at least one box in each column). Evaluation involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont ecoregions and 30 feet wide in the Blue Ridge Mountains ecoregion.

- | WS | 5M | 2M | |
|---------------------------------------|---------------------------------------|---------------------------------------|---|
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input checked="" type="checkbox"/> A | ≥ 10% impervious surfaces |
| <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | Confined animal operations (or other local, concentrated source of pollutants) |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | ≥ 20% coverage of pasture |
| <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> D | ≥ 20% coverage of agricultural land (regularly plowed land) |
| <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E | ≥ 20% coverage of maintained grass/herb |
| <input type="checkbox"/> F | <input type="checkbox"/> F | <input type="checkbox"/> F | ≥ 20% coverage of clear-cut land |
| <input type="checkbox"/> G | <input type="checkbox"/> G | <input type="checkbox"/> G | Little or no opportunity to improve water quality. Lack of opportunity may result from little or no disturbance in the watershed <u>or</u> hydrologic alterations that prevent drainage <u>and/or</u> overbank flow from affecting the assessment area. |

7. Wetland Acting as Vegetated Buffer – assessment area/wetland complex condition metric (skip for non-riparian wetlands)

- 7a. Is assessment area within 50 feet of a tributary or other open water?
☐ Yes ☒ No If Yes, continue to 7b. If No, skip to Metric 8.
- 7b. How much of the first 50 feet from the bank is wetland? (Wetland buffer need only be present on one side of the water body. Make buffer judgment based on the average width of wetland. Record a note if a portion of the buffer has been removed or disturbed.)
☐ A ≥ 50 feet
☐ B From 30 to < 50 feet
☒ C From 15 to < 30 feet
☐ D From 5 to < 15 feet
☐ E < 5 feet or buffer bypassed by ditches
- 7c. Tributary width. If the tributary is anastomosed, combine widths of channels/braids for a total width.
☒ ≤ 15-foot wide ☐ > 15-foot wide ☐ Other open water (no tributary present)
- 7d. Do roots of assessment area vegetation extend into the bank of the tributary/open water?
☐ Yes ☒ No
- 7e. Is tributary or other open water sheltered or exposed?
☒ Sheltered – adjacent open water with width < 2500 feet and no regular boat traffic.
☐ Exposed – adjacent open water with width ≥ 2500 feet or regular boat traffic.

8. Wetland Width at the Assessment Area – wetland type/wetland complex condition metric (evaluate WT for all marshes and Estuarine Woody Wetland only; evaluate WC for Bottomland Hardwood Forest, Headwater Forest, and Riverine Swamp Forest only)

Check a box in each column. Select the average width for the wetland type at the assessment area (WT) and the wetland complex at the assessment area (WC). See User Manual for WT and WC boundaries.

- | WT | WC | |
|----------------------------|----------------------------|-----------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> A | ≥ 100 feet |
| <input type="checkbox"/> B | <input type="checkbox"/> B | From 80 to < 100 feet |
| <input type="checkbox"/> C | <input type="checkbox"/> C | From 50 to < 80 feet |
| <input type="checkbox"/> D | <input type="checkbox"/> D | From 40 to < 50 feet |
| <input type="checkbox"/> E | <input type="checkbox"/> E | From 30 to < 40 feet |
| <input type="checkbox"/> F | <input type="checkbox"/> F | From 15 to < 30 feet |
| <input type="checkbox"/> G | <input type="checkbox"/> G | From 5 to < 15 feet |
| <input type="checkbox"/> H | <input type="checkbox"/> H | < 5 feet |

9. Inundation Duration – assessment area condition metric (skip for non-riparian wetlands)

Answer for assessment area dominant landform.

- ☒ A Evidence of short-duration inundation (< 7 consecutive days)
☐ B Evidence of saturation, without evidence of inundation
☐ C Evidence of long-duration inundation or very long-duration inundation (7 to 30 consecutive days or more)

10. Indicators of Deposition – assessment area condition metric (skip for non-riparian wetlands and all marshes)

Consider recent deposition only (no plant growth since deposition).

- ☐ A Sediment deposition is not excessive, but at approximately natural levels.
☒ B Sediment deposition is excessive, but not overwhelming the wetland.
☐ C Sediment deposition is excessive and is overwhelming the wetland.

11. Wetland Size – wetland type/wetland complex condition metric

Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the wetland complex (WC), and the size of the forested wetland (FW) (if applicable, see User Manual). See the User Manual for boundaries of these evaluation areas. If assessment area is clear-cut, select "K" for the FW column.

- | WT | WC | FW (if applicable) |
|------------------------------------|------------------------------------|--|
| <input type="radio"/> A | <input type="radio"/> A | <input type="radio"/> A ≥ 500 acres |
| <input type="radio"/> B | <input type="radio"/> B | <input type="radio"/> B From 100 to < 500 acres |
| <input type="radio"/> C | <input type="radio"/> C | <input type="radio"/> C From 50 to < 100 acres |
| <input type="radio"/> D | <input type="radio"/> D | <input type="radio"/> D From 25 to < 50 acres |
| <input type="radio"/> E | <input type="radio"/> E | <input type="radio"/> E From 10 to < 25 acres |
| <input type="radio"/> F | <input type="radio"/> F | <input type="radio"/> F From 5 to < 10 acres |
| <input type="radio"/> G | <input type="radio"/> G | <input type="radio"/> G From 1 to < 5 acres |
| <input type="radio"/> H | <input type="radio"/> H | <input type="radio"/> H From 0.5 to < 1 acre |
| <input checked="" type="radio"/> I | <input checked="" type="radio"/> I | <input checked="" type="radio"/> I From 0.1 to < 0.5 acre |
| <input type="radio"/> J | <input type="radio"/> J | <input type="radio"/> J From 0.01 to < 0.1 acre |
| <input type="radio"/> K | <input type="radio"/> K | <input type="radio"/> K < 0.01 acre <u>or</u> assessment area is clear-cut |

12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)

- ☐ A Pocosin is the full extent (≥ 90%) of its natural landscape size.
☐ B Pocosin is < 90% of the full extent of its natural landscape size.

13. Connectivity to Other Natural Areas – landscape condition metric

13a. Check appropriate box(es) (a box may be checked in each column). Involves a GIS effort with field adjustment. This evaluates whether the wetland is well connected (Well) and/or loosely connected (Loosely) to the landscape patch, the contiguous metric naturally vegetated area and open water (if appropriate). Boundaries are formed by four-lane roads, regularly maintained utility line corridors the width of a four-lane road or wider, urban landscapes, fields (pasture open and agriculture), or water > 300 feet wide.

- | Well | Loosely |
|-------------------------|---|
| <input type="radio"/> A | <input type="radio"/> A ≥ 500 acres |
| <input type="radio"/> B | <input type="radio"/> B From 100 to < 500 acres |
| <input type="radio"/> C | <input type="radio"/> C From 50 to < 100 acres |
| <input type="radio"/> D | <input type="radio"/> D From 10 to < 50 acres |
| <input type="radio"/> E | <input type="radio"/> E < 10 acres |
| <input type="radio"/> F | <input checked="" type="radio"/> F Wetland type has a poor or no connection to other natural habitats |

13b. Evaluate for marshes only.

- ☐ Yes ☐ No Wetland type has a surface hydrology connection to open waters/stream or tidal wetlands.

14. Edge Effect – wetland type condition metric (skip for all marshes and Estuarine Woody Wetland)

May involve a GIS effort with field adjustment. Estimate distance from wetland type boundary to artificial edges. Artificial edges include non-forested areas ≥ 40 feet wide such as fields, development, roads, regularly maintained utility line corridors and clear-cuts. Consider the eight main points of the compass. Artificial edge occurs within 150 feet in how many directions? If the assessment area is clear-cut, select option "C."

- ☐ A 0
☐ B 1 to 4
☐ C 5 to 8

15. Vegetative Composition – assessment area condition metric (skip for all marshes and Pine Flat)

- ☐ A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
☒ B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
☐ C Vegetation severely altered from reference in composition, or expected species are unnaturally absent (planted stands of non-characteristic species or at least one stratum inappropriately composed of a single species), or exotic species are dominant in at least one stratum.

16. Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)

- ☐ A Vegetation diversity is high and is composed primarily of native species (<10% cover of exotics).
☐ B Vegetation diversity is low or has > 10% to 50% cover of exotics.
☐ C Vegetation is dominated by exotic species (>50% cover of exotics).

17. Vegetative Structure – assessment area/wetland type condition metric

17a. Is vegetation present?

☒ Yes ☐ No If Yes, continue to 17b. If No, skip to Metric 18.

17b. Evaluate percent coverage of assessment area vegetation **for all marshes only**. Skip to 17c for non-marsh wetlands.

☒ A ≥ 25% coverage of vegetation
☐ B < 25% coverage of vegetation

17c. **Check a box in each column for each stratum.** Evaluate this portion of the metric **for non-marsh wetlands**. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.

| | AA | WT | |
|-----------|------------------------------------|------------------------------------|--|
| Canopy | <input checked="" type="radio"/> A | <input checked="" type="radio"/> A | Canopy closed, or nearly closed, with natural gaps associated with natural processes |
| | <input type="radio"/> B | <input type="radio"/> B | Canopy present, but opened more than natural gaps |
| | <input type="radio"/> C | <input type="radio"/> C | Canopy sparse or absent |
| Mid-Story | <input checked="" type="radio"/> A | <input checked="" type="radio"/> A | Dense mid-story/sapling layer |
| | <input type="radio"/> B | <input type="radio"/> B | Moderate density mid-story/sapling layer |
| | <input type="radio"/> C | <input type="radio"/> C | Mid-story/sapling layer sparse or absent |
| Shrub | <input checked="" type="radio"/> A | <input checked="" type="radio"/> A | Dense shrub layer |
| | <input type="radio"/> B | <input type="radio"/> B | Moderate density shrub layer |
| | <input type="radio"/> C | <input type="radio"/> C | Shrub layer sparse or absent |
| Herb | <input checked="" type="radio"/> A | <input checked="" type="radio"/> A | Dense herb layer |
| | <input type="radio"/> B | <input type="radio"/> B | Moderate density herb layer |
| | <input type="radio"/> C | <input type="radio"/> C | Herb layer sparse or absent |

18. Snags – wetland type condition metric (skip for all marshes)

☒ A Large snags (more than one) are visible (> 12-inches DBH, or large relative to species present and landscape stability).
☐ B Not A

19. Diameter Class Distribution – wetland type condition metric (skip for all marshes)

☒ A Majority of canopy trees have stems > 6 inches in diameter at breast height (DBH); many large trees (> 12 inches DBH) are present.
☐ B Majority of canopy trees have stems between 6 and 12 inches DBH, few are > 12-inch DBH.
☐ C Majority of canopy trees are < 6 inches DBH or no trees.

20. Large Woody Debris – wetland type condition metric (skip for all marshes)

Include both natural debris and man-placed natural debris.

☒ A Large logs (more than one) are visible (> 12 inches in diameter, or large relative to species present and landscape stability).
☐ B Not A

21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)

Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.



22. Hydrologic Connectivity – assessment area condition metric (evaluate for riparian wetlands and Salt/Brackish Marsh only)

Examples of activities that may severely alter hydrologic connectivity include intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, and stream incision. Documentation required if evaluated as B, C, or D.

☒ A Overbank and overland flow are not severely altered in the assessment area.
☐ B Overbank flow is severely altered in the assessment area.
☐ C Overland flow is severely altered in the assessment area.
☐ D Both overbank and overland flow are severely altered in the assessment area.

Notes

Wetland B is a lower lying area mainly receiving water from neighboring runoff.

NC WAM Wetland Rating Sheet
Accompanies User Manual Version 5.0

Wetland Site Name Wetland B Date October 26, 2016
Wetland Type Headwater Forest Assessor Name/Organization ECS

| | |
|--|------------|
| Notes on Field Assessment Form (Y/N) | <u>YES</u> |
| Presence of regulatory considerations (Y/N) | <u>NO</u> |
| Wetland is intensively managed (Y/N) | <u>NO</u> |
| Assessment area is located within 50 feet of a natural tributary or other open water (Y/N) | <u>NO</u> |
| Assessment area is substantially altered by beaver (Y/N) | <u>NO</u> |
| Assessment area experiences overbank flooding during normal rainfall conditions (Y/N) | <u>NO</u> |
| Assessment area is on a coastal island (Y/N) | <u>NO</u> |

Sub-function Rating Summary


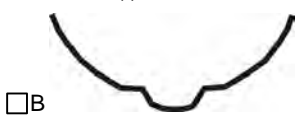
| Function | Sub-function | Metrics | Rating |
|---------------|-----------------------------------|-----------------------------|---------------|
| Hydrology | Surface Storage and Retention | Condition | LOW |
| | Sub-Surface Storage and Retention | Condition | MEDIUM |
| Water Quality | Pathogen Change | Condition | MEDIUM |
| | | Condition/Opportunity | MEDIUM |
| | | Opportunity Presence? (Y/N) | NO |
| | Particulate Change | Condition | LOW |
| | | Condition/Opportunity | NA |
| | | Opportunity Presence? (Y/N) | NA |
| | Soluble Change | Condition | MEDIUM |
| | | Condition/Opportunity | MEDIUM |
| | | Opportunity Presence? (Y/N) | NO |
| | Physical Change | Condition | LOW |
| | | Condition/Opportunity | LOW |
| | | Opportunity Presence? (Y/N) | NO |
| | Pollution Change | Condition | NA |
| | | Condition/Opportunity | NA |
| | | Opportunity Presence? (Y/N) | NA |
| Habitat | Physical Structure | Condition | MEDIUM |
| | Landscape Patch Structure | Condition | LOW |
| | Vegetation Composition | Condition | MEDIUM |

Function Rating Summary

| Function | Metrics/Notes | Rating |
|---------------|-----------------------------|------------|
| Hydrology | Condition | LOW |
| Water Quality | Condition | LOW |
| | Condition/Opportunity | LOW |
| | Opportunity Presence? (Y/N) | NO |
| Habitat | Condition | LOW |

Overall Wetland Rating LOW

NC SAM FIELD ASSESSMENT RESULTS
Accompanies User Manual Version 2.1

| | |
|---|--|
| USACE AID #: | NCDWR #: |
| <p>INSTRUCTIONS: Attach a sketch of the assessment area and photographs. Attach a copy of the USGS 7.5-minute topographic quadrangle, and circle the location of the stream reach under evaluation. If multiple stream reaches will be evaluated on the same property, identify and number all reaches on the attached map, and include a separate form for each reach. See the NC SAM User Manual for detailed descriptions and explanations of requested information. Record in the "Notes/Sketch" section if supplementary measurements were performed. See the NC SAM User Manual for examples of additional measurements that may be relevant.</p> <p>NOTE EVIDENCE OF STRESSORS AFFECTING THE ASSESSMENT AREA (do not need to be within the assessment area).</p> | |
| PROJECT/SITE INFORMATION: | |
| 1. Project name (if any): | Grandover West Site |
| 2. Date of evaluation: | July 16, 2018 |
| 3. Applicant/owner name: | Koury Corporation |
| 4. Assessor name/organization: | Paul Stephens, ECS Southeast |
| 5. County: | Guilford |
| 6. Nearest named water body on USGS 7.5-minute quad: | Reddick's Creek |
| 7. River basin: | Cape Fear |
| 8. Site coordinates (decimal degrees, at lower end of assessment reach): | 35.996294°N, -79.905466°W |
| STREAM INFORMATION: (depth and width can be approximations) | |
| 9. Site number (show on attached map): | SA |
| 10. Length of assessment reach evaluated (feet): | 144 LF |
| 11. Channel depth from bed (in riffle, if present) to top of bank (feet): | 1 <input type="checkbox"/> Unable to assess channel depth. |
| 12. Channel width at top of bank (feet): | 3 |
| 13. Is assessment reach a swamp stream? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 14. Feature type: | <input type="checkbox"/> Perennial flow <input checked="" type="checkbox"/> Intermittent flow <input type="checkbox"/> Tidal Marsh Stream |
| STREAM CATEGORY INFORMATION: | |
| 15. NC SAM Zone: | <input type="checkbox"/> Mountains (M) <input checked="" type="checkbox"/> Piedmont (P) <input type="checkbox"/> Inner Coastal Plain (I) <input type="checkbox"/> Outer Coastal Plain (O) |
| 16. Estimated geomorphic valley shape (skip for Tidal Marsh Stream): | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input checked="" type="checkbox"/> A  (more sinuous stream, flatter valley slope) </div> <div style="text-align: center;"> <input type="checkbox"/> B  (less sinuous stream, steeper valley slope) </div> </div> |
| 17. Watershed size: (skip for Tidal Marsh Stream) | <input checked="" type="checkbox"/> Size 1 (< 0.1 mi ²) <input type="checkbox"/> Size 2 (0.1 to < 0.5 mi ²) <input type="checkbox"/> Size 3 (0.5 to < 5 mi ²) <input type="checkbox"/> Size 4 (≥ 5 mi ²) |
| ADDITIONAL INFORMATION: | |
| 18. Were regulatory considerations evaluated? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, check all that apply to the assessment area. | |
| <input type="checkbox"/> Section 10 water <input type="checkbox"/> Classified Trout Waters <input checked="" type="checkbox"/> Water Supply Watershed (<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input checked="" type="checkbox"/> IV <input type="checkbox"/> V) | |
| <input type="checkbox"/> Essential Fish Habitat <input type="checkbox"/> Primary Nursery Area <input type="checkbox"/> High Quality Waters/Outstanding Resource Waters | |
| <input type="checkbox"/> Publicly owned property <input checked="" type="checkbox"/> NCDWR Riparian buffer rule in effect <input type="checkbox"/> Nutrient Sensitive Waters | |
| <input type="checkbox"/> Anadromous fish <input type="checkbox"/> 303(d) List <input type="checkbox"/> CAMA Area of Environmental Concern (AEC) | |
| <input type="checkbox"/> Documented presence of a federal and/or state listed protected species within the assessment area. List species: _____ | |
| <input type="checkbox"/> Designated Critical Habitat (list species) _____ | |
| 19. Are additional stream information/supplementary measurements included in "Notes/Sketch" section or attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

1. Channel Water – assessment reach metric (skip for Size 1 streams and Tidal Marsh Streams)

- ☐ A Water throughout assessment reach.
☒ B No flow, water in pools only.
☐ C No water in assessment reach.

2. Evidence of Flow Restriction – assessment reach metric

- ☐ A At least 10% of assessment reach in-stream habitat or riffle-pool sequence is severely affected by a flow restriction or fill to the point of obstructing flow or a channel choked with aquatic macrophytes or ponded water or impoundment on flood or ebb within the assessment reach (examples: undersized or perched culverts, causeways that constrict the channel, tidal gates, debris jams, beaver dams).
☒ B Not A

3. Feature Pattern – assessment reach metric

- ☒ A A majority of the assessment reach has altered pattern (examples: straightening, modification above or below culvert).
☐ B Not A

4. Feature Longitudinal Profile – assessment reach metric

- ☒ A Majority of assessment reach has a substantially altered stream profile (examples: channel down-cutting, existing damming, over widening, active aggradation, dredging, and excavation where appropriate channel profile has not reformed from any of these disturbances).
☐ B Not A

5. Signs of Active Instability – assessment reach metric

Consider only current instability, not past events from which the stream has currently recovered. Examples of instability include active bank failure, active channel down-cutting (head-cut), active widening, and artificial hardening (such as concrete, gabion, rip-rap).

- ☐ A < 10% of channel unstable
☒ B 10 to 25% of channel unstable
☐ C > 25% of channel unstable

6. Streamside Area Interaction – streamside area metric**Consider for the Left Bank (LB) and the Right Bank (RB).**

- | | | |
|---------------------------------------|---------------------------------------|---|
| LB | RB | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | Little or no evidence of conditions that adversely affect reference interaction |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Moderate evidence of conditions (examples: berms, levees, down-cutting, aggradation, dredging) that adversely affect reference interaction (examples: limited streamside area access, disruption of flood flows through streamside area, leaky or intermittent bulkheads, causeways with floodplain constriction, minor ditching [including mosquito ditching]) |
| <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> C | Extensive evidence of conditions that adversely affect reference interaction (little to no floodplain/intertidal zone access [examples: causeways with floodplain and channel constriction, bulkheads, retaining walls, fill, stream incision, disruption of flood flows through streamside area] <u>or</u> too much floodplain/intertidal zone access [examples: impoundments, intensive mosquito ditching]) <u>or</u> floodplain/intertidal zone unnaturally absent <u>or</u> assessment reach is a man-made feature on an interstream divide |

7. Water Quality Stressors – assessment reach/intertidal zone metric**Check all that apply.**

- ☐A Discolored water in stream or intertidal zone (milky white, blue, unnatural water discoloration, oil sheen, stream foam)
- ☒B Excessive sedimentation (burying of stream features or intertidal zone)
- ☐C Noticeable evidence of pollutant discharges entering the assessment reach and causing a water quality problem
- ☐D Odor (not including natural sulfide odors)
- ☐E Current published or collected data indicating degraded water quality in the assessment reach. Cite source in "Notes/Sketch" section.
- ☐F Livestock with access to stream or intertidal zone
- ☐G Excessive algae in stream or intertidal zone
- ☐H Degraded marsh vegetation in the intertidal zone (removal, burning, regular mowing, destruction, etc)
- ☒I Other: _____ (explain in "Notes/Sketch" section)
- ☐J Little to no stressors

8. Recent Weather – watershed metric (skip for Tidal Marsh Streams)

For Size 1 or 2 streams, D1 drought or higher is considered a drought; for Size 3 or 4 streams, D2 drought or higher is considered a drought.

- ☐A Drought conditions and no rainfall or rainfall not exceeding 1 inch within the last 48 hours
- ☐B Drought conditions and rainfall exceeding 1 inch within the last 48 hours
- ☒C No drought conditions

9. Large or Dangerous Stream – assessment reach metric

- ☐Yes ☒No Is stream is too large or dangerous to assess? If Yes, skip to Metric 13 (Streamside Area Ground Surface Condition).

10. Natural In-stream Habitat Types – assessment reach metric

- 10a. ☐Yes ☒No Degraded in-stream habitat over majority of the assessment reach (examples of stressors include excessive sedimentation, mining, excavation, in-stream hardening [for example, rip-rap], recent dredging, and snagging) (evaluate for Size 4 Coastal Plain streams only, then skip to Metric 12)

10b. Check all that occur (occurs if > 5% coverage of assessment reach) (skip for Size 4 Coastal Plain streams)

- | | | |
|---|---------------------------------------|---|
| <input type="checkbox"/> A Multiple aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats) | Check for Tidal Marsh Streams Only | <input type="checkbox"/> F 5% oysters or other natural hard bottoms |
| <input type="checkbox"/> B Multiple sticks and/or leaf packs and/or emergent vegetation | | <input type="checkbox"/> G Submerged aquatic vegetation |
| <input type="checkbox"/> C Multiple snags and logs (including lap trees) | | <input type="checkbox"/> H Low-tide refugia (pools) |
| <input type="checkbox"/> D 5% undercut banks and/or root mats and/or roots in banks extend to the normal wetted perimeter | | <input type="checkbox"/> I Sand bottom |
| <input checked="" type="checkbox"/> E Little or no habitat | | <input type="checkbox"/> J 5% vertical bank along the marsh |
| | | <input type="checkbox"/> K Little or no habitat |

*****REMAINING QUESTIONS ARE NOT APPLICABLE FOR TIDAL MARSH STREAMS*****

11. Bedform and Substrate – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)

- 11a. ☐Yes ☒No Is assessment reach in a natural sand-bed stream? (skip for Coastal Plain streams)

11b. Bedform evaluated. Check the appropriate box(es).

- ☒A Riffle-run section (evaluate 11c)
- ☒B Pool-glide section (evaluate 11d)
- ☐C Natural bedform absent (skip to Metric 12, Aquatic Life)

- 11c. In riffle sections, check all that occur below the normal wetted perimeter of the assessment reach – whether or not submerged. **Check at least one box in each row (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams).** Not Present (NP) = absent, Rare (R) = present but ≤ 10%, Common (C) = > 10-40%, Abundant (A) = > 40-70%, Predominant (P) = > 70%. Cumulative percentages should not exceed 100% for each assessment reach.

- | NP | R | C | A | P | |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Bedrock/saprolite |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Boulder (256 – 4096 mm) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Cobble (64 – 256 mm) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Gravel (2 – 64 mm) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sand (.062 – 2 mm) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Silt/clay (< 0.062 mm) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Detritus |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Artificial (rip-rap, concrete, etc.) |

- 11d. ☒Yes ☐No Are pools filled with sediment? (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)

12. Aquatic Life – assessment reach metric (skip for Tidal Marsh Streams)

12a. ☒ Yes ☐ No Was an in-stream aquatic life assessment performed as described in the User Manual?

If No, select one of the following reasons and skip to Metric 13. ☐ No Water ☐ Other: _____

12b. ☒ Yes ☐ No Are aquatic organisms present in the assessment reach (look in riffles, pools, then snags)? If Yes, check all that apply. If No, skip to Metric 13.

1 >1 Numbers over columns refer to “individuals” for Size 1 and 2 streams and “taxa” for Size 3 and 4 streams.

- | | | |
|-------------------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Adult frogs |
| <input type="checkbox"/> | <input type="checkbox"/> | Aquatic reptiles |
| <input type="checkbox"/> | <input type="checkbox"/> | Aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats) |
| <input type="checkbox"/> | <input type="checkbox"/> | Beetles |
| <input type="checkbox"/> | <input type="checkbox"/> | Caddisfly larvae (T) |
| <input type="checkbox"/> | <input type="checkbox"/> | Asian clam (<i>Corbicula</i>) |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Crustacean (isopod/amphipod/crayfish/shrimp) |
| <input type="checkbox"/> | <input type="checkbox"/> | Damselfly and dragonfly larvae |
| <input type="checkbox"/> | <input type="checkbox"/> | Dipterans |
| <input type="checkbox"/> | <input type="checkbox"/> | Mayfly larvae (E) |
| <input type="checkbox"/> | <input type="checkbox"/> | Megaloptera (alderfly, fishfly, dobsonfly larvae) |
| <input type="checkbox"/> | <input type="checkbox"/> | Midges/mosquito larvae |
| <input type="checkbox"/> | <input type="checkbox"/> | Mosquito fish (<i>Gambusia</i>) or mud minnows (<i>Umbra pygmaea</i>) |
| <input type="checkbox"/> | <input type="checkbox"/> | Mussels/Clams (not <i>Corbicula</i>) |
| <input type="checkbox"/> | <input type="checkbox"/> | Other fish |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Salamanders/tadpoles |
| <input type="checkbox"/> | <input type="checkbox"/> | Snails |
| <input type="checkbox"/> | <input type="checkbox"/> | Stonefly larvae (P) |
| <input type="checkbox"/> | <input type="checkbox"/> | Tipulid larvae |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Worms/leeches |

13. Streamside Area Ground Surface Condition – streamside area metric (skip for Tidal Marsh Streams and B valley types)

Consider for the Left Bank (LB) and the Right Bank (RB). Consider storage capacity with regard to both overbank flow and upland runoff.

- | LB | RB | |
|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Little or no alteration to water storage capacity over a majority of the streamside area |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Moderate alteration to water storage capacity over a majority of the streamside area |
| <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> C | Severe alteration to water storage capacity over a majority of the streamside area (examples: ditches, fill, soil compaction, livestock disturbance, buildings, man-made levees, drainage pipes) |

14. Streamside Area Water Storage – streamside area metric (skip for Size 1 streams, Tidal Marsh Streams, and B valley types)

Consider for the Left Bank (LB) and the Right Bank (RB) of the streamside area.

- | LB | RB | |
|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Majority of streamside area with depressions able to pond water \geq 6 inches deep |
| <input type="checkbox"/> B | <input type="checkbox"/> B | Majority of streamside area with depressions able to pond water 3 to 6 inches deep |
| <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> C | Majority of streamside area with depressions able to pond water < 3 inches deep |

15. Wetland Presence – streamside area metric (skip for Tidal Marsh Streams)

Consider for the Left Bank (LB) and the Right Bank (RB). Do not consider wetlands outside of the streamside area or within the normal wetted perimeter of assessment reach.

- | LB | RB | |
|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> Y | <input type="checkbox"/> Y | Are wetlands present in the streamside area? |
| <input checked="" type="checkbox"/> N | <input checked="" type="checkbox"/> N | |

16. Baseflow Contributors – assessment reach metric (skip for Size 4 streams and Tidal Marsh Streams)

Check all contributors within the assessment reach or within view of and draining to the assessment reach.

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> A | Streams and/or springs (jurisdictional discharges) |
| <input type="checkbox"/> B | Ponds (include wet detention basins; do not include sediment basins or dry detention basins) |
| <input type="checkbox"/> C | Obstruction passing flow during low-flow periods within the assessment area (beaver dam, leaky dam, bottom-release dam, weir) |
| <input type="checkbox"/> D | Evidence of bank seepage or sweating (iron in water indicates seepage) |
| <input checked="" type="checkbox"/> E | Stream bed or bank soil reduced (dig through deposited sediment if present) |
| <input type="checkbox"/> F | None of the above |

17. Baseflow Detractors – assessment area metric (skip for Tidal Marsh Streams)

Check all that apply.

- | | |
|---------------------------------------|--|
| <input type="checkbox"/> A | Evidence of substantial water withdrawals from the assessment reach (includes areas excavated for pump installation) |
| <input type="checkbox"/> B | Obstruction not passing flow during low-flow periods affecting the assessment reach (ex: watertight dam, sediment deposit) |
| <input checked="" type="checkbox"/> C | Urban stream (\geq 24% impervious surface for watershed) |
| <input checked="" type="checkbox"/> D | Evidence that the streamside area has been modified resulting in accelerated drainage into the assessment reach |
| <input type="checkbox"/> E | Assessment reach relocated to valley edge |
| <input type="checkbox"/> F | None of the above |

18. Shading – assessment reach metric (skip for Tidal Marsh Streams)

Consider aspect. Consider “leaf-on” condition.

- | | |
|---------------------------------------|--|
| <input type="checkbox"/> A | Stream shading is appropriate for stream category (may include gaps associated with natural processes) |
| <input type="checkbox"/> B | Degraded (example: scattered trees) |
| <input checked="" type="checkbox"/> C | Stream shading is gone or largely absent |

19. Buffer Width – streamside area metric (skip for Tidal Marsh Streams)

Consider “vegetated buffer” and “wooded buffer” separately for left bank (LB) and right bank (RB) starting at the top of bank out to the first break.

| Vegetated | | Wooded | | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|
| LB | RB | LB | RB | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | ≥ 100 feet wide <u>or</u> extends to the edge of the watershed |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | From 50 to < 100 feet wide |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | From 30 to < 50 feet wide |
| <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | From 10 to < 30 feet wide |
| <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E | <input type="checkbox"/> E | < 10 feet wide <u>or</u> no trees |

20. Buffer Structure – streamside area metric (skip for Tidal Marsh Streams)

Consider for left bank (LB) and right bank (RB) for Metric 19 (“Vegetated” Buffer Width).

| LB | RB | |
|---------------------------------------|---------------------------------------|---|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Mature forest |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Non-mature woody vegetation <u>or</u> modified vegetation structure |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Herbaceous vegetation with or without a strip of trees < 10 feet wide |
| <input type="checkbox"/> D | <input type="checkbox"/> D | Maintained shrubs |
| <input type="checkbox"/> E | <input type="checkbox"/> E | Little or no vegetation |

21. Buffer Stressors – streamside area metric (skip for Tidal Marsh Streams)

Check all appropriate boxes for left bank (LB) and right bank (RB). Indicate if listed stressor abuts stream (Abuts), does not abut but is within 30 feet of stream (< 30 feet), or is between 30 to 50 feet of stream (30-50 feet).

If none of the following stressors occurs on either bank, check here and skip to Metric 22: ☒

| Abuts | | < 30 feet | | 30-50 feet | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|--|
| LB | RB | LB | RB | LB | RB | |
| <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | <input type="checkbox"/> A | Row crops |
| <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | <input type="checkbox"/> B | Maintained turf |
| <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | <input type="checkbox"/> C | Pasture (no livestock)/commercial horticulture |
| <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | Pasture (active livestock use) |

22. Stem Density – streamside area metric (skip for Tidal Marsh Streams)

Consider for left bank (LB) and right bank (RB) for Metric 19 (“Wooded” Buffer Width).

| LB | RB | |
|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Medium to high stem density |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Low stem density |
| <input type="checkbox"/> C | <input type="checkbox"/> C | No wooded riparian buffer <u>or</u> predominantly herbaceous species <u>or</u> bare ground |

23. Continuity of Vegetated Buffer – streamside area metric (skip for Tidal Marsh Streams)

Consider whether vegetated buffer is continuous along stream (parallel). Breaks are areas lacking vegetation > 10 feet wide.

| LB | RB | |
|---------------------------------------|---------------------------------------|---|
| <input checked="" type="checkbox"/> A | <input checked="" type="checkbox"/> A | The total length of buffer breaks is < 25 percent. |
| <input type="checkbox"/> B | <input type="checkbox"/> B | The total length of buffer breaks is between 25 and 50 percent. |
| <input type="checkbox"/> C | <input type="checkbox"/> C | The total length of buffer breaks is > 50 percent. |

24. Vegetative Composition – streamside area metric (skip for Tidal Marsh Streams)

Evaluate the dominant vegetation within 100 feet of each bank or to the edge of the watershed (whichever comes first) as it contributes to assessment reach habitat.

| LB | RB | |
|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> A | <input type="checkbox"/> A | Vegetation is close to undisturbed in species present and their proportions. Lower strata composed of native species, with non-native invasive species absent or sparse. |
| <input checked="" type="checkbox"/> B | <input checked="" type="checkbox"/> B | Vegetation indicates disturbance in terms of species diversity or proportions, but is still largely composed of native species. This may include communities of weedy native species that develop after clear-cutting or clearing <u>or</u> communities with non-native invasive species present, but not dominant, over a large portion of the expected strata <u>or</u> communities missing understory but retaining canopy trees. |
| <input type="checkbox"/> C | <input type="checkbox"/> C | Vegetation is severely disturbed in terms of species diversity or proportions. Mature canopy is absent <u>or</u> communities with non-native invasive species dominant over a large portion of expected strata <u>or</u> communities composed of planted stands of non-characteristic species <u>or</u> communities inappropriately composed of a single species <u>or</u> no vegetation. |

25. Conductivity – assessment reach metric (skip for all Coastal Plain streams)

25a. ☐Yes ☒No Was conductivity measurement recorded?

If No, select one of the following reasons. ☐No Water ☐Other: _____

25b. Check the box corresponding to the conductivity measurement (units of microsiemens per centimeter).

☐A < 46 ☐B 46 to < 67 ☐C 67 to < 79 ☐D 79 to < 230 ☐E ≥ 230

Notes/Sketch:

Draft NC SAM Stream Rating Sheet
Accompanies User Manual Version 2.1

| | | | |
|------------------|---------------------|----------------------------|------------------------------|
| Stream Site Name | Grandover West Site | Date of Assessment | July 16, 2018 |
| Stream Category | Pa1 | Assessor Name/Organization | Paul Stephens, ECS Southeast |

| | |
|---|--------------|
| Notes of Field Assessment Form (Y/N) | NO |
| Presence of regulatory considerations (Y/N) | YES |
| Additional stream information/supplementary measurements included (Y/N) | NO |
| NC SAM feature type (perennial, intermittent, Tidal Marsh Stream) | Intermittent |

| Function Class Rating Summary | USACE/ All Streams | NCDWR Intermittent |
|--|-------------------------------|-------------------------------|
| (1) Hydrology | LOW | LOW |
| (2) Baseflow | MEDIUM | MEDIUM |
| (2) Flood Flow | LOW | LOW |
| (3) Streamside Area Attenuation | LOW | LOW |
| (4) Floodplain Access | LOW | LOW |
| (4) Wooded Riparian Buffer | MEDIUM | MEDIUM |
| (4) Microtopography | LOW | LOW |
| (3) Stream Stability | LOW | LOW |
| (4) Channel Stability | MEDIUM | MEDIUM |
| (4) Sediment Transport | LOW | LOW |
| (4) Stream Geomorphology | LOW | LOW |
| (2) Stream/Intertidal Zone Interaction | NA | NA |
| (2) Longitudinal Tidal Flow | NA | NA |
| (2) Tidal Marsh Stream Stability | NA | NA |
| (3) Tidal Marsh Channel Stability | NA | NA |
| (3) Tidal Marsh Stream Geomorphology | NA | NA |
| (1) Water Quality | LOW | LOW |
| (2) Baseflow | MEDIUM | MEDIUM |
| (2) Streamside Area Vegetation | MEDIUM | MEDIUM |
| (3) Upland Pollutant Filtration | HIGH | HIGH |
| (3) Thermoregulation | LOW | LOW |
| (2) Indicators of Stressors | YES | YES |
| (2) Aquatic Life Tolerance | MEDIUM | NA |
| (2) Intertidal Zone Filtration | NA | NA |
| (1) Habitat | LOW | LOW |
| (2) In-stream Habitat | LOW | LOW |
| (3) Baseflow | MEDIUM | MEDIUM |
| (3) Substrate | LOW | LOW |
| (3) Stream Stability | MEDIUM | MEDIUM |
| (3) In-stream Habitat | LOW | LOW |
| (2) Stream-side Habitat | LOW | LOW |
| (3) Stream-side Habitat | MEDIUM | MEDIUM |
| (3) Thermoregulation | LOW | LOW |
| (2) Tidal Marsh In-stream Habitat | NA | NA |
| (3) Flow Restriction | NA | NA |
| (3) Tidal Marsh Stream Stability | NA | NA |
| (4) Tidal Marsh Channel Stability | NA | NA |
| (4) Tidal Marsh Stream Geomorphology | NA | NA |
| (3) Tidal Marsh In-stream Habitat | NA | NA |
| (2) Intertidal Zone | NA | NA |
| Overall | LOW | LOW |



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

TIM BAUMGARTNER
Director

April 2, 2019

Richard Vanore, Jr.
Koury Corporation
2275 Vanstory Street, Suite 200
Greensboro, NC 27403

Expiration of Acceptance: 10/2/2019

Project: Grandover West

County: Guilford

The purpose of this letter is to notify you that the NCDEQ Division of Mitigation Services (DMS) is willing to accept payment for compensatory mitigation for impacts associated with the above referenced project as indicated in the table below. Please note that this decision does not assure that participation in the DMS in-lieu fee mitigation program will be approved by the permit issuing agencies as mitigation for project impacts. It is the responsibility of the applicant to contact permitting agencies to determine if payment to the DMS will be approved. You must also comply with all other state, federal or local government permits, regulations or authorizations associated with the proposed activity including G.S. § 143-214.11.

This acceptance is valid for six months from the date of this letter and is not transferable. **If we have not received a copy of the issued 404 Permit/401 Certification within this time frame, this acceptance will expire.** It is the applicant's responsibility to send copies of the permits to DMS. Once DMS receives a copy of the permit(s) an invoice will be issued based on the required mitigation in that permit and payment must be made prior to conducting the authorized work. The amount of the in-lieu fee to be paid by an applicant is calculated based upon the Fee Schedule and policies listed on the DMS website.

Based on the information supplied by you in your request to use the DMS, the impacts for which you are requesting compensatory mitigation credit are summarized in the following table. The amount of mitigation required and assigned to DMS for this impact is determined by permitting agencies and may exceed the impact amounts shown below.

| River Basin | Impact Location (8-digit HUC) | Impact Type | Impact Quantity |
|-------------|----------------------------------|------------------|-----------------|
| Cape Fear | 03030003 | Warm Stream | 144 |
| Cape Fear | Randleman | Riparian Buffer | 16,214 |
| Cape Fear | Randleman | Riparian Buffer | 16,077 |
| Cape Fear | 03030003 | Riparian Wetland | 0.15 |

Upon receipt of payment, DMS will take responsibility for providing the compensatory mitigation. The mitigation will be performed in accordance with the In-Lieu Fee Program instrument dated July 28, 2010 and 15A NCAC 02B .0295 as applicable. Thank you for your interest in the DMS in-lieu fee mitigation program. If you have any questions or need additional information, please contact Kelly Williams at (919) 707-8915.

Sincerely,

James B. Stanfill
Asset Management Supervisor

cc: Paul Stephens, agent

