



December 12th, 2018

Nicki Van Vonno
Growth Management Director
Martin County Growth Management
2401 SE Monterey Road
Stuart, FL 34996

RE: Major Site Plan Application Treasure Coast Classical Academy Project #D054-005 – Resubmittal, Comment Response and Section 10.2.D.5 (f) Request

Nicki,

Please accept this letter and the contents within this package as the resubmittal of the Treasure Coast Classical Academy (Project #D054-005) Major Site Plan Application and the official request to carry out Section 10.2.D.5 (f) of the Martin County Land Development Regulations.

Section 10.2.D.5 (f) states, “At any time, the applicant may request that the County Administrator forward the application to the decision maker for review and final action. Upon such a request by the applicant the applicant shall not be entitled to any postponements or continuances, unless the applicant can show extraordinary circumstances as provided by law for the granting of a postponement or continuance.”

At this time, we respectfully request that the Treasure Coast Classical Academy Major Site Plan Application be forwarded for review and final action of the LPA and BoCC hearing boards.

In addition to this request, please review the following pages for the individual responses to the comments on the staff report issued on November 21st, 2018. The revisions requested have been made and the corresponding documentation is provided within this package. Please review.

Should you have any additional comments or information please feel free to contact me.

Thank you,

Ella Donaho Taylor
Director of Land Planning
Medalist Building Group, LLC
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(772) 287 – 2010 ext. 5

F. Determination of compliance with Comprehensive Growth Management Plan requirements – Growth Management Department

Item #1: Open Space

Open space is defined as, "The portion of a development that is permeable and remains open and unobstructed from the ground to the sky, specifically excluding parking areas and sidewalks, whether permeable or impermeable. MARTIN COUNTY, FLA., CGMP SECTION 2.2. (2016) Development within the RE-1/2A, Residential Estate District, requires a minimum of 50 percent of the gross land area as open space. MARTIN COUNTY, FLA., LDR TABLE 3.12.1., SECTION 3.12. (2013)

RESPONSE: Please see revived Sheet C500 for the revised open space calculations.

G. Determination of compliance with land use, site design standards, zoning, and procedural requirements - Growth Management Department

Item #1: Administrative Items

Unless otherwise specified in the LDR, an application shall be submitted in a form approved by the County Administrator and made available to the public. At a minimum, it shall include sufficiently detailed and documented information for staff to make the required findings of compatibility with adjacent land uses and consistency with the Comprehensive Plan, the LDR, and the Code. MARTIN COUNTY, FLA., LDR SECTION 10.2.B.5. (2017)

RESPONSE:

- **The project name on the application has been verified as ‘Treasure Coast Classical Academy’. Please see application in package with corrected name.**
- **A copy of the Sunbiz webpage for Driftwood Cay of Stuart, LLC that establishes the authority of Jeremy Lemaster to represent the owner entity as the Managing Member.**
- **The notarization on the ‘certification of no property transfer’ document as been corrected as the document was re-executed and re-notarized.**
- **No response has been received from the utility companies in regard to the availability of cable/TV/internet utilities. However, requests have been sent out to obtain these letters, these requests were provided in the initial submittal and are provided again in this submittal. Additionally, a request letter was also sent out to Comcast since no response has been received yet from AT&T. Please see attached letters.**
- **The legal access was previously established by Driftwood Cay of Stuart LLC for construction of the prior approved subdivision. No other offsite areas are to be used. Please see attached the Driveway Access Easement for Lot D1.**



Item #2:

Financial Disclosure Affidavit

The applicant must disclose the names and addresses of each and every person or entity with any legal or equitable interest in the property of the proposed development, including partners, members, trustees, and stockholders and every person or entity having more than a five percent interest in the property or proposed development. MARTIN COUNTY, FLA., LDR SECTION 10.2.B.3.b. (2017).

RESPONSE: Acknowledged. Please see attached revised Disclosure of Interest Affidavit that has added the contract buyer, Charter Schools Development Group LLC. The property remains under the sole ownership of Driftwood Cay of Stuart LLC until the development order has been issued.

Item #3: Posting of Signs

Not more than ten days after a development application has been determined to be complete, the applicant shall post the property that is the subject of the application with a waterproof sign(s) entitled "Notice of Development Application" or "Notice of Zoning Change" as appropriate which describes the nature of the development request, the name of the project (if any), the telephone number where additional information may be obtained, and the County assigned project or application number. MARTIN COUNTY, FLA., LDR, SECTION 10.6.B. (2016).

RESPONSE: The sign was originally posted on 12-06-18. However, the project number on the sign and the height of the lettering of the project number was incorrect. The sign will be reposted by 12-14-18 with the correct project number and lettering height. The sign posting certification will be forwarded via email to the project coordinator, Catherine Riiska, once this is completed.

Item #4: List of Property Owners

A list of all owners of real property located within a distance of 500 feet of the boundaries of the affected property, required to be notified pursuant to Section 10.6.E.1., LDR, Martin County, Fla. (2016), shall be provided by the applicant to the County Administrator no later than two weeks prior to the scheduled time of the public hearing. This list shall be based on the most recent tax roll available and must be certified as to its authenticity and completeness by an attorney at law or title company. MARTIN COUNTY, FLA., LDR, SECTION 10.6.

RESPONSE: Please see attached list of property owners within a distance of 500 feet of the boundaries of the affected property.

Item #5: Required Permits

No final site plan shall be approved until all applicable local, state, and federal approved permits are submitted and reviewed by the County Administrator. If an application is made to any permitting agency for a modification to a permit that was required to be issued prior to final site



plan approval, the application for the permit modification must be submitted concurrently to Martin County. MARTIN COUNTY, FLA., LDR, SECTION 10.9.A. (2012)

The applicant has elected 'Option 1' regarding Agency permit submittal for review for consistency. This requires that all applicable authorizations be provided for a consistency review prior to final approval of this application pursuant to Section 10.9.A.1., LDR, Martin County, Fla. (2012).

Pursuant to Section 10.9.A., LDR, Martin County, Fla. (2012), staff review of other agency permits may proceed either prior to development order approval, or after development order approval but before scheduling the pre-construction meeting and subject to an additional review fee.

RESPONSE: The applicant chooses OPTION TWO for this application. All authorizations will be submitted after development order approval, but prior to scheduling the pre-construction meeting along with the associated fees.

Item #6:

Maximum Height

The maximum height of habitable buildings and structures shall be four stories or as specifically set forth in each zoning district in Table 3.12.1 or elsewhere in the LDR, whichever is lower. For purposes of this section, building height means the vertical distance between (1) the lowest permissible elevation above the existing grade which complies with finished floor elevation requirements as established by flood maps, the Health Department, or building code, along the front of a building and (2) either the highest point of the coping of a flat roof, the deck line of a mansard roof, or the mean height level between eaves and ridge for gable, hip and gambrel roofs. For buildings placed along the oceanfront, the oceanside of the building may be considered the front for height measurement purposes. MARTIN COUNTY, FLA., LDR SECTION 3.14.A (2005)

Development within the RE-1/2A, Residential Estate District, stipulates a maximum structure height of 30 feet. MARTIN COUNTY, FLA., LDR TABLE 3.12.1., SECTION 3.12. (2013)

Exceptions to the maximum height standards set forth in Table 3.12.1. are permittable pursuant to the criteria in Section 3.14.B., LDR, Martin County, Fla. (2005).

RESPONSE: Please see revised Sheet C500 for revised site data stating a max height of 30'. Please also see revised building elevations for requested scale, dimensions, and labels.

Item #7: Plan Consistency

Consistency required. No development, including clearing, excavation of soil, or alteration of vegetation, shall be commenced or undertaken in Martin County that is inconsistent with the

Comprehensive Plan, the LDR and the Code. It shall at all times be the applicant's responsibility to demonstrate consistency with the goals, objectives and policies of the Comprehensive Plan, the LDR and the Code. MARTIN COUNTY, FLA., LDR SECTION 10.1.F. (2017)

RESPONSE: Please see included standalone “Final Site Plan” set with sheets titled 1 of 4 etc. Please also see included proposed floor plans

Item #8: Final Site Plan Data

1. Please provide separate data tables for open space and pervious area and include the adjustments requested in Item #1, Section F, of this report.
2. Please provide the “maximum allowed building height 30 feet” and provide the “Proposed Height 30 feet” .
3. Please correct the required setbacks to reflect those minimums required by the RE-1/2A Zoning (Front, rear, side are 25’, 15’, 15’, respectively)

RESPONSE: Please see revised Sheet C500 for requested data tables, revised maximum and proposed building height, and corrected setbacks.

Item #9: Final Site Plan Graphics

1. Please correct the land use shown adjacent to the northeast boundary of the site to rural density, which is currently incorrectly labeled as estate density.
2. Please dimension the school building setback from the building plane proposed closest to the nearest property line. The currently shown 65.50’ dimension on Sheet C551 does not reflect the minimum provided structure setback.
3. Please label the currently shown square structure shown near the project’s northwestern boundary at Cove road. If not proposed as part of this development, please remove from the final site plan graphics.
4. Please provide the following typical details on the final site plan:
 - a. Standard parking space, including dimensions and pavement markings
 - b. Handicapped parking space, including dimensions, pavement markings, and signage
 - c. Dumpster enclosure
 - d. Bike racks
5. Please dimension all major site plan features, including the following:
 - a. Dimension the lot width at the Cove Road frontage.
 - b. Dimension landscaping islands within the parking area and all perimeter landscape buffer widths.
 - c. Dimension the sidewalk that leads through the parking lot and to Cove Road. All sidewalks are required to have a minimum 6’ unimpeded width.
 - d. Dimension the school building envelope, basketball court, tot lot, retention areas

RESPONSE: Please see revised sheet C500 for corrected adjacent land use. Please see Sheet C551 for the minimum dimension from building to property line of 49.4’. Please see

revised Sheet C500 for annotation of the square as a concrete utility pad. Please see Sheet C550 for Cove Road frontage width. Please see Sheet C550 and C551 for sidewalk, building, basketball court, tot lot, and retention.

Item #10: Parking Rate

Off-street parking spaces shall be provided in accordance with the standards contained in the following Table 4.14.1. Land uses shall be as defined in section 3.3 of Article 3, Zoning Districts of the Martin County Land Development Regulations (LDR). MARTIN COUNTY, FLA., LDR SECTION 4.624. (2009). Pursuant to Table 4.14.1., Section 4.624., LDR, Martin County, Fla. (2009), the parking rate for education institutions requires 2.5 spaces per each elementary or junior high classroom, and 12 spaces per each high school classroom, and 1 space for each teaching, administrative or staff.

RESPONSE: Please see Data Table on Sheet C 500. As mentioned during the joint workshop, it is our understanding that the FBC is the controlling regulation. This regulation states that the provided parking for education facilities is 1 space per faculty or staff personal, 1 space per 100 students for K-10th and 1 space per 10 students for 10th-12th. Please also see provided proposed floor plans.

Item #11: Standards for Specific Use – Educational Institution

The application must demonstrate compliance with the following development standards applicable to the proposed use:

The applicant for the institution shall submit a description of anticipated service areas and projected enrollment and relate same to a development plan explaining:

1. Area to be developed by construction phase.
2. Adequacy of site to accommodate anticipated enrollment, recreation areas, off-street parking and pedestrian and vehicular circulation on site including loading and queuing of school bus traffic.
3. Safety features of the development plan. MARTIN COUNTY, FLA., LDR SECTION 3.69.A. (2003)

Areas which abut residential districts and accommodate active recreation, shall provide a Type 2 bufferyard pursuant to Article 4, Division 15, Landscaping, Buffering and Tree Protection. MARTIN COUNTY, FLA., LDR SECTION 3.69.E. (2003)

The educational institution shall have a structure designed to meet state requirements to serve as an emergency evacuation shelter. MARTIN COUNTY, FLA., LDR SECTION 3.69.F. (2003)

RESPONSE:

1. Service areas within the school will include ESE/Special Educations. Maximum enrollment of the school will be 1034 students, with approximately 515 students for the 1st year.
2. The facility is sized to accommodate up to 1034 students based on state requirements for public schools and maximum student counts per room and grade. K-3 max 18 per room, 4th – 8th max 22 per room, 9th – 12th max 25 per room. The current plan is designed to include ample offsite parking for the school and any school events, exceeding the state requirement for public schools parking by roughly 40%. Additionally, the design allows for all traffic to queue onsite during drop-off and pickup times. Pedestrian circulation on site is accommodated by a series of code regulated sidewalks and crosswalks. Dropoff and pick-up activity is limited to a designated area for those activities before and after school. Any drop-off or pick-up activity after school starts is done through the main parking lot and school entrance with the standard student checkout procedure.
3. The plan includes designated drop-off and pick-up areas, monitored and directed by trained staff. The specific drop-off/pick-up queuing lane is separate from the parking area, keeping traffic to the perimeter of the site. All play fields are fenced and only accessible through the interior of the school or one way exit gates located directly adjacent to the school. All exterior doors are alarmed, and security cameras are located around the entire perimeter of the building, play fields, all entrances/exits, stairwells and all hallways.

J. Determination of compliance with environmental and landscaping requirements - Growth Management Department

Item#1: Environmental Assessment

Please revise the vegetative classification data and FLUCCS map in the assessment to include descriptions from Florida Natural Areas Inventory (FNAI) for the native habitat areas pursuant to Section 4.31.C, Martin County, Fla. Ord. No. 1082 (2018).

RESPONSE: The environmental assessment has been revised, please see attached PAMP, section 2.0 ‘Environmental Assessment’.

Item #2: Preserve Area Management Plan

Please remove the firewise section in the PAMP as the county firewise requirements are only applicable to residential projects. Although the county encourages the use of a 30 foot defensible space between a preserve area and any primary structure. Please update the language in section 8.0 to state that all exotic vegetation is required to be hand removed from the preserve areas, including exotic vegetation listed on the FLEPPC list. Please have the environmental consultant contact Shawn McCarthy, the environmental reviewer, to schedule an onsite inspection to verify the information provided in the assessment.

RESPONSE: Acknowledged. The Firewise section has been removed from the PAMP. The language in section 8.0 has been updated.

Item #3: Site Data and Habitat Mapping

Please provide a separate preserve data table in the final site plan and identify the following:

1. Preserve Area Calculations. Provide upland preserve calculations to demonstrate that at least 25% of the total upland area is preserved as rare native upland habitat. Where there is no rare upland habitat, provide upland preserve calculations to demonstrate that at least 25% of existing common native upland habitats are preserved.
2. Wetland Preserve. Wetland preserve acreage, onsite.
3. Wetland Buffer. Native upland habitat area, to be provided as wetland preserve area buffer.
4. Upland Preserve, Common. Native upland preserve area habitat provided, as common habitat.
5. Total Preserve Acreage, for site.

RESPONSE: Please see revised site data table on Sheet C500

Item#4: Site Plan Review

Please include the locations of preserve area signs on the final site plan and construction plans. Signs shall be at least 11 x 14 inches in size and be posted in conspicuous locations along the Preserve Area boundary, at a frequency of no less than one (1) sign per 500 feet.

Please provide for the following Notes on the Final Site Plan:

Preserve area setbacks and preserve signage.

1. New construction (including fill proposed adjacent to wetland buffer zones and upland preserve areas) shall be set back a minimum of ten feet for primary structures;
2. Setbacks for accessory structures, such as, but not limited to, pool decks, screen enclosures and driveways, roadways, berms, shall be five feet.
3. Preserve signs will be at least 11 x 14 inches in size and will be posted in conspicuous locations along the Preserve Area boundary, at a frequency of no less than one (1) sign per 500 feet.
4. Graded areas adjacent to preserve areas shall not exceed a slope of one foot vertical to four feet horizontal. All slopes shall be properly stabilized upon completion of construction to the satisfaction of the County Administrator.

Other general final site plan notes:

1. All prohibited exotic plant species shall be removed from the site prior to issuance of a Certificate of Occupancy. Perpetual maintenance is required to prohibit the reestablishment of invasive exotic species within preservation areas and planted landscape or lake littoral areas and stormwater management areas as provided on the plans approved with the development order.

2. All Preserve Areas shall be maintained in accordance with the approved Preserve Area Management Plan (PAMP).

RESPONSE: Please see revised Sheet C500 for preserve sign detail and posting locations along with requested preserve and other general final site plan notes.

Item#5: Wetland Design Standards

Please document compliance with the following requirements pursuant to Section 4.2.G.4, Martin County, Fla. Ord. No. 1082 (2018):

Placement of water management control structures in wetlands or wetland buffers shall only be allowed as part of a stormwater management plan that complies with Division 9. Placement of structures in preserve areas shall require revegetation of both the wetland and wetland buffer for which planting plans shall be included in the PAMP. The construction plans show a high number of structures proposed within the preserve areas. Please demonstrate that all the structures are necessary to maintain or improve wetland hydrology in accordance with Section 4.2.I, Martin County, Fla. Ord. No. 1082 (2018).

RESPONSE: Please see revised Sheets C650, C651 and C652 for reduced number of proposed stormwater management structures within the Wetlands and Wetland Buffers. The remaining proposed structures are utilized to maintain the existing drainage patterns of the site.

Item#6: Preserve Area Design Standards

Minimum upland preserve area width requirements. The minimum width of native upland preserve habitat to be credited toward upland preserve requirements shall be 50 feet and shall be adequate to maintain the long-term viability and should maximize wildlife utilization. The proposed upland preserve area north of wetland 2 contains an area 40 feet in width. Please revise the preserve boundary to comply with the 50 foot minimum width criteria in accordance with Section 4.35.A, Martin County, Fla. Ord. No. 1082 (2018) and update all plans accordingly.

RESPONSE: Please see revised Final Site Plan and Civil Construction documents for adjusted preservation area location.

Item #7: Land Clearing Page

The following shall be included on the land-clearing page:

1. Show control structure locations within the preserve areas to be cleared for installation. A minimum width of clearing shall not be greater than 10-12 feet.
2. Locations of perimeter native vegetation to be retained as un-cleared during construction, if applicable.
3. Location of tree protection barricades (where warranted). Show protected trees outside the limits of clearing on the east side of the project.

4. Location of on-site posted land clearing permit and permit box (to retain approved plan).
5. Locations of any materials to be temporarily stockpiled to include land clearing debris or excavated materials.
6. Construction details for the installation of erosion control devices and preserve area barricades.
7. Proposed method for soil stabilization following land clearing.
8. Include the text: 'Property corners shall be located by a licensed land surveyor and clearly marked in the field prior to the Engineering Department's pre-construction meeting for site development.'
9. Include the text: 'Authorization to install erosion control devices and preserve barricades will be granted at the pre-construction meeting. This authorization shall be posted on the site, in the permit box, its location shown elsewhere on this page.'
10. Include the text: 'No additional land clearing shall commence until a satisfactory inspection of the required erosion control barricades has been obtained.'
11. Include the text: 'All construction barricades and silt fences will remain in place and be monitored for compliance by the permit holder during the permitted development activities.'
12. Include the text: 'Prior to scheduling a final environmental inspection for the infrastructure, all barricades and erosion control devices shall be removed and disposed of by the contractor.'

RESPONSE: Please see revised Sheet C400 for locations of temporary clearing for stormwater control structure installation. Please see revised Sheet C 400 for requested land clearing notes.

Item #8: Land Clearing Methodology

As part of the land clearing plan, please provide the following:

1. Applications for land clearing shall require a land clearing plan that includes, at a minimum, proposed dates for clearing, the proposed method of erosion and sediment control, the proposed method of debris disposal and soil site stabilization procedures to be implemented after land clearing. Site clearing, vegetation removal and/or building demolition shall be phased concurrent with construction activity to minimize soil erosion and generation of airborne dust. Site stabilization construction practices such as but not limited to seeding, wetting and mulching that minimize airborne dust and particulate emissions generated by construction activity shall be completed progressively and actively maintained as vegetation removal occurs within a given area of a site. Building or infrastructure construction shall commence no later than 30 days after vegetation removal and site clearance is completed. Where off-site siltation becomes a problem, work on the project shall stop until an amended plan is approved and implemented.
2. During construction activities, existing native vegetation shall be retained to act as buffers between adjacent land uses properties, and to minimize nuisance dust, noise and air pollution. This requirement shall be a condition of all development approvals. Barricades shall be used on-site to preserve the vegetation to be retained. Areas especially vulnerable to wind or

water erosion, such as shorelines or bluffs, shall retain existing vegetation during construction and be the last area or part of the final phase of a phased clearing plan to be cleared.

RESPONSE: Comments noted. The project will obtain an NPDES permit and will be required to comply with stabilization and erosion requirements. Please see note 6 and 7 on Sheet C400.

Landscape

Item #1: Standard Application Requirements

The deficiencies noted in this section need to be addressed by the applicant with revised plans and documentation. To ensure a successful review, the following shall be provided with your resubmittal information:

Revision dates/notes on all affected plans. Plans should be provided with "call-out" revision clouds/notes to identify areas that have been modified from the original submittal. A summary of changes that are provided with your resubmittal information, the staff report may be used as a template for your responses. It is important that you be specific as to what has been changed and where the changes may be found in the resubmitted materials. Resubmittal comments provided to address deficiencies such as "see the revised plans" should be replaced with more specific language such as "refer to the revised 30' dimension to the NE buffer provided on sheet 3/4 and revised landscape note 3 on sheet 2/4". A landscape plan is required with this application. The landscape plans must be prepared and sealed by a registered landscape architect and include all information required for submittal as specified in Section 4.662.A, LDR. Indicate the location and type of all the following, both existing and proposed:

Property boundaries, land use, rights-of-way and easements.

1. On-site and abutting land use features, including adjacent sidewalks, existing vegetation, natural features and site improvements within 50 feet of the property.
2. Buildings, structures, paving, and adjacent buildings within 50 feet of the property.
3. All overhead, above and underground utilities, including septic tanks, drainfields and RPZ valves.
4. Off-street parking, access aisles, driveways and other vehicular use areas.
5. Surface water bodies and wellfields.
6. Plant installation methods and irrigation sources.
7. Ditches, swales, stormwater treatment structures or slopes exceeding 3V:1H in any proposed landscape areas.

RESPONSE: Please see revised Landscaping plan set for requested labels.

Item #2: Landscape Tabular Data

Landscape plans shall include a table which lists the gross and net acreage, acreage of development and preservation areas, number of trees and tree clusters to be protected within the developed area and within perimeter areas, and square footage of vehicular use areas (Ref. Section 4.662.A.10, LDR). Interior and perimeter vehicular use areas should be quantified separately in the table. Tabular data shall also indicate a calculation of the minimum total number of trees and shrubs required to be planted based upon the proposed developed area and separately based upon quantities required to meet the vehicular use area planting requirements and any required bufferyard requirements.

Please also include the following:

1. Document compliance with the requirement that twenty (20) percent of the total developed area shall be landscaped.
 - a. Identify each species intended to meet the required trees, shrubs, and ground cover separately in the tabular data. Tabular data shall also indicate calculations of the minimum total number of trees and shrubs to be planted based upon the proposed developed area and separately based upon quantities required to meet vehicular use planting requirements and bufferyard requirements.
 - b. Identify proposed FL native plant species in the Landscape Tabular Data and demonstrate that at least 75% of required trees and shrubs, and at least 50% of required groundcover species provided are native.
 - c. Irrigated and non-irrigated turf areas shall be quantified and identified on the landscape plan.
2. Service function areas including solid waste collection and mechanical equipment requiring screening shall be summarized in a table to identify equipment and the type of screening proposed.

RESPONSE: Labels and water efficiency table has been added, see sheet L102

Item #3: General Landscape Design Standards

Please demonstrate compliance with the following general landscape requirements on the provided plans:

1. Screening materials and landscaping used to screen service function areas shall be consistent with the design of the primary facades
 - a. The following statement is provided: "All prohibited species shall be removed from the entire site prior to the issuance of a certificate of occupancy." (Section 4.664, LDR)
 - b. Mulch material to a minimum compacted depth of three inches is provided for all planting areas when used to supplement ground cover. Cypress mulch may not be used as a mulching material. (Section 4.663.C., LDR)
 - c. The following statement is provided: "The use of cypress mulch is prohibited in all landscaped areas."

- d. No use shall be made of, and no development activity shall be permitted in, land use buffers and perimeter landscape areas, except for:
- i. Planting material approved as part of the landscape plan.
 - ii. Completely underground utilities and essential, specifically approved, overhead or aboveground utilities which cross these areas and do not interfere with the mature growth of required plant material.
 - iii. Grass ditches, with back slopes no steeper than 3V:1H, which can support the required landscaping materials.

RESPONSE: Notes have been added, see sheets L002 and L111

Item #4: Perimeter VUA Requirements-Non-Res Sites

Please demonstrate compliance with the following criteria for perimeter vehicular use areas (Section 4.663.A.4.a., LDR):

1. A ten-foot wide strip of land, exclusive of curbing, along the entire front perimeter of a site, located between the front property line and any vehicular use area, shall be landscaped. Berming is encouraged along public roadway frontages to screen parking areas and provide visual interest.
2. A ten-foot wide strip of land, exclusive of curbing, along the entire side and rear perimeter of a site, located between the side and rear property lines and any vehicular use area, shall be landscaped.
3. Perimeter tree requirements for vehicular use areas. Provide one tree for each 30 linear feet of required landscape perimeter area, with no less than 75 percent of said trees being shade trees. Creative design and spacing is encouraged, the location(s) of proposed signage should be considered and provided on the plans.
4. A minimum of twenty-five percent of the total perimeter landscape area is to be in native plantings. Vehicle stops or other design features shall be used so that parked vehicles do not overhang into landscape areas.

RESPONSE: The interior vehicular landscape area calculation has been revised, see exhibit on sheet L 103

Item #5: Interior VUA Requirements-Non-Res Sites

Please demonstrate compliance with the following criteria for interior vehicular use areas [Section 4.663.A. 4.b., LDR]. The interior area includes the entire parcel to be developed exclusive of the required front, rear, and side perimeter landscape areas. As an incentive to preserving native areas, up to one-half of the required interior landscape area may be waived when an equal area (at least 800 square feet) within the vehicle use area is preserved in a native state.

1. In vehicular use areas within the interior of a site, one 500 square foot planting area shall be required for every 5,000 square feet of vehicular use area, or major portion thereof, and at least

three two-inch, or two three-inch caliper shade trees together with other landscape material shall be planted within each such planting area.

2. Interior landscape areas shall be no less than 12 feet in width, exclusive of curbing.

Whenever linear medians at least 50 feet long having shade trees spaced no greater than 15 feet on center are used, the minimum width may be reduced to eight feet exclusive of curbing.

3. Terminal islands of not less than ten feet in width exclusive of curbing and 18 feet in length shall be provided at each end of a parking row. At least one tree shall be planted in every island.

4. Interior medians of at least six feet in width exclusive of curbing shall be provided between an interior row of parking spaces and an abutting interior driveway or between abutting rows of parking spaces. At least one tree shall be required for every 30 linear feet of interior median, planted singly or in clusters with tree locations not more than 60 feet apart.

5. Interior islands shall measure not less than five feet in width exclusive of curbing and 20 feet in length and may be reduced five feet less than the required parking space length. Such islands shall be placed within rows of parking spaces so that there is at least one interior island for every ten parking spaces or portion thereof. At least one tree shall be required per island with the remainder of the island landscaped with grass, ground cover, mulch, shrubs, or other treatment excluding pavement or sand.

6. All trees required within vehicular use areas shall be shade trees. [Section 4.664.B.2.a., LDR]

7. For vehicular use areas not utilized for off-street parking, but serving the vehicular access or storage needs of the public (stacking lanes for drive-in banks and restaurants), ten percent of the total paved area of such vehicular use area shall be added to interior landscaping. Divider medians, and Interior or Terminal islands shall not be used as stormwater management or conveyance facilities.

RESPONSE: Labels and an exhibit have been provided, see sheets L100 and L103

Item #6: Landscape Bufferyard Requirements

Landscaped bufferyards shall be required between differing land uses and along certain transportation corridors. It is the intent of the code to encourage the preservation of existing vegetation for use in buffers as opposed to clearing and replanting designed landscapes. [Section 4.663.B., LDR]

Please demonstrate compliance with the following criteria for landscape bufferyards:

1. Type 2 bufferyard: A 25 foot wide landscape strip with a six-foot-high, opaque fence or wall. At least one tree and ten shrubs shall be provided for every 300 square feet of required bufferyard. Trees must be at least ten feet in height with a two-inch caliper. A six-foot-high vegetative landscape screen consisting of 28 shrubs provided for every 250 square feet of required bufferyard can be substituted for the shrub, fence, wall or berm requirements. This vegetative landscape screen shall be 100 percent opaque at the time of planting.

2. Type 4 bufferyard: A 40 foot-wide landscape strip with a six-foot-high opaque fence or wall. At least one tree and 34 shrubs shall be provided for every 300 square feet of required

bufferyard. Trees must be at least 14 feet in height with a three-inch caliper and staggered for maximum opacity.

3. All shrub material used as a part of a dissimilar land use bufferyard shall be a minimum height of 30 inches and have a minimum crown width of 24 inches when planted; shall be species capable of achieving a minimum height of six feet; and shall be located in such a way as to maximize the screening potential. [Section 4.663.C.4., LDR]

4. Requirements for vegetative landscape screens. Where vegetative landscape screens are installed in required bufferyards, they shall be required to form a solid visual screen at time of planting (ref. Section 4.663.B.4., LDR for additional information).

5. Use of bufferyards. Utilities, easements, septic drainfields or other physical improvements shall not be placed in bufferyards, unless approved by the Growth Management Director based on good cause shown. In any case where an un-buffered view exists within 500 feet from the side or rear service areas of any nonresidential land use to any single-family or two-family residential land use, buffer requirements shall apply as if such residential uses were located on immediately adjacent lands.

Martin County, Florida Land Development Regulations (2003) Section 3.69.E. states that areas which abut residential districts and accommodate active recreation, shall provide a Type 2 bufferyard pursuant to Article 4, Division 15, Landscaping, Buffering and Tree Protection.

RESPONSE: The buffers have been labeled and recalculated, see sheets L100 through L102

Item #7: Landscape Bufferyard Fence, Wall, Berm

Please demonstrate compliance with the following criteria for landscape bufferyards [Section 4.663.B.8., LDR]:

1. Whenever a buffer fence is required, it shall be of sufficient height to obstruct view between adjoining properties, presumably to a height of six feet. The buffer fence shall be solid opaque, constructed of durable materials appropriate for the intended use and consistent with materials commonly used in surrounding neighborhoods, and shall include provision for the access to all landscape materials.
2. The side of a fence facing a less intensive use and any side of a fence facing a public view shall have a finished appearance to furnish an aesthetically pleasing view.
3. At least one-half of all required plant materials shall be installed and maintained on the side facing the less intensive use, unless otherwise specifically provided.
4. Include a note that required fencing shall be maintained in good repair by the property owner.
5. When walls are proposed to meet bufferyard requirements, the facade treatment of the walls exceeding 100 feet in length shall require architectural columns at each 100-foot increment to encourage architectural variety and interests.
6. Fences or walls installed on property near preserve areas shall be designed to permit animal access and crossings.

7. Berms used in place of the fence or wall requirement shall have no more than a three-foot horizontal to a one-foot vertical slope. Berms may be used in combination with fences or hedges to achieve the minimum six-foot-high 100 percent opaque requirement.

RESPONSE: A vegetative screen has been provided at minimum specification to comply with buffer requirements, see sheets L100 through L102

Item #8: Landscape Irrigation

4.662.B. Irrigation plans. Irrigation systems are not required; however all required plantings must remain viable, healthy, neat and orderly in appearance.

RESPONSE: Comment noted.

Item #9: Landscape Native Tree Protect & Survey

A tree survey is required to identify specific native trees required to be protected from development [Section 4.666, LDR]. Please note that trees in proposed preservation areas, palm trees and non-native species need not be identified on this survey. Existing native vegetation shall be retained to act as buffers between adjacent land uses, and to minimize nuisance dust noise and air pollution during construction.

The following information shall be provided for trees in the developed area:

1. A tree survey including approximate position of protected trees, protected tree clusters, landscaping and other vegetation to be preserved or removed. Trees required to be protected include any hardwood native tree having a diameter of eight inches DBH or greater throughout the developed site. Within the perimeter area, protected trees include any native hardwood tree four (4) inches DBH or greater, or any native softwood tree including pine trees (8) inches DBH or greater. Clearly identify the specific tree species required to be protected on the survey; these trees should be flagged in the field for staff verification.
2. As a condition of the issuance of a permit for removal of a protected tree, a satisfactory plan shall be presented by the applicant for the successful replacement of trees to be removed, based on the schedule found in Section 4.666.D., LDRs. Such schedule may be offset by the tree preservation schedule, for protected trees to be retained on site, as found in Section 4.664.F., LDRs.

RESPONSE: A label has been provided to preserve off site existing trees and the protection method for on-site trees to remain has been updated, see sheets L000 through L002.

Item #10: Landscape Material Standards-General

Please demonstrate compliance with the following requirements (Section 4.664, LDR):

1. At least 75 percent of all required landscaping, by category, in the form of trees and shrubs shall consist of native vegetation.
2. The ground area within required landscaped areas which is not dedicated to trees, vegetation or landscape barriers shall be appropriately landscaped and present a finished appearance and reasonably complete coverage upon planting. Ground covers shall be spaced so as to present a finished appearance and complete coverage within six months after planting. Ground covers required by this division shall consist of at least 50 percent native species.

RESPONSE: Comment notted

Item #11: Landscape Protection And Maintenance

Please add the following notes regarding landscape maintenance to the plans provided [Section 4.665, LDR]:

Protection of required landscaping.

1. Encroachment into required bufferyards and landscaped areas by vehicles, boats, mobile homes or trailers shall not be permitted, and required landscaped areas shall not be used for the storage or sale of materials or products or the parking of vehicles and equipment.

Maintenance of required landscaping.

1. Required landscaping shall be maintained so as to at all times present a healthy, neat and orderly appearance, free of refuse and debris. If vegetation which is required to be planted dies it shall be replaced with equivalent vegetation. All trees for which credit was awarded and which subsequently die, shall be replaced by the requisite number of living trees according to the standards established in the Martin County Landscape Code.
2. All landscaping shall be maintained free from disease, pests, weeds and litter. Maintenance shall include weeding, watering, fertilizing, pruning, mowing, edging, mulching or other maintenance, as needed and in accordance with acceptable horticultural practices. Perpetual maintenance shall be provided to prohibit the reestablishment of harmful exotic species within landscaping and preservation areas.
3. Regular landscape maintenance shall be provided for repair or replacement, where necessary, of any screening or buffering required as shown on this plan. Regular landscape maintenance shall be provided for the repair or replacement of required walls, fences or structures to a structurally sound condition as shown on this plan.

RESPONSE: Notes have been added see sheet L101.

Item #12: Preserve Area Interface Requirements

Please provide for the following planting requirements, pursuant to Sec 4.663.E., LDR:

A preserve area interface shall be established between required landscaping and stormwater treatment areas and preservation areas when preservation areas exist on a development site and when preserve areas abut a development site. The preserve area interface shall include a consolidation and connection of landscaping and stormwater treatment areas with preservation areas. Where more than one preservation area exists on a development site or abutting a development site multiple preserve area interfaces shall be created. Within the preserve area interface the use of plant materials shall be restricted to native species. The following preserve area interface criteria shall be documented and met for all development sites where preservation areas are identified and where preserve areas have been identified adjacent to a development site:

1. Stormwater management systems. Plantings within dry retention and detention stormwater areas abutting preserve areas shall be restricted to native trees, native shrubs and native groundcovers. Wet retention and detention stormwater areas abutting preserve areas shall be designed and planted as littoral and upland transition zone areas (preserve area interface) and connected to preserve areas pursuant to Article 4, Division 8, LDR, MCC.
2. Perimeter landscaping. Plantings within perimeter vehicular use landscape areas abutting preserve areas shall be restricted to native trees, native shrubs and native groundcovers pursuant to quantity, size and dimension requirements of section 4.663.A.4., LDR, MCC.

Add a note to the site plan and landscape plan to state that stormwater management areas are to be maintained with planted native vegetation, in perpetuity.

RESPONSE: Comment noted

K. Determination of compliance with transportation requirements - Engineering Department

Item # 1:

Page 8 - Edit narrative to replace Greater Treasure Coast Regional Planning Model (GTCRPM) with Treasure Coast Regional Planning Model version 4 (TCRPM4).

RESPONSE: Text updated in the revised Traffic Impact Analysis (rev #1)

Item # 2:

Table 5 does not include an overall intersection level of service at the project entrance. In order to accommodate safe vehicular movement and pedestrian crossing activities, please conduct a traffic signal warrant analysis for SE Cove Road at the project entrance.

RESPONSE: Highway Capacity Manual (HCM) methodology does not assign an overall intersection level of service (LOS) at an intersection with two-way stop control (no control delay for major street through/right movements to measure and average).

A preliminary MUTCD signal warrant analysis based on projected AM and PM peak hour volumes (Warrant 3) was performed with the aid of HCS+ software (outputs attached). Based on Buildout Year 2021 volumes assuming 100% enrollment, Warrant 3 would be met. Warrants may also be met in the future for pedestrian activity. However, the following should be considered:

- Charter schools typically do not operate at maximum enrollment for several years after opening, if ever. They typically open at a reduced enrollment and ramp up over a few years. This gives operators an opportunity to monitor traffic conditions at the driveways as enrollment increases and adjust to address operational issues.
- Charter schools have the ability to adjust start times, stagger grade starts, adjust vehicle loop operations, and implement traffic officers as needed to address operational issues. Per MUTCD guidance, installation of a signal should be considered only after alternative options are explored and only when volumes are present to warrant the signal.

The developer intends to work with the County to establish monitoring conditions in the development order to monitor when/if the signal is warranted per MUTCD guidance and install the signal if/when MUTCD warrant(s) are met and permitted by the County. In the interim, the school will work with the County to address operational concerns as needed with traffic officer presence at peak times, school zone establishment, and/or interim flasher/control devices to facilitate safe pedestrian crossings at the driveway.

Item # 3:

Page 16 – Project access narrative for egress and the Syncho analysis for the NB lane configuration are inconsistent with the site plan and construction plans. Storage length for the EBR is inconsistent with the construction plans and WBR can be lengthened to match field conditions.

RESPONSE: Concept plan provided in the revised Traffic Impact Analysis (rev #1) is now consistent with the Synchro analysis. Synchro outputs shows turn lane storage lengths are greater than 95% queue length demands

Item # 4:

Explain how the Southbound movement (SE Legacy Cove Circle) at the Project Drive #1 & Cove Road in Appendix D: Volume Development Worksheets were generated or provide turning movement counts.

RESPONSE: Future southbound approach volumes were estimated by applying the ITE 10th Edition trip rates to the 245 dwelling units and assigning trips at the two residential driveways per the TCRPM4 distribution. ITE estimates 45 trips in, 134 trips out in the AM peak hour and 151 trips in, 89 trips out for the PM peak hour. 33% of peak hour trips

were assigned to Cove Road west of the Cove Road driveway and associated driveway movements. 12% of peak hour trips were assigned east of the Cove Road driveway and associated driveway movements. The remaining 55% of residential trips was distributed to the Ault Avenue driveway per the model distribution.

Item # 5:

Verify Appendix E: Syncho Reports match signal timings with the Martin County Traffic Division.

RESPONSE: Signal timings used in the Synchro are included in Appendix E in the revised Traffic Impact Analysis (rev #1).

Item # 6:

The Traffic Impact Analysis does not comply with Article 5, Division 3, Section 5.64 because:

An analysis, including traffic distribution and assignment, of all links and aggregated segments or parts thereof, on the major road network on which the project traffic has an impact of at least two percent of the level of service capacity as identified in the most recent Martin County annual concurrency report. [Martin County, Fla., LDR Article 5, Division 3, Section 5.64.C.5 (2009)]

1. Distribution should equal 100 percent entering the site.
2. Redistribute trips on SE Ault Ave to roadways contained in the 2017 Roadway Level of Service Report.
3. Grow background conditions using growth rates from 2017 Roadway Level of Service Report.

If the total traffic volume is higher than the adopted level of service capacity, a more detailed analysis of level of service using accepted FDOT level of service methodology techniques must be undertaken. These techniques must be approved by the County Administrator and will include those indicated in the Highway Capacity Manual and FDOT's latest Quality/Level of Service Handbook. If the more detailed analysis indicates that the total traffic volume would be less than the adopted level of service capacity for all impacted links and/or aggregated segments, concurrency has been satisfied. If not, concurrency has not been satisfied, and the only way for concurrency to be satisfied is for a traffic congestion mitigation plan (TCMP) to be accepted by the County Administrator. The TCMP, shall propose solutions to mitigate the impacts of the development on the links on which concurrency has not been satisfied. The TCMP shall demonstrate the operating conditions of the deficient links and/or aggregated segments with project traffic operate at the adopted level of service capacity. [Martin County, Fla., LDR Article 5, Division 3, Section 5.64.C.5.a (2009)]

RESPONSE: Analysis was revised in Traffic Impact Analysis (rev #1) to address this comment. See Figure 3 showing 100% distribution at the driveway. Project trips

previously assigned to Ault Ave have been shifted to Willoughby Blvd. Growth rates from the 2017 Roadway LOS Report have been used to generate background volumes.

1. The analysis in Table 7 shows that Cove Road will have a $V/C > 1$ due to the project.

RESPONSE: The Applicant is proposing a left turn lane at the site driveway to add capacity on the relatively short segment of Cove Road from the Project Driveway to Willoughby Boulevard.

M. Determination of compliance with engineering, storm water and flood management requirements -Engineering Department

Item #1: Right Of Way Improvements:

1. Provide cross section details every 100 feet along the proposed improvements of SE Cove Road. [MARTIN COUNTY, FLA., LDR SECTION 4.843.D.2]
2. Provide station and offset notations to all proposed construction elements. Provide Begin/End Work STA (Match line STA) to the Cove Road Engineering Plan.
3. Revise Cove Road/Turn Lane: Typical Pavement Section to be consistent with the Flexible Pavement Section of Martin County Standard Detail R-10 for an Arterial Roadway. The asphaltic concrete surface course (2nd lift) should be 1.5 inches. [MARTIN COUNTY, FLA., LDR SECTION 4.843.A]
4. Provide sight triangles / sight distances on the Cove Road Engineering Plans and Landscape Plans at the intersection of SE Cove Road and the proposed driveway for the development. [MARTIN COUNTY, FLA., LDR SECTION 4.843.F (2010)] [FLORIDA DEPARTMENT OF TRANSPORTATION INDEX #546 (2016)]
5. Label all existing driveways and stormwater management system appurtenances along the proposed improvements of SE Cove Road. Currently, there are two existing residential driveways within the proposed right turn lane on SE Cove Road. [MARTIN COUNTY, FLA., LDR SECTION 4.843.D]
6. Provide adequate detail for the portion of the proposed driveway median (divider) to be constructed within the right-of-way of SE Cove Road. If the median is to be landscaped, a 4-inch mountable curb shall be used. If the median is not to be landscaped, the median shall have a surface color that contrasts with the driveway pavement surface and the driveway surface shall not be more than 3-inches above the driveway pavement surface. A maintenance agreement is required for any landscape proposed within the right-of-way of SE Cove Road. [MARTIN COUNTY, FLA., LDR SECTION 4.845.G, Table 4.19.8]
7. Eliminate the proposed striped shoulder area within the entry lane of the proposed driveway connection at SE Cove Road to avoid potential conflicts with vehicles turning into the gore area of the driveway and merging into a single drive lane. If multiple entry/exit lanes are desired for the proposed driveway, guidelines for design can be found within MARTIN COUNTY, FLA., LDR SECTION 4.845.G, Table 4.19.8/9.

8. Provide a 4-foot paved shoulder on the eastbound lane for potential bike lanes along SE Cove Road in the future. Provide the 4-foot shoulder (bike lane) in-between the eastbound lane and the proposed right-turn lane. The typical section for SE Cove Road at this property front consists of 11-foot lanes and a 4-foot paved shoulder. Revise Cove Road Engineering Plan and section details accordingly.

9. Label all proposed stormwater pipe materials throughout the Cove Road Engineering Plans. All stormwater pipe material proposed within the right-of-way shall be reinforced concrete pipe and 18-inch minimum diameter. [MARTIN COUNTY, FLA., LDR SECTION 4.385.B and Martin County Stormwater Management and Flood Protection Standards for Design and Review]

10. Provide construction details for drainage structure STM-CR2, it is unclear if this is a new or existing drainage structure. Provide a construction detail for the proposed pipe connection to the east of STM-CR2 consistent with Martin County Standard Detail R-70 and/or FDOT Standard Plans Detail 430-001.

11. Provide a minimum of 8-feet between the culvert opening and edge of pavement for all proposed mitered end sections with a slope no steeper than 6H:1V. This minimum dimension may be radial.

12. Align the radius at the exit lane to the proposed driveway to meet the proposed paved shoulder (bike lane). [MARTIN COUNTY, FLA., LDR SECTION 4.843.E]

13. Provide a stop sign and the appropriate pavement markings (stop bar) at for the driveway exit aisle at SE Cove Road. [MARTIN COUNTY, FLA., LDR SECTION 4.843.H]

14. Label all proposed curbs and gutters by type and the appropriate FDOT index throughout the Cove Road Engineering Plans. Proposed curbing within the driveway approach of SE Cove Road should be type F curb and gutter. Label and provide a detail for the appropriate curb and gutter endings. [MARTIN COUNTY, FLA., LDR SECTION 4.843.D]

15. Pursuant to Section 4.843.G., LDR, Martin County Code, in lieu of constructing a sidewalk, the applicant shall pay the cost of construction within sixty (60) calendar days of the project approval. The cost is \$25 per linear foot of property along SE Cove Road, for a resultant payment of \$2,975.

Additionally, remove the proposed sidewalk along SE Cove Road from the construction plans. [MARTIN COUNTY, FLA., LDR SECTION 4.843.G]

16. Advisory: There is a residential development currently under review, called Cove Royal, which is located roughly 600 feet east of the proposed Treasure Coast Classical Academy. The Cove Royal project is in its sixth round of review and is close to approval. If the project is approved, and moves forward with construction, there will be some roadwork on SE Cove Road which will affect the proposed roadwork from the Treasure Coast Classical Academy project. Staff suggests coordinating with the Cove Royal design team to avoid conflicts between the two sets of plans.

RESPONSE: Please see revised Cove Road Engineering Plans, Sheets C710 through C712, for requested plan revisions, additional cross-sections, station and offsets, sight triangles, revised stripping, etc. It is acknowledged that the developer will pay into the County sidewalk fund in lieu of constructing a sidewalk along the Cove Road frontage.

Item #2: Off-Street Parking:

1. Provide a typical pavement section detail for the proposed drive aisle(s) within the proposed development.
2. Provide proposed grade elevations every 50 feet for the proposed sidewalk to be constructed within the development. Provide a typical sidewalk section detail demonstrating compliance with the Americans with Disabilities Act. [MARTIN COUNTY, FLA., LDR SECTION 4.843.G and the Florida Accessibility Code for Construction]
3. Provide proposed edge of pavement grade elevations along all travel lanes/aisles adjacent to the proposed parking lot area. [MARTIN COUNTY, FLA., LDR SECTION 4.843.D]
4. Include all applicable plans and construction details for the proposed 2-foot high gravity wall with 32-inch traffic railing and junction slab to the construction plans.
5. Currently, excavation and/or fill construction activities are being proposed within 5 feet of the wetland buffer zones. Excavation and/or fill are not permitted within 5 feet of a wetland buffer zone. Revise all section details to demonstrate that this requirement can be achieved. [MARTIN COUNTY, FLA., LDR SECTION 4.2.E]
6. Provide for clear access to all stormwater control structures within the project. [MARTIN COUNTY, FLA., LDR SECTION 4.348.H]
7. Label the appropriate loading zone/spaces on the construction plans and site plan; a minimum number of one loading space is required for this usage. Loading spaces shall be not less than ten feet in width and 25 feet in length. [MARTIN COUNTY, FLA., LDR SECTION 4.626.B.4]
8. Staff noticed the location of the interior sidewalk involves multiple conflict points between pedestrians and vehicular traffic. There are currently six crosswalks shown between SE Cove Road and the school building. Staff suggests relocating the sidewalk to the eastern side of the entrance drive to eliminate as many conflict points as possible.

RESPONSE: Please see revised onsite paving, grading and drainage plans and applicable section details. Please see note #22 on Sheet C600 for maximum sidewalk slopes. The proposed retaining wall has been revised to be a modular block wall designed by others at the time of construction. The site grading has been revised to not have any fill within the 5' buffer to the wetland buffer. The crosswalks in the vicinity of the parking field are also for the pedestrians who have parked their car and are traversing to the building.

Item #3: Stormwater Management Submitted Materials:

1. Provide pre-development and post-development basin maps for the entire project area. The sizes of the basins in acres must be shown, and the basin boundaries shall be displayed with a thick dashed line. Flow paths within each basin shall be indicated throughout. Concentrated flow paths, such as basin to basin connections, or basin to outfall connections, shall be displayed and labeled with volumetric flow rates. Topographic elevations, both existing and proposed, should be displayed. [Martin County Stormwater Management and Flood Protection Standards for Design and Review, Section 1.4.B.8.c (2001)]

2. The drainage calculations reference a geotechnical report by Dunkelberger Engineering & Testing, Inc. However, the report was not included in the application. Provide the missing report with the next submittal.

RESPONSE: Please see revised Drainage Calculations and included geotechnical reports.

Item #4: Stormwater Management Report:

1. The proposed post-development discharge rate of 11.41 CFS exceeds the previously permitted rate of 8.13 CFS. Either reduce the proposed discharge to be equal to or less than the permitted rate, or provide a new/modified SFWMD ERP with a revised allowable discharge rate.
2. The use of infiltration as an outfall during the ICPR routing will not be accepted. Infiltration is only permitted to demonstrate system recovery after cessation of the storm events. [Martin County, Fla., LDR Section 4.385.C.1.a (2010)]
3. The finished floor elevations should be greater than the predicted 100-year 3-day storm event with zero discharge. The elevations shown in the report and ICPR model have included discharge. Revise accordingly.
4. It is not clear if the minimum perimeter berm elevations are met along all of the basin boundaries. Demonstrate the minimum elevations are met along the western limits of Basin B4, the western and northern limits of Basin B2, and the shared boundary between Basins B4 and B2.
5. Display all improvements from parcels 343841001000000530 and 343841001000000540 on the construction plans. Provide topographic elevations for the improved parcels, and include finished floor elevations for the two houses.
6. Stormwater operation and maintenance plan shows conflicting information for roadway sweeping. Under the "Frequency" heading, yearly sweeping is recommended. However, under the "Recommended Work Sequence" heading, monthly sweeping is recommended. Revise for consistency.

RESPONSE: Please see revised Drainage Calculations and revised Drainage Plans. Including the recent improvements adjacent to the property. The FFE for the two house are 21.0' which is above our proposed building FFE of 18.25.

N. Determination of compliance with addressing and electronic file submittal requirements – Growth Management and Information Technology Departments

Addressing

Item #1:

Please add SE to Cove Rd on the site plan.



RESPONSE: Please see revised Site Plan

O. Determination of compliance with utilities requirements - Utilities Department

Water and Wastewater Service

Item #1:

Drawings Must Be Approved

The construction drawings must be approved by the Utilities and Solid Waste Department prior to sign off by the Department of permit applications and agreements. [ref. Code, LDR, s.10.2.B.5. Code, LDR, Art.10]

RESPONSE: Comment noted. Comments have been received from Martin County utilities and have been included within the included revised construction plans.

Item #2:

The applicant must submit an executable, final draft water and wastewater service agreement to the Growth Management Department for review by the Legal and Environmental Services departments prior to approval of the final site plan. The 'Water and Wastewater Service Agreement' must be executed and the applicable fees paid within sixty 60 days of final Martin County approval of the request.

RESPONSE: Please see attached water and wastewater service agreement information form.

O. Determination of compliance with utilities requirements - Utilities Department

Wellfield and Groundwater Protection

Item #1: Irrigation Source

The applicant must submit information concerning the source for irrigation prior to approval of the Site Plan. [ref. Code, GEN, s.159.164 Code, GEN, Ch.159, Art.6]

RESPONSE: Please see irrigation plan for annotation of source noted.

P. Determination of compliance with fire prevention and emergency management requirements – Fire Rescue Department

Item #1: Water Supply

Needed Fire Flow Requirements for Buildings



Identify the Needed Fire Flow Requirements for all buildings / structures. Fire flow calculations shall be prepared and sealed by a professional engineer currently licensed in the state of Florida for each newly constructed building.

The Needed Fire Flow Requirement must be in accordance with Florida Fire Prevention Code, N.F.P.A. 1, Chapter 18.4.5 (latest adopted edition). The Guide for Determination of Needed Fire Flow, latest edition, as published by the Insurance Service Office (ISO). All calculations must be demonstrated and provided.

RESPONSE: Please see included fire protection criteria on sheet FP1.1 which describes the design approach and identifies the flow test information. Fire sprinkler shop drawings will be submitted under a separate permit prior to work.

Item #2: Locations of Fire Department Connections
Fire department connections shall be located:

1. On the street side of buildings.
2. Where fully visible and recognizable from the street or nearest point of fire department apparatus accessibility.
3. And arranged so that hose lines can be attached to the inlets without interference from nearby objects, including buildings, fences, posts, or other fire department connections. [14:6.3.5.1]
4. Not more than 100 ft. from the nearest fire hydrant connected to an approved water supply. [14:6.3.5.4]
5. On the same side of the roadway or fire lane as the nearest fire hydrant. [AHJ]
6. Located 1 1/2 times the height of building away to remove from collapse zone. [AHJ]
7. In a place that will allow a space four feet (4') on both sides of the fire department connection centerline that must be kept open at all times.
8. On the discharge side of the double detector check valve.

RESPONSE: Please see revised Sheet C900 for revised location of the proposed FDC.

Emergency Management

Item #1: Shelter Requirements, Educational Institutions

This project is subject to the requirement that the structure must be constructed to meet state requirements to serve as an emergency evacuation shelter. Please demonstrate that this project will meet this requirement as set forth in Comment #2, Item #11, Section G of this report. The building standards for shelters are provided as Exhibit 1 to this report for your reference.



Please be advised that in the event of an emergency, the emergency management director may require this facility be made available for use as an emergency shelter pursuant to 252.38(1)(d), 252.385(4)(a), and 1002.33(1), Fla. Stat. (2018).

RESPONSE: The final determination of designation as an emergency shelter will be confirmed at time of building permit. Per State Code Charter schools are exempt from the emergency shelter requirement.

Q. Determination of compliance with Americans with Disability Act (ADA) requirements – General Services Department

Item #1: ADA Compliance

1. Provide the required detectable warning surfaces at all proposed ADA curb ramps to be constructed within the development. All detectable warning surfaces proposed within the SE Cove Road right-of-way shall be consistent with Martin County Standard Detail R-120B; revise the Final Site Plan and Construction Plans accordingly. [Martin County, Fla., LDR Section 4.843.G.2 and the Florida Accessibility Code for Construction]
2. Provide an ADA curb ramp at the northeast side of the building to connect with the proposed sidewalk and cross walk; revise the Final Site Plan and Construction Plans accordingly. [Martin County, Fla., LDR Section 4.843.G.2 and the Florida Accessibility Code for Construction]
3. Provide sidewalk connectivity/accessible route to all proposed elements of the development (basketball court); revise the Final Site Plan and Construction Plans accordingly. [Martin County, Fla., LDR Section 4.844.B.1 and the Florida Accessibility Code for Construction]

RESPONSE: Please see revised plans for addition of detectable warning stripes, curb ramp, and sidewalk to basketball court. The proposed sidewalks and ramps within the SE Cove Road ROW have been removed.



DEVELOPMENT REVIEW APPLICATION

A. General Information:

1. **Type of Application:** Major Final Site Plan

2. **Proposed Development's Name:**
Treasure Coast Classical Academy

3. **Former Development's Name:**
Driftwood Cay

4. **Previous Project Number:** D054-002

5. **Pre-Application Meeting Date:**

6. **Property Owner:**

Name or Company Name Driftwood Cay of Stuart, LLC

Company Representative Jeremy Lemaster

Address P.O. Box 1067

City Palm City State FL Zip 34991

Phone 772 - 287 - 2010 Fax 772 - 287 - 4010

Email Planning@MedalistBuildingGroup.com

7. **Agent:**

Not Applicable

Name or Company Name Medalist Building Group, LLC

Company Representative Ella Taylor

Address 2740 SW Mapp Road

City Palm City State FL Zip 34990

Phone 772 - 287 - 2010 Fax 772 - 287 - 4010

Email Planning@MedalistBuildingGroup.com

8. **Contract Purchaser:**

Not Applicable

Name or Company Name Summit Construction Group

Company Representative Todd Lucas

Address 421 South Summerlin Avenue

City Orlando State FL Zip 32801

Phone 267 - 331 - 4882 Fax 267 - 331 - 4889

Email Todd.Lucas@Summitcmgroup.com

9. **Land Planner:**

Same as the Agent

Name or Company Name

Company Representative

Address

City State Zip

Phone - - Fax - -

Email

Select from the list

10. Landscape Architect:

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

Select from the list

11. Surveyor:

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

Select from the list

12. Civil Engineer:

Name or Company Name Kimley-Horn
Company Representative Jordan Haggerty
Address 116 South Kentucky Avenue
City Lakeland State FL Zip 33801
Phone 863 - 226 - 6859 Fax _____ - _____ - _____
Email Jordan.Haggerty@Kimley-horn.com

Select from the list

13. Traffic Engineer:

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

Select from the list

14. Architect:

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

Select from the list

15. Attorney:

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

16. Environmental Planner:

Same as Agent

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

17. Other Professional:

Name or Company Name _____
Company Representative _____
Address _____
City _____ State _____ Zip _____
Phone _____ - _____ - _____ Fax _____ - _____ - _____
Email _____

18. Parcel Control Number(s):

343841001000000501 _____
343841000000000307 _____

19. Certifications by Professionals:

Section 10.2.D.7., Article 10, Development Review Procedures, Land Development Regulations (LDR), Martin County Code (MCC) provides the following:

When reviewing an application for a development permit that is certified by a professional listed in s. 403.0877, F.S., the County shall not request additional information from the application more than three times, unless the applicant waives the limitation in writing. If the applicant believes the request for additional information is not authorized by ordinance, rules, statute, or other legal authority, the County, at the applicant's request, shall proceed to process the application for approval or denial.



This box must be checked if the applicant waives the limitations.

B. Applicant or Agent Certification:

I have read this application, and to the extent that I participated in the application, I have answered each item fully and accurately.

Applicant's signature
JEREMY LEMASTER, MGMR

Printed name

08-08-2018

Date

NOTARY ACKNOWLEDGMENT

STATE OF Florida

COUNTY OF Martin

I hereby certify that the foregoing instrument was acknowledged before me this 8 day of August, 2018, by Jeremy Lemaster.

He or she

☒ is personally known to me or ☐ has produced _____ as identification.

[Signature]
Notary public signature

Leyla Jones
Printed name

State of Florida at-large





September 13th, 2018

Mr. Eddie Herron
Manager OSP Planning & Engineering Design
AT&T Florida
120 N K Street, Lake Worth, FL 33460

RE: AT&T Service Availability – South Side of Cove Road between Atlantic Ridge Drive and Grace Lane, to proposed charter school “Treasure Coast Classical Academy”.

Dear Mr. Herron

With a Major Final Site Plan Application, Martin County requires documentation in the form of letters that have been provided to each utility company (telephone, cable, electric and waste management) pertaining to the availability of services and review of utility easements. Enclosed please find the proposed site plan for your review and comment.

We are proposing to develop the site located at 1400 SE Cove Road in Stuart, previously known as Driftwood Cay (D054-002). The development will take place on two (2) lots under the following PCNs: 34-38-41-001-000-00050-1 & 34-38-41-000-000-00030-7. The proposed development will consist of a 65,000 square foot building to be utilized as a charter school that will host approximately 1,000 students and 58 employees.

We are requesting a letter from you to verify the availability of phone and cable services to accommodate the proposed school. Can you please verify that these services are available to this site?

Should you have any additional questions please feel free to contact me at (772) 287-2010 ext. 5.

Sincerely,

Ella Donaho Taylor

Ella Donaho Taylor
Director of Land Planning
Medalist Building Group, LLC
Planning@MedalistBuildingGroup.com
(772) 287-2010 ext. 5



December 1st, 2018

Comcast Service Center
Comcast Corporation
1495 NW Britt Road
Stuart, FL 34994

RE: Comcast Service Availability – South Side of Cove Road between Atlantic Ridge Drive and Grace Lane, to proposed charter school “Treasure Coast Classical Academy”.

To Whom It May Concern

With a Major Final Site Plan Application, Martin County requires documentation in the form of letters that have been provided to each utility company (telephone, cable, electric and waste management) pertaining to the availability of services and review of utility easements. Enclosed please find the proposed site plan for your review and comment.

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Sincerely,

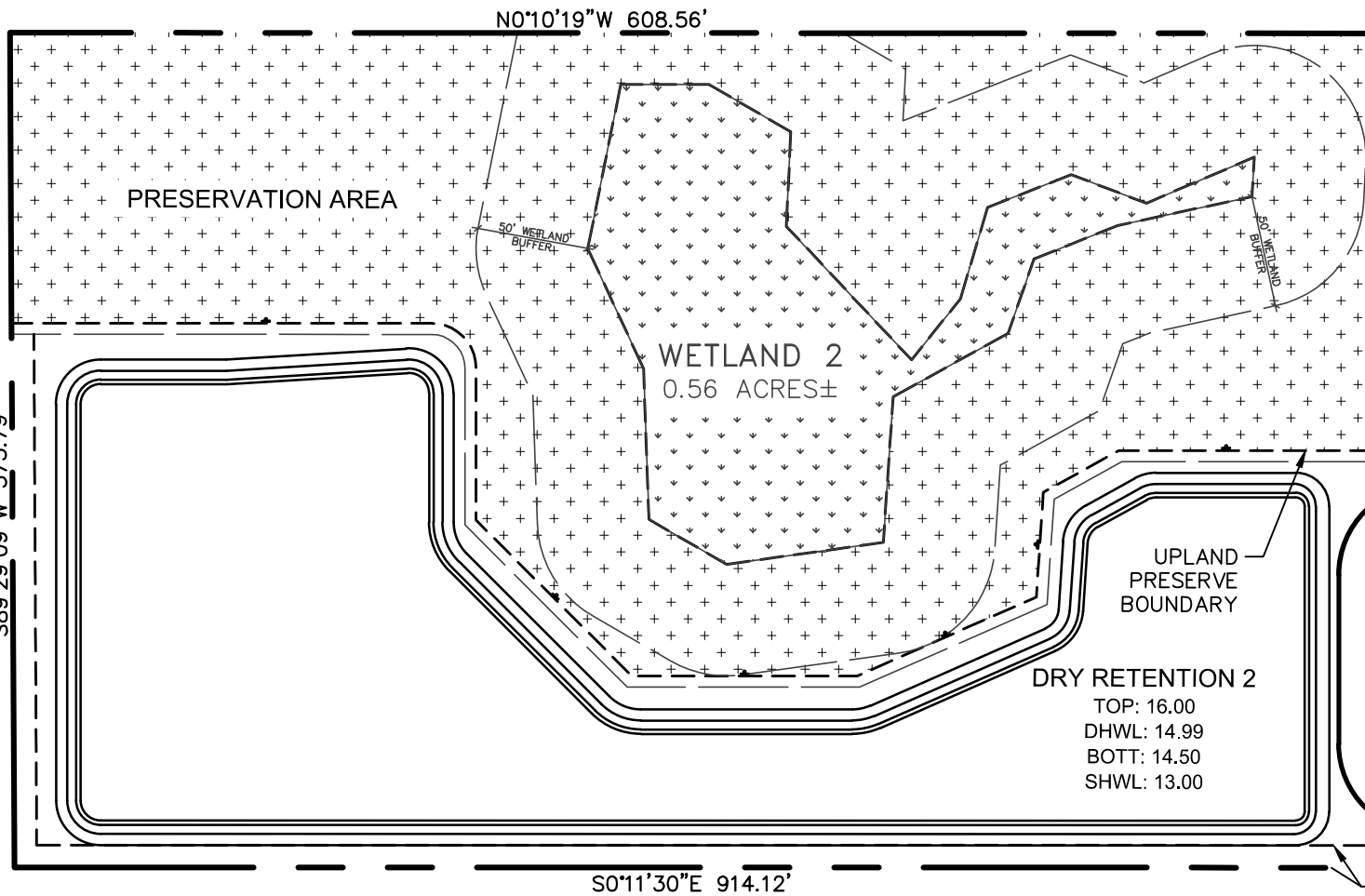
Ella Donaho Taylor

Ella Donaho Taylor
Director of Land Planning
Medalist Building Group, LLC
Planning@MedalistBuildingGroup.com
(772) 287-2010 ext. 5

Plotted By: Haggerty, Jordan Sheet: Set-Treasure Coast Classical Academy Layout: C 500 FINAL SITE PLAN August 08, 2018 02:07:05pm K:\LAK - Civil\046403000 - Cove Rd Charter School\CADD\CONSTR\C 500 FINAL SITE PLAN.dwg This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: RE 1/2A
EXISTING USE: SINGLE FAMILY

FUTURE LAND USE: RECREATIONAL
PR STATE PARK
EXISTING USE:



FUTURE LAND USE: RURAL DENSITY
EXISTING ZONING: RE 2A
EXISTING USE: SAMARITAN HOUSE

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: RE 1/2A
EXISTING USE: VACANT

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: RE 1/2A
EXISTING USE: VACANT

5' UPLAND PRESERVE
CONSTRUCTION SETBACK
BOUNDARY

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: RE 1/2A
EXISTING USE: VACANT

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: RE 1/2A
EXISTING USE: VACANT

WETLAND 1
2.58 ACRES±

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: RE 1/2A
EXISTING USE: VACANT

FUTURE LAND USE: RURAL DENSITY
EXISTING ZONING: RE 2A
EXISTING USE: SAMARITAN HOUSE

FUTURE LAND USE: ESTATE DENSITY
EXISTING ZONING: A1
EXISTING USE: SINGLE FAMILY HOME

SITE DATA

SITE AREA: 619,423 SF 14.22 AC
LOCATION: SECTION 34, TOWNSHIP 36 S, RANGE 41 E
ADDRESS: 1400 SE COVE RD, PALM CITY, FL 34991
ZONINGS: RE 1/2A
PCN: 34-38-41-001-000-00050-1 & 34-38-41-000-000-00030-7

FUTURE LAND USE:

ESTATE DENSITY
OPEN SPACE: 123,710 SF 2.84 AC 20.0%
OPEN SPACE REQUIRED: 454,766 SF 10.44 AC 73.42%
WETLAND PRESERVE AREA: 133,294 SF 3.06 AC 31.6%
UPLAND PRESERVE AREA: 141,134 SF 3.24 AC 22.8%
OTHER OPEN SPACE: 180,338 SF 4.14 AC 29.11%

IMPERVIOUS AREA: 164,657 SF 3.78 AC 27.6%
BUILDING FOOTPRINT AREA: 32,670 SF 0.75 AC 5.3%
PAVEMENT, ROADS: 122,839 SF 2.82 AC 20.4%
SIDEWALK, PADS, ETC.: 9,148 SF 0.21 AC 1.5%

BUILDING SETBACKS
FRONT: 25' PROVIDED: 50'
REAR: 20' 182'
SIDE: 10' 54'

BUILDING DATA
BUILDING COVERAGE: 32,845 SF 5.7%
HEIGHT: TWO STORY
TOTAL GROSS FLOOR AREA: 65,000 SF
EDUCATIONAL INSTITUTION: 65,000 SF 100%

VERTICAL DATUM
ALL ELEVATIONS SHOWN HEREON ARE IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88), AND ARE BASED ON MARTIN COUNTY BENCHMARK "US-JB", HAVING AN ELEVATION OF 13.39 FEET.

FLOOD ZONE
SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE "X - OTHER AREAS", ACCORDING TO FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 12085C10132G, DATED MARCH 16, 2015.

PRESERVE AREAS ARE NOT TO BE ALTERED EXCEPT AS DEFINED IN THIS PAMP WITHOUT WRITTEN PERMISSION OF THE MARTIN COUNTY BOARD OF COUNTY COMMISSIONERS

PARKING CALCULATIONS

BUILDING/USE	REQ'D RATIO	REQ'D SPACES
INSTITUTIONAL	1 SPACE/2 EMPLOYEES*	29
	1 SPACE/30 STUDENTS*	34
	TOTAL	63

*1000 STUDENTS 58 EMPLOYEES

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	60	140
ACCESSIBLE PER ADA	3	5
TOTAL PARKING	63	145
BICYCLE RACK	1 BIKE RACK	10 BIKE RACK
BENCH	1 BENCH	1 BENCH

TIMETABLE FOR DEVELOPMENT

THIS DEVELOPMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TIMETABLE OF DEVELOPMENT AS SET FORTH BELOW

BUILDING PERMITS MUST BE OBTAINED WITHIN ONE YEAR AND CONSTRUCTION MUST BE COMPLETE WITHIN TWO YEARS OF FINAL SITE PLAN APPROVAL

PRIOR TO ISSUANCE OF ANY BUILDING PERMIT, CORE INFRASTRUCTURE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO STORMWATER MANAGEMENT SYSTEM, APPROPRIATE NPDES COMPONENTS, STABILIZED ROADWAYS, UTILITIES AND ADEQUATE FIRE PROTECTION, MUST BE SUBSTANTIALLY COMPLETE AS DETERMINED BY THE COUNTY ENGINEER.

PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, ALL REQUIRED IMPROVEMENTS, AS IDENTIFIED ON THE FINAL SITE PLAN, MUST BE SUBSTANTIALLY COMPLETE AS DETERMINED BY THE COUNTY

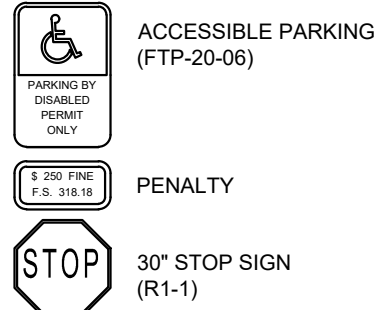
PROJECT TEAM CONTACTS

CIVIL ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
JORDAN HAGGERTY, P.E.
116 SOUTH KENTUCKY AVENUE
LAKELAND, FL 33801
TEL: (863) 701-8702
EMAIL: JORDAN.HAGGERTY@KIMLEY-HORN.COM

DEVELOPER/APPLICANT:
CHARTER SCHOOLS DEVELOPMENT GROUP, LLC
TODD LUCAS
421 SOUTH SUMMERLIN AVE.
ORLANDO, FL 32801
TEL: (407) 897-9616
EMAIL: TODD.LUCAS@SUMMITCMGROUP.COM

SURVEYOR:
GCY, INC.
PETER ANDERSEN, PSM
1505 SW MARTIN COUNTY HIGHWAY
PALM CITY, FL 34990
TEL: (772) 286-8083

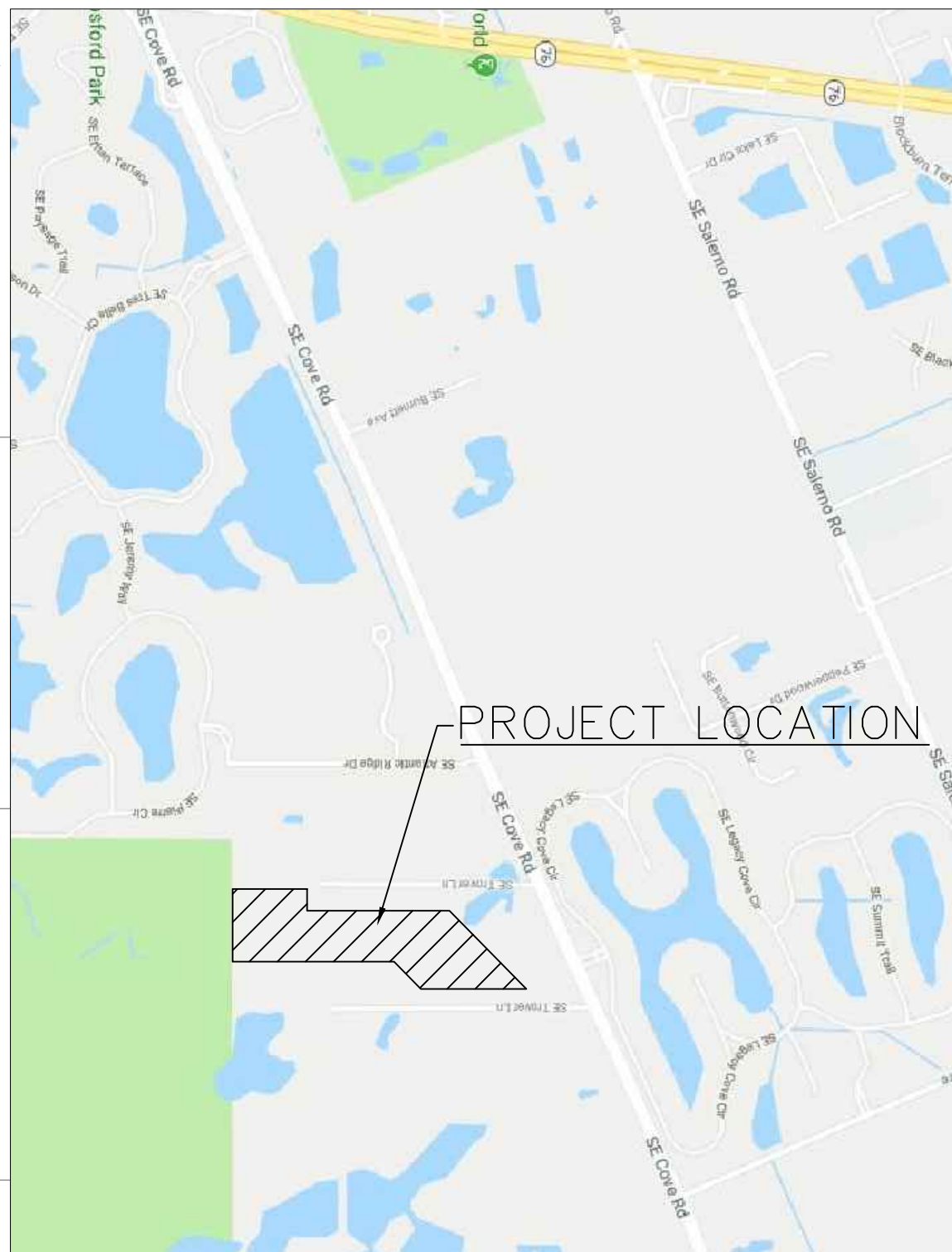
SIGN LEGEND



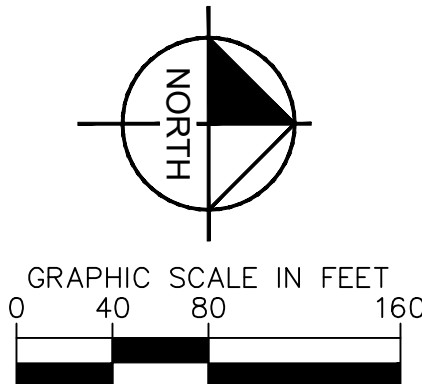
GENERAL NOTES:

- A REGISTERED LAND SURVEYOR SHALL REPLACE SURVEY MONUMENTS OR BENCHMARKS, WHICH HAVE TO BE DISTURBED BY THIS WORK, UPON COMPLETION OF WORK.
- HANDICAP PARKING SPACES SHALL BE MARKED BY THE INTERNATIONAL HANDICAP SYMBOL AND EACH SPACE SHALL BE PROVIDED WITH A SIGN STATING "PARKING BY DISABLED PERMIT ONLY". ALL HANDICAP ACCESS POINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE HANDICAP CODES.
- ALL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS OF MARTIN COUNTY.
- PRIOR TO STARTING CONSTRUCTION, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS AND/OR EASEMENTS BEFORE BEGINNING CONSTRUCTION.
- ALL PARKING LOT DIMENSIONS ARE TO THE FACE OF THE CURB AND/OR CENTER OF STRIPING (EXCEPT WHERE SHOWN).
- ALL BUILDING DIMENSIONS ARE TO THE FACE OF THE BUILDING.
- PARKING STALLS TO BE MARKED WITH WHITE PAINT.
- ALL PAVEMENT MARKINGS WITHIN THE FDOT ROW, AND WHERE OTHERWISE SPECIFIED, SHALL BE THERMOPLASTIC.
- LIGHTING TO BE NON-GLARE AND AVOID SPILLAGE INTO ADJACENT PROPERTY.
- MAINTENANCE OF TRAFFIC (MOT) SET UP MUST BE SUPERVISED BY A CERTIFIED PERSON. MOT SHALL BE PER FDOT INDEX 600 AND 660.
- AS-BUILT PLANS ARE REQUIRED FROM CONTRACTOR AT TIME OF COMPLETION.
- REMOVAL OF EXISTING CURB AND SIDEWALK SHOULD BE TO THE NEAREST JOINT.
- ALL CURBING SHALL BE PER FDOT INDEX #300.
- ALL SIGNAGE SHALL COMPLY WITH WITH MARTIN COUNTY ORDINANCES.
- SITE CONSTRUCTION SHALL BE PER CITY OF MARTIN COUNTY SPECIFICATIONS.
- FOR ALL SIDEWALKS THE MAXIMUM CROSS SLOPE IS 2.0% AND THE MAXIMUM LONGITUDINAL SLOPE IS 5.0% WHEN SLOPES EXCEED 5.0% A HANDRAIL PER FDOT INDEX 820 SHALL BE PROVIDED.
- CURB RAMPS OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH THE FLORIDA BUILDING CODE SECTION 11-4.7 CURB RAMPS.
- UNLESS OTHERWISE NOTED ALL THE SIGNING AND PAVEMENT MARKINGS SHALL BE PROVIDED IN ACCORDANCE WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), FY 2017-18 FDOT DESIGN STANDARDS, AND MARTIN COUNTY TRAFFIC STANDARDS.
- THESE CONSTRUCTION DOCUMENTS ARE CONSISTENT WITH THE APPLICABLE CITY OF MARTIN COUNTY PLAN STANDARDS AND PROVISIONS.
- ALL AFFECTED SIDEWALKS, RAMPS, AND CROSSWALKS WILL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.
- ALL WORK PERFORMED WITHIN THE FDOT RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE FY 2017-18 EDITION OF FDOT DESIGN STANDARDS, SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE UTILITY ACCOMMODATION MANUAL.

LOCATION MAP



CALL 2 BUSINESS
DAYS BEFORE
YOU DIG
IT'S THE LAW!
DIAL 811
Know what's below.
Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.



Kimley»Horn

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116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801
PHONE: 863-701-8702
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
JORDAN HAGGERTY, P.E.
FL LICENSE NUMBER
80511
DATE: ---

KHA PROJECT
046403000
DATE
AUGUST 2018
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

FINAL SITE PLAN

TREASURE COAST
CLASSICAL ACADEMY
PREPARED FOR
SUMMIT CONST. GROUP
FL
MARTIN COUNTY

SHEET NUMBER
C 500

REVISIONS

DATE BY

*Drainage Calculations
SFWMD and Martin County*

Treasure Coast Classical Academy
*1400 SE Cove Road
Stuart, Florida 34997
Section 34, Township 38S, Range 41E*

Prepared for:

Todd Lucas
Summit Construction Group
421 South Summerlin Avenue
Orlando, Florida 32801

August 2018 (Revised Dec. 2018)

© Kimley-Horn and Associates, Inc. 2018
116 S. Kentucky Ave., Lakeland, FL 33801
CA 00000696 (863) 701-8702

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Lakeland, Florida
046364001*

August 2018 (Revised Dec. 2018)

© Kimley-Horn and Associates, Inc. 2018
116 S. Kentucky Ave., Lakeland, FL 33801
CA 00000696 (863) 701-8702

*Jordan L. Haggerty, P.E.
FL P.E. # 80511*

Bradley A. Younts

*This item has been electronically signed and sealed by
Jordan L. Haggerty, P.E. on 12/11/2018 using a digital
signature.
Printed Copies of this document are not considered signed
and the signature must be verified on any electronic copies.*

TABLE OF CONTENTS

1	SUMMARY	3
1.1	LOCATION	3
2	PRE-DEVELOPMENT CONDITIONS.....	3
2.1	SOILS.....	3
2.2	GROUNDWATER	3
2.3	FLOODZONE.....	4
2.4	ENVIRONMENTAL SUMMARY	4
2.5	PRE-DEVELOPMENT DRAINAGE.....	4
2.6	PRE-DEVELOPMENT DISCHARGE RATES.....	4
3	PROPOSED DEVELOPMENT	5
3.1	REQUIRED PERMITS AND REVIEWS	5
3.2	POST-DEVELOPMENT STORM DESIGN PARAMETERS	5
3.3	STORMWATER MANAGEMENT/BASINS.....	6
3.3.1	CN CALCULATIONS.....	6
3.3.2	TIME OF CONCENTRATION	6
3.3.3	TREATMENT VOLUME (TV)	6
3.3.4	RETENTION STAGE/STORAGE	7
3.3.5	TV RECOVERY	7
3.3.6	NET NUTRIENT IMPROVEMENT ANALYSIS.....	8
3.3.7	WATER QUALITY ANALYSIS.....	8
3.3.8	POST-DEVELOPMENT RUNOFF	8
3.4	WETLAND IMPACTS	10
3.5	FLOOD PLAIN IMPACTS	10
4	SYSTEM CONSTRUCTION AND MAINTENANCE.....	10
5	COMPLIANCE STATEMENT	10

TABLE OF CONTENTS (CONTINUED)

EXHIBITS

LOCATION MAPS

VICINITY MAP.....	EXHIBIT A-1
AERIAL PHOTO.....	EXHIBIT A-2
USGS QUADRANGLE MAP.....	EXHIBIT A-3
NRCS SOIL SURVEY MAP.....	EXHIBIT B
FEMA FLOOD INSURANCE RATE MAP.....	EXHIBIT C
POST-DEVELOPMENT DRAINAGE BASIN MAP.....	EXHIBIT D

APPENDICES

CURVE NUMBER CALCULATIONS.....	APPENDIX 1
TREATMENT VOLUME & STAGE STORAGE CALCULATIONS	APPENDIX 2
PRE/POST-DEVELOPMENT DRAINAGE ROUTING ANALYSIS (ICPR).....	APPENDIX 3
TREATMENT VOLUME RECOVERY ANALYSIS (PONDS).....	APPENDIX 4
NET NUTRIENT IMPROVEMENT ANALYSIS (BMPTRAINS).....	APPENDIX 5
PREVIOUSLY APPROVED AND PERMITTED DRAINAGE REPORT SUPPORTING DOCUMENTS.....	APPENDIX 6

1 SUMMARY

The proposed development, "Treasure Coast Classical Academy", located on a ±14.22-acre parcel in Martin County, Florida, includes the proposed development of an educational institution building at 65,000 s.f. (2 story), recreational fields, 3.30 acres of upland preserve area, and vehicular parking areas along with the associated stormwater management system. The project area is comprised of six (6) post-development basins (Basin B1, Basin B2, Basin B3-A, Basin B3-B, Basin B3-C, and Basin B4) and a stormwater management system that is designed to treat and attenuate runoff from the 25-yr/3-day storm event per SFWMD and Martin County criteria. The proposed stormwater management system will be a major modification to the previously approved SFWMD ERP No. 43-02792-P. The proposed stormwater management system has been designed to comply with the South Florida Water Management District and Martin County.

1.1 LOCATION

The project is located south of SE Cove Road across from the Cove Isle Subdivision, west of the Samaritan House for Boys, east of the Dr. David L. Anderson Middle School, and north of the Atlantic Ridge Preserve State Park. The general site location is shown superimposed on a vicinity map (*See Exhibit A-1*) along with an aerial photograph (*See Exhibit A-2*), and a USGS Quad map (*See Exhibit A-3*).

2 PRE-DEVELOPMENT CONDITIONS

The project site is currently vacant, undeveloped, and has an existing SFWMD ERP No. 43-02792-P.

2.1 SOILS

Existing soils were determined by the U.S. Department of Agriculture – National Resources Conservation Service and subsequently published in the Martin County Soil Survey Report. The predominant soil types on-site were identified as Waveland and Immokalee Fine Sands (Hydrologic Group A/D) and Waveland and Immokalee Fine Sands, depressional (Hydrologic Group A/D); a Natural Resources Conservation Service (NRCS) Soils Map has been provided (*See Exhibit B*).

Dunkelberger Engineering & Testing, Inc., a Terracon company, performed a Geotechnical Engineering Investigation for the site. Please see attached, under separate cover, the Geotechnical report for subsurface evaluation dated March 12, 2015.

2.2 GROUNDWATER

The seasonal high groundwater levels were estimated by Dunkelberger Engineering & Testing, Inc. and are included as part of their Geotechnical Engineering Report. Based on the report and the existing ERP permit, it is estimated that the seasonal high groundwater

level is at an elevation of 15.00' in the vicinity of proposed Dry Retention 1A & 1B, 14.00' in the vicinity of Dry Retention 2, and 13.00' in the vicinity of proposed Dry Retention 3 and Wet Detention 4. The estimated SHWL for the wetlands were field set, surveyed and permitted as 14.95' for Wetland 1 and 12.62 for Wetland 2. Please refer to the attached, under separate cover, a copy of the aforementioned Geotechnical Exploration Report and the previously approved Stormwater Management Report.

2.3 FLOODZONE

The project site lies entirely within Flood Zone "X" (*See Exhibit C*), and as shown on FEMA Map Number 12085C0301G, dated March 3, 2015. Flood Zone "X" denotes areas outside of a designated 100-year flood plain.

2.4 ENVIRONMENTAL SUMMARY

Two existing wetlands are located onsite and have been surveyed by GCY, Inc. and approved by SFWMD, as part of the existing ERP No. 43-02792-P. The existing wetland SHWLs and stage/storage relationships have also been approved by the SFWMD and Martin County. There are no proposed wetland impacts associated with this proposed development.

2.5 PRE-DEVELOPMENT DRAINAGE

The existing pre-development drainage characteristics are detailed and discussed within the previously permitted SFWMD ERP No. 43-02792-P.

2.6 PRE-DEVELOPMENT DISCHARGE RATES

The pre-development discharge rates of the Treasure Coast Classical Academy project were previously determined and documented within the "Stormwater Management Report" of the previously approved Driftwood Cay – Cove Road ERP No. 43-02792-P. Per ERP No. 43-02792-P, the permitted pre-development discharge rates for the Treasure Coast Classical Academy project is 8.13 cfs.

3 PROPOSED DEVELOPMENT

The proposed development, "Treasure Coast Classical Academy", located on a ±14.22-acre parcel in Martin County, Florida, includes the proposed development of an educational institution building at 65,000 s.f. (2 story), recreational fields, 3.30 acres of upland preserve area, and vehicular parking areas along with the associated stormwater management system. The project area is comprised of six (6) post-development basins (Basin B1, Basin B2, Basin B3-A, Basin B3-B, Basin B3-C, and Basin B4) and a stormwater management system that is designed to treat and attenuate runoff from the 25-yr/3-day storm event per SFWMD and Martin County criteria. The proposed stormwater management system will be a major modification to the previously approved SFWMD ERP No. 43-02792-P. The proposed storm water management system has been designed to comply with the South Florida Water Management District and Martin County.

Post-Development Basin Summary Table						
Basin Name	Basin B1	Basin B2	Basin B3-A	Basin B3-B	Basin B3-C	Basin B4
Area	1.00 acres	7.37 acres	2.95 acres	1.16 acres	3.87 acres	4.98 acres
CN	95	89	91	86	89	85
TC	10.0 min.	30.0 min.	10.0 min.	10.0 min.	10.0 min.	25.0 min.
Discharge Point	Basin B2	Basin B4	Basin B3-C	Basin B3-C	Basin B4	The Atlantic Ridge Preserve State Park

3.1 REQUIRED PERMITS AND REVIEWS

- Martin County Major Final Site Plan Review
- South Florida Water Management District (SFWMD) Environmental Resource Permit (Major Modification)
- NPDES
- FDEP Water & Sewer

3.2 POST-DEVELOPMENT STORM DESIGN PARAMETERS

Per the previously permitted and approved SFWMD ERP No. 43-02792-P, the following design storms will be utilized:

Storm Frequency	Storm Duration	Rainfall
100 Years	3 Days	15.00 Inches
25 Years	3 Days	12.00 Inches
10 Years	1 Day	7.00 Inches
3 Years	1 Day	5.25 Inches

3.3 STORMWATER MANAGEMENT/BASINS

The stormwater management system is designed to meet the requirements of the SFWMD, and Martin County. As previously mentioned, the proposed project consists of six (6) post-development basins (Basin B1, Basin B2, Basin B3-A, Basin B3-B, Basin B3-C, and Basin 4). Control structures within the proposed ponds (Dry Retention 1A & 1B, Dry Retention 2, Dry Retention 3, and Wet Detention 4) have been designed to attenuate stormwater runoff to a flow rate less than the pre-development condition and to provide pollution abatement. Proposed control structures within Wetlands 1 and 2 have been designed to preserve their natural wetland hydroperiods and maintain pre-development storm-event stages within an acceptable range. As stated in the previously approved and permitted SFWMD ERP No. 43-02792-P, an existing 3" diameter bleeder that allows the dry detention areas of the adjacent Samaritan House for Boys site to discharge throughout the site (App#120927-6). This discharge will be routed through the site via a shallow depressional area and stormwater pipes to the proposed development outfall, not contributing to the overall drainage basin calculations. Stormwater control structures within the proposed stormwater management system and associated conveyance system will limit flow to an amount less than the pre-development discharge rate towards the Atlantic Ridge Preserve State Park. Please see *Exhibit D* for the post-development drainage basin map.

3.3.1 CN CALCULATIONS

The post-development curve numbers have been calculated utilizing the SCS Tr-55 methodology. The basin has been broken down into different soil types and assigned a Hydrologic Soil Group classification. Based on land cover, a curve number was then assigned. (See *Appendix 1*).

3.3.2 TIME OF CONCENTRATION

The post-development time of concentration for Basin B1, Basin B3-A, Basin B3-B, and Basin B3-C are the minimum value of 10 minutes. Basin B2 and Basin B4 have time of concentration values of 30 minutes and 25 minutes, respectively, matching the basin time of concentration values set in the previously permitted and approved SFWMD ERP No. 43-02792-P.

3.3.3 TREATMENT VOLUME (TV)

The proposed storm water management system will contain three dry retention ponds and one wet detention pond to treat the stormwater runoff.

The following table summarizes the most stringent treatment volume required:

Discharge Point	Basin Area (ac)	SFWMD Criteria**			Martin County Required Treatment Volume
		1" Over Site (ac-ft)	2.5" x Impervious Area (ac-ft)	Required Treatment Volume for Nutrient Analysis (ac-ft)	3" x Impervious Area (w/o wetland or buffer) (ac-ft)
Basin B1	1.00	0.08*	0.09*	0.09	0.15
<i>Total</i>				0.09	0.15
Basin B3-A	2.95	0.18*	0.28*	0.28	0.45
Basin B3-B	1.16	0.05*	0.05*	0.05	0.08
Basin B3-C	3.87	0.26	0.13	0.26	0.15***
<i>Total</i>				0.59	0.68

* SFWMD required treatment volume reduced by 50% for using dry retention

** SFWMD required treatment volumes increased by 50% for impaired waterbody

*** Martin County required treatment volumes increased by 50% for using wet detention

Treatment Volume Provided	
Dry Retention 1A & 1B (Basin B1)	0.16 ac.-ft.
<i>Total</i>	0.16 ac.-ft.
Dry Retention 2 (Basin B3-A)	0.12 ac.-ft.
Dry Retention 3 (Basin B3-B)	0.14 ac.-ft.
Wet Detention 4 (Basin B3-C)	0.49 ac.-ft.
<i>Total</i>	0.75 ac.-ft.

3.3.4 POND STAGE/STORAGE

See *Appendix 2* for Dry Retention 1A & 1B, Dry Retention 2, Dry Retention 3, and Wet Detention 4 Stage/Storage Relationships.

3.3.5 TV RECOVERY

The required TV in a dry retention pond must be recovered within 72 hours. The TV recovery within the dry retention pond is accomplished by percolation. PONDSD (Version 3.3) was used to demonstrate that the dry retention ponds recover their required TVs through percolation within 72 hours. Please refer to the attached Geotechnical Report for permeability rates and S.H.W.T. elevations, and *Appendix 4* for drawdown analysis and infiltration rates.

3.3.6 NET NUTRIENT IMPROVEMENT ANALYSIS

The proposed development has been designed to meet the maximum water quality for both SFWMD and Martin County criteria, as well as the water quality required for nutrient loading. The BMPTRAINS model utilizes the pre-development land use of "Upland Forests" with the associated runoff concentrations of Nitrogen and Phosphorous as used in the previously permitted and approved SFWMD ERP No. 43-02792-P, while the post-development land use is set as "Low-Intensity Commercial". The required, nutrient loading water quality treatment volume has been provided within the dry retention and wet detention stormwater management system (*See Appendix 5*).

3.3.7 WATER QUALITY ANALYSIS

For stormwater management systems utilizing both dry retention and wet detention, half of the required treatment volumes must be recovered between 24 hours and 5 days. A stormwater management system utilizing both dry retention and wet detention must also recover 90% of the 25Y/3D runoff volume in 12 days from the cessation of the storm event. The Node Time Series Report from ICPR indicates the time at which the attenuation volume is fully recovered within all ponds (at the stages of the proposed treatment volumes). The Detailed Results report from PONDS (Version 3.3) then indicates the time from when the dry retention ponds at the provided treatment volume stage recover half their treatment volumes and full runoff volume recovery. For Wet Detention 4, the recovery requirements are both shown in Appendix 3. The table below summarizes the aforementioned recovery times:

Recovery Times		
Pond Name	Half of Treatment Volume	>90% Runoff Volume
Dry Retention 1A & 1B	82.39 Hours (3.4 Days)	117.43 Hours (4.9 Days)
Dry Retention 2	95.70 Hours (4.0 Days)	147.83 Hours (6.2 Days)
Dry Retention 3	101.14 Hours (4.2 Days)	156.17 Hours (6.5 Days)
Wet Detention 4	110.83 Hours (4.6 Days)	80.00 Hours (3.3 Days)

Please see *Appendix 3* for the ICPR Node Time Series Report, as well as *Appendix 4* for the PONDS Detailed Results Report.

3.3.8 POST-DEVELOPMENT RUNOFF

As previously mentioned, the storm water runoff from Basin B1, Basin B3-A and Basin B3-B will be managed through three (3) dry retention ponds (Dry Retention 1A & 1B, Dry Retention 2, and Dry Retention 3) and one (1) wet detention pond

(Wet Detention 4) designed to attenuate the post-development discharge rates. ICPR has been used to route the storm water runoff from the development through the storm water management system. The storm water management system has been designed such that the proposed development discharge rates do not exceed the pre-development discharge rates for the 25Y/3D storm-event. Furthermore, with a minimum proposed pavement elevation of 17.25' adjacent to Dry Retention 1A & 1B, 17.00' adjacent to Dry Retention 2, 16.25' adjacent to Dry Retention 3 and Wet Detention 4, and building F.F.E. of 18.25' for the proposed development, the proposed stormwater management system has been designed as to meet all minimum height requirements per Martin County. Furthermore, proposed runoff calculations using TR-55 methods were used to determine the required site storage to contain the 100Y/3D storm without discharge to an elevation below the proposed FFE (Appendix 3). The cumulative volume of the proposed site (11.06 ac-ft) at the proposed FFE of 18.25' exceeds the required volume (10.29 ac-ft) at elevation 18.13'. The following tables summarize the stage and discharge results from the post-development ICPR model:

Pond Stages					
Pond Name	Top of Bank	100Y/3D Stage	25Y/3D Stage	10Y/1D Stage	3Y/1D Stage
Dry Retention 1A & 1B	17.25'	17.06'	17.03'	16.98'	16.93'
Dry Retention 2	17.00'	16.94'	16.58'	16.32'	16.18'
Dry Retention 3	16.25'	16.20'	16.00'	15.70'	15.45'
Wet Detention 4	16.25'	15.47'	15.10'	14.58'	14.16'

Wetland Maximum Stages				
	100Y/3D Stage	25Y/3D Stage	10Y/1D Stage	3Y/1D Stage
Wetland 1 (SHWL = 14.95 NAVD)				
Pre-	16.07 NAVD	15.99 NAVD	15.63 NAVD	15.45 NAVD
Post-	16.15 NAVD	15.92 NAVD	15.58 NAVD	15.46 NAVD
Wetland 2 (SHWL = 12.62 NAVD)				
Pre-	14.22 NAVD	14.11 NAVD	13.78 NAVD	13.63 NAVD
Post-	14.80 NAVD	14.53 NAVD	13.93 NAVD	13.60 NAVD

Pre/Post-Development Runoff Comparison		
	25Y/3D (SFWMD)	
	Pre-Development	Post-Development
Discharge (cfs)	8.13*	7.86

* Pre-development discharge rate previously permitted and approved per SFWMD ERP No. 43-02792-P

3.4 WETLAND IMPACTS

There are no proposed wetland impacts associated with this proposed development.

3.5 FLOOD PLAIN IMPACTS

As the project site lies entirely within Flood Zone "X", there are no proposed flood plain impacts associated with this proposed development.

4 SYSTEM CONSTRUCTION AND MAINTENANCE

Construction of the proposed project will be finished in one phase. Erosion control methods will be utilized to prevent siltation to surrounding areas. The surface water management system will be maintained and operated by the Developer.

5 COMPLIANCE STATEMENT

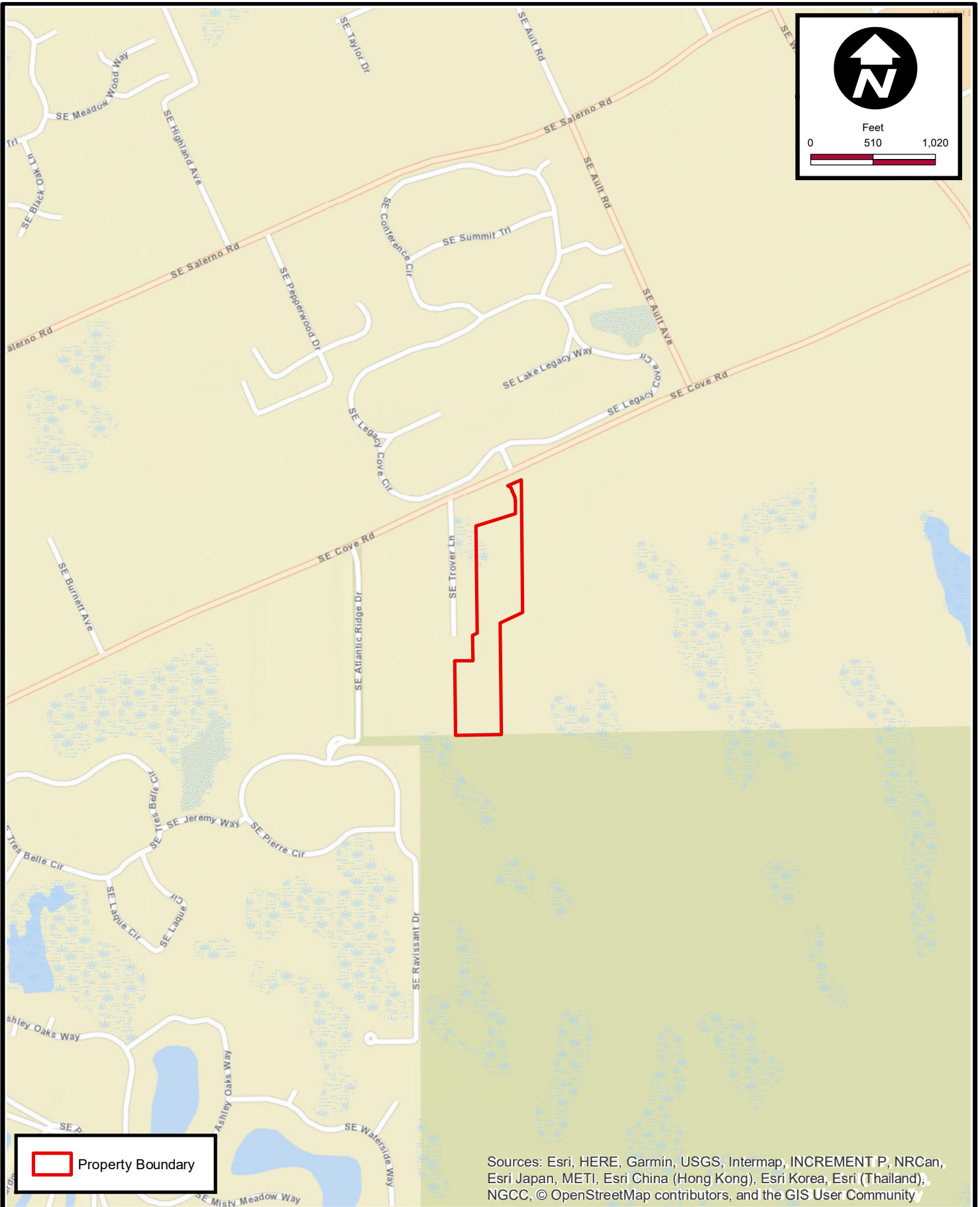
I, Jordan L. Haggerty, P.E., do certify to Martin County that the application for the Treasure Coast Classical Academy has been designed in full compliance with Division 9 of Article 4 of the Martin County Land Development Regulations (LDR). I acknowledge that Martin County's LDR may and do include requirements that are more stringent or restrictive than the requirements of other regulatory agencies including, but not limited to, the South Florida Water Management District (SFWMD), the U.S. Army Corps of Engineers (USACOE), the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP). Any plans, calculations, reports, or other documents submitted to Martin County or any regulatory agency in support of the application have been prepared in full recognition of and compliance with Martin County LDR.

EXHIBIT A

LOCATION MAPS

General Vicinity Map
Aerial Photograph
USGS Quad Map

K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\Drainage Report\GIS Exhibits\EX A-1 VICINITY.mxd - 7/31/2018 11:54:02 AM - matthew.deyoung



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VICINITY MAP

**TREASURE COAST CLASSICAL ACADEMY
STUART, FL**

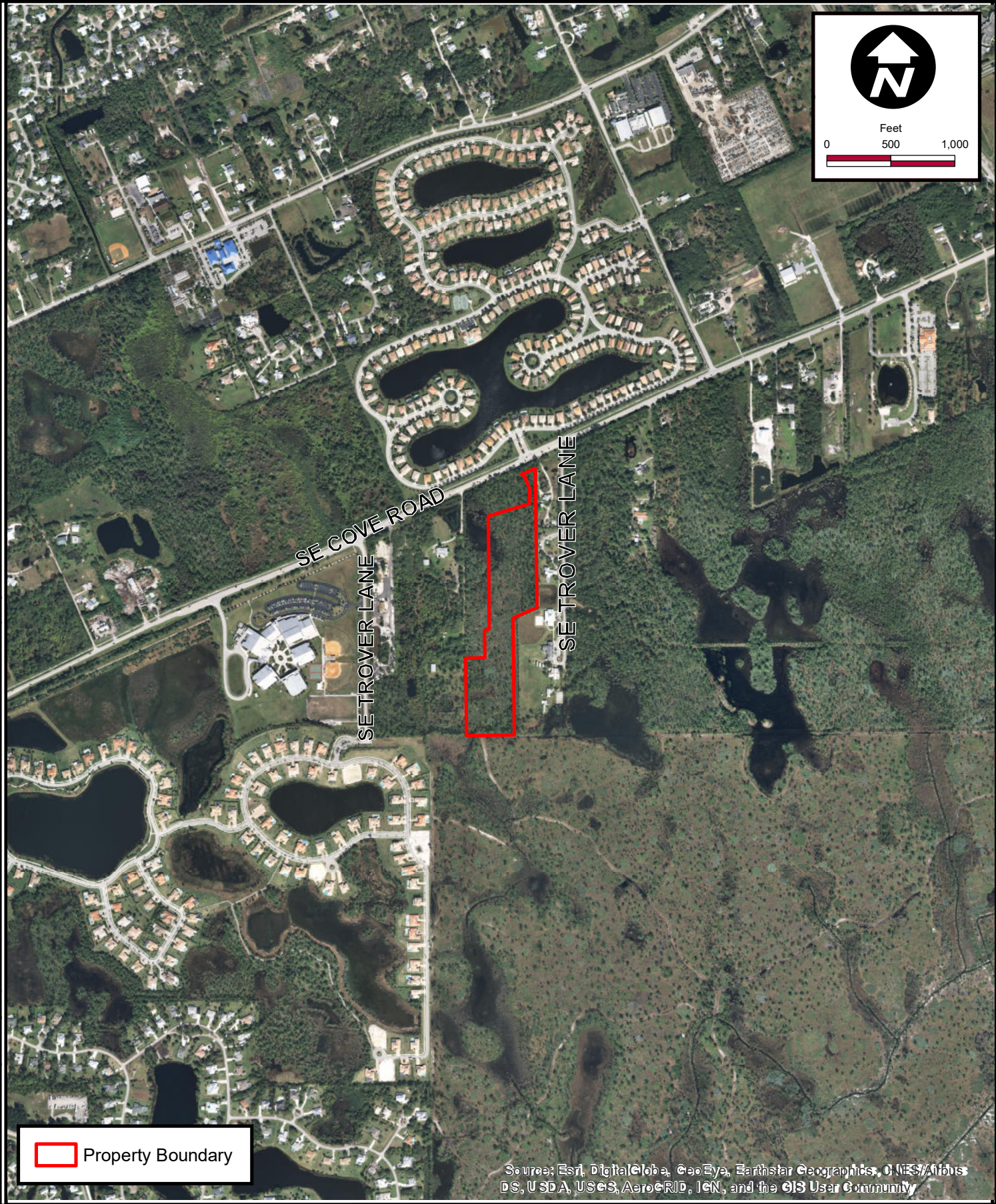
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Project No.: 046403000

JULY 2018

Exhibit: A-1

K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\Drainage\Report\GIS Exhibits\EX A-2 AERIAL.mxd - 7/31/2018 11:56:13 AM - matthew devoung



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AERIAL MAP

TREASURE COAST CLASSICAL ACADEMY
STUART, FL

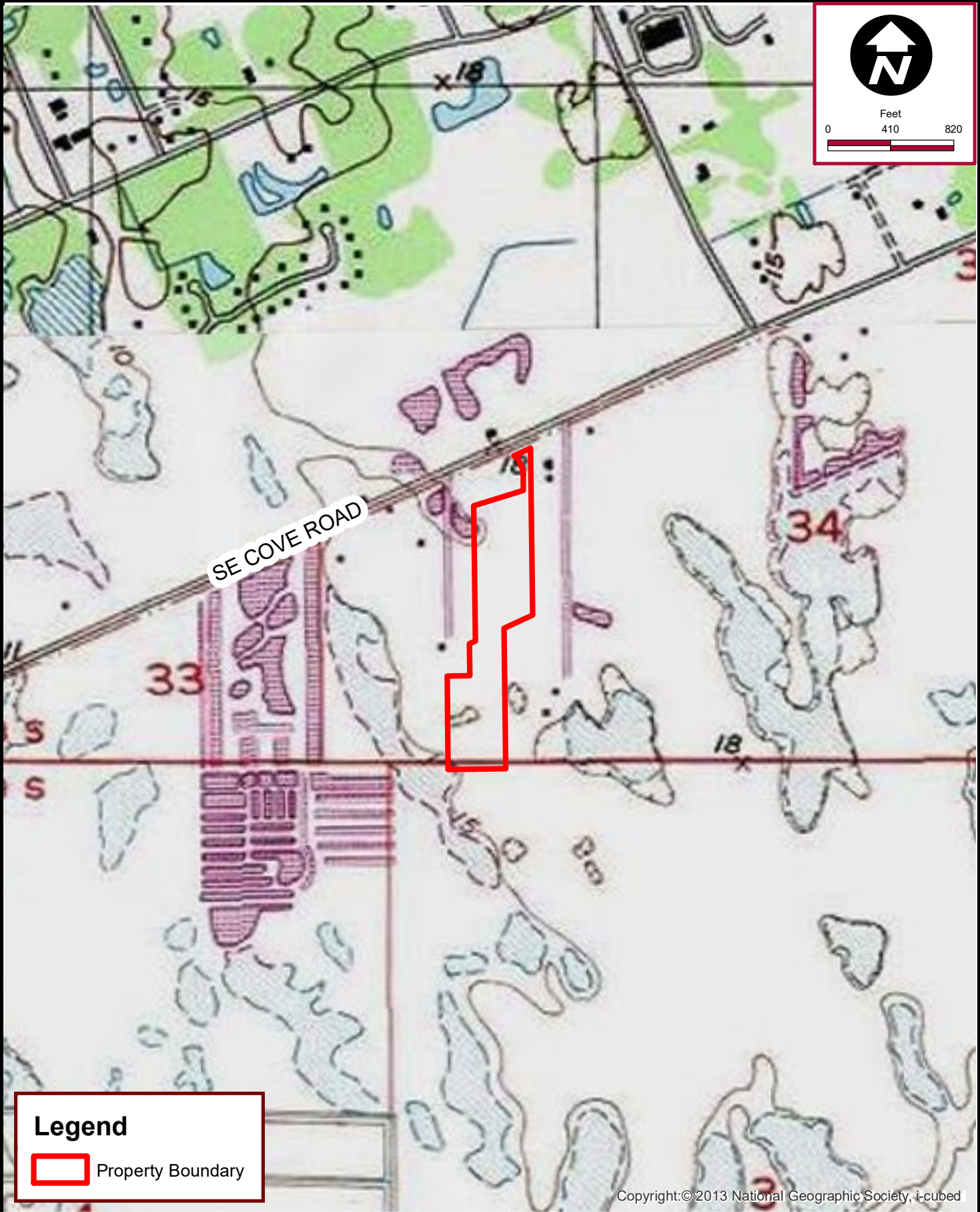
Scale: As Noted

Project No.: 046403000

JULY 2018

Exhibit: A-2

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Legend

 Property Boundary

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USGS QUAD MAP

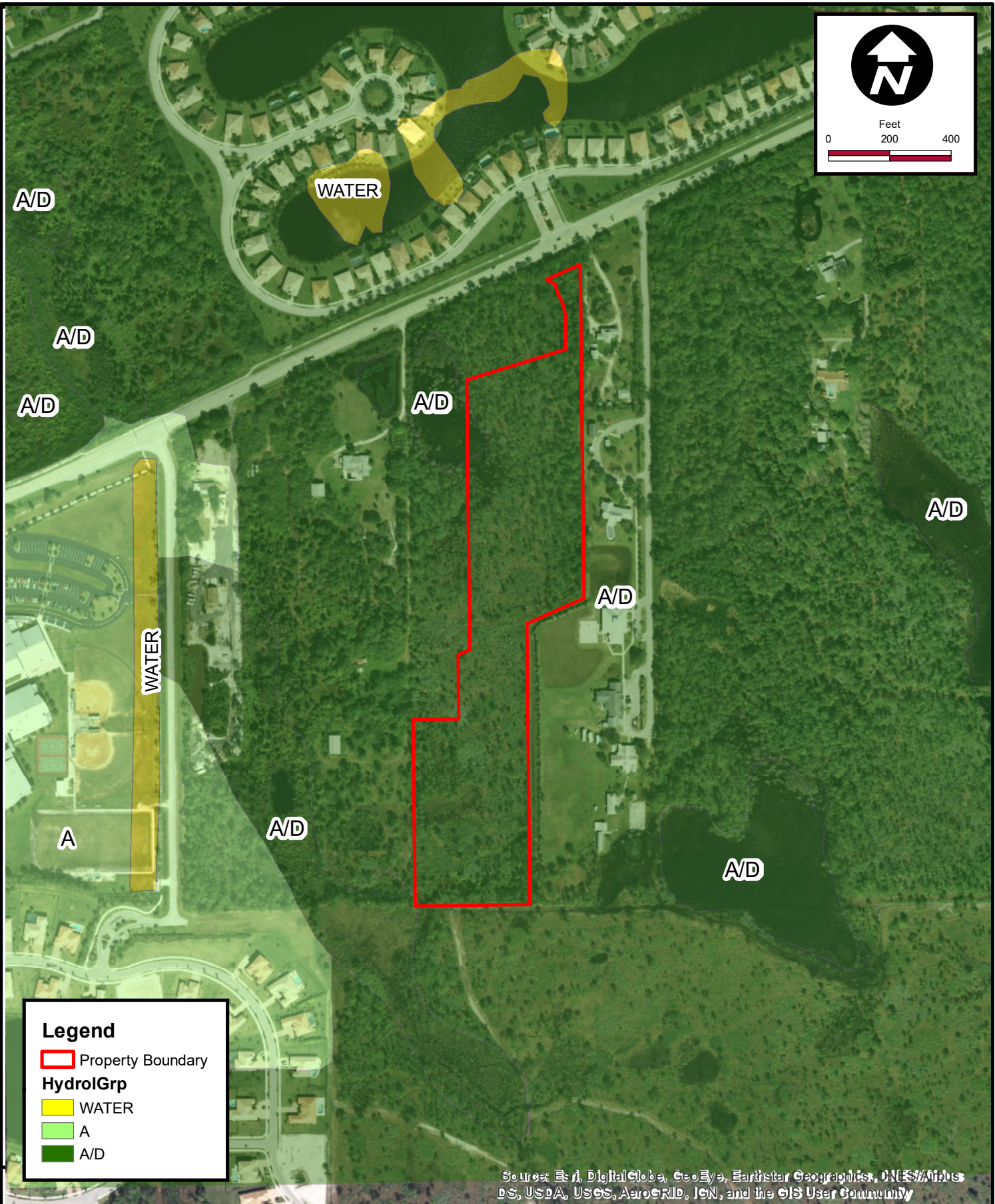
TREASURE COAST CLASSICAL ACADEMY
STUART, FL

Scale: As Noted	Project No.: 046403000	JULY 2018	EX. A-3
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EXHIBIT B

NRCS SOIL SURVEY

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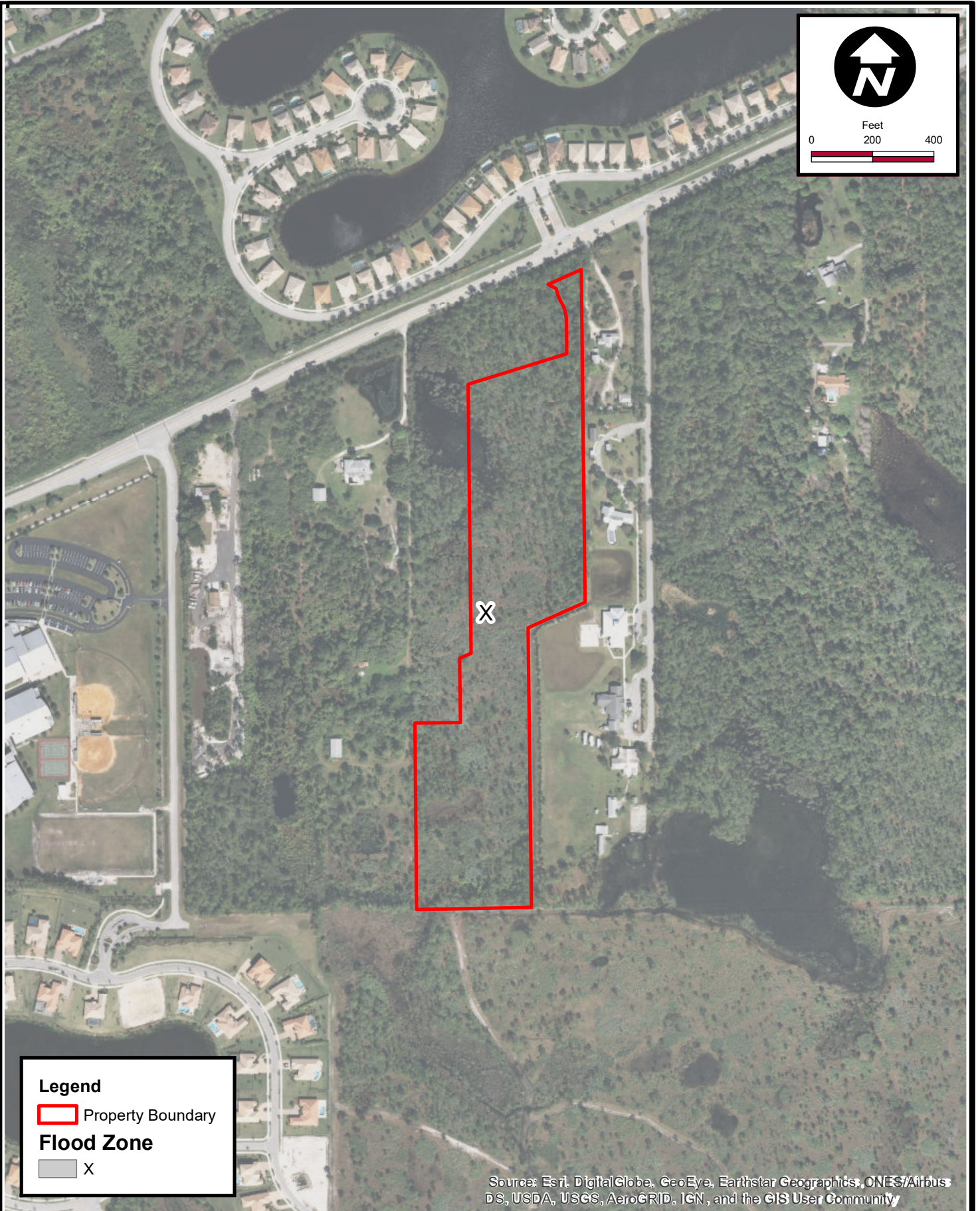
JULY 2018

EX. B


EXHIBIT C

FEMA FLOOD INSURANCE RATE MAP

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Legend

 Property Boundary

Flood Zone

 X

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

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FEMA MAP

**TREASURE COAST CLASSICAL ACADEMY
STUART, FL**

Scale: As Noted

Project No.: 046403000

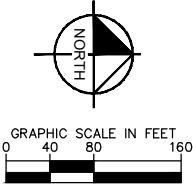
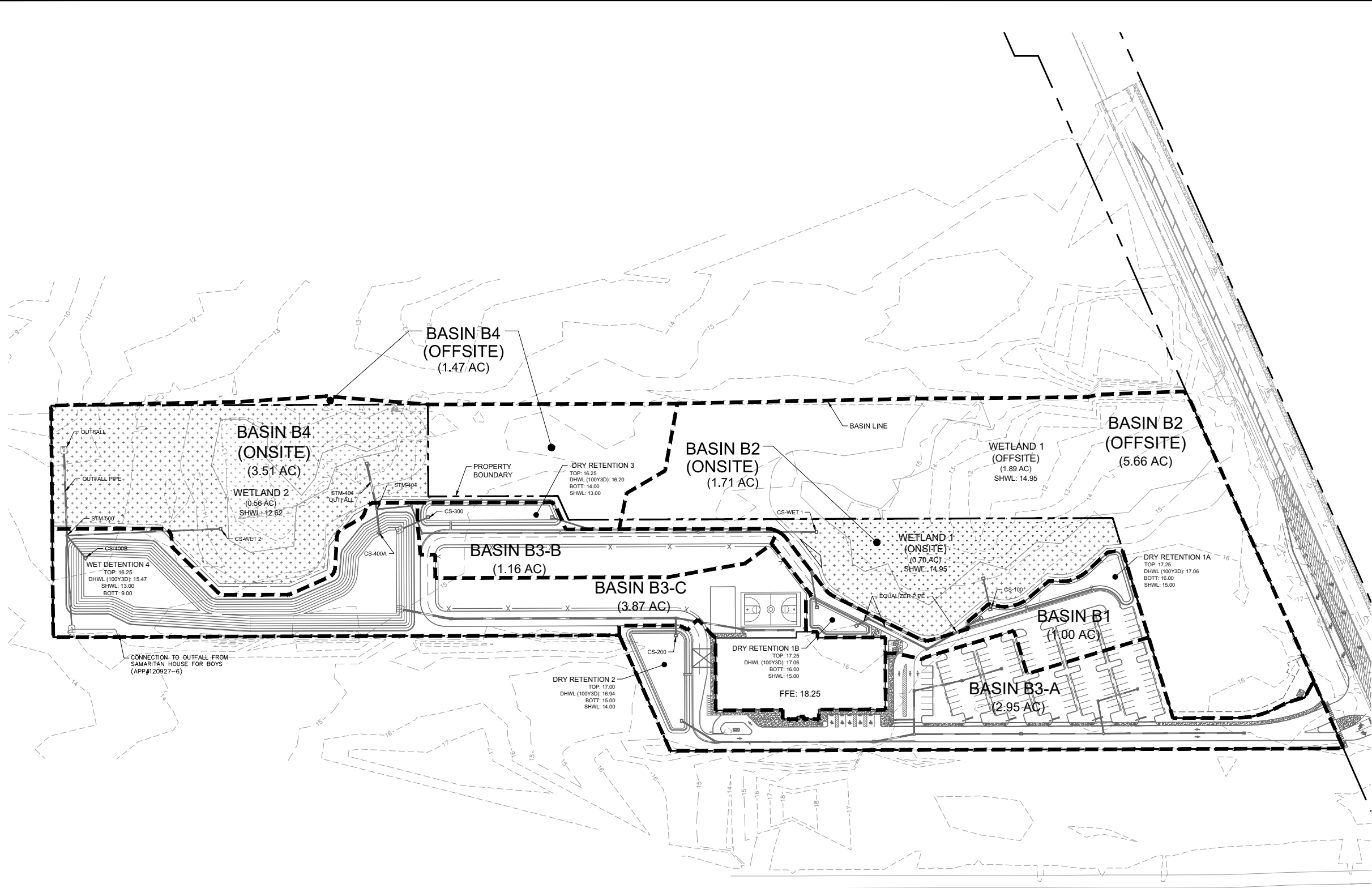
JULY 2018

EX. C

EXHIBIT **D**

POST-DEVELOPMENT DRAINAGE BASIN MAP

Plotted By: Younts, Brod Sheet Set: Kha Layout: Layout1 December 06, 2018 01:21:28pm K:\AK_Civil\046403000 - Cove Rd Charter School\CADD\EXHIBITS\EXHIBIT D - POST DEVELOPMENT.dwg
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POST-DEVELOPMENT BASIN/LAND USE SUMMARY TABLE								
LAND USE	BASIN B1	BASIN B2 (ONSITE)	BASIN B2 (OFFSITE)	BASIN B3-A	BASIN B3-B	BASIN B3-C	BASIN B4 (ONSITE)	BASIN B4 (OFFSITE)
BASIN AREA	1.00 Acres	1.71 Acres	5.66 Acres	2.95 Acres	1.16 Acres	3.87 Acres	3.51 Acres	1.47 Acres
PERVIOUS AREA	0.17 Acres	0.26 Acres	2.98 Acres	0.95 Acres	0.68 Acres	1.69 Acres	1.71 Acres	1.47 Acres
IMPERVIOUS AREA (PAVEMENT & SIDEWALK)	0.60 Acres	N/A	N/A	1.79 Acres	0.32 Acres	0.41 Acres	N/A	N/A
BUILDING AREA	N/A	N/A	N/A	N/A	0.76 Acres	N/A	N/A	N/A
DRY RETENTION @ CONTROL	0.23 Acres	N/A	N/A	0.21 Acres	0.16 Acres	N/A	N/A	N/A
WET DETENTION @ CONTROL	N/A	N/A	N/A	N/A	N/A	1.01 Acres	N/A	N/A
WETLAND AREA	N/A	0.70 Acres	1.89 Acres	N/A	N/A	N/A	0.56 Acres	N/A
WETLAND BUFFER AREA	N/A	0.75 Acres	0.79 Acres	N/A	N/A	N/A	1.24 Acres	N/A
CURVE NUMBER	95	96	87	91	86	89	88	77

	STAGE	AREA (SF)	STORAGE (AC-FT)	100Y3D
DRY RETENTION 1A & 1B	TOP	11,790	0.27	17.06'
	BOTTOM	7,314	0	
DRY RETENTION 2	TOP	11,611	0.45	16.94'
	BOTTOM	8,073	0	
DRY RETENTION 3	TOP	9,304	0.37	16.20'
	BOTTOM	4,914	0	
WET DETENTION 4	TOP	60,385	3.78	15.47'
	CONTROL	41,024	0	

TREASURE COAST
CLASSICAL ACADEMY
PREPARED FOR
SUMMIT CONST. GROUP

MARTIN COUNTY
FLORIDA

POST-DEVELOPMENT
BASIN MAP

LICENSED PROFESSIONAL
JORDAN L. HAGGERTY, P.E.
FLORIDA LICENSE NUMBER
80511

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REVISIONS
No.
DATE
BY

APPENDIX 1

CURVE NUMBER CALCULATIONS

KIMLEY-HORN AND ASSOCIATES, INC.				
PROJECT TITLE:	TREASURE COAST CLASSICAL ACADEMY			
PROJECT NUMBER:	046403000			DATE
BASIN DESIGNATION:	BASIN B1	MADE BY:	BAY	12/05/18
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	JLH	

BASIN RUNOFF CURVE NUMBER WORKSHEET
--

Description / Soil Name	Soil Group	CN	Area (ac)	Product
#4 - Waveland and Immokalee fine sands	A/D	77	0.17	13.09
Onsite Impervious	-	98	0.60	58.80
Dry Retention 1 @ Required Treatment	-	100	0.23	23.00
		TOTALS	1.00	94.89

COMPOSITE CN	95
---------------------	-----------

KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT TITLE:	TREASURE COAST CLASSICAL ACADEMY			
PROJECT NUMBER:	046403000			DATE
BASIN DESIGNATION:	BASIN B2	MADE BY:	BAY	12/05/18
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	JLH	

BASIN RUNOFF CURVE NUMBER WORKSHEET

Description / Soil Name	Soil Group	CN	Area (ac)	Product
#4 - Waveland and Immokalee fine sands	A/D	77	3.24	249.48
Wetland 1	-	100	2.59	259.00
Wetland 1 buffer area	-	98	1.54	150.92
		TOTALS	7.37	659.40

COMPOSITE CN

89

KIMLEY-HORN AND ASSOCIATES, INC.				
PROJECT TITLE:	TREASURE COAST CLASSICAL ACADEMY			
PROJECT NUMBER:	046403000			DATE
BASIN DESIGNATION:	BASIN B3-A	MADE BY:	BAY	12/05/18
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	JLH	

BASIN RUNOFF CURVE NUMBER WORKSHEET

Description / Soil Name	Soil Group	CN	Area (ac)	Product
#4 - Waveland and Immokalee fine sands	A/D	77	0.95	73.15
Onsite Impervious	-	98	1.79	175.42
Dry Retention 2 @ Required Treatment	-	100	0.21	21.00
		TOTALS	2.95	269.57

COMPOSITE CN	91
---------------------	-----------

KIMLEY-HORN AND ASSOCIATES, INC.				
PROJECT TITLE:	TREASURE COAST CLASSICAL ACADEMY			
PROJECT NUMBER:	046403000			DATE
BASIN DESIGNATION:	BASIN B3-B	MADE BY:	BAY	12/05/18
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	JLH	

BASIN RUNOFF CURVE NUMBER WORKSHEET
--

Description / Soil Name	Soil Group	CN	Area (ac)	Product
#4 - Waveland and Immokalee fine sands	A/D	77	0.68	52.36
Onsite Impervious	-	98	0.32	31.36
Dry Retention 3 @ Required Treatment	-	100	0.16	16.00
		TOTALS	1.16	99.72

COMPOSITE CN	86
---------------------	-----------

KIMLEY-HORN AND ASSOCIATES, INC.				
PROJECT TITLE:	TREASURE COAST CLASSICAL ACADEMY			
PROJECT NUMBER:	046403000			DATE
BASIN DESIGNATION:	BASIN B3-C	MADE BY:	BAY	12/05/18
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	JLH	

BASIN RUNOFF CURVE NUMBER WORKSHEET

Description / Soil Name	Soil Group	CN	Area (ac)	Product
#4 - Waveland and Immokalee fine sands	A/D	77	1.69	130.13
Onsite Impervious	-	98	0.41	40.18
Wet Detention 4 @ Control	-	100	1.01	101.00
Roof Area	-	98	0.76	74.48
TOTALS			3.87	345.79

COMPOSITE CN	89
--------------	----

KIMLEY-HORN AND ASSOCIATES, INC.				
PROJECT TITLE:	TREASURE COAST CLASSICAL ACADEMY			
PROJECT NUMBER:	046403000			DATE
BASIN DESIGNATION:	BASIN B4	MADE BY:	BAY	12/05/18
BASIN ANALYSIS (PRE/POST):	POST	CHECKED BY:	JLH	

BASIN RUNOFF CURVE NUMBER WORKSHEET
--

Description / Soil Name	Soil Group	CN	Area (ac)	Product
#4 - Waveland and Immokalee fine sands	A/D	77	3.18	244.86
Wetland 2	-	100	0.56	56.00
Wetland 2 buffer area	-	98	1.24	121.52
		TOTALS	4.98	422.38

COMPOSITE CN	85
---------------------	-----------

APPENDIX 2

TREATMENT VOLUME, STAGE/STORAGE, AND ORIFICE CALCULATIONS

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 1.00
 Impervious Area (acres) = 0.60
 POND = Dry Retention 1A & 1B

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	17.25
POND BOTTOM ELEVATION (NAVD)	16.00
TOP AREA OF POND (SF)	11,790
BOTTOM AREA OF POND (SF)	7,314
TOTAL VOLUME OF POND (CF)	11940

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
17.25	1.25	11790.0	11940	0.27
17.00	1.00		9104	0.21
16.80	0.80		6997	0.16
16.50	0.50		4105	0.09
16.00	0.00	7314.0	0	0.00

Control/ Provided Treatment Vol.

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 2.95
 Impervious Area (acres) = 1.79
 POND Dry Retention 2

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	17.00
POND BOTTOM ELEVATION (NAVD)	15.00
TOP AREA OF POND (SF)	11,611
BOTTOM AREA OF POND (SF)	8,073
TOTAL VOLUME OF POND (CF)	19684

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
17.00	2.00	11611.0	19684	0.45
16.50	1.50		14100	0.32
16.00	1.00		8958	0.21
15.60	0.60		5162	0.12
15.50	0.50		4258	0.10
15.00	0.00	8073.0	0	0.00

Control/ Provided Treatment Vol.

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 1.16
 Impervious Area (acres) = 0.32
 POND Dry Retention 3

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	16.25
POND BOTTOM ELEVATION (NAVD)	14.00
TOP AREA OF POND (SF)	9,304
BOTTOM AREA OF POND (SF)	4,914
TOTAL VOLUME OF POND (CF)	15995

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
16.25	2.25	9304.0	15995	0.37
16.00	2.00		13730	0.32
15.50	1.50		9566	0.22
15.00	1.00		5890	0.14
14.50	0.50		2701	0.06
14.00	0.00	4914.0	0	0.00

Control/ Provided Treatment Vol.

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 3.87
 Impervious Area (acres) = 2.18
 POND Wet Detention 4

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	16.25
POND BOTTOM ELEVATION (NAVD)	9
TOP AREA OF POND (SF)	60,365
BOTTOM AREA OF POND (SF)	19,809
TOTAL VOLUME OF POND (CF)	286,423

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)	
16.25	3.25	60365.0	164757	3.78	
16.0	3.0		149852	3.44	
15.0	2.0		93950	2.16	
14.30	1.3		58360	1.34	
14.0	1.0		44000	1.01	
13.5	0.5		21256	0.49	
13.0	0.0	41024.0	0	0.00	Treatment Vol. SHWT / Control

13.0	4.0	41024.0	121666	2.79	
12.0	3.0		83294	1.91	
11.0	2.0		50226	1.15	
10.0	1.0		22461	0.52	
9.0	0.0	19809.0	0	0.00	

SFWMD - BLEED-DOWN CALCULATIONS

WET DETENTION 4

Basin Area = 3.87 acres
Pervious Area = 1.69 acres
Water surface area = 1.01 acres
Roof Area = 0.76 acres
Impervious Area (Excluding water surface/roof area) = 0.41 acres

1. Volume to be discharged in the first 24 hours is 0.5 inch of the required detention:

= 0.5 inch x (total site - lakes)
= 0.5 inch x (3.87 ac. - 1.01 ac.) x (1ft/12in)
= **0.12 ac-ft.**
= **0.060 cfs**

ALLOWABLE DISCHARGE VOLUME = 0.12 ACRE-FT. = 0.06 CFS
--

2. Size control device/bleed-down mechanism for detention system:

Size Control Structure: Choose circular orifice

Required Detention Volume= 0.12 ac-ft
= 0.060 cfs
Design Head = 0.50 ft
Area = 0.0177 sf
Diameter = 1.80 in.

CALCULATED CIRCULAR ORIFICE DIAMETER = 1.8 IN.

NOTE: MINIMUM 3-INCH CIRCULAR ORIFICE WILL BE UTILIZED FOR POND DESIGN

APPENDIX 3

POST DEVELOPMENT DRAINAGE ROUTING ANALYSIS (ICPR)

Network Layout
Input Report
Basin Summary
Node Min/Max Report
Node Time Series Report
Link Min/Max Report
Runoff Volume Calculations
100Y/3D Zero-Discharge Stage/Storage

NETWORK LAYOUT

Nodes

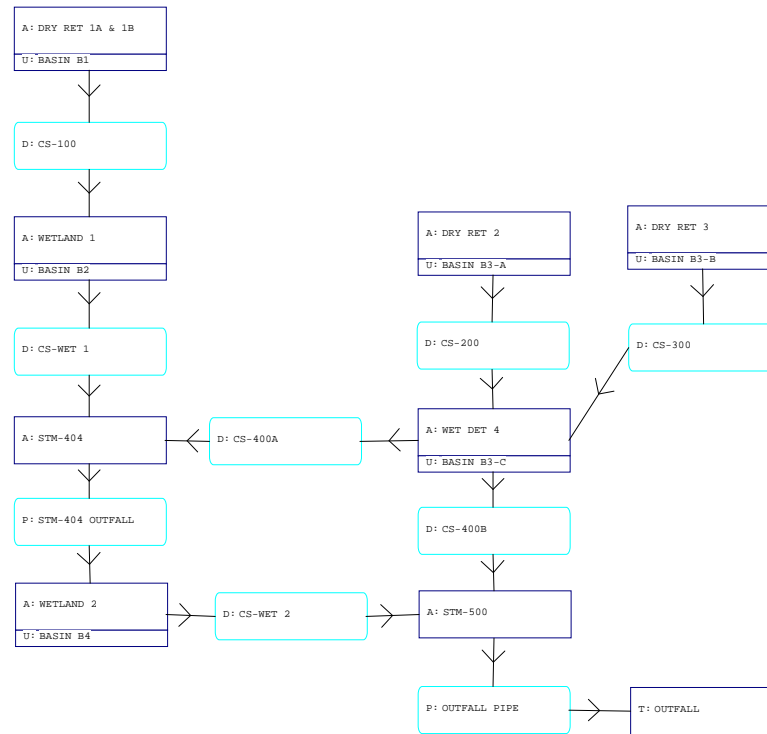
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins

O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links

P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench



INPUT REPORT

==== Basins =====

Name: BASIN B1 Node: DRY RET 1A & 1B Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.000 Time Shift(hrs): 0.00
Curve Number: 95.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B2 Node: WETLAND 1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 7.370 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B3-A Node: DRY RET 2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.950 Time Shift(hrs): 0.00
Curve Number: 91.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B3-B Node: DRY RET 3 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.160 Time Shift(hrs): 0.00
Curve Number: 86.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B3-C Node: WET DET 4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.870 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B4 Node: WETLAND 2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 25.00
Area(ac): 4.980 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==== Nodes =====

Name: DRY RET 1A & 1B Base Flow(cfs): 0.000 Init Stage(ft): 16.070
Group: BASE Warn Stage(ft): 17.250
Type: Stage/Area

INPUT REPORT

Stage(ft)	Area(ac)
16.000	0.1700
17.250	0.2700

Name: DRY RET 2 Base Flow(cfs): 0.000 Init Stage(ft): 15.200
 Group: BASE Warn Stage(ft): 17.000
 Type: Stage/Area

Stage(ft)	Area(ac)
15.000	0.1900
17.000	0.2700

Name: DRY RET 3 Base Flow(cfs): 0.000 Init Stage(ft): 14.290
 Group: BASE Warn Stage(ft): 16.250
 Type: Stage/Area

Stage(ft)	Area(ac)
14.000	0.1100
16.250	0.2100

Name: OUTFALL Base Flow(cfs): 0.000 Init Stage(ft): 12.000
 Group: BASE Warn Stage(ft): 12.000
 Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	12.000
999.00	12.000

Name: STM-404 Base Flow(cfs): 0.000 Init Stage(ft): 10.500
 Group: BASE Warn Stage(ft): 15.530
 Type: Stage/Area

Stage(ft)	Area(ac)
10.500	0.0004
15.530	0.0004

Name: STM-500 Base Flow(cfs): 0.000 Init Stage(ft): 11.500
 Group: BASE Warn Stage(ft): 15.580
 Type: Stage/Area

Stage(ft)	Area(ac)
11.500	0.0004
15.580	0.0004

Name: WET DET 4 Base Flow(cfs): 0.000 Init Stage(ft): 13.000
 Group: BASE Warn Stage(ft): 16.250
 Type: Stage/Area

Stage(ft)	Area(ac)
13.000	0.9400
16.250	1.3900

Name: WETLAND 1 Base Flow(cfs): 0.000 Init Stage(ft): 14.950
 Group: BASE Warn Stage(ft): 16.000
 Type: Stage/Area

Stage/Storage previously permitted (ERP No. 43-02792-P)

Stage(ft)	Area(ac)

INPUT REPORT

11.400	0.0010
11.500	0.1800
12.000	0.3400
15.000	4.1300
17.000	7.3200

Name: WETLAND 2 Base Flow(cfs): 0.000 Init Stage(ft): 12.620
Group: BASE Warn Stage(ft): 14.000
Type: Stage/Area

Stage/Storage previously permitted (ERP No. 43-02792-P)

Stage(ft)	Area(ac)
12.000	0.0500
13.000	0.5500
14.000	3.2600

==== Operating Tables =====

Name: PERC- DRY RET 1 Group: BASE
Type: Rating Curve
Function: Head vs. Discharge

Head(ft)	Discharge(cfs)
0.00	0.07
0.50	0.06
1.00	0.11

Name: PERC- DRY RET 2 Group: BASE
Type: Rating Curve
Function: Head vs. Discharge

Head(ft)	Discharge(cfs)
0.00	0.03
0.50	0.03
1.00	0.04
1.50	0.06
2.00	0.09

Name: PERC- DRY RET 3 Group: BASE
Type: Rating Curve
Function: Head vs. Discharge

Head(ft)	Discharge(cfs)
0.00	0.17
0.50	0.14
1.00	0.26
1.50	0.66

==== Pipes =====

Name: OUTFALL PIPE	From Node: STM-500	Length(ft): 143.00
Group: BASE	To Node: OUTFALL	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 24.00	24.00	Flow: Both
Rise(in): 24.00	24.00	Entrance Loss Coef: 0.00
Invert(ft): 11.500	11.200	Exit Loss Coef: 1.00
Manning's N: 0.012000	0.012000	Bend Loss Coef: 0.00
Top Clip(in): 0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```
-----
Name: STM-404 OUTFALL      From Node: STM-404      Length(ft): 76.00
Group: BASE                To Node: WETLAND 2      Count: 1
                                Friction Equation: Automatic
                                Solution Algorithm: Most Restrictive
                                Flow: Both
UPSTREAM      DOWNSTREAM
Geometry: Circular      Circular
Span(in): 30.00      30.00
Rise(in): 30.00      30.00
Invert(ft): 10.500      9.000
Manning's N: 0.012000      0.012000
Top Clip(in): 0.000      0.000
Bot Clip(in): 0.000      0.000
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None
-----
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```
=====
==== Drop Structures =====
=====
```

```
-----
Name: CS-100                From Node: DRY RET 1A & 1B      Length(ft): 45.00
Group: BASE                  To Node: WETLAND 1      Count: 1
                                Friction Equation: Automatic
                                Solution Algorithm: Most Restrictive
                                Flow: Both
UPSTREAM      DOWNSTREAM
Geometry: Circular      Circular
Span(in): 18.00      18.00
Rise(in): 18.00      18.00
Invert(ft): 13.500      12.450
Manning's N: 0.012000      0.012000
Top Clip(in): 0.000      0.000
Bot Clip(in): 0.000      0.000
Entrance Loss Coef: 0.000
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Solution Incs: 10
-----
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure CS-100 ***

		TABLE
Count:	1	Bottom Clip(in): 0.000
Type:	Horizontal	Top Clip(in): 0.000
Flow:	Both	Weir Disc Coef: 3.200
Geometry:	Rectangular	Orifice Disc Coef: 0.600
Span(in):	37.00	Invert(ft): 16.800
Rise(in):	49.00	Control Elev(ft): 16.800

```
-----
Name: CS-200                From Node: DRY RET 2      Length(ft): 481.00
Group: BASE                  To Node: WET DET 4      Count: 1
                                Friction Equation: Automatic
                                Solution Algorithm: Most Restrictive
                                Flow: Both
UPSTREAM      DOWNSTREAM
Geometry: Circular      Circular
Span(in): 24.00      24.00
Rise(in): 24.00      24.00
Invert(ft): 12.500      9.000
Manning's N: 0.012000      0.012000
Top Clip(in): 0.000      0.000
Bot Clip(in): 0.000      0.000
Entrance Loss Coef: 0.000
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Solution Incs: 10
-----
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-200 ***

		TABLE
Count:	1	Bottom Clip(in): 0.000
Type:	Horizontal	Top Clip(in): 0.000
Flow:	Both	Weir Disc Coef: 3.200
Geometry:	Rectangular	Orifice Disc Coef: 0.600
Span(in):	37.00	Invert(ft): 17.000
Rise(in):	49.00	Control Elev(ft): 17.000

*** Weir 2 of 2 for Drop Structure CS-200 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 60.00	Invert(ft): 15.600
Rise(in): 16.80	Control Elev(ft): 15.600

TABLE

Name: CS-300	From Node: DRY RET 3	Length(ft): 56.00
Group: BASE	To Node: WET DET 4	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 18.00	18.00	Flow: Both
Rise(in): 18.00	18.00	Entrance Loss Coef: 0.000
Invert(ft): 8.600	8.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-300 ***

Count: 1	Bottom Clip(in): 0.000
Type: Horizontal	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 37.00	Invert(ft): 16.250
Rise(in): 49.00	Control Elev(ft): 16.250

TABLE

*** Weir 2 of 2 for Drop Structure CS-300 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 14.00	Invert(ft): 15.000
Rise(in): 15.00	Control Elev(ft): 15.000

TABLE

Name: CS-400A	From Node: WET DET 4	Length(ft): 38.00
Group: BASE	To Node: STM-404	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 24.00	24.00	Flow: Both
Rise(in): 24.00	24.00	Entrance Loss Coef: 0.000
Invert(ft): 12.800	10.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-400A ***

Count: 1	Bottom Clip(in): 0.000
Type: Horizontal	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 37.00	Invert(ft): 16.000
Rise(in): 49.00	Control Elev(ft): 16.000

TABLE

*** Weir 2 of 2 for Drop Structure CS-400A ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000

TABLE

INPUT REPORT

Flow: Both
Geometry: Rectangular
Span(in): 48.00
Rise(in): 30.00
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 13.500
Control Elev(ft): 13.500

Name: CS-400B
Group: BASE
From Node: WET DET 4
To Node: STM-500
Length(ft): 47.00
Count: 1
UPSTREAM DOWNSTREAM
Geometry: Circular Circular
Span(in): 18.00 18.00
Rise(in): 18.00 18.00
Invert(ft): 12.500 11.500
Manning's N: 0.012000 0.012000
Top Clip(in): 0.000 0.000
Bot Clip(in): 0.000 0.000
Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.000
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-400B ***

Count: 1
Type: Vertical: Mavis
Flow: Both
Geometry: Circular
Span(in): 3.00
Rise(in): 3.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 13.000
Control Elev(ft): 13.000

TABLE

*** Weir 2 of 2 for Drop Structure CS-400B ***

Count: 1
Type: Horizontal
Flow: Both
Geometry: Rectangular
Span(in): 37.00
Rise(in): 49.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 16.000
Control Elev(ft): 16.000

TABLE

Name: CS-WET 1
Group: BASE
From Node: WETLAND 1
To Node: STM-404
Length(ft): 741.00
Count: 1
UPSTREAM DOWNSTREAM
Geometry: Circular Circular
Span(in): 18.00 18.00
Rise(in): 18.00 18.00
Invert(ft): 12.000 10.500
Manning's N: 0.012000 0.012000
Top Clip(in): 0.000 0.000
Bot Clip(in): 0.000 0.000
Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.000
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-WET 1 ***

Count: 1
Type: Vertical: Mavis
Flow: Both
Geometry: Rectangular
Span(in): 6.00
Rise(in): 4.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 14.950
Control Elev(ft): 14.950

TABLE

*** Weir 2 of 2 for Drop Structure CS-WET 1 ***

Count: 1
Type: Horizontal
Flow: Both
Geometry: Rectangular
Span(in): 54.00
Rise(in): 36.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 15.500
Control Elev(ft): 15.500

TABLE

Name: CS-WET 2 From Node: WETLAND 2 Length(ft): 249.00
Group: BASE To Node: STM-500 Count: 1

UPSTREAM DOWNSTREAM Friction Equation: Automatic
Geometry: Circular Circular Solution Algorithm: Most Restrictive
Span(in): 18.00 18.00 Flow: Both
Rise(in): 18.00 18.00 Entrance Loss Coef: 0.000
Invert(ft): 12.000 11.500 Exit Loss Coef: 1.000
Manning's N: 0.012000 0.012000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-WET 2 ***

Count: 1 Bottom Clip(in): 0.000
Type: Horizontal Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 37.00 Invert(ft): 14.000
Rise(in): 49.00 Control Elev(ft): 14.000

TABLE

*** Weir 2 of 2 for Drop Structure CS-WET 2 ***

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 76.00 Invert(ft): 13.000
Rise(in): 12.00 Control Elev(ft): 13.000

TABLE

=====

---- Hydrology Simulations ----

Name: 100Y3D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\100Y3D.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 15.00

Time(hrs) Print Inc(min)

80.000 5.00
360.000 5.00

Name: 10Y1D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\10Y1D.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 7.00

Time(hrs) Print Inc(min)

24.000 5.00
360.000 5.00

Name: 25Y3D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\25Y3D.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 12.00

Time(hrs) Print Inc(min)

80.000 5.00
360.000 5.00

INPUT REPORT

 Name: 3Y1D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\3Y1D.R32
 Override Defaults: Yes
 Storm Duration(hrs): 24.00
 Rainfall File: Flmod
 Rainfall Amount(in): 5.25

Time(hrs)	Print Inc(min)
80.000	5.00
360.000	5.00

==== Routing Simulations =====

 Name: 100Y3D Hydrology Sim: 100Y3D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\100Y3D.I32
 Execute: Yes Restart: No Patch: No
 Alternative: No
 Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
 Time Step Optimizer: 10.000
 Start Time(hrs): 0.000 End Time(hrs): 360.00
 Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
 Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
58.000	15.000
64.000	5.000
100.000	30.000
360.000	60.000

Group	Run
BASE	Yes

 Name: 10Y1D Hydrology Sim: 10Y1D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\10Y1D.I32
 Execute: Yes Restart: No Patch: No
 Alternative: No
 Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
 Time Step Optimizer: 10.000
 Start Time(hrs): 0.000 End Time(hrs): 360.00
 Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
 Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	15.000
14.000	5.000
100.000	30.000
360.000	60.000

Group	Run
BASE	Yes

 Name: 25Y3D Hydrology Sim: 25Y3D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\25Y3D.I32
 Execute: Yes Restart: No Patch: No
 Alternative: No
 Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
 Time Step Optimizer: 10.000
 Start Time(hrs): 0.000 End Time(hrs): 360.00
 Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
 Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

INPUT REPORT

12.000	5.000
60.000	30.000
100.000	50.000
360.000	60.000

Group	Run
-----	-----
BASE	Yes

Name: 3Y1D	Hydrology Sim: 3Y1D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\3Y1D.I32	

Execute: Yes	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.00500
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 360.00
Min Calc Time(sec): 0.5000	Max Calc Time(sec): 60.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
8.000	15.000
12.000	5.000
60.000	30.000
360.000	60.000

Group	Run
-----	-----
BASE	Yes

BASIN SUMMARY

Basin Name: BASIN B1
Group Name: BASE
Simulation: 100Y3D
Node Name: DRY RET 1A & 1B
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 6.64
Runoff Volume (in): 14.381
Runoff Volume (ft3): 52204

Basin Name: BASIN B2
Group Name: BASE
Simulation: 100Y3D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.20
Flow Max (cfs): 30.09
Runoff Volume (in): 13.608
Runoff Volume (ft3): 364047

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 100Y3D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 19.47
Runoff Volume (in): 13.870
Runoff Volume (ft3): 148530

Basin Name: BASIN B3-B
Group Name: BASE

BASIN SUMMARY

Simulation: 100Y3D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 7.56
Runoff Volume (in): 13.204
Runoff Volume (ft3): 55601

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 100Y3D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 25.43
Runoff Volume (in): 13.608
Runoff Volume (ft3): 191162

Basin Name: BASIN B4
Group Name: BASE
Simulation: 100Y3D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 60.11
Flow Max (cfs): 22.17
Runoff Volume (in): 13.068
Runoff Volume (ft3): 236227

Basin Name: BASIN B1
Group Name: BASE
Simulation: 10Y1D
Node Name: DRY RET 1A & 1B

BASIN SUMMARY

Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 4.12
Runoff Volume (in): 6.404
Runoff Volume (ft3): 23245

Basin Name: BASIN B2
Group Name: BASE
Simulation: 10Y1D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.27
Flow Max (cfs): 17.16
Runoff Volume (in): 5.706
Runoff Volume (ft3): 152657

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 10Y1D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 11.70
Runoff Volume (in): 5.937
Runoff Volume (ft3): 63573

Basin Name: BASIN B3-B
Group Name: BASE
Simulation: 10Y1D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

BASIN SUMMARY

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 4.28
Runoff Volume (in): 5.364
Runoff Volume (ft3): 22586

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 10Y1D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 14.95
Runoff Volume (in): 5.706
Runoff Volume (ft3): 80160

Basin Name: BASIN B4
Group Name: BASE
Simulation: 10Y1D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 12.22
Flow Max (cfs): 11.91
Runoff Volume (in): 5.251
Runoff Volume (ft3): 94921

Basin Name: BASIN B1
Group Name: BASE
Simulation: 25Y3D
Node Name: DRY RET 1A & 1B
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0

BASIN SUMMARY

Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 5.31
Runoff Volume (in): 11.387
Runoff Volume (ft3): 41334

Basin Name: BASIN B2
Group Name: BASE
Simulation: 25Y3D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.20
Flow Max (cfs): 23.90
Runoff Volume (in): 10.631
Runoff Volume (ft3): 284406

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 25Y3D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 15.51
Runoff Volume (in): 10.886
Runoff Volume (ft3): 116571

Basin Name: BASIN B3-B
Group Name: BASE
Simulation: 25Y3D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33

BASIN SUMMARY

Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 5.98
Runoff Volume (in): 10.242
Runoff Volume (ft3): 43128

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 25Y3D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 20.21
Runoff Volume (in): 10.631
Runoff Volume (ft3): 149342

Basin Name: BASIN B4
Group Name: BASE
Simulation: 25Y3D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 60.11
Flow Max (cfs): 17.50
Runoff Volume (in): 10.111
Runoff Volume (ft3): 182781

Basin Name: BASIN B1
Group Name: BASE
Simulation: 3Y1D
Node Name: DRY RET 1A & 1B
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250

BASIN SUMMARY

Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 3.05
Runoff Volume (in): 4.666
Runoff Volume (ft3): 16936

Basin Name: BASIN B2
Group Name: BASE
Simulation: 3Y1D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.27
Flow Max (cfs): 12.21
Runoff Volume (in): 4.010
Runoff Volume (ft3): 107289

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 3Y1D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 8.47
Runoff Volume (in): 4.224
Runoff Volume (ft3): 45229

Basin Name: BASIN B3-B
Group Name: BASE
Simulation: 3Y1D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite

BASIN SUMMARY

Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 3.00
Runoff Volume (in): 3.700
Runoff Volume (ft3): 15579

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 3Y1D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 10.69
Runoff Volume (in): 4.010
Runoff Volume (ft3): 56338

Basin Name: BASIN B4
Group Name: BASE
Simulation: 3Y1D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 12.22
Flow Max (cfs): 8.24
Runoff Volume (in): 3.599
Runoff Volume (ft3): 65053

NODE MIN/MAX REPORT

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
DRY RET 1A & 1B	BASE	100Y3D	60.06	17.06	17.25	0.0009	11113	60.00	6.63	60.06	6.22
DRY RET 1A & 1B	BASE	10Y1D	12.14	16.98	17.25	-0.0005	10829	12.00	4.02	12.14	3.58
DRY RET 1A & 1B	BASE	25Y3D	60.07	17.03	17.25	0.0008	10982	60.00	5.29	60.07	4.94
DRY RET 1A & 1B	BASE	3Y1D	12.29	16.93	17.25	0.0003	10636	12.00	2.97	12.29	2.08
DRY RET 2	BASE	100Y3D	60.19	16.94	17.00	-0.0046	11661	60.00	19.42	60.07	13.18
DRY RET 2	BASE	10Y1D	12.16	16.32	17.00	-0.0020	10585	12.00	11.38	12.16	9.88
DRY RET 2	BASE	25Y3D	60.14	16.58	17.00	-0.0031	11022	60.00	15.47	60.09	12.15
DRY RET 2	BASE	3Y1D	12.17	16.18	17.00	-0.0010	10325	12.00	8.22	12.17	6.99
DRY RET 3	BASE	100Y3D	60.24	16.20	16.25	0.0028	9053	60.00	7.53	60.16	4.56
DRY RET 3	BASE	10Y1D	12.44	15.70	16.25	0.0021	8089	12.00	4.15	12.44	2.20
DRY RET 3	BASE	25Y3D	60.22	16.00	16.25	-0.0026	8663	60.00	5.96	60.20	3.73
DRY RET 3	BASE	3Y1D	12.59	15.45	16.25	0.0009	7600	12.08	2.90	12.59	1.13
OUTFALL	BASE	100Y3D	0.00	12.00	12.00	0.0000	130	64.37	8.41	0.00	0.00
OUTFALL	BASE	10Y1D	0.00	12.00	12.00	0.0000	130	14.67	6.60	0.00	0.00
OUTFALL	BASE	25Y3D	0.00	12.00	12.00	0.0000	130	64.20	7.86	0.00	0.00
OUTFALL	BASE	3Y1D	0.00	12.00	12.00	0.0000	130	14.10	5.56	0.00	0.00
STM-404	BASE	100Y3D	62.12	14.87	15.53	0.0375	118	60.46	20.22	60.47	20.20
STM-404	BASE	10Y1D	14.32	13.97	15.53	0.0375	118	12.97	9.27	12.97	9.22
STM-404	BASE	25Y3D	62.38	14.58	15.53	0.0375	118	60.63	18.34	60.64	18.32
STM-404	BASE	3Y1D	14.27	13.61	15.53	0.0375	118	12.93	5.11	12.92	5.10
STM-500	BASE	100Y3D	64.37	13.17	15.58	0.0032	228	64.36	8.41	64.37	8.41
STM-500	BASE	10Y1D	14.67	12.92	15.58	0.0032	246	14.66	6.60	14.67	6.60
STM-500	BASE	25Y3D	64.20	13.09	15.58	0.0032	235	64.18	7.86	64.20	7.86
STM-500	BASE	3Y1D	14.10	12.77	15.58	0.0032	251	14.09	5.56	14.10	5.56
WET DET 4	BASE	100Y3D	60.77	15.47	16.25	0.0034	55835	60.00	42.27	60.49	16.08
WET DET 4	BASE	10Y1D	12.83	14.58	16.25	0.0026	50465	12.08	25.24	12.97	9.11
WET DET 4	BASE	25Y3D	60.66	15.10	16.25	0.0031	53638	60.00	35.07	60.66	14.10
WET DET 4	BASE	3Y1D	12.95	14.16	16.25	0.0012	47955	12.08	17.21	12.88	5.08
WETLAND 1	BASE	100Y3D	62.63	16.15	16.00	0.0012	259929	60.17	35.68	60.02	4.88
WETLAND 1	BASE	10Y1D	16.32	15.58	16.00	0.0010	220067	12.25	20.48	16.32	1.59
WETLAND 1	BASE	25Y3D	62.36	15.92	16.00	0.0008	243721	60.17	28.37	60.34	4.67
WETLAND 1	BASE	3Y1D	24.10	15.46	16.00	0.0004	211529	12.25	14.23	24.10	0.47
WETLAND 2	BASE	100Y3D	64.41	14.80	14.00	0.0023	236617	60.17	40.55	64.42	8.10
WETLAND 2	BASE	10Y1D	14.78	13.93	14.00	0.0015	134270	12.37	18.39	14.80	6.35
WETLAND 2	BASE	25Y3D	64.22	14.53	14.00	0.0019	204551	60.25	32.43	64.22	7.58
WETLAND 2	BASE	3Y1D	14.16	13.60	14.00	0.0007	94230	12.48	11.68	14.17	5.33

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3DDRY	RET 1A & 1B	BASE	0.00	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	0.25	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	0.50	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	0.75	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.00	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.25	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.50	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.75	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.00	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.25	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.50	16.07	17.25	7650	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.75	16.07	17.25	7652	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.00	16.07	17.25	7655	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.25	16.07	17.25	7658	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.50	16.07	17.25	7662	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.75	16.08	17.25	7668	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.00	16.08	17.25	7674	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.25	16.08	17.25	7680	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.50	16.08	17.25	7687	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.75	16.08	17.25	7695	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.00	16.09	17.25	7704	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.25	16.09	17.25	7713	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.50	16.09	17.25	7722	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.75	16.09	17.25	7732	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.00	16.10	17.25	7742	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.25	16.10	17.25	7753	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.50	16.10	17.25	7764	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.75	16.11	17.25	7775	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.00	16.11	17.25	7787	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.25	16.11	17.25	7799	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.50	16.12	17.25	7812	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.75	16.12	17.25	7824	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.00	16.12	17.25	7837	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.25	16.13	17.25	7850	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.33	16.13	17.25	7855	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.42	16.13	17.25	7859	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.50	16.13	17.25	7864	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.58	16.13	17.25	7868	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.67	16.13	17.25	7873	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.75	16.14	17.25	7878	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.83	16.14	17.25	7882	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.92	16.14	17.25	7887	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.00	16.14	17.25	7891	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.08	16.14	17.25	7896	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.17	16.14	17.25	7901	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.25	16.14	17.25	7906	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.33	16.14	17.25	7910	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.42	16.15	17.25	7915	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.50	16.15	17.25	7920	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.58	16.15	17.25	7925	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.67	16.15	17.25	7929	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.75	16.15	17.25	7934	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.83	16.15	17.25	7939	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.92	16.15	17.25	7944	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.00	16.16	17.25	7949	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.08	16.16	17.25	7954	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.17	16.16	17.25	7959	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.25	16.16	17.25	7964	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.33	16.16	17.25	7969	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.42	16.16	17.25	7974	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.50	16.16	17.25	7979	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.58	16.17	17.25	7984	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.67	16.17	17.25	7989	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.75	16.17	17.25	7994	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.83	16.17	17.25	7999	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.92	16.17	17.25	8004	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.00	16.17	17.25	8009	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.08	16.17	17.25	8014	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.17	16.18	17.25	8019	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.25	16.18	17.25	8024	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.33	16.18	17.25	8029	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.42	16.18	17.25	8035	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.50	16.18	17.25	8040	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.58	16.18	17.25	8045	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.67	16.19	17.25	8050	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.75	16.19	17.25	8055	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.83	16.19	17.25	8061	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.92	16.19	17.25	8066	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	12.00	16.19	17.25	8071	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	12.50	16.20	17.25	8103	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	13.00	16.21	17.25	8135	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	13.50	16.22	17.25	8167	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	14.00	16.23	17.25	8200	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	14.50	16.24	17.25	8233	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	15.00	16.25	17.25	8266	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	15.50	16.26	17.25	8300	0.04	0.00	0.0	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3DDRY	RET 1A & 1B	BASE	16.00	16.27	17.25	8333	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	16.50	16.28	17.25	8367	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	17.00	16.29	17.25	8401	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	17.50	16.30	17.25	8435	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	18.00	16.31	17.25	8469	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	18.50	16.32	17.25	8504	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	19.00	16.33	17.25	8538	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	19.50	16.33	17.25	8572	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	20.00	16.34	17.25	8607	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	20.50	16.35	17.25	8641	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	21.00	16.36	17.25	8676	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	21.50	16.37	17.25	8710	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	22.00	16.38	17.25	8745	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	22.50	16.39	17.25	8779	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	23.00	16.40	17.25	8814	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	23.50	16.41	17.25	8849	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	24.00	16.42	17.25	8883	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	24.50	16.44	17.25	8926	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	25.00	16.45	17.25	8975	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	25.50	16.46	17.25	9025	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	26.00	16.48	17.25	9075	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	26.50	16.49	17.25	9125	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	27.00	16.51	17.25	9175	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	27.50	16.52	17.25	9225	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	28.00	16.54	17.25	9274	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	28.50	16.55	17.25	9324	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	29.00	16.56	17.25	9373	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	29.50	16.58	17.25	9422	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	30.00	16.59	17.25	9471	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	30.50	16.61	17.25	9520	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	31.00	16.62	17.25	9569	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	31.50	16.63	17.25	9617	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	32.00	16.65	17.25	9666	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	32.50	16.66	17.25	9714	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	33.00	16.68	17.25	9762	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	33.50	16.69	17.25	9810	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	34.00	16.70	17.25	9858	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	34.50	16.72	17.25	9906	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	35.00	16.73	17.25	9953	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	35.50	16.74	17.25	10000	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	36.00	16.76	17.25	10048	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	36.50	16.77	17.25	10095	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	37.00	16.79	17.25	10142	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	37.50	16.80	17.25	10189	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	38.00	16.81	17.25	10225	0.08	0.04	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	38.50	16.81	17.25	10238	0.08	0.07	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	39.00	16.81	17.25	10241	0.08	0.07	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	39.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	40.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	40.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	41.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	41.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	42.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	42.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	43.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	43.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	44.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	44.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	45.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	45.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	46.00	16.81	17.25	10242	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	46.50	16.81	17.25	10242	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	47.00	16.81	17.25	10243	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	47.50	16.81	17.25	10243	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	48.00	16.81	17.25	10243	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	48.50	16.81	17.25	10244	0.09	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	49.00	16.82	17.25	10246	0.09	0.09	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	49.50	16.82	17.25	10246	0.09	0.09	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	50.00	16.82	17.25	10247	0.09	0.09	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	50.50	16.82	17.25	10250	0.10	0.10	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	51.00	16.82	17.25	10253	0.10	0.10	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	51.50	16.82	17.25	10255	0.11	0.11	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	52.00	16.82	17.25	10257	0.11	0.11	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	52.50	16.82	17.25	10263	0.14	0.13	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	53.00	16.82	17.25	10268	0.15	0.14	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	53.50	16.82	17.25	10275	0.18	0.17	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	54.00	16.82	17.25	10280	0.18	0.18	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	54.50	16.83	17.25	10287	0.21	0.20	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	55.00	16.83	17.25	10291	0.22	0.22	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	55.50	16.83	17.25	10298	0.25	0.24	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	56.00	16.83	17.25	10302	0.26	0.25	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	56.50	16.83	17.25	10310	0.29	0.28	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	57.00	16.83	17.25	10314	0.30	0.30	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	57.50	16.84	17.25	10323	0.35	0.33	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	58.00	16.84	17.25	10333	0.38	0.37	0.4	0.2
25Y3DDRY	RET 1A & 1B	BASE	58.50	16.84	17.25	10343	0.42	0.41	0.4	0.2

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3DDRY	RET 1A & 1B	BASE	59.00	16.85	17.25	10368	0.55	0.51	0.4	0.2
25Y3DDRY	RET 1A & 1B	BASE	59.50	16.87	17.25	10422	0.86	0.77	0.4	0.3
25Y3DDRY	RET 1A & 1B	BASE	60.00	17.02	17.25	10965	5.29	4.79	0.6	0.4
25Y3DDRY	RET 1A & 1B	BASE	60.84	16.89	17.25	10507	0.91	1.24	0.8	0.6
25Y3DDRY	RET 1A & 1B	BASE	61.67	16.85	17.25	10371	0.47	0.53	0.8	0.7
25Y3DDRY	RET 1A & 1B	BASE	62.50	16.84	17.25	10327	0.31	0.35	0.8	0.7
25Y3DDRY	RET 1A & 1B	BASE	63.33	16.83	17.25	10307	0.27	0.27	0.9	0.7
25Y3DDRY	RET 1A & 1B	BASE	64.17	16.83	17.25	10303	0.22	0.26	0.9	0.7
25Y3DDRY	RET 1A & 1B	BASE	65.00	16.82	17.25	10276	0.16	0.17	0.9	0.7
25Y3DDRY	RET 1A & 1B	BASE	65.83	16.82	17.25	10273	0.16	0.16	0.9	0.7
25Y3DDRY	RET 1A & 1B	BASE	66.67	16.82	17.25	10273	0.16	0.16	0.9	0.8
25Y3DDRY	RET 1A & 1B	BASE	67.50	16.82	17.25	10273	0.16	0.16	0.9	0.8
25Y3DDRY	RET 1A & 1B	BASE	68.33	16.82	17.25	10267	0.12	0.14	0.9	0.8
25Y3DDRY	RET 1A & 1B	BASE	69.17	16.82	17.25	10255	0.11	0.11	0.9	0.8
25Y3DDRY	RET 1A & 1B	BASE	70.00	16.82	17.25	10254	0.11	0.11	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	70.83	16.82	17.25	10254	0.11	0.11	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	71.67	16.82	17.25	10254	0.11	0.11	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	72.50	16.81	17.25	10233	0.01	0.06	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	73.33	16.80	17.25	10207	0.00	0.01	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	74.17	16.80	17.25	10200	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	75.00	16.80	17.25	10197	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	75.83	16.80	17.25	10196	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	76.67	16.80	17.25	10195	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	77.50	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	78.33	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	79.17	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	80.00	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	80.83	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	81.67	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	82.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	83.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	84.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	85.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	85.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	86.67	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	87.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	88.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	89.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	90.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	90.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	91.67	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	92.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	93.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	94.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	95.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	95.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	96.67	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	97.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	98.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	99.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	100.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	100.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	101.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	102.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	103.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	104.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	105.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	106.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	107.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	108.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	109.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	110.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	111.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	112.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	113.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	114.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	115.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	116.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	117.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	118.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	119.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	120.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	121.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	122.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	123.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	124.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	125.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	126.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	127.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	128.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	129.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	130.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	131.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	132.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	133.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	134.83	16.80	17.25	10193	0.00	0.00	1.0	0.8

DRY RETENTION 1A & 1B RECOVERS
ATTENUATION VOLUME AT HOUR 73.33.
REFER TO APPENDIX 4 PONDS MODEL
FOR TREATMENT VOLUME RECOVERY.

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage ft	Area ft2	Inflow cfs	Outflow cfs	Vol In af	Vol Out af
25Y3DDRY	RET 1A & 1B	BASE	135.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	136.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	137.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	138.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	139.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	140.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	141.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	142.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	143.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	144.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	145.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	146.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	147.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	148.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	149.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	150.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	151.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	152.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	153.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	154.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	155.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	156.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	157.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	158.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	159.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	160.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	161.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	162.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	163.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	164.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	165.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	166.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	167.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	168.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	169.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	170.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	171.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	172.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	173.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	174.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	175.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	176.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	177.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	178.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	179.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	180.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	181.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	182.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	183.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	184.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	185.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	186.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	187.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	188.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	189.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	190.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	191.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	192.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	193.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	194.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	195.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	196.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	197.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	198.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	199.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	200.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	201.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	202.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	203.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	204.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	205.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	206.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	207.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	208.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	209.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	210.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	211.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	212.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	213.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	214.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	215.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	216.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	217.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	218.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	219.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	220.83	16.80	17.25	10193	0.00	0.00	1.0	0.8

NODE TIME SERIES REPORT

Simulation		Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
				hrs	ft	Stage ft	Area ft2	Inflow cfs	Outflow cfs	Vol In af	Vol Out af
25Y3DDRY	RET 1A & 1B	BASE	221.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	222.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	223.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	224.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	225.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	226.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	227.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	228.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	229.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	230.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	231.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	232.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	233.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	234.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	235.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	236.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	237.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	238.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	239.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	240.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	241.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	242.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	243.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	244.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	245.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	246.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	247.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	248.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	249.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	250.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	251.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	252.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	253.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	254.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	255.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	256.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	257.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	258.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	259.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	260.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	261.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	262.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	263.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	264.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	265.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	266.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	267.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	268.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	269.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	270.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	271.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	272.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	273.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	274.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	275.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	276.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	277.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	278.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	279.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	280.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	281.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	282.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	283.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	284.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	285.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	286.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	287.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	288.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	289.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	290.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	291.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	292.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	293.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	294.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	295.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	296.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	297.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	298.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	299.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	300.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	301.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	302.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	303.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	304.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	305.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	
25Y3DDRY	RET 1A & 1B	BASE	306.83	16.80	17.25	10193	0.00	0.00	1.0	0.8	

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3DDRY	RET 1A & 1B	BASE	307.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	308.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	309.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	310.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	311.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	312.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	313.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	314.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	315.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	316.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	317.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	318.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	319.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	320.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	321.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	322.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	323.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	324.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	325.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	326.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	327.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	328.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	329.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	330.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	331.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	332.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	333.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	334.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	335.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	336.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	337.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	338.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	339.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	340.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	341.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	342.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	343.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	344.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	345.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	346.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	347.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	348.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	349.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	350.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	351.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	352.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	353.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	354.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	355.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	356.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	357.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	358.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	359.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY	RET 1A & 1B	BASE	360.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3D	DRY RET 2	BASE	0.00	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	0.25	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	0.50	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	0.75	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	1.00	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	1.25	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	1.50	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	1.75	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	2.00	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	2.25	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	2.50	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	2.75	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	3.00	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	3.25	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	3.50	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	3.75	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	4.00	15.20	17.00	8625	0.00	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	4.25	15.20	17.00	8626	0.01	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	4.50	15.20	17.00	8627	0.01	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	4.75	15.20	17.00	8629	0.01	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	5.00	15.20	17.00	8632	0.02	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	5.25	15.21	17.00	8635	0.02	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	5.50	15.21	17.00	8639	0.02	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	5.75	15.21	17.00	8644	0.03	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	6.00	15.21	17.00	8649	0.03	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	6.25	15.22	17.00	8655	0.03	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	6.50	15.22	17.00	8661	0.04	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	6.75	15.22	17.00	8668	0.04	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	7.00	15.23	17.00	8675	0.04	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	7.25	15.23	17.00	8683	0.04	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	7.50	15.24	17.00	8692	0.05	0.00	0.0	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	DRY RET 2	BASE	7.75	15.24	17.00	8700	0.05	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.00	15.25	17.00	8710	0.05	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.25	15.25	17.00	8719	0.05	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.33	15.26	17.00	8723	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.42	15.26	17.00	8726	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.50	15.26	17.00	8729	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.58	15.26	17.00	8733	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.67	15.26	17.00	8736	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.75	15.27	17.00	8740	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.83	15.27	17.00	8743	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.92	15.27	17.00	8747	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.00	15.27	17.00	8751	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.08	15.27	17.00	8754	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.17	15.28	17.00	8758	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.25	15.28	17.00	8762	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.33	15.28	17.00	8766	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.42	15.28	17.00	8769	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.50	15.29	17.00	8773	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.58	15.29	17.00	8777	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.67	15.29	17.00	8781	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.75	15.29	17.00	8785	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.83	15.29	17.00	8789	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.92	15.30	17.00	8793	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.00	15.30	17.00	8797	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.08	15.30	17.00	8801	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.17	15.30	17.00	8806	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.25	15.31	17.00	8810	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.33	15.31	17.00	8814	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.42	15.31	17.00	8818	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.50	15.31	17.00	8823	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.58	15.32	17.00	8827	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.67	15.32	17.00	8831	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.75	15.32	17.00	8836	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.83	15.32	17.00	8840	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.92	15.33	17.00	8845	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.00	15.33	17.00	8849	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.08	15.33	17.00	8854	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.17	15.33	17.00	8858	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.25	15.34	17.00	8863	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.33	15.34	17.00	8867	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.42	15.34	17.00	8872	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.50	15.34	17.00	8877	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.58	15.35	17.00	8881	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.67	15.35	17.00	8886	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.75	15.35	17.00	8891	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.83	15.36	17.00	8895	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.92	15.36	17.00	8900	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	12.00	15.36	17.00	8905	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	12.50	15.38	17.00	8935	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	13.00	15.40	17.00	8965	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	13.50	15.41	17.00	8996	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	14.00	15.43	17.00	9028	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	14.50	15.45	17.00	9061	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	15.00	15.47	17.00	9094	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	15.50	15.49	17.00	9128	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	16.00	15.51	17.00	9162	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	16.50	15.53	17.00	9197	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	17.00	15.55	17.00	9233	0.11	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	17.50	15.57	17.00	9268	0.11	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	18.00	15.59	17.00	9305	0.11	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	18.50	15.61	17.00	9340	0.11	0.02	0.1	0.0
25Y3D	DRY RET 2	BASE	19.00	15.62	17.00	9364	0.11	0.06	0.1	0.0
25Y3D	DRY RET 2	BASE	19.50	15.63	17.00	9376	0.11	0.09	0.1	0.0
25Y3D	DRY RET 2	BASE	20.00	15.63	17.00	9382	0.11	0.10	0.1	0.0
25Y3D	DRY RET 2	BASE	20.50	15.64	17.00	9385	0.12	0.11	0.1	0.0
25Y3D	DRY RET 2	BASE	21.00	15.64	17.00	9386	0.12	0.11	0.1	0.0
25Y3D	DRY RET 2	BASE	21.50	15.64	17.00	9387	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	22.00	15.64	17.00	9388	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	22.50	15.64	17.00	9388	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	23.00	15.64	17.00	9389	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	23.50	15.64	17.00	9389	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	24.00	15.64	17.00	9389	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	24.50	15.64	17.00	9397	0.17	0.14	0.1	0.1
25Y3D	DRY RET 2	BASE	25.00	15.65	17.00	9405	0.18	0.17	0.2	0.1
25Y3D	DRY RET 2	BASE	25.50	15.65	17.00	9408	0.18	0.18	0.2	0.1
25Y3D	DRY RET 2	BASE	26.00	15.65	17.00	9410	0.19	0.18	0.2	0.1
25Y3D	DRY RET 2	BASE	26.50	15.65	17.00	9411	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	27.00	15.65	17.00	9412	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	27.50	15.65	17.00	9412	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	28.00	15.65	17.00	9413	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	28.50	15.65	17.00	9413	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	29.00	15.65	17.00	9413	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	29.50	15.65	17.00	9414	0.20	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	30.00	15.65	17.00	9414	0.20	0.20	0.2	0.1
25Y3D	DRY RET 2	BASE	30.50	15.65	17.00	9415	0.20	0.20	0.2	0.1
25Y3D	DRY RET 2	BASE	31.00	15.65	17.00	9415	0.20	0.20	0.2	0.2

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 2	BASE	31.50	15.65	17.00	9415	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	32.00	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	32.50	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	33.00	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	33.50	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	34.00	15.65	17.00	9417	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	34.50	15.65	17.00	9417	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	35.00	15.65	17.00	9417	0.21	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	35.50	15.65	17.00	9417	0.21	0.21	0.3	0.2
25Y3D	DRY RET 2	BASE	36.00	15.65	17.00	9418	0.21	0.21	0.3	0.2
25Y3D	DRY RET 2	BASE	36.50	15.66	17.00	9418	0.21	0.21	0.3	0.2
25Y3D	DRY RET 2	BASE	37.00	15.66	17.00	9418	0.21	0.21	0.3	0.3
25Y3D	DRY RET 2	BASE	37.50	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	38.00	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	38.50	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	39.00	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	39.50	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	40.00	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	40.50	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	41.00	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	41.50	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	42.00	15.66	17.00	9420	0.22	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	42.50	15.66	17.00	9420	0.22	0.22	0.4	0.3
25Y3D	DRY RET 2	BASE	43.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	43.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	44.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	44.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	45.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	45.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	46.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	46.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	47.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	47.50	15.66	17.00	9422	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	48.00	15.66	17.00	9422	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	48.50	15.66	17.00	9425	0.24	0.23	0.6	0.5
25Y3D	DRY RET 2	BASE	49.00	15.66	17.00	9428	0.24	0.24	0.6	0.5
25Y3D	DRY RET 2	BASE	49.50	15.66	17.00	9429	0.25	0.24	0.6	0.5
25Y3D	DRY RET 2	BASE	50.00	15.66	17.00	9430	0.25	0.25	0.6	0.5
25Y3D	DRY RET 2	BASE	50.50	15.67	17.00	9436	0.29	0.27	0.6	0.5
25Y3D	DRY RET 2	BASE	51.00	15.67	17.00	9441	0.30	0.29	0.6	0.5
25Y3D	DRY RET 2	BASE	51.50	15.67	17.00	9446	0.32	0.31	0.6	0.5
25Y3D	DRY RET 2	BASE	52.00	15.67	17.00	9450	0.32	0.32	0.6	0.5
25Y3D	DRY RET 2	BASE	52.50	15.68	17.00	9462	0.41	0.37	0.6	0.5
25Y3D	DRY RET 2	BASE	53.00	15.69	17.00	9472	0.42	0.41	0.7	0.6
25Y3D	DRY RET 2	BASE	53.50	15.69	17.00	9487	0.51	0.47	0.7	0.6
25Y3D	DRY RET 2	BASE	54.00	15.70	17.00	9496	0.52	0.51	0.7	0.6
25Y3D	DRY RET 2	BASE	54.50	15.71	17.00	9511	0.61	0.57	0.7	0.6
25Y3D	DRY RET 2	BASE	55.00	15.71	17.00	9520	0.63	0.61	0.8	0.7
25Y3D	DRY RET 2	BASE	55.50	15.72	17.00	9533	0.72	0.68	0.8	0.7
25Y3D	DRY RET 2	BASE	56.00	15.73	17.00	9542	0.73	0.72	0.8	0.7
25Y3D	DRY RET 2	BASE	56.50	15.74	17.00	9557	0.84	0.80	0.8	0.7
25Y3D	DRY RET 2	BASE	57.00	15.74	17.00	9567	0.86	0.85	0.9	0.8
25Y3D	DRY RET 2	BASE	57.50	15.75	17.00	9586	1.00	0.94	0.9	0.8
25Y3D	DRY RET 2	BASE	58.00	15.76	17.00	9606	1.10	1.05	1.0	0.8
25Y3D	DRY RET 2	BASE	58.50	15.77	17.00	9626	1.22	1.17	1.0	0.9
25Y3D	DRY RET 2	BASE	59.00	15.80	17.00	9674	1.59	1.45	1.1	0.9
25Y3D	DRY RET 2	BASE	59.50	15.86	17.00	9780	2.48	2.16	1.2	1.0
25Y3D	DRY RET 2	BASE	60.00	16.48	17.00	10862	15.45	11.93	1.5	1.3
25Y3D	DRY RET 2	BASE	60.84	16.01	17.00	10037	2.65	4.21	2.1	1.9
25Y3D	DRY RET 2	BASE	61.67	15.82	17.00	9702	1.38	1.63	2.3	2.1
25Y3D	DRY RET 2	BASE	62.50	15.76	17.00	9606	0.92	1.05	2.4	2.2
25Y3D	DRY RET 2	BASE	63.33	15.74	17.00	9561	0.78	0.81	2.4	2.2
25Y3D	DRY RET 2	BASE	64.17	15.73	17.00	9550	0.65	0.76	2.5	2.3
25Y3D	DRY RET 2	BASE	65.00	15.70	17.00	9497	0.47	0.51	2.5	2.3
25Y3D	DRY RET 2	BASE	65.83	15.70	17.00	9489	0.47	0.47	2.5	2.4
25Y3D	DRY RET 2	BASE	66.67	15.70	17.00	9488	0.47	0.47	2.6	2.4
25Y3D	DRY RET 2	BASE	67.50	15.70	17.00	9488	0.47	0.47	2.6	2.4
25Y3D	DRY RET 2	BASE	68.33	15.69	17.00	9478	0.36	0.43	2.6	2.5
25Y3D	DRY RET 2	BASE	69.17	15.68	17.00	9453	0.31	0.33	2.7	2.5
25Y3D	DRY RET 2	BASE	70.00	15.67	17.00	9449	0.31	0.31	2.7	2.5
25Y3D	DRY RET 2	BASE	70.83	15.67	17.00	9448	0.31	0.31	2.7	2.5
25Y3D	DRY RET 2	BASE	71.67	15.67	17.00	9449	0.31	0.31	2.7	2.5
25Y3D	DRY RET 2	BASE	72.50	15.65	17.00	9411	0.04	0.19	2.7	2.6
25Y3D	DRY RET 2	BASE	73.33	15.62	17.00	9359	0.00	0.05	2.7	2.6
25Y3D	DRY RET 2	BASE	74.17	15.61	17.00	9342	0.00	0.02	2.7	2.6
25Y3D	DRY RET 2	BASE	75.00	15.61	17.00	9334	0.00	0.01	2.7	2.6
25Y3D	DRY RET 2	BASE	75.83	15.60	17.00	9330	0.00	0.01	2.7	2.6
25Y3D	DRY RET 2	BASE	76.67	15.60	17.00	9328	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	77.50	15.60	17.00	9326	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	78.33	15.60	17.00	9325	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	79.17	15.60	17.00	9325	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	80.00	15.60	17.00	9324	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	80.83	15.60	17.00	9324	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	81.67	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	82.50	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	83.33	15.60	17.00	9323	0.00	0.00	2.7	2.6

DRY RETENTION 2 RECOVERS
ATTENUATION VOLUME AT HOUR 75.83.
REFER TO APPENDIX 4 PONDS MODEL
FOR TREATMENT VOLUME RECOVERY.

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	DRY RET 2	BASE	84.17	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	85.00	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	85.83	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	86.67	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	87.50	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	88.33	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	89.17	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	90.00	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	90.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	91.67	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	92.50	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	93.33	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	94.17	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	95.00	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	95.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	96.67	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	97.50	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	98.33	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	99.17	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	100.00	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	100.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	101.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	102.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	103.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	104.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	105.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	106.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	107.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	108.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	109.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	110.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	111.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	112.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	113.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	114.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	115.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	116.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	117.83	15.60	17.00	9322	0.00			

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total	
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out	
					ft	ft2	cfs	cfs	af	af	
25Y3D	DRY	RET 2	BASE	166.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	167.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	168.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	169.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	170.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	171.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	172.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	173.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	174.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	175.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	176.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	177.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	178.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	179.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	180.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	181.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	182.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	183.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	184.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	185.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	186.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	187.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	188.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	189.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	190.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	191.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	192.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	193.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	194.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	195.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	196.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	197.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	198.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	199.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	200.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	201.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	202.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	203.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	204.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	205.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	206.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	207.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	208.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	209.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	210.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	211.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	212.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	213.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	214.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	215.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	216.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	217.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	218.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	219.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	220.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	221.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	222.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	223.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	224.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	225.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	226.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	227.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	228.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	229.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	230.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	231.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	232.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	233.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	234.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	235.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	236.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	237.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	238.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	239.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	240.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	241.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	242.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	243.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	244.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	245.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	246.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	247.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	248.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	249.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	250.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY	RET 2	BASE	251.83	15.60	17.00	9322	0.00	0.00	2.7	2.6

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	DRY RET 2	BASE	252.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	253.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	254.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	255.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	256.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	257.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	258.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	259.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	260.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	261.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	262.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	263.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	264.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	265.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	266.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	267.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	268.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	269.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	270.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	271.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	272.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	273.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	274.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	275.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	276.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	277.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	278.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	279.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	280.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	281.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	282.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	283.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	284.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	285.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	286.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	287.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	288.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	289.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	290.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	291.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	292.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	293.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	294.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	295.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	296.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	297.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	298.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	299.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	300.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	301.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	302.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	303.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	304.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	305.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	306.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	307.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	308.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	309.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	310.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	311.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	312.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	313.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	314.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	315.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	316.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	317.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	318.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	319.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	320.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	321.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	322.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	323.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	324.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	325.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	326.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	327.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	328.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	329.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	330.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	331.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	332.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	333.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	334.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	335.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	336.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	337.83	15.60	17.00	9322	0.00	0.00	2.7	2.6

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 2	BASE	338.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	339.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	340.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	341.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	342.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	343.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	344.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	345.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	346.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	347.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	348.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	349.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	350.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	351.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	352.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	353.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	354.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	355.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	356.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	357.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	358.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	359.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	360.00	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 3	BASE	0.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	0.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	0.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	0.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.75	14.29	16.25	5354	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.00	14.29	16.25	5354	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.25	14.29	16.25	5355	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.50	14.29	16.25	5357	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.75	14.29	16.25	5358	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.00	14.29	16.25	5360	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.25	14.29	16.25	5363	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.33	14.30	16.25	5363	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.42	14.30	16.25	5364	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.50	14.30	16.25	5365	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.58	14.30	16.25	5366	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.67	14.30	16.25	5367	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.75	14.30	16.25	5368	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.83	14.30	16.25	5369	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.92	14.30	16.25	5370	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.00	14.30	16.25	5371	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.08	14.30	16.25	5372	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.17	14.30	16.25	5373	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.25	14.30	16.25	5374	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.33	14.30	16.25	5375	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.42	14.30	16.25	5376	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.50	14.30	16.25	5378	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.58	14.30	16.25	5379	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.67	14.30	16.25	5380	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.75	14.30	16.25	5381	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.83	14.31	16.25	5383	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.92	14.31	16.25	5384	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.00	14.31	16.25	5386	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.08	14.31	16.25	5387	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.17	14.31	16.25	5388	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.25	14.31	16.25	5390	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.33	14.31	16.25	5391	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.42	14.31	16.25	5393	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.50	14.31	16.25	5394	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.58	14.31	16.25	5396	0.01	0.00	0.0	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	DRY RET 3	BASE	10.67	14.31	16.25	5397	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.75	14.31	16.25	5399	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.83	14.31	16.25	5401	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.92	14.32	16.25	5402	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.00	14.32	16.25	5404	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.08	14.32	16.25	5406	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.17	14.32	16.25	5407	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.25	14.32	16.25	5409	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.33	14.32	16.25	5411	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.42	14.32	16.25	5413	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.50	14.32	16.25	5414	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.58	14.32	16.25	5416	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.67	14.32	16.25	5418	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.75	14.32	16.25	5420	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.83	14.33	16.25	5422	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.92	14.33	16.25	5424	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	12.00	14.33	16.25	5426	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	12.50	14.33	16.25	5438	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	13.00	14.34	16.25	5451	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	13.50	14.35	16.25	5464	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	14.00	14.35	16.25	5478	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	14.50	14.36	16.25	5493	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	15.00	14.37	16.25	5509	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	15.50	14.38	16.25	5525	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	16.00	14.39	16.25	5541	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	16.50	14.40	16.25	5558	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	17.00	14.41	16.25	5576	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	17.50	14.41	16.25	5594	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	18.00	14.42	16.25	5612	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	18.50	14.43	16.25	5631	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	19.00	14.44	16.25	5650	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	19.50	14.45	16.25	5670	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	20.00	14.46	16.25	5690	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	20.50	14.47	16.25	5710	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	21.00	14.49	16.25	5731	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	21.50	14.50	16.25	5752	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	22.00	14.51	16.25	5773	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	22.50	14.52	16.25	5795	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	23.00	14.53	16.25	5817	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	23.50	14.54	16.25	5839	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	24.00	14.55	16.25	5861	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	24.50	14.57	16.25	5889	0.05	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	25.00	14.58	16.25	5922	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	25.50	14.60	16.25	5956	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	26.00	14.62	16.25	5989	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	26.50	14.64	16.25	6024	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	27.00	14.65	16.25	6058	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	27.50	14.67	16.25	6093	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	28.00	14.69	16.25	6129	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	28.50	14.71	16.25	6164	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	29.00	14.73	16.25	6200	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	29.50	14.75	16.25	6235	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	30.00	14.76	16.25	6272	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	30.50	14.78	16.25	6308	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	31.00	14.80	16.25	6344	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	31.50	14.82	16.25	6381	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	32.00	14.84	16.25	6417	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	32.50	14.86	16.25	6454	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	33.00	14.88	16.25	6491	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	33.50	14.90	16.25	6528	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	34.00	14.92	16.25	6565	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	34.50	14.93	16.25	6602	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	35.00	14.95	16.25	6639	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	35.50	14.97	16.25	6676	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	36.00	14.99	16.25	6713	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	36.50	15.01	16.25	6750	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	37.00	15.03	16.25	6782	0.07	0.02	0.1	0.0
25Y3D	DRY RET 3	BASE	37.50	15.04	16.25	6807	0.07	0.03	0.1	0.0
25Y3D	DRY RET 3	BASE	38.00	15.05	16.25	6826	0.07	0.04	0.1	0.0
25Y3D	DRY RET 3	BASE	38.50	15.06	16.25	6839	0.07	0.05	0.1	0.0
25Y3D	DRY RET 3	BASE	39.00	15.06	16.25	6849	0.07	0.06	0.1	0.0
25Y3D	DRY RET 3	BASE	39.50	15.07	16.25	6856	0.08	0.06	0.1	0.0
25Y3D	DRY RET 3	BASE	40.00	15.07	16.25	6861	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	40.50	15.07	16.25	6864	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	41.00	15.07	16.25	6867	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	41.50	15.07	16.25	6869	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	42.00	15.07	16.25	6870	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	42.50	15.07	16.25	6871	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	43.00	15.07	16.25	6872	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	43.50	15.07	16.25	6872	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	44.00	15.08	16.25	6873	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	44.50	15.08	16.25	6873	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	45.00	15.08	16.25	6874	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	45.50	15.08	16.25	6874	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	46.00	15.08	16.25	6875	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	46.50	15.08	16.25	6875	0.08	0.08	0.2	0.1

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 3	BASE	47.00	15.08	16.25	6875	0.08	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	47.50	15.08	16.25	6876	0.08	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	48.00	15.08	16.25	6876	0.08	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	48.50	15.08	16.25	6878	0.09	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	49.00	15.08	16.25	6881	0.09	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	49.50	15.08	16.25	6884	0.09	0.09	0.2	0.1
25Y3D	DRY RET 3	BASE	50.00	15.08	16.25	6886	0.09	0.09	0.2	0.1
25Y3D	DRY RET 3	BASE	50.50	15.08	16.25	6892	0.11	0.09	0.2	0.1
25Y3D	DRY RET 3	BASE	51.00	15.09	16.25	6898	0.11	0.10	0.2	0.1
25Y3D	DRY RET 3	BASE	51.50	15.09	16.25	6905	0.12	0.10	0.2	0.1
25Y3D	DRY RET 3	BASE	52.00	15.09	16.25	6911	0.12	0.11	0.2	0.1
25Y3D	DRY RET 3	BASE	52.50	15.10	16.25	6924	0.15	0.12	0.2	0.1
25Y3D	DRY RET 3	BASE	53.00	15.11	16.25	6938	0.16	0.13	0.2	0.1
25Y3D	DRY RET 3	BASE	53.50	15.12	16.25	6955	0.19	0.15	0.2	0.1
25Y3D	DRY RET 3	BASE	54.00	15.13	16.25	6972	0.19	0.17	0.2	0.1
25Y3D	DRY RET 3	BASE	54.50	15.14	16.25	6991	0.23	0.19	0.2	0.1
25Y3D	DRY RET 3	BASE	55.00	15.14	16.25	7008	0.23	0.21	0.3	0.1
25Y3D	DRY RET 3	BASE	55.50	15.15	16.25	7027	0.27	0.23	0.3	0.1
25Y3D	DRY RET 3	BASE	56.00	15.16	16.25	7044	0.27	0.25	0.3	0.1
25Y3D	DRY RET 3	BASE	56.50	15.17	16.25	7065	0.32	0.27	0.3	0.2
25Y3D	DRY RET 3	BASE	57.00	15.18	16.25	7083	0.32	0.29	0.3	0.2
25Y3D	DRY RET 3	BASE	57.50	15.20	16.25	7107	0.38	0.32	0.3	0.2
25Y3D	DRY RET 3	BASE	58.00	15.21	16.25	7136	0.42	0.36	0.3	0.2
25Y3D	DRY RET 3	BASE	58.50	15.23	16.25	7166	0.46	0.40	0.3	0.2
25Y3D	DRY RET 3	BASE	59.00	15.25	16.25	7220	0.60	0.48	0.4	0.2
25Y3D	DRY RET 3	BASE	59.50	15.31	16.25	7336	0.95	0.66	0.4	0.3
25Y3D	DRY RET 3	BASE	60.00	15.87	16.25	8403	5.96	3.01	0.5	0.3
25Y3D	DRY RET 3	BASE	60.84	15.74	16.25	8167	1.03	2.30	0.8	0.5
25Y3D	DRY RET 3	BASE	61.67	15.42	16.25	7544	0.53	1.02	0.8	0.6
25Y3D	DRY RET 3	BASE	62.50	15.29	16.25	7288	0.36	0.58	0.9	0.7
25Y3D	DRY RET 3	BASE	63.33	15.22	16.25	7163	0.30	0.40	0.9	0.7
25Y3D	DRY RET 3	BASE	64.17	15.20	16.25	7113	0.25	0.33	0.9	0.7
25Y3D	DRY RET 3	BASE	65.00	15.16	16.25	7043	0.18	0.25	0.9	0.8
25Y3D	DRY RET 3	BASE	65.83	15.15	16.25	7010	0.18	0.21	0.9	0.8
25Y3D	DRY RET 3	BASE	66.67	15.14	16.25	6996	0.18	0.19	1.0	0.8
25Y3D	DRY RET 3	BASE	67.50	15.14	16.25	6991	0.18	0.19	1.0	0.8
25Y3D	DRY RET 3	BASE	68.33	15.13	16.25	6982	0.14	0.18	1.0	0.8
25Y3D	DRY RET 3	BASE	69.17	15.12	16.25	6952	0.12	0.15	1.0	0.8
25Y3D	DRY RET 3	BASE	70.00	15.11	16.25	6937	0.12	0.13	1.0	0.8
25Y3D	DRY RET 3	BASE	70.83	15.10	16.25	6931	0.12	0.13	1.0	0.8
25Y3D	DRY RET 3	BASE	71.67	15.10	16.25	6928	0.12	0.12	1.0	0.9
25Y3D	DRY RET 3	BASE	72.50	15.09	16.25	6899	0.02	0.10	1.0	0.9
25Y3D	DRY RET 3	BASE	73.33	15.06	16.25	6840	0.00	0.05	1.0	0.9
25Y3D	DRY RET 3	BASE	74.17	15.04	16.25	6806	0.00	0.03	1.0	0.9
25Y3D	DRY RET 3	BASE	75.00	15.03	16.25	6785	0.00	0.02	1.0	0.9
25Y3D	DRY RET 3	BASE	75.83	15.02	16.25	6772	0.00	0.01	1.0	0.9
25Y3D	DRY RET 3	BASE	76.67	15.02	16.25	6763	0.00	0.01	1.0	0.9
25Y3D	DRY RET 3	BASE	77.50	15.01	16.25	6756	0.00	0.01	1.0	0.9
25Y3D	DRY RET 3	BASE	78.33	15.01	16.25	6751	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	79.17	15.01	16.25	6747	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	80.00	15.01	16.25	6744	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	80.83	15.01	16.25	6742	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	81.67	15.01	16.25	6740	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	82.50	15.01	16.25	6739	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	83.33	15.01	16.25	6737	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	84.17	15.00	16.25	6736	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	85.00	15.00	16.25	6735	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	85.83	15.00	16.25	6735	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	86.67	15.00	16.25	6734	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	87.50	15.00	16.25	6733	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	88.33	15.00	16.25	6733	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	89.17	15.00	16.25	6732	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	90.00	15.00	16.25	6732	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	90.83	15.00	16.25	6732	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	91.67	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	92.50	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	93.33	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	94.17	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	95.00	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	95.83	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	96.67	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	97.50	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	98.33	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	99.17	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	100.00	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	100.83	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	101.67	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	102.50	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	103.33	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	104.17	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	105.00	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	105.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	106.67	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	107.50	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	108.33	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	109.17	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	110.00	15.00	16.25	6729	0.00	0.00	1.0	0.9

DRY RETENTION 3 RECOVERS
ATTENUATION VOLUME AT HOUR 84.17.
REFER TO APPENDIX 4 PONDS MODEL
FOR TREATMENT VOLUME RECOVERY.

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	DRY RET 3	BASE	111.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	112.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	113.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	114.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	115.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	116.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	117.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	118.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	119.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	120.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	121.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	122.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	123.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	124.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	125.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	126.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	127.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	128.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	129.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	130.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	131.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	132.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	133.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	134.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	135.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	136.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	137.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	138.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	139.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	140.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	141.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	142.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	143.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	144.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	145.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	146.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	147.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	148.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	149.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	150.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	151.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	152.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	153.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	154.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	155.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	156.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	157.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	158.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	159.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	160.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	161.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	162.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	163.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	164.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	165.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	166.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	167.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	168.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	169.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	170.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	171.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	172.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	173.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	174.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	175.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	176.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	177.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	178.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	179.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	180.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	181.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	182.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	183.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	184.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	185.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	186.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	187.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	188.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	189.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	190.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	191.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	192.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	193.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	194.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	195.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	196.83	15.00	16.25	6728	0.00	0.00	1.0	0.9

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage ft	Area ft2	Inflow cfs	Outflow cfs	Vol In af	Vol Out af
25Y3D	DRY RET 3	BASE	197.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	198.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	199.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	200.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	201.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	202.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	203.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	204.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	205.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	206.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	207.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	208.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	209.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	210.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	211.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	212.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	213.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	214.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	215.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	216.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	217.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	218.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	219.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	220.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	221.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	222.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	223.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	224.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	225.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	226.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	227.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	228.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	229.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	230.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	231.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	232.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	233.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	234.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	235.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	236.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	237.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	238.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	239.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	240.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	241.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	242.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	243.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	244.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	245.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	246.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	247.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	248.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	249.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	250.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	251.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	252.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	253.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	254.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	255.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	256.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	257.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	258.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	259.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	260.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	261.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	262.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	263.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	264.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	265.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	266.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	267.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	268.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	269.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	270.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	271.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	272.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	273.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	274.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	275.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	276.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	277.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	278.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	279.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	280.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	281.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	282.83	15.00	16.25	6728	0.00	0.00	1.0	0.9

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	DRY RET 3	BASE	283.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	284.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	285.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	286.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	287.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	288.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	289.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	290.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	291.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	292.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	293.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	294.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	295.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	296.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	297.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	298.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	299.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	300.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	301.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	302.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	303.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	304.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	305.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	306.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	307.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	308.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	309.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	310.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	311.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	312.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	313.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	314.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	315.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	316.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	317.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	318.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	319.83	15.00	16.25	6728	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	320.83	15.00	16.2					

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	WET DET 4	BASE	1.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.00	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.25	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.50	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.00	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.25	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.50	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.00	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.25	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.50	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.00	13.00	16.25	40947	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.25	13.00	16.25	40947	0.01	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.50	13.00	16.25	40948	0.01	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.75	13.00	16.25	40950	0.02	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.00	13.00	16.25	40952	0.02	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.25	13.00	16.25	40955	0.02	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.50	13.00	16.25	40959	0.03	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.75	13.00	16.25	40962	0.03	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.00	13.00	16.25	40967	0.03	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.25	13.00	16.25	40971	0.04	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.50	13.01	16.25	40977	0.04	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.75	13.01	16.25	40982	0.04	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.00	13.01	16.25	40988	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.25	13.01	16.25	40995	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.33	13.01	16.25	40997	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.42	13.01	16.25	40999	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.50	13.01	16.25	41002	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.58	13.01	16.25	41004	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.67	13.01	16.25	41006	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.75	13.01	16.25	41009	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.83	13.01	16.25	41011	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.92	13.01	16.25	41014	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.00	13.01	16.25	41016	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.08	13.01	16.25	41019	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.17	13.01	16.25	41022	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.25	13.01	16.25	41024	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.33	13.01	16.25	41027	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.42	13.01	16.25	41030	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.50	13.01	16.25	41033	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.58	13.01	16.25	41036	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.67	13.02	16.25	41038	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.75	13.02	16.25	41041	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.83	13.02	16.25	41044	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.92	13.02	16.25	41047	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.00	13.02	16.25	41050	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.08	13.02	16.25	41053	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.17	13.02	16.25	41056	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.25	13.02	16.25	41060	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.33	13.02	16.25	41063	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.42	13.02	16.25	41066	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.50	13.02	16.25	41069	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.58	13.02	16.25	41072	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.67	13.02	16.25	41076	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.75	13.02	16.25	41079	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.83	13.02	16.25	41082	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.92	13.02	16.25	41086	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.00	13.02	16.25	41089	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.08	13.02	16.25	41093	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.17	13.02	16.25	41096	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.25	13.03	16.25	41100	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.33	13.03	16.25	41103	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.42	13.03	16.25	41107	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.50	13.03	16.25	41110	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.58	13.03	16.25	41114	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.67	13.03	16.25	41118	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.75	13.03	16.25	41121	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.83	13.03	16.25	41125	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.92	13.03	16.25	41129	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	12.00	13.03	16.25	41133	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	12.50	13.03	16.25	41156	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	13.00	13.04	16.25	41180	0.10	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	13.50	13.04	16.25	41205	0.10	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	14.00	13.05	16.25	41230	0.10	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	14.50	13.05	16.25	41256	0.11	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	15.00	13.06	16.25	41283	0.11	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	15.50	13.06	16.25	41311	0.11	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	16.00	13.07	16.25	41339	0.11	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	16.50	13.07	16.25	41367	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	17.00	13.07	16.25	41396	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	17.50	13.08	16.25	41425	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	18.00	13.08	16.25	41454	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	18.50	13.09	16.25	41485	0.14	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	19.00	13.10	16.25	41525	0.19	0.02	0.1	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3D	WET DET 4	BASE	19.50	13.10	16.25	41574	0.22	0.02	0.1	0.0
25Y3D	WET DET 4	BASE	20.00	13.11	16.25	41629	0.24	0.02	0.1	0.0
25Y3D	WET DET 4	BASE	20.50	13.12	16.25	41686	0.24	0.02	0.1	0.0
25Y3D	WET DET 4	BASE	21.00	13.13	16.25	41744	0.25	0.03	0.1	0.0
25Y3D	WET DET 4	BASE	21.50	13.14	16.25	41802	0.25	0.03	0.1	0.0
25Y3D	WET DET 4	BASE	22.00	13.15	16.25	41860	0.26	0.04	0.2	0.0
25Y3D	WET DET 4	BASE	22.50	13.16	16.25	41917	0.26	0.04	0.2	0.0
25Y3D	WET DET 4	BASE	23.00	13.17	16.25	41975	0.26	0.04	0.2	0.0
25Y3D	WET DET 4	BASE	23.50	13.18	16.25	42031	0.27	0.05	0.2	0.0
25Y3D	WET DET 4	BASE	24.00	13.19	16.25	42088	0.27	0.05	0.2	0.0
25Y3D	WET DET 4	BASE	24.50	13.20	16.25	42154	0.35	0.06	0.2	0.0
25Y3D	WET DET 4	BASE	25.00	13.21	16.25	42234	0.39	0.06	0.2	0.0
25Y3D	WET DET 4	BASE	25.50	13.23	16.25	42319	0.40	0.07	0.2	0.0
25Y3D	WET DET 4	BASE	26.00	13.24	16.25	42404	0.41	0.07	0.3	0.0
25Y3D	WET DET 4	BASE	26.50	13.26	16.25	42490	0.41	0.08	0.3	0.0
25Y3D	WET DET 4	BASE	27.00	13.27	16.25	42575	0.42	0.08	0.3	0.0
25Y3D	WET DET 4	BASE	27.50	13.28	16.25	42659	0.42	0.09	0.3	0.0
25Y3D	WET DET 4	BASE	28.00	13.30	16.25	42742	0.42	0.10	0.3	0.0
25Y3D	WET DET 4	BASE	28.50	13.31	16.25	42825	0.43	0.10	0.3	0.0
25Y3D	WET DET 4	BASE	29.00	13.33	16.25	42907	0.43	0.11	0.4	0.0
25Y3D	WET DET 4	BASE	29.50	13.34	16.25	42990	0.43	0.11	0.4	0.1
25Y3D	WET DET 4	BASE	30.00	13.35	16.25	43071	0.44	0.11	0.4	0.1
25Y3D	WET DET 4	BASE	30.50	13.37	16.25	43153	0.44	0.12	0.4	0.1
25Y3D	WET DET 4	BASE	31.00	13.38	16.25	43234	0.44	0.12	0.4	0.1
25Y3D	WET DET 4	BASE	31.50	13.39	16.25	43315	0.45	0.12	0.5	0.1
25Y3D	WET DET 4	BASE	32.00	13.41	16.25	43396	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	32.50	13.42	16.25	43477	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	33.00	13.43	16.25	43557	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	33.50	13.45	16.25	43637	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	34.00	13.46	16.25	43717	0.46	0.14	0.5	0.1
25Y3D	WET DET 4	BASE	34.50	13.47	16.25	43796	0.46	0.14	0.6	0.1
25Y3D	WET DET 4	BASE	35.00	13.49	16.25	43875	0.46	0.14	0.6	0.1
25Y3D	WET DET 4	BASE	35.50	13.50	16.25	43954	0.46	0.14	0.6	0.1
25Y3D	WET DET 4	BASE	36.00	13.51	16.25	44031	0.46	0.16	0.6	0.1
25Y3D	WET DET 4	BASE	36.50	13.52	16.25	44103	0.47	0.19	0.6	0.1
25Y3D	WET DET 4	BASE	37.00	13.53	16.25	44169	0.49	0.23	0.7	0.1
25Y3D	WET DET 4	BASE	37.50	13.54	16.25	44229	0.51	0.27	0.7	0.2
25Y3D	WET DET 4	BASE	38.00	13.55	16.25	44283	0.52	0.31	0.7	0.2
25Y3D	WET DET 4	BASE	38.50	13.56	16.25	44330	0.53	0.35	0.7	0.2
25Y3D	WET DET 4	BASE	39.00	13.57	16.25	44371	0.54	0.38	0.7	0.2
25Y3D	WET DET 4	BASE	39.50	13.57	16.25	44406	0.54	0.41	0.8	0.2
25Y3D	WET DET 4	BASE	40.00	13.58	16.25	44435	0.55	0.44	0.8	0.2
25Y3D	WET DET 4	BASE	40.50	13.58	16.25	44460	0.55	0.46	0.8	0.2
25Y3D	WET DET 4	BASE	41.00	13.59	16.25	44480	0.56	0.48	0.8	0.3
25Y3D	WET DET 4	BASE	41.50	13.59	16.25	44496	0.56	0.50	0.9	0.3
25Y3D	WET DET 4	BASE	42.00	13.59	16.25	44510	0.56	0.51	0.9	0.3
25Y3D	WET DET 4	BASE	42.50	13.59	16.25	44521	0.56	0.52	0.9	0.3
25Y3D	WET DET 4	BASE	43.00	13.59	16.25	44530	0.57	0.53	0.9	0.3
25Y3D	WET DET 4	BASE	43.50	13.60	16.25	44537	0.57	0.54	1.0	0.4
25Y3D	WET DET 4	BASE	44.00	13.60	16.25	44544	0.57	0.55	1.0	0.4
25Y3D	WET DET 4	BASE	44.50	13.60	16.25	44549	0.57	0.55	1.0	0.4
25Y3D	WET DET 4	BASE	45.00	13.60	16.25	44553	0.57	0.56	1.0	0.4
25Y3D	WET DET 4	BASE	45.50	13.60	16.25	44557	0.57	0.56	1.0	0.5
25Y3D	WET DET 4	BASE	46.00	13.60	16.25	44560	0.57	0.56	1.1	0.5
25Y3D	WET DET 4	BASE	46.50	13.60	16.25	44563	0.58	0.56	1.1	0.5
25Y3D	WET DET 4	BASE	47.00	13.60	16.25	44565	0.58	0.57	1.1	0.5
25Y3D	WET DET 4	BASE	47.50	13.60	16.25	44567	0.58	0.57	1.1	0.6
25Y3D	WET DET 4	BASE	48.00	13.60	16.25	44569	0.58	0.57	1.2	0.6
25Y3D	WET DET 4	BASE	48.50	13.60	16.25	44575	0.62	0.58	1.2	0.6
25Y3D	WET DET 4	BASE	49.00	13.60	16.25	44586	0.63	0.59	1.2	0.6
25Y3D	WET DET 4	BASE	49.50	13.61	16.25	44597	0.65	0.60	1.2	0.7
25Y3D	WET DET 4	BASE	50.00	13.61	16.25	44609	0.66	0.61	1.3	0.7
25Y3D	WET DET 4	BASE	50.50	13.61	16.25	44627	0.73	0.63	1.3	0.7
25Y3D	WET DET 4	BASE	51.00	13.61	16.25	44652	0.76	0.66	1.3	0.7
25Y3D	WET DET 4	BASE	51.50	13.62	16.25	44681	0.82	0.69	1.4	0.8
25Y3D	WET DET 4	BASE	52.00	13.62	16.25	44711	0.84	0.73	1.4	0.8
25Y3D	WET DET 4	BASE	52.50	13.63	16.25	44755	1.01	0.78	1.4	0.8
25Y3D	WET DET 4	BASE	53.00	13.64	16.25	44814	1.08	0.85	1.5	0.9
25Y3D	WET DET 4	BASE	53.50	13.65	16.25	44885	1.27	0.94	1.5	0.9
25Y3D	WET DET 4	BASE	54.00	13.67	16.25	44964	1.35	1.04	1.6	0.9
25Y3D	WET DET 4	BASE	54.50	13.68	16.25	45050	1.55	1.16	1.6	1.0
25Y3D	WET DET 4	BASE	55.00	13.70	16.25	45140	1.63	1.28	1.7	1.0
25Y3D	WET DET 4	BASE	55.50	13.71	16.25	45233	1.83	1.42	1.8	1.1
25Y3D	WET DET 4	BASE	56.00	13.73	16.25	45326	1.91	1.56	1.9	1.1
25Y3D	WET DET 4	BASE	56.50	13.74	16.25	45424	2.15	1.71	1.9	1.2
25Y3D	WET DET 4	BASE	57.00	13.76	16.25	45524	2.25	1.87	2.0	1.3
25Y3D	WET DET 4	BASE	57.50	13.78	16.25	45633	2.56	2.04	2.1	1.4
25Y3D	WET DET 4	BASE	58.00	13.80	16.25	45772	2.84	2.23	2.2	1.5
25Y3D	WET DET 4	BASE	58.50	13.83	16.25	45934	3.15	2.43	2.4	1.5
25Y3D	WET DET 4	BASE	59.00	13.87	16.25	46177	3.99	2.74	2.5	1.7
25Y3D	WET DET 4	BASE	59.50	13.95	16.25	46659	6.04	3.34	2.7	1.8
25Y3D	WET DET 4	BASE	60.00	14.56	16.25	50344	35.07	8.32	3.6	2.0
25Y3D	WET DET 4	BASE	60.84	15.08	16.25	53499	9.98	13.33	5.1	2.8
25Y3D	WET DET 4	BASE	61.67	14.83	16.25	52003	4.45	8.33	5.6	3.5
25Y3D	WET DET 4	BASE	62.50	14.68	16.25	51050	2.84	4.61	5.9	4.0
25Y3D	WET DET 4	BASE	63.33	14.62	16.25	50696	2.24	2.67	6.0	4.2

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	64.17	14.60	16.25	50618	1.94	2.19	6.2	4.4
25Y3D	WET DET 4	BASE	65.00	14.58	16.25	50485	1.37	1.73	6.3	4.5
25Y3D	WET DET 4	BASE	65.83	14.56	16.25	50372	1.30	1.59	6.4	4.6
25Y3D	WET DET 4	BASE	66.67	14.55	16.25	50269	1.28	1.57	6.5	4.7
25Y3D	WET DET 4	BASE	67.50	14.53	16.25	50165	1.27	1.57	6.6	4.8
25Y3D	WET DET 4	BASE	68.33	14.51	16.25	50041	1.07	1.55	6.7	4.9
25Y3D	WET DET 4	BASE	69.17	14.47	16.25	49833	0.88	1.53	6.7	5.1
25Y3D	WET DET 4	BASE	70.00	14.43	16.25	49578	0.85	1.61	6.8	5.2
25Y3D	WET DET 4	BASE	70.83	14.38	16.25	49284	0.85	1.69	6.8	5.3
25Y3D	WET DET 4	BASE	71.67	14.33	16.25	48964	0.85	1.72	6.9	5.4
25Y3D	WET DET 4	BASE	72.50	14.27	16.25	48579	0.34	1.59	6.9	5.5
25Y3D	WET DET 4	BASE	73.33	14.19	16.25	48098	0.10	1.41	7.0	5.6
25Y3D	WET DET 4	BASE	74.17	14.10	16.25	47590	0.05	1.42	7.0	5.7
25Y3D	WET DET 4	BASE	75.00	14.01	16.25	47055	0.03	1.46	7.0	5.8
25Y3D	WET DET 4	BASE	75.83	13.94	16.25	46616	0.02	1.29	7.0	5.9
25Y3D	WET DET 4	BASE	76.67	13.85	16.25	46096	0.01	1.37	7.0	6.0
25Y3D	WET DET 4	BASE	77.50	13.77	16.25	45570	0.01	1.29	7.0	6.1
25Y3D	WET DET 4	BASE	78.33	13.69	16.25	45098	0.01	1.08	7.0	6.2
25Y3D	WET DET 4	BASE	79.17	13.63	16.25	44727	0.00	0.75	7.0	6.2
25Y3D	WET DET 4	BASE	80.00	13.59	16.25	44484	0.00	0.49	7.0	6.3
25Y3D	WET DET 4	BASE	80.83	13.56	16.25	44320	0.00	0.34	7.0	6.3
25Y3D	WET DET 4	BASE	81.67	13.54	16.25	44201	0.00	0.25	7.0	6.3
25Y3D	WET DET 4	BASE	82.50	13.52	16.25	44110	0.00	0.20	7.0	6.3
25Y3D	WET DET 4	BASE	83.33	13.51	16.25	44037	0.00	0.16	7.0	6.4
25Y3D	WET DET 4	BASE	84.17	13.50	16.25	43974	0.00	0.15	7.0	6.4
25Y3D	WET DET 4	BASE	85.00	13.49	16.25	43915	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	85.83	13.48	16.25	43857	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	86.67	13.47	16.25	43800	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	87.50	13.46	16.25	43743	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	88.33	13.45	16.25	43686	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	89.17	13.45	16.25	43631	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	90.00	13.44	16.25	43576	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	90.83	13.43	16.25	43522	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	91.67	13.42	16.25	43469	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	92.50	13.41	16.25	43416	0.00	0.13	7.0	6.5
25Y3D	WET DET 4	BASE	93.33	13.40	16.25	43364	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	94.17	13.39	16.25	43313	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	95.00	13.38	16.25	43262	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	95.83	13.38	16.25	43212	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	96.67	13.37	16.25	43163	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	97.50	13.36	16.25	43115	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	98.33	13.35	16.25	43067	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	99.17	13.34	16.25	43021	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	100.00	13.34	16.25	42974	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	100.83	13.33	16.25	42929	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	101.83	13.32	16.25	42876	0.00	0.10	7.0	6.5
25Y3D	WET DET 4	BASE	102.83	13.31	16.25	42824	0.00	0.10	7.0	6.6
25Y3D	WET DET 4	BASE	103.83	13.30	16.25	42773	0.00	0.10	7.0	6.6
25Y3D	WET DET 4	BASE	104.83	13.29	16.25	42723	0.00	0.10	7.0	6.6
25Y3D	WET DET 4	BASE	105.83	13.29	16.25	42675	0.00	0.09	7.0	6.6
25Y3D	WET DET 4	BASE	106.83	13.28	16.25	42629	0.00	0.09	7.0	6.6
25Y3D	WET DET 4	BASE	107.83	13.27	16.25	42585	0.00	0.08	7.0	6.6
25Y3D	WET DET 4	BASE	108.83	13.26	16.25	42543	0.00	0.08	7.0	6.6
25Y3D	WET DET 4	BASE	109.83	13.26	16.25	42502	0.00	0.08	7.0	6.6
25Y3D	WET DET 4	BASE	110.83	13.25	16.25	42463	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	111.83	13.25	16.25	42425	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	112.83	13.24	16.25	42388	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	113.83	13.23	16.25	42352	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	114.83	13.23	16.25	42316	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	115.83	13.22	16.25	42282	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	116.83	13.22	16.25	42249	0.00	0.06	7.0	6.6
25Y3D	WET DET 4	BASE	117.83	13.21	16.25	42217	0.00	0.06	7.0	6.6
25Y3D	WET DET 4	BASE	118.83	13.21	16.25	42187	0.00	0.06	7.0	6.7
25Y3D	WET DET 4	BASE	119.83	13.20	16.25	42157	0.00	0.06	7.0	6.7
25Y3D	WET DET 4	BASE	120.83	13.20	16.25	42128	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	121.83	13.19	16.25	42101	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	122.83	13.19	16.25	42074	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	123.83	13.18	16.25	42049	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	124.83	13.18	16.25	42024	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	125.83	13.17	16.25	42000	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	126.83	13.17	16.25	41977	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	127.83	13.17	16.25	41955	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	128.83	13.16	16.25	41934	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	129.83	13.16	16.25	41913	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	130.83	13.16	16.25	41893	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	131.83	13.15	16.25	41874	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	132.83	13.15	16.25	41855	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	133.83	13.15	16.25	41838	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	134.83	13.14	16.25	41820	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	135.83	13.14	16.25	41804	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	136.83	13.14	16.25	41788	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	137.83	13.14	16.25	41772	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	138.83	13.13	16.25	41757	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	139.83	13.13	16.25	41742	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	140.83	13.13	16.25	41728	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	141.83	13.13	16.25	41715	0.00	0.03	7.0	6.7

WET DETENTION 4 RECOVERS 90% OF RUNOFF VOLUME AT HOUR 80.00

WET DETENTION 4 RECOVERS HALF OF TREATMENT VOLUME AT HOUR 110.83

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	142.83	13.13	16.25	41701	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	143.83	13.12	16.25	41689	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	144.83	13.12	16.25	41676	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	145.83	13.12	16.25	41664	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	146.83	13.12	16.25	41652	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	147.83	13.12	16.25	41641	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	148.83	13.11	16.25	41630	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	149.83	13.11	16.25	41619	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	150.83	13.11	16.25	41609	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	151.83	13.11	16.25	41599	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	152.83	13.11	16.25	41589	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	153.83	13.10	16.25	41580	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	154.83	13.10	16.25	41570	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	155.83	13.10	16.25	41561	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	156.83	13.10	16.25	41553	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	157.83	13.10	16.25	41544	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	158.83	13.10	16.25	41536	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	159.83	13.10	16.25	41528	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	160.83	13.10	16.25	41520	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	161.83	13.09	16.25	41512	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	162.83	13.09	16.25	41505	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	163.83	13.09	16.25	41497	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	164.83	13.09	16.25	41490	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	165.83	13.09	16.25	41483	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	166.83	13.09	16.25	41476	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	167.83	13.09	16.25	41470	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	168.83	13.09	16.25	41463	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	169.83	13.08	16.25	41457	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	170.83	13.08	16.25	41451	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	171.83	13.08	16.25	41445	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	172.83	13.08	16.25	41439	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	173.83	13.08	16.25	41433	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	174.83	13.08	16.25	41428	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	175.83	13.08	16.25	41422	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	176.83	13.08	16.25	41417	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	177.83	13.08	16.25	41411	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	178.83	13.08	16.25	41406	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	179.83	13.08	16.25	41401	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	180.83	13.07	16.25	41396	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	181.83	13.07	16.25	41391	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	182.83	13.07	16.25	41387	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	183.83	13.07	16.25	41382	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	184.83	13.07	16.25	41378	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	185.83	13.07	16.25	41373	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	186.83	13.07	16.25	41369	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	187.83	13.07	16.25	41365	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	188.83	13.07	16.25	41360	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	189.83	13.07	16.25	41356	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	190.83	13.07	16.25	41352	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	191.83	13.07	16.25	41348	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	192.83	13.07	16.25	41344	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	193.83	13.07	16.25	41341	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	194.83	13.06	16.25	41337	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	195.83	13.06	16.25	41333	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	196.83	13.06	16.25	41330	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	197.83	13.06	16.25	41326	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	198.83	13.06	16.25	41323	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	199.83	13.06	16.25	41319	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	200.83	13.06	16.25	41316	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	201.83	13.06	16.25	41313	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	202.83	13.06	16.25	41309	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	203.83	13.06	16.25	41306	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	204.83	13.06	16.25	41303	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	205.83	13.06	16.25	41300	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	206.83	13.06	16.25	41297	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	207.83	13.06	16.25	41294	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	208.83	13.06	16.25	41291	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	209.83	13.06	16.25	41288	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	210.83	13.06	16.25	41285	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	211.83	13.06	16.25	41283	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	212.83	13.06	16.25	41280	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	213.83	13.05	16.25	41277	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	214.83	13.05	16.25	41275	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	215.83	13.05	16.25	41272	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	216.83	13.05	16.25	41270	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	217.83	13.05	16.25	41267	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	218.83	13.05	16.25	41265	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	219.83	13.05	16.25	41262	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	220.83	13.05	16.25	41260	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	221.83	13.05	16.25	41257	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	222.83	13.05	16.25	41255	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	223.83	13.05	16.25	41253	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	224.83	13.05	16.25	41250	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	225.83	13.05	16.25	41248	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	226.83	13.05	16.25	41246	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	227.83	13.05	16.25	41244	0.00	0.00	7.0	6.8

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage ft	Area ft2	Inflow cfs	Outflow cfs	Vol In af	Vol Out af
25Y3D	WET DET 4	BASE	228.83	13.05	16.25	41242	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	229.83	13.05	16.25	41240	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	230.83	13.05	16.25	41238	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	231.83	13.05	16.25	41236	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	232.83	13.05	16.25	41234	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	233.83	13.05	16.25	41232	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	234.83	13.05	16.25	41230	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	235.83	13.05	16.25	41228	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	236.83	13.05	16.25	41226	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	237.83	13.05	16.25	41224	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	238.83	13.05	16.25	41222	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	239.83	13.05	16.25	41220	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	240.83	13.05	16.25	41218	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	241.83	13.04	16.25	41217	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	242.83	13.04	16.25	41215	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	243.83	13.04	16.25	41213	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	244.83	13.04	16.25	41212	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	245.83	13.04	16.25	41210	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	246.83	13.04	16.25	41208	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	247.83	13.04	16.25	41207	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	248.83	13.04	16.25	41205	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	249.83	13.04	16.25	41203	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	250.83	13.04	16.25	41202	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	251.83	13.04	16.25	41200	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	252.83	13.04	16.25	41199	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	253.83	13.04	16.25	41197	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	254.83	13.04	16.25	41196	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	255.83	13.04	16.25	41194	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	256.83	13.04	16.25	41193	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	257.83	13.04	16.25	41191	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	258.83	13.04	16.25	41190	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	259.83	13.04	16.25	41188	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	260.83	13.04	16.25	41187	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	261.83	13.04	16.25	41186	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	262.83	13.04	16.25	41184	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	263.83	13.04	16.25	41183	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	264.83	13.04	16.25	41182	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	265.83	13.04	16.25	41180	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	266.83	13.04	16.25	41179	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	267.83	13.04	16.25	41178	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	268.83	13.04	16.25	41176	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	269.83	13.04	16.25	41175	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	270.83	13.04	16.25	41174	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	271.83	13.04	16.25	41173	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	272.83	13.04	16.25	41172	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	273.83	13.04	16.25	41170	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	274.83	13.04	16.25	41169	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	275.83	13.04	16.25	41168	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	276.83	13.04	16.25	41167	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	277.83	13.04	16.25	41166	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	278.83	13.04	16.25	41165	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	279.83	13.04	16.25	41163	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	280.83	13.04	16.25	41162	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	281.83	13.04	16.25	41161	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	282.83	13.04	16.25	41160	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	283.83	13.04	16.25	41159	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	284.83	13.04	16.25	41158	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	285.83	13.03	16.25	41157	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	286.83	13.03	16.25	41156	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	287.83	13.03	16.25	41155	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	288.83	13.03	16.25	41154	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	289.83	13.03	16.25	41153	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	290.83	13.03	16.25	41152	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	291.83	13.03	16.25	41151	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	292.83	13.03	16.25	41150	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	293.83	13.03	16.25	41149	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	294.83	13.03	16.25	41148	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	295.83	13.03	16.25	41147	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	296.83	13.03	16.25	41146	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	297.83	13.03	16.25	41145	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	298.83	13.03	16.25	41144	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	299.83	13.03	16.25	41143	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	300.83	13.03	16.25	41142	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	301.83	13.03	16.25	41142	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	302.83	13.03	16.25	41141	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	303.83	13.03	16.25	41140	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	304.83	13.03	16.25	41139	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	305.83	13.03	16.25	41138	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	306.83	13.03	16.25	41137	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	307.83	13.03	16.25	41136	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	308.83	13.03	16.25	41136	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	309.83	13.03	16.25	41135	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	310.83	13.03	16.25	41134	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	311.83	13.03	16.25	41133	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	312.83	13.03	16.25	41132	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	313.83	13.03	16.25	41131	0.00	0.00	7.0	6.8

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	314.83	13.03	16.25	41131	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	315.83	13.03	16.25	41130	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	316.83	13.03	16.25	41129	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	317.83	13.03	16.25	41128	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	318.83	13.03	16.25	41128	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	319.83	13.03	16.25	41127	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	320.83	13.03	16.25	41126	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	321.83	13.03	16.25	41125	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	322.83	13.03	16.25	41125	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	323.83	13.03	16.25	41124	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	324.83	13.03	16.25	41123	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	325.83	13.03	16.25	41122	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	326.83	13.03	16.25	41122	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	327.83	13.03	16.25	41121	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	328.83	13.03	16.25	41120	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	329.83	13.03	16.25	41120	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	330.83	13.03	16.25	41119	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	331.83	13.03	16.25	41118	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	332.83	13.03	16.25	41118	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	333.83	13.03	16.25	41117	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	334.83	13.03	16.25	41116	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	335.83	13.03	16.25	41116	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	336.83	13.03	16.25	41115	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	337.83	13.03	16.25	41114	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	338.83	13.03	16.25	41114	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	339.83	13.03	16.25	41113	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	340.83	13.03	16.25	41112	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	341.83	13.03	16.25	41112	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	342.83	13.03	16.25	41111	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	343.83	13.03	16.25	41111	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	344.83	13.03	16.25	41110	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	345.83	13.03	16.25	41109	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	346.83	13.03	16.25	41109	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	347.83	13.03	16.25	41108	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	348.83	13.03	16.25	41108	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	349.83	13.03	16.25	41107	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	350.83	13.03	16.25	41106	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	351.83	13.03	16.25	41106	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	352.83	13.03	16.25	41105	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	353.83	13.03	16.25	41105	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	354.83	13.03	16.25	41104	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	355.83	13.03	16.25	41104	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	356.83	13.03	16.25	41103	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	357.83	13.03	16.25	41102	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	358.83	13.03	16.25	41102	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	359.83	13.03	16.25	41101	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	360.00	13.03	16.25	41101	0.00	0.00	7.0	6.8

LINK MIN/MAX REPORT

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
CS-100	BASE	100Y3D	60.06	6.22	-0.026	60.06	17.06	62.63	16.15
CS-200	BASE	100Y3D	60.07	13.18	0.065	60.19	16.94	60.77	15.47
CS-300	BASE	100Y3D	60.16	4.56	0.014	60.24	16.20	60.77	15.47
CS-400A	BASE	100Y3D	60.48	15.73	0.641	60.77	15.47	62.12	14.87
CS-400B	BASE	100Y3D	60.76	0.36	0.000	60.77	15.47	64.37	13.17
CS-WET 1	BASE	100Y3D	60.02	4.88	0.015	62.63	16.15	62.12	14.87
CS-WET 2	BASE	100Y3D	64.42	8.10	-0.053	64.41	14.80	64.37	13.17
OUTFALL PIPE	BASE	100Y3D	64.37	8.41	-0.701	64.37	13.17	64.37	12.23
STM-404 OUTFALL	BASE	100Y3D	60.47	20.20	-12.646	62.12	14.87	64.41	14.80
CS-100	BASE	10Y1D	12.14	3.58	-0.013	12.14	16.98	16.32	15.58
CS-200	BASE	10Y1D	12.16	9.88	-0.036	12.16	16.32	12.83	14.58
CS-300	BASE	10Y1D	12.44	2.20	0.008	12.44	15.70	12.83	14.58
CS-400A	BASE	10Y1D	12.97	8.83	0.645	12.83	14.58	14.32	13.97
CS-400B	BASE	10Y1D	12.83	0.28	0.000	12.83	14.58	14.67	12.92
CS-WET 1	BASE	10Y1D	16.32	1.59	0.002	16.32	15.58	14.32	13.97
CS-WET 2	BASE	10Y1D	14.80	6.35	0.014	14.78	13.93	14.67	12.92
OUTFALL PIPE	BASE	10Y1D	14.67	6.60	-0.701	14.67	12.92	14.67	12.11
STM-404 OUTFALL	BASE	10Y1D	12.97	9.22	-12.646	14.32	13.97	14.78	13.93
CS-100	BASE	25Y3D	60.07	4.94	0.020	60.07	17.03	62.36	15.92
CS-200	BASE	25Y3D	60.09	12.15	-0.053	60.14	16.58	60.66	15.10
CS-300	BASE	25Y3D	60.20	3.73	0.011	60.22	16.00	60.66	15.10
CS-400A	BASE	25Y3D	60.66	13.77	-0.641	60.66	15.10	62.38	14.58
CS-400B	BASE	25Y3D	60.66	0.33	0.000	60.66	15.10	64.20	13.09
CS-WET 1	BASE	25Y3D	60.34	4.67	0.023	62.36	15.92	62.38	14.58
CS-WET 2	BASE	25Y3D	64.22	7.58	-0.054	64.22	14.53	64.20	13.09
OUTFALL PIPE	BASE	25Y3D	64.20	7.86	-0.701	64.20	13.09	64.20	12.20
STM-404 OUTFALL	BASE	25Y3D	60.64	18.32	-12.646	62.38	14.58	64.22	14.53
CS-100	BASE	3Y1D	12.29	2.08	0.006	12.29	16.93	24.10	15.46
CS-200	BASE	3Y1D	12.17	6.99	-0.014	12.17	16.18	12.95	14.16
CS-300	BASE	3Y1D	12.59	1.13	0.003	12.59	15.45	12.95	14.16
CS-400A	BASE	3Y1D	12.88	4.83	0.012	12.95	14.16	14.27	13.61
CS-400B	BASE	3Y1D	12.95	0.24	0.000	12.95	14.16	14.10	12.77
CS-WET 1	BASE	3Y1D	24.10	0.47	0.000	24.10	15.46	14.27	13.61
CS-WET 2	BASE	3Y1D	14.17	5.33	0.011	14.16	13.60	14.10	12.77
OUTFALL PIPE	BASE	3Y1D	14.10	5.56	-0.701	14.10	12.77	14.10	12.03
STM-404 OUTFALL	BASE	3Y1D	12.92	5.10	-12.646	14.27	13.61	14.16	13.60

TR-55 Volume Calculations - Proposed

Treasure Coast Classical Academy

Job No. 046403000

Designed by: BAY

Checked by: JLH

Date: 12/5/2018

Volume Required

	<u>3 year /24 hours</u>	<u>10 year /24 hours</u>	<u>25 year /72 hours</u>	<u>100 year /72 hours</u>
Potential Maximum Retention (S) (in)	1.11	1.11	1.11	1.11
Rainfall (P) (in)	5.25	7.00	12.00	15.00
Total Project Drainage Area (A) (ac)	8.98	8.98	8.98	8.98
Runoff (Q) (in)	4.119	5.824	10.764	13.746
Volume of Runoff (V _r) (ac-ft)	3.082	4.358	8.055	10.286

Equations Used (from Technical Release 55)

$$S = (1000/CN) - 10$$

$$Q = (P_{25} - 0.2S)^2 / (P_{25} + 0.8S)$$

$$V_r (\text{ac-ft}) = (Q)(A)/12$$

Stage - Storage Information

Land Use	Storage Type	Area (AC)	Elevation Range	
			Avg Low	Avg High
Impervious	L	3.120	16.25	18.25
Pervious	L	3.510	16.75	18.00

Cumulative Volume	(ac-ft)
Dry Retention 1A & 1B	0.27
Dry Retention 2	0.45
Dry Retention 3	0.37
Wet Detention 4	3.78
Total	4.87

TOTAL				
Stage	Impervious	Pervious	SWMS	CUM. AC-FT
13.00	0.000	0.000	0.000	0.000
14.00	0.000	0.000	1.010	1.010
15.00	0.000	0.000	2.300	2.300
16.00	0.000	0.000	3.970	3.970
17.00	0.439	0.088	4.810	5.337
18.00	2.389	2.194	4.870	9.453
18.13	2.761	2.655	4.870	10.286
18.25	3.120	3.071	4.870	11.061

100yr-72hour Zero Discharge Stage /Min FFE
FFE

APPENDIX 4

TREATMENT VOLUME RECOVERY ANALYSIS (PONDS v3.3)

Input Report
Treatment

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Project Data

Project Name: Dry Retention 1A & 1B
Simulation Description: Treatment Recovery Analysis
Project Number: 046403000
Engineer : Jordan L. Haggerty
Supervising Engineer: Bradley A. Younts
Date: 11-29-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 10.00
Water Table Elevation, [WT] (ft datum): 15.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 16.00
Fillable Porosity, [n] (%): 20.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 432.0
Equivalent Pond Width, [W] (ft): 20.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
16.00	7314.0
17.25	11790.0

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Summary of Results :: Scenario 1 :: 6997 ft³ slug load

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	288.000	15.31		
Maximum	0.002	16.80		
Inflow				
Rate - Maximum - Positive	0.002		1166.1670	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			6997.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			6997.0
Infiltration				
Rate - Maximum - Positive	0.002		1.4868	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	48.000			6997.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			6997.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	16.07		6473.8
72 Hour Stage and Infiltration Volume	72.000	15.73		6997.0

DRY RETENTION 1A & 1B RECOVERS
HALF OF TREATMENT VOLUME AT
HOUR 9.06 AFTER ATTENUATION
VOLUME RECOVERY AT HOUR 73.33.
TOTAL TIME = 82.39 HOURS

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Retention Pond Recovery - Refined Method
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Detailed Results :: Scenario 1 :: 6997 ft³ slug load

Elapsed Time (hours)	Instantaneous Inflow Rate (ft ³ /s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft ³ /s)	Combined Instantaneous Discharge Rate (ft ³ /s)	Cumulative Inflow Volume (ft ³)	Cumulative Infiltration Volume (ft ³)	Combined Cumulative Discharge (ft ³)	Flow Type
0.000	1166.1670	0.00000	16.00000	1.48852	0	0.000	0.0	0	N.A.
0.002	1166.1670	0.00000	16.79912	1.48677	0	6997.000	8.9	0	S
2.400	0.00000	0.00000	16.59469	0.17620	0	6997.000	2014.2	0	S
6.000	0.00000	0.00000	16.46518	0.07698	0	6997.000	3207.3	0	S
12.000	0.00000	0.00000	16.33719	0.04446	0	6997.000	4327.3	0	S
24.000	0.00000	0.00000	16.18163	0.02484	0	6997.000	5609.5	0	S
36.000	0.00000	0.00000	16.07032	0.01606	0	6997.000	6473.8	0	S
48.000	0.00000	0.00000	15.96608	0.00606	0	6997.000	6997.0	0	S
60.000	0.00000	0.00000	15.82148	0.00000	0	6997.000	6997.0	0	S
72.000	0.00000	0.00000	15.72757	0.00000	0	6997.000	6997.0	0	S
84.000	0.00000	0.00000	15.65896	0.00000	0	6997.000	6997.0	0	S
96.000	0.00000	0.00000	15.60568	0.00000	0	6997.000	6997.0	0	S
120.000	0.00000	0.00000	15.53141	0.00000	0	6997.000	6997.0	0	S
144.000	0.00000	0.00000	15.47627	0.00000	0	6997.000	6997.0	0	S
168.000	0.00000	0.00000	15.43345	0.00000	0	6997.000	6997.0	0	S
192.000	0.00000	0.00000	15.39900	0.00000	0	6997.000	6997.0	0	S
216.000	0.00000	0.00000	15.37063	0.00000	0	6997.000	6997.0	0	S
240.000	0.00000	0.00000	15.34677	0.00000	0	6997.000	6997.0	0	S
264.000	0.00000	0.00000	15.32638	0.00000	0	6997.000	6997.0	0	S
288.000	0.00000	0.00000	15.30868	----	----	6997.000	6997.0	0	N.A.

FULL RUNOFF VOLUME
RECOVERY AT HOUR 44.10
AFTER ATTENUATION VOLUME
RECOVERY AT HOUR 73.33.
TOTAL TIME = 117.43 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Project Data

Project Name: Dry Retention 2
Simulation Description: Treatment Recovery Analysis
Project Number: 046403000
Engineer : Jordan L. Haggerty
Supervising Engineer: Bradley A. Younts
Date: 07-31-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 9.00
Water Table Elevation, [WT] (ft datum): 14.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 16.00
Fillable Porosity, [n] (%): 20.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 163.0
Equivalent Pond Width, [W] (ft): 52.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
15.00	8073.0
17.00	11611.0

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Retention Pond Recovery - Refined Method
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Summary of Results :: Scenario 1 :: 5162 ft³ slug load

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	288.000	14.41		
Maximum	0.002	15.60		
Inflow				
Rate - Maximum - Positive	0.002		860.3333	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			5162.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5162.0
Infiltration				
Rate - Maximum - Positive	0.002		0.6296	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	96.000			5162.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5162.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	15.20		3539.5
72 Hour Stage and Infiltration Volume	72.000	15.05		4793.2

DRY RETENTION 2 RECOVERS HALF
OF TREATMENT VOLUME AT HOUR
19.87 AFTER ATTENUATION
VOLUME RECOVERY AT HOUR 75.83.
TOTAL TIME = 95.70 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Detailed Results :: Scenario 1 :: 5162 ft³ slug load

Elapsed Time (hours)	Instantaneous Inflow Rate (ft ³ /s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft ³ /s)	Combined Instantaneous Discharge Rate (ft ³ /s)	Cumulative Inflow Volume (ft ³)	Cumulative Infiltration Volume (ft ³)	Combined Cumulative Discharge (ft ³)	Flow Type
0.000	860.3333	0.00000	15.00000	0.63034	0	0.000	0.0	0	N.A.
0.002	860.3333	0.00000	15.59956	0.62961	0	5162.000	3.8	0	S
2.400	0.0000	0.00000	15.49922	0.08155	0	5162.000	911.4	0	S
6.000	0.0000	0.00000	15.43196	0.03963	0	5162.000	1509.8	0	S
12.000	0.0000	0.00000	15.36122	0.02537	0	5162.000	2130.5	0	S
24.000	0.0000	0.00000	15.26793	0.01631	0	5162.000	2935.5	0	S
36.000	0.0000	0.00000	15.19674	0.01263	0	5162.000	3539.5	0	S
48.000	0.0000	0.00000	15.13849	0.01040	0	5162.000	4027.0	0	S
60.000	0.0000	0.00000	15.08886	0.00887	0	5162.000	4437.6	0	S
72.000	0.0000	0.00000	15.04546	0.00775	0	5162.000	4793.2	0	S
84.000	0.0000	0.00000	15.00681	0.00427	0	5162.000	5107.0	0	S
96.000	0.0000	0.00000	14.91511	0.00085	0	5162.000	5162.0	0	S
120.000	0.0000	0.00000	14.77826	0.00000	0	5162.000	5162.0	0	S
144.000	0.0000	0.00000	14.68226	0.00000	0	5162.000	5162.0	0	S
168.000	0.0000	0.00000	14.60975	0.00000	0	5162.000	5162.0	0	S
192.000	0.0000	0.00000	14.55247	0.00000	0	5162.000	5162.0	0	S
216.000	0.0000	0.00000	14.50597	0.00000	0	5162.000	5162.0	0	S
240.000	0.0000	0.00000	14.46724	0.00000	0	5162.000	5162.0	0	S
264.000	0.0000	0.00000	14.43436	0.00000	0	5162.000	5162.0	0	S
288.000	0.0000	0.00000	14.40610	----	----	5162.000	5162.0	0	N.A.

FULL RUNOFF VOLUME
RECOVERY AT HOUR 72.00.
AFTER ATTENUATION VOLUME
RECOVERY AT HOUR 75.83.
TOTAL TIME = 147.83 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Project Data

Project Name: Dry Retention 3
Simulation Description: Treatment Recovery Analysis
Project Number: 046403000
Engineer : Jordan L. Haggerty
Supervising Engineer: Bradley A. Younts
Date: 11-27-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 8.00
Water Table Elevation, [WT] (ft datum): 13.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 16.00
Fillable Porosity, [n] (%): 20.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 213.0
Equivalent Pond Width, [W] (ft): 28.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
14.00	4914.0
16.25	9304.0

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Summary of Results :: Scenario 1 :: 5890 ft³ slug load

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	288.000	13.39		
Maximum	0.002	15.00		
Inflow				
Rate - Maximum - Positive	0.002		981.6667	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			5890.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5890.0
Infiltration				
Rate - Maximum - Positive	0.002		0.8798	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	84.000			5890.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5890.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	14.29		4382.0
72 Hour Stage and Infiltration Volume	72.000	14.05		5618.0

DRY RETENTION 3 RECOVERS HALF
OF TREATMENT VOLUME AT HOUR
16.97 AFTER ATTENUATION
VOLUME RECOVERY AT HOUR 84.17.
TOTAL TIME = 101.14 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Detailed Results :: Scenario 1 :: 5890 ft³ slug load

Elapsed Time (hours)	Instantaneous Inflow Rate (ft ³ /s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft ³ /s)	Combined Instantaneous Discharge Rate (ft ³ /s)	Cumulative Inflow Volume (ft ³)	Cumulative Infiltration Volume (ft ³)	Combined Cumulative Discharge (ft ³)	Flow Type
0.000	981.6667	0.00000	14.00000	0.88081	0	0.000	0.0	0	N.A.
0.002	981.6667	0.00000	14.99930	0.87979	0	5890.000	5.3	0	S
2.400	0.0000	0.00000	14.81262	0.11075	0	5890.000	1252.6	0	S
6.000	0.0000	0.00000	14.69047	0.05090	0	5890.000	2031.9	0	S
12.000	0.0000	0.00000	14.56556	0.03083	0	5890.000	2798.8	0	S
24.000	0.0000	0.00000	14.40726	0.01832	0	5890.000	3726.9	0	S
36.000	0.0000	0.00000	14.29016	0.01338	0	5890.000	4382.0	0	S
48.000	0.0000	0.00000	14.19722	0.01045	0	5890.000	4882.9	0	S
60.000	0.0000	0.00000	14.12026	0.00851	0	5890.000	5284.9	0	S
72.000	0.0000	0.00000	14.05476	0.00700	0	5890.000	5618.0	0	S
84.000	0.0000	0.00000	13.99526	0.00315	0	5890.000	5890.0	0	S
96.000	0.0000	0.00000	13.88007	0.00000	0	5890.000	5890.0	0	S
120.000	0.0000	0.00000	13.74452	0.00000	0	5890.000	5890.0	0	S
144.000	0.0000	0.00000	13.65092	0.00000	0	5890.000	5890.0	0	S
168.000	0.0000	0.00000	13.58104	0.00000	0	5890.000	5890.0	0	S
192.000	0.0000	0.00000	13.52655	0.00000	0	5890.000	5890.0	0	S
216.000	0.0000	0.00000	13.48242	0.00000	0	5890.000	5890.0	0	S
240.000	0.0000	0.00000	13.44587	0.00000	0	5890.000	5890.0	0	S
264.000	0.0000	0.00000	13.41500	0.00000	0	5890.000	5890.0	0	S
288.000	0.0000	0.00000	13.38852	----	----	5890.000	5890.0	0	N.A.

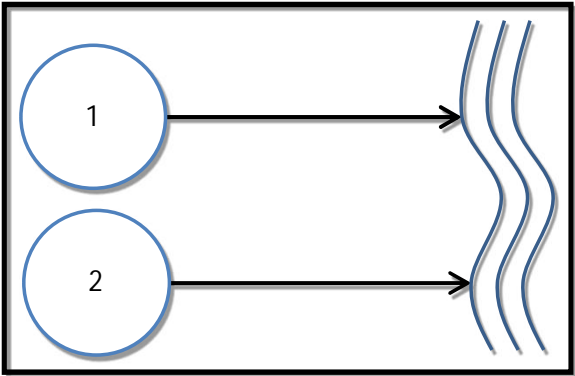
FULL RUNOFF VOLUME
RECOVERY AT HOUR 72.00.
AFTER ATTENUATION VOLUME
RECOVERY AT HOUR 84.17.
TOTAL TIME = 156.17 HOURS

APPENDIX 5

NET NUTRIENT IMPROVEMENT ANALYSIS (BMPTRAINS v7.7)

GENERAL SITE INFORMATION: V 7.7		GO TO INTRODUCTION PAGE		Blue Numbers =	Input data
				Red Numbers =	Calculated or Carryover
Select the appropriate Meteorological Zone, input the appropriate Mean Annual Rainfall amount and select the type of analysis			NAME OF PROJECT		HELP
			Treasure Coast Classical Academy		VIEW ZONE MAP
Meteorological Zone (Please use zone map):			CLICK ON CELL BELOW TO SELECT Zone 5		VIEW MEAN ANNUAL RAINFALL MAP
Mean Annual Rainfall (Please use rainfall map):			56.50 Inches		
Type of analysis:			CLICK ON CELL BELOW TO SELECT Net improvement		GO TO WATERSHED CHARACTERISTICS
Treatment efficiency (N, P) (leave empty if net improvement or BMP analysis is used):					
Select the STORMWATER TREATMENT ANALYSIS Button below to begin analyzing the effectiveness of Best Management Practices.			Model documentation and example problems.		
<div> STORMWATER TREATMENT ANALYSIS </div> <p>Systems available for analysis:</p> <ul style="list-style-type: none"> Retention Basin with option for calculating effluent concentration Wet Detention Exfiltration Trench Pervious Pavement Stormwater Harvesting Biofiltration Greenroof Rainwater Harvesting Managed Aquatic Plants Detention Vegetated Natural Buffer Vegetated Filter Strip Swale Rain Garden Tree Well Lined reuse pond User Defined BMP 			<p>There is a user's manual for the BMPTRAINS model. It can be downloaded from www.stormwater.ucf.edu. The results from the example problems shown in the manual however may not reflect current model results due to ongoing updates of the model.</p>		
			METHODOLOGY FOR CALCULATING REQUIRED TREATMENT EFFICIENCY		
			METHODOLOGY FOR RETENTION SYSTEMS		METHODOLOGY FOR WET DETENTION SYSTEMS
			METHODOLOGY FOR GREENROOF SYSTEMS		METHODOLOGY FOR WATER HARVESTING SYSTEMS
<div> RESET INPUT FOR STORMWATER TREATMENT ANALYSIS </div>					

WATERSHED CHARACTERISTICS V 7.7		GO TO STORMWATER TREATMENT ANALYSIS		Blue Numbers = Red Numbers =	Input data Calculated	HELP - LAND USES/EMC
SELECT CATCHMENT CONFIGURATION		CLICK ON CELL BELOW TO SELECT CONFIGURATION C - 2 Catchment-Parallel		VIEW CATCHMENT CONFIGURATION		
CATCHMENT NO.1 CHARACTERISTICS: <div> <div>CLICK ON CELL BELOW TO SELECT</div> <div>User Defined (must over write concentrations)</div> <div>CLICK ON CELL BELOW TO SELECT</div> <div>Low-Intensity Commercial: TN=1.13 TP=0.188</div> </div> <div> Pre-development land use: with default EMCs Post-development land use: with default EMCs Total pre-development catchment area: Total post-development catchment or BMP analysis area: Pre-development Non DCIA CN: Pre-development DCIA percentage: Post-development Non DCIA CN: Post-development DCIA percentage: Estimated BMPArea (No loading from this area) </div>		VIEW AVERAGE ANNUAL RUNOFF "C" Factor VIEW EMC & FLUCCS		OVERWRITE DEFAULT CONCENTRATIONS USING: <div> <div>PRE:</div> <div>EMC(N): 0.690 mg/L</div> <div>EMC(P): 0.090 mg/L</div> <div>POST:</div> <div>1.130 mg/L</div> <div>0.188 mg/L</div> </div>		
				OVERWRITE DEFAULT CONCENTRATIONS <div> Average annual pre runoff volume: 5.065 ac-ft/year Average annual post runoff volume (note no BMP area): 7.923 ac-ft/year Pre-development Annual Mass Loading - Nitrogen: 4.310 kg/year Pre-development Annual Mass Loading - Phosphorus: 0.562 kg/year Post-development Annual Mass Loading - Nitrogen: 11.041 kg/year Post-development Annual Mass Loading - Phosphorus: 1.837 kg/year </div>		
CATCHMENT NO.2 CHARACTERISTICS: <div> <div>CLICK ON CELL BELOW TO SELECT</div> <div>User Defined (must over write concentrations)</div> <div>CLICK ON CELL BELOW TO SELECT</div> <div>Low-Intensity Commercial: TN=1.13 TP=0.188</div> </div> <div> Pre-development land use: with default EMCs Post-development land use: with default EMCs Total pre-development catchment area: Total post-development catchment or BMP analysis area: Pre-development Non DCIA CN: Pre-development DCIA percentage: Post-development Non DCIA CN: Post-development DCIA percentage: Estimated BMPArea (No loading from this area) </div>		OVERWRITE DEFAULT CONCENTRATIONS <div> <div>PRE:</div> <div>EMC(N): 0.690 mg/L</div> <div>EMC(P): 0.090 mg/L</div> <div>POST:</div> <div>1.130 mg/L</div> <div>0.188 mg/L</div> </div>		OVERWRITE DEFAULT CONCENTRATIONS <div> Average annual pre runoff volume: 0.635 ac-ft/year Average annual post runoff volume (note no BMP area): 1.530 ac-ft/year Pre-development Annual Mass Loading - Nitrogen: 0.540 kg/year Pre-development Annual Mass Loading - Phosphorus: 0.070 kg/year Post-development Annual Mass Loading - Nitrogen: 2.131 kg/year Post-development Annual Mass Loading - Phosphorus: 0.355 kg/year </div>		
CATCHMENT NO.3 CHARACTERISTICS: <div> <div>CLICK ON CELL BELOW TO SELECT</div> <div>User Defined (must over write concentrations)</div> <div>CLICK ON CELL BELOW TO SELECT</div> <div>Low-Intensity Commercial: TN=1.13 TP=0.188</div> </div> <div> Pre-development land use: with default EMCs Post-development land use: with default EMCs Total pre-development catchment area: Total post-development catchment or BMP analysis area: Pre-development Non DCIA CN: Pre-development DCIA percentage: Post-development Non DCIA CN: Post-development DCIA percentage: Estimated BMPArea (no loading from this area) </div>		OVERWRITE DEFAULT CONCENTRATIONS <div> <div>PRE:</div> <div>EMC(N): 0.690 mg/L</div> <div>EMC(P): 0.090 mg/L</div> <div>POST:</div> <div>1.130 mg/L</div> <div>0.188 mg/L</div> </div>		OVERWRITE DEFAULT CONCENTRATIONS <div> Average annual pre runoff volume: Average annual post runoff volume (note no BMP area): Pre-development Annual Mass Loading - Nitrogen: Pre-development Annual Mass Loading - Phosphorus: Post-development Annual Mass Loading - Nitrogen: Post-development Annual Mass Loading - Phosphorus: </div>		

STORMWATER TREATMENT ANALYSIS:		V 7.7	GO TO GENERAL SITE INFORMATION PAGE		Blue Numbers =	Input data				
					Red Numbers =	Calculated				
If not done, specify pre- and post-development watershed characteristics.										
GO TO WATERSHED CHARACTERISTICS										
<p><u>Total Required Treatment Efficiency:</u></p> <p>Required Treatment Eff (Nitrogen):</p> <p>Required Treatment Eff (Phosphorus):</p>			<table border="1"> <tr> <td>63.181</td> <td>%</td> </tr> <tr> <td>71.134</td> <td>%</td> </tr> </table>				63.181	%	71.134	%
63.181	%									
71.134	%									
										
Select one of the BMPs below to analyze efficiency or review the summary data.										
RETENTION BASIN	WET DETENTION	EXFILTRATION TRENCH	RAIN GARDEN	SWALE	USER DEFINED BMP					
PERVIOUS PAVEMENT	STORMWATER HARVESTING	FILTRATION including Up-Flow Filters	LINED REUSE POND & UNDERDRAIN INPUT	<p>NOTE !!!: All individual system must be sized prior to being analyzed in conjunction with other systems. Please read instructions in the CATCHMENT AND TREATMENT SUMMARY RESULTS tab for more information.</p>						
GREENROOF	RAINWATER HARVESTING	MANAGED AQUATIC PLANTS								
VEGETATED NATURAL BUFFER	VEGETATED FILTER STRIP	TREE WELL	<p>CATCHMENT AND TREATMENT SUMMARY RESULTS</p>							

RETENTION BASIN:		V 7.7																																							
RETENTION BASIN SERVING:		Treasure Coast Classical Academy																																							
Loadings from BMP area are contained by the BMP, thus no BMP area load. Watershed area cotributing to basin: Required Treatment Eff (Nitrogen): Required Treatment Eff (Phosphorus): Required retention depth over the watershed to meet required efficiency Required water quality retention volume:		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>Catchment 1</th> <th>Catchment 2</th> <th>Catchment 3</th> <th>Catchment 4</th> </tr> <tr> <td>6.110</td> <td>0.730</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>60.965</td> <td>74.662</td> <td></td> <td></td> </tr> <tr> <td>69.396</td> <td>80.135</td> <td></td> <td></td> </tr> <tr> <td>1.258</td> <td>1.937</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>0.641</td> <td>0.118</td> <td>0.000</td> <td>0.000</td> </tr> </table>	Catchment 1	Catchment 2	Catchment 3	Catchment 4	6.110	0.730	0.000	0.000	60.965	74.662			69.396	80.135			1.258	1.937	0.000	0.000	0.641	0.118	0.000	0.000	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>ac</td> <td>%</td> <td>%</td> <td>in</td> <td>ac-ft</td> </tr> </table>	ac	%	%	in	ac-ft									
Catchment 1	Catchment 2	Catchment 3	Catchment 4																																						
6.110	0.730	0.000	0.000																																						
60.965	74.662																																								
69.396	80.135																																								
1.258	1.937	0.000	0.000																																						
0.641	0.118	0.000	0.000																																						
ac	%	%	in	ac-ft																																					
RETENTION BASIN FOR MULTIPLE TREATMENT SYSTEMS (if there is a need for additional removal efficiencies in a series of BMPs): Retention volume based on retention depth and total area Provided retention depth (0.1-3.99 inches over the watershed) Provided treatment efficiency (Nitrogen): Provided treatment efficiency (Phosphorus): Remaining treatment efficiency (Nitrogen): Remaining treatment efficiency (Phosphorus): Remaining retention depth needed:		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>Catchment 1</th> <th>Catchment 2</th> <th>Catchment 3</th> <th>Catchment 4</th> </tr> <tr> <td>0.260</td> <td>0.160</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>0.391</td> <td>1.925</td> <td></td> <td></td> </tr> <tr> <td>37.598</td> <td>79.987</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>37.598</td> <td>79.987</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>37.445</td> <td>0.000</td> <td></td> <td></td> </tr> <tr> <td>50.957</td> <td>0.741</td> <td></td> <td></td> </tr> <tr> <td>0.867</td> <td>0.012</td> <td>0.000</td> <td>0.000</td> </tr> </table>	Catchment 1	Catchment 2	Catchment 3	Catchment 4	0.260	0.160	0.000	0.000	0.391	1.925			37.598	79.987	0.000	0.000	37.598	79.987	0.000	0.000	37.445	0.000			50.957	0.741			0.867	0.012	0.000	0.000	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>ac-ft</td> <td>in</td> <td>%</td> <td>%</td> <td>%</td> <td>in</td> </tr> </table>	ac-ft	in	%	%	%	in
Catchment 1	Catchment 2	Catchment 3	Catchment 4																																						
0.260	0.160	0.000	0.000																																						
0.391	1.925																																								
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37.445	0.000																																								
50.957	0.741																																								
0.867	0.012	0.000	0.000																																						
ac-ft	in	%	%	%	in																																				
<div style="display: flex; justify-content: space-between;"> <div> <p>— Efficiency Curve:</p> <p>■ System Efficiency (N \$ P) CAT 2:</p> </div> <div> <p>▲ System Efficiency (N \$ P) CAT 1:</p> <p>● System Efficiency (N \$ P) CAT 3:</p> </div> </div> <p style="text-align: center;">Retention depth (inch):</p>		<p style="text-align: center;">NOTE FOR TREATMENT EFFICIENCY GRAPH:</p> <p>The purpose of this graph is to help illustrate the treatment efficiency of the retention system as the function of retention depth for a single BMP and in a single catchment. The graph illustrates that there is a diminished return as the retention depth is increased. Thus evaluations of other alternatives in "treatment trains" and compensatory treatment should be considered. NOTE: the retention volume can not exceed 3.99 inches to be within the range of data used to determine effectiveness.</p>																																							
<p>Use only donw flow media mix before water enters the ground, specify type</p> <p>Nitrogen mass reduction in groundwater discharge (%)</p> <p>Phosphorus mass reduction in groundwater discharge (%)</p>		<p style="text-align: center;">HELP - EXAMPLE PROBLEM 3</p> <p style="text-align: center;">View Media Mixes</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>Catchment 1</th> <th>Catchment 2</th> <th>Catchment 3</th> <th>Catchment 4</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Catchment 1	Catchment 2	Catchment 3	Catchment 4																																		
Catchment 1	Catchment 2	Catchment 3	Catchment 4																																						

GO TO STORMWATER TREATMENT ANALYSIS

TYPICAL CROSS SECTION OF A "DRY" RETENTION SYSTEM

Source of Graphic: draft **STORMWATER QUALITY APPLICANT'S HANDBOOK** dated March 2010, by the Department of Environmental Protection, available at:
<http://www.dep.state.fl.us/water/wetlands/erp/rules/stormwater>, March 2010.

V 7.7

Treasure Coast Classical Academy

Catchment 1	Catchment 2	Catchment 3	Catchment 4	
7.980	1.000	0.000	0.000	ac
6.110	0.730	0.000	0.000	ac
68.00				days
Yes				
10.00				%
60.965				%
69.396				%
46.992				%
73.728				%
NO				
7.923	1.530			ac-ft/yr

7.980	1.000	0.000	0.000	ac
-------	-------	-------	-------	----

6.110	0.730	0.000	0.000	ac
-------	-------	-------	-------	----

68.00				days
-------	--	--	--	------

Yes			
-----	--	--	--

10.00				%
-------	--	--	--	---

60.965				%
--------	--	--	--	---

69.396				%
--------	--	--	--	---

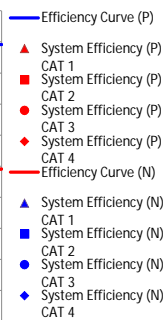
46.992				%
73.728				%

NO			
----	--	--	--

7.923	1.530			ac-ft/yr
-------	-------	--	--	----------

Following Must Hold

1.476				ac-ft
-------	--	--	--	-------



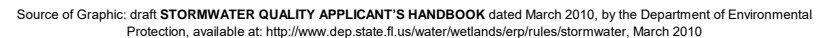
The purpose of the treatment efficiency graphs is to help illustrate the treatment efficiency of the wet detention system as the function of average annual residence time (and permanent pool volume). The graph illustrates that there is a point of diminished return as the permanent pool volume is substantially increased. The lines are produced from the conditions of catchment one, thus other catchments are shown with the data points.

GO TO STORMWATER TREATMENT ANALYSIS

REQUIRED REMAINING TREATMENT EFFICIENCIES OF TREATMENT SYSTEM IN SERIES WITH WET DETENTION. USE FOR SIZING OF TREATMENT SYSTEM IN SERIES WITH WET DETENTION.

Catchment 1	Catchment 2	Catchment 3	Catchment 4	
26.359				%
0.000				%

0.000				%
-------	--	--	--	---



CATCHMENTS AND TREATMENT SUMMARY RESULTS

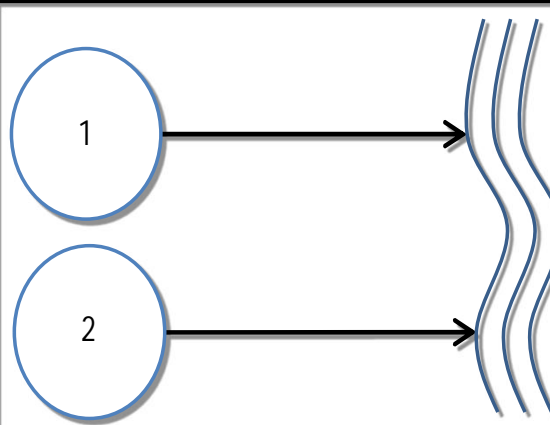
V 7.7

CALCULATION METHODS:

1. The effectiveness of each BMP in a single catchment is converted to an equivalent capture volume.
2. Certain BMP treatment train combinations have not been evaluated and in practice they are at this time not used, an example is a greenroof following a tree well.
3. Wet detention is last when used in a single catchment with other BMPs, except when followed by filtration

PROJECT TITLE	Treasure Coast Classical Academy		Optional Identification		
	Catchment 1:	Catchment 2:	Catchment 3:	Catchment 4:	
BMP Name	Retention Basin	Retention Basin			
BMP Name	Wet Detention				
BMP Name					

Summary Performance of Entire Watershed

Catchment Configuration	C - 2 Catchment-Parallel		12/6/2018	
Nitrogen Pre Load (kg/yr)	4.85	Treatment Objectives or Target MET	BMPTRAINS MODEL	
Phosphorus Pre Load (kg/yr)	0.63			
Nitrogen Post Load (kg/yr)	13.17			
Phosphorus Post Load (kg/yr)	2.19			
Target Load Reduction (N) %	63.2			
Target Load Reduction (P) %	71.1			
Target Discharge Load, N (kg/yr)	4.85			
Target Discharge Load, P (kg/yr)	0.63			
Provided Overall Efficiency, N (%):	66.2			
Provided Overall Efficiency, P (%):	80.2			
Discharged Load, N (kg/yr & lb/yr):	4.45		9.80	
Discharged Load, P (kg/yr & lb/yr):	0.43		0.96	
Load Removed, N (kg/yr & lb/yr):	8.72		19.21	
Load Removed, P (kg/yr & lb/yr):	1.76		3.87	

APPENDIX 6

PREVIOUSLY APPROVED AND PERMITTED DRAINAGE REPORT SUPPORTING DOCUMENTS

PROPOSED ICPR MODEL - INPUT REPORT

1/19/2017

13.620	0.2500
14.620	0.3800
17.000	1.5700

Name: OUTFALL	Base Flow(cfs): 0.000	Init Stage(ft): 12.000
Group: BASE		Warn Stage(ft): 12.000
Type: Time/Stage		

Time(hrs)	Stage(ft)
0.00	12.000
999.00	12.000

Name: WETLAND 1	Base Flow(cfs): 0.000	Init Stage(ft): 14.950
Group: BASE		Warn Stage(ft): 16.000
Type: Stage/Area		

WETLAND 1 BASIN AREA
SEASONAL HIGH WATER LINE = 14.95 NAVD

Stage(ft)	Area(ac)
11.400	0.0010
11.500	0.1800
12.000	0.3400
15.000	4.1300
17.000	7.3200

Name: WETLAND 2	Base Flow(cfs): 0.000	Init Stage(ft): 12.620
Group: BASE		Warn Stage(ft): 14.000
Type: Stage/Area		

WETLAND 2 BASIN AREA
SEASONAL HIGH WATER MARK = 12.62 NAVD

Stage(ft)	Area(ac)
12.000	0.0500
13.000	0.5500
14.000	3.2600

==== Drop Structures =====

Name: D-10	From Node: WETLAND 1	Length(ft): 440.00
Group: BASE	To Node: D-12 Bubble up	Count: 1

UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 24.00	24.00	Flow: Both
Rise(in): 24.00	24.00	Entrance Loss Coef: 0.000
Invert(ft): 12.500	12.000	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

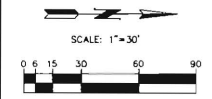
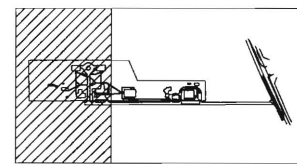
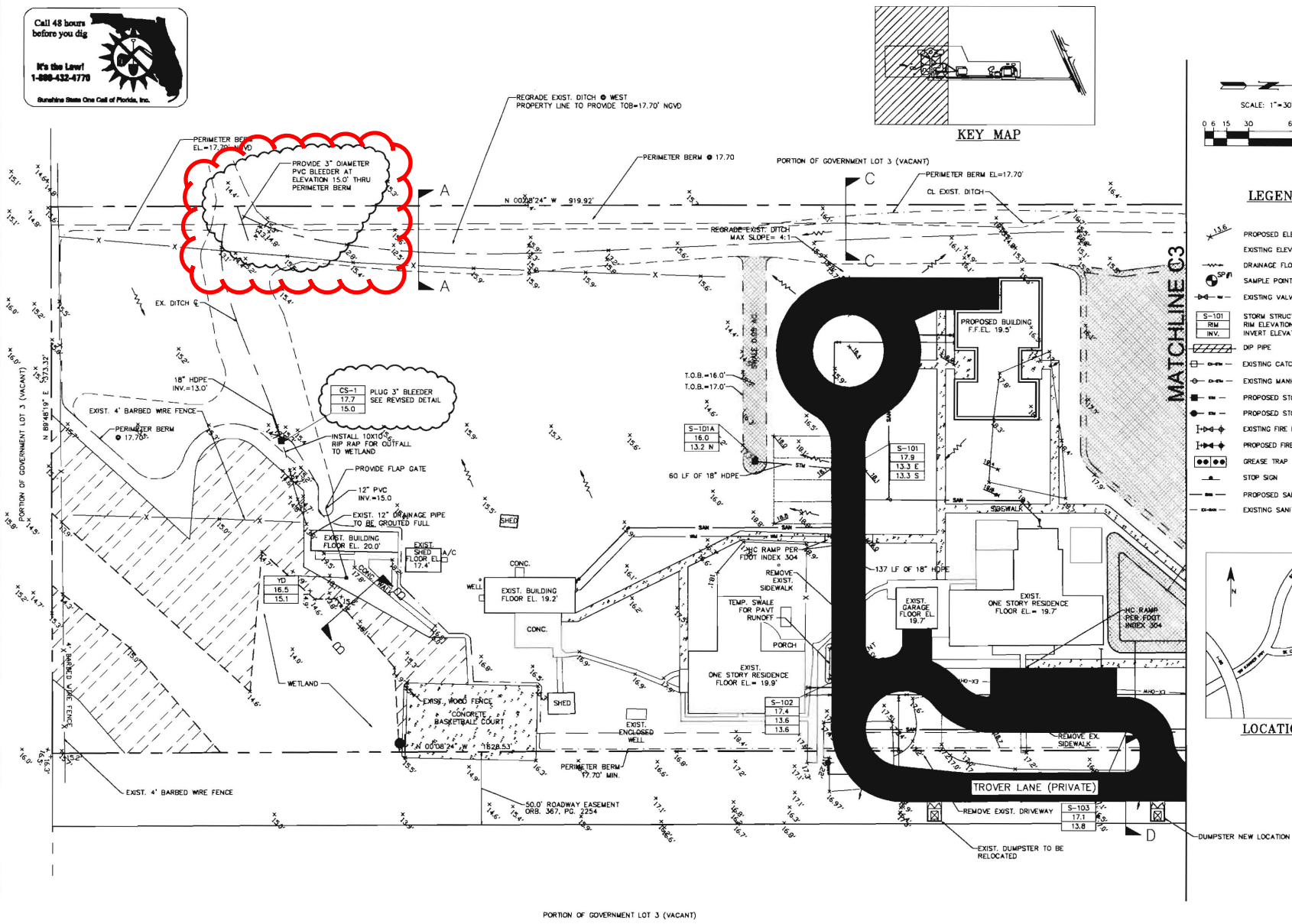
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure D-10 ***

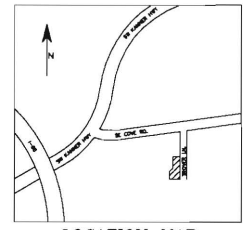
TABLE

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LEGEND

- PROPOSED ELEVATION
- EXISTING ELEVATION
- DRAINAGE FLOW ARROW
- SAMPLE POINT & NUMBER
- EXISTING VALVE & WATER LINE
- STORM STRUCTURE
- RM ELEVATION
- INVERT ELEVATION
- DIP PIPE
- EXISTING CATCH BASIN & LINE
- EXISTING MANHOLE & LINE
- PROPOSED STORM DRAIN & LINE
- PROPOSED STORM MANHOLE & LINE
- EXISTING FIRE HYDRANT WITH VALVE & TEE
- PROPOSED FIRE HYDRANT WITH VALVE & TEE
- GREASE TRAP
- STOP SIGN
- PROPOSED SANITARY MAIN/SERVICE
- EXISTING SANITARY MAIN/SERVICE



LOCATION MAP

REV	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	8/23/22
2	ISSUED FOR PERMITS	8/23/22
3	ISSUED FOR PERMITS	8/23/22
4	ISSUED FOR PERMITS	8/23/22
5	ISSUED FOR PERMITS	8/23/22
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99	ISSUED FOR PERMITS	8/23/22
100	ISSUED FOR PERMITS	8/23/22

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SAMARITAN CENTER
MARTIN COUNTY
PAVING, GRADING, AND DRAINAGE PLAN

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CHK	MCS
CADDWG	CADD-016
C2	
SHEET TYPE	
SHEET 2 OF 19	
JOB #	07-016

TRAFFIC IMPACT ANALYSIS (REV #1)

**COVE CHARTER SCHOOL
MARTIN COUNTY, FL**

**PREPARED FOR:
SUMMIT
CONSTRUCTION
GROUP**

Kimley»Horn

December 2018
CA 00000696
Kimley-Horn and Associates, Inc.
116 S. Kentucky Ave
Lakeland, Florida
863/701-8702 TEL

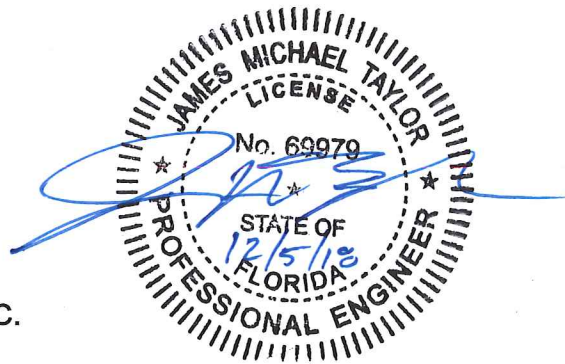
TRAFFIC IMPACT ANALYSIS (REV #1)

COVE CHARTER SCHOOL MARTIN COUNTY, FL

Prepared by:
Kimley-Horn and Associates, Inc.
Lakeland, Florida

Kimley»Horn

December 2018
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THIS IS TO CERTIFY THAT THE ENCLOSED
ENGINEERING CALCULATIONS WERE
PERFORMED BY ME OR UNDER MY
DIRECT SUPERVISION.

James M. Taylor, P.E.
Florida Registration Number #69979
CA No. 00000696

DATE: _____

TABLE OF CONTENTS

INTRODUCTION	3
EXISTING CONDITIONS.....	5
Volume Development.....	5
Existing 2018 Intersection Analysis.....	5
PROJECT TRAFFIC	7
Existing and Proposed Land Uses	7
Trip Generation	7
Traffic Distribution and Assignment.....	9
2021 Background Conditions.....	14
Background Peak Hour Intersection Analysis	14
Planned and Programmed Improvements.....	15
2021 Buildout Conditions	16
Buildout Peak Hour Intersection Analysis	16
Project Access Operations and Stacking Analysis.....	17
Site Circulation and Turn Lane Requirements	18
Buildout AM Peak Hour Roadway Capacity Analysis.....	19
CONCLUSION	21

LIST OF APPENDICES

Appendix A: Conceptual Site Plan	1
Appendix B: Traffic Counts	2
Appendix C: 2016 Fti Seasonal Factor Information	3
Appendix D: Volume Development Worksheets	4
Appendix E: Synchro Reports	5
Appendix F: Model Plots	6
Appendix G: Martin County 2017 Roadway Level Of Service Inventory Report	7

LIST OF TABLES

Table 1	2018 Existing Conditions	5
Table 2	Trip Generation	7
Table 3	Significance Test.....	9
Table 4	2021 Background Intersection Conditions	13
Table 5	2021 Buildout Intersection Conditions	15
Table 6	Vehicle Stacking Analysis Summary.....	17
Table 7	Roadway Capacity Analysis.....	19

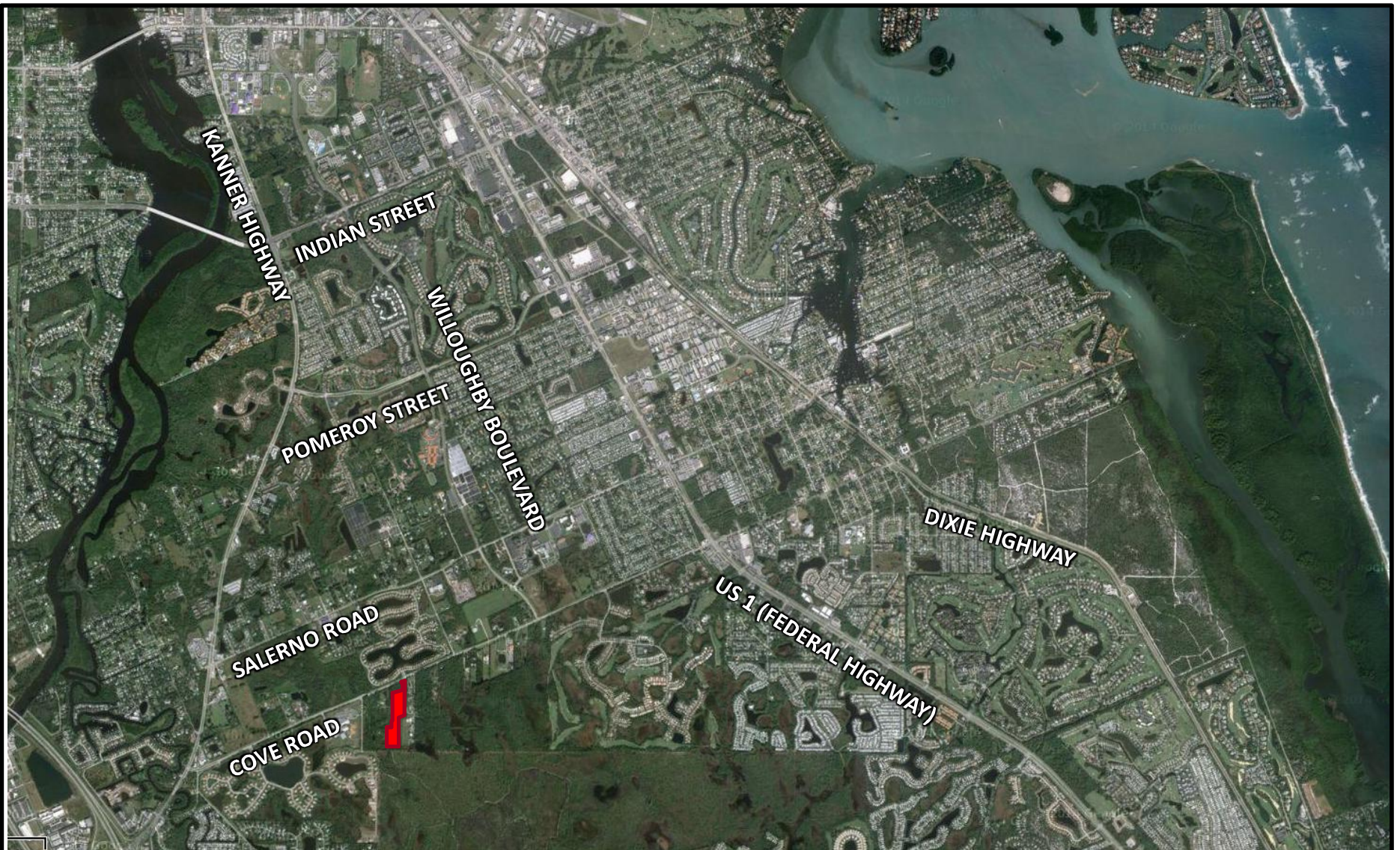
LIST OF FIGURES

Figure 1	Site Location Map	3
Figure 2	Project Trip Distribution	10
Figure 3	Trip Assignment Percentages	11
Figure 4	Trip Assignment Volumes	12

INTRODUCTION

Kimley-Horn and Associates, Inc. was retained to prepare a traffic impact analysis for a proposed charter school development. This document presents the methodology used and the findings of the traffic impact analysis. The analysis was conducted in accordance with the requirements of the Martin County Land Development Regulations. A buildout year of 2021 was analyzed for the proposed development. The site is proposed to contain a charter school (K-12) with an enrollment of approximately 1,000 students. *Figure 1* shows the proposed site location.

A conceptual site plan is available in **Appendix A**.



NORTH



Not to Scale

LEGEND

 SITE LOCATION

FIGURE 1
SITE LOCATION
COVE CHARTER SCHOOL

Kimley»Horn

EXISTING CONDITIONS

The study area includes two (2) existing intersections in addition to the project driveway. Study area intersections are listed below and shown in *Figure 1*. A conceptual site plan is included in **Appendix A**.

- SR 76 (Kanner Highway) at SE Cove Road
- US 1 (SE Federal Highway) at SE Cove Road
- Proposed Project Driveway 1 at SE Cove Road

Volume Development

Intersection turning movement counts were conducted on Thursday, August 2, 2018 at the two (2) existing study intersections between 7:00 AM – 9:00 AM and from 4:00 – 6:00 PM. Raw traffic count data from the intersection turning movement count data is included in **Appendix B**.

Raw traffic counts were seasonally adjusted using the Florida Department of Transportation's (FDOT's) 2016 Florida Traffic Information (FTI) database seasonal factor (SF) to determine the adjusted 2018 existing turning movement volumes. All FTI data is included in **Appendix C**. Volume development worksheets are included in **Appendix D**.

Existing 2018 Intersection Analysis

The adjusted 2018 existing turning movement volumes, during the AM and PM peak hour, were analyzed using *Synchro (v10)* software. Intersection level of service (LOS) and maximum volume to capacity (v/c) ratios for the existing conditions are provided in **Table 1**. Synchro results and signal timing sheets are included in **Appendix E**.

Table 1: 2018 Existing Intersection Conditions

Intersection	Control Type	Approach	Existing 2018 AM Peak Hour				
			Level of Service	Max V/C Ratio	Max V/C Movement	Overall Intersection	
						Level of Service	Max v/c Ratio
SR 76 (Kanner Hwy) at SE Cove Road	Signalized	EB	-	-	-	C	0.88
		WB	E	0.88	WBL/R		
		NB	C	0.77	NBT		
		SB	B	0.66	SBT		
US 1 (Federal Hwy) at SE Cove Road	Signalized	EB	D	0.54	EBL	D	0.84
		WB	E	0.84	WBT		
		NB	D	0.76	NBL		
		SB	D	0.51	SBT		

Intersection	Control Type	Approach	Existing 2018 PM Peak Hour				
			Level of Service	Max V/C Ratio	Max V/C Movement	Overall Intersection	
						Level of Service	Max v/c Ratio
SR 76 (Kanner Hwy) at SE Cove Road	Signalized	EB	-	-	-	C	0.91
		WB	E	0.85	WBL/R		
		NB	C	0.91	NBT		
		SB	C	0.79	SBT		
US 1 (Federal Hwy) at SE Cove Road	Signalized	EB	D	0.91	EBT	D	0.91
		WB	D	0.60	WBT		
		NB	D	0.76	NBL		
		SB	D	0.89	SBL		

As shown in the table, all study area intersections are anticipated to operate at an acceptable overall LOS (LOS D or better) and with v/c ratios less than one (1.0) at all approaches during both the AM and PM peak hours.

PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project, and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The existing site is currently vacant. The proposed development will consist of a 1,000-student charter school with grades K-12. The site is anticipated to be complete in 2021. This analysis was conducted based upon full buildout of the project. Access to the site is proposed via one (1) driveway located on SE Cove Road approximately 1,450 feet east of SE Atlantic Ridge Drive.

Trip Generation

The trip generation potential for the proposed development program was calculated using trip generation rates and equations published by the Institute of Transportation Engineers' (ITE) Trip Generation Report, 10th Edition. Data provided by ITE for Land Use Code (LUC) 537 Charter Elementary School was referenced to determine build-out trip generation for the development. Although LUC 537 is specific to elementary school aged students while the proposed development has enrollment of K-12 students, the land use still applies based on the unique characteristics of a charter school. For example, charter schools typically do not utilize busses to transport students to and from school. Since busses are not a factor in this land use, it is assumed that upper grades will have similar drop-off and pick-up patterns to younger students due to the limited transportation options.

The following two (2) hours were chosen for local operational analysis:

- AM Peak (Generator) Hour: The school produces more trips in the AM peak (generator) hour than in the PM peak (generator) hour; therefore, the AM peak (generator) hour is the controlling operational constraint for both the internal site circulation and project driveway.
- PM Peak (Adjacent Street) Hour: The PM peak (generator) hour of the school does not occur during the Pm Peak Hour of the adjacent street traffic. It is anticipated that the background adjacent street traffic will be higher in the PM peak (adjacent street) hour than in both the AM and PM peak (generator) hours. Therefore, the traditional PM peak (adjacent street) hour was analyzed.

A trip generation summary is provided in **Table 2**.

TABLE 2 COVE CHARTER SCHOOL TRAFFIC IMPACT ANALYSIS TRIP GENERATION							
Land Use	Intensity	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Proposed Site							
Charter Elementary School	1,000 Students	1,136	602	534	140	49	91
Subtotal		1,136	602	534	140	49	91
Net New External Trips →		1,136	602	534	140	49	91
Note 1: Trip generation based on ITE's <i>Trip Generation Manual</i> , 10th Edition (see below for specific information).							
<u>Charter Elementary School [ITE 537]</u>							
Daily	N/A						
AM Peak Hour of Generator	T = 1.14*(X) - 4.33(X is # of Students; 53% in, 47% out)						
PM Peak Hour of Adjacent Street	T =0.14 * (X) (X is # of Students; 35% in, 65% out)						

Traffic Distribution and Assignment

A projected traffic distribution plan was developed based on a review of the existing uses within the project area, the roadway network and its travel time characteristics, and a transportation model run. The transportation model run was based on the Treasure Coast Regional Planning Model version 4 (TCRPM4), which is the area's approved model. Model output is included in **Appendix F**. *Figure 2* illustrates the proposed project distribution. *Figure 3* shows the trip assignment percentages. Using these percentages, project traffic then assigned to the surrounding roadway network projected to be in place by 2021. Project traffic volumes are shown in *Figure 4*.

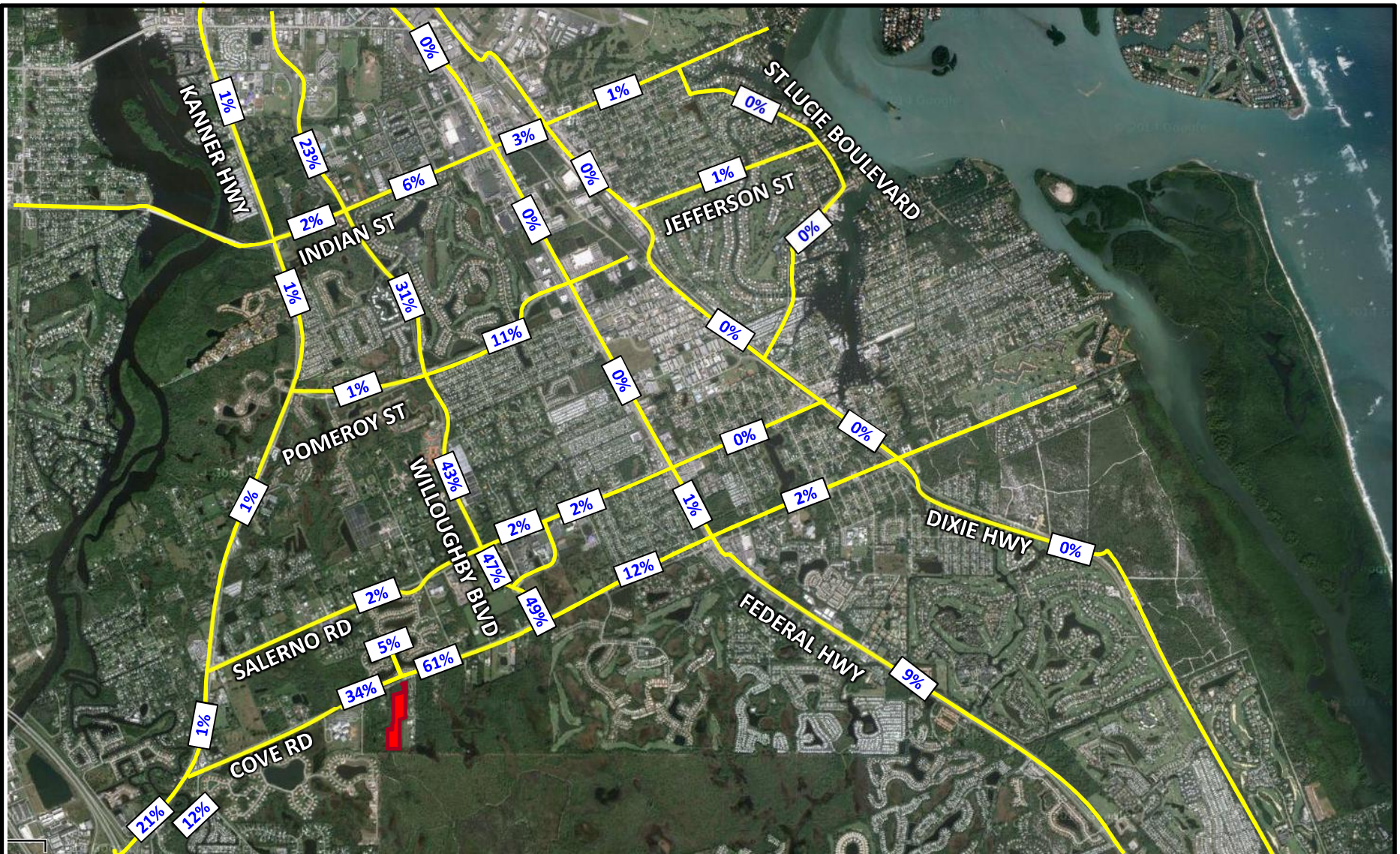
According to the Martin County Land Development Regulations, a roadway link is significantly impacted if the impact from the project traffic on that link is greater than two percent of the adopted service capacity threshold. Project significance calculations are included in **Table 3**. The links included in the analysis are those that are listed in the Martin County 2017 Roadway Level of Service Inventory Report, which is included in **Appendix G**.

TABLE 3
COVE CHARTER SCHOOL TRAFFIC IMPACT ANALYSIS
SIGNIFICANCE TEST

Roadway		Number of Lanes	Generalized Service Capacity	% Project Assignment	New Project Traffic	Project Traffic % Impact	Significant Impact ? (1)
From	To						
Cove Road							
SR 76	Project Driveway	2LU	880	34%	205	23.3%	Yes
Project Driveway	Willoughby Boulevard	2LU	880	61%	367	41.7%	Yes
Willoughby Boulevard	SR 5	2LU	880	12%	72	8.2%	Yes
SR 5	CR A1A	2LU	750	2%	12	1.6%	No
CR A1A	End	2LU	675	1%	6	0.9%	No
Indian Street							
SR 76	Willoughby Boulevard	4LD	2,000	2%	12	0.6%	No
Willoughby Boulevard	SR 5	4LD	2,000	6%	36	1.8%	No
SR 5	Commerce Avenue	4LD	2,000	3%	18	0.9%	No
SR 76 (Kanner Highway)							
Locks Road	Jack James	6LD	3,020	4%	24	0.8%	No
Jack James	Cove Road	6LD	3,020	21%	126	4.2%	Yes
Cove Road	Salerno Road	6LD	3,020	1%	6	0.2%	No
Salerno Road							
SR 76	Willoughby Boulevard	2LU	880	2%	12	1.4%	No
Willoughby Boulevard	SR 5	2LU	790	2%	12	1.5%	No
Pomeroy Street							
SR 76	Willoughby Boulevard	2LD	790	1%	6	0.8%	No
Willoughby Boulevard	SR 5	2LD	790	11%	66	8.4%	Yes
Willoughby Boulevard							
Cove Road	Salerno Road	2LU	880	49%	295	33.5%	Yes
Salerno Road	Pomeroy Street	2LU	880	43%	259	29.4%	Yes
Pomeroy Street	Indian Street	4LD	2,000	31%	187	9.4%	Yes
Indian Street	SR 714	4LD	2,000	23%	138	6.9%	Yes
SR 5 (US 1)							
CR A1A	CR 708	4LD	2,000	6%	36	1.8%	No
CR 708	Osprey Street	4LD	2,000	7%	42	2.1%	Yes
Osprey Street	Seabranh Boulevard	4LD	2,000	8%	48	2.4%	Yes
Seabranh Boulevard	Cove Road	6LD	3,020	9%	54	1.8%	No
SR 714	SR 5A	6LD	3,020	0%	0	0.0%	No
SR 5A	SR 76	6LD	3,020	11%	66	2.2%	Yes
SR 76	Palm City Road	6LD	2,520	8%	48	1.9%	No

Notes:

- (1) Significant impact threshold is 2% (per Martin County Land Development Code)
 (2) The generalized service capacities were obtained from the Martin County 2017 Roadway Level of Service Inventory Report.



NORTH



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LEGEND



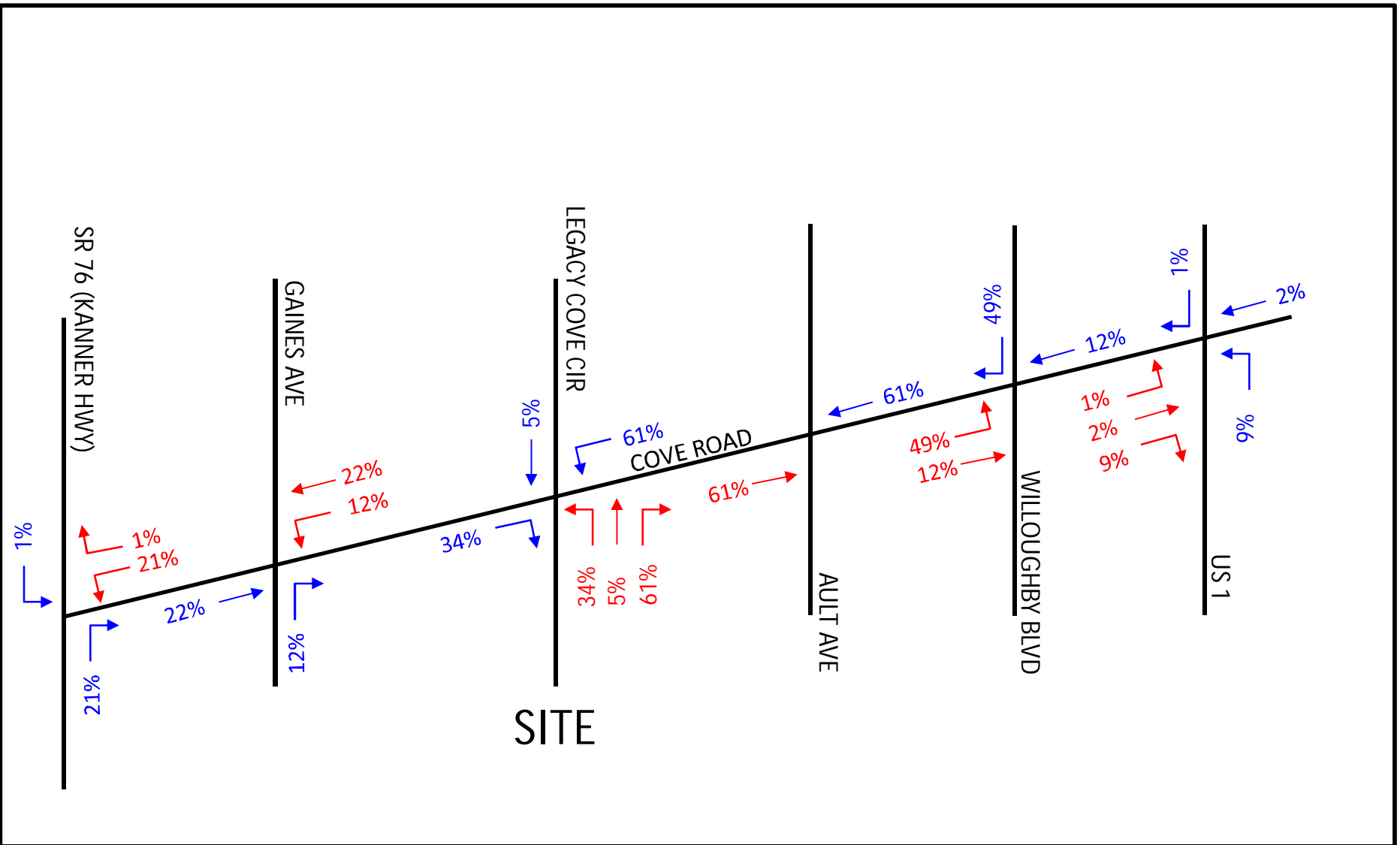
SITE LOCATION



PROJECTED TRIP ASSIGNMENT

FIGURE 2
PROJECT TRIP DISTRIBUTION
COVE CHARTER SCHOOL

Kimley»Horn



NORTH



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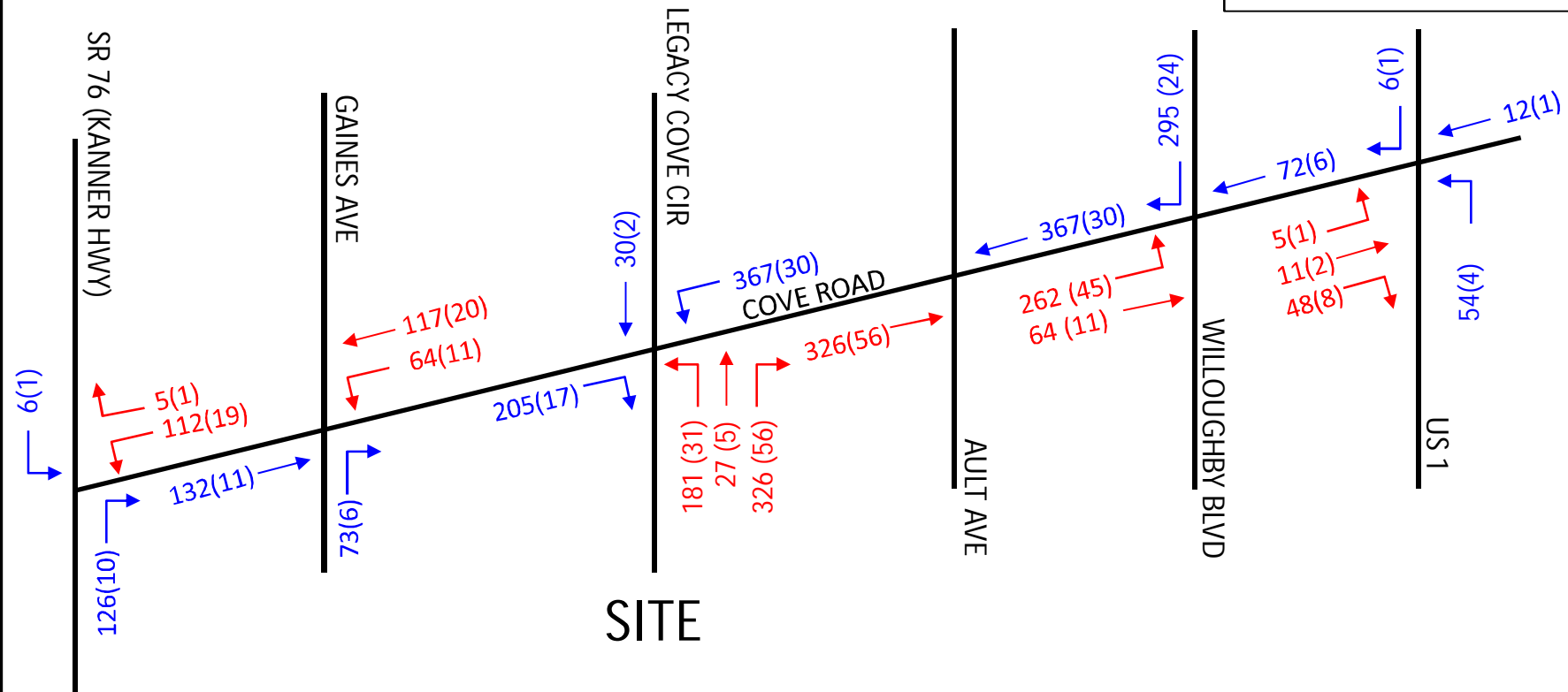
- XX% → INBOUND TRIP ASSIGNMENT PERCENTAGE
 XX% → OUTBOUND TRIP ASSIGNMENT PERCENTAGE

FIGURE 3
 TRIP ASSIGNMENT PERCENTAGES
 COVE CHARTER SCHOOL

Kimley»Horn

Driveway Volume Data from
Trip Generation (see Table 1):

- AM peak hour inbound = 602
- AM peak hour outbound = 534
- PM peak hour inbound = 49
- PM peak hour outbound = 91



NORTH



Not to Scale

LEGEND:

- XX → PROJECTED AM PEAK HOUR DRIVEWAY VOLUME
- (XX) → PROJECTED PM PEAK HOUR DRIVEWAY VOLUME

FIGURE 4
TRIP ASSIGNMENT VOLUMES
COVE CHARTER SCHOOL

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2021 BACKGROUND CONDITIONS

Traffic conditions were evaluated for the 2021 background year during AM and PM peak hours.

Background Peak Hour Intersection Analysis

Existing turning movement data at the study intersections was increased annually based on the established growth rate established by Martin County 2017 Roadway Level of Service Report to develop background turning movement volumes. Synchro (v10) software was used to analyze study intersections under background conditions. **Table 4** summarizes the intersection performance, without the impact of project trips. As shown in the tables, all study area intersections are anticipated to operate at an acceptable overall LOS (LOS D or better) and with v/c ratios less than one (1.0) at all approaches during both the AM and PM peak hours. All synchro reports are included in **Appendix D**.

Table 4: 2021 Background Intersection Conditions

Intersection	Control Type	Approach	Background 2021 AM Peak Hour				
			Level of Service	Max V/C Ratio	Max V/C Movement	Overall Intersection	
						Level of Service	Max v/c Ratio
SR 76 (Kanner Hwy) at SE Cove Road	Signalized	EB	-	-	-	C	0.90
		WB	E	0.90	WBL/R		
		NB	B	0.59	NBT		
		SB	B	0.48	SBT		
US 1 (Federal Hwy) at SE Cove Road	Signalized	EB	D	0.56	EBL	D	0.85
		WB	E	0.85	WBT		
		NB	D	0.77	NBL		
		SB	D	0.56	SBT		

Intersection	Control Type	Approach	Background 2021 PM Peak Hour				
			Level of Service	Max V/C Ratio	Max V/C Movement	Overall Intersection	
						Level of Service	Max v/c Ratio
SR 76 (Kanner Hwy) at SE Cove Road	Signalized	EB	-	-	-	C	0.86
		WB	E	0.86	WBL/R		
		NB	C	0.69	NBT		
		SB	B	0.63	SBL		
US 1 (Federal Hwy) at SE Cove Road	Signalized	EB	D	0.88	EBT	D	0.88
		WB	D	0.58	WBT		
		NB	D	0.84	NBL		
		SB	E	0.81	SBL		

Planned and Programmed Improvements

A review of programmed roadway and intersection improvements in the study area was conducted. FDOT District 4 – Treasure Coast is currently in the process of reconstructing SR 76 (Kanner Highway) in the project vicinity. The project will widen the roadway from a four-lane divided highway to a six-lane divided highway with an anticipated completion date of Spring 2021. As the completion date of this project is within the lifespan of this project, these improvements were reflected in the background and build analyses.

2021 BUILDOUT CONDITIONS

AM and PM peak hour future traffic conditions were evaluated for the 2021 buildout year of the development.

Buildout Peak Hour Intersection Analysis

The anticipated future buildout intersection volumes were determined by adding the distributed project traffic to the future background turning movement volumes. Project traffic development worksheets for study intersections can be found in **Appendix D**.

The intersections were evaluated using *Synchro (v10)* software, and **Table 5** summarizes the intersection performance under 2021 buildout conditions. Synchro reports and signal timing sheets are included in **Appendix E**.

Table 5: Buildout Intersection Conditions

Intersection	Control Type	Approach	Build 2021 AM Peak Hour				
			Level of Service	Max V/C Ratio	Max V/C Movement	Overall Intersection	
						Level of Service	Max v/c Ratio
SR 76 (Kanner Hwy) at SE Cove Road	Signalized	EB	-	-	-	C	0.97
		WB	E	0.97	WBL/R		
		NB	B	0.60	NBR		
		SB	B	0.50	SBT		
US 1 (Federal Hwy) at SE Cove Road	Signalized	EB	D	0.57	EBL	D	0.86
		WB	E	0.86	WBT		
		NB	D	0.80	NBL		
		SB	D	0.59	SBT		
Project Driveway at SE Cove Road	Unsignalized	EB	A	0.03	EBL	-	0.74
		WB	B	0.51	WBL		
		NB	D	0.74	NBR		
		SB	C	0.06	SBR		

Intersection	Control Type	Approach	Build 2021 PM Peak Hour				
			Level of Service	Max V/C Ratio	Max V/C Movement	Overall Intersection	
						Level of Service	Max v/c Ratio
SR 76 (Kanner Hwy) at SE Cove Road	Signalized	EB	-	-	-	C	0.86
		WB	E	0.86	WBL/R		
		NB	C	0.70	NBT		
		SB	B	0.65	SBL		
US 1 (Federal Hwy) at SE Cove Road	Signalized	EB	E	0.88	EBT	D	0.88
		WB	D	0.58	WBT		
		NB	D	0.84	NBL		
		SB	D	0.82	SBL		
Project Driveway at SE Cove Road	Unsignalized	EB	A	0.08	EBL	-	0.94
		WB	A	0.04	WBL		
		NB	F	0.71	NBL/T		
		SB	F	0.94	SBL/T		

As shown in the tables, all study area intersections are anticipated to operate at an acceptable overall LOS (LOS D or better) and with v/c ratios less than one (1.0) at all approaches during both the AM and PM peak hours. The following section provides a stacking analysis to forecast the anticipated onsite queue expected versus available onsite stacking capacity.

Project Access Operations and Stacking Analysis

Access to Cove Charter School is provided via one driveway located at the existing intersection of SE Legacy Cove Circle at SE Cove Road. This driveway is anticipated to provide full-access to the school with two lanes of egress: one through/left lane and a dedicated right-turn lane. In addition to the intersection delay analysis performed at the driveway access point in the previous section, an AM peak hour queueing analysis was performed to determine if adequate vehicle storage is available onsite to avoid spillover onto SE Cove Road. Peak operations for drop-off and pick-up occur during the AM peak hour when the trip rate is the highest.

The peak queue length for exiting traffic during the AM peak hour operations was determined and compared to the available onsite queueing space anticipated in the conceptual site plan (**Appendix A**). To be conservative, the queueing analysis assumes 25% of vehicles arrive onsite and occupy available storage before drop-off operations begin. Afterwards, school staff is assumed to clear out traffic at the drop-off location at a rate equal to or greater than the arrival rate, making delay at the driveway provided by the Synchro analysis the limiting constraint.

Table 6 provides the summary of the AM peak hour stacking analysis during drop-off and pick-up operations at Cove Charter School. As shown, the conceptual site plan provides enough vehicles storage to avoid spillover of entering project traffic onto SE Cove Road during peak operations.

Table 6: Vehicle Stacking Analysis Summary

Variables	AM Peak Hour Data
Peak Hour Trips In (veh/hr)	602
Peak Hour Trips Out (veh/hr)	534
Peak Hour Trips Total (veh/hr)	1,136
% of Initial Stacking	25%
Initial Stacking (veh)	134
95%-tile Back-of-Queue at Exit from Synchro output (veh)	6
Total Stacking Required Onsite (veh)	140
Stacking Available from Conceptual Map (veh) ¹	160
Is Onsite Vehicle Storage Adequate?	Yes

Note ¹: Assumed 22 feet per vehicle

Site Circulation and Turn Lane Requirements

Access to the site is proposed via one full-access driveway on SE Cove Road. Based on the expected distribution of traffic to and from the site, project traffic volumes were calculated at the subject driveway connection. These volumes are shown in *Figure 4*. Based on the projected ingress turning volumes at each access point and the characteristics of the roadway facilities which the access driveways will connect to, exclusive ingress turning lanes will be required at the site entrance. Per the Martin County Land Development Code, turn lane lengths must satisfy FDOT requirements. As outlined in these requirements, the minimum acceptable turn lane length at the project entrance will be 290 feet (240 feet of deceleration length and 50 feet of queue length). It is recommended that an eastbound right and westbound left-turn lane be installed at the project entrance to mitigate traffic impacts to SE Cove Road during school hours.

Buildout AM Peak Hour Roadway Capacity Analysis

As previously discussed, there are several roadway segments that are anticipated to be significantly impacted by the project per Martin County guidelines as shown in **Table 3**. These significantly impacted segments were evaluated for potential project impacts during the 2021 buildout scenario as detailed in **Table 7**. The anticipated 2021 future buildout roadway segment volumes were determined by adding distributed project traffic (AM peak hour) to background roadway segment volumes. Background roadway segment volumes utilized the annual percent growth rate as provided in the Martin County 2017 Roadway Level of Service Inventory Report. This report is included in **Appendix G**.

The roadway segment volumes are anticipated to operate acceptably under buildout conditions shown in **Table 7** with the exception of the segment of SE Cove Road from SR 76 to Willoughby Boulevard. The project traffic on this relatively short segment (only from the project driveway to SE Ault Avenue) is showing a v/c greater than one (1.0) and is anticipated to be mitigated by the proposed westbound left-turn lane.

**TABLE 7
COVE CHARTER SCHOOL TRAFFIC IMPACT ANALYSIS
CAPACITY ANALYSIS**

Roadway	From	To	Generalized Service Capacity	2017 Existing PHPD Volume	Annual Growth Rate	2021 Background Growth	2021 Background Traffic	2021 Background V/C Ratio	% Project Assignment	New Project Traffic	2021 Total Traffic	2021 Total V/C Ratio	Meets Standard ?
Cove Road													
SR 76	Project Driveway	Project Driveway	880	635	2.40%	31	666	0.76	34%	205	871	0.99	Yes
	Willoughby Boulevard	Willoughby Boulevard	880	635	2.40%	31	666	0.76	61%	367	1,033	1.17	No
SR 5	Willoughby Boulevard	SR 5	880	665	2.70%	36	701	0.80	12%	72	773	0.88	Yes
	CR A1A	CR A1A	750	654	3.00%	40	694	0.93	2%	12	706	0.94	Yes
SR 76 (Kammer Highway)													
Jack James		Cove Road	3,020	2,353	2.40%	114	2,467	0.82	21%	126	2,593	0.86	Yes
Salerno Road													
SR 76	Willoughby Boulevard	Willoughby Boulevard	880	382	3.30%	26	408	0.46	2%	12	420	0.48	Yes
Pomeroy Street													
SR 76	Willoughby Boulevard	Willoughby Boulevard	790	447	3.30%	30	477	0.60	1%	6	483	0.61	Yes
	Willoughby Boulevard	SR 5	790	383	4.40%	34	417	0.53	11%	66	483	0.61	Yes
Willoughby Boulevard													
Cove Road	Salerno Road	Salerno Road	880	223	8.00%	37	260	0.30	49%	295	555	0.63	Yes
Salerno Road	Pomeroy Street	Pomeroy Street	880	478	7.90%	79	557	0.63	43%	259	816	0.93	Yes
Pomeroy Street	Indian Street	Indian Street	2,000	312	6.40%	41	353	0.18	31%	187	540	0.27	Yes
Indian Street	SR 714	SR 714	2,000	480	0.50%	5	485	0.24	23%	138	623	0.31	Yes
SR 5 (US 1)													
CR 708	Osprey Street	Osprey Street	2,000	1,506	2.00%	61	1,567	0.78	7%	42	1,609	0.80	Yes
Osprey Street	Seabranche Boulevard	Seabranche Boulevard	2,000	1,065	2.30%	50	1,115	0.56	8%	48	1,163	0.58	Yes
SR 5A	SR 76	SR 76	3,020	1,492	1.20%	36	1,528	0.51	11%	66	1,594	0.53	Yes
Notes:													
(1) The generalized service capacities, existing peak hour peak direction (PHPD) traffic volumes, and annual growth rates utilized in this table were obtained from the Martin County 2017 Roadway Level of Service Inventory Report.													

CONCLUSION

This traffic impact analysis was performed to assess the impacts of the proposed Cove Charter School. The school, to be accessed from SE Cove Road, is proposed to have a K-12 buildout enrollment of 1,000 students. Operational analysis for existing and future conditions was performed at local intersections along Cove Road and at the project access near SE Legacy Cove Circle for both the AM and PM peak hours. Additionally, a stacking analysis was performed to ensure adequate vehicle storage is proposed onsite to accommodate peak drop-off and pick-up operations.

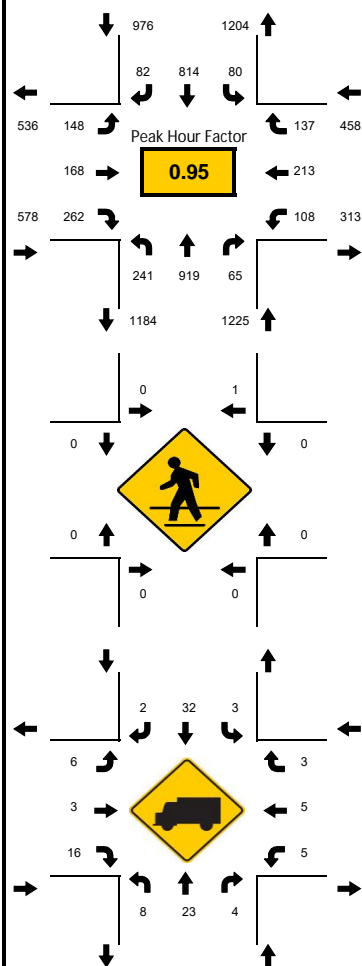
The project is expected to generate 1,136 net new external vehicular trips in the AM peak hour and 140 net new external vehicular trips in the PM peak hour based on ITE trip generation data and procedures. These trips were distributed onto the surrounding existing roadway network using the latest adopted regional travel demand model TCRPM4 and engineering judgement. Intersections in the study area were found to operate at an acceptable LOS in the buildout condition and with v/c ratios less than one (1.0) at all approaches during both the AM and PM peak hours.

Based on traffic volumes at the proposed driveway, it is recommended that eastbound right and westbound left-turn lanes on SE Cove Road be provided at the project driveway. Using the operational assumptions within the report, an onsite stacking analysis shows the available onsite stacking capacity is adequate to support forecasted peak operations at the school without spillover onto SE Cove Road.

APPENDIX A: CONCEPTUAL SITE PLAN

APPENDIX B: TRAFFIC COUNTS

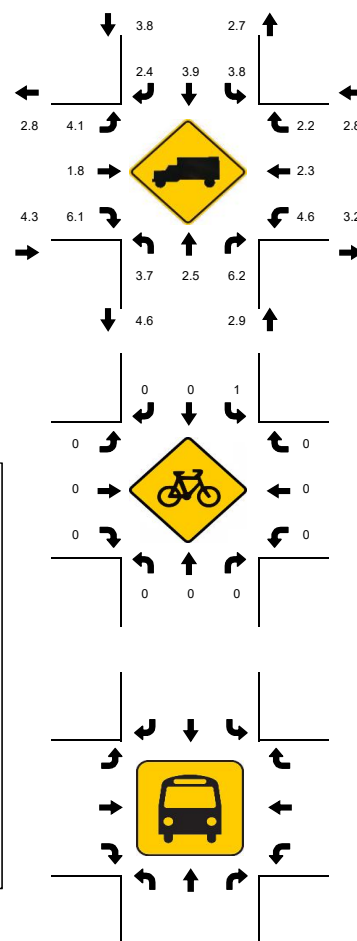
PROJECT ID: 18-03357-001
DATE: 08/02/2018



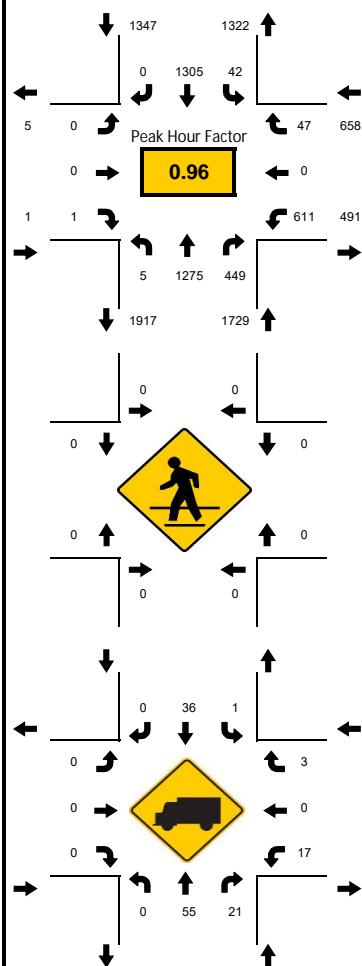
Peak-Hour: 07:45 AM - 08:45 AM
Peak 15-Minute: 08:30 AM - 08:45 AM



National Data & Surveying Services

[illegible]

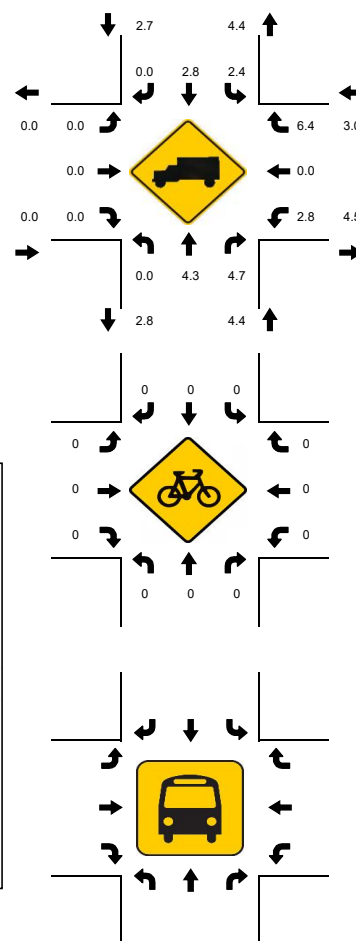
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DATE: 08/02/2018



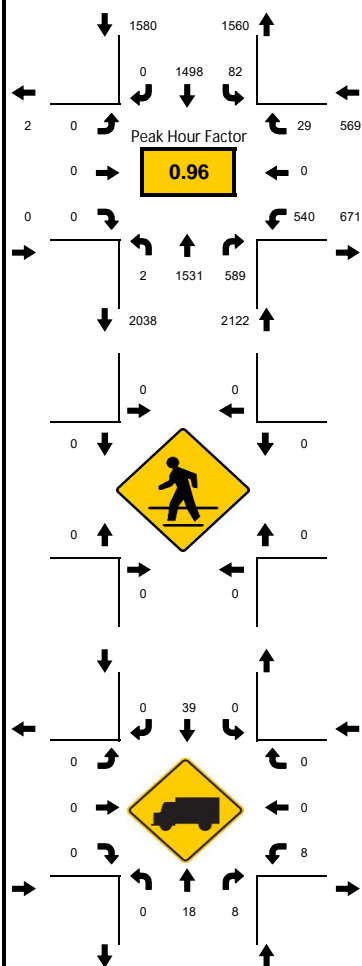
Peak-Hour: 07:15 AM - 08:15 AM
Peak 15-Minute: 07:45 AM - 08:00 AM



National Data & Surveying Services

[illegible]

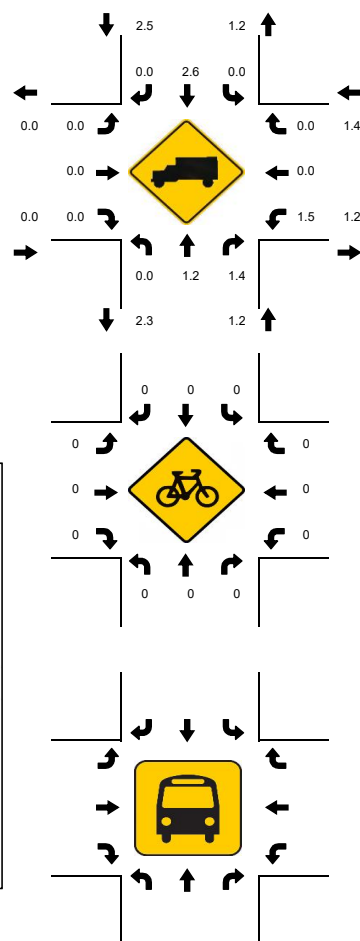
PROJECT ID: 18-03357-002
DATE: 08/02/2018



Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:30 PM - 05:45 PM



National Data & Surveying Services

[illegible]

APPENDIX C: 2016 FTI SEASONAL FACTOR INFORMATION

			MOCF: 0.88	
Week	Dates	SF	PSCF	
=====				
1	01/01/2016 - 01/02/2016	1.01	1.15	
2	01/03/2016 - 01/09/2016	0.97	1.10	
3	01/10/2016 - 01/16/2016	0.93	1.06	
* 4	01/17/2016 - 01/23/2016	0.91	1.03	
* 5	01/24/2016 - 01/30/2016	0.90	1.02	
* 6	01/31/2016 - 02/06/2016	0.88	1.00	
* 7	02/07/2016 - 02/13/2016	0.86	0.98	
* 8	02/14/2016 - 02/20/2016	0.85	0.97	
* 9	02/21/2016 - 02/27/2016	0.85	0.97	
*10	02/28/2016 - 03/05/2016	0.85	0.97	
*11	03/06/2016 - 03/12/2016	0.85	0.97	
*12	03/13/2016 - 03/19/2016	0.85	0.97	
*13	03/20/2016 - 03/26/2016	0.87	0.99	
*14	03/27/2016 - 04/02/2016	0.89	1.01	
*15	04/03/2016 - 04/09/2016	0.91	1.03	
*16	04/10/2016 - 04/16/2016	0.93	1.06	
17	04/17/2016 - 04/23/2016	0.95	1.08	
18	04/24/2016 - 04/30/2016	0.98	1.11	
19	05/01/2016 - 05/07/2016	1.00	1.14	
20	05/08/2016 - 05/14/2016	1.02	1.16	
21	05/15/2016 - 05/21/2016	1.05	1.19	
22	05/22/2016 - 05/28/2016	1.06	1.20	
23	05/29/2016 - 06/04/2016	1.08	1.23	
24	06/05/2016 - 06/11/2016	1.09	1.24	
25	06/12/2016 - 06/18/2016	1.11	1.26	
26	06/19/2016 - 06/25/2016	1.11	1.26	
27	06/26/2016 - 07/02/2016	1.11	1.26	
28	07/03/2016 - 07/09/2016	1.12	1.27	
29	07/10/2016 - 07/16/2016	1.12	1.27	
30	07/17/2016 - 07/23/2016	1.13	1.28	
31	07/24/2016 - 07/30/2016	1.13	1.28	
32	07/31/2016 - 08/06/2016	1.14	1.30	
33	08/07/2016 - 08/13/2016	1.14	1.30	
34	08/14/2016 - 08/20/2016	1.15	1.31	
35	08/21/2016 - 08/27/2016	1.14	1.30	
36	08/28/2016 - 09/03/2016	1.14	1.30	
37	09/04/2016 - 09/10/2016	1.13	1.28	
38	09/11/2016 - 09/17/2016	1.13	1.28	
39	09/18/2016 - 09/24/2016	1.11	1.26	
40	09/25/2016 - 10/01/2016	1.10	1.25	
41	10/02/2016 - 10/08/2016	1.08	1.23	
42	10/09/2016 - 10/15/2016	1.07	1.22	
43	10/16/2016 - 10/22/2016	1.06	1.20	
44	10/23/2016 - 10/29/2016	1.06	1.20	
45	10/30/2016 - 11/05/2016	1.05	1.19	
46	11/06/2016 - 11/12/2016	1.05	1.19	
47	11/13/2016 - 11/19/2016	1.04	1.18	
48	11/20/2016 - 11/26/2016	1.03	1.17	
49	11/27/2016 - 12/03/2016	1.02	1.16	
50	12/04/2016 - 12/10/2016	1.01	1.15	
51	12/11/2016 - 12/17/2016	1.01	1.15	
52	12/18/2016 - 12/24/2016	0.97	1.10	
53	12/25/2016 - 12/31/2016	0.93	1.06	

* Peak Season

APPENDIX D: VOLUME DEVELOPMENT WORKSHEETS

INTERSECTION VOLUME SHEET

SR 76 (Kanner Hwy) & Cove Road

Weekday AM Peak Hour (7:15 AM - 8:15 AM)	SR 76 (Kanner Hwy)						Cove Road					
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	U	T	R	L	T	R	L	T	R	L	T	R
TMC	5	1,275	449	42	1,305	0	0	0	0	611	0	47
Seasonal Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Heavy Vehicle %	0%	4%	5%	2%	3%	0%	0%	0%	0%	3%	0%	6%
Peak Hour Factor		0.94			0.99			-			0.96	
Existing Volumes (2018)	6	1,454	512	48	1,488	0	0	0	0	697	0	54
Growth Factor	2.4%	2.4%	2.4%	0.9%	0.9%	0.9%	0.0%	0.0%	0.0%	2.4%	2.4%	2.4%
Number of Years	3	3	3	3	3	3	3	3	3	3	3	3
Future Background (2021)	6	1,561	550	49	1,529	0	0	0	0	748	0	58
Project Assignment	0%	0%	21%	1%	0%	0%	0%	0%	0%	21%	0%	1%
Direction	n/a	n/a	in	in	n/a	n/a	n/a	n/a	n/a	out	n/a	out
Project Trips	0	0	126	6	0	0	0	0	0	112	0	5
Project Buildout	6	1,561	676	55	1,529	0	0	0	0	860	0	63

Weekday PM Peak Hour (4:45 PM - 5:45 PM)	SR 76 (Kanner Hwy)						Cove Road					
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	U	T	R	L	T	R	L	T	R	L	T	R
TMC	2	1,531	589	82	1,498	0	0	0	0	540	0	29
Seasonal Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Heavy Vehicle %	0%	1%	1%	0%	3%	0%	0%	0%	0%	1%	0%	0%
Peak Hour Factor		0.96			0.91			-			1.10	
Existing Volumes (2018)	2	1,745	671	93	1,708	0	0	0	0	616	0	33
Growth Factor	2.4%	2.4%	2.4%	0.9%	0.9%	0.9%	0.0%	0.0%	0.0%	2.4%	2.4%	2.4%
Number of Years	3	3	3	3	3	3	3	3	3	3	3	3
Future Background (2021)	2	1,874	720	96	1,755	0	0	0	0	661	0	35
Project Assignment	0%	0%	21%	1%	0%	0%	0%	0%	0%	21%	0%	1%
Direction	n/a	n/a	in	in	n/a	n/a	n/a	n/a	n/a	out	n/a	out
Project Trips	0	0	10	0	0	0	0	0	0	19	0	1
Project Buildout	2	1,874	730	96	1,755	0	0	0	0	680	0	36

US 1 & Cove Road

Weekday AM Peak Hour (7:15 AM - 8:15 AM)	US 1						Cove Road					
	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
TMC	280	790	60	82	802	76	124	164	247	107	259	157
Seasonal Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Heavy Vehicle %	4%	2%	2%	2%	2%	4%	4%	4%	4%	5%	1%	1%
Peak Hour Factor		0.86			0.93			0.90			1.14	
Existing Volumes (2018)	319	901	68	93	914	87	141	187	282	122	295	179
Growth Factor	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	2.7%	2.7%	2.7%	3.0%	3.0%	3.0%
Number of Years	3	3	3	3	3	3	3	3	3	3	3	3
Future Background (2021)	328	926	70	96	939	89	153	203	305	133	322	196
Project Assignment	9%	0%	0%	0%	0%	1%	1%	2%	9%	0%	2%	0%
Direction	in	n/a	n/a	n/a	n/a	in	out	out	out	n/a	in	n/a
Project Trips	54	0	0	0	0	6	5	11	48	0	12	0
Project Buildout	382	926	70	96	939	95	158	214	353	133	334	196

Weekday PM Peak Hour (4:45 PM - 5:45 PM)	US 1						Cove Road					
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	L	T	R	L	T	R	L	T	R	L	T	R
TMC	366	1,153	121	221	956	107	100	295	316	128	199	160
Seasonal Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Heavy Vehicle %	0%	1%	1%	1%	1%	5%	8%	1%	1%	1%	2%	2%
Peak Hour Factor		1.01			0.91			0.94			1.08	
Existing Volumes (2018)	417	1,314	138	252	1,090	122	114	336	360	146	227	182
Growth Factor	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	2.7%	2.7%	2.7%	3.0%	3.0%	3.0%
Number of Years	3	3	3	3	3	3	3	3	3	3	3	3
Future Background (2021)	428	1,350	142	259	1,120	125	123	364	390	160	248	199
Project Assignment	9%	0%	0%	0%	0%	1%	1%	2%	9%	0%	2%	0%
Direction	in	n/a	n/a	n/a	n/a	in	out	out	out	n/a	in	n/a
Project Trips	4	0	0	0	0	0	1	2	8	0	1	0
Project Buildout	432	1,350	142	259	1,120	125	124	366	398	160	249	199

INTERSECTION VOLUME SHEET

Project Driveway #1 & Cove Road

Weekday AM Peak Hour (7:15 AM - 8:15 AM)	Project Driveway #1						Cove Road					
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	L	T	R	L	T	R	L	T	R	L	T	R
TMC	0	0	0	44	0	16	15	476	0	0	653	5
Seasonal Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!		
Existing Volumes (2018)	0	0	0	50	0	18	17	543	0	0	744	6
Growth Factor	2.0%	2.0%	2.0%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
Number of Years	3	3	3	3	3	3	3	3	3	3	3	3
Future Background (2021)	0	0	0	54	0	19	18	588	0	0	806	6
Project Assignment	34%	5%	61%	0%	5%	0%	0%	0%	34%	61%	0%	0%
Direction	out	out	out	n/a	in	n/a	n/a	n/a	in	in	n/a	n/a
Project Trips	182	27	326	0	30	0	0	0	205	367	0	0
Project Buildout	182	27	326	54	30	19	18	588	205	367	806	6


Weekday PM Peak Hour (4:45 PM - 5:45 PM)	Project Driveway #1						Cove Road					
	<u>Northbound</u>			<u>Southbound</u>			<u>Eastbound</u>			<u>Westbound</u>		
	L	T	R	L	T	R	L	T	R	L	T	R
TMC	0	0	0	29	0	11	50	621	0	0	551	18
Seasonal Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	#DIV/0!			#DIV/0!			#DIV/0!			#DIV/0!		
Existing Volumes (2018)	0	0	0	33	0	12	57	708	0	0	628	21
Growth Factor	2.0%	2.0%	2.0%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
Number of Years	3	3	3	3	3	3	3	3	3	3	3	3
Future Background (2021)	0	0	0	36	0	13	62	767	0	0	680	23
Project Assignment	34%	5%	61%	0%	5%	0%	0%	0%	34%	61%	0%	0%
Direction	out	out	out	n/a	in	n/a	n/a	n/a	in	in	n/a	n/a
Project Trips	31	5	56	0	2	0	0	0	17	30	0	0
Project Buildout	31	5	56	36	2	13	62	767	17	30	680	23

APPENDIX E: SYNCHRO REPORTS

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Existing 2018 AM Peak Hour

09/24/2018

							
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	W	W	U	T	R	L	T
Traffic Volume (vph)	697	54	6	1454	512	48	1488
Future Volume (vph)	697	54	6	1454	512	48	1488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200		400	150	
Storage Lanes	2	0	1		1	1	
Taper Length (ft)	25		100			150	
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	1.00	0.95
Frt	0.989				0.850		
Flt Protected	0.956		0.950			0.950	
Satd. Flow (prot)	3417	0	1770	3539	1583	1770	3539
Flt Permitted	0.956		0.128			0.065	
Satd. Flow (perm)	3417	0	238	3539	1583	121	3539
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	5				545		
Link Speed (mph)	45			45			50
Link Distance (ft)	4142			2306			2132
Travel Time (s)	62.8			34.9			29.1
Peak Hour Factor	0.96	0.96	0.92	0.94	0.94	0.99	0.99
Adj. Flow (vph)	726	56	7	1547	545	48	1503
Shared Lane Traffic (%)							
Lane Group Flow (vph)	782	0	7	1547	545	48	1503
Turn Type	Prot		Perm	NA	Perm	pm+pt	NA
Protected Phases	4			2		1	6
Permitted Phases			2		2	6	
Detector Phase	4		2	2	2	1	6
Switch Phase							
Minimum Initial (s)	7.0		10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	44.5		25.1	25.1	25.1	12.1	25.4
Total Split (s)	51.0		82.0	82.0	82.0	17.0	99.0
Total Split (%)	34.0%		54.7%	54.7%	54.7%	11.3%	66.0%
Maximum Green (s)	43.5		74.9	74.9	74.9	9.9	91.6
Yellow Time (s)	4.8		5.1	5.1	5.1	4.8	5.1
All-Red Time (s)	2.7		2.0	2.0	2.0	2.3	2.3
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5		7.1	7.1	7.1	7.1	7.4
Lead/Lag			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0						
Flash Dont Walk (s)	32.0						
Pedestrian Calls (#/hr)	0						
Act Effect Green (s)	38.9		84.8	84.8	84.8	96.5	96.2
Actuated g/C Ratio	0.26		0.57	0.57	0.57	0.64	0.64
v/c Ratio	0.88		0.05	0.77	0.48	0.31	0.66
Control Delay	64.6		19.8	30.3	3.0	16.1	19.2
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	64.6		19.8	30.3	3.0	16.1	19.2
LOS	E		B	C	A	B	B
Approach Delay	64.6			23.2			19.1
Approach LOS	E			C			B
Queue Length 50th (ft)	374		3	630	0	17	467
Queue Length 95th (ft)	441		13	792	59	36	581
Internal Link Dist (ft)	4062			2226			2052
Turn Bay Length (ft)			200		400	150	
Base Capacity (vph)	994		134	2001	1132	186	2268
Starvation Cap Reductn	0		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.79		0.05	0.77	0.48	0.26	0.66

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Existing 2018 AM Peak Hour
09/24/2018

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 72 (48%), Referenced to phase 2:NBTU and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 29.1

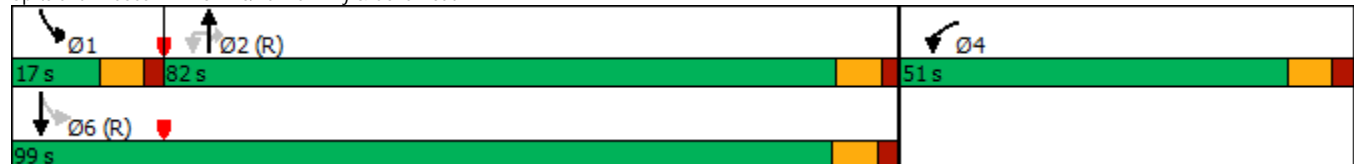
Intersection LOS: C

Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 1: SR 76/Kanner Hwy & Cove Road



Lanes, Volumes, Timings
3: US 1 & Cove Road

Existing 2018 AM Peak Hour

09/24/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	187	282	122	295	179	319	901	68	93	914	87
Future Volume (vph)	141	187	282	122	295	179	319	901	68	93	914	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		925	230		0	225		250	250		225
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			50			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			136			94			149
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1531			1453			2007			1429	
Travel Time (s)		29.8			28.3			30.4			21.7	
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.86	0.86	0.86	0.93	0.93	0.93
Adj. Flow (vph)	157	208	313	128	311	188	371	1048	79	100	983	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	208	313	128	311	188	371	1048	79	100	983	94
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	8.0	6.0	4.0	8.0	6.0	6.0	10.0	4.0	6.0	10.0	4.0
Minimum Split (s)	11.1	15.5	14.1	11.2	16.4	14.4	14.1	39.4	11.2	14.4	43.7	11.1
Total Split (s)	27.0	38.0	37.0	27.0	38.0	22.0	37.0	73.0	27.0	22.0	58.0	27.0
Total Split (%)	16.9%	23.8%	23.1%	16.9%	23.8%	13.8%	23.1%	45.6%	16.9%	13.8%	36.3%	16.9%
Maximum Green (s)	19.9	30.5	28.9	19.8	29.6	13.6	28.9	65.6	19.8	13.6	50.3	19.9
Yellow Time (s)	3.7	4.0	4.4	3.7	4.0	4.4	4.4	4.8	3.7	4.4	4.8	3.7
All-Red Time (s)	3.4	3.5	3.7	3.5	4.4	4.0	3.7	2.6	3.5	4.0	2.9	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	7.5	8.1	7.2	8.4	8.4	8.1	7.4	7.2	8.4	7.7	7.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	5.0	4.0	3.0	5.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	13.6	33.9	64.2	12.3	31.8	50.2	22.8	73.3	93.0	10.0	60.5	81.8
Actuated g/C Ratio	0.08	0.21	0.40	0.08	0.20	0.31	0.14	0.46	0.58	0.06	0.38	0.51
v/c Ratio	0.54	0.53	0.45	0.49	0.84	0.32	0.76	0.45	0.08	0.47	0.51	0.11
Control Delay	76.8	60.9	25.4	76.7	81.6	13.2	76.0	31.2	2.0	79.1	40.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	60.9	25.4	76.7	81.6	13.2	76.0	31.2	2.0	79.1	40.9	0.4
LOS	E	E	C	E	F	B	E	C	A	E	D	A
Approach Delay		48.2			60.1			40.8			40.9	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	82	191	163	67	309	38	195	280	0	53	297	0
Queue Length 95th (ft)	120	283	239	102	#467	102	231	319	15	84	371	2
Internal Link Dist (ft)		1451			1373			1927			1349	
Turn Bay Length (ft)	240		925	230			225		250	250		225
Base Capacity (vph)	426	400	746	424	378	622	620	2330	1029	291	1923	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.52	0.42	0.30	0.82	0.30	0.60	0.45	0.08	0.34	0.51	0.10
Intersection Summary												
Area Type:	Other											
Cycle Length:	160											

Lanes, Volumes, Timings
3: US 1 & Cove Road

Existing 2018 AM Peak Hour
09/24/2018

Actuated Cycle Length: 160

Offset: 158 (99%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 45.1

Intersection LOS: D

Intersection Capacity Utilization 72.4%

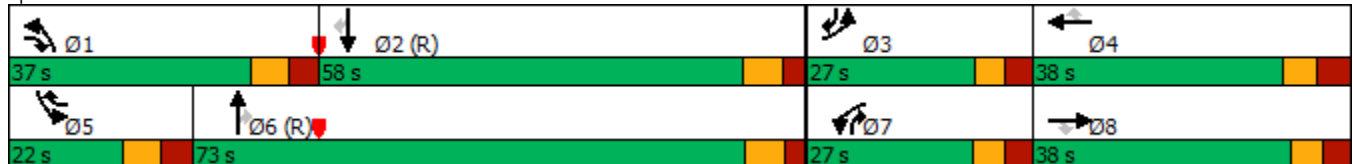
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.














Splits and Phases: 3: US 1 & Cove Road



Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Existing 2018 PM Peak Hour

09/24/2018

							
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	616	33	2	1745	671	93	1708
Future Volume (vph)	616	33	2	1745	671	93	1708
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200		400	150	
Storage Lanes	2	0	1		1	1	
Taper Length (ft)	25		100			150	
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	1.00	0.95
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3423	0	1770	3539	1583	1770	3539
Flt Permitted	0.955		0.067			0.041	
Satd. Flow (perm)	3423	0	125	3539	1583	76	3539
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	4				544		
Link Speed (mph)	45			45			50
Link Distance (ft)	4142			2306			2132
Travel Time (s)	62.8			34.9			29.1
Peak Hour Factor	0.95	0.95	0.92	0.96	0.96	0.91	0.91
Adj. Flow (vph)	648	35	2	1818	699	102	1877
Shared Lane Traffic (%)							
Lane Group Flow (vph)	683	0	2	1818	699	102	1877
Turn Type	Prot		Perm	NA	Perm	pm+pt	NA
Protected Phases	4			2		1	6
Permitted Phases			2		2	6	
Detector Phase	4		2	2	2	1	6
Switch Phase							
Minimum Initial (s)	7.0		10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	44.5		25.1	25.1	25.1	12.1	25.4
Total Split (s)	56.0		85.0	85.0	85.0	19.0	104.0
Total Split (%)	35.0%		53.1%	53.1%	53.1%	11.9%	65.0%
Maximum Green (s)	48.5		77.9	77.9	77.9	11.9	96.6
Yellow Time (s)	4.8		5.1	5.1	5.1	4.8	5.1
All-Red Time (s)	2.7		2.0	2.0	2.0	2.3	2.3
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5		7.1	7.1	7.1	7.1	7.4
Lead/Lag			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0						
Flash Dont Walk (s)	32.0						
Pedestrian Calls (#/hr)	0						
Act Effect Green (s)	37.4		90.6	90.6	90.6	108.0	107.7
Actuated g/C Ratio	0.23		0.57	0.57	0.57	0.68	0.67
v/c Ratio	0.85		0.03	0.91	0.62	0.64	0.79
Control Delay	68.7		21.5	39.4	7.8	47.8	22.3
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	68.7		21.5	39.4	7.8	47.8	22.3
LOS	E		C	D	A	D	C
Approach Delay	68.7			30.6			23.6
Approach LOS	E			C			C
Queue Length 50th (ft)	354		1	858	81	53	676
Queue Length 95th (ft)	403		7	#1225	249	124	902
Internal Link Dist (ft)	4062			2226			2052
Turn Bay Length (ft)			200		400	150	
Base Capacity (vph)	1040		70	2004	1132	184	2381
Starvation Cap Reductn	0		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.66		0.03	0.91	0.62	0.55	0.79

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Existing 2018 PM Peak Hour
09/24/2018

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 2:NBTU and 6:SBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























Splits and Phases: 1: SR 76/Kanner Hwy & Cove Road



Lanes, Volumes, Timings
3: US 1 & Cove Road

Existing 2018 PM Peak Hour

09/24/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	336	360	146	227	182	417	1314	138	252	1090	122
Future Volume (vph)	114	336	360	146	227	182	417	1314	138	252	1090	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		925	230		0	225		250	250		225
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			50			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			156			108			171
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1531			1453			2007			1429	
Travel Time (s)		29.8			28.3			30.4			21.7	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	121	357	383	154	239	192	439	1383	145	277	1198	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	357	383	154	239	192	439	1383	145	277	1198	134
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	8.0	6.0	4.0	8.0	6.0	6.0	10.0	4.0	6.0	10.0	4.0
Minimum Split (s)	11.1	15.5	14.1	11.2	16.4	14.4	14.1	39.4	11.2	14.4	43.7	11.1
Total Split (s)	22.0	36.0	37.0	22.0	36.0	21.0	37.0	61.0	22.0	21.0	45.0	22.0
Total Split (%)	15.7%	25.7%	26.4%	15.7%	25.7%	15.0%	26.4%	43.6%	15.7%	15.0%	32.1%	15.7%
Maximum Green (s)	14.9	28.5	28.9	14.8	27.6	12.6	28.9	53.6	14.8	12.6	37.3	14.9
Yellow Time (s)	3.7	4.0	4.4	3.7	4.0	4.4	4.4	4.8	3.7	4.4	4.8	3.7
All-Red Time (s)	3.4	3.5	3.7	3.5	4.4	4.0	3.7	2.6	3.5	4.0	2.9	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	7.5	8.1	7.2	8.4	8.4	8.1	7.4	7.2	8.4	7.7	7.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	5.0	4.0	3.0	5.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effect Green (s)	11.3	29.6	60.7	12.4	30.0	51.1	23.5	54.7	74.5	12.8	44.0	62.9
Actuated g/C Ratio	0.08	0.21	0.43	0.09	0.21	0.36	0.17	0.39	0.53	0.09	0.31	0.45
v/c Ratio	0.44	0.91	0.52	0.51	0.60	0.28	0.76	0.70	0.16	0.89	0.75	0.17
Control Delay	66.0	80.7	23.6	66.6	56.9	8.6	64.3	38.2	5.4	91.6	47.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	80.7	23.6	66.6	56.9	8.6	64.3	38.2	5.4	91.6	47.6	1.8
LOS	E	F	C	E	E	A	E	D	A	F	D	A
Approach Delay		53.2			43.6			41.6			51.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	55	317	186	70	196	21	198	388	16	130	366	0
Queue Length 95th (ft)	87	#518	272	106	295	78	247	444	49	#213	446	20
Internal Link Dist (ft)		1451			1373			1927			1349	
Turn Bay Length (ft)	240		925	230			225		250	250		225
Base Capacity (vph)	365	396	795	362	398	677	708	1987	918	312	1596	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.90	0.48	0.43	0.60	0.28	0.62	0.70	0.16	0.89	0.75	0.16
Intersection Summary												
Area Type:	Other											
Cycle Length: 140												

Lanes, Volumes, Timings 3: US 1 & Cove Road

Existing 2018 PM Peak Hour
09/24/2018

Actuated Cycle Length: 140

Offset: 13 (9%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 46.9

Intersection LOS: D

Intersection Capacity Utilization 80.2%

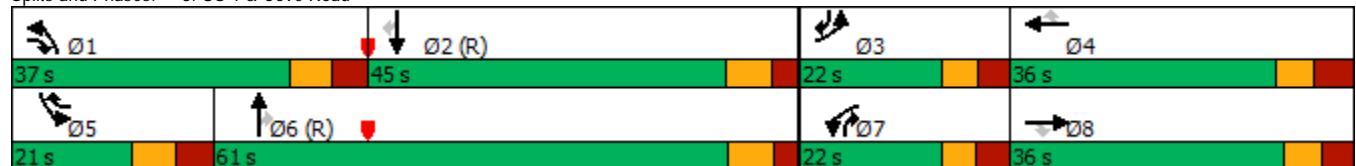
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


Splits and Phases: 3: US 1 & Cove Road



Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Background 2021 AM Peak Hour

11/29/2018

							
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	W<W<W		U	U<U<U	U	W<W<W	U<U<U
Traffic Volume (vph)	748	58	6	1561	550	49	1529
Future Volume (vph)	748	58	6	1561	550	49	1529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200		400	150	
Storage Lanes	2	0	1		1	1	
Taper Length (ft)	25		100			150	
Lane Util. Factor	0.97	0.95	1.00	0.91	1.00	1.00	0.91
Frt	0.989				0.850		
Flt Protected	0.956		0.950			0.950	
Satd. Flow (prot)	3417	0	1770	5085	1583	1770	5085
Flt Permitted	0.956		0.145			0.083	
Satd. Flow (perm)	3417	0	270	5085	1583	155	5085
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	5				585		
Link Speed (mph)	45			45			50
Link Distance (ft)	4142			2306			2132
Travel Time (s)	62.8			34.9			29.1
Peak Hour Factor	0.96	0.96	0.92	0.94	0.94	0.99	0.99
Adj. Flow (vph)	779	60	7	1661	585	49	1544
Shared Lane Traffic (%)							
Lane Group Flow (vph)	839	0	7	1661	585	49	1544
Turn Type	Prot		Perm	NA	Perm	pm+pt	NA
Protected Phases	4			2		1	6
Permitted Phases			2		2	6	
Detector Phase	4		2	2	2	1	6
Switch Phase							
Minimum Initial (s)	7.0		10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	44.5		25.1	25.1	25.1	12.1	25.4
Total Split (s)	51.0		82.0	82.0	82.0	17.0	99.0
Total Split (%)	34.0%		54.7%	54.7%	54.7%	11.3%	66.0%
Maximum Green (s)	43.5		74.9	74.9	74.9	9.9	91.6
Yellow Time (s)	4.8		5.1	5.1	5.1	4.8	5.1
All-Red Time (s)	2.7		2.0	2.0	2.0	2.3	2.3
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5		7.1	7.1	7.1	7.1	7.4
Lead/Lag			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0						
Flash Dont Walk (s)	32.0						
Pedestrian Calls (#/hr)	0						
Act Effect Green (s)	40.7		83.0	83.0	83.0	94.7	94.4
Actuated g/C Ratio	0.27		0.55	0.55	0.55	0.63	0.63
v/c Ratio	0.90		0.05	0.59	0.51	0.28	0.48
Control Delay	65.8		19.8	24.5	3.2	15.4	15.7
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	65.8		19.8	24.5	3.2	15.4	15.7
LOS	E		B	C	A	B	B
Approach Delay	65.8			18.9			15.7
Approach LOS	E			B			B
Queue Length 50th (ft)	401		3	410	0	18	290
Queue Length 95th (ft)	481		13	477	60	36	332
Internal Link Dist (ft)	4062			2226			2052
Turn Bay Length (ft)			200		400	150	
Base Capacity (vph)	994		149	2814	1137	204	3199
Starvation Cap Reductn	0		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.84		0.05	0.59	0.51	0.24	0.48

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Background 2021 AM Peak Hour

11/29/2018

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 72 (48%), Referenced to phase 2:NBTU and 6:SBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 26.2

Intersection LOS: C

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 1: SR 76/Kanner Hwy & Cove Road



Lanes, Volumes, Timings
3: US 1 & Cove Road

Background 2021 AM Peak Hour

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	203	305	133	322	196	328	926	70	96	939	89
Future Volume (vph)	153	203	305	133	322	196	328	926	70	96	939	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		925	230		0	225		250	250		225
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			50			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			136			94			149
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1531			1453			2007			1429	
Travel Time (s)		29.8			28.3			30.4			21.7	
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.86	0.86	0.86	0.93	0.93	0.93
Adj. Flow (vph)	170	226	339	140	339	206	381	1077	81	103	1010	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	226	339	140	339	206	381	1077	81	103	1010	96
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	8.0	6.0	4.0	8.0	6.0	6.0	10.0	4.0	6.0	10.0	4.0
Minimum Split (s)	11.1	15.5	14.1	11.2	16.4	14.4	14.1	39.4	11.2	14.4	43.7	11.1
Total Split (s)	27.0	38.0	37.0	27.0	38.0	22.0	37.0	73.0	27.0	22.0	58.0	27.0
Total Split (%)	16.9%	23.8%	23.1%	16.9%	23.8%	13.8%	23.1%	45.6%	16.9%	13.8%	36.3%	16.9%
Maximum Green (s)	19.9	30.5	28.9	19.8	29.6	13.6	28.9	65.6	19.8	13.6	50.3	19.9
Yellow Time (s)	3.7	4.0	4.4	3.7	4.0	4.4	4.4	4.8	3.7	4.4	4.8	3.7
All-Red Time (s)	3.4	3.5	3.7	3.5	4.4	4.0	3.7	2.6	3.5	4.0	2.9	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	7.5	8.1	7.2	8.4	8.4	8.1	7.4	7.2	8.4	7.7	7.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	5.0	4.0	3.0	5.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	14.2	36.4	67.1	12.8	34.2	52.8	23.2	70.2	90.4	10.2	57.1	79.0
Actuated g/C Ratio	0.09	0.23	0.42	0.08	0.21	0.33	0.14	0.44	0.56	0.06	0.36	0.49
v/c Ratio	0.56	0.53	0.48	0.51	0.85	0.34	0.77	0.48	0.09	0.47	0.56	0.11
Control Delay	76.8	59.9	27.0	76.8	80.4	15.2	75.9	33.4	2.2	79.2	43.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	59.9	27.0	76.8	80.4	15.2	75.9	33.4	2.2	79.2	43.6	0.6
LOS	E	E	C	E	F	B	E	C	A	E	D	A
Approach Delay		48.6			60.1			42.3			43.2	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	89	208	192	73	342	51	201	295	0	54	313	0
Queue Length 95th (ft)	128	308	278	109	#543	121	236	330	16	87	384	3
Internal Link Dist (ft)		1451			1373			1927			1349	
Turn Bay Length (ft)	240		925	230			225		250	250		225
Base Capacity (vph)	426	423	764	424	398	644	620	2229	1000	291	1814	908
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	0.44	0.33	0.85	0.32	0.61	0.48	0.08	0.35	0.56	0.11
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												

Lanes, Volumes, Timings 3: US 1 & Cove Road

Background 2021 AM Peak Hour
11/29/2018

Actuated Cycle Length: 160

Offset: 158 (99%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 46.6

Intersection LOS: D

Intersection Capacity Utilization 74.9%

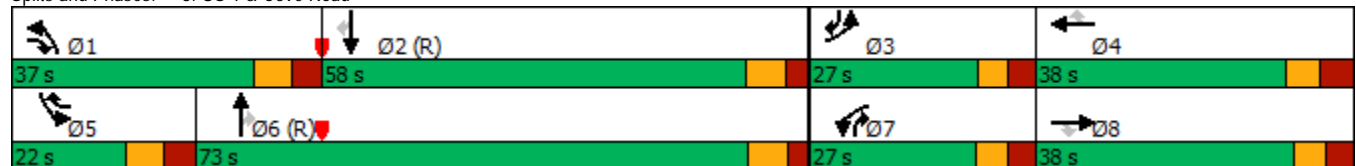
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: US 1 & Cove Road



Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Background 2021 PM Peak Hour

11/29/2018

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	W	W	U	T	T	S	S
Traffic Volume (vph)	661	35	2	1874	720	96	1755
Future Volume (vph)	661	35	2	1874	720	96	1755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200		400	150	
Storage Lanes	2	0	1		1	1	
Taper Length (ft)	25		100			150	
Lane Util. Factor	0.97	0.95	1.00	0.91	1.00	1.00	0.91
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3423	0	1770	5085	1583	1770	5085
Flt Permitted	0.955		0.090			0.050	
Satd. Flow (perm)	3423	0	168	5085	1583	93	5085
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	4				750		
Link Speed (mph)	45			45			50
Link Distance (ft)	4142			2306			2132
Travel Time (s)	62.8			34.9			29.1
Peak Hour Factor	0.95	0.95	0.92	0.96	0.96	0.91	0.91
Adj. Flow (vph)	696	37	2	1952	750	105	1929
Shared Lane Traffic (%)							
Lane Group Flow (vph)	733	0	2	1952	750	105	1929
Turn Type	Prot		Perm	NA	Perm	pm+pt	NA
Protected Phases	4			2		1	6
Permitted Phases			2		2	6	
Detector Phase	4		2	2	2	1	6
Switch Phase							
Minimum Initial (s)	7.0		10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	44.5		25.1	25.1	25.1	12.1	25.4
Total Split (s)	56.0		85.0	85.0	85.0	19.0	104.0
Total Split (%)	35.0%		53.1%	53.1%	53.1%	11.9%	65.0%
Maximum Green (s)	48.5		77.9	77.9	77.9	11.9	96.6
Yellow Time (s)	4.8		5.1	5.1	5.1	4.8	5.1
All-Red Time (s)	2.7		2.0	2.0	2.0	2.3	2.3
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5		7.1	7.1	7.1	7.1	7.4
Lead/Lag			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0						
Flash Dont Walk (s)	32.0						
Pedestrian Calls (#/hr)	0						
Act Effect Green (s)	39.8		88.5	88.5	88.5	105.6	105.3
Actuated g/C Ratio	0.25		0.55	0.55	0.55	0.66	0.66
v/c Ratio	0.86		0.02	0.69	0.62	0.63	0.58
Control Delay	67.6		21.5	28.7	3.9	42.2	16.5
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	67.6		21.5	28.7	3.9	42.2	16.5
LOS	E		C	C	A	D	B
Approach Delay	67.6			21.9			17.8
Approach LOS	E			C			B
Queue Length 50th (ft)	379		1	527	0	46	383
Queue Length 95th (ft)	429		7	674	69	120	490
Internal Link Dist (ft)	4062			2226			2052
Turn Bay Length (ft)			200		400	150	
Base Capacity (vph)	1040		92	2813	1210	189	3346
Starvation Cap Reductn	0		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.70		0.02	0.69	0.62	0.56	0.58

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Background 2021 PM Peak Hour

11/29/2018

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 2:NBTU and 6:SBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 26.5

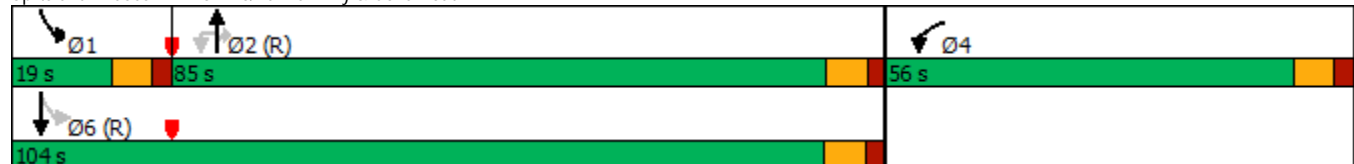
Intersection LOS: C

Intersection Capacity Utilization 80.5%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 1: SR 76/Kanner Hwy & Cove Road



Lanes, Volumes, Timings
3: US 1 & Cove Road

Background 2021 PM Peak Hour

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	364	390	160	248	199	428	1350	142	259	1120	125
Future Volume (vph)	123	364	390	160	248	199	428	1350	142	259	1120	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		925	230		0	225		250	250		225
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			50			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			130			142			117
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1531			1453			2007			1429	
Travel Time (s)		29.8			28.3			30.4			21.7	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	131	387	415	168	261	209	451	1421	149	285	1231	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	387	415	168	261	209	451	1421	149	285	1231	137
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	8.0	6.0	4.0	8.0	6.0	6.0	10.0	4.0	6.0	10.0	4.0
Minimum Split (s)	11.1	15.5	14.1	11.2	16.4	14.4	14.1	17.4	11.2	14.4	17.7	11.1
Total Split (s)	35.0	49.0	28.0	24.0	38.0	23.0	28.0	64.0	24.0	23.0	59.0	35.0
Total Split (%)	21.9%	30.6%	17.5%	15.0%	23.8%	14.4%	17.5%	40.0%	15.0%	14.4%	36.9%	21.9%
Maximum Green (s)	27.9	41.5	19.9	16.8	29.6	14.6	19.9	56.6	16.8	14.6	51.3	27.9
Yellow Time (s)	3.7	4.0	4.4	3.7	4.0	4.4	4.4	4.8	3.7	4.4	4.8	3.7
All-Red Time (s)	3.4	3.5	3.7	3.5	4.4	4.0	3.7	2.6	3.5	4.0	2.9	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	7.5	8.1	7.2	8.4	8.4	8.1	7.4	7.2	8.4	7.7	7.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	5.0	4.0	3.0	5.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effect Green (s)	12.4	37.8	70.3	13.9	38.5	63.2	25.0	61.4	82.7	16.3	52.8	72.9
Actuated g/C Ratio	0.08	0.24	0.44	0.09	0.24	0.40	0.16	0.38	0.52	0.10	0.33	0.46
v/c Ratio	0.49	0.88	0.56	0.56	0.58	0.30	0.84	0.73	0.17	0.81	0.73	0.17
Control Delay	76.7	79.9	29.7	77.3	58.7	12.8	79.3	45.8	3.9	87.9	50.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	79.9	29.7	77.3	58.7	12.8	79.3	45.8	3.9	87.9	50.9	6.2
LOS	E	E	C	E	E	B	E	D	A	F	D	A
Approach Delay		57.1			48.6			50.2			53.6	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	69	388	254	88	239	50	240	489	4	150	424	12
Queue Length 95th (ft)	104	#521	378	127	333	115	#381	549	42	#243	482	51
Internal Link Dist (ft)		1451			1373			1927			1349	
Turn Bay Length (ft)	240		925	230			225		250	250		225
Base Capacity (vph)	598	486	741	360	448	704	536	1952	913	350	1676	926
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.80	0.56	0.47	0.58	0.30	0.84	0.73	0.16	0.81	0.73	0.15
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												

Lanes, Volumes, Timings
3: US 1 & Cove Road

Background 2021 PM Peak Hour

11/29/2018

Actuated Cycle Length: 160

Offset: 59 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 52.3

Intersection LOS: D

Intersection Capacity Utilization 83.0%

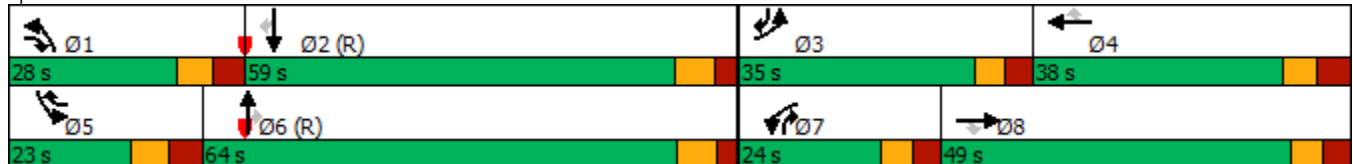
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.














Splits and Phases: 3: US 1 & Cove Road



Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Build 2021 AM Peak Hour

11/29/2018

							
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	860	63	6	1561	676	55	1529
Future Volume (vph)	860	63	6	1561	676	55	1529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200		400	150	
Storage Lanes	2	0	1		1	1	
Taper Length (ft)	25		100			150	
Lane Util. Factor	0.97	0.95	1.00	0.91	1.00	1.00	0.91
Frt	0.990				0.850		
Flt Protected	0.956		0.950			0.950	
Satd. Flow (prot)	3420	0	1770	5085	1583	1770	5085
Flt Permitted	0.956		0.143			0.083	
Satd. Flow (perm)	3420	0	266	5085	1583	155	5085
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	5				704		
Link Speed (mph)	45			45			50
Link Distance (ft)	4142			2306			2132
Travel Time (s)	62.8			34.9			29.1
Peak Hour Factor	0.96	0.96	0.92	0.96	0.96	0.99	0.99
Adj. Flow (vph)	896	66	7	1626	704	56	1544
Shared Lane Traffic (%)							
Lane Group Flow (vph)	962	0	7	1626	704	56	1544
Turn Type	Prot		Perm	NA	Perm	pm+pt	NA
Protected Phases	4			2		1	6
Permitted Phases			2		2	6	
Detector Phase	4		2	2	2	1	6
Switch Phase							
Minimum Initial (s)	7.0		10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	44.5		25.1	25.1	25.1	12.1	25.4
Total Split (s)	51.0		82.0	82.0	82.0	17.0	99.0
Total Split (%)	34.0%		54.7%	54.7%	54.7%	11.3%	66.0%
Maximum Green (s)	43.5		74.9	74.9	74.9	9.9	91.6
Yellow Time (s)	4.8		5.1	5.1	5.1	4.8	5.1
All-Red Time (s)	2.7		2.0	2.0	2.0	2.3	2.3
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5		7.1	7.1	7.1	7.1	7.4
Lead/Lag			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0						
Flash Dont Walk (s)	32.0						
Pedestrian Calls (#/hr)	0						
Act Effct Green (s)	43.4		80.1	80.1	80.1	92.0	91.7
Actuated g/C Ratio	0.29		0.53	0.53	0.53	0.61	0.61
v/c Ratio	0.97		0.05	0.60	0.60	0.32	0.50
Control Delay	74.0		20.0	25.8	3.7	16.6	17.0
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	74.0		20.0	25.8	3.7	16.6	17.0
LOS	E		B	C	A	B	B
Approach Delay	74.0			19.1			17.0
Approach LOS	E			B			B
Queue Length 50th (ft)	478		3	404	0	21	295
Queue Length 95th (ft)	#620		13	465	63	40	332
Internal Link Dist (ft)	4062			2226			2052
Turn Bay Length (ft)			200		400	150	
Base Capacity (vph)	995		142	2716	1173	201	3108
Starvation Cap Reductn	0		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.97		0.05	0.60	0.60	0.28	0.50

Lanes, Volumes, Timings
 1: SR 76/Kanner Hwy & Cove Road

Build 2021 AM Peak Hour

11/29/2018

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 72 (48%), Referenced to phase 2:NBTU and 6:SBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 29.2

Intersection LOS: C

Intersection Capacity Utilization 82.7%





ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























Splits and Phases: 1: SR 76/Kanner Hwy & Cove Road

 Ø1	 Ø2 (R)	 Ø4
17 s	82 s	51 s
 Ø6 (R)		
99 s		

Lanes, Volumes, Timings
3: US 1 & Cove Road

Build 2021 AM Peak Hour

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	214	353	133	334	196	382	926	70	96	939	95
Future Volume (vph)	158	214	353	133	334	196	382	926	70	96	939	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		925	230		0	225		250	250		225
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			50			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			136			94			149
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1531			1453			2007			1429	
Travel Time (s)		29.8			28.3			30.4			21.7	
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.86	0.86	0.86	0.93	0.93	0.93
Adj. Flow (vph)	176	238	392	140	352	206	444	1077	81	103	1010	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	238	392	140	352	206	444	1077	81	103	1010	102
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	8.0	6.0	4.0	8.0	6.0	6.0	10.0	4.0	6.0	10.0	4.0
Minimum Split (s)	11.1	15.5	14.1	11.2	16.4	14.4	14.1	39.4	11.2	14.4	43.7	11.1
Total Split (s)	27.0	38.0	37.0	27.0	38.0	22.0	37.0	73.0	27.0	22.0	58.0	27.0
Total Split (%)	16.9%	23.8%	23.1%	16.9%	23.8%	13.8%	23.1%	45.6%	16.9%	13.8%	36.3%	16.9%
Maximum Green (s)	19.9	30.5	28.9	19.8	29.6	13.6	28.9	65.6	19.8	13.6	50.3	19.9
Yellow Time (s)	3.7	4.0	4.4	3.7	4.0	4.4	4.4	4.8	3.7	4.4	4.8	3.7
All-Red Time (s)	3.4	3.5	3.7	3.5	4.4	4.0	3.7	2.6	3.5	4.0	2.9	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	7.5	8.1	7.2	8.4	8.4	8.1	7.4	7.2	8.4	7.7	7.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	5.0	4.0	3.0	5.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	14.5	37.5	70.8	12.8	35.0	53.6	25.8	69.0	89.2	10.2	53.4	75.6
Actuated g/C Ratio	0.09	0.23	0.44	0.08	0.22	0.34	0.16	0.43	0.56	0.06	0.33	0.47
v/c Ratio	0.57	0.55	0.53	0.51	0.86	0.33	0.80	0.49	0.09	0.47	0.59	0.12
Control Delay	76.7	59.9	28.0	76.8	81.1	15.2	76.2	34.0	2.2	79.2	46.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	59.9	28.0	76.8	81.1	15.2	76.2	34.0	2.2	79.2	46.5	0.9
LOS	E	E	C	E	F	B	E	C	A	E	D	A
Approach Delay		48.0			60.8			44.1			45.4	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	92	221	232	73	359	51	232	295	0	54	325	0
Queue Length 95th (ft)	132	324	340	109	#575	122	276	330	16	87	384	8
Internal Link Dist (ft)		1451			1373			1927			1349	
Turn Bay Length (ft)	240		925	230			225		250	250		225
Base Capacity (vph)	426	436	774	424	407	651	620	2194	989	291	1698	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.55	0.51	0.33	0.86	0.32	0.72	0.49	0.08	0.35	0.59	0.12
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												

Lanes, Volumes, Timings 3: US 1 & Cove Road

Build 2021 AM Peak Hour

11/29/2018

Actuated Cycle Length: 160

Offset: 158 (99%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 47.9

Intersection LOS: D

Intersection Capacity Utilization 77.2%

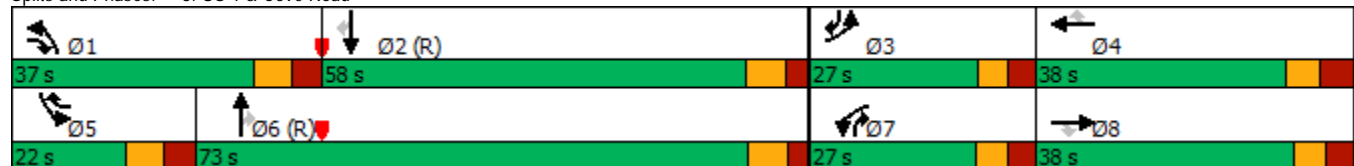
ICU Level of Service D











Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: US 1 & Cove Road



Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	588	205	367	806	6	182	27	326	54	30	19
Future Vol, veh/h	18	588	205	367	806	6	182	27	326	54	30	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	290	-	290	290	-	300	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	639	223	399	876	7	198	29	354	59	33	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	883	0	0	862	0	0	2384	2360	639	2656	2576	876
Stage 1	-	-	-	-	-	-	679	679	-	1674	1674	-
Stage 2	-	-	-	-	-	-	1705	1681	-	982	902	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	766	-	-	780	-	-	~ 24	35	476	~ 15	~ 26	348
Stage 1	-	-	-	-	-	-	441	451	-	121	152	-
Stage 2	-	-	-	-	-	-	~ 116	151	-	300	356	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	766	-	-	780	-	-	-	~ 17	476	-	~ 12	348
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 17	-	-	~ 12	-
Stage 1	-	-	-	-	-	-	430	439	-	118	74	-
Stage 2	-	-	-	-	-	-	~ 30	74	-	70	347	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			4.5								
HCM LOS							-			-		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	476	766	-	-	780	-	-	-	348
HCM Lane V/C Ratio	-	0.744	0.026	-	-	0.511	-	-	-	0.059
HCM Control Delay (s)	-	31.5	9.8	-	-	14.3	-	-	-	16
HCM Lane LOS	-	D	A	-	-	B	-	-	-	C
HCM 95th %tile Q(veh)	-	6.2	0.1	-	-	3	-	-	-	0.2

Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Build 2021 PM Peak Hour

11/29/2018

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	W	W	U	T	T	U	T
Traffic Volume (vph)	680	36	2	1874	730	96	1755
Future Volume (vph)	680	36	2	1874	730	96	1755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200		400	150	
Storage Lanes	2	0	1		1	1	
Taper Length (ft)	25		100			150	
Lane Util. Factor	0.97	0.95	1.00	0.91	1.00	1.00	0.91
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3423	0	1770	5085	1583	1770	5085
Flt Permitted	0.955		0.089			0.049	
Satd. Flow (perm)	3423	0	166	5085	1583	91	5085
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	3				760		
Link Speed (mph)	45			45			50
Link Distance (ft)	4142			2306			2132
Travel Time (s)	62.8			34.9			29.1
Peak Hour Factor	0.95	0.95	0.92	0.96	0.96	0.91	0.91
Adj. Flow (vph)	716	38	2	1952	760	105	1929
Shared Lane Traffic (%)							
Lane Group Flow (vph)	754	0	2	1952	760	105	1929
Turn Type	Prot		Perm	NA	Perm	pm+pt	NA
Protected Phases	4			2		1	6
Permitted Phases			2		2	6	
Detector Phase	4		2	2	2	1	6
Switch Phase							
Minimum Initial (s)	7.0		10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	44.5		25.1	25.1	25.1	12.1	25.4
Total Split (s)	56.0		85.0	85.0	85.0	19.0	104.0
Total Split (%)	35.0%		53.1%	53.1%	53.1%	11.9%	65.0%
Maximum Green (s)	48.5		77.9	77.9	77.9	11.9	96.6
Yellow Time (s)	4.8		5.1	5.1	5.1	4.8	5.1
All-Red Time (s)	2.7		2.0	2.0	2.0	2.3	2.3
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5		7.1	7.1	7.1	7.1	7.4
Lead/Lag			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0						
Flash Dont Walk (s)	32.0						
Pedestrian Calls (#/hr)	0						
Act Effect Green (s)	40.9		87.6	87.6	87.6	104.5	104.2
Actuated g/C Ratio	0.26		0.55	0.55	0.55	0.65	0.65
v/c Ratio	0.86		0.02	0.70	0.63	0.65	0.58
Control Delay	66.9		21.5	29.4	4.0	44.7	17.2
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	66.9		21.5	29.4	4.0	44.7	17.2
LOS	E		C	C	A	D	B
Approach Delay	66.9			22.3			18.6
Approach LOS	E			C			B
Queue Length 50th (ft)	388		1	539	0	48	396
Queue Length 95th (ft)	440		7	674	70	123	498
Internal Link Dist (ft)	4062			2226			2052
Turn Bay Length (ft)			200		400	150	
Base Capacity (vph)	1039		90	2783	1210	185	3311
Starvation Cap Reductn	0		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.73		0.02	0.70	0.63	0.57	0.58

Lanes, Volumes, Timings
1: SR 76/Kanner Hwy & Cove Road

Build 2021 PM Peak Hour

11/29/2018

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 105 (66%), Referenced to phase 2:NBTU and 6:SBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 27.1

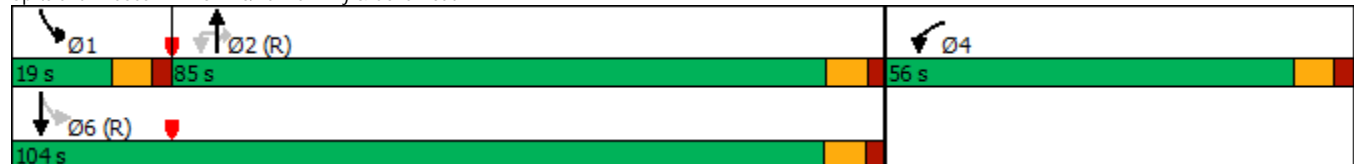
Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 1: SR 76/Kanner Hwy & Cove Road



Lanes, Volumes, Timings
3: US 1 & Cove Road

Build 2021 PM Peak Hour

11/29/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	366	398	160	249	199	432	1350	142	259	1120	125
Future Volume (vph)	124	366	398	160	249	199	432	1350	142	259	1120	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	240		925	230		0	225		250	250		225
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	100			100			50			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1863	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			130			142			116
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		1531			1453			2007			1429	
Travel Time (s)		29.8			28.3			30.4			21.7	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	132	389	423	168	262	209	455	1421	149	285	1231	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	389	423	168	262	209	455	1421	149	285	1231	137
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Detector Phase	3	8	1	7	4	5	1	6	7	5	2	3
Switch Phase												
Minimum Initial (s)	4.0	8.0	6.0	4.0	8.0	6.0	6.0	10.0	4.0	6.0	10.0	4.0
Minimum Split (s)	11.1	15.5	14.1	11.2	16.4	14.4	14.1	39.4	11.2	14.4	43.7	11.1
Total Split (s)	35.0	49.0	28.0	24.0	38.0	23.0	28.0	64.0	24.0	23.0	59.0	35.0
Total Split (%)	21.9%	30.6%	17.5%	15.0%	23.8%	14.4%	17.5%	40.0%	15.0%	14.4%	36.9%	21.9%
Maximum Green (s)	27.9	41.5	19.9	16.8	29.6	14.6	19.9	56.6	16.8	14.6	51.3	27.9
Yellow Time (s)	3.7	4.0	4.4	3.7	4.0	4.4	4.4	4.8	3.7	4.4	4.8	3.7
All-Red Time (s)	3.4	3.5	3.7	3.5	4.4	4.0	3.7	2.6	3.5	4.0	2.9	3.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	7.5	8.1	7.2	8.4	8.4	8.1	7.4	7.2	8.4	7.7	7.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	3.0	4.0	4.0	3.0	3.0	5.0	4.0	3.0	5.0	4.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	12.5	37.9	70.6	13.9	38.6	63.3	25.1	61.4	82.7	16.3	52.5	72.7
Actuated g/C Ratio	0.08	0.24	0.44	0.09	0.24	0.40	0.16	0.38	0.52	0.10	0.33	0.45
v/c Ratio	0.49	0.88	0.57	0.56	0.58	0.30	0.84	0.73	0.17	0.82	0.74	0.18
Control Delay	76.7	80.0	30.0	77.3	58.8	12.8	79.5	45.8	3.9	88.2	51.1	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	80.0	30.0	77.3	58.8	12.8	79.5	45.8	3.9	88.2	51.1	6.3
LOS	E	E	C	E	E	B	E	D	A	F	D	A
Approach Delay		57.1			48.6			50.3			53.8	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	69	390	262	88	240	50	243	489	4	150	424	12
Queue Length 95th (ft)	105	#527	388	127	335	115	#386	549	42	#243	482	52
Internal Link Dist (ft)		1451			1373			1927			1349	
Turn Bay Length (ft)	240		925	230			225		250	250		225
Base Capacity (vph)	598	486	743	360	448	704	539	1949	912	349	1669	923
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.80	0.57	0.47	0.58	0.30	0.84	0.73	0.16	0.82	0.74	0.15
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												

Lanes, Volumes, Timings 3: US 1 & Cove Road

Build 2021 PM Peak Hour

11/29/2018

Actuated Cycle Length: 160

Offset: 59 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 52.4

Intersection LOS: D

Intersection Capacity Utilization 83.2%

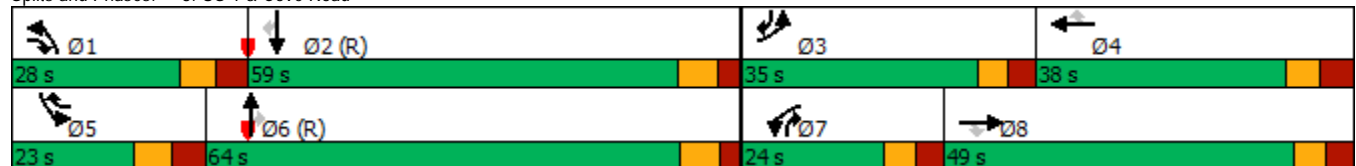
ICU Level of Service E











Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: US 1 & Cove Road



Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	767	17	30	680	23	31	5	56	36	2	14
Future Vol, veh/h	62	767	17	30	680	23	31	5	56	36	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	290	-	290	290	-	300	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	834	18	33	739	25	34	5	61	39	2	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	764	0	0	852	0	0	1794	1798	834	1815	1791	739
Stage 1	-	-	-	-	-	-	968	968	-	805	805	-
Stage 2	-	-	-	-	-	-	826	830	-	1010	986	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	849	-	-	787	-	-	62	80	368	60	81	417
Stage 1	-	-	-	-	-	-	305	332	-	376	395	-
Stage 2	-	-	-	-	-	-	366	385	-	289	326	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	849	-	-	787	-	-	53	71	368	43	71	417
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	71	-	43	71	-
Stage 1	-	-	-	-	-	-	281	306	-	346	378	-
Stage 2	-	-	-	-	-	-	336	369	-	218	300	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.4			74.4			193.4		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	55	368	849	-	-	787	-	-	44	417
HCM Lane V/C Ratio	0.711	0.165	0.079	-	-	0.041	-	-	0.939	0.036
HCM Control Delay (s)	164.2	16.7	9.6	-	-	9.8	-	-	259.5	14
HCM Lane LOS	F	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	3	0.6	0.3	-	-	0.1	-	-	3.8	0.1

MARTIN COUNTY TRAFFIC

Intersection: 127 SR-76 (KANNER HIGHWAY) @ COVE ROAD

PHASE	SBLT 1	NB 2	3	WB 4	5	SB 6	7	8
Initial green	5	10	0	7	0	10	0	0
Passage	3	3	0	3	0	3	0	0
Max 1	20	60	0	45	0	60	0	0
Max 2	30	50	30	50	30	50	30	50
Yellow	4.8	5.1	3	4.8	3	5.1	3	3
All Red	2.3	2	0	2.7	0	2.3	0	0

Walk	0	0	0	5	0	0	0	0
Ped Clear	0	0	0	32	0	0	0	0

Initial	1-Inactive	4-Green	0-None	1-Inactive	0-None	4-Green	0-None	0-None
NA Response	0-None	1-NonAct1	0-None	2-NonAct2	0-None	1-NonAct1	0-None	2-NonAct2
Veh. Recalls	0-None	2-Min	0-None	0-None	0-None	2-Min	0-None	0-None

Non-Lock	1	0	0	1	0	0	0	0
Dual Entry	0	0	0	0	0	0	0	0

Assigned ph.	1	2	3	4	5	6	7	8
Oper. Mode	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh
Switch	6	0	0	0	0	0	0	0

August 6, 2018

MARTIN COUNTY TRAFFIC

LOCATION: 127 SR-76 (KANNER HIGHWAY) @ COVE ROAD

Day Plan

Day 2 = Weekdays Day 1 = Weekends

<u>DAY</u>	<u>START</u>	<u>GROUP 1</u> <u>C/S/O</u>	<u>COBALT</u> <u>Plan</u>				
1	9:00	2/2/1	1				
1	19:00	0/0/4	99				
2	6:00	4/1/1	3				
2	9:30	2/1/1	5				
2	15:00	3/1/1	7				
2	19:00	3/2/1	9				
2	20:30	0/0/4	99				

<u>Plan</u>		1		3	5	7	9	
DIAL		2	0	4	2	3	3	
SPLIT		2	0	1	1	1	2	
OFFSET		66		72	86	105	68	
CYCLE LENGTH		120	0	150	140	160	120	
<u>PHASE</u>		<u>SPLITS (SECONDS)</u>						
1	SBLT	18		17	16	19	15	
2	NB	62		82	79	85	65	
3								
4	WB	40		51	45	56	40	
5								
6	SB	80		99	95	104	80	
7								
8								

MARTIN COUNTY TRAFFIC

Intersection: 91 SR-5 (US1) @ COVE ROAD

PHASE	NBLT 1	SB 2	EBLT 3	WB 4	SBLT 5	NB 6	WBLT 7	EB 8
Initial green	6	10	4	8	6	10	4	8
Passage	3	5	4	4	3	5	4	4
Max 1	20	60	20	45	20	60	20	45
Max 2	20	60	20	45	20	60	20	45
Yellow	4.4	4.8	3.7	4	4.4	4.8	3.7	4
All Red	3.7	2.9	3.4	4.4	4	2.6	3.5	3.5

Walk	0	7	0	7	0	7	0	7
Ped Clear	0	29	0	36	0	25	0	39

Initial	1-Inactive	3-Yellow	1-Inactive	1-Inactive	1-Inactive	3-Yellow	1-Inactive	1-Inactive
NA Response	0-None	1-NonAct1	0-None	2-NonAct2	0-None	1-NonAct1	0-None	2-NonAct2
Veh. Recalls	0-None	2-Min	0-None	0-None	0-None	2-Min	0-None	0-None

Non-Lock	1	0	1	1	1	0	1	1
Dual Entry	0	0	0	1	0	0	0	1

Assigned ph.	1	2	3	4	5	6	7	8
Oper. Mode	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh	0-Veh
Switch	0	0	0	0	0	0	0	0

August 6, 2018

MARTIN COUNTY TRAFFIC

LOCATION: 91 SR-5 (US1) @ COVE ROAD

Day Plan

Day 2 = Weekdays Day 1 = Weekends

<u>DAY</u>	<u>START</u>	<u>GROUP 1</u> <u>C/S/O</u>	<u>COBALT</u> <u>group</u>
1	9:00	4/2/1	1
1	21:00	0/0/4	99
2	6:00	3/1/1	3
2	9:30	3/2/1	5
2	15:00	3/3/1	7
2	18:30	2/2/1	9
2	20:30	0/0/4	99

<u>Plan</u>	9	3	5	7	1
DIAL	2	3	3	3	4
SPLIT	2	1	2	3	2
OFFSET	13	158	29	59	13
CYCLE LENGTH	140	160	160	160	160
Cobalt Sequence	2	0	5	2	5

<u>PHASE</u>		<u>SPLITS (SECONDS)</u>				
1	NBLT	37	37	27	28	42
2	SB	45	58	63	59	54
3	EBLT	22	27	26	35	26
4	WB	36	38	44	38	38
5	SBLT	21	22	23	23	26
6	NB	61	73	67	64	70
7	WBLT	22	27	27	24	26
8	EB	36	38	43	49	38

Lagging phase when **BOLD** type & gray box

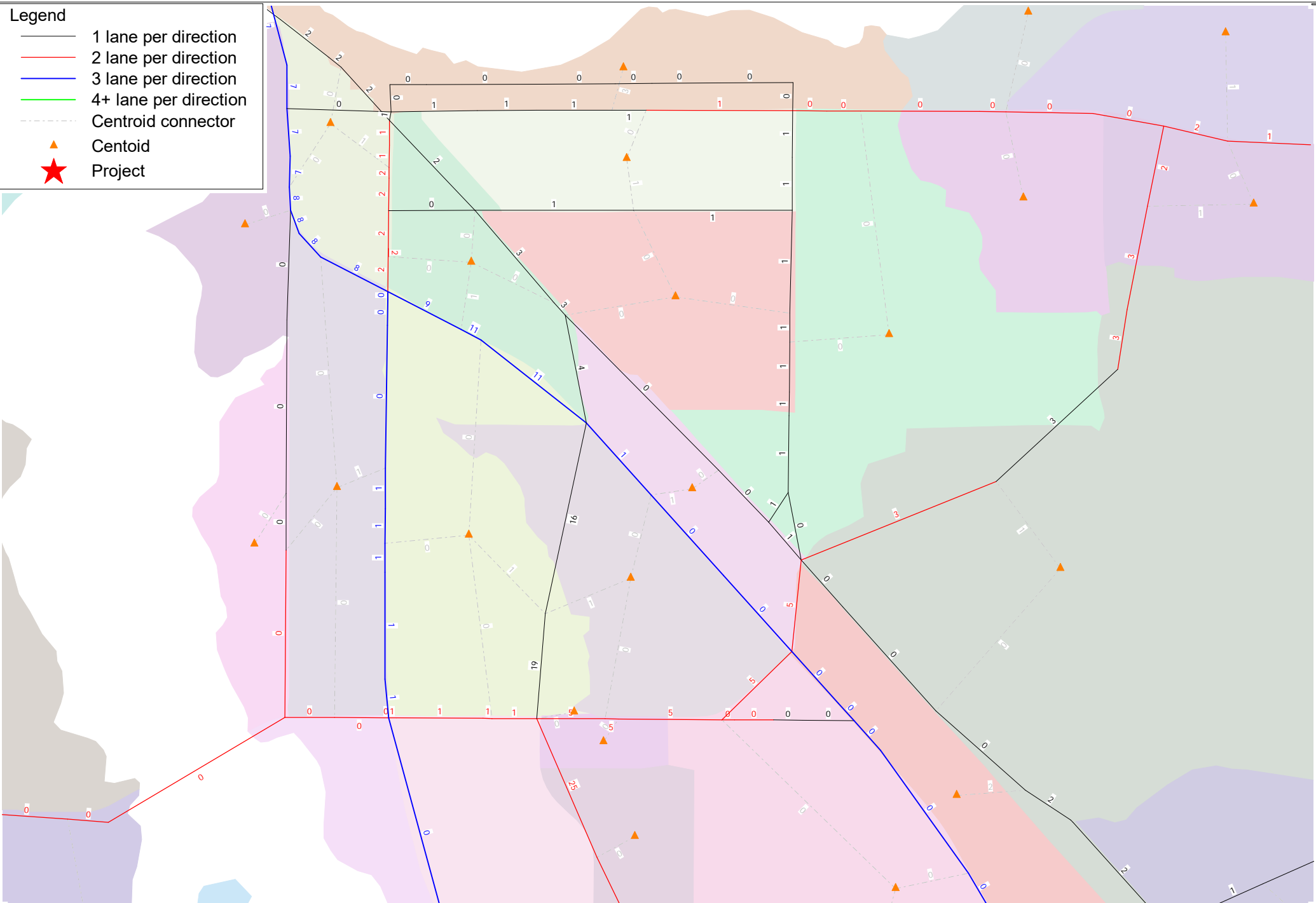
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APPENDIX F: MODEL PLOTS

Legend

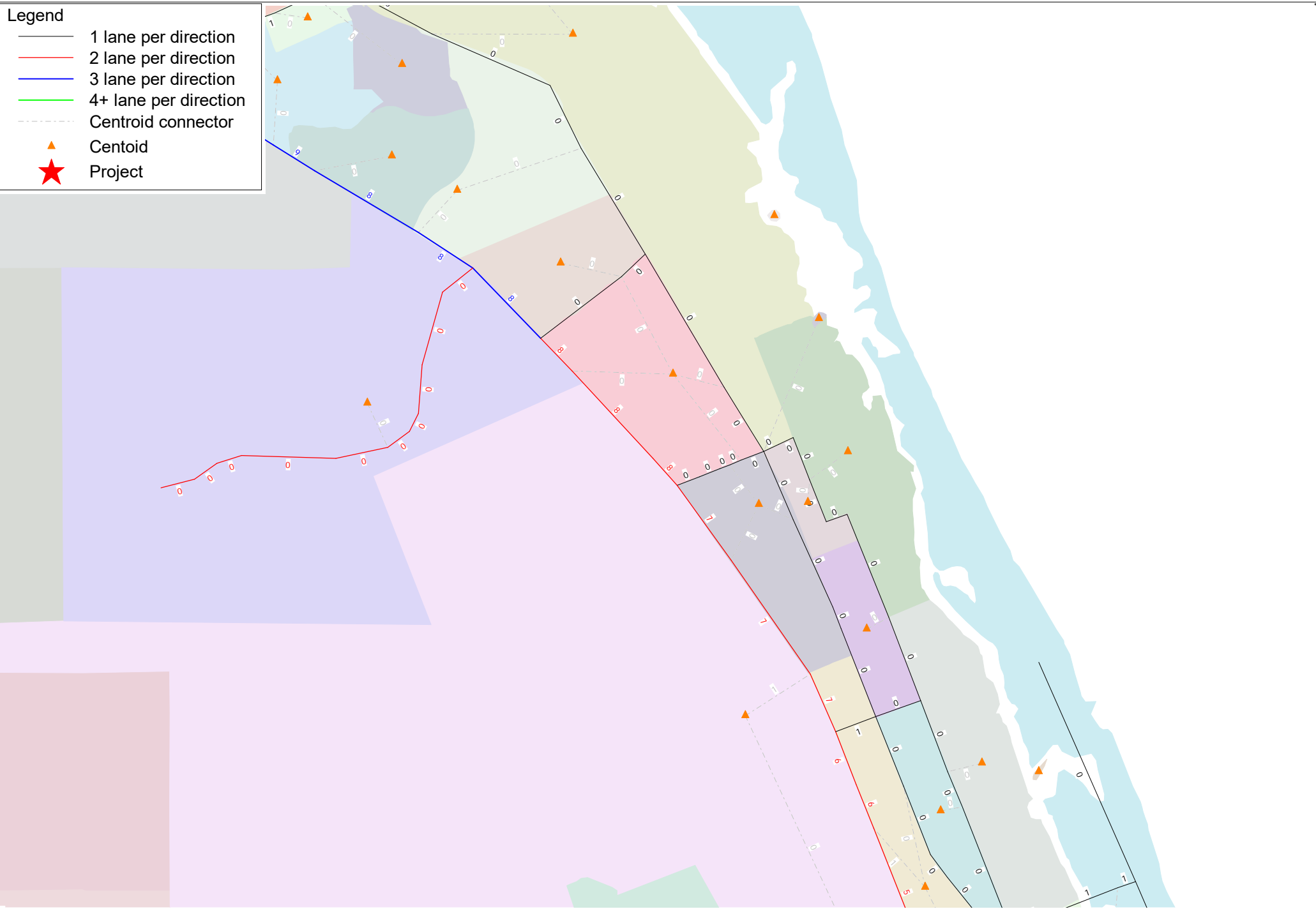
- 1 lane per direction
- 2 lane per direction
- 3 lane per direction
- 4+ lane per direction
- Centroid connector
- Centoid
- Project



Cove Road Charter School
 % Project Distribution
 TCRPMv4 CF2040
 8/9/2018

Legend

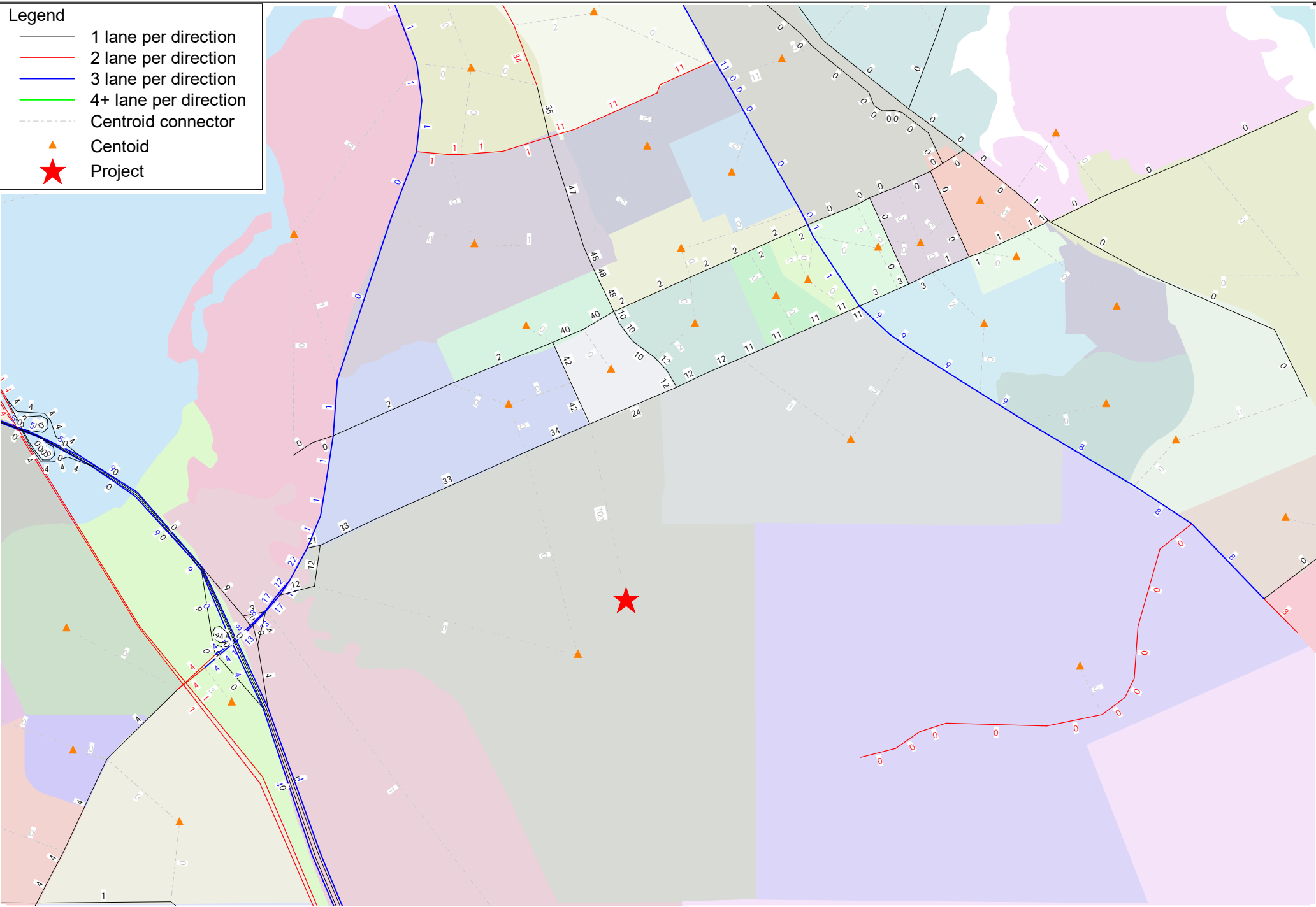
- 1 lane per direction
- 2 lane per direction
- 3 lane per direction
- 4+ lane per direction
- Centroid connector
- Centroid
- Project



Cove Road Charter School
 % Project Distribution
 TCRPMv4 CF2040
 8/9/2018

Legend

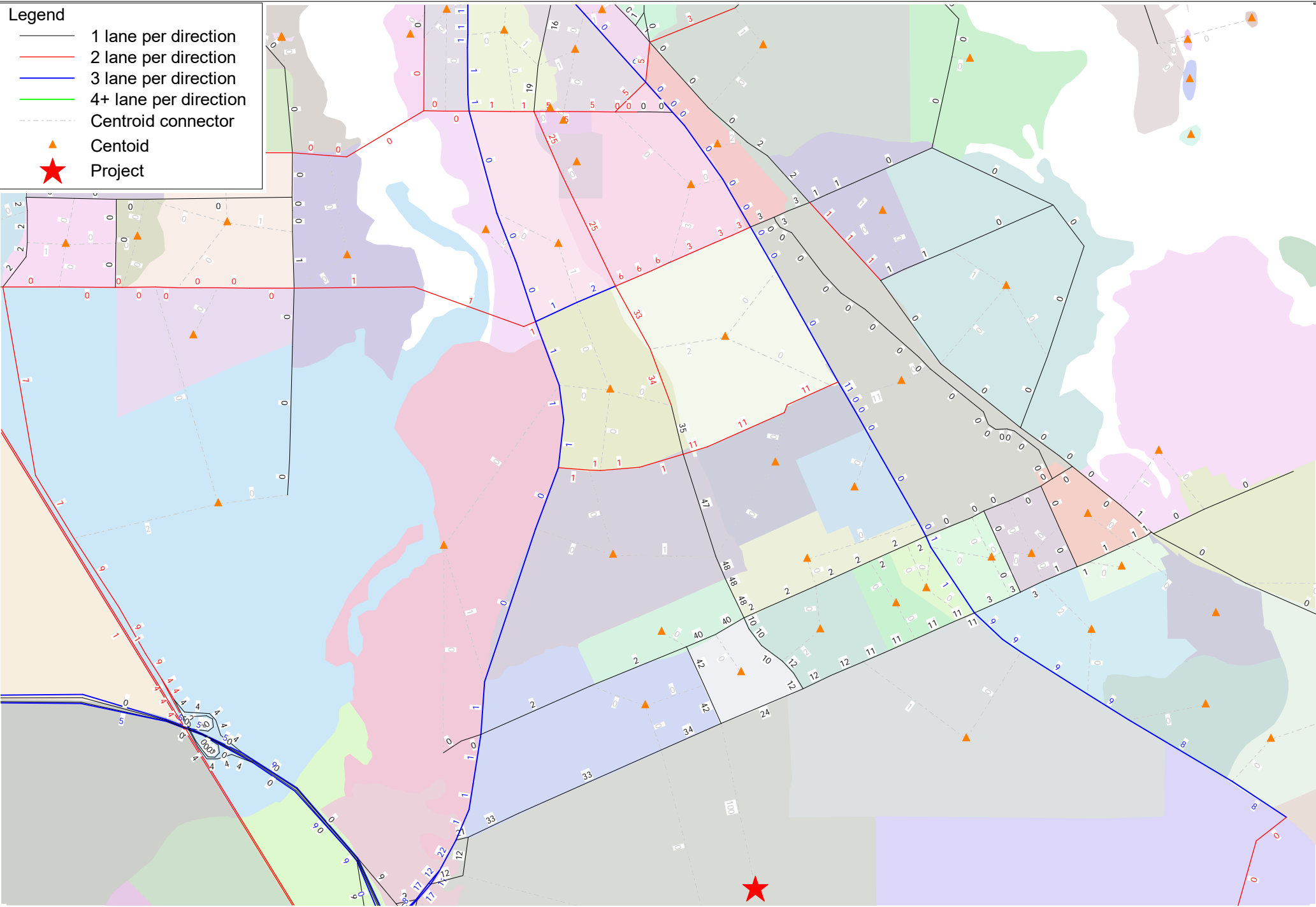
- 1 lane per direction
- 2 lane per direction
- 3 lane per direction
- 4+ lane per direction
- Centroid connector
- Centoid
- Project



Cove Road Charter School
 % Project Distribution
 TCRPMv4 CF2040
 8/7/2018

Legend

- 1 lane per direction
- 2 lane per direction
- 3 lane per direction
- 4+ lane per direction
- Centroid connector
- ▲ Centoid
- ★ Project



Cove Road Charter School
 % Project Distribution
 TCRPMv4 CF2040
 8/9/2018

**APPENDIX G: MARTIN COUNTY 2017 ROADWAY LEVEL OF SERVICE
INVENTORY REPORT**

Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
Baker Rd	SR-5	CR-723	750	5,114	0.08	0.56	234	C	2.2%
Berry Ave	Golden Bear Wy	CR-714	750	3,609	0.08	0.57	174	C	5.1%
Berry Ave	CR-714	Sunset Tr	750	1,918	0.08	0.55	88	C	6.1%
Britt Rd	Pine Lake Dr	SR-5	750	4,666	0.08	0.54	189	C	0.5%
Citrus Blvd.	CR-714 (Martin Hwy)	Port St. Lucie Blvd.	1200	4,860	0.12	0.82	444	A/B	8.0%
Commerce Ave	Salerno Rd	Monroe St	750	6,074	0.10	0.59	355	C	0.8%
Commerce Ave	Monroe St	Indian St	750	6,750	0.11	0.56	383	D	1.9%
Country Club Dr	Palm Beach County	Island Way	750	2,730	0.08	0.56	127	C	1.8%
Country Club Dr	Island Way	Little Club Dr	750	4,545	0.08	0.57	149	C	8.0%
County Line Rd	Little Club Dr	SR-5	750	2,746	0.08	0.53	109	C	1.6%
Cove Rd	SR-76	Willoughby Blvd	880	14,326	0.08	0.54	635	C	2.4%
Cove Rd	Willoughby Blvd	SR-5	880	15,819	0.08	0.52	665	C	2.7%
Cove Rd	SR-5	CR-A1A	750	13,638	0.08	0.64	654	D	3.0%
Cove Rd	CR-A1A	End	675	5,167	0.08	0.55	260	C	0.5%
CR-609 (Allapattah Rd)	SR-710	CR-714	740	1,867	0.09	0.58	86	A/B	5.6%
CR-609 (Allapattah Rd)	CR-714	St Lucie County	740	1,933	0.09	0.56	91	A/B	8.0%
CR-707 (Beach Rd)	Palm Beach County	CR-708	675	1,724	0.09	0.70	103	C	3.3%
CR-707 (Dixie Hwy)	CR-723/CR-707	CR-707 (Indian River Dr)	750	5,435	0.08	0.51	242	C	0.5%
CR-707 (Indian River Dr)	CR-707 (Dixie Hwy)	CR-707A (Jensen Beach Blvd.)	675	10,764	0.11	0.50	593	D	0.9%
CR-707 (Indian River Dr)	CR-707A	SR-732	675	6,131	0.09	0.60	233	C	3.0%
CR-707 (Indian River Dr)	SR-732	St. Lucie County	675	6,430	0.09	0.57	247	C	3.2%

Segments with shaded LOS require additional analysis.

The peaks are: CR-A1A (PM/SB); Murphy Rd (PM/NB); SR-5 (PM/NB); and SR-714 (PM/WB).

Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
CR-707A (Jensen Beach Blvd)	CR-723	Skyline Dr	1630	21,602	0.10	0.53	967	D	0.5%
CR-707A (Jensen Beach Blvd)	Skyline Dr	Pineapple Way	1630	21,413	0.09	0.69	1,276	D	1.2%
CR-707A (Jensen Beach Blvd)	Pineapple Wy	CR-707	675	8,505	0.08	0.59	442	D	0.5%
CR-708 (Bridge Rd)	SR-76	CR-711	740	827	0.10	0.62	46	A/B	5.4%
CR-708 (Bridge Rd)	CR-711	I-95	740	3,581	0.11	0.55	178	A/B	8.0%
CR-708 (Bridge Rd)	I-95	Powerline Ave	1200	9,381	0.09	0.53	392	A/B	8.0%
CR-708 (Bridge Rd)	Powerline Ave	SR-5	880	10,485	0.09	0.52	456	C	6.9%
CR-708 (Bridge Rd)	SR-5	CR-A1A	675	9,267	0.11	0.53	546	D	1.1%
CR-708 (Bridge Rd)	CR-A1A	Gomez Ave	675	8,426	0.09	0.53	370	D	1.1%
CR-708 (Bridge Rd)	Gomez Ave	CR-707	750	4,533	0.09	0.55	258	C	0.5%
CR-711 (Pratt Whitney Rd)	Palm Beach County	CR-708	740	4,016	0.11	0.61	218	A/B	8.0%
CR-711 (Pratt Whitney Rd)	CR-708	South Fork High School	800	4,134	0.11	0.59	288	C	4.2%
CR-711 (Pratt Whitney Rd)	South Fork High School	SR-76	800	5,645	0.10	0.93	442	C	3.2%
CR-713 (High Meadow Ave)	I-95	CR-714	1190	13,068	0.12	0.68	1,009	D	0.5%
CR-713 (High Meadow Ave)	CR-714	SR-714	880	11,116	0.09	0.50	423	C	3.9%
CR-713 (High Meadow Ave)	SR-714	Murphy Rd	880	12,813	0.08	0.52	531	C	3.8%
CR-714 (Martin Hwy)	SR-710	Fox Brown Rd	740	3,233	0.07	0.53	117	A/B	6.6%
CR-714 (Martin Hwy)	Fox Brown Rd	CR-609	740	3,231	0.08	0.61	143	A/B	4.2%
CR-714 (Martin Hwy)	CR-609	I-95	740	5,418	0.08	0.58	237	A/B	7.4%
CR-714 (Martin Hwy)	Florida's Turnpike	CR-713	2000	19,811	0.11	0.53	1,207	C	8.0%
CR-714 (Martin Hwy)	CR-713	Mapp Rd	2000	21,927	0.11	0.52	1,486	C	8.0%

Segments with shaded LOS require additional analysis.

The peaks are: CR-A1A (PM/5B); Murphy Rd (PM/NB); SR-5 (PM/NB); and SR-714 (PM/WB).

Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
CR-714 (Veteran's Memorial Bridge)	Mapp Rd	SR-76	2000	23,206	0.11	0.60	1,538	C	8.0%
CR-723 (Savanna Rd)	CR-707	NE 24th St	880	8,872	0.08	0.69	606	C	1.3%
CR-723 (Savanna Rd)	NE 24th St	CR-707A (Jensen Beach Blvd.)	880	10,388	0.09	0.52	415	C	0.5%
CR-726 (Citrus Blvd)	SR-710	Greenridge Ln	740	3,459	0.08	0.59	119	A/B	8.0%
CR-726 (Citrus Blvd)	Greenridge Ln	CR-76A	740	2,561	0.08	0.59	104	A/B	5.1%
CR-76A (Citrus Blvd.)	CR-726	SR-714	1200	4,115	0.08	0.55	164	A/B	5.5%
CR-76A (SW 96th St)	CR-726	Pennsylvania Ave	1200	3,833	0.08	0.56	168	A/B	3.2%
CR-76A (SW 96th St)	Pennsylvania Ave	SR-76	800	8,395	0.07	0.54	319	C	6.2%
CR-A1A (Dixie Hwy)	SR-5	CR-708	750	3,160	0.09	0.62	173	C	6.5%
CR-A1A (Dixie Hwy)	CR-708	Osprey St	880	7,177	0.11	0.53	437	C	3.0%
CR-A1A (Dixie Hwy)	Osprey St	Heritage Blvd	1190	6,253	0.08	0.56	282	A/B	4.7%
CR-A1A (Dixie Hwy)	Heritage Blvd	Cove Rd	1190	6,792	0.08	0.54	284	A/B	4.5%
CR-A1A (Dixie Hwy)	Cove Rd	Salerno Rd	790	11,814	0.09	0.52	559	D	1.7%
CR-A1A (Dixie Hwy)	Salerno Rd	St. Lucie Blvd	750	16,923	0.09	0.55	777	E	3.2%
CR-A1A (Dixie Hwy)	St Lucie Blvd	Jefferson St	750	13,538	0.10	0.52	718	D	2.9%
CR-A1A (Dixie Hwy)	Jefferson St	Indian St	1630	17,855	0.09	0.55	819	D	2.7%
CR-A1A (Dixie Hwy)	Indian St	SR-714	2000	15,931	0.09	0.53	786	C	2.7%
CR-A1A (Dixie Hwy)	SR-714	SE Fifth St	675	6,464	0.10	0.54	350	D	2.8%
Crossrip St	CR-A1A	Gomez Ave	675	2,781	0.10	0.59	169	C	3.2%
Dixie Hwy	Joan Jefferson Wy	Wright Blvd	750	8,172	0.12	0.64	605	D	0.5%
Dr Martin Luther King Jr Blvd	Farm Rd	SR-710	675	2,122	0.09	0.64	97	C	4.7%

Segments with shaded LOS require additional analysis.

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Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
Farm Rd	Dr Martin Luther King Jr Dr	Palm Wy	750	2,509	0.13	0.57	191	C	2.6%
Fork Rd	Pine Lake Dr	SR-5	675	1,602	0.08	0.66	62	C	6.6%
Fox Brown Rd	SR-710	CR-714	740	402	0.08	0.65	21	A/B	0.0%
Goldenrod Rd	Britt Rd	SR-732	1630	5,605	0.08	0.54	198	C	2.3%
Goldenrod Rd	SR-732	SR-5	750	6,612	0.09	0.54	297	C	0.6%
Goldenrod Rd	SR-5	Westmoreland Blvd	750	3,831	0.08	0.85	302	C	2.3%
Gomez Ave	CR-708	Crossrip St	750	3,823	0.08	0.52	161	C	2.4%
Gomez Ave	Crossrip St	Osprey St	750	999	0.07	0.52	43	C	0.5%
Green River Parkway	Dixie Hwy	Baker Rd	750	6,526	0.09	0.50	301	C	6.6%
Green River Parkway	Baker Rd	SR-732	880	7,827	0.12	0.63	594	C	7.0%
Green River Parkway	SR-732	St. Lucie County	1190	8,184	0.09	0.56	435	C	4.7%
Horseshoe Point Rd	CR-A1A	Kubin Ave	675	5,975	0.08	0.66	324	C	1.2%
Indian St	SR-76	Willoughby Blvd	2000	26,838	0.11	0.63	1,784	C	8.0%
Indian St	Willoughby Blvd	SR-5	2000	27,536	0.08	0.57	1,162	C	8.0%
Indian St	SR-5	Commerce Ave	2000	23,065	0.08	0.53	1,142	C	4.4%
Indian St	Commerce Ave	CR-A1A	2000	25,604	0.09	0.54	1,084	C	4.4%
Indian St	CR-A1A	St Lucie Blvd	675	7,771	0.09	0.55	336	D	3.3%
Indian River Dr	Palmer St	CR-707	750	7,460	0.09	0.52	352	C	3.1%
Island Way	Palm Beach County	Jupiter Road	1200	4,208	0.10	0.59	248	A/B	2.5%
Island Way	Jupiter Road	Country Club Dr	750	4,783	0.08	0.50	81	C	1.9%
Jack James Rd	SR-76	Blue Water Wy	750	3,074	0.12	0.52	209	C	5.4%

Segments with shaded LOS require additional analysis.

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Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
Lares St	CR-708	CR-A1A	675	3,459	0.08	0.59	158	C	3.8%
Little Club Wy	Country Club Dr	Wooden Bridge Wy	675	2,233	0.08	0.53	101	C	0.9%
Locks Rd	Canal St	SR-76	675	3,844	0.07	0.61	167	C	2.4%
MacArthur Blvd	Sailfish Point	SR-A1A	675	5,762	0.11	0.55	268	C	2.5%
Mapp Rd	South End	CR-714	750	5,533	0.08	0.52	219	C	1.1%
Mapp Rd	CR-714	SR-714	750	11,684	0.09	0.53	558	D	0.5%
Mapp Rd	SR-714	Matheson Ave	750	5,756	0.10	0.57	301	C	3.6%
Mapp Rd	Matheson Ave	North End	750	7,384	0.08	0.65	400	D	1.0%
Market Pl	SR-5	Commerce Ave	790	4,675	0.09	0.52	208	C	3.0%
Matheson Ave	SR-714	Mapp Rd	750	5,503	0.08	0.54	265	C	0.5%
Monroe St	SR-5	Commerce Ave	750	1,875	0.11	0.55	103	C	2.6%
Murphy Rd	Mapp Rd	High Meadow Ave	750	6,131	0.09	0.53	431	D	1.8%
Murphy Rd	High Meadow Ave	St Lucie County	750	9,433	0.13	0.74	884	F	4.9%
North River Shores Blvd	Spruce Ridge Dr	SR-5	675	3,679	0.08	0.57	130	C	8.0%
Ocean Blvd	Flagler Ave	Palm Beach Rd	790	9,459	0.10	0.64	656	D	0.5%
Ocean Blvd	Palm Beach Rd	SR-714	1465	12,514	0.10	0.54	782	D	0.7%
Osprey St	SR-5	CR-A1A	750	5,895	0.07	0.58	204	C	6.4%
Osprey St	CR-A1A	Gomez Ave	750	1,792	0.08	0.55	95	C	0.5%
Palm Beach Rd	SR-714	Ocean Blvd	710	8,031	0.10	0.53	495	D	0.5%
Palm City Rd	SR-714	SR-5	750	7,365	0.08	0.68	398	D	2.9%
Palmer St	CR-707	Indian River Dr	750	3,017	0.12	0.58	202	C	3.0%

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Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
Pine Lake Dr	Fork Rd	Britt Rd	675	1,728	0.09	0.51	56	C	0.5%
Pineapple Wy	CR-707A(Jensen Beach Blvd.)	SR-732	750	11,136	0.10	0.55	637	D	1.1%
Pomeroy St	SR-76	Willoughby Blvd	790	9,176	0.08	0.58	447	D	3.3%
Pomeroy St	Willoughby Blvd	SR-5	790	8,701	0.09	0.54	383	C	4.4%
Salerno Rd	SR-76	Willoughby Blvd	880	7,926	0.09	0.55	382	C	3.3%
Salerno Rd	Willoughby Blvd	SR-5	790	9,476	0.11	0.50	520	D	2.1%
Salerno Rd	SR-5	Commerce Ave	750	9,961	0.09	0.57	493	D	2.2%
Salerno Rd	Commerce Ave	CR-A1A	750	8,099	0.08	0.56	343	C	2.4%
Savanna Rd	CR-707A	County Line Rd	675	1,206	0.11	0.60	80	C	4.0%
Seabranh Blvd	Doubletree Dr	SR-5	2000	6,627	0.09	0.57	345	C	0.5%
Sewalls Pt Rd	SR-A1A	Palmer St	675	9,391	0.09	0.53	406	D	1.9%
Skyline Dr	CR-707A	CR-707	675	1,771	0.08	0.57	87	C	0.5%
SR-15 (Connors Hwy)	Palm Beach County	SR-76	740	4,804	0.09	0.64	288	C	0.5%
SR-15 (Connors Hwy)	SR-76	Okeechobee County	740	3,065	0.09	0.56	154	A/B	1.9%
SR-5 (US-1)	Palm Beach County	CR-A1A	3110	20,247	0.09	0.52	954	A/B	2.7%
SR-5 (US-1)	CR-A1A	CR-708	2000	16,690	0.09	0.52	785	C	3.5%
SR-5 (US-1)	CR-708	Osprey St	2000	23,968	0.10	0.61	1,506	C	2.0%
SR-5 (US-1)	Osprey St	Seabranh Blvd	2000	23,788	0.08	0.55	1,065	C	2.3%
SR-5 (US-1)	Seabranh Blvd	Cove Rd	3020	29,745	0.08	0.55	1,363	C	0.9%
SR-5 (US-1)	Cove Rd	Salerno Rd	3020	33,447	0.08	0.58	1,491	C	0.9%
SR-5 (US-1)	Salerno Rd	Monroe St	3020	39,900	0.09	0.54	1,832	C	0.9%

Segments with shaded LOS require additional analysis.

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Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
SR-5 (US-1)	Monroe St	Indian St	3020	43,510	0.08	0.50	1,809	C	1.7%
SR-5 (US-1)	Indian St	SR-714	3020	44,676	0.10	0.52	2,212	C	0.6%
SR-5 (US-1)	SR-714	SR-5A	3020	37,801	0.09	0.50	1,772	C	0.6%
SR-5 (US-1)	SR-5A(Cut-off Rd)	SR-76	3020	37,383	0.08	0.51	1,492	C	1.2%
SR-5 (US-1)	SR-76	Palm City Rd	2520	48,535	0.08	0.53	2,013	D	1.1%
SR-5 (US-1)	Palm City Rd	Joan Jefferson Wy	2520	56,700	0.07	0.53	2,191	D	1.5%
SR-5 (US-1)	Joan Jefferson Wy	Wright Blvd	3020	60,449	0.09	0.60	3,286	F	1.4%
SR-5 (US-1)	Wright Blvd	Baker Rd	3020	52,000	0.08	0.51	2,174	C	0.5%
SR-5 (US-1)	Baker Rd	Britt Rd	3020	52,984	0.08	0.55	2,309	C	0.5%
SR-5 (US-1)	Britt Rd	SR-732	3020	55,861	0.09	0.51	2,681	C	0.5%
SR-5 (US-1)	SR-732	Westmoreland Blvd	4040	64,497	0.09	0.59	3,384	C	1.0%
SR-5 (US-1)	Westmoreland Blvd	St Lucie County	4040	65,901	0.07	0.62	2,638	C	2.9%
SR-710 (Warfield Blvd)	Okeechobee County	Fox Brown Rd	670	6,141	0.07	0.58	244	C	2.7%
SR-710 (Warfield Blvd)	Fox Brown Rd	CR-609 (Allapattah)	670	7,286	0.08	0.59	319	C	1.4%
SR-710 (Warfield Blvd)	CR-609 (Allapattah)	Van Buren	870	11,622	0.10	0.58	661	C	7.6%
SR-710 (Warfield Blvd)	Van Buren	CR-726 (Citrus)	765	11,622	0.10	0.58	661	C	7.6%
SR-710 (Warfield Blvd)	CR-726	SR-76 (Kanner)	2450	10,624	0.08	0.58	457	A/B	6.0%
SR-710 (Warfield Blvd)	SR-76	Palm Beach County	2450	6,769	0.07	0.53	262	A/B	1.4%
SR-714 (Martin Hwy)	I-95	CR-76A (Citrus)	1200	12,637	0.10	0.54	639	C	7.0%
SR-714 (Martin Hwy)	CR-76A (Citrus)	Florida's Turnpike	925	19,691	0.10	0.56	1,031	F	6.4%
SR-714 (Martin Downs Blvd)	Florida's Turnpike	CR-713	2000	19,879	0.08	0.53	897	C	1.2%

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Martin County 2017 Roadway Level of Service Inventory Report

Road Name	From	To	Generalized Service Capacity	2017 AADT	Peak Hour Factor K ₃₀	Directional Distribution D ₁₀₀	2017 Peak Hour Directional Volume	2017 Generalized LOS	Avg. Annual Growth Rate
SR-714 (Martin Downs Blvd)	CR-713	Matheson Ave	2000	28,402	0.08	0.52	1,301	C	0.5%
SR-714 (Martin Downs Blvd)	Matheson Ave	Mapp Rd	2000	31,762	0.10	0.53	1,673	C	2.7%
SR-714 (Palm City Bridge)	Mapp Rd	SR-76	2000	33,984	0.10	0.59	1,990	D	0.5%
SR-714 (Monterey Rd)	SR-76	Willoughby Blvd	2000	23,578	0.08	0.56	1,164	C	0.5%
SR-714 (Monterey Rd)	Willoughby Blvd	Monterey Extension	2000	24,684	0.10	0.56	1,316	C	0.5%
SR-714 (Monterey Rd)	Monterey Extension	SR-5	2000	17,573	0.09	0.58	869	C	0.5%
SR-714 (Monterey Rd)	SR-5	CR-A1A	1630	22,358	0.09	0.64	1,337	D	0.5%
SR-714 (Monterey Rd)	CR-A1A	SR-A1A	1910	19,201	0.09	0.61	829	C	3.3%
SR-732 (Causeway Blvd)	CR-707	SR-A1A	1190	13,234	0.09	0.57	674	C	0.8%
SR-732 (Jensen Beach Blvd)	SR-5	Green River Pkwy	2000	25,977	0.10	0.51	1,324	C	0.8%
SR-732 (Jensen Beach Blvd)	Green River Pkwy	CR-723	2000	24,703	0.09	0.53	1,252	C	0.5%
SR-76 (Kanner Hwy)	SR-15	SR-710	740	2,427	0.09	0.58	99	A/B	5.5%
SR-76 (Kanner Hwy)	SR-710	CR-708	740	3,576	0.08	0.55	151	A/B	3.6%
SR-76 (Kanner Hwy)	CR-708	CR-711/CR-76A	1200	2,966	0.10	0.55	177	A/B	2.0%
SR-76 (Kanner Hwy)	CR-711/CR76A	Locks Rd	2000	13,039	0.12	0.51	773	C	2.6%
SR-76 (Kanner Hwy)	Locks Rd	Jack James	2000	20,579	0.08	0.50	787	C	2.3%
SR-76 (Kanner Hwy)	Jack James	Cove Rd	3020	44,854	0.10	0.52	2,353	C	2.4%
SR-76 (Kanner Hwy)	Cove Rd	Salerno Rd	3020	31,465	0.09	0.52	1,470	C	0.9%
SR-76 (Kanner Hwy)	Salerno Rd	Indian St	3020	28,733	0.10	0.52	1,430	C	2.6%
SR-76 (Kanner Hwy)	Indian St	SR-714	3020	21,056	0.07	0.52	793	C	0.5%
SR-76 (Kanner Hwy)	SR-714	SR-5	3020	24,908	0.08	0.50	1,118	C	0.5%

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Martin County 2017 Roadway Level of Service Inventory Report

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SR-A1A (Ocean Blvd)	SR-714	St Lucie Blvd	1630	19,125	0.11	0.52	1,053	D	1.8%
SR-A1A (Ocean Blvd)	St Lucie Blvd	Sewalls Point Rd	2000	22,984	0.10	0.56	1,248	C	2.3%
SR-A1A (Ocean Blvd)	Sewalls Point Rd	MacArthur Blvd	925	13,899	0.11	0.52	686	C	1.6%
SR-A1A (Ocean Blvd)	MacArthur Blvd	SR-732	1190	7,916	0.09	0.53	379	A/B	2.5%
SR-A1A (Ocean Blvd)	SR-732	St Lucie County	1190	14,530	0.12	0.50	898	D	5.1%
St Lucie Blvd	CR-A1A	Indian St	675	3,304	0.09	0.51	163	C	4.1%
St Lucie Blvd	Indian St	SR-A1A	675	7,932	0.09	0.54	337	D	3.8%
Westmoreland Blvd	St Lucie County	SR-5	790	11,513	0.08	0.57	530	D	0.8%
Willoughby Blvd	Cove Rd	Salerno Rd	880	4,177	0.09	0.65	223	C	8.0%
Willoughby Blvd	Salerno Rd	Pomeroy St	880	9,108	0.10	0.52	478	C	7.9%
Willoughby Blvd	Pomeroy St	Indian St	2000	10,878	0.09	0.50	312	C	6.4%
Willoughby Blvd	Indian St	SR-714	2000	9,909	0.09	0.54	480	C	0.5%
Wright Blvd	SR-5	Dixie Highway	750	9,319	0.09	0.51	401	D	1.8%

LEGAL DESCRIPTION

PARCEL D1 - DRIVEWAY EASEMENT

Being a Parcel of land, said Parcel being a portion of Lot 7 as shown on the Plat of Wa-Co Field Place as recorded in Plat Book 5, Page 62, Public Records of Palm Beach (now Martin) County, Florida, said Parcel being more particularly described as follows:

Commence at the Point of intersection of the Southerly Right-of-Way line of Cove Road as established from the Right-of-Way Map prepared by Keith and Schnars, Inc. dated October 20, 1989 and the Westerly Line of Lot 5; Thence North 66°12'15" East, along said Southerly Right-of-Way line a distance of 516.98 feet to the **Point of Beginning** of the following described Parcel; Thence continue along said Southerly Right-of-Way Line, North 66°12'15" East, a distance of 93.88 feet to the Easterly line of said Lot 7; Thence departing said Southerly Right-of-Way line, South 00°12'05" East, along the said Easterly line a distance of 260.30 feet; Thence South 73°14'56" West, departing said Easterly Line a distance of 52.16 feet; Thence North 00°12'05" West, along a line, said line being 50.00 feet Westerly of as measured at right angles to the East line of said Lot 7, a distance of 103.95 feet to the beginning of a curve concave to the West having a radius of 135.00 feet; Thence Northerly and Northwesterly along the arc of said curve, through a central angle of 28°20'46" a distance of 66.79 feet to the Point of Reverse Curvature of a curve concave to the Northeast, having a radius of 165.00 feet; Thence Northwesterly and Northerly along the arc of said curve through a central angle of 21°51'55" a distance of 62.97 feet; Thence North 06°12'15" West, a distance of 9.88 feet to the Southerly Right-of-Way of Cove Road and the **Point of Beginning**.

Containing 0.35 acres, more or less

PROVIDED IN ITS ENTIRETY CONSISTING
OF 4 SHEETS, WITH SHEETS 3 AND 4 BEING
THE SKETCH OF DESCRIPTION.

NO	REVISIONS	DATE	BY

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Drawing Name: Driftwood Sketch-Legal Driveway Easement

LEGAL DESCRIPTION FOR:			
DRIFTWOOD CAY			
MARTIN COUNTY		FLORIDA	
Scale:	Date:	File & Drawing No.:	
N/A	Oct 2015	14-1012-03-01	
Drawn By:	Checked:	Sheet	
RLJ	P.A.	1 of 4	

SURVEYOR'S NOTES

1. THIS SKETCH AND LEGAL DESCRIPTION IS BASED ON OFFICE INFORMATION ONLY AND DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THIS LEGAL DESCRIPTION SHALL NOT BE VALID UNLESS:
 - A) PROVIDED IN ITS ENTIRETY CONSISTING OF 4 SHEETS, WITH SHEETS 3 AND 4 BEING THE SKETCH OF DESCRIPTION.
 - B) REPRODUCTION OF THE DESCRIPTION AND SKETCH ARE SIGNED AND SEALED WITH AN EMBOSSED SURVEYOR'S SEAL.
3. BEARINGS SHOWN HEREON ARE REFERENCED TO THE SOUTHERLY RIGHT-OF-WAY LINE OF COVE ROAD, HAVING A BEARING OF S66°12'15" E, AND ALL OTHERS ARE RELATIVE THERETO.

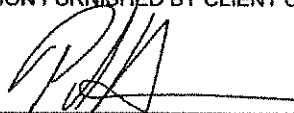
CERTIFICATION

(NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER)

I HEREBY CERTIFY THAT THE SKETCH AND LEGAL DESCRIPTION OF THE PROPERTY SHOWN AND DESCRIBED HEREON WAS COMPLETED UNDER MY DIRECTION AND SAID SKETCH AND DESCRIPTION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

I FURTHER CERTIFY THAT THIS SKETCH AND DESCRIPTION MEETS THE MINIMUM TECHNICAL STANDARDS FOR SURVEYS SET FORTH BY THE FLORIDA PROFESSIONAL BOARD OF SURVEYORS AND MAPPERS IN CHAPTER 5J-17.052, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATE STATUTES. THE SKETCH AND DESCRIPTION IS BASED ON INFORMATION FURNISHED BY CLIENT OR CLIENT'S REPRESENTATIVE.

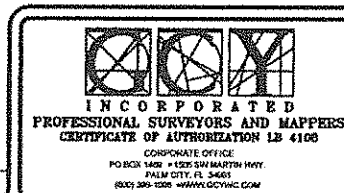
11/02/2015
DATE OF SIGNATURE


PETER ANDERSEN
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA CERTIFICATE NO. 5199

PROVIDED IN ITS ENTIRETY CONSISTING OF 4 SHEETS, WITH SHEETS 3 AND 4 BEING THE SKETCH OF DESCRIPTION.

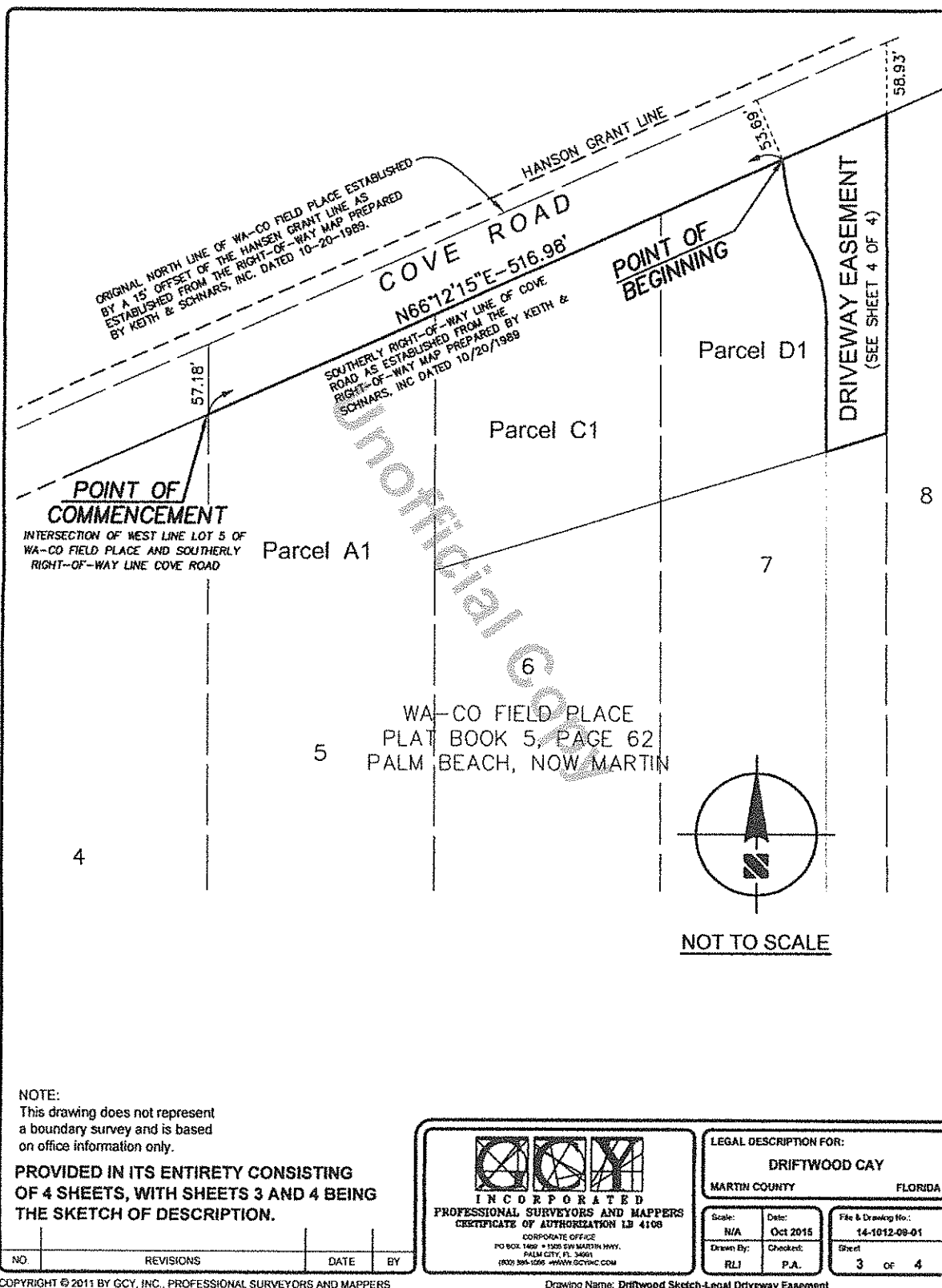
NO.	REVISIONS	DATE	BY

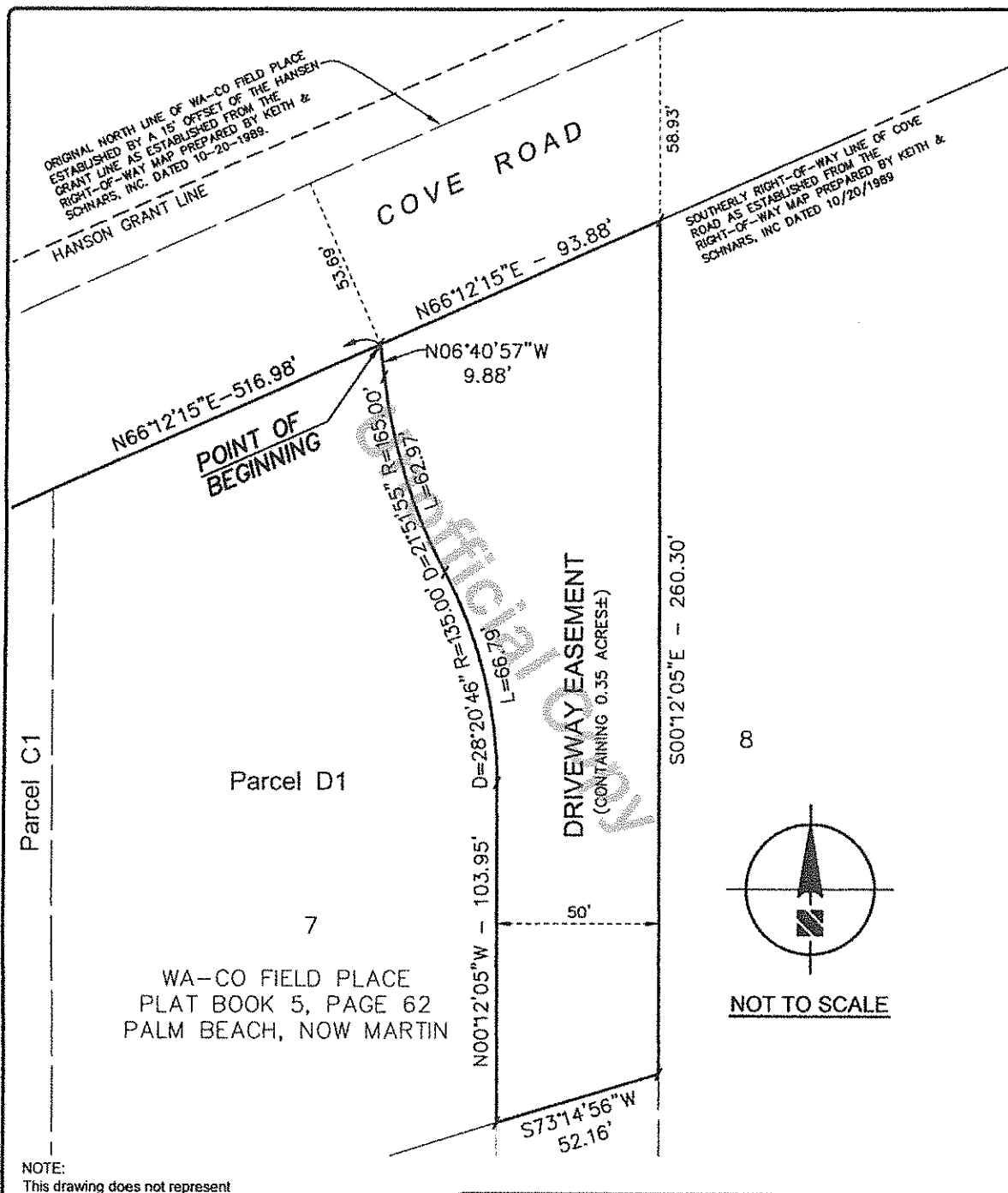
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LEGAL DESCRIPTION FOR:			
DRIFTWOOD CAY			
MARTIN COUNTY		FLORIDA	
Scale:	Date:	File & Drawing No.:	
N/A	Oct 2015	14-1012-09-01	
Drawn By:	Checked:	Sheet	
RLI	P.A.	2 OF 4	

Drawing Name: Driftwood Sketch-Legal Driveway Easement





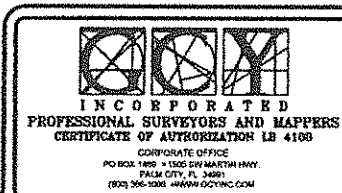
NOTE:

This drawing does not represent a boundary survey and is based on office information only.

PROVIDED IN ITS ENTIRETY CONSISTING OF 4 SHEETS, WITH SHEETS 3 AND 4 BEING THE SKETCH OF DESCRIPTION.

NO.	REVISIONS	DATE	BY

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LEGAL DESCRIPTION FOR:		
DRIFTWOOD CAY		
MARTIN COUNTY		FLORIDA
Scale:	Date:	File & Drawing No.:
N/A	Oct 2015	14-1012-09-01
Drawn By:	Checked:	Sheet
RLI	P.A.	4 OF 4

Drawing Name: Driftwood Sketch-Legal Driveway Easement

Private Liftstation Calculations
Martin County

Treasure Coast Classical Academy
Martin County, Florida

Prepared for:

Martin County

December 2018

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116 S. Kentucky Ave., Lakeland, FL 33801
CA 00000696 (863) 701-8702

Private Liftstation Calculations

Treasure Coast Classical Academy

Martin County, Florida

Prepared for:

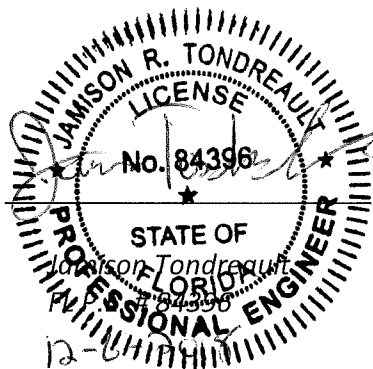
Martin County

Prepared by:

*Kimley-Horn and Associates, Inc.
Lakeland, Florida*

December 2018

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Revised: **December 6, 2018**

C=120

B. Equivalent lengths of pipe (Based on Submersible Sewage Pumping Systems Handbook, Second Edition)

Fitting	Equivalent Feet of Pipe					
	Pipe Size (inches)					
	2	3	4	6	8	10
Gate Valve	1	1.7	2.3	3.5	4.5	5.7
Plug Valve	3	4.5	6.2	9.3	12.2	15.4
Check Valve	13	20	27	40	53	67
Tee	11	17	22	33	43	56
45 Degree	3	3.8	5	7.7	10	13
90 Degree	6	8.1	11	16	21	26
Reducer	3	4	4	5	8	10

Hazen-Williams		
Material	C (New)	C (DEP)
HDPE	140	120
PVC	140	120
DIP	120	100

1a. Equivalent lengths of pipe in wet well to exit of valve vault C Factor **120**

Pipe	22	LF of	3	PVC force main	=	22 LF
Gate Valve	1	-	3	Gate Valve (open) x	1.7 LF	= 2 LF
Plug Valve	0	-	3	Plug Valve (open) x	4.5 LF	= 0 LF
Check Valve	1	-	3	Check Valve (open) x	20 LF	= 20 LF
Tee	1	-	3	Tees x	17 LF	= 17 LF
45 Degree	0	-	3	45 degree elbows x	3.8 LF	= 0 LF
90 Degree	3	-	3	90 degree elbows x	8.1 LF	= 24 LF
Reducer	1	-	3	Reducers x	4 LF	= 4 LF
Equivalent length of 3 pipe based on C Factor shown above						89 LF

1b. Equivalent lengths of pipe from valve vault to connection point

Pipe	1,030	LF of	4	PVC force main	=	1,030 LF
Gate Valve	1	-	4	Gate Valve (open) x	2.3 LF	= 2 LF
Plug Valve	0	-	4	Plug Valve (open) x	6.2 LF	= 0 LF
Check Valve	1	-	4	Check Valve (open) x	27 LF	= 27 LF
Tee	0	-	4	Tees x	22 LF	= 0 LF
45 Degree	7	-	4	45 degree elbows x	5 LF	= 35 LF
90 Degree	2	-	4	90 degree elbows x	11 LF	= 22 LF
Reducer	0	-	4	Reducers x	4 LF	= 0 LF
Equivalent length of 4 pipe based on C Factor shown above						1,116 LF

1c. Equivalent lengths

Pipe	0	LF of	10	PVC force main	=	0 LF
Gate Valve	0	-	10	Gate Valve (open) x	5.7 LF	= 0 LF
Plug Valve	0	-	10	Plug Valve (open) x	15.4 LF	= 0 LF
Check Valve	0	-	10	Check Valve (open) x	67 LF	= 0 LF
Tee	0	-	10	Tees x	56 LF	= 0 LF
45 Degree	0	-	10	45 degree elbows x	13 LF	= 0 LF
90 Degree	0	-	10	90 degree elbows x	26 LF	= 0 LF
Reducer	0	-	10	Reducers x	10 LF	= 0 LF
Equivalent length of 10 pipe based on C Factor shown above						0 LF

1c. System Head

Based on	89	equivalent feet of	3	inch force main
Based on	1116	equivalent feet of	4	inch force main
Based on	0	equivalent feet of	10	inch force main
C =	120			

C. Static Head

Highest Point of Force Main **17.25** FT NAVD

Low Water Level In Wetwell **7.00** FT NAVD

Total Static Head **10.25** FT

D. Head in receiving force main.

Receiving force main peak pressure **20.00** psi / 0.433 = 46.19 FT of head
 Receiving force main minimum pressure **15.00** psi / 0.433 = 34.64 FT of head

E. System Head Curve

Pipe Classification	Inside Diameter (in)	C Factor	Equiv. Length (ft)
PVC	3.00	120	89
PVC	4.00	120	1,116
PVC	10.00	120	0

C=120

Not used

SYSTEM CURVE DATA POINTS

Flow (GPM)	Velocity (FPS)	Friction Loss(ft)	Static Head(ft)	Manifold Receiving Head(ft)	Run Out Receiving Head (ft)	Run Out TDH (ft)	Manifold TDH (ft)
0	0.00	0.00	10.25	46	35	44.89	56.44
20	0.91	0.66	10.25	46	35	45.55	57.10
40	1.82	2.38	10.25	46	35	47.27	58.82
60	2.72	5.03	10.25	46	35	49.93	61.47
80	3.63	8.57	10.25	46	35	53.46	65.01
100	4.54	12.95	10.25	46	35	57.84	69.39
120	5.45	18.15	10.25	46	35	63.04	74.59
140	6.35	24.13	10.25	46	35	69.03	80.57
160	7.26	30.90	10.25	46	35	75.79	87.34
180	8.17	38.42	10.25	46	35	83.31	94.86
200	9.08	46.69	10.25	46	35	91.58	103.13
220	9.99	55.69	10.25	46	35	100.58	112.13
240	10.89	65.42	10.25	46	35	110.31	121.86
260	11.80	75.86	10.25	46	35	120.75	132.30
280	12.71	87.01	10.25	46	35	131.90	143.45
300	13.62	98.85	10.25	46	35	143.74	155.29
320	14.53	111.39	10.25	46	35	156.28	167.83
340	15.43	124.61	10.25	46	35	169.50	181.05
360	16.34	138.50	10.25	46	35	183.40	194.94
380	17.25	153.08	10.25	46	35	197.97	209.51
400	18.16	168.31	10.25	46	35	213.20	224.75
420	19.06	184.21	10.25	46	35	229.10	240.65
440	19.97	200.77	10.25	46	35	245.66	257.21
460	20.88	217.98	10.25	46	35	262.87	274.41

C=150

B. Equivalent lengths of pipe (Based on Submersible Sewage Pumping Systems Handbook, Second Edition)

Fitting	Equivalent Feet of Pipe					
	Pipe Size (inches)					
	2	3	4	6	8	10
Gate Valve	1	1.7	2.3	3.5	4.5	5.7
Plug Valve	3	4.5	6.2	9.3	12.2	15.4
Check Valve	13	20	27	40	53	67
Tee	11	17	22	33	43	56
45 Degree	3	3.8	5	7.7	10	13
90 Degree	6	8.1	11	16	21	26
Reducer	3	4	4	5	8	10

Hazen-Williams		
Material	C (New)	C (DEP)
HDPE	140	120
PVC	140	120
DIP	120	100

1a. Equivalent lengths of pipe in wet well to exit of valve vault C Factor **150**

Pipe	22	LF of	3	PVC force main	=	22 LF
Gate Valve	1	-	3	Gate Valve (open) x	1.7 LF	= 2 LF
Plug Valve	0	-	3	Plug Valve (open) x	4.5 LF	= 0 LF
Check Valve	1	-	3	Check Valve (open) x	20 LF	= 20 LF
Tee	1	-	3	Tees x	17 LF	= 17 LF
45 Degree	0	-	3	45 degree elbows x	3.8 LF	= 0 LF
90 Degree	3	-	3	90 degree elbows x	8.1 LF	= 24 LF
Reducer	1	-	3	Reducers x	4 LF	= 4 LF
Equivalent length of 3 pipe based on C Factor shown above						89 LF

1b. Equivalent lengths of pipe from valve vault to connection point

Pipe	1,030	LF of	4	PVC force main	=	1,030 LF
Gate Valve	1	-	4	Gate Valve (open) x	2.3 LF	= 2 LF
Plug Valve	0	-	4	Plug Valve (open) x	6.2 LF	= 0 LF
Check Valve	1	-	4	Check Valve (open) x	27 LF	= 27 LF
Tee	0	-	4	Tees x	22 LF	= 0 LF
45 Degree	7	-	4	45 degree elbows x	5 LF	= 35 LF
90 Degree	2	-	4	90 degree elbows x	11 LF	= 22 LF
Reducer	0	-	4	Reducers x	4 LF	= 0 LF
Equivalent length of 4 pipe based on C Factor shown above						1,116 LF

1c. Equivalent lengths

Pipe	0	LF of	10	PVC force main	=	0 LF
Gate Valve	0	-	10	Gate Valve (open) x	5.7 LF	= 0 LF
Plug Valve	0	-	10	Plug Valve (open) x	15.4 LF	= 0 LF
Check Valve	0	-	10	Check Valve (open) x	67 LF	= 0 LF
Tee	0	-	10	Tees x	56 LF	= 0 LF
45 Degree	0	-	10	45 degree elbows x	13 LF	= 0 LF
90 Degree	0	-	10	90 degree elbows x	26 LF	= 0 LF
Reducer	0	-	10	Reducers x	10 LF	= 0 LF
Equivalent length of 10 pipe based on C Factor shown above						0 LF

1c. System Head

Based on	89	equivalent feet of	3	inch force main
Based on	1116	equivalent feet of	4	inch force main
Based on	0	equivalent feet of	10	inch force main
C =	150			

C. Static Head

Highest Point of Force Main	17.25 FT	NAVD
Low Water Level In Wetwell	7.00 FT	NAVD
Total Static Head	10.25 FT	

D. Head in receiving force main.

Receiving force main peak pressure **20.00** psi / 0.433 = 46.19 FT of head
 Receiving force main minimum pressure **15.00** psi / 0.433 = 34.64 FT of head

E. System Head Curve

Pipe Classification	Inside Diameter (in)	C Factor	Equiv. Length (ft)
PVC	3.00	150	89
PVC	4.00	150	1,116
PVC	10.00	150	0

C=150

Not used

SYSTEM CURVE DATA POINTS

Flow (GPM)	Velocity (FPS)	Friction Loss(ft)	Static Head(ft)	Manifold Receiving Head(ft)	Run Out Receiving Head (ft)	Run Out TDH (ft)	Manifold TDH (ft)
0	0.00	0.00	10.25	46	35	44.89	56.44
20	0.91	0.44	10.25	46	35	45.33	56.88
40	1.82	1.57	10.25	46	35	46.47	58.01
60	2.72	3.33	10.25	46	35	48.22	59.77
80	3.63	5.67	10.25	46	35	50.56	62.11
100	4.54	8.57	10.25	46	35	53.46	65.01
120	5.45	12.01	10.25	46	35	56.90	68.45
140	6.35	15.97	10.25	46	35	60.86	72.41
160	7.26	20.45	10.25	46	35	65.34	76.89
180	8.17	25.43	10.25	46	35	70.32	81.87
200	9.08	30.90	10.25	46	35	75.79	87.34
220	9.99	36.86	10.25	46	35	81.75	93.30
240	10.89	43.29	10.25	46	35	88.18	99.73
260	11.80	50.20	10.25	46	35	95.09	106.64
280	12.71	57.58	10.25	46	35	102.47	114.02
300	13.62	65.42	10.25	46	35	110.31	121.86
320	14.53	73.71	10.25	46	35	118.61	130.15
340	15.43	82.46	10.25	46	35	127.35	138.90
360	16.34	91.66	10.25	46	35	136.55	148.10
380	17.25	101.30	10.25	46	35	146.19	157.74
400	18.16	111.39	10.25	46	35	156.28	167.83
420	19.06	121.91	10.25	46	35	166.80	178.35
440	19.97	132.86	10.25	46	35	177.76	189.30
460	20.88	144.25	10.25	46	35	189.14	200.69

F.

CYCLE TIME ANALYSIS

$$T = \frac{V_{op}}{Q - S} + \frac{V_{op}}{S}$$

Average conditions: Desire to pump out wetwell every 10-15 minutes to prevent septic conditions(30 minutes max, as stated in 10 State Standards)
Recommended that each motor be started no more than three (3) times per hour (two pumps = 6 cycles)

Where T = Cycle Time (min.)
V_{op} = Volume of Operating Range (gal.)
Q = Pumping Rate (GPM)
S = Incoming Flow (GPM)

Assume : 4 ft diameter wetwell and

2 ft of operating range (H₁)

H₁ = "Lead Pump On" elevation minus "Pump Off" elevation

2 number of pumps

$$V_{op} = 188.25 \text{ gal.}$$

$$V_{op} = \pi * r^2 * H_1$$

$$Q = 115 \text{ GPM (from pump curve, see appendix)}$$

Average Flow

$$S = 20.38 \text{ GPM (ADF)}$$

$$T = V_{op}/(Q - S) + V_{op}/S$$

$$T = \frac{188.25}{115 - 20.38} + \frac{188.25}{20.38} = 11.23 \text{ min.} \leftarrow 115 \text{ GPM}$$

$$RT = V_{op}/(Q - S)$$

$$RT = \frac{188.25}{115 - 20.38} = 1.99 \text{ min.} \leftarrow 115 \text{ GPM}$$

Minimum Flow

$$S = 13.66 \text{ GPM (Minimum Flow)} \quad 0.67 \text{ (min. factor)}$$

$$T = \frac{188.25}{115 - 13.66} + \frac{188.25}{13.66} = 15.64 \text{ min.} \leftarrow 115 \text{ GPM}$$

$$RT = \frac{188.25}{115 - 13.66} = 1.86 \text{ min.} \leftarrow 115 \text{ GPM}$$

Peak Flow

$$S = 81.53 \text{ GPM (Peak Flow)} \quad 81.53 \text{ (peak factor)}$$

$$T = \frac{188.25}{115 - 81.53} + \frac{188.25}{81.53} = 7.93 \text{ min.} \leftarrow 115 \text{ GPM}$$

$$RT = \frac{188.25}{115 - 81.53} = 5.62 \text{ min.} \leftarrow 115 \text{ GPM}$$

Velocity at pumping rate of 115 gpm in the 4.00 inch force main is 2.94 fps
Number of cycles per hour per pump during average daily flow 2.67 cycles
Number of cycles per hour per pump during max flow 3.78 cycles

G.

Diameter of Pump Inlet (in) d = 2.5

H (x) = 0.8 H(x) should be taller than the pump 3.00

H (min) = 2 (Operating Range)

H (lag) = 0.5 (>= 6" Per 10 State Standards)

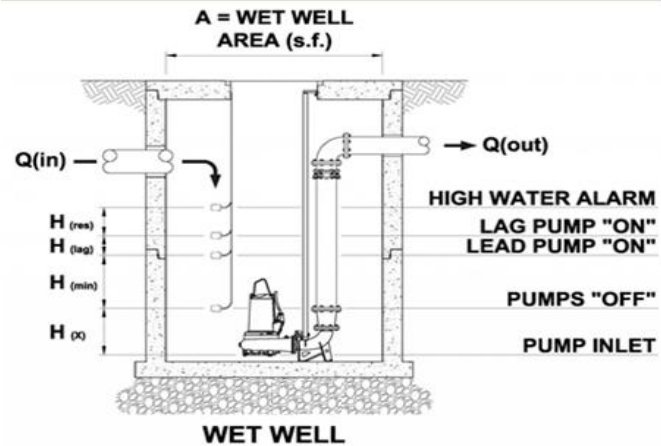
H (res) = 1 (>= 12" Per 10 State Standards)

Sewer Invert to High Water 0.5

Float Elevations

Bottom of Wetwell	4.00
Pump Off Elevation	7.00
Lead On	9.00
Both Pumps On	9.50
High Level Alarm	10.50
Invert Elevation	11.00

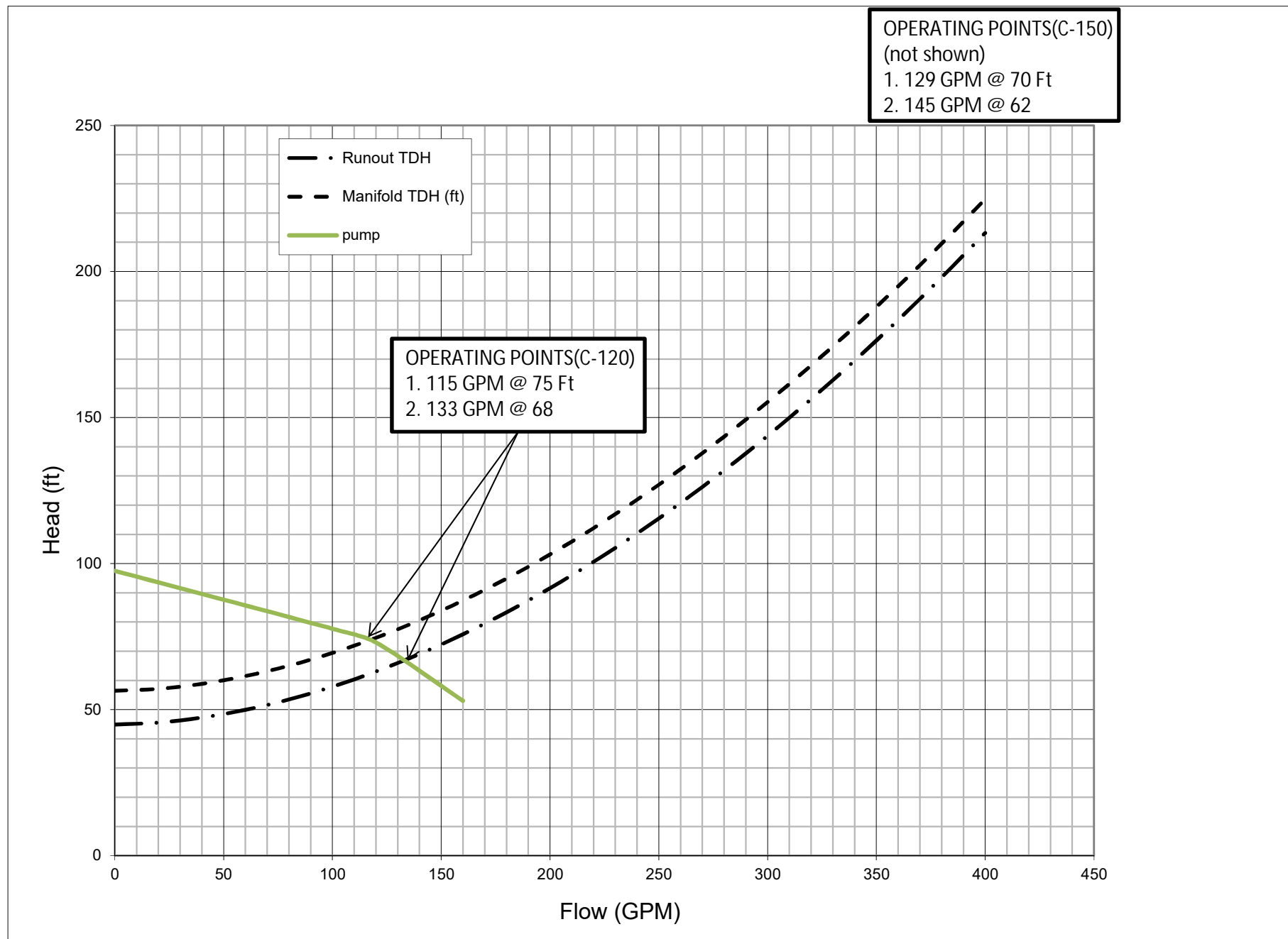
FLOAT CALCULATIONS



$$H_{(X)} = D(1 + 2.3F_D)$$

Min. Submergence to prevent cavitation

$$F_D = \frac{V}{(gD)^{0.5}}$$



Item number	: Default	Size	: Hydromatic - HPGF/HPGFX-500
Service	:	Stages	: 1
Quantity	: 1	Based on curve number	: SUB_G_O_AH_00002_B_4 Rev
Quote number	:		2012-03-23
		Date last saved	: 06 Dec 2018 8:18 AM

Operating Conditions

Flow, rated	: 100.0 USgpm
Differential head / pressure, rated (requested)	: 69.00 ft
Differential head / pressure, rated (actual)	: 77.69 ft
Suction pressure, rated / max	: 0.00 / 0.00 psi.g
NPSH available, rated	: Ample
Frequency	: 60 Hz

Performance

Speed, rated	: 1750 rpm
Impeller diameter, rated	: 10.13 in
Impeller diameter, maximum	: 10.12 in
Impeller diameter, minimum	: 7.00 in
Efficiency	: -
NPSH required / margin required	: - / 0.00 ft
nq (imp. eye flow) / S (imp. eye flow)	: 18 / - Metric units
Minimum Continuous Stable Flow	: 15.00 USgpm
Head, maximum, rated diameter	: 97.53 ft
Head rise to shutoff	: 25.54 %
Flow, best eff. point	: -
Flow ratio, rated / BEP	: -
Diameter ratio (rated / max)	: 100.00 %
Head ratio (rated dia / max dia)	: 100.00 %
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Selection status	: Acceptable

Liquid

Liquid type	: Water
Additional liquid description	:
Solids diameter, max	: 0.00 in
Solids diameter limit	: 0.00 in
Solids concentration, by volume	: 0.00 %
Temperature, max	: 68.00 deg F
Fluid density, rated / max	: 1.000 / 1.000 SG
Viscosity, rated	: 1.00 cP
Vapor pressure, rated	: 0.34 psi.a

Material

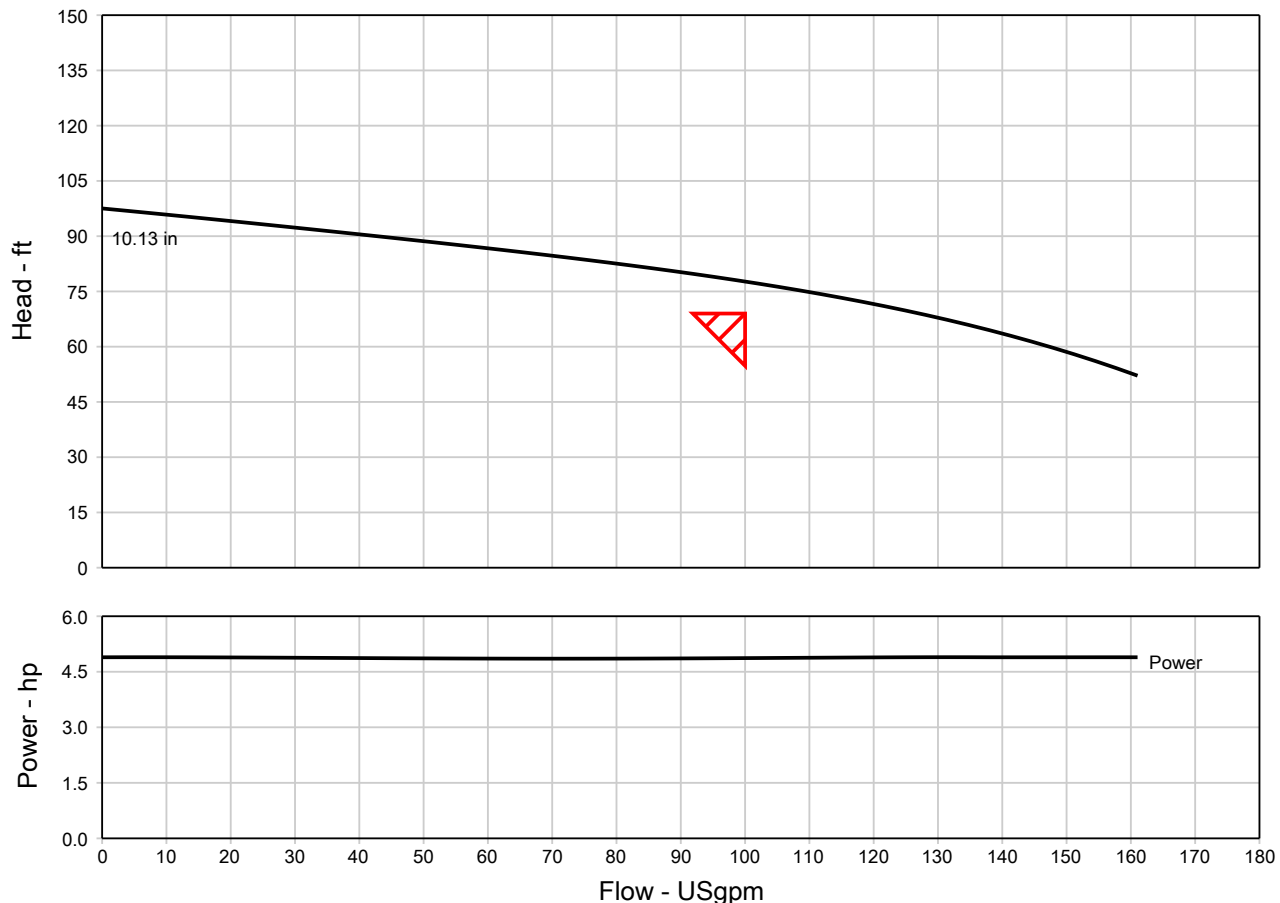
Material selected	: Standard
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Pressure Data

Maximum working pressure	: 42.21 psi.g
Maximum allowable working pressure	: N/A
Maximum allowable suction pressure	: N/A
Hydrostatic test pressure	: N/A

Driver & Power Data (@Max density)

Driver sizing specification	: Maximum power
Margin over specification	: 0.00 %
Service factor	: 1.20
Power, hydraulic	: 1.96 hp
Power, rated	: 4.87 hp
Power, maximum, rated diameter	: 4.89 hp
Minimum recommended motor rating	: 5.00 hp / 3.73 kW (Fixed)



Input Parameters		
Diameter of Wet Well (WW)	4	ft
Depth (Top to Bot of WW)	14.25	ft
Volume of Concrete for Ballast	3	cy
Overhang (each side)	1	ft

Input Parameters

<--- Number that will change (Start with a number from N
Note: Can start with the Volume of Concrete provided by

Volume of Concrete for Ballast		
Concrete Ballast	81.00	ft ³
Total	81.00	ft ³

Volume of Water Displaced		
Wet Well	179.07	ft ³
Concrete Ballast	81.00	ft ³
Total	260.07	ft ³

Volume of Soil		
On Lip of Ballast	223.84	ft ³

Weight Down Forces		
Concrete Ballast	12150.00	lb
Soil	8416.33	lb

Upward Forces (Buoyant Forces)		
Total Volume Displaced * WT Water	16228.42	lb

Calculated Forces		
Total Downward Forces	20566	lb
Total Upward Forces(Buoyant Force)	16228	lb
SF	1.27	>1.25 = good

Unit Wt		
Water	62.4	lb/cf
Soil	100	lb/cf
Concrete	150	lb/cf



**MARTIN COUNTY ENGINEERING DEPARTMENT
ENGINEER'S OPINION OF PROBABLE EXCAVATION, FILL, AND HAULING**

(To be submitted with applications for Master Site Plan or Final Site Plan approval or Excavation and Fill Permits)

NAME OF FINAL SITE PLAN: Treasure Coast Classical Academy

TYPE OF APPLICATION

*If more than 10,000 cubic yards are hauled **to or from** the site, the application must be filed as a Major Development.*

1) Net cubic yards to be excavated: 6,950
2) Net cubic yards to be filled: 23,700
3) Cubic yards to be hauled **from** site: 0 (subtract line 2 from line 1)

TYPE OF APPLICATION: **MAJOR**

HAULING FEE CALCULATION

The hauling fee for fill hauled **from** the site is calculated at \$0.21 per cubic yard and is due upon approval of the Final Site Plan application or issuance of the Excavation and Fill Permit

HAULING FEE: **\$0.00**

Prepared by:

Jordan L. Haggerty, P.E.

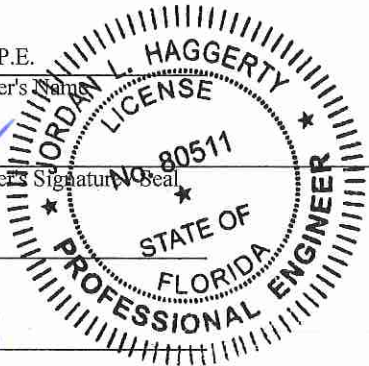
Professional Engineer's Name

J. Haggerty

Professional Engineer's Signature

80511
P.E. No.

12-11-2018
Date



Kimley-Horn and Associates, Inc.

Firm's Name and Certificate of Authorization No. (if applicable)

116 South Kentucky Ave, Lakeland, FL 33801

Address

863-701-8702

Phone No.

County Engineer's (or designee) Acceptance

Geotechnical Engineering Report

Driftwood Cay

Stuart, Florida

March 12, 2015

Dunkelberger Project No. HB145032

Prepared for:

Medalist Building Group, LLC

Stuart, Florida

Prepared by:

Dunkelberger Engineering & Testing

A Terracon Company

Port St. Lucie, Florida

DUNKELBERGER
engineering & testing, inc.

A **Terracon** COMPANY

Environmental



Facilities



Geotechnical



Materials

March 12, 2015

DUNKELBERGER
engineering & testing, inc.

A **Terracon** COMPANY

Medalist Building Group, LLC
PO Box 1067
Palm City, FL 34991

Attn: Mr. Jay D. Hansen
P: [772] 287-2010
F: [772] 287-4010

Re: Geotechnical Engineering Report
Driftwood Cay
Stuart, Florida
DUNKELBERGER Project Number: HB145032

Dear Mr. Hansen:

Dunkelberger Engineering and Testing, A Terracon Company (DUNKELBERGER) has completed the geotechnical engineering services for the above referenced project. This study was performed in general accordance with our proposal number PHB140174 dated October 9, 2014. Our agreement for services was signed by you on October 14, 2014.

This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork, the design and construction of the lift station foundation, pavements, and stormwater management design parameters for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Dunkelberger Engineering and Testing, a Terracon Company

Brent M. Langlois, E.I.
Project Geotechnical Engineer

Douglas S. Dunkelberger, P.E.
Principal
FL Registration No. 33317



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Geotechnical



Environmental



Construction Materials



Facilities

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	PROJECT INFORMATION	1
2.1	Project Description.....	1
2.2	Site Location and Description.....	2
3.0	SUBSURFACE CONDITIONS	2
3.1	Soil Survey.....	2
3.2	Historical Aerial Review	3
3.3	Typical Profile	3
3.4	Groundwater	4
4.0	RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION	4
4.1	Geotechnical Considerations	4
4.2	Earthwork.....	5
4.2.1	Site Preparation.....	5
4.2.2	Material Requirements	5
4.2.3	Compaction Requirements-Mass Fill Areas.....	5
4.2.4	Utility Trench Backfill	6
4.2.5	Earthwork Construction Considerations.....	6
4.3	Foundations	6
4.4	Dewatering.....	7
4.5	Lateral Earth Pressures	7
4.6	Pavements.....	8
4.7	Stormwater Management.....	9
5.0	GENERAL COMMENTS	11

APPENDIX A – FIELD EXPLORATION

Exhibit A-1	Topographic Vicinity Map
Exhibit A-2	U.S.D.A. Soils Map
Exhibit A-3	Boring Location Plan
Exhibit A-4	Subsurface Profiles
Exhibit A-5	Field Exploration Description

APPENDIX B – SUPPORTING INFORMATION

Exhibit B-1	Laboratory Testing
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APPENDIX C – SUPPORTING DOCUMENTS

Exhibit C-1	General Notes
Exhibit C-2	Unified Soil Classification System

GEOTECHNICAL ENGINEERING REPORT

DRIFTWOOD CAY

STUART, FLORIDA

DUNKELBERGER Project No. HB145032
March 12, 2015

1.0 INTRODUCTION

This geotechnical engineering report has been prepared for the Driftwood Cay site which will be located in Stuart, Martin County, Florida. Seven (7) hand auger borings were drilled to depths of 5 to 6 feet below the existing ground surface and a single Standard Penetration Test (SPT) boring was drilled to a depth of 35 feet below the existing ground surface. Logs of the borings along with a Boring Location Diagram (*Exhibit A-3*) are included in *Appendix A* of this report. Laboratory testing procedures are included in *Appendix B*.

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- subsurface soil conditions
- groundwater conditions
- foundation design and construction (lift station)
- lateral earth pressures
- pavement design and construction
- earthwork
- stormwater management design parameters

2.0 PROJECT INFORMATION

2.1 Project Description

Item	Description
Site layout	The boring locations are superimposed on the conceptual site layout provided by Captec Engineering, Inc. See <i>Appendix A, Exhibit A-3: Boring Location Plan</i>
Structure	The project will include a lift station and an internal roadway
Bottom of Lift Station Elevation	19 feet below the existing ground surface
Stormwater Management	Dry detention basins (1.09 acre +/-)

2.2 Site Location and Description

Item	Description
Location	The project will be located at the vacant lot southwest of the Southeast Legacy Cove Circle and Southeast Cove Road intersection in Stuart, Martin County, Florida. The lot is located to the south of SE Cove Road.
Current ground cover	Short to tall grasses with medium to dense vegetation.
Existing topography	Based on the USGS Topographic Vicinity Map (included in <i>Appendix A</i> of this report as <i>Exhibit A-1</i>), the site elevation ranges from about +15 to +18 feet (NGVD). The site contains 3.14 acres of wetlands. Spot elevations of the wetland areas obtained from Google Earth show bottom elevations between about +13 to +15 feet.
Surface Water	No surface water was found near the boring locations during our field work in January 2015.

3.0 SUBSURFACE CONDITIONS

The geology of the site is presented in the following report section. A discussion of subsurface conditions encountered in our borings follows the geology section.

3.1 Soil Survey

The Soil Survey of Martin County, Florida as prepared by the United States Department of Agriculture (USDA), Soil Conservation Service (SCS; later renamed the Natural Resource Conservation Service - NRCS), dated April 1979, identifies the primary soil type at the subject site as Waveland and Immokalee Fine Sand. It is noted that an area mapped as Waveland and Lawnwood Fine Sands, Depressional correlates with the wetland identified in the northwest quadrant of the site.

Waveland and Immokalee Fine Sand is typically described as 0 to 2 percent slopes, somewhat poorly drained sandy soils that are typically sands from 0 to 80 inches. Under natural (pre-development) conditions, the Seasonal High Groundwater Table (SHGWT) is reported to exist between 6 to 18 inches from the ground surface.

Waveland and Lawnwood Fine Sands, Depressional is typically described as 0 to 2 percent slopes, very poorly drained sandy soils that are typically sands from 0 to 29 inches followed by loamy sand from 29 to 80 inches. Under natural (pre-development) conditions, the Seasonal High Groundwater Table (SHGWT) is reported to exist at the ground surface.

It should be noted that the Soil Survey is not intended as a substitute for site-specific geotechnical exploration; rather it is a useful tool in planning a project scope in that it provides information on soil types likely to be encountered. Boundaries between adjacent soil types on the Soil Survey maps are approximate (included in *Appendix* as *Exhibit A-2*).

3.2 Historical Aerial Review

Historical aerial photographs from years 1940, 1970, 1995, 1999, 2003, 2005, 2010, and 2012 were reviewed. The site is not discernable in the 1940 aerial photograph; however, the general site area appears to be undeveloped. The 1970 aerial depicts the site relatively free of wooded vegetation with a wetland near its northwestern corner. The latter aerial photographs progressively show an increased growth of vegetation. Based on review of the aerials referenced above, the site's surface characteristics have not undergone significant changes to date except for clearing of vegetation.

3.3 Typical Profile

Based on the results of the borings, the generalized soil stratification is presented in the following table:

Stratum	Material Description	Unified Soil Classification System (USCS)
Surface	Topsoil / Grasses	PT
1	Gray or brown medium to fine SAND with traces of roots	SP
2	Brown to dark brown slightly silty to silty medium to fine SAND	SP-SM/SM
3	Dark brown silty fine SAND with roots, weakly cemented with an organic stain (hardpan)	SM

In general, below the surficial topsoil and vegetation, the auger borings found relatively clean sands in the upper 4 feet followed by slightly silty to silty sands to a depth of 6 feet bls. Some of the borings encountered weakly cemented, silty sands locally referred to as hardpan between depths of three to five feet below land surface.

The single SPT boring disclosed about 5 feet of clean sands followed by slightly silty to silty sands to a depth of 18 feet bls with an intermediate 2-foot layer of clean sands at about 11 feet bls. At deeper depths, the boring disclosed clean sands to the termination depth of 40 feet bls. The SPT N-values indicate that the sands are generally medium dense in terms of relative density.

Conditions encountered at each boring location and results of laboratory testing are indicated on the Subsurface Profiles included in *Appendix A* as *Exhibit A-4*. Stratification boundaries on the

boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Descriptions of our field exploration are included as *Exhibit A-5* in *Appendix A*. Descriptions of our laboratory testing procedures are included as *Exhibit B-1* in *Appendix B*.

3.4 Groundwater

The boreholes were observed during drilling for the presence and level of groundwater. Groundwater was observed in all of the borings between depths of 1¼ and 4¾ feet below the existing ground surface. Longer term monitoring in cased holes or piezometers, potentially installed to greater depths than explored under this project scope, would be required to better define groundwater conditions at the site.

It should be recognized that fluctuations of the groundwater table will occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the boring was performed. In addition, perched water can develop within higher permeability soils overlying less permeable soils. Therefore, groundwater levels during construction or at other times in the future may be higher or lower than the levels indicated on the boring logs.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

Based on the results of the subsurface exploration, laboratory testing, and our evaluation, it is our opinion that the proposed lift station can be supported on a slab-type (mat) foundation. Seasonal high groundwater levels should be considered in the civil engineering design for site grading, excavation, and pavements.

The Stratum 3 hardpan encountered in the borings was tested in the laboratory to measure organic content. The laboratory test measured 8.7 percent organic matter. Common characteristics of hardpan include a dark, organic stain and an augmented organic content. In our opinion, the measured organic content is typical of hardpan soils found locally and will not be problematic for support of the planned construction.

Design and construction recommendations for the foundation system, pavements, and other earth connected phases of the project are outlined below.

4.2 Earthwork

4.2.1 Site Preparation

Prior to placing any fill, all vegetation, topsoil, muck, and any otherwise unsuitable material should be removed from the construction areas. Wet or dry material should either be removed or moisture conditioned and re-compacted. After stripping and grubbing and achieving cut grades, the exposed surfaces should be mechanically compacted where possible to locate loose or soft areas. For near-surface construction, a proof-rolling process using heavy, rubber-tired equipment is the most practical compaction process. Smaller, walk-behind type compaction equipment is anticipated for use at the bottom of the lift station excavation. Unstable soil (pumping) should be removed or moisture conditioned and compacted in place prior to placing fill.

4.2.2 Material Requirements

Engineered fill should meet the following material property requirements:

Fill Type	USCS Classification	Acceptable Location for Placement
General ¹	SP, SP-SM (fines content < 12 percent, maximum particle size < 2 inches, organic content < 3 percent)	All locations and elevations

1. Strata 1 and 2 soils at this site generally appear to meet these criteria. Soils with fines content > 12 percent may retain moisture and be difficult to compact and achieve specified density and stability. These soils may need to be maintained dry of optimum to properly compact.

4.2.3 Compaction Requirements-Mass Fill Areas

Item	Description
Fill Lift Thickness	12 inches or less in loose thickness when heavy vibratory compaction equipment is used. Maximum particle size should not exceed 2 inches in a 12-inch lift. 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used. Maximum particle size should not exceed 1 inch in a 4- to 6-inch lift.
Minimum Compaction Requirements	Beneath the lift station footprint and more than one foot below pavement subgrade elevation should be compacted to at least 95 percent of the maximum dry density as determined by the Modified Proctor Test (ASTM D-1557). The upper one foot of pavement subgrades should be compacted to at least 98 percent of the maximum dry density as determined by the Modified Proctor Test (ASTM D-1557).
Moisture Content ¹	Within ± 2 percent of optimum moisture content as determined by the Modified Proctor test, at the time of placement and compaction
Minimum Testing Frequency	One field density test per 2,500 square feet per lift and one test per 5,000 square feet of driveway pavement area.

Item	Description
1	We recommend that engineered fill be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate compaction limits have not been met, the area represented by the test should be reworked and retested as required until the compaction requirements are achieved.

4.2.4 Utility Trench Backfill

All trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the lift station foundation should be backfilled with native soils to avoid creating a preferred flow path through the trenches.

4.2.5 Earthwork Construction Considerations

After initial proofrolling and compaction, unstable subgrade conditions could develop during general construction operations, particularly if the soils are wetted and/or subjected to repetitive construction traffic. Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of mat foundations and pavements. Construction traffic over the completed subgrade should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become desiccated, saturated, or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and re-compacted prior to floor slab and pavement construction.

DUNKELBERGER should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; proof-rolling; placement and compaction of controlled compacted fills; backfilling of excavations into the completed subgrade, and just prior to construction of building floor slabs.

4.3 Foundations

In our opinion, the proposed lift station can be supported by a mat foundation system bearing on firm, granular foundation soils. Our evaluation is based on mat foundation dimensions of 8 feet by 8 feet and the base of the mat constructed 19 feet below the existing ground surface. Design recommendations for the mat foundation for the proposed structure are presented in the following sections.

Description	Value
Structure	■ Lift Station
Foundation Type	■ Mat
Bearing Material	■ Suitable native soil anticipated to be relatively clean sand

Description	Value
Gross Allowable Bearing Pressure	■ 3,000 pounds per square foot (psf)
Total Estimated Settlement	■ < 1 inch
Estimated Differential Settlement	■ < ½ inch over 8-foot span

If soil conditions encountered differ significantly from those disclosed in the report, DUNKELBERGER should be notified, and supplemental recommendations will be required.

Uplift resistance can be developed from the effective weight of the foundation and the weight of any soils overlying the foundation. The maximum allowable uplift capacity should be taken as the sum of these two component divided by an appropriate factor of safety.

The base of all foundation excavations should be free of water and loose soil and debris prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at bearing level become excessively dry, disturbed or saturated, the affected soil should be removed or moisture conditioned and re-compacted prior to placing concrete. Unstable soils may be replaced with a minimum of 2 feet of coarse gravel (No. 57 stone) or lean concrete to form a firm foundation. It is recommended that the geotechnical engineer be retained to observe and test the soil foundation bearing materials.

4.4 Dewatering

Dewatering will be needed to facilitate construction of the lift station. We anticipate that due to the depth and size of the lift station excavation, traditional dewatering methods using well points and dewatering pumps will be required. In order to prepare the base of the excavation, the dewatering should be capable of lowering the groundwater level to at least two feet below the bottom of the excavation. Actual dewatering means and methods should be left up to a contractor experienced in installation and operation of dewatering systems. The contractor should provide a dewatering plan for review and approval by the engineer prior to the installation of the dewatering systems.

The contractor should consider and evaluate potential impacts on adjacent construction from groundwater drawdown.

4.5 Lateral Earth Pressures

Excavation support for the lift station construction should be designed using the soil parameters presented in the following table. Temporary surcharge and equipment loading cases should also be considered as part of this evaluation. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained.

Depth (feet)	USCS	SPT N-VALUE RANGE	Unit Weight (pcf)		Angle of Internal Friction, ϕ (degrees)	Cohesion (psf)	Earth Pressure Coefficient		
			Total	Submerged			K_a	K_p	K_o
0-5	SP	18	110	50	31	0	0.32	3.12	0.48
5-18	SP-SM / SM	12-22	100	40	29	0	0.35	2.88	0.52
18-38	SP	6-48	110	50	31	0	0.32	3.12	0.48

4.6 Pavements

For the purposes of the pavement design, we have assumed the roadway will be utilized by passenger vehicles and service trucks. The following parameters were considered in determining the recommended minimum pavement sections:

- Passenger Vehicle traffic frequency of 200 vehicles per day, 7 days per week, and 52 weeks per year
- Service Truck traffic frequency of 5 vehicles per day, 7 days per week, and 52 weeks per year
- Subgrade Resilient Modulus of 4,500 psi corresponding to a Limerock Bearing Ratio (LBR) of about 10.

The following minimum pavement sections correspond to a structural number of about 3.5

Minimum Flexible Pavement Section (inches)	
Layer	Minimum Thickness
Asphaltic Concrete (Type SP)	2
Aggregate Base (LBR=100)	10
Stabilized Subgrade (LBR=40)	12

Minimum Rigid Pavement Section (inches)	
Layer	Minimum Thickness
Portland Cement Concrete	5
Stabilized Subgrade (LBR=40)	12

The following items are applicable to asphalt concrete pavement sections.

- DUNKELBERGER recommends a minimum separation of 18 inches between the bottom of the base course and the seasonal high water table.
- Natural or fill subgrade soils to a depth of 18 inches below the base should be clean, free draining sands with a fines content passing a No. 200 sieve of 7 percent or less.
- Stabilized subgrade soils should be compacted to a minimum Limerock Bearing Ratio (LBR) value of 40 if they do not already meet this criterion, or modified/replaced with new compacted fill that meets the minimum LBR value.
- The stabilized subgrade course should be compacted to at least 98 percent of the Modified Proctor maximum dry density (AASHTO T-180 or ASTM D-1557).
- Limerock base courses from an approved FDOT source should have a minimum LBR value of 100, and be compacted to a minimum of 98 percent of the maximum dry density as determined by the Modified Proctor test. Limerock should be placed in uniform lifts not to exceed 6 inches loose thickness. Recycled limerock is not a suitable substitute for virgin limerock for base courses but may be used as a granular stabilizing admixture.
- Crushed (recycled) concrete base used in lieu of limerock base courses should meet the current FDOT specification 204 for recycled materials.
- Asphalt should be compacted to a minimum of 95 percent of the design mix density.

4.7 Stormwater Management

Design of the stormwater management system has not been completed yet, though we understand that a dry detention system is planned.

Two (2) Borehole Permeability (BHP) tests were completed at the site to evaluate the hydraulic conductivity characteristics of the upper 6 feet of the soil profile components. The tests were conducted in equipment accessible areas. Review of the provided conceptual site drawing shows the dry detention areas in the vicinities of AB-6, AB-7, and BHP-2. BHP-1 was conducted near the southwest corner of the site. The boring profiles at BHP-1 and AB-7 generally disclosed relatively clean sands extending to depths of 6 feet bls. The boring profiles disclosed at BHP-2 and AB-6 disclosed clean sands followed by a shallow layer of hardpan (Stratum 3), followed by slightly silty to silty sands. Hardpan is typically low in permeability, restrictive to the flow of groundwater, and commonly removed from beneath the bottoms of dry detention basins.

The permeability tests were conducted in a 4-inch diameter by 6-foot deep borehole whose sidewalls were stabilized with a 2-inch diameter partially perforated well screen and 6/20 silica sand. The "Usual Open Hole" and constant head test methodology as described by the South Florida Water Management District (SFWMD) was utilized for the hydraulic conductivity determination. The groundwater table was encountered at 4.8 feet and 3.9 feet bls during

testing for BHP-1 and BHP-2, respectively. The locations of the BHP tests are shown in *Exhibit A-3*.

Results of the tests are presented in *Appendix B* as *Exhibit B-1* along with the pertinent stratigraphic, geometric and hydraulic conditions existing at the site. Review of the test results show that the hydraulic conductivity of the subsoils was 5.26×10^{-5} and 7.25×10^{-5} cubic feet per second per square foot per foot head (cfs/sf-ft) at the locations of BHP-1 and BHP-2, respectively.

The field permeability test depths were in a combination of clean (high permeability) sands (Stratum 1) and somewhat silty (low permeability) sands (Strata 2 and 3). The results were moderate values reflecting an average of the two different soil types. To evaluate the high permeability sands alone, laboratory permeability testing was run on a composite sample of Stratum 1 soils. Testing was performed over a range of dry densities to develop a relationship between permeability and density. Results of the laboratory testing are presented in the table below.

Test Number	Dry Density (pcf)	Laboratory Permeability (ft/s)	(1) Field Hydraulic Conductivity (cfs/sf/ft head)	(1) Field Permeability (ft/day)
1	97	4.02E-04	3.29E-04	28.5
2	101.9	2.36E-04	1.94E-04	16.7
3	103.2	2.28E-04	1.87E-04	16.1

(1) Estimated field rates from laboratory permeability tests.

The field hydraulic conductivity, as determined using SFWMD methodology, was estimated based on *Technical Publication 87-5 December 1987: Field Testing of Exfiltration Systems* by the SFWMD and our past experience with similar soil conditions. We recommend using a hydraulic conductivity value of $1.9\text{E-}04$ cfs/sf/ft, or a permeability value of 16 feet per day, for design of the dry detention features. That would require removing Strata 2 and 3 soils from beneath the dry detention areas and replacing them with Stratum 1 soils. The depth of removal should be consistent with the thickness of the transmissive zone used in the drainage recovery model.

5.0 GENERAL COMMENTS

DUNKELBERGER should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. DUNKELBERGER also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

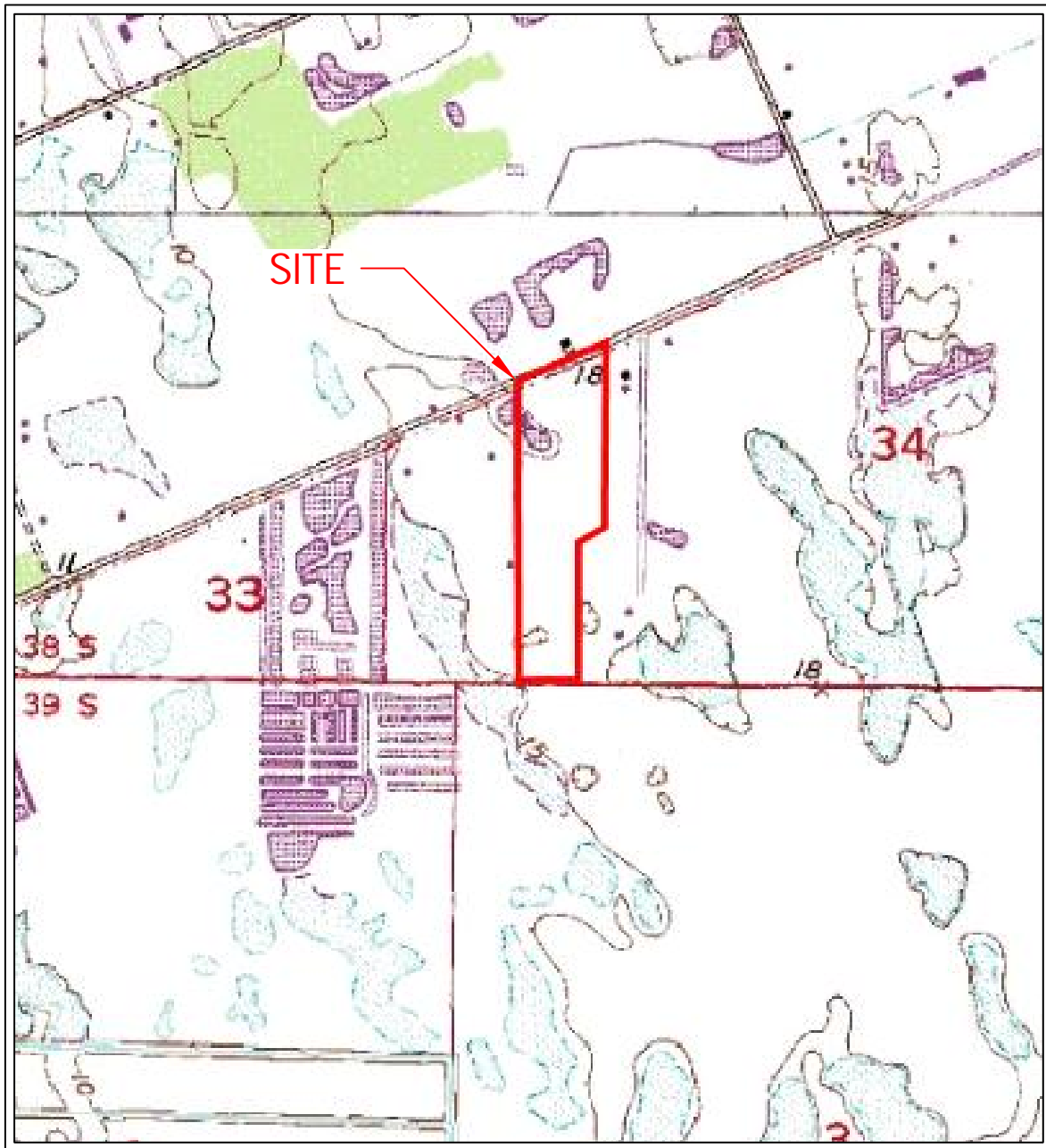
The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, and bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless DUNKELBERGER reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

FIELD EXPLORATION



SCALE 1 : 9000



CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

STUART, FLORIDA
1949; PHOTO REVISED 1983
7.5 MINUTE SERIES (TOPOGRAPHIC)



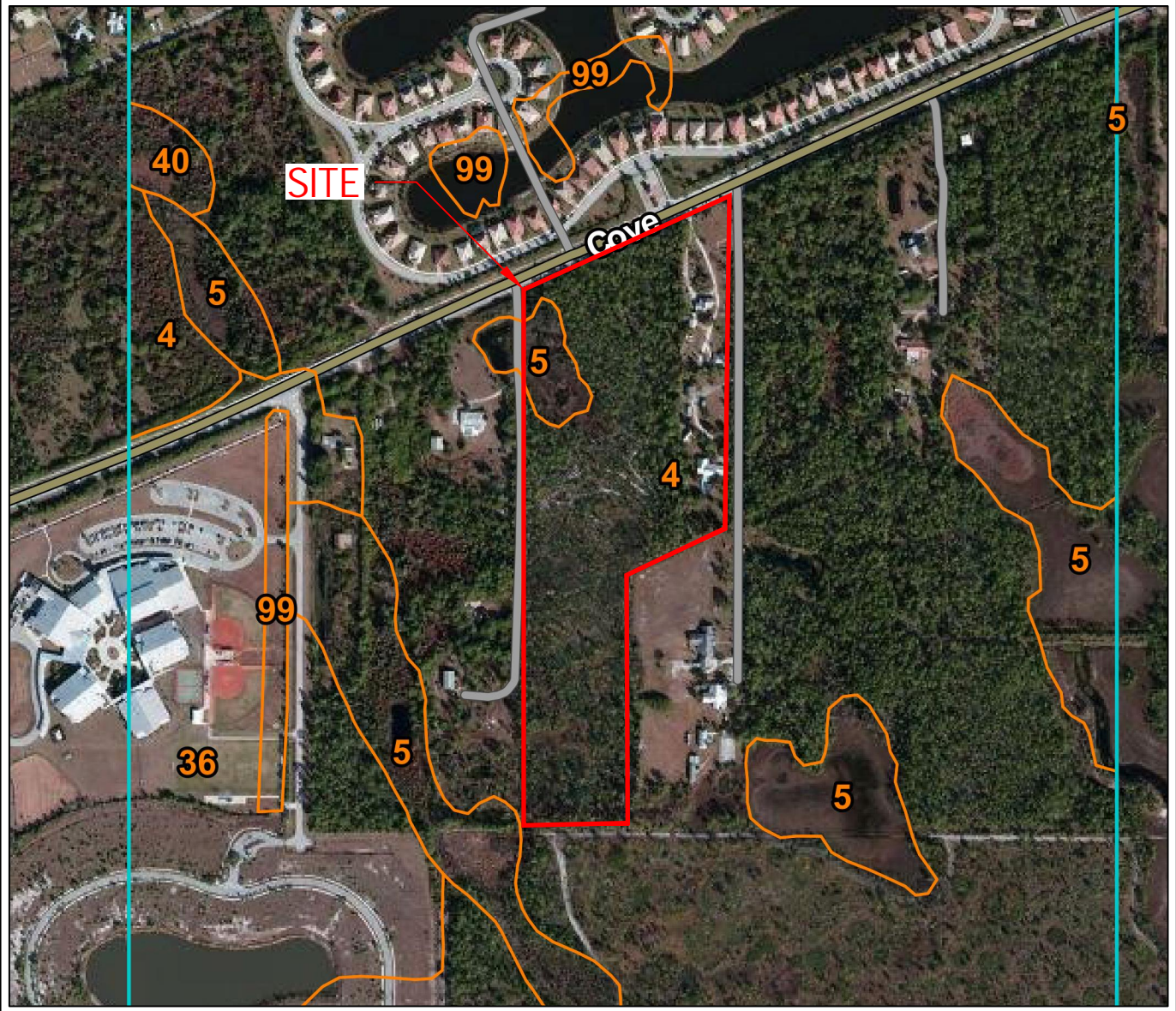
Project Mng:	BML	Project No.	HB145032
Drawn By:	BML	Scale:	AS SHOWN
Checked By:	BML	File No.	
Approved By:	DSD	Date:	1/13/15

DUNKELBERGER
engineering & testing, inc.
A Terracon COMPANY

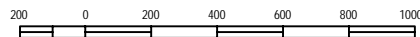
607 NW COMMODITY COVE PORT ST. LUCIE, FL 34986
PH. (772) 343-9787 FAX. (772) 343-9404

TOPOGRAPHIC VICINITY MAP
GEOTECHNICAL SITE EXPLORATION
MEDALIST BUILDING GROUP, LLC.
DRIFTWOOD CAY
Martin County
Florida

EXHIBIT
A-1



SCALE 1 : 7000



SOIL LEGEND

- 4 WAVELAND AND IMMOKALEE FINE SAND
- 5 WAVELAND AND LAWNWOOD FINE SANDS, DEPRESSIONAL

U.S.D.A. SOIL SURVEY FOR MARTIN COUNTY, FLORIDA
ISSUED: JANUARY 1987



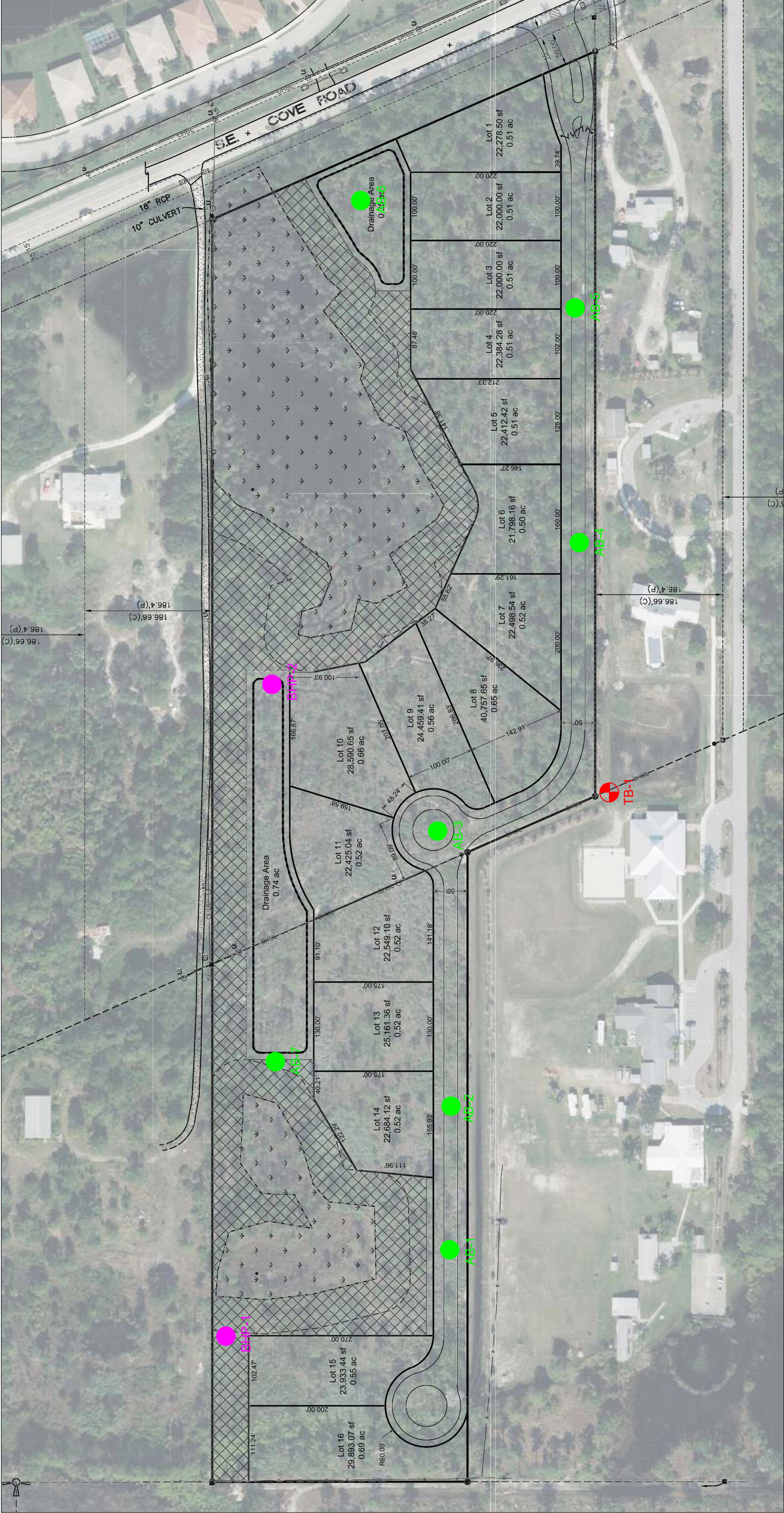
Project Mng:	BML	Project No.	HB145032
Drawn By:	BML	Scale:	AS SHOWN
Checked By:	BML	File No.	
Approved By:	DSD	Date:	1/13/15

DUNKELBERGER
engineering & testing, inc.
A Terracon COMPANY

607 NW COMMODITY COVE PORT ST. LUCIE, FL 34986
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SOILS MAP
GEOTECHNICAL SITE EXPLORATION
MEDALIST BUILDING GROUP, LLC.
DRIFTWOOD CAY
Martin County
Florida

EXHIBIT
A-2



LEGEND

- STANDARD PENETRATION TEST (SPT) BORING LOCATION AND NUMBER
- AUGER BORING LOCATION AND NUMBER

- BOREHOLE PERMEABILITY TEST LOCATION AND NUMBER



SOURCE: LUCIDO & ASSOCIATES

Locations are approximate

Project Mgr:	BML
Drawn By:	BML
Checked By:	BML
Approved By:	DSD

Project No.	HB145032
Scale:	AS SHOWN
File No.	-
Date:	1/13/15

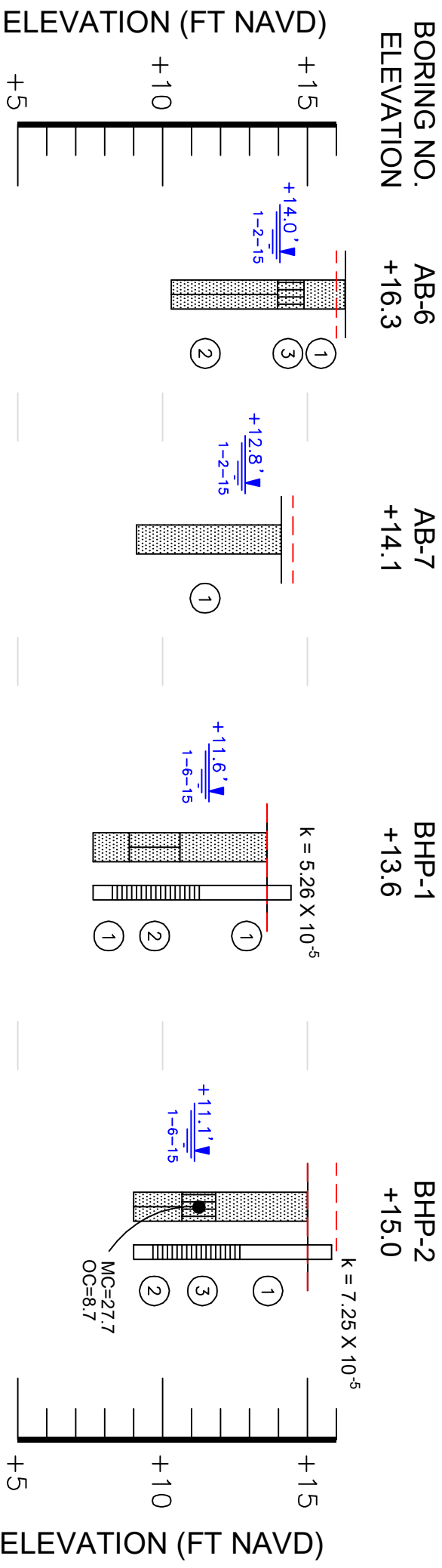
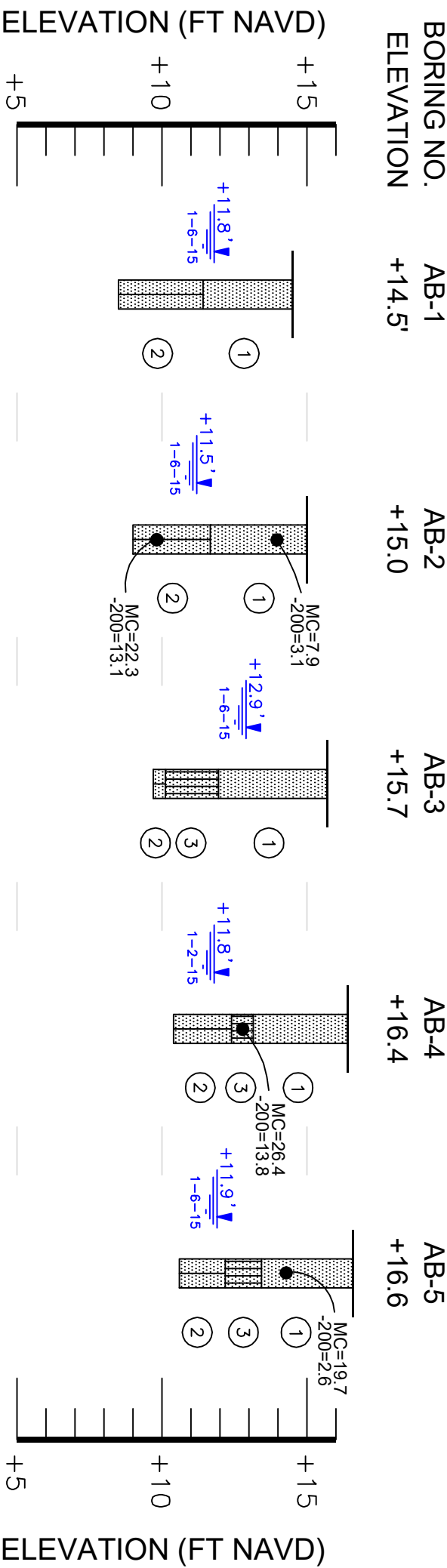
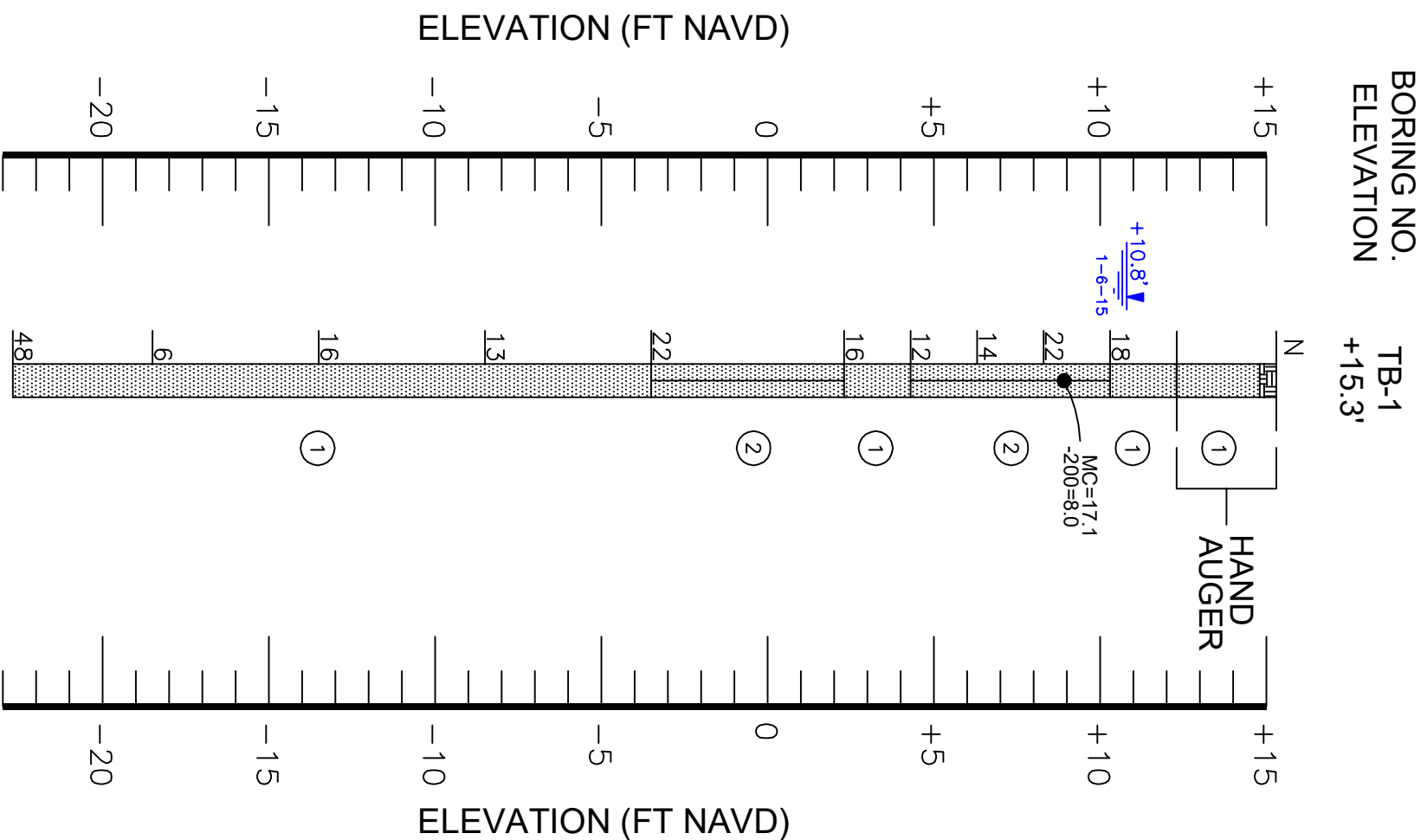
BORING LOCATION PLAN	
GEOTECHNICAL SUBSURFACE EXPLORATION	
MEDALIST BUILDING GROUP LLC	
Martin County	Florida




Consulting Engineers and Scientists

607 NW COMMODITY COVE
PH. (772) 343-9787

PORT ST. LUCIE, FL 34986
FAX. (772) 343-9404



- | | | | | | | |
|-----|---|--|---|---|---|----|
| SP | - | Unified Soil Classification System Group Symbol (ASTM D 2487) | MC | - | Moisture Content (%) | 1. |
| N | - | Indicates the number of blows of a 140 pound hammer, freely falling a distance of 30 inches, required to drive a 2-inch diameter sampler 12 inches (ASTM D 1586) | OC | - | Organic Content (%) | 2 |
| B-1 | - | Standard Penetration Test (SPT) boring and number | -200 | - | Amount finer than the U.S. No. 200 Sieve (%) | 3. |
| B-1 | - | Auger boring and number | <u>1.8'</u>  | - | Depth of groundwater (feet) and date measured | 4. |
| | - | | 10-28-14 | - | | |
| | - | | Planned bottom of dry detention areas | - | | |

NOTES

- Borings were drilled January 2, 2014 and January 6, 2014 using hand-turned auger equipment and a track-mounted BR-2500 drilling rig.
- Strata boundaries are approximate and represent soil strata at each test hole location only. Soil transitions may be more gradual than implied.
- Groundwater depths shown on the subsurface profiles represent groundwater surfaces on the dates shown. Groundwater level fluctuations should be anticipated throughout the year
- All elevations referenced are in feet with respect to the North American Vertical Datum of 1988 (NAVD)

Project Mgr:	BML	Project No.	HB145032
Drawn By:	BML	Scale:	1" = 5'
Checked By:	BML	File No.	-
Approved By:	DSD	Date:	1/27/15

DUNKELBERGER engineering & testing, inc. A Terracon COMPANY	
407 NW COMMODITY COVE PH. (772) 343-9787	PO BOX 11, LUDDE, FL 32906 FAX (772) 343-9404

SUBSURFACE PROFILES	
GEOTECHNICAL SITE EXPLORATION	
MEDALIST BUILDING GROUP, LLC.	
DRIFTWOOD CAY	
Marlin County	Florida

EXHIBIT
A-4

Geotechnical Engineering Report

Driftwood Cay ■ Stuart, Florida

March 12, 2015 ■ Dunkelberger Project No. HB145032

Field Exploration Description

The boring locations were laid out at the project site by DUNKELBERGER personnel. The locations indicated on the attached diagram are approximate and were measured by pacing distances and estimating right angles, across vegetated/wooded terrain. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

Auger borings were drilled using hand turned augering equipment. Samples of the soils were collected from the auger bucket, placed in plastic bags, labeled, and transported to our laboratory for visual-manual classification by a geotechnical engineer.

The SPT soil boring was drilled with a truck-mounted, rotary drilling rig equipped with an automatic hammer. The borehole was advanced with a cutting head and stabilized with the use of bentonite (drillers' mud). Soil samples were obtained by the split spoon sampling procedure in general accordance with the Standard Penetration Test (SPT) procedure. In the split spoon sampling procedure, the number of blows required to advance the sampling spoon the last 12 inches of an 18-inch penetration or the middle 12 inches of a 24-inch penetration by means of a 140-pound hammer with a free fall of 30 inches, is the standard penetration resistance value (N). This value is used to estimate the in-situ relative density of cohesionless soils and the consistency of cohesive soils. The sampling depths and penetration distance, plus the standard penetration resistance values, are shown on the boring logs.

Portions of the samples from the boring were sealed in glass jars to reduce moisture loss, and then the jars were taken to our laboratory for further observation and classification. Upon completion, the boreholes were backfilled with the site soil.

Field logs of the borings were prepared by the drill crew. The logs include visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. The boring logs included with this report represent an interpretation of the field log and includes modifications based on laboratory observation of the samples.

APPENDIX B – SUPPORTING INFORMATION

Geotechnical Engineering Report

Driftwood Cay ■ Stuart, Florida

March 12, 2015 ■ Dunkelberger Project No. HB145032

Laboratory Testing

During the field exploration, a portion of each recovered sample was sealed in a glass jar and transported to our laboratory for further visual observation and laboratory testing. Selected samples retrieved from the boring was tested for moisture (water) content, fines content (soil passing a US standard #200 sieve), and organic content. Those results are included in this report and on the respective boring log. The visual-manual classifications were modified as appropriate based upon the laboratory testing results.

The soil samples were classified in general accordance with the appended General Notes and the Unified Soil Classification System based on the material's texture and plasticity. The estimated group symbol for the Unified Soil Classification System is shown on the boring logs and a brief description of the Unified Soil Classification System is included in Appendix B.

APPENDIX C
SUPPORTING DOCUMENTS

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS:	Split Spoon - 1- ³ / ₈ " I.D., 2" O.D., unless otherwise noted	HS:	Hollow Stem Auger
ST:	Thin-Walled Tube - 2" O.D., 3" O.D., unless otherwise noted	PA:	Power Auger (Solid Stem)
RS:	Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted	HA:	Hand Auger
DB:	Diamond Bit Coring - 4", N, B	RB:	Rock Bit
BS:	Bulk Sample or Auger Sample	WB:	Wash Boring or Mud Rotary

WATER LEVEL MEASUREMENT SYMBOLS:

WL:	Water Level	WS:	While Sampling	N/E:	Not Encountered
WCI:	Wet Cave in	WD:	While Drilling	ESH:	Estimated Seasonal High Groundwater
DCI:	Dry Cave in	BCR:	Before Casing Removal	ESL:	Estimated Seasonal Low Groundwater
AB:	After Boring	ACR:	After Casing Removal		

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. Groundwater levels at other times and other locations across the site could vary. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels may not be possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION: Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

CONSISTENCY OF FINE-GRAINED SOILS

<u>Unconfined Compressive Strength, Qu, psf</u>	<u>Standard Penetration or N- value (SS)</u>	<u>Consistency</u>
< 500	0 – 1	Very Soft
500 – 1,000	2 – 3	Soft
1,000 – 2,000	4 – 6	Medium Stiff
2,000 – 4,000	7 – 12	Stiff
4,000 – 8,000	13 – 26	Very Stiff
8,000+	> 26	Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS

<u>Standard Penetration or N-value (SS)</u>	<u>Relative Density</u>
<u>Blows/Ft.</u>	
0 – 3	Very Loose
4 – 9	Loose
10 – 29	Medium Dense
30 – 50	Dense
> 50	Very Dense

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 – 29
Modifier	≥ 30

GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75 to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 – 12
Modifier	> 12

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity Index</u>
Non-plastic	0
Low	1 – 10
Medium	11 – 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A					Soil Classification	
					Group Symbol	Group Name ^B
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu ≥ 4 and 1 ≤ Cc ≤ 3 ^E		GW	Well-graded gravel ^F
			Cu < 4 and/or 1 > Cc > 3 ^E		GP	Poorly graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH		GM	Silty gravel ^{F,G,H}
			Fines classify as CL or CH		GC	Clayey gravel ^{F,G,H}
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Cu ≥ 6 and 1 ≤ Cc ≤ 3 ^E		SW	Well-graded sand ^I
			Cu < 6 and/or 1 > Cc > 3 ^E		SP	Poorly graded sand ^I
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH		SM	Silty sand ^{G,H,I}
			Fines classify as CL or CH		SC	Clayey sand ^{G,H,I}
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots on or above “A” line ^J		CL	Lean clay ^{K,L,M}
			PI < 4 or plots below “A” line ^J		ML	Silt ^{K,L,M}
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid limit - not dried			Organic silt ^{K,L,M,O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above “A” line		CH	Fat clay ^{K,L,M}
			PI plots below “A” line		MH	Elastic Silt ^{K,L,M}
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid limit - not dried			Organic silt ^{K,L,M,Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

^A Based on the material passing the 3-inch (75-mm) sieve

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

$$^E Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

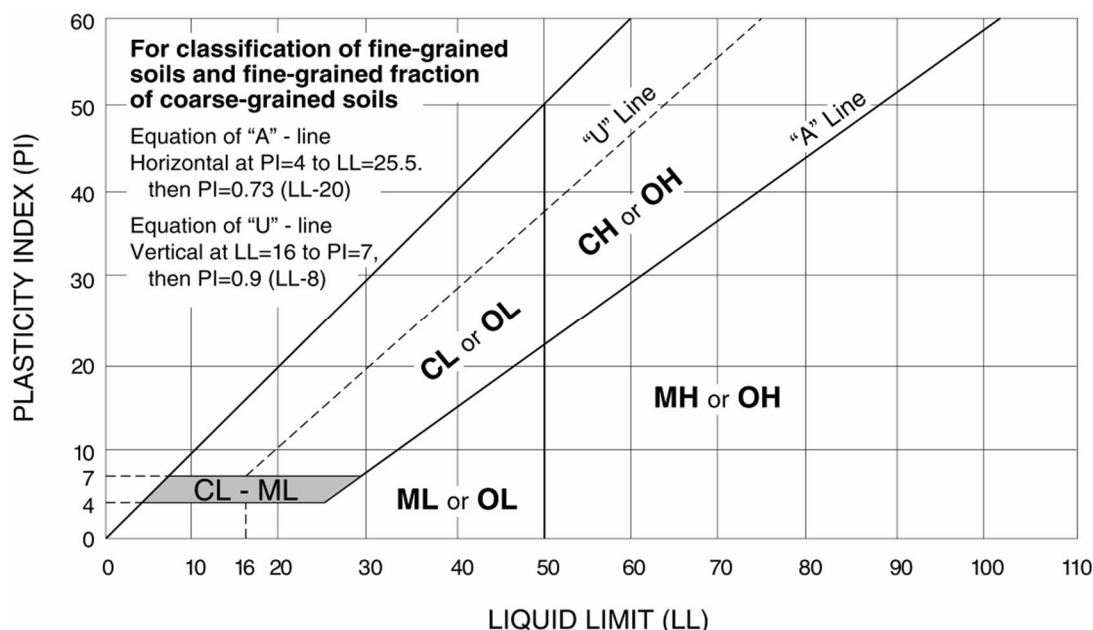
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N PI ≥ 4 and plots on or above "A" line.

^O PI < 4 or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



September 20, 2018



Medalist Building Group, LLC
PO Box 1067
Palm City, FL 34991

Attn: Ms. Ella Donaho Taylor
Director of Land Planning
P: 772-287-2010
E: lrepetti@martin.fl.us

Re: **Estimated Seasonal High Groundwater Level (SHGWL)**
Treasure Coast Classical Academy
Stuart, Martin County, Florida
Terracon Project Number: HB185032

Dear Ms. Donaho:

Terracon Consultants, Inc. (Terracon) has completed geotechnical engineering services for the above referenced project in general accordance with our Proposal and Agreement for Services (Reference No. HB185032) dated September 10, 2018.

This report presents the estimated Seasonal High Groundwater Level (SHGWL) at the location of two dry retention lakes for proposed project site.

Project Information

The project site is located at 1400 Southeast Cove Road in Stuart, Martin County, Florida. The site encompasses approximately 22 acres of vegetated, undeveloped land. Vegetation across the site generally consists of pine trees, palm trees, and saw palmettos bushes in upland areas. Site features also include wetlands located at the northwest and southwest corners of the site. The proposed project will consist of the construction of a new two-story charter school building, associated drive and parking areas, and stormwater dry retention areas.

The purpose of our work is to provide preliminary foundation recommendations associated with the new two-story charter school building as well as estimate the SHGWL to assist in design of the stormwater dry retention ponds. This report discusses the estimated SHGWL at the location of two dry retention areas. The preliminary foundation recommendations for the new charter school building were provided in our report dated September 13, 2018 (Reference Preliminary Foundations Construction & Design Recommendations).



Terracon Consultants, Inc. 645 N.W. Enterprise Drive, Suite 107 Port St. Lucie, Florida 34986
P [772] 343 9787 F [772] 343 9404 terracon.com

Geotechnical



Environmental



Construction Materials



Facilities

Estimated Seasonal High Groundwater Level (SHGWL) Letter

Treasure Coast Classical Academy ■ Stuart, Florida
September 20, 2018 ■ Terracon Project No. HB185032

Previous Geotechnical Study at Site

Terracon (formerly known as Dunkelberger Engineering & Testing), performed a geotechnical engineering study at the site which was previously identified as Driftwood Cay in circa 2015. The Driftwood Cay project site plans were to construct single-family residential structures; however, those plans have been abandoned. Our work involved drilling test borings and performing field permeability tests. The work was performed on a preliminary basis to provide foundation recommendations for a proposed lift station, pavement recommendations for the internal roadway, and hydraulic conductivity measurements for the stormwater dry detention ponds. Results of this study can be found in our Geotechnical Engineering Report (Reference No. HB145032), dated March 12, 2015.

Piezometers

On September 12, 2018, two (2) temporary piezometers were installed on site at locations selected by Kimley-Horn & Associates. The piezometers, designated PZ-1 and PZ-2, were installed using hand-turned augering tools to depths of 4 feet below the existing ground surface. The piezometers consisted of 2-inch diameter fully slotted PVC pipe. The annular space between the piezometer well screen and the borehole sidewalls was filled with 6/20 silica sand from the bottom of the borehole to the top of the well screen. The sand filter was sealed using about 6 inches of bentonite chips (to provide a low permeability seal) at the existing ground surface.

The subsurface conditions found at each piezometer location generally consisted of relatively clean sands (SP) to a depth of 4 ½ feet except for a dark brown slightly silty fine sand (SP-SM) with weak cementation and an organic stain (locally referred to as Hardpan) between 3 and 4 feet below the existing ground surface. It should be noted that the hardpan is generally restrictive to vertical infiltration and often creates a perched groundwater condition where the groundwater mounds on top of the hardpan.

Estimated Seasonal High Groundwater Level (SHGWL) Letter

Treasure Coast Classical Academy ■ Stuart, Florida

September 20, 2018 ■ Terracon Project No. HB185032

Estimated Seasonal High Groundwater Level (SHGWL)

Groundwater data collected from recently installed piezometers as well as borings performed during our previous geotechnical study is summarized below.

⁽¹⁾ Boring or Piezometer ID	⁽²⁾ Nearby Dry Retention Area Number	Ground Surface Elevation (Feet – NAVD)	Groundwater Elevation (Feet- NAVD)		
			January 6, 2015	September 12, 2018	September 14, 2018
AB-1	3	+14.5	+11.8	-	-
BHP-1	3	+13.6	+11.6	-	-
AB-3	2	+15.7	+12.9	-	-
TB-1	2	+15.3	+10.8	-	-
PZ-1	2	+15.4	-	+13.7	+13.5
PZ-2	3	+14.0	-	+12.5	+12.3

(1) Data for AB-1, BHP-1, AB-3, and TB-1 was obtained from our previous geotechnical engineering study. This data can be found in our Geotechnical Engineering Report (Reference No. HB145032), dated March 12, 2015

(2) According to the Paving, Grading, and Drainage Plan by Kimley-Horn and Associates, dated August 2018

The Seasonal High Groundwater Level (SHGWL) was researched at the site based on the groundwater data shown above as well as historical and recent rainfall data. The Seasonal High Groundwater Level (SHGWL) is considered to be the highest sustained groundwater elevation during a typical (normal or average rainfall amount) wet season and not the peak groundwater elevation immediately following a major storm event. Therefore, the SHGWL referred to in this letter is an average, high value and not necessarily a peak (upper bound) value. The SHGWL generally occurs at the end of the wet season which the South Florida Water Management District (SFWMD) identifies as the four months of June through September.

The best and most accurate method of determining the SHGWL is to obtain real-time, site-specific groundwater data through an entire hydro period (dry and wet seasons) during a year with normal rainfall. However, due to the project's design schedule, this was not feasible. The groundwater data collected in this most recent study was at specific dates in January of 2015 and September of 2018.

The South Florida Water Management District's (SFWMD) website was utilized to gather data of historic and recent rainfall for Martin County.

Estimated Seasonal High Groundwater Level (SHGWL) Letter

Treasure Coast Classical Academy ■ Stuart, Florida

September 20, 2018 ■ Terracon Project No. HB185032

In review of the rainfall data for Martin County, the wet season (June through September) of this year shows 22.4 inches which is about 91% of the historical 30-year average (1986 to 2015). Rainfall for the month of September through the 17th shows 2.1 inches which is about 68% of the historical average. The data above suggests that we are generally having an average rainfall wet season, although so far through the month of September, we are slightly less wet

The following table shows the estimated SHGWL at each piezometer installed at the two dry retention areas based on the site groundwater data and our review of rainfall data. The estimate represents an approximate 6 to 12 inch rise above the recently collected September groundwater measurements. The areas are identified on the Paving, Grading, and Drainage Plan by Kimley-Horn and Associates, dated August 2018. It is important to note that peak levels can exceed the SHGWL estimate.

Piezometer ID	Location	Ground Elevation (Feet NAVD)	September 2018 Groundwater Elevation Measured on Site (Feet NAVD)	Estimated SHGWL (Feet NAVD)
PZ-1	Dry Retention Lake 2	+15.4	+13.5	+14 to +14 ½
PZ-2	Dry Retention Lake 3	+14.0	+12.3	+13 to +13 ½

_____oOo_____

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants, Inc.

Brent M. Langlois, P.E.
Project Engineer
FL Registration No. 81336

Douglas S. Dunkelberger, P.E.
Principal
FL Registration No. 33317

To the best of my knowledge and belief, there have been no transfers of the subject property since the deed into Driftwood Cay Of Stuart, LLC was recorded in the Martin County Public Records.

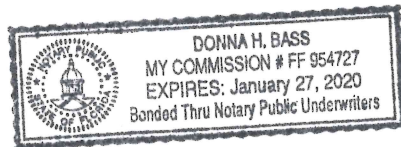
DATED THIS 10 DAY OF December, 2018

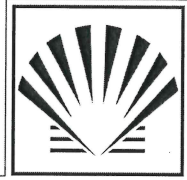
STATE OF FLORIDA
COUNTY OF MARTIN

THE FOREGOING WAS ACKNOWLEDGED BEFORE ME THIS 10 DAY OF December, 2018 BY JEREMY LEMASTER, WHO ☒ IS PERSONALLY KNOWN TO ME OR ☐ HAS PRODUCED _____ AS IDENTIFICATION.

(Print Name Beneath Signature)
NOTARY PUBLIC

MY COMMISSION EXPIRES:





**South Florida
Title Services, Inc.**

213 E. OCEAN BLVD.

STUART, FL. 34994

Phone: (772) 286-9310 Fax: (772) 286-9312

SFTS@BellSouth.net

Re: Treasure Coast Classical Academy

To Whom it may concern:

I hereby certify the attached list to be all property owners lying within a distance of 500 feet of the boundaries of the property described in Exhibit "A" attached hereto, as reflected by the Public Records of Martin County, Florida and effective November 30, 2018.

Dated this 10th day of December, 2018.

**Jill A. Brotherton
President**

Exhibit "A"
(Disclosure of Interest and Affidavit)
(Legal Description)

Being a Parcel of land, said Parcel being a portion of lot's 6 and 7 as shown on the Plat of Wa-Co Field Place as recorded in Plat Book 5, Page 62, Public Records of Palm Beach (now Martin) County, Florida, said Parcel also being a portion of the Southwest One Quarter of Section 34, Township 38 South, Range 41 East, said Parcel being more particularly described as follows:

Commence at the Point of intersection of the Southerly Right-of-Way line of Cove Road as established from the Right-of-Way Map prepared by Keith and Schnars, Inc. dated October 20, 1989 and the Westerly Line of Lot 5 as shown on said Plat of Wa-Co Field Place; Thence North $66^{\circ}12'15''$ East, along said Southerly Right-of-Way line a distance of 491.98 feet to the Point of Beginning of the following described Parcel; Thence continue along said Southerly Right-of-Way line, North $66^{\circ}12'15''$ East, a distance of 118.88 feet to the East line of Lot 7 of said Wa-Co Field Place; Thence departing said Southerly Right-of-Way line, South $00^{\circ}12'05''$ East, along the said East line of Lot 7 a distance of 1087.16 feet to the Southerly line of said Lot 7; Thence South $66^{\circ}12'38''$ West, along said Southerly line a distance of 203.91 feet to the West line of said Lot 7; Thence departing said Southerly line, South $00^{\circ}11'30''$ East along the Southerly prolongation of the West line of said lot 7, a distance of 914.12 to the the South line of the Southwest One Quarter of Said Section 34; Thence North $89^{\circ}29'09''$ West along the South line of said Southwest One Quarter a distance of 373.89 feet; Thence departing said South line, North $00^{\circ}10'19''$ West, along the Southerly prolongation of the Westerly line of said Lot 5, a distance of 608.56 feet; Thence North $89^{\circ}08'43''$ West, a distance of 148.50 feet; Thence North $00^{\circ}08'43''$ West, a distance of 209.52 feet to the South line of Lot 5 of said Wa-Co Field Place; Thence North $66^{\circ}12'38''$ East, along the South line of said Lot 5 a distance of 41.63 feet to the East line of said Lot 5; Thence North $00^{\circ}10'56''$ West, along said East line a distance of 879.05 feet; Thence Departing said East line, North $73^{\circ}14'56''$ East, a distance of 337.23 feet; Thence North $00^{\circ}12'05''$ West, a distance of 103.95 feet to the Beginning of a curve concave to the southwest having a radius of 135.00 feet; Thence Northwesterly along the arc of said curve through a central angle of $28^{\circ}20'46''$ a distance of 66.79 feet to the Point of Reverse Curvature of a curve concave to the Northeast having a radius of 165.00 feet; Thence Northerly along the arc of said curve through a central angle of $16^{\circ}36'42''$ a distance of 47.84 feet; Thence North $61^{\circ}02'01''$ West, non-tangent to the last described curve a distance of 30.26 feet to the Southerly Right-of-Way of said Cove Road and the Point of Beginning.

Containing 14.22 acres, more or less

Alfredo A & Maria Ferrari
16323 Segovia Cir.
Pembroke Pines, Fl. 33331

Douglas R. & Gail D. Banks
1260 SE Illusion Isle Way
Stuart, Fl. 34997

Vicki L. Linman
1262 SE Illusion Isle Way
Stuart, Fl. 34997

Romuald Pryputniewicz
1785 NW Harbor Pl.
Stuart, Fl. 34994

Otto Andrew & Rachelle R. Bates
1441 SE Legacy Cove Cir.
Stuart, Fl. 34997

Benjamin Shatkun and Rachel Barouh
1443 SE Legacy Cove Cir.
Stuart, Fl. 34997

Roger F. & Sandra C. Brown
1445 SE Legacy Cove Cir.
Stuart, Fl. 34997

David Kinsey
1447 SE Legacy Cove Cir.
Stuart, Fl. 34997

Dena M. Thomas & Scott Feinberg
1449 SE Legacy Cove Cir.
Stuart, Fl. 34997

Bradley & Ashley Warfield
1451 SE Legacy Cove Cir.
Stuart, Fl. 34997

Maximillan & Cassandra Koessick
1453 SE Legacy Cove Cir.
Stuart, Fl. 34997

Joseph M. Busweiler and Joanne Mazzola
7325 SE Legacy Cove Cir.
Stuart, Fl. 34997

Christopher & Dianna Tetters Revoc. Tr
7347 SE Legacy Cove Cir.
Stuart, Fl. 34997

Cove Isle Community Assn.
759 SW Federal Hwy, #316
Stuart, Fl. 34994

Terry J. & Anne McErlean
1439 SE Legacy Cove Cir.
Stuart, Fl. 34997

Eleonora C. & Edward N. Carifio
1437 SE Legacy Cove Cir.
Stuart, Fl. 34997

William & Donna Piper
1435 SE Legacy Cove Cir.
Stuart, Fl. 34997

Judith & Andre Lavoie, Trustees
1433 SE Legacy Cove Cir.
Stuart, Fl. 34997

Terry W. & Marion L. Garnett Revoc. Tr.
1431 SE Legacy Cove Cir.
Stuart, Fl. 34997

Rizzuto Family Trust
8198 SE Woodlake Ln.
Hobe Sound, Fl. 33455

Medalist Homes, LLC
P.O. Box 1067
Palm City, Fl. 34991

Steven M. Martinez
Nicholas Martinez, Jr.
1500 SE Cove Rd.
Stuart, Fl. 34997

State of Fl. South Fl Water Management
3900 Commonwealth Blvd., MS 49
Tallahassee, Fl. 32399

Larry S. Sazant, Tr.
1920 E. Hallandale Bch. Blvd.
Suite 510
Hallandale, Fl. 33009

Osiris Ramos
5945 SE General Lee Terr.
Stuart, Fl. 34997

Ronald Simon and Sherry Simon
7238 SE Pierre Cir.
Stuart, Fl. 34997

Joanna A. Marczak and
Kenneth C. Nichols, Jr.
7282 Se Pierre Cir.
Stuart, Fl. 34997

Maria Valle and Peter Skumanich
7370 SE Pierre Cir.
Stuart, Fl. 34997

Christopher Ramsdell
7281 SE Pierre Cir.
Stuart, Fl. 34997

Lisa R. & Leon Wilde
5755 SW Bald Eagle Dr.
Palm City, Fl. 34990

Samaritan House for Boys, Inc.
1490 SE Cove Road
Stuart, Fl. 34997-7504

TLH 82 Dot, LLC
2240 W. Woolbright Road
Boynton Beach, Fl. 33426

Peter J. Barber
3417 SE Jamaica Lane
Stuart, Fl. 34997

Michael J. Matakaetis
3042 SE Doubleton Dr.
Stuart, Fl. 34997

Osiris Ramos and Jeannine Ramos
5640 SE Grouper Ave
Stuart, Fl. 34997

Jennifer Savitcheff Revocable Trust
7282 SE Pierre Cir.
Stuart, Fl. 34997

Charles E. and Terry A. Cranford
7348 SE Pierre Cir.
Stuart, Fl. 34997

Tres Belle HOA
902 Clint Moore Rd
Boca Raton, Fl. 33487

Christopher & Sharon Dinges
7303 SE Pierre Cir.
Stuart, Fl. 34997

Gregory A. & Michelle S. Shahood
1419 SE Legacy Cove Cir.
Stuart, Fl. 34997

Tuan Pham & Huong H. Duong
1425 SE Legacy Cove Cir.
Stuart, Fl. 34997

Raffaele & Annita Ferrante
6901 Appaloosa Trail
Ft. Lauderdale, Fl. 33330

Owner of Record
1266 SE Illusion Isle Way
Stuart, Fl. 34997



Florida Power & Light Company

December 4, 2018

Ella Taylor
Madalist Building Group, LLC
2740 SW Mapp Rd,
Plam City, FL 34990

Re: Service Availability-- Treasure Coast Classical Academy,
1400 SE Cove Rd, Stuart FL 34997

Dear Ella:

This is to confirm that, at the present time, FPL has sufficient capacity to provide electric service to the above captioned property. This service will be furnished in accordance with applicable rates, rules and regulations.

Please provide the final site plan, site survey and electrical load data as soon as possible so the necessary engineering can begin.

Early contact with FPL is essential so that resources may be scheduled to facilitate availability of service when required.

Sincerely,

Shiran Saadon-Porter
Customer Project Manager

Water & Wastewater Service Agreement Information Form

Please complete the requested information below and return to the Martin County Utilities and Solid Waste Department. This information will be inserted into the standard "Water & Wastewater Service Agreement". The draft agreement will then be returned for your review. Note: Upon final Martin County approval of the project the owner/developer must execute the agreement and submit all applicable fees within 60 days of said approval.

Date: 12/11/2018

Project Name:
Treasure Coast Classical Academy

Of Water ERCs Proposed: 59 ERCs
Of Previously Purchased or Assessed Water ERC's (If Known): _____
Of Irrigation Water ERCs Proposed: n/a
Of Wastewater ERCs Proposed: 59 ERCs
Of Previously Purchased or Assessed Wastewater ERC's (If Known): _____

Justification of ERC calculations (i.e. flow calculations): Please see included ERC calculations

Indicate whether "DEVELOPER" as referred to in the agreement is either a(n) (please check one):

☐ Corporation - Please Provide Federal Tax ID # _____
☐ Individual(s) - Please Provide Driver's License # _____
☐ Partnership - Please Provide Federal Tax ID # _____

Name/Title, Address, and Telephone No. of Individual(s)/Corporation/Partnership executing agreement (**MUST BE THE CURRENT PROPERTY OWNER**):

Jeremy Lemaster, MGMR

2740 SW Mapp Road, Palm City, FL 34990

(772) 287-2010 ext. 5

email address: Planning@MedalistBuildingGroup.com

Name/Title of person(s) executing on behalf of Corporation/Partnership:

email address: _____

Engineer/Agent Name, Address & Telephone No.:

Jordan L. Haggerty, 116 South Kentucky Ave, Lakeland, FL 33801

2740 SW Mapp Road, Palm City, FL 34990

(772) 287-2010 ext. 5

email address: jordan.haggerty@kimley-horn.com

Name, Address & Telephone No. of Individual/Organization to receive notices, updated correspondence, etc. if different from the developer:

Jeremy Lemaster

2740 SW Mapp Road, Palm City, FL 34990

(772) 287-2010 ext. 5

email address: Planning@MedalistBuildingGroup.com

If "DEVELOPER" is a Corporation or Partnership, an original or certified copy of the appropriate corporate resolution or proof of the general partner's authority is required.

Attach a copy of the Legal Description and the Warranty Deed of the property to be serviced.

If you have any questions please contact Leo Repetti, P.E at (772) 320-3065.

Project Name: Cove Rd Charter School

Engineer: Jordan Haggerty, P.E.

ERC CALCULATIONS

Per FAC 64E.6.008

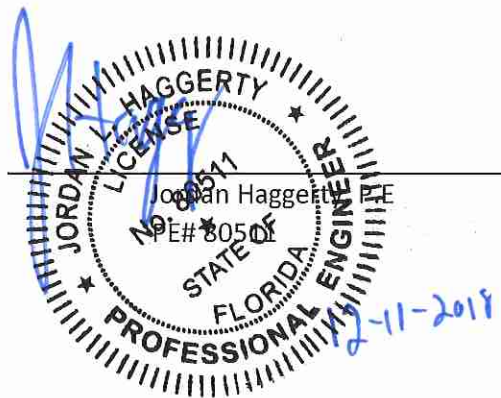
Type of Establishment	Unit (gpd)	Quantity	Measure	Total
School		14	1000 10gpd/student, 4 gpd for cafeteria	14,000 GPD (ADF)
		15	45 15gpd/school worker	675 GPD (ADF)
			TOTAL=	14,675 GPD (ADF)

1 ERC = 250 GPD

14,675GPD/ 250 GPD=

Water & Sewer

59 ERCs



Warrants Volume

Information

Analyst	JMT	Intersection	SE Cove Road & Project Drivewa
Agency/Co	KHA	Jurisdiction	
Date Performed	12/5/2018	Units	U.S. Customary
Project ID	Preliminary SWA for Peak Hours	Time Period Analyzed	AM & PM Peak
East/West Street	SE Cove Road	North/South Street	Project Driveway
File Name	SWA_100% Enrollment.xhy	Major Street	East-West

Project Description *Preliminary SWA for Peak Hours*

Warrant 1

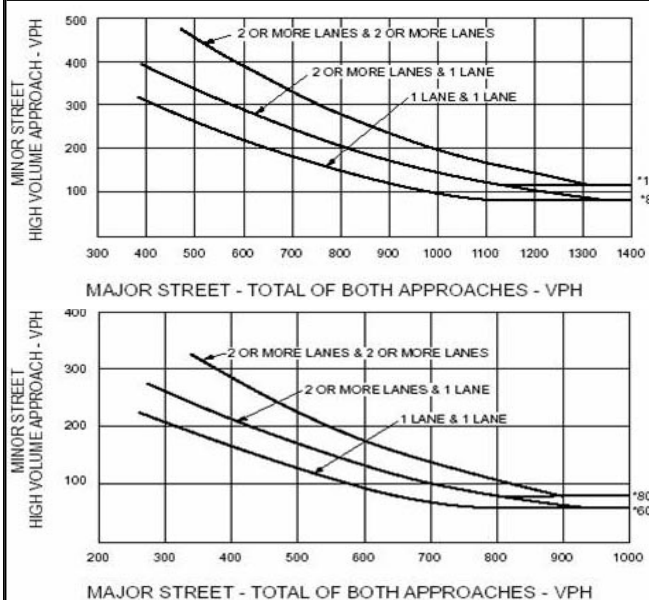
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

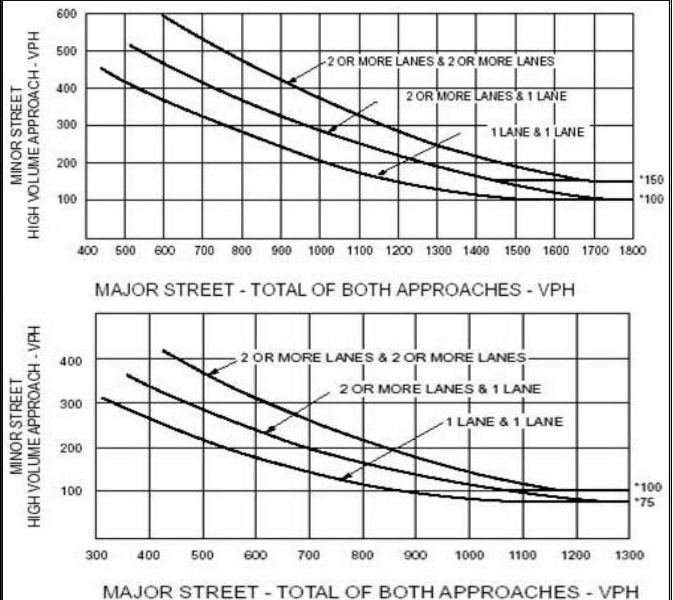
Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant 2



Warrant 3



Volume Summary

Major Street Lanes 2+			Minor Street Lanes 2+		Speed		45		Population		10000+
Hours	Major Volume	Minor Volume	Total Volume	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (70%)	
07-08	1990	535	2628	Yes	Yes	Yes	Yes	Yes	No	Yes	
08-09	0	0	0	No	No	No	No	No	No	No	
09-10	0	0	0	No	No	No	No	No	No	No	
10-11	0	0	0	No	No	No	No	No	No	No	
11-12	0	0	0	No	No	No	No	No	No	No	
12-13	0	0	0	No	No	No	No	No	No	No	
13-14	0	0	0	No	No	No	No	No	No	No	
14-15	0	0	0	No	No	No	No	No	No	No	
15-16	0	0	0	No	No	No	No	No	No	No	
16-17	0	0	0	No	No	No	No	No	No	No	
17-18	1579	92	1723	No	No	Yes	Yes	Yes	No	No	
18-19	0	0	0	No	No	No	No	No	No	No	
Totals	3569	627	4351	1	1	2	2	2	0	1	

Warrants Summary												
Information												
Analyst	JMT					Intersection	SE Cove Road & Project					
Agency/Co	KHA						Drivewa					
Date Performed	12/5/2018					Jurisdiction						
Project ID	Preliminary SWA for Peak					Units	U.S. Customary					
	Hours					Time Period Analyzed	AM & PM Peak					
East/West Street	SE Cove Road					North/South Street	Project Driveway					
File Name	SWA_100% Enrollment.xhy					Major Street	East-West					
Project Description <i>Preliminary SWA for Peak Hours</i>												
General						Roadway Network						
Major Street Speed (mph)	45	<input type="checkbox"/>	Population < 10,000				Two Major Routes			<input type="checkbox"/>		
Nearest Signal (ft)	0	<input type="checkbox"/>	Coordinated Signal System				Weekend Count			<input type="checkbox"/>		
Crashes (per year)	0	<input type="checkbox"/>	Adequate Trials of Alternatives				5-yr Growth Factor			0		
Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	1	1	1	1	1	1	0	1	1	0	1	1
Lane usage	L	T	R	L	T	R		LT	R		LT	R
Vehicle Volume Averages (vph)	6	112	18	33	123	2	17	2	31	7	2	2
Peds (ped/h) / Gaps (gaps/h)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--
Warrant 1: Eight-Hour Vehicular Volume												<input type="checkbox"/>
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--												<input type="checkbox"/>
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--												<input type="checkbox"/>
1 (56%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)												<input type="checkbox"/>
Warrant 2: Four-Hour Vehicular Volume												<input type="checkbox"/>
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)												<input type="checkbox"/>
Warrant 3: Peak Hour												<input checked="" type="checkbox"/>
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--												<input type="checkbox"/>
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)												<input checked="" type="checkbox"/>
Warrant 4: Pedestrian Volume												<input type="checkbox"/>
4 A. Four Hour Volumes --or--												<input type="checkbox"/>
4 B. One-Hour Volumes												<input type="checkbox"/>
Warrant 5: School Crossing												<input type="checkbox"/>
5. Student Volumes --and--												<input type="checkbox"/>
5. Gaps Same Period												<input type="checkbox"/>
Warrant 6: Coordinated Signal System												<input type="checkbox"/>
6. Degree of Platooning (Predominant direction or both directions)												<input type="checkbox"/>
Warrant 7: Crash Experience												<input type="checkbox"/>
7 A. Adequate trials of alternatives, observance and enforcement failed --and--												<input type="checkbox"/>
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--												<input type="checkbox"/>

7 C. (56%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	<input type="checkbox"/>
Warrant 8: Roadway Network	<input type="checkbox"/>
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	<input type="checkbox"/>
8 B. Weekend Volume (Five hours total)	<input type="checkbox"/>
Warrant 9: Grade Crossing	<input type="checkbox"/>
9 A. Grade Crossing within 140 ft --and--	<input type="checkbox"/>
9 B. Peak-Hour Vehicular Volumes	<input type="checkbox"/>

STORM WATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE PLAN

Treasure Coast Classical Academy Martin County, Florida

Description:

To ensure that the water management system servicing the Treasure Coast Classical Academy continues to operate as designed, the drainage facilities will be subject to periodic inspection and cleaning. The facilities to be maintained include roadways, storm drains, manholes, inlets, piped outfalls, and other miscellaneous drainage structures.

Purpose:

To maintain a proper water management and drainage system for protection of the proposed parking, roadways, and buildings.

Frequency:

- Mechanically sweep roadways once per year.
- Manually inspect all storm drains, manholes, inlets, piped outfalls, and other miscellaneous drainage structures yearly.
- Mow and maintain dry retention area at least 2x per month.

Recommended Work Sequence:

1. Clean roadways with mechanical street sweeper yearly.
2. Remove debris such as lumber, tree branches, leaves, trash, or other material which may cause an obstruction to drainage yearly or following significant rainfall events.
3. Check storm drains, manholes, inlets and other drainage structures for sediment, vegetation, or other debris, and if present, clean manually or mechanically with truck-mounter sewer cleaner yearly.
4. Monitor the drainage system during periods of significant rainfall to ensure that the drainage system is functioning properly. If excessive ponding of water occurs at inlets or other miscellaneous drainage structures, perform work sequence numbers 2 and 3 above. If the issue remains, begin to jet clean pipes and check for blockage or structural failure. Replace as necessary for proper functioning of the piping.

Maintenance Criteria:

The system must remain cleaned and maintained such that there are no obstructing objects in the openings for manholes, inlets, storm drains, piped outfalls, dry retention areas and other miscellaneous structures; the drainage system is to be maintained such that each structure is functioning as intended.

Equipment Required:

- Street Sweeper
- Truck-mounted sewer cleaner
- Various hand tools
- Shovels, Pry bar
- Work signs and safety equipment
- Personal safety equipment
- Mower