



TOWN OF SOUTHERN SHORES
TOWN COUNCIL REGULAR MEETING

5375 N. Virginia Dare Trail, Southern Shores, NC 27949

Phone 252-261-2394 / Fax 252-255-0876

www.southernshores-nc.gov

PITTS CENTER

Tuesday, September 07, 2021 at 5:30 PM

MINUTES

Call Meeting to Order

Pledge of Allegiance

Moment of Silence

Present

Mayor pro tem Elizabeth Morey

Council Member Jim Conners

Council Member Leo Holland

Council Member Matt Neal

Absent

Mayor Tom Bennett

Amendments to / Approval of Agenda

Town Manager Ogburn requested Council remove and table Resolution 2021-09-02 *Resolution Opposing US Fish and Wildlife Service's Proposed Designation of Critical Habitat for the Rufa Red Knot* from the consent agenda.

Consent Agenda

1. Minutes- May 4, 2021 & August 3, 2021
2. Consideration of Resolution opposing US Fish & Wildlife Service's proposed designation of critical habitat for the Rufa Red Knot
3. Resolution 2021-09-03 Awarding Badge and Service Weapon -Police Sergeant George M. Farrow. NCGS 20-187.2

Motion made by Council Member Holland to remove item #2 from the consent agenda (Resolution Rufa Red Knot) and approve items #1 and #3 on the consent agenda, Seconded by Council Member Conners. Motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

Council approved the agenda as amended by **Consensus**.

Presentations

4. Service Award- 20 Years of Service, Deputy Chief Jonathan Slegel

Police Chief David Kole recognized Deputy Chief Slegel for his 20 years of service.

Staff Reports

Deputy Town Manager/Planning Director Wes Haskett presented his department's monthly report for August. He announced the Southern Shores Planning Board will hold a Special Meeting on September 14, 2021 at 5:30 p.m. in the Pitts Center. The purpose of the special meeting is for the board to participate in an online UNC School of Government legislative zoning decisions workshop. The Planning Board will hold a regular meeting on September 20th at 5:00 p.m.

Police Chief David Kole presented his department's monthly report for August.

Fire Chief Limbacher presented his department's monthly report for August.

Town Manager Ogburn provided a summary of the following operational highlights:

- Beach Nourishment Update- On September 2, 2021 Dare County received 3 bids from dredge contractors in response to its solicitation for bids for the Town of Duck, Town of Southern Shores, Town of Kitty Hawk, and the Town of Kill Devil Hills beach nourishment projects. Weeks Marine, Inc. submitted the low bid based on the Base Bid and the Additive Bid, which totaled \$27,932,500 for all four projects. There are still several steps to take with obtaining permits. The town rate is in line with this budget. Town Manager Ogburn will be seeking easements for 12 parcels in the Town of Duck included in the northern tapper once he presents the easements to Council for approval.
- Traffic-Town Manager Ogburn recommends citizens send letters or emails to Congressman Greg Murphy in hopes of getting more attention to the Mid-Currituck Bridge. Summer traffic numbers do seem to show that the no left turn barricades had some merit. He also recommended meeting with the Town of Duck in the near future.
- Tax Bills-Town Manager Ogburn provided a detailed explanation of how beach nourishment will be displayed on a resident's tax bill. Beach nourishment is taxed on real estate and vehicle tax.
- The electric vehicle charger which was installed August 19th and has been used five times so far.
- The October meeting should include the SEPI plan with possible construction costs. He would also like to discuss Police salaries; salaries have fallen behind and it has had an impact. Even though a study was done and implemented, a year later police salaries are about \$4,000 behind the starting salary of other jurisdictions.
- Town Manager Ogburn requested Council consider moving the Wednesday, November 3, 2021 Council meeting to the following Tuesday, November 9th at 5:30 PM. The manager and two Council Members will be attendees at the NCBIWA conference which conflicts with the original council meeting date.

Motion made by Council Member Conners to reschedule the November 3, 2021 regular Council meeting for Tuesday, November 9, 2021 at 5:30 PM, Seconded by Council Member Neal. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

General Public Comment (Limit: 3 minutes per speaker.)

Public Comment-Ed Kuszmar-174 Duck Rd-would like Council to consider installing a sidewalk along the east side of NC12 in front of his property, it is a safety issue.

Public Comment-Vince Ferretti-296 Wax Myrtle Trail-commends Council for transparency of the beach nourishment taxes but does see a problem with vehicles being taxed for beach nourishment. Vehicles do not go up in value like property does, vehicles depreciate. NCGS needs to be changed when it comes to beach nourishment and should not apply to vehicles.

Public Comment-Andy Ward- 147 Bayberry Trail- The Planning Board will be taking up the temporary sign ordinance. He encouraged election candidates to follow the temporary sign rules.

Old Business

None

New Business

5. Public Hearing- SPA-21-01, a Site Plan Amendment application submitted by Aston Properties to amend the site plan for the Marketplace Shopping Center

Town Attorney Gallop opened the public hearing.

Deputy Town Manager/Planning Director Wes Haskett presented the staff report, which read as, the applicant seeks an amendment to the site plan for the Marketplace shopping center by demolishing a portion of one building and construction of a new 24,000 sq. ft. Marshalls, a new 6,000 sq. ft. retail space for a business to be determined, and parking lot modifications. The proposed parking lot modifications include the use of permeable pavers in order to be eligible for a maximum lot coverage of 67% instead of 60%. Currently, the proposed lot coverage is 67.1%. As of September 1, 2021, we have not received enough documentation to determine the permeability of the proposed pavers which could affect the square footage of permeable pavers required.

The proposed signage for Marshalls includes three wall signs, one under canopy sign, and one name plate on the freestanding sign which are in compliance with the Town's sign requirements. There are 150 proposed parking spaces with 102 of them being permeable and a total of 613 parking spaces for the site which are in compliance with the Town's parking requirements. A lighting plan and required documentation have also been provided that demonstrate compliance with the Town's outdoor lighting requirements.

The Land Use Plan identifies this area as Commercial in the C, General Commercial zoning district which is consistent with the improvements proposed in the application. All applicable regulations of the Town Zoning Ordinance and all of Town Staff's concerns that are applicable to this application have been identified or are addressed in the recommended conditions. Town Staff recommends conditional approval of the application and the Town Planning Board unanimously

(5-0) recommended conditional approval of the application at the August 16, 2021 Planning Board meeting. Both recommend the following conditions:

1. The following approvals shall be issued prior to submittal of a Building Permit application:
 - a. Soil Erosion Sedimentation Control Plan Permit for land disturbance over 1 acre as issued by the NCDEQ;
 - b. Stormwater Management Permit as issued by the NCDEQ;
 - c. Wastewater approval by the Dare County Health Dept. (tentative approval received from the Dare County Health Dept. and the N.C. Dept. of Health and Human Services).
 - d. Review and approval of potable water distribution system modifications or extensions by the Dare County Water Dept. (tentative approval received).
2. Lot coverage shall be reduced to not exceed 67% prior to submittal of a Building Permit application.
3. Documentation showing the proposed permeable paver product and its permeability shall be submitted prior to submittal of a Building Permit application.
4. The applicant must strictly abide by all requirements of the Town Code and must also strictly comply with all other applicable local, State, and Federal requirements.
5. Prior to issuance of a Building Permit, the Town Engineer and the applicant's representative shall evaluate the existing stormwater system for glaring deficiencies and address them.

Councilman Neal asked how "glaring conditions" are determined in condition #5. Town Engineer Joe Anlauf stated condition number 5 is to basically make sure there is no failure.

Councilman Connors asked the Town Engineer what he thought the state would say about the storm water system being built so many years ago. Mr. Anlauf stated it would probably be eligible for an exemption and that the storm water system appears to be in good shape and most likely there will be no need for drastic re-work.

Councilman Holland asked Karen Partee from Aston Properties how flexible Marshalls was about the trees in the front? Ms. Partee stated Marshalls was not flexible in that area at all. There is no visibility to the stores.

Town Attorney Gallop called for comment and the following citizens provided comment:

Public Comment-Brian Hedrick-17 Palmetto Dr-concerned with the noise and construction debris. Was hoping for better noise abatement than a fence. Concerned with dumpsters being serviced so early in the morning.

Public Comment-Ann Sjoerdsma-232 N Dogwood Trl-The Planning Board was very thorough, and she is hesitant to say anything. Not consistent with the Land Use Plan Vision Statement of 2008; community served by small commercial district. Opposed to the removal of the grove in the parking lot, 6000 square foot store with no tenant, the land use goals and policies of 2008 stated no big box retailers.

Public Comment-Karen Partee, Aston Properties-we will abide by all requirements and construction requirements. She will talk to the property manager about the servicing of the dumpsters in the early morning. Marshalls is a Jr. box, not a big box store. This will be an opportunity to revitalize the Marketplace Shopping Center, a turning point. The tree removal is not a parking space issue, it is a visibility issue. Tenants need to be visible, and signage

needs to be visible. CVS's lease is coming up for renewal and Aston properties is hoping to keep them as a tenant. Would hope the Council will join in helping revitalize the commercial community.

Public Comment-Lilias Morrison-43 Fairway Drive- remember that the Daniels Department Store used to be in the Marketplace. She remembers it being larger than the proposed Marshalls. There was also a Cinema and two upscale restaurants, and a dress shop. There was not enough business to keep the restaurants going. The impact of Marshalls will be beneficial. She hates to see the trees go but understands the visibility. The Town will be better once again.

Public Comment-Patricia (Trisha) Farinholt, 69 Ocean Blvd.-you cannot see all the stores in Duck, yet they are busy. Council has the ability to change the terms.

Hearing no other comments, Town Attorney Gallop closed the public hearing and called on Council for their consideration.

Councilman Conners stated the big box store comment was interesting, as Food Lion is that large. The trees that are being removed are sweetgums and pines and will be replaced with other trees in other areas. There is essentially no "local" business in the Marketplace now, as it is made up of a Starbucks, Jersey Mikes, Verizon, CVS, Dollar Store and Food Lion. He stated he is in favor of approving the site plan with the proposed Planning Board conditions.

Councilman Neal asked Planning Director Haskett if Council had any jurisdiction on the building itself, esthetics. Mr. Haskett stated the Town did not. Councilman Neal stated he had no questions.

Councilman Holland stated he likes his trees but understands that Marshalls is not flexible in that area. We need a viable commercial area. The Marketplace is on life support, and we do not want it to look like the current empty Kmart.

Mayor pro tem Morey thanked Lilias Morrison for the reminder of previous establishments in the Marketplace. The Marketplace has really struggled and in general we are getting something the Town needs.

Motion made by Council Member Conners to approve SPA-21-01 as submitted with conditions 1-5 as recommended by the Planning Board, Seconded by Council Member Holland. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

Mayor pro tem Morey called for a short recess at 6:54 p.m. Council reconvened at 7:03 p.m.

6. Financial Advisory Agreement and Budget Amendment #11

Town Manager Ogburn addressed agenda items #6 and #7 simultaneously.

The Financial Advisory Agreement details the services provided by DEC Associates, INC for financial closing of the Town's Beach Nourishment/Shoreline Protection project. Prior to this agreement,

the Town previously contracted with DEC Associates for planning purposes. The amount of the financial agreement is \$30,000 plus an additional \$2500 for incidentals.

Town Manager Ogburn stated budget amendment #11 covers the financial agreement plus incidentals, and an additional \$12,500 for Local Government Commission Fees, for a total of \$45,000.

Motion made by Mayor pro tem Morey to approve the Financial Advisory Agreement with DEC Associates, Seconded by Council Member Conners. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

Motion made by Council Member Holland to approve the associated budget amendment #11, Seconded by Councilman Conners. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

7. Southern Shores Beach Nourishment Projects - Initial Resolution #2021-09-01 Directing the Application to the Local Government Commission for Approval of a Special Obligation Bond; Requesting Local Government Commission Approval of The Town's Special Obligation Bond; and certain related matters

State law G.S. 120 - 157.1 – 157.4 adopted and effective on June 24, 2011 requires that certain capital projects to be financed with debt in an amount exceeding \$1,000,000 be reported to the Joint Legislative Committee on Local Government and to the Fiscal Research Division of the North Carolina General Assembly.

Resolution 2021-09-01 required a “findings” resolution directing the application for 2021 Special Obligation Bonds to the Local Government Commission for approval.

Motion made by Council Member Conners to approve Resolution 2021-09-01, Seconded by Mayor pro tem Morey. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

8. Consideration of Dare County Tourism Impact Grant

Town Manager Ogburn provided a summary which stated staff is requesting authorization to apply to the Dare County Tourism Board for a Tourism Impact Grant. The grant request would be for funding to secure traffic data that will be instrumental in helping the Town better evaluate and understand the impacts that tourism related traffic generates. Further funding may be requested to purchase equipment used to mitigate the impacts of tourism generated traffic. The town has contracted in previous summers to place signage and barricades along US 158 at South Dogwood to prohibit left hand turns on to South Dogwood. The grant request would be in an amount not to exceed \$50,000 and requires no match. The information collected is likely useful on a county wide level.

Companies such as Streelight Data, collect location records from smart phones and navigation devices in connected cars and trucks. Data is derived from navigation-GPS data and Location-Based Services (LBS) data. Adding context from numerous other sources like parcel data and digital road network data, they can develop a view into traffic patterns in Southern Shores as well as all of Dare County.

This data can help to better understand where the traffic that cuts through the residential streets of Southern Shores originates from including from within the county or out. We can determine the volume of traffic that uses Southern Shores as a cut through by either turning off US 158 or NC 12, and where it exits the residential streets including the turning movements in general. This information would be on a platform that we can access and analyze data to see the routes taken to and through the Town.

Mayor pro tem Morey stated perhaps this will provide some resources to deal with the impact of tourism.

Councilman Holland stated the traffic counts numbers have been shared with the Tourism Board.

Motion made by Council Member Neal to authorize the Town Manager to apply for a DCTB Tourism Impact Grant, Seconded by Council Member Holland. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

9. Consideration of FEMA Building Resilient Infrastructure and Communities (BRIC) Grant and Budget Amendment

The Building Resilient Infrastructure and Communities (BRIC) Program, is funded by FEMA and administered through a partnership with the North Carolina Division of Emergency Management (NCEM). NCEM has the authority and responsibility for developing and maintaining a State Standard Hazard Mitigation Plan, reviewing the Building Resilient Infrastructure and Communities Program sub-applications, recommending technically feasible and cost-effective sub-applications to FEMA and providing pass-thru funding for FEMA-approved and awarded project grants to eligible sub-applicants. Letters of Interest are due no later than October 1, 2021 at 5:00 pm.

The proposed project areas are included in the NC 12 Drainage Study completed by VHB Engineering in cooperation with the Town of Duck, and NCDOT, to address potential solutions to flooding throughout the roadway corridor. Staff submitted a Letter of Interest for funding in 2020 for the identified solution at the Sea Oats project and was invited to submit a full application for FEMA's consideration. However, staff was unable to pull together the required documentation and meet the pre-application planning requirements in time to submit a full application. Attached is a contract provided by VHB Engineering NC, P.C. for grant application assistance to better position the town to submit a full and competitive application. The application will require pre-design level of refinement of the initial concepts included in the 2006 report in order to develop construction cost estimates, address potential right-of-way impacts, address grading and drainage issues, and confirm environmental compliance and permitting requirements. However, the preliminary engineering, final design, construction documents, environmental compliance

documents and permitting of the drainage projects will be accomplished under a separate contract pending the actual grant award.

The NC12 corridor in Southern Shores has inadequate drainage or stormwater infrastructure in place to provide conveyance of roadway drainage to adequate receiving systems. Instead, the sandy soils within the corridor provide for infiltration of stormwater runoff from the roadway and contributing runoff from public side streets. The roadway floods frequently from storm events of various intensities due to the lack of drainage infrastructure and periods of saturated soils. This situation caused extensive flooding in the lowest areas along the corridor, negatively impacting residents, tourists, and emergency personnel. Although an extreme, this was indicative of sub-standard drainage conditions, and helped reinforce the need for improvements along NC12, thereby leading to this request.

Councilman Neal asked the Town Manager if American Rescue Plan Act Funds (ARP) could be used towards the grant. Town Manager Ogburn stated it could not.

Mayor pro tem Morey inquired if there was a state fund for BRIC. Town Manager Ogburn replied yes.

Motion made by Council Member Neal to approve the Budget Amendment #12 and authorize the Town Manager to sign the grant application contract with VHB Engineering NC, Seconded by Mayor pro tem Morey. The motion passed unanimously (4-0).

Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

General Public Comment

None

Council Business

Councilman Holland provided the monthly Tourism Board report. Occupancy for the month of June was up 24%, 103% year to date. Meals were up 37%, 88% year to date.

Councilman Neal thanked Police Sergeant George Farrow for his 25 plus years of service and asked Chief Kole if Sgt. Farrow would be in attendance before his official retirement, so that Council could formally thank him and wish him well in his retirement. Police Chief David Kole stated Sergeant Farrow will be in attendance at a future meeting.

Councilman Conners provided an update on the Monarch Flyway, stating planting will start in late October. He also stated the Government Access Committee will be meeting soon for their regular meeting and the Room at the Inn homeless shelter program recently provided mental health training and resources.

Mayor pro tem Morey thanked the residents for attending and asked everyone to please remain vigilant with virus mitigation efforts.

Adjourn

Hearing no further business, **Motion** made by Council Member Holland to adjourn the meeting at 7:36 p.m., Seconded by Council Member Conners. The motion passed unanimously.
Voting Yea: Mayor pro tem Morey, Council Member Conners, Council Member Holland, Council Member Neal

ATTEST:



Thomas G. Bennett, Mayor



Respectfully submitted,



Sheila Kane, Town Clerk



TOWN OF SOUTHERN SHORES, NORTH CAROLINA

MEMORANDUM

TO: Mayor Bennett and Members of the Town Council

FROM: Cliff Ogburn, Town Manager

SUBJECT: Police Sergeant Retirement Resolution – Awarding Badge & Gun
(Resolution #2021-09-03)

DATE: Sept. 7, 2021

Attached please find a resolution awarding badge and service weapon to Police Sergeant George M. Farrow. NCGS 20-187.2 authorizes municipal governing bodies, at their discretion, to award to a retiring law enforcement officer the badge and service sidearm carried during his service with the local government. The statute requires the governing body to determine a price for the service sidearm and further requires that the retiring officer obtain the appropriate permit in accordance with the NCGS 14-402. The resolution recognizes Sergeant Farrow for his dedication to duty and his service to the Town of Southern Shores. Also, the resolution requests the value of the service sidearm be established at \$1 and authorizes the Town Manager to transfer to Sergeant Farrow the service sidearm carried and a retired badge similar to the badge worn during his service with the Southern Shores Police Department.



**TOWN OF SOUTHERN SHORES, NORTH CAROLINA
RESOLUTION #2021-09-03**

**RESOLUTION HONORING POLICE SERGEANT GEORGE M. FARROW FOR 25+ YEARS
OF SERVICE & AWARDING HIM HIS RETIRED BADGE AND SERVICE SIDEARM**

WHEREAS, George M. Farrow joined the Town of Southern Shores Police Department on October 22, 2012 and held the ranks of Patrolman and Sergeant; and

WHEREAS, Sergeant Farrow's service and dedication to the Southern Shores Police Department and accomplishments in the field of law enforcement are hereby recognized and commended; and

WHEREAS, G.S. 20-187.2 provides that retiring members of municipal law enforcement agencies may receive, at the time of their retirement, the badge or a retired badge similar to the badge worn or carried by them during their service with the municipality; and

WHEREAS, G.S. 20-187.2 further provides that the governing body of the municipal law enforcement agency may, in its discretion, award to a retiring member the service sidearm of such retiring member at a price determined by the governing body, upon securing a permit as required by NCGS 14-402 et seq; and

WHEREAS, George M. Farrow has served for over twenty-five total years in law enforcement and nine of those years as a member of the Southern Shores Police Department and is retiring from the Southern Shores Police Department on September 30, 2021; and

WHEREAS, the Town Council members of the Town of Southern Shores hereby determines One and No/100 Dollars (\$1.00) to be the value of the service sidearm carried by George M. Farrow, a Glock 45 caliber, Model 21, serial number WTK448.

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Southern Shores, North Carolina as follows:

1. The Town Manager is hereby authorized in accordance with the provisions of G.S. 20-187.2 to transfer to George M. Farrow a retired badge similar the badge worn by him during his service with the Southern Shores Police Department; and
2. The Town Manager is hereby authorized in accordance with the Provisions of G.S. 20-187.2 to transfer to George M. Farrow his service sidearm for and in consideration of the sum of One and No/100 Dollars (\$1.00) received from George M. Farrow and upon his securing a permit as required by NCGS 14-402.

BE IT FURTHER RESOLVED that the Town Council of the Town of Southern Shores do hereby extend their best wishes to Sergeant George M. Farrow and his family for a long, happy and healthy retirement.

This Resolution adopted this 7th day of September 2021.

Tom Bennett, Mayor
Town of Southern Shores

ATTEST: _____
Sheila Kane, Town Clerk

STAFF REPORT

To: Southern Shores Town Council
Date: September 7, 2021
Case: SPA-21-01
Prepared By: Wes Haskett, Deputy Town Manager/Planning Director

GENERAL INFORMATION

Applicant: Aston Properties
 610 E. Morehead St.
 Charlotte, NC 28202

Requested Action: Site Plan Amendment application submitted by Aston Properties to amend the site plan for the Marketplace shopping center.

PIN #: 986720717057
Location: 5500 N. Croatan Hwy.
Zoning: C, General Commercial District

Existing Land Use: “Commercial”

Surrounding Land Use & Zoning:

North- Residential; RS-1, Single-Family Residential District
South- Highway 158, Town of Kitty Hawk
East- Commercial; C, General Commercial District
West- Commercial; C, General Commercial District

Physical Characteristics: Developed (existing Group Development)

Applicable Regulations: Town Zoning Ordinance: Article III, Interpretation and Definition of Terms; Article IV, Application of Regulations; Article VI, General Provisions; Article VII, Schedule of District Regulations; Article X, Administration and Enforcement.

ANALYSIS

The applicant seeks an amendment to the site plan for the Marketplace shopping center by demolishing a portion of one building and construction of a new 24,000 sq. ft. Marshalls, a new 6,000 sq. ft. retail space for a business to be determined, and parking lot modifications. The proposed parking lot modifications include the use of permeable pavers in order to be eligible for a maximum lot coverage of 67% instead of 60%. Currently, the proposed lot coverage is 67.1%. As of September 1, 2021, we have not received enough documentation to determine the permeability of the proposed pavers which could affect the square footage of permeable pavers required.

The proposed signage for Marshalls includes three wall signs, one under canopy sign, and one name plate on the freestanding sign which are in compliance with the Town’s sign requirements. There are 150 proposed parking spaces with 102 of them being permeable and a total of 613 parking spaces for the site which are in compliance with the Town’s parking requirements. A lighting plan and required documentation have also been provided that demonstrate compliance with the Town’s outdoor lighting requirements.

RECOMMENDATION

The Land Use Plan identifies this area as Commercial in the C, General Commercial zoning district which is consistent with the improvements proposed in the application. All applicable regulations of the Town Zoning Ordinance and all of Town Staff's concerns that are applicable to this application have been identified or are addressed in the recommended conditions. Town Staff recommends conditional approval of the application and the Town Planning Board unanimously (5-0) recommended conditional approval of the application at the August 16, 2021 Planning Board meeting. Both recommend the following conditions:

1. The following approvals shall be issued prior to submittal of a Building Permit application:
 - a. Soil Erosion Sedimentation Control Plan Permit for land disturbance over 1 acre as issued by the NCDEQ;
 - b. Stormwater Management Permit as issued by the NCDEQ;
 - c. Wastewater approval by the Dare County Health Dept. (tentative approval received from the Dare County Health Dept. and the N.C. Dept. of Health and Human Services).
 - d. Review and approval of potable water distribution system modifications or extensions by the Dare County Water Dept. (tentative approval received).
2. Lot coverage shall be reduced to not exceed 67% prior to submittal of a Building Permit application.
3. Documentation showing the proposed permeable paver product and its permeability shall be submitted prior to submittal of a Building Permit application.
4. The applicant must strictly abide by all requirements of the Town Code and must also strictly comply with all other applicable local, State, and Federal requirements.
5. Prior to issuance of a Building Permit, the Town Engineer and the applicant's representative shall evaluate the existing stormwater system for glaring deficiencies and address them.



1805 West City Drive
Unit E
Elizabeth City, NC 27909

P 252.621.5030
F 252.562.6974
www.timmons.com

August 9, 2021

Mr. Wes Haskett, Planning Director
Town of Southern Shores
5375 N. Virginia Dare Trail,
Southern Shores, NC 27949

RE: Modification to The Marketplace
At Southern Shores
Timmons Project No. 44588

Dear Wes:

Please accept the following submittal for Planning Board Review:

1. 12 copies of Civil Site Plan Design
2. 12 copies of the building rendering with signage calculations.
3. 12 copies of the lighting plans with supporting lighting cut sheets.
4. A copy of the willingness serve letter from Dare County Water which also states approval for the reduction of cover from 36 inches to 30 inches.

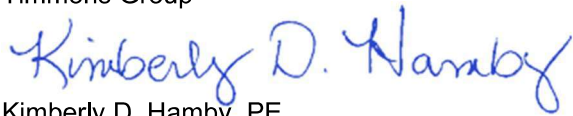
The revised plans have incorporated responses to comments that have been made by you and Mr. Joe Anlauf.

1. We have now provided the require pervious pavement in excess of the minimum required per your calculation. The product proposed is permeable pavers.
2. I have added to the landscape plan and indicated that the area of development does contain more than 15% open space. I would like to further discuss with you the comment regarding a landscape buffer and whether that is applicable for this design.
3. We have corrected the grading labels and have added a few existing spot grades to help illustrate how the rear portion of the site will drain.
4. We have added information on the area of disturbance which is substantially larger than previous due to the removal of pavement for installation of the pervious pavers. We will be filing for erosion control and stormwater permits once the scope of development work is approved by the Town.
5. The waterline changes will require permitting through NCDEQ – Public Water Supply. We are working with Dare County to insure compliance with their specifications.
6. We have added a “connection to sewer manhole” detail.
7. The water pumped from the well point systems for dewatering for waterline installation will be routed through a sediment bag that will be allowed to discharge on the existing pavement. This water should not contain sediment; however, gutter protection is provided at each flume that discharges from that area.

At the time of publishing our plans and documents for this submittal, we did not yet have the letter requested from the health department documenting that the septic system is sufficient for this modification to the shopping center. We are hoping that the engineers working on that portion of the project will be able to obtain the letter in time for this project to be able to move forward as anticipated.

We will continue to review our plans and make additional changes as necessary. If you have any questions or require any additional information, please do not hesitate to contact me at (252) 621-5029.

Sincerely,
Timmons Group



Kimberly D. Hamby, PE
Sr. Project Manager

cc: file
L. Karen Partee, Aston Properties

SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

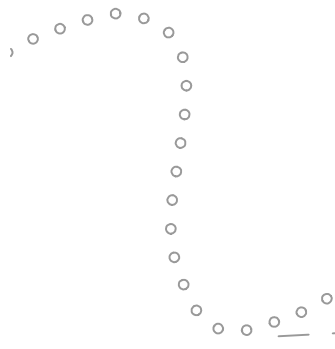
REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337

SITE INFORMATION:

SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

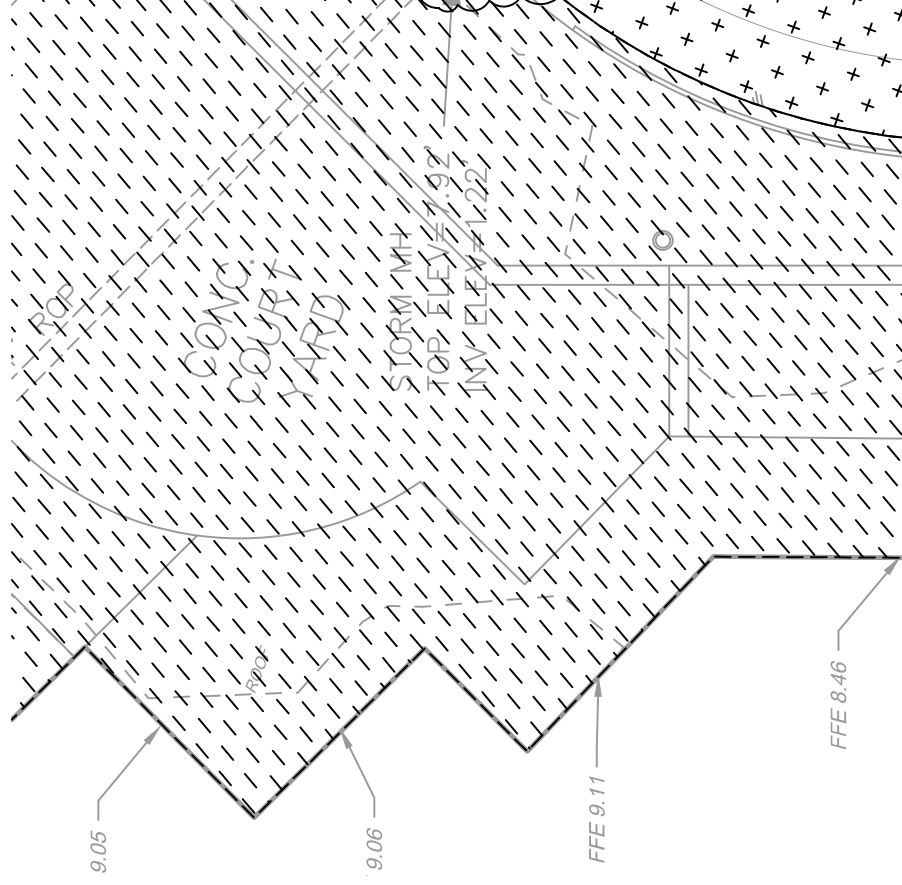
REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337
2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949
3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.
4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.
5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF
6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
613 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)
7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF
8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION, ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.
10. TOPOGRAPHIC SURVEY PREPARED BY MICHAEL D. BARR, PLS ON



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337
2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949
3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.
4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.
5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF
6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)
7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF
8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337

2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949

3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.

4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.

5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF

6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)

7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF

8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES

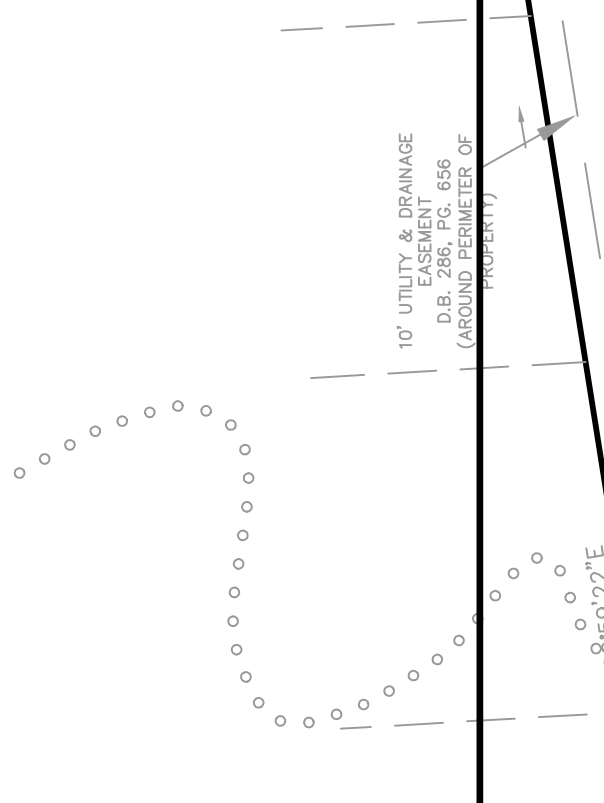
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.

124 PARKING SPACES BEING DEMOLISHED
ADA SPACES (THIS TOTAL INCLUDES 12 ADA SPACES)
STRIPED OUT TO ALLOW FOR IMPROVED

SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

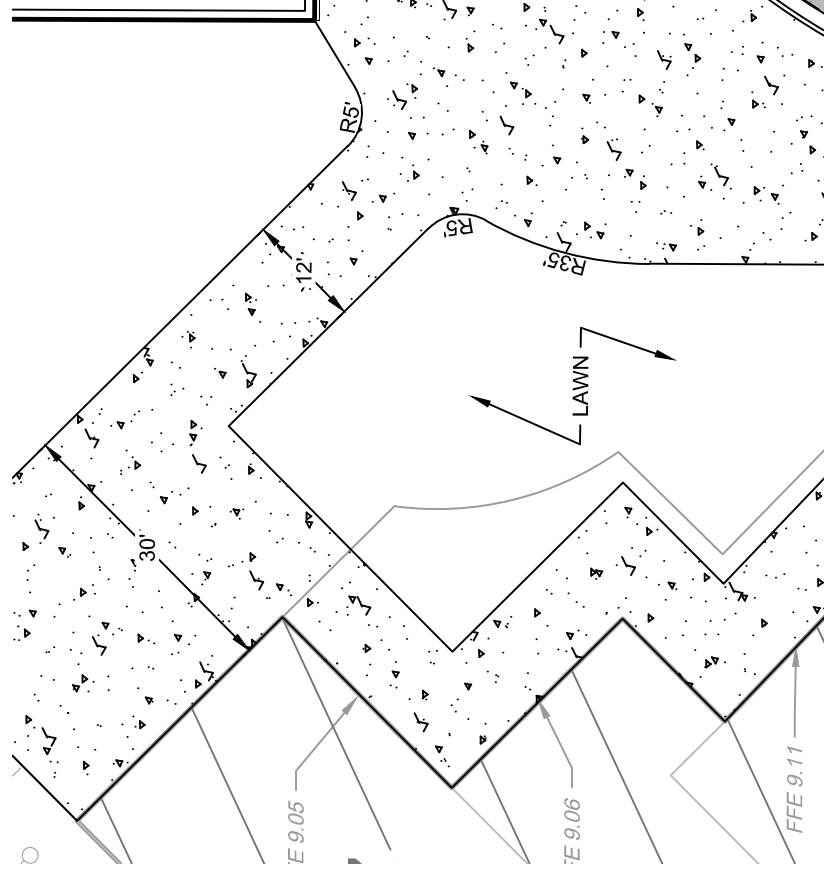
REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337
2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949
3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.
4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.
5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF
6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)
7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF
8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337
2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949
3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.
4. THIS IS NOT A BOUNDARY SURVEY; BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.
5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF
6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
613 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)
7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF
8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337

2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949

3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.

4. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.

5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF

6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)

7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF

8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES

9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.

SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

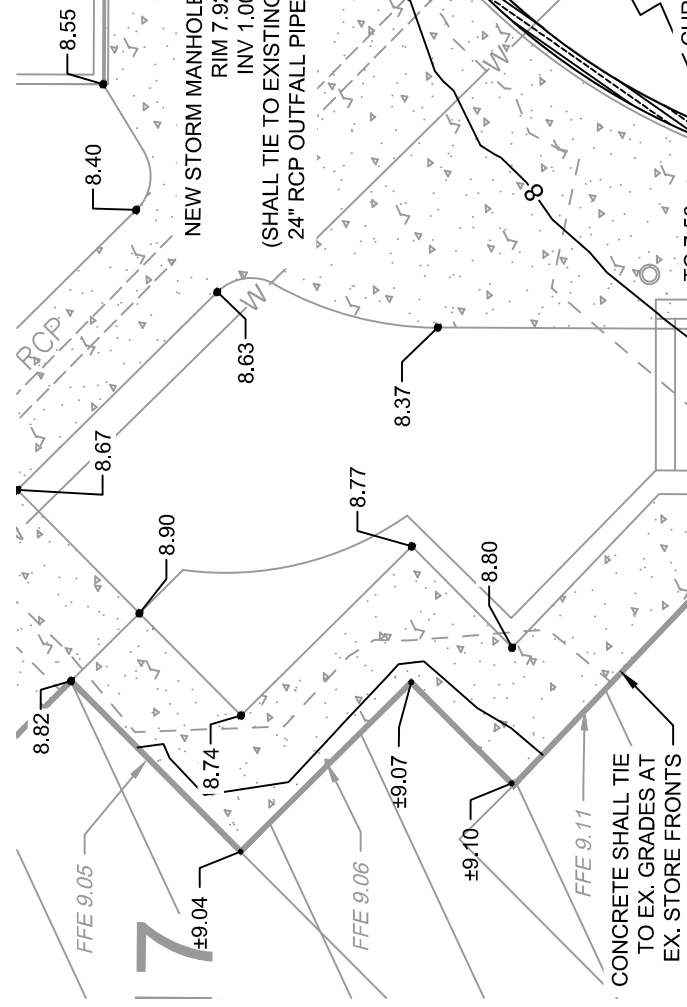
REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337
2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949
3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.
4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.
5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF
6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)
7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY
PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF
8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337
2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949
3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.
4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.
5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF
6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)
7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF
8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES
9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.
10. TOPOGRAPHIC SURVEY PREPARED BY MICHAEL D. BARR. PLS ON



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337

2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949

3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.

4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.

5. IMPERVIOUS AREA CALCULATIONS:
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF

6. PARKING:
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
613 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)

7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF

8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES

9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.

10' UTILITY & DRAINAGE
EASEMENT
D.B. 286, PG. 656
(AROUND PERIMETER OF
PROPERTY)

N60°59'22"E

10' HIGH WOOD FENCE

GUTTER BUDDY
INLET PROTECTION

FLOOD ZONE SHADED
AREA

N15°18'15"W
36.37'

30" RCB
30" RCB
30" RCB

STORM JUNCTION
BOX MH
TOP ELEV=5.58'
INV ELEV=-0.1'

STORM JUNCTION
BOX MH
TOP ELEV=5.61'
INV ELEV=-0.2'

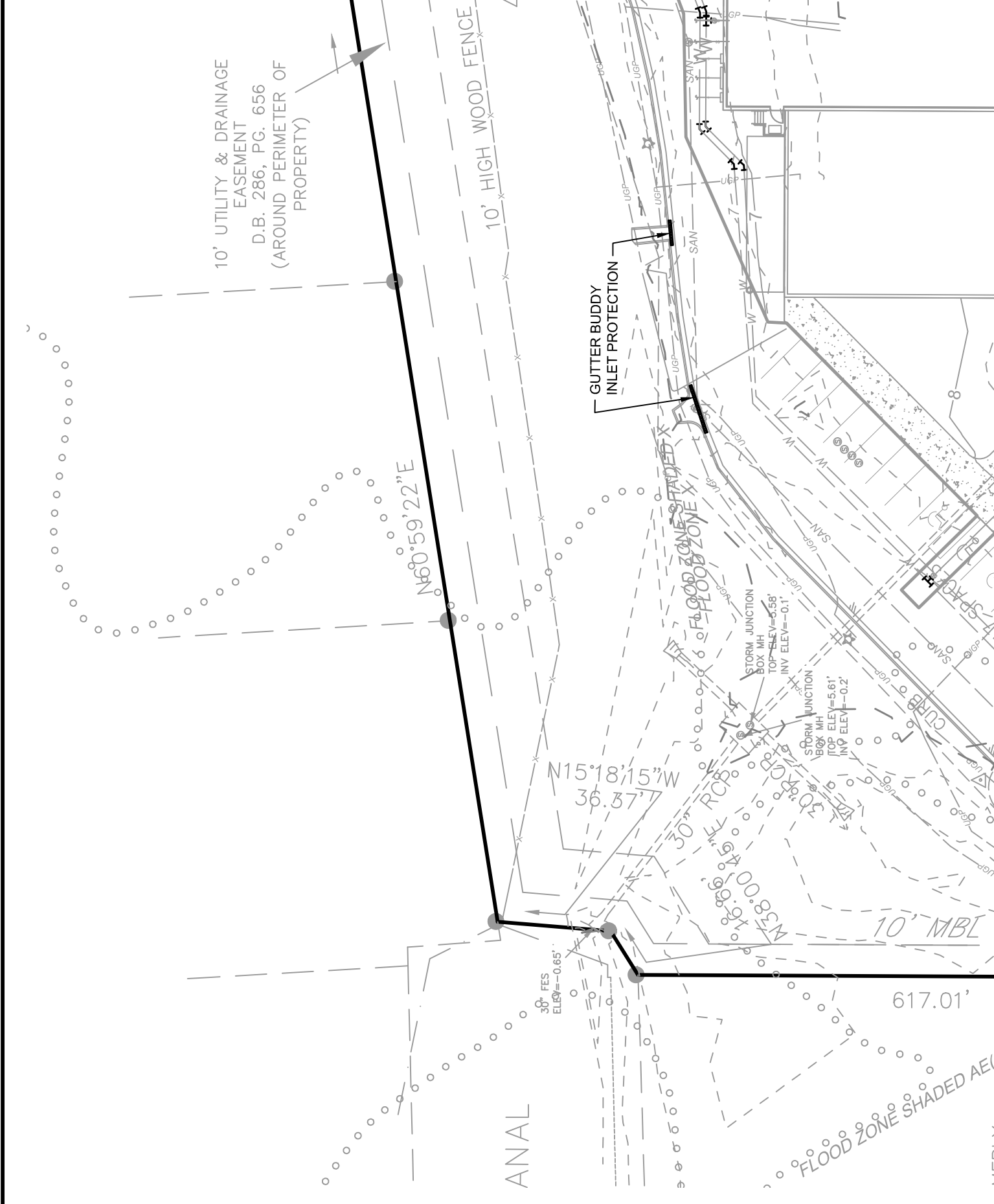
10' MBL

30" FES
ELEV=-0.65'

617.01'

ANAL

FLOOD ZONE SHADED AREA



SITE DATA:

1. OWNER:
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337

2. SITE INFORMATION:
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC

ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949

3. SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.

4. THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.

5. IMPERVIOUS AREA CALCULATIONS:

EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVEMENT AREA PROVIDED = 28,332 SF

6. PARKING:

EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)

7. LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF

8. DISTURBED AREA WILL NOT EXCEED 3.2 ACRES

9. ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.

WATERMAIN NOTES:

1. EXISTING UNDERGROUND UTILITIES ARE SHOWN BE AVAILABLE TO THE ENGINEER AND SHOULD NOT BE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCAL UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST IN PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, AND CONSTRUCTION. CONTRACTOR SHALL CONTACT THE LOCATION.
2. DARE COUNTY WILL PROVIDE WATER SERVICE FOR
3. ALL INSPECTIONS SHALL BE COORDINATED WITH THE AND THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE.
4. ALL WATERMANS SHALL BE EITHER SDR 21 PVC, C OR SHOWN ON PLANS. ALL PIPE SHALL COMPLY WITH THE STANDARDS AND THE NATIONAL SANITATION FOUNDATION THE NSF LOGO FOR POTABLE WATER.
5. WATERMANS MAY BE INSTALLED UNDER STORM DRAINS WHERE THE CHANGE IN VERTICAL ELEVATION IS TYPICAL.
6. WATERMANS INSTALLED UNDER STORM DRAINS SHALL BE SEPARATION OF 18" BETWEEN WATERMAIN AND STORM DRAIN. SHALL BE DUCTILE IRON. WHERE PRACTICAL, INSTALL DUCTILE IRON PIPE CENTERED UNDER THE STORM DRAIN. BENDS INTO A VERTICAL LEG WITHIN 10 HORIZONTAL FEET. THE VERTICAL LEG SHALL BE DUCTILE IRON.
7. THRUST BLOCKING SHALL BE INSTALLED ON ALL BENDS. (SEE THE SPECIFICATIONS AND DETAILS ON THROUGHOUT SHEET C0.1)

SITE DATA:

1. **OWNER:**
SOUTHERN SHORES OWNER, LLC
610 E MOREHEAD STREET, SUITE 100
CHARLOTTE, NC 28202

REGISTERED AGENT/DEVELOPER
ASTON PROPERTIES, INC.
CONTACT: KAREN PARTEE
(704) 366-7337

2. **SITE INFORMATION:**
PIN#: 986720717057
PARCEL#: 022510000
D.B. 1982 PG. 893
SITE AREA: 18.1 AC
ZONING: COMMERCIAL HIGHWAY PRIMARY
ADDRESS: 5539 NORTH CROATAN HIGHWAY
SOUTHERN SHORES, NC 27949

3. **SITE LOCATED IN FLOOD ZONES "X", "SHADED X" AND "AE(4)" ACCORDING TO FIRM MAP NUMBER 3720986700K, DATED JUNE 19, 2020. THE TOWN HAS ADOPTED A LOCAL ELEVATION STANDARD OF 8'.**

4. **THIS IS NOT A BOUNDARY SURVEY, BOUNDARY INFORMATION TAKEN FROM SURVEY TITLED "MARKETPLACE SHOPPING CENTER", BY MICHAEL D. BARR, PLS ON OCTOBER 30, 2017.**

5. **IMPERVIOUS AREA CALCULATIONS:**
EXISTING = 530,755 SF (67.3% OF SITE)
PROPOSED = 529,719 SF (67.1% OF SITE)
REQUIRED PERVIOUS PAVEMENT:
5.1% OF 529,719 SF = 27,016 SF
PERVIOUS PAVER AREA PROVIDED = 28,332 SF

6. **PARKING:**
EXISTING SPACES = 587
EXISTING TO BE REMOVED = 124
PROPOSED NEW = 150
FINAL TOTAL = 613
(INCLUDING 12 ADA SPACES)
REQUIRED ADA SPACES = 2% OF TOTAL
614 * 0.02 = 12 ADA SPACES
REQUIRED SPACES = 514
(SEE CALCULATIONS ON SHEET C0.1)

7. **LANDSCAPING CALCULATIONS: PARKING AREA BEING MODIFIED BY PROJECT = 99,999 SF**
REQUIRED LANDSCAPE AREA (15%) = 15,000 SF
LANDSCAPE AREA PROVIDED = 16,980 SF

8. **DISTURBED AREA WILL NOT EXCEED 3.2 ACRES**

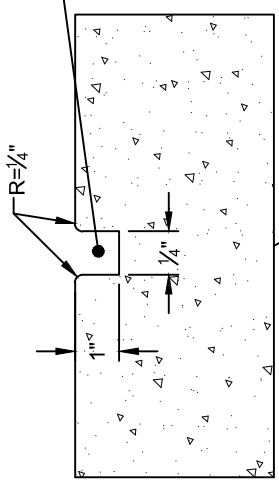
9. **ALL MATERIAL REMOVED FROM SITE SHALL BE DISPOSED OF IN AN APPROVED LOCATION. ANY SOIL MATERIAL BROUGHT ON SITE SHALL COME FROM AN APPROVED MINE.**

WATERMAIN NOTES:

1. EXISTING UNDERGROUND UTILITIES ARE SHOWN BE AVAILABLE TO THE ENGINEER AND SHOULD NOT BE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCAL UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST IN PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, A CONSTRUCTION. CONTRACTOR SHALL CONTACT N CONTACT N LOCATION.
2. DARE COUNTY WILL PROVIDE WATER SERVICE FOR
3. ALL INSPECTIONS SHALL BE COORDINATED WITH D AND THE ENGINEER A MINIMUM OF 48 HOURS IN A
4. ALL WATERMANS SHALL BE EITHER SDR 21 PVC, C SHOWN ON PLANS. ALL PIPE SHALL COMPLY WITH STANDARDS AND THE NATIONAL SANITATION FOUND THE NSF LOGO FOR POTABLE WATER.
5. WATERMANS MAY BE INSTALLED UNDER STORM D WHERE THE CHANGE IN VERTICAL ELEVATION IS T
6. WATERMANS INSTALLED UNDER STORM DRAINS S SEPARATION OF 18" BETWEEN WATERMAIN AND S SHALL BE DUCTILE IRON. WHERE PRACTICAL, INST DUCTILE IRON PIPE CENTERED UNDER THE STORM BENDS INTO A VERTICAL LEG WITHIN 10 HORIZONTAL THE VERTICAL LEG SHALL BE DUCTILE IRON.
7. THRUST BLOCKING SHALL BE INSTALLED ON ALL B (SEE THE SPECIFICATIONS AND DETAILS ON THRU

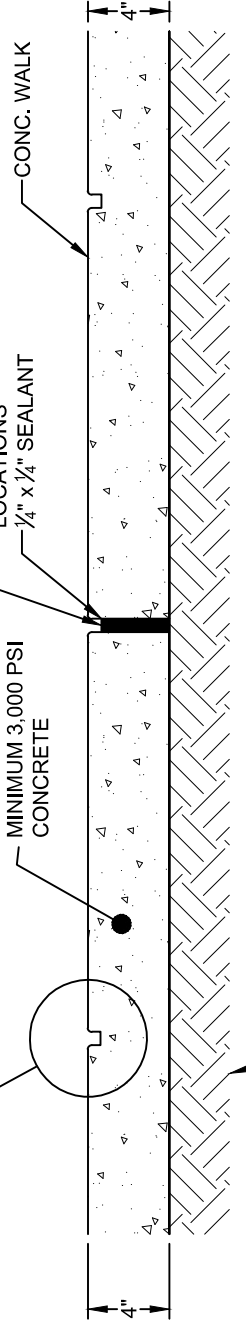
NOTE:
PROVIDE 2% MAX. CROSS
SLOPE ON SIDEWALKS

TOOLED CONTROL JOINT
(REFER TO SITE CONCRETE
SPECIFICATIONS FOR SCORING
PATTERN AND SPACING)

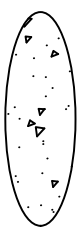


EXPANSION JOINT EACH 30' MIN. WITH
PREMOLDED EXPANSION FILLER,
SEAL WITH SILICONE SEALANT. SEE
PLANS FOR APPROXIMATE JOINT
LOCATIONS
1/4" x 1/4" SEALANT

MINIMUM 3,000 PSI
CONCRETE

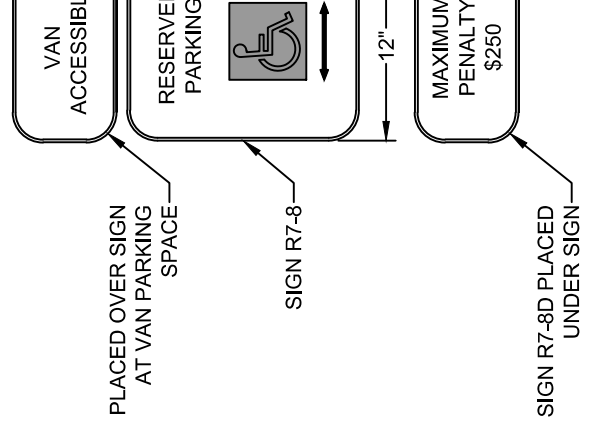


COMPACTED SUBGRADE



DENOTES CONCRETE SIDEWALK ON PLANS

CONCRETE SIDEWALKS
NO SCALE



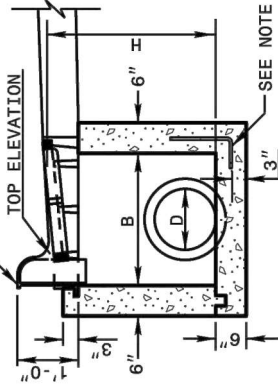
NOTE:
SIGN SHALL BE AT 82" ABOVE GROUND IF
IT IS WITHIN A PEDESTRIAN WALKWAY

HANDICAP PAI

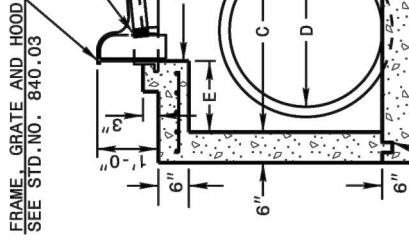
GENERAL NOTES:

- USE CLASS "B" CONCRETE THROUGHOUT.
- PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH ON CENTER. USE STEPS WHICH COMPLY WITH STD. OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" 12" CENTERS AS DIRECTED BY THE ENGINEER.
- USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM AS SHOWN ON STD. NO. 840.00.
- USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE SPECIFIED.
- FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BO QUANTITIES ACCORDINGLY.
- CONSTRUCT WITH PIPE CROWNS MATCHING.
- CHAMFER ALL EXPOSED CORNERS 1".
- DRAWING NOT TO SCALE.

FRAME, GRATE AND HOOD
SEE STD. NO. 840.03



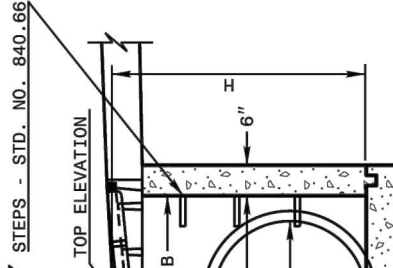
SECTION X-X



SECTION J-J

WHERE 30" TO 36" PIPE IS USED
SEE NOTE

FRAME, GRATE AND HOOD
SEE STD. NO. 840.03

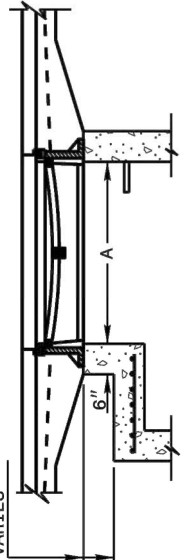


SECTION Y-Y

RISER HT. VARIES

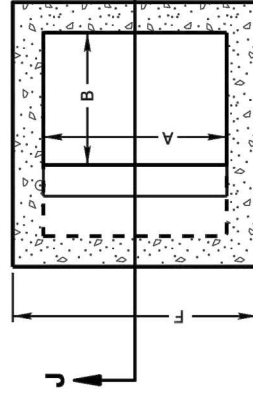
WHERE 30" TO 36" PIPE IS USED

RISER HT. VARIES

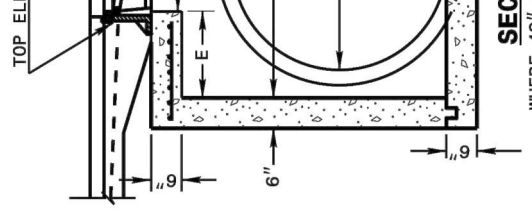


WHERE 42" TO 54" PIPE IS USED

DETAIL SHOWING METHOD OF RISER CONSTRUCTION

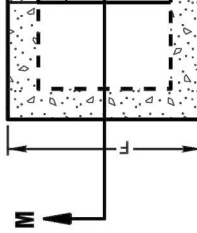


PLAN



SECTION 42"

WHERE 42"



SECTION 54"

WHERE 54"

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE EROSION AND SEDIMENT CONTROL STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PROVIDED ON ALL AREAS OF THE SITE WHICH ALL DISTURBED OR GRADED.

PROVIDE A GROUNDCOVER (TEMPORARY OR PERMANENT) ON EXPOSED SLOPES WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY FOR SLOPES 3:1 OR FLATTER AND LESS THAN 50' IN LENGTH, FOR SLOPES 4:1 OR FLATTER OF ANY LENGTH (EXCEPT FOR PERIMETERS AND HQW ZONES), AND SLOPES NO STEEPER THAN 2:1 AND LESS THAN 10' IN LENGTH.

PROVIDE GROUNDCOVER (TEMPORARY OR PERMANENT) ON EXPOSED SLOPES WITHIN 7 CALENDAR DAYS FOR SLOPES STEEPER THAN 3:1 OR SLOPES 3:1 OR FLATTER GREATER THAN 50' IN LENGTH, FOR HIGH QUALITY WATER (HWQ) ZONES, AND PERIMETER DIKES, SWALES, DITCHES AND SLOPES.

PROVIDE GROUNDCOVER (TEMPORARY OR PERMANENT) ON ALL EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

THE CONTROL MEASURES SHALL BEGIN PRIOR TO ANY LAND DISTURBING ACTIVITY INCLUDING CLEARING; SHALL CONTINUE DURING CONSTRUCTION AND SHALL CONTINUE WITH THE NECESSARY MAINTENANCE UNTIL THE DISTURBED LAND IS STABILIZED. COMPLIANCE WITH LOCAL AND/OR STATE SOIL EROSION AND SEDIMENTATION CONTROL LAWS SHALL BE THE ENTIRE RESPONSIBILITY OF THE CONTRACTOR. THIS PARAGRAPH IS INTENDED TO SERVE ONLY AS A GUIDE TO THE CONTRACTOR FOR COMPLIANCE WITH SUCH LAWS. ORDERS, RULES AND REGULATIONS CONCERNING EROSION AND SEDIMENTATION CONTROL PROTECTION OF EXISTING STRUCTURES AND FACILITIES FROM SEDIMENTATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ITEMS TO BE PROTECTED SHALL INCLUDE, BUT ARE NOT LIMITED TO, CATCH BASINS, NATURAL WATERWAYS, DRAINAGE DITCHES, WALKS, DRIVES, ROADS, LAWNS, AND STREAMS.

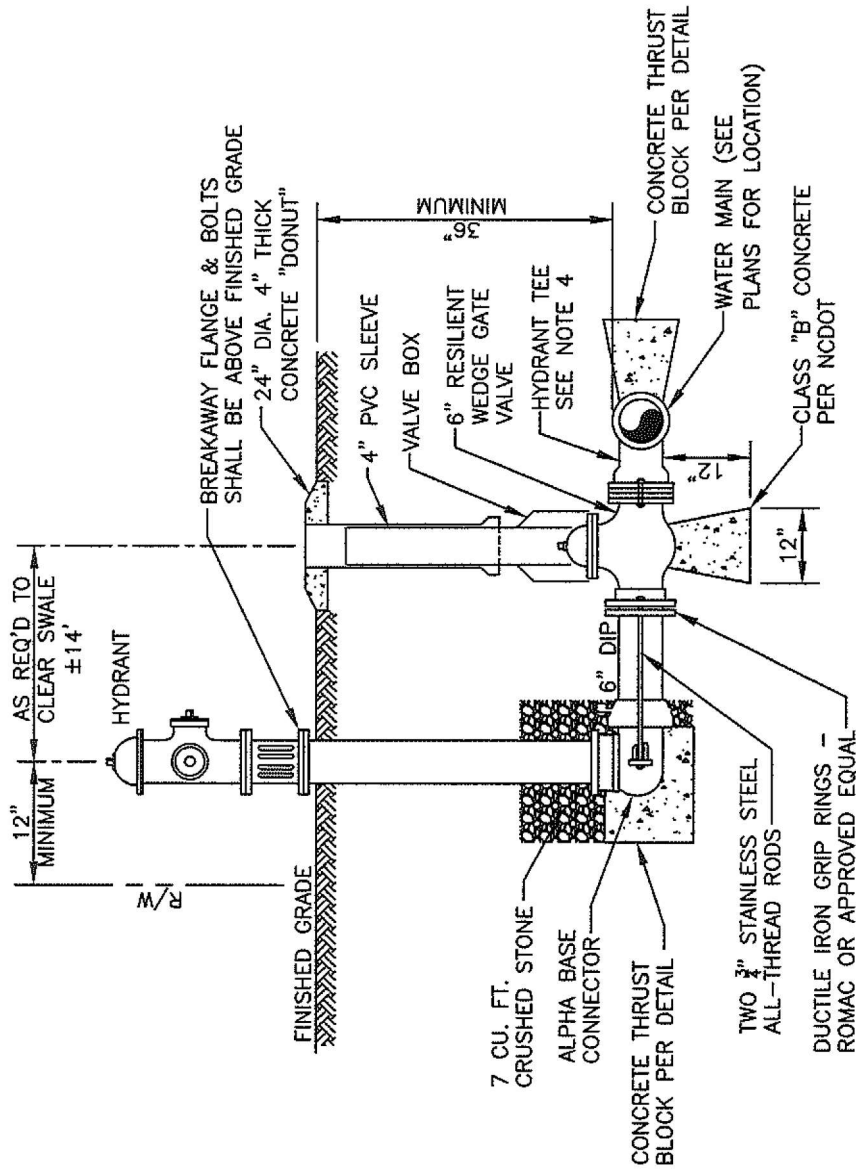
EROSION CONTROL MEASURES

NO SCALE

CONSTRUCTION

1. PREPARE S TILLAGE AN AND SPRE
2. SOIL SHALL RECOMMEN COMMERC
3. SEED ON A INSTALLA
4. MULCH IMM CONTRACT
5. AREAS AN POSSIBLE. COMPLETE

*APPLY: FERTILIZER, LIM OTHERWISE, AP AGRICULTURAL FINE-TEXTURE SOILS WITH PH FERTILIZER - 70 MULCH - 2 TONS ANCHOR - ASPH



NOTES

- DO NOT BLOCK HYDRANT DRAIN WITH THRUST BLOCKING.
- DO NOT SUPPORT VALVE BOX DIRECTLY ON VALVE.
- INSTALL REFLECTIVE HYDRANT MARKER, STIMPSONITE, MODEL 88AB, TWO-WAY BLUE REFLECTOR IN CENTERLINE OF PAVEMENT PERPENDICULAR TO HYDRANT LOCATION USING E-BOND EPOXY ADHESIVE 1240/1241 PER MANUFACTURER'S SPECIFICATIONS.
- A HYDRANT TEE MAY BE USED UNLESS IT PLACES THE HYDRANT VALVE IN A LOCATION THAT IS DEEMED BY THE COUNTY TO BE UNDESIRABLE (IN DITCH, ETC.), IN WHICH CASE A REGULAR TEE SHALL BE USED.

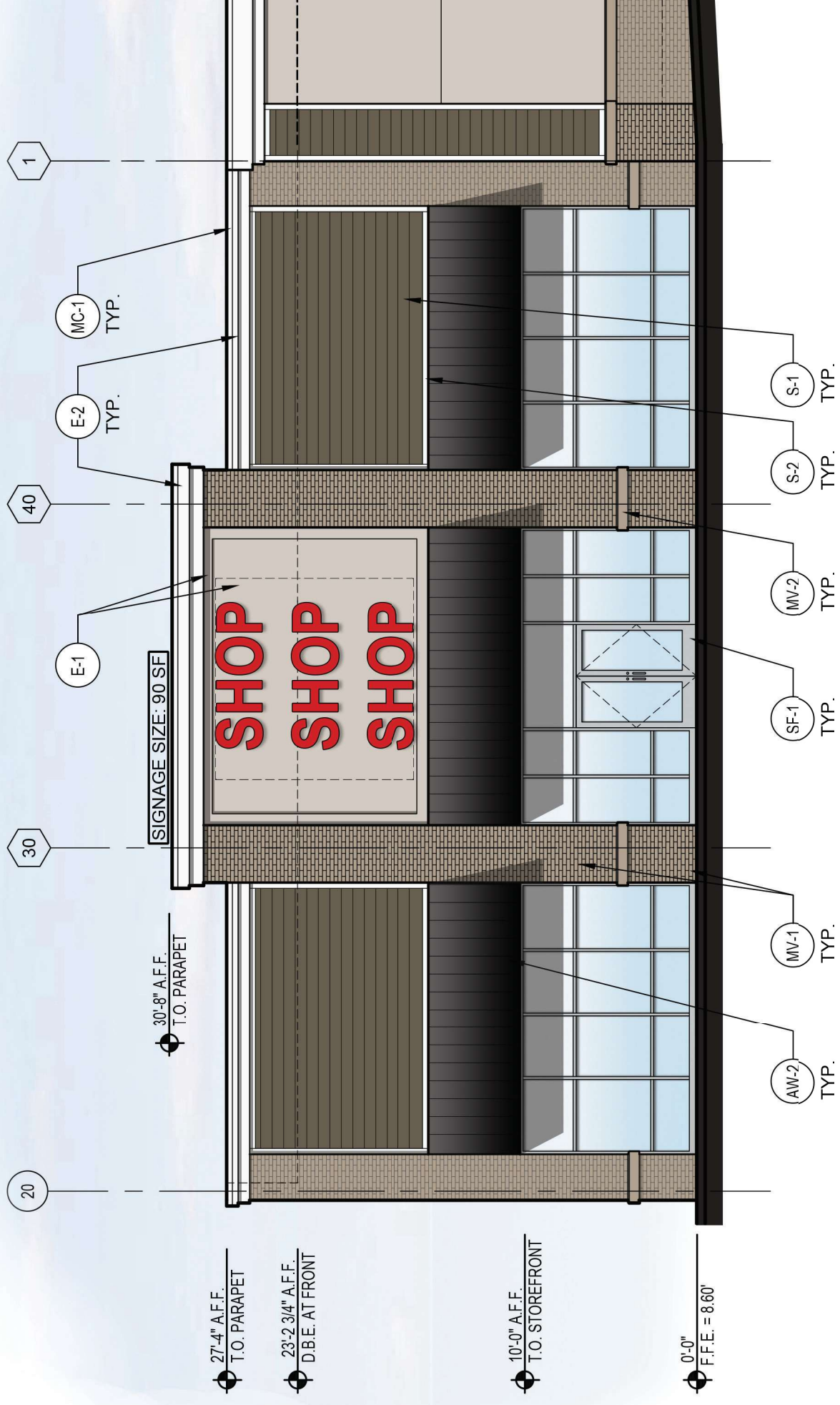
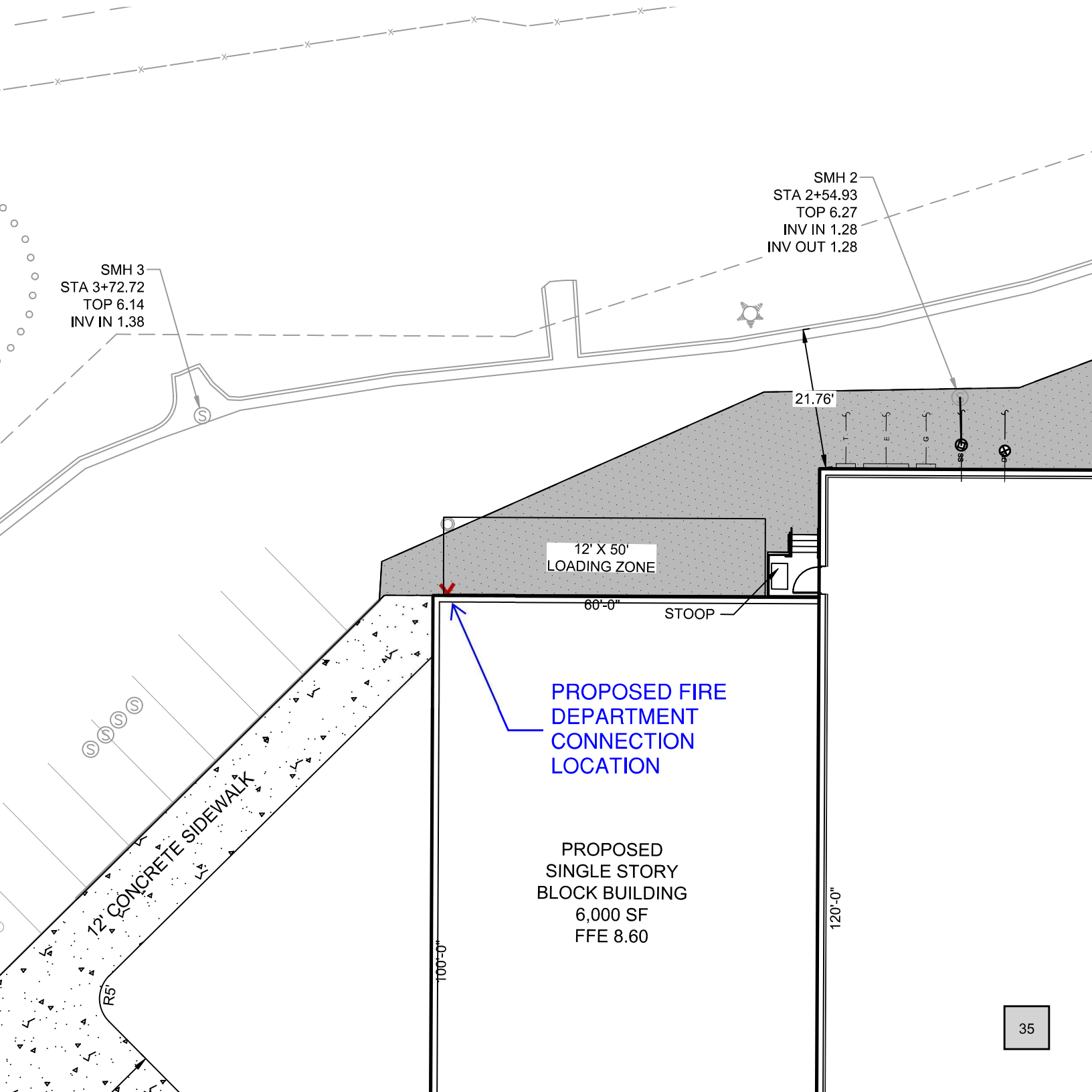


EXHIBIT FOR MARKETPLACE AT SOUTHERN SHORES
PROPOSED LOCATION OF FIRE DEPARTMENT CONNECTION
AUGUST 16, 2021



COUNTY OF DARE
Kill Devil Hills, NORTH CAROLINA 27948



Patrick Irwin
Utilities Director

600 Mustian St.
Phone: (252) 475-5603
Fax: (252) 441-2239
E-mail: pat.irwin@darenc.com

August 6, 2021

Kimberly Hamby, PE
Timmons Group

Marketplace at Southern Shores Water Line Project:

This letter serves as Dare County Water's willingness to serve the water line extension in the Marketplace at Southern Shores and approval of a 30" cover for this water line.

Sincerely:

Patrick Irwin

Patrick Irwin, Utilities Director



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

Item 5.

RE: [External] Market Place- SS; Change of use request

mstrader@quible.com

RE: [External] Market Place- SS; Change of use request

Received: Aug 13, 2021 5:19 PM
Expires: Oct 12, 2021 5:19 PM
From: steven.berkowitz@dhhs.nc.gov
To: joshc@darenc.com
Cc: mstrader@quible.com, tim.crissman@dhhs.nc.gov
Subject: RE: [External] Market Place- SS; Change of use request

Attachments: image001.png

This message was sent securely using Zix®

Josh: As we just discussed by phone, we do not object to the proposed Change of Use to allow for the construction of the Michael's Retail store in The Market Place in Southern Shores. Conditions to incorporate should be:

1. Use of low-flow fixtures (compliant with EPA WaterSense capacities, including urinals which use now more than 0.5 gallons per flush, water closets which use not more than 1.28 gallons/flush and faucets that use no more than 1.5 gallons per minute.) This would apply to any new construction (e.g., Marshall's) or relocations (e.g., Coastal Rehabilitation).
2. Any proposed new food service facilities would require separate approval on a case-by-case basis to confirm capacity of the system to handle estimate flow, assessment of impact on wastewater strength, and ability to tie into an existing or newly-proposed grease trap.

Please feel free to contact us if you have any questions about this response, or if we can assist further with this project.

Steven

Steven Berkowitz, PE

Senior Engineer

Division of Public Health, On-Site Water Protection Branch

North Carolina Department of Health and Human Services

919-707-5876 office

919-845-3973 fax

Steven.Berkowitz@dhhs.nc.gov

5605 Six Forks Road

Raleigh NC 27609

1642 Mail Service Center

Raleigh, NC 27699



Email correspondence to and from this address is subject to the

North Carolina Public Records Law and may be disclosed to third parties.

From: Josh Coltrain <joshc@darenc.com>
Sent: Thursday, August 12, 2021 4:57 PM
To: Berkowitz, Steven <steven.berkowitz@dhhs.nc.gov>

Item 5.

Cc: Michael Strader <MStrader@quible.com>
Subject: [External] Market Place- SS; Change of use request

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

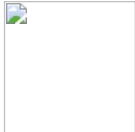
This message was sent securely using Zix®

Good afternoon Steven,

Attached is a change of use request for Market Place in Southern Shores with supporting flow data for additional retail space. Please review as soon as possible and provide feedback/approval. The town needs an answer as soon as possible before the planning department can grant approval.

Sincerely,

Josh Coltrain, REHS
Environmental Health Supervisor
Department of Health & Human Services
Public Health Division
P.O. Box 669, Manteo, NC 27954
252.475. 5014 _phone
252.441.6921 _fax
www.darenc.com



This document and/or its attachments may contain confidential information, including protected health information, which is legally privileged under federal or state law. This information is intended for the use of the individual or entity named above. The authorized recipient of this information is prohibited from disclosing this information to any other party unless required to do so by law or regulation and is required to destroy the information after its stated need has been fulfilled.

If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or action taken in reliance on the contents of these documents is strictly prohibited. If you have received this information in error, please notify the sender immediately and destroy these documents.

This message was secured by Zix®.

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized State official. Unauthorized disclosure of juvenile, health, legally privileged, or otherwise confidential information, including confidential information relating to an ongoing State procurement effort, is prohibited by law. If you have received this email in error, please notify the sender immediately and delete all records of this email.

This message was secured by Zix®.

Secured by **zix**® This service is hosted by Zix on behalf of North Carolina Department of Health and Human Services Secure Email More Information

OSQ Series

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

Rev. Date: V12 04/14/2020

Product Description

The OSQ™ High Output Area/Flood luminaire blends extreme optical control, advanced thermal management and modern, clean aesthetics. Built to last, the housing is rugged cast aluminum with an integral, weathertight LED driver compartment. Versatile mounting configurations offer simple installation. Its slim, low-profile design minimizes wind load requirements and blends seamlessly into the site providing even, quality illumination. The OSQ high output luminaire is a suitable upgrade for HID applications with one or even multiple 1000 Watt luminaires.

Applications: Auto dealerships, parking lots, campuses, facade lighting, high-mast and general site lighting applications

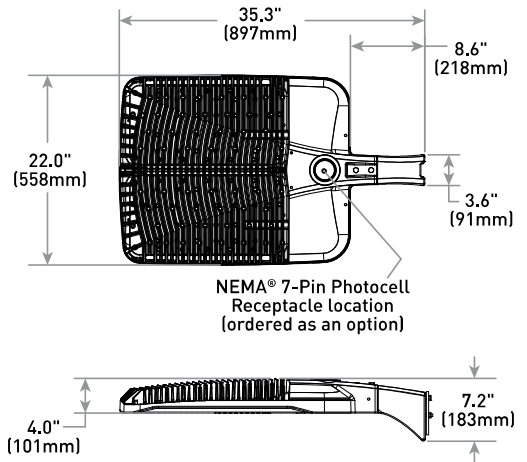
Performance Summary

- Utilizes Cree TrueWhite® Technology on 5000K Luminaires
- NanoOptic® Precision Delivery Grid™ optic
- Assembled in the U.S.A. of U.S. and imported parts
- Initial Delivered Lumens:** Up to 68,691
- Efficacy:** Up to 125 LPW
- CRI:** Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)
- CCT:** 3000K (+/- 300K), 4000K (+/- 300K), 5000K (+/- 300K), 5700K (+/- 500K)

Limited Warranty*: 10 years on luminaire; 10 years on Colorfast DeltaGuard® finish; up to 5 years for Synapse® accessories; 1 year on luminaire accessories

* See <http://creelighting.com/warranty> for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.

DA Mount



Lumen Package	Voltage	Weight
40/50L	120-480V	70.0 lbs. (31.8kg)
65L	120-480V	72.0 lbs. (32.7kg)

Ordering Information

Fully assembled luminaire is composed of two components that must be ordered separately:
 Example: **Mount:** OSQ-H0-AA-SV + **Luminaire:** OSQ-H0-A-NM-2ME-40L-40K-UL-SV

Mount (Luminaire must be ordered separately)								
OSQ-H0-								
OSQ-H0-AA Adjustable Arm OSQ-H0-DA Direct Arm						Color Options: SV Silver BK Black BZ Bronze WH White		
Luminaire (Mount must be ordered separately)								
OSQ-H0	A	NM						
Product	Version	Mounting	Optic	Lumen Package**	CCT	Voltage	Color Options	Options
OSQ-H0	A	NM No Mount	Asymmetric	40L 50L 65L	30K 3000K ~ 70 CRI 40K 4000K ~ 70 CRI 50K 5000K ~ 90 CRI 57K 5700K ~ 70 CRI	UL Universal 120-277V ~ All lumen packages UH Universal 347-480V ~ 40L & 50L lumen packages only UM Universal 208-480V ~ 65L lumen package only	BK Black BZ Bronze SV Silver WH White	PML Programmable Multi-Level, up to 40' Mounting Height - Refer to PML spec sheet for details - Not available with 65L - Intended for downlight applications at 0° tilt Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 Field Adjustable Output - Must select Q9, Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 - Not available with 65L when ordered w/R option - Offers full range adjustability - Refer to pages 14-16 for power and lumen values R NEMA® 7-Pin Photocell Receptacle - 7-pin receptacle per ANSI C136.41 - Intended for downlight applications with maximum 45° tilt - Factory connected 0-10V dim leads - 12" (305mm) seven-conductor leads exit luminaire - Requires photocell and shorting cap by others - Not available with 65L when ordered w/Q option
			Symmetric					

* Available with Backlight Shield when ordered with field-installed accessory (see table above)

** Lumen Package selection codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

Product Specifications

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Slim, low profile design minimizes wind load requirements
- Luminaire housing is rugged die cast aluminum with an integral, weathertight LED driver compartment and high-performance heat sink
- Convenient interlocking mounting method on direct arm mount. Mounting adaptor is rugged die cast aluminum and mounts to 3" [76mm] or larger square or round pole, secured by two 5/16-18 UNC bolts spaced on 2" [51mm] centers
- Adjustable arm that mounts to a horizontal or vertical 2" [51mm] IP, 2.375-2.50" [60-64mm] O.D. steel tenon. Tenon length must be a minimum of 3.75" [95mm]
- Adjustable arm mount can be adjusted 180° in 5.0° increments
- Includes 12" [305mm] 18/5 or 16/5 leads exiting the luminaire. When ordered with R option, 12" [305mm] 18/7 or 16/7 leads are provided
- Designed for uplight and downlight applications
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black, and white are available
- **Weight:** See Dimension and Weight Chart on pages 1 and 13

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V, 208-480V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Consult factory if in-luminaire fusing is required
- Designed with 0-10V dimming capabilities. For 65L SKUs with UL voltage, dimming control lines must be >1V when operated at 277V. Controls by others
- Refer to Dimming spec sheet for details
- **Maximum 10V Source Current:** 0.30mA
- **Operating Temperature Range:** -40°C to 40°C (-40° F to 104° F)

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Consult factory for CE Certified products
- ANSI C136.2 10kV surge protection, tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A limits for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- DLC and DLC Premium qualified versions available. Some exceptions apply. Please refer to <https://www.designlights.org/search/> for most current information
- OSQ-HO luminaires are enclosure rated IP66 per IEC 60598-1 when ordered without the R option
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT and DA mount only. Please refer to <https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/> for most current information
- **CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Product Specifications

SYNAPSE® SIMPLYSNAP INTELLIGENT CONTROL

The Synapse SimplySNAP platform is a highly intuitive connected lighting solution featuring zone dimming, motion sensing, and daylight harvesting with utility-grade power monitoring and support of up to 1000 nodes per gateway. The system features a reliable and robust self-healing mesh network with a browser-based interface that runs on smartphones, tablets, and PCs. The Twist-Lock Lighting Controller [TL7-B2] and Site Controller [SS450-002] take the OSQ Series to a new performance plateau, providing extreme energy productivity, code compliance and a better light experience.

Electrical Data*

Lumen Package	System Watts 120-480V	Total Current [A]					
		120V	208V	240V	277V	347V	480V
40L	341	2.93	1.65	1.43	1.23	1.00	0.71
50L	420	3.61	2.03	1.76	1.51	1.23	0.87
65L	550	4.73	2.66	2.30	1.98	1.59	1.15

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V or 347-480V +/- 10%

OSQ Series (OSQ-HO) Ambient Adjusted Lumen Maintenance¹

Ambient	Optic	Initial LMF	25K hr Reported ² LMF	50K hr Reported ² LMF	75K hr Reported ² LMF	100K hr Reported ² LMF
5°C (41°F)	Asymmetric	1.04	1.03	1.01	0.99	0.97
	Symmetric	1.05	1.04	1.03	1.03	1.02
10°C (50°F)	Asymmetric	1.03	1.02	1.00	0.98	0.96
	Symmetric	1.04	1.03	1.02	1.01	1.00
15°C (59°F)	Asymmetric	1.02	1.01	0.99	0.97	0.95
	Symmetric	1.02	1.02	1.01	1.00	0.99
20°C (68°F)	Asymmetric	1.01	1.00	0.98	0.96	0.94
	Symmetric	1.01	1.01	1.00	0.99	0.98
25°C (77°F)	Asymmetric	1.00	0.99	0.97	0.95	0.93
	Symmetric	1.00	0.99	0.98	0.98	0.97

¹ Lumen maintenance values at 25°C (77°F) are calculated per IES TM-21 based on IES LM-80 report data for the LED package and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors. Please refer to the [Temperature Zone Reference Document](#) for outdoor average nighttime ambient conditions.

² In accordance with IES TM-21, Reported values represent interpolated values based on time durations that are up to 6x the tested duration in the IES LM-80 report for the LED.

Accessories

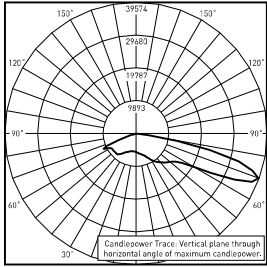
Field-Installed		
Backlight Shield (One pair) OSQ-HO-BLSF - Front facing optics OSQ-HO-BLSR - Rotated optics	Shorting Cap XA-XSLSHRT	Hand-Held Remote XA-SENSREM - For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required
Synapse Wireless Control Accessories		
Twist-Lock Lighting Controller TL7-B2 - Suitable for 120-277V (UL) voltage only - Requires NEMA/ANSI C136.41 7-Pin Dimming Receptacle - Not for use with PML or Q options - Provides On/Off switching, dimming, power metering, digital sensor input, and status monitoring of luminaires - Refer to TL7-B2 spec sheet for details	SimplySNAP Central Base Station CBSW-450-002 - Includes On-Site Controller [SS450-002] and 5-button switch - Indoor and Outdoor rated	SimplySNAP On-Site Controller SS450-002 - Verizon® LTE-enabled - Designed for indoor applications - Refer to SS450-002 spec sheet for details
Synapse Wireless Sensor WSN-DPM - Motion and light sensor - Control multiple zones - Refer to WSN-DPM spec sheet for details		Building Management System (BMS) Gateway BMS-GW-002 - Required for BACnet integration - Refer to BMS-GW-002 spec sheet for details
		Outdoor Antennas (Optional, for increased range, 8dB gain) KIT-ANT420SM - Kit includes antenna, 20' cable and bracket KIT-ANT360 - Kit includes antenna, 30' cable and bracket KIT-ANT600 - Kit includes antenna, 50' cable and bracket - Refer to Outdoor antenna spec sheet for details

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

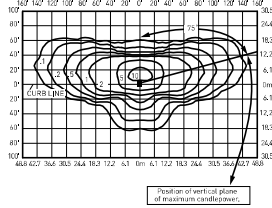
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

2ME



CESTL Test Report #: PL10951-001A
OSQ-HO-A-**-2ME-40L-40K-UL
Initial Delivered Lumens: 45,012

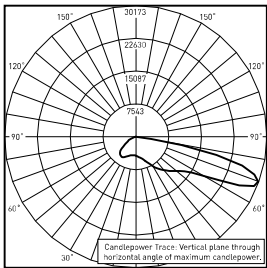


OSQ-HO-A-**-2ME-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 41,880
Initial FC at grade

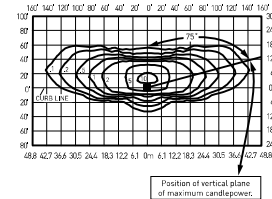
Type II Medium Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	39,751	B4 U0 G4	41,880	B4 U0 G5	33,920	B4 U0 G4	42,702	B4 U0 G5
50L	48,950	B4 U0 G5	51,571	B4 U0 G5	41,434	B4 U0 G5	52,583	B4 U0 G5
65L	63,945	B5 U0 G5	67,369	B5 U0 G5	53,848	B4 U0 G5	68,691	B5 U0 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



CESTL Test Report #: PL10952-001A
OSQ-HO-A-**-2ME-40L-40K-UL
w/OSQ-HO-BLSF
Initial Delivered Lumens: 35,531



OSQ-HO-A-**-2ME-40L-40K-UL
w/OSQ-HO-BLSF
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 33,504
Initial FC at grade

Type II Medium w/BLS Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	31,801	B3 U0 G4	33,504	B3 U0 G4	27,136	B3 U0 G4	34,162	B3 U0 G4
50L	39,160	B3 U0 G4	41,257	B3 U0 G5	33,147	B3 U0 G4	42,066	B3 U0 G5
65L	51,156	B3 U0 G5	53,895	B3 U0 G5	43,078	B3 U0 G5	54,953	B3 U0 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

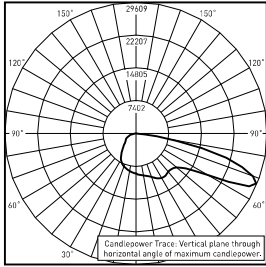
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

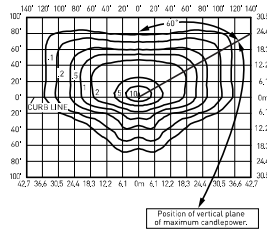
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

3ME



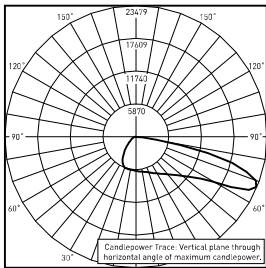
CESTL Test Report #: PL10953-001A
OSQ-HO-A-**-3ME-40L-40K-UL
Initial Delivered Lumens: 44,770



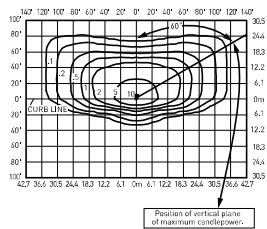
OSQ-HO-A-**-3ME-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 41,880
Initial FC at grade

Type III Medium Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	39,751	B4 U0 G5	41,880	B4 U0 G5	33,920	B4 U0 G4	42,702	B4 U0 G5
50L	48,950	B4 U0 G5	51,571	B4 U0 G5	41,434	B4 U0 G5	52,583	B4 U0 G5
65L	63,945	B4 U0 G5	67,369	B5 U0 G5	53,848	B4 U0 G5	68,691	B5 U0 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



CESTL Test Report #: PL10954-001A
OSQ-HO-A-**-3ME-40L-40K-UL
w/OSQ-HO-BLSF
Initial Delivered Lumens: 32,977



OSQ-HO-A-**-3ME-40L-40K-UL
w/OSQ-HO-BLSF
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 34,342
Initial FC at grade

Type III Medium w/BLS Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	32,596	B3 U0 G4	34,342	B3 U0 G5	27,814	B3 U0 G4	35,016	B3 U0 G5
50L	40,139	B3 U0 G5	42,288	B4 U0 G5	33,976	B3 U0 G5	43,118	B4 U0 G5
65L	52,435	B4 U0 G5	55,243	B4 U0 G5	44,155	B4 U0 G5	56,327	B4 U0 G5

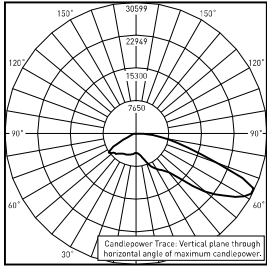
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

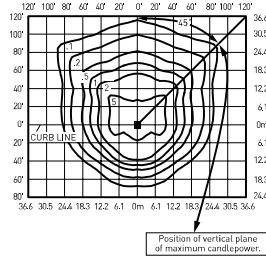
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

4ME



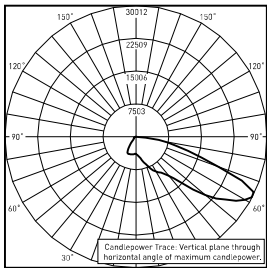
CESTL Test Report #: PL09256-001A
OSQ-HO-A-4ME-40L-40K-UL
Initial Delivered Lumens: 44,936



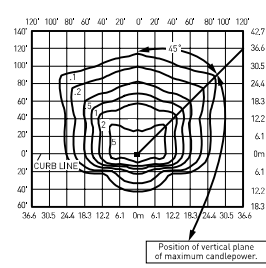
OSQ-HO-A-4ME-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 41,880
Initial FC at grade

Type IV Medium Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	39,751	B4 U0 G4	41,880	B5 U0 G4	33,920	B4 U0 G4	42,702	B5 U0 G4
50L	48,950	B5 U0 G5	51,571	B5 U0 G5	41,434	B4 U0 G4	52,583	B5 U0 G5
65L	63,945	B5 U0 G5	67,369	B5 U0 G5	53,848	B5 U0 G5	68,691	B5 U0 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



CESTL Test Report #: PL09256-002A
OSQ-HO-A-4ME-40L-40K-UL w/OSQ-HO-BLSF
Initial Delivered Lumens: 35,406



OSQ-HO-A-4ME-40L-40K-UL w/OSQ-HO-BLSF
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 33,085
Initial FC at grade

Type IV Medium w/BLS Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	31,403	B3 U0 G4	33,085	B3 U0 G4	26,797	B3 U0 G4	33,735	B3 U0 G4
50L	38,671	B3 U0 G5	40,741	B3 U0 G5	32,733	B3 U0 G4	41,541	B3 U0 G5
65L	50,517	B4 U0 G5	53,222	B4 U0 G5	42,540	B3 U0 G5	54,266	B4 U0 G5

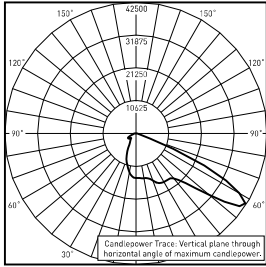
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

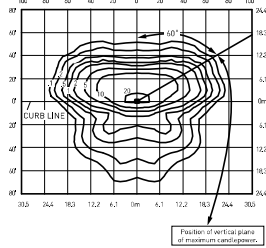
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

AF



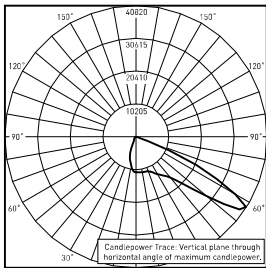
CESTL Test Report #: PL10910-001A
OSQ-HO-A-AF-40L-40K-UL
Initial Delivered Lumens: 44,921



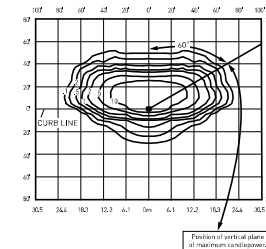
OSQ-HO-A-AF-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 41,880
Initial FC at grade

Automotive FrontLineOptic™ Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	39,751	B4 U0 G3	41,880	B4 U0 G3	33,920	B3 U0 G3	42,702	B4 U0 G3
50L	48,950	B4 U0 G3	51,571	B4 U0 G3	41,434	B4 U0 G3	52,583	B4 U0 G3
65L	63,945	B4 U0 G4	67,369	B4 U0 G4	53,848	B4 U0 G3	68,691	B4 U0 G4

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt



CESTL Test Report #: PL10911-001A
OSQ-HO-A-AF-40L-40K-UL w/OSQ-HO-BLSF
Initial Delivered Lumens: 35,558



OSQ-HO-A-AF-40L-40K-UL w/OSQ-HO-BLSF
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 33,151
Initial FC at grade

Automotive FrontLineOptic™ w/BLS Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	31,466	B3 U0 G2	33,151	B3 U0 G2	26,850	B3 U0 G2	33,802	B3 U0 G2
50L	38,747	B3 U0 G2	40,822	B3 U0 G3	32,798	B3 U0 G2	41,623	B3 U0 G3
65L	50,617	B4 U0 G3	53,327	B4 U0 G3	42,625	B3 U0 G3	54,374	B4 U0 G3

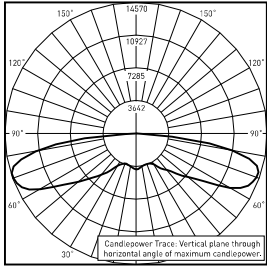
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

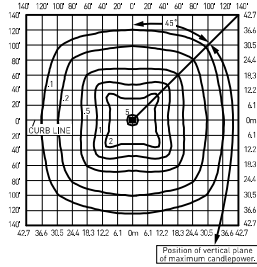
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

5ME



CESTL Test Report #: PL09257-001A
OSQ-HO-A--5ME-40L-40K-UL**
Initial Delivered Lumens: 35,159

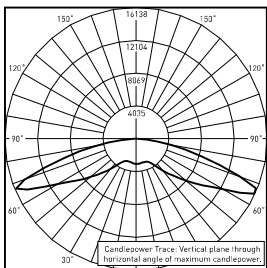


OSQ-HO-A--5ME-40L-40K-UL**
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 39,332
Initial FC at grade

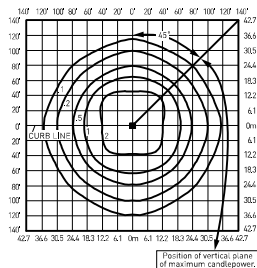
Type V Medium Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	37,169	B5 U0 G5	39,332	B5 U0 G5	31,689	B5 U0 G5	40,155	B5 U0 G5
50L	45,389	B5 U0 G5	48,031	B5 U0 G5	38,871	B5 U0 G5	49,035	B5 U0 G5
65L	59,011	B5 U0 G5	62,445	B5 U0 G5	49,959	B5 U0 G5	63,751	B5 U0 G5

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

5SH



CESTL Test Report #: PL09258-001A
OSQ-HO-A--5SH-40L-40K-UL**
Initial Delivered Lumens: 42,362



OSQ-HO-A--5SH-40L-40K-UL**
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 41,542
Initial FC at grade

Type V Short Distribution								
Lumen Package	3000K/70 CRI		4000K/70 CRI		5000K/90 CRI		5700K/70 CRI	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
40L	39,258	B5 U0 G5	41,542	B5 U0 G5	33,469	B5 U0 G5	42,411	B5 U0 G5
50L	47,939	B5 U0 G5	50,729	B5 U0 G5	41,055	B5 U0 G5	51,790	B5 U0 G5
65L	62,326	B5 U0 G5	65,953	B5 U0 G5	52,766	B5 U0 G5	67,332	B5 U0 G5

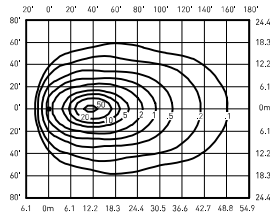
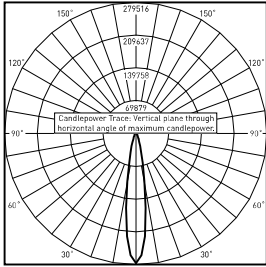
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>. Valid with no tilt

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

15D



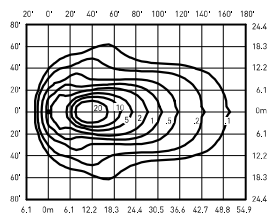
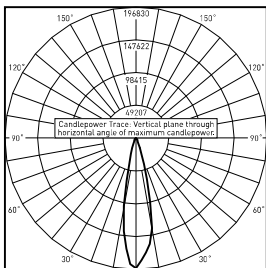
CESTL Test Report #: PL09259-001A
OSQ-HO-A-**-15D-40L-40K-UL
Initial Delivered Lumens: 43,172

OSQ-HO-A-**-15D-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt
Initial Delivered Lumens: 41,542
Initial FC at grade

15° Flood Distribution				
Lumen Package	3000K/70 CRI	4000K/70 CRI	5000K/90 CRI	5700K/70 CRI
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
40L	39,258	41,542	33,469	42,411
50L	47,939	50,729	41,055	51,790
65L	62,326	65,953	52,766	67,332

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

25D



CESTL Test Report #: PL09260-001A
OSQ-HO-A-**-25D-40L-40K-UL
Initial Delivered Lumens: 43,263

OSQ-HO-A-**-25D-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt
Initial Delivered Lumens: 41,542
Initial FC at grade

25° Flood Distribution				
Lumen Package	3000K/70 CRI	4000K/70 CRI	5000K/90 CRI	5700K/70 CRI
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
40L	39,258	41,542	33,469	42,411
50L	47,939	50,729	41,055	51,790
65L	62,326	65,953	52,766	67,332

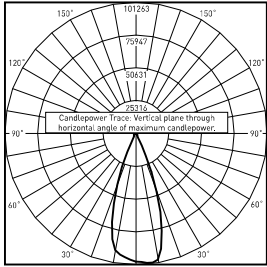
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

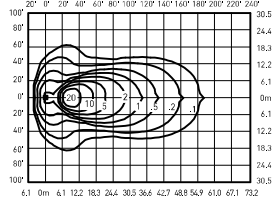
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

40D



CESTL Test Report #: PL09261-001A
 OSQ-HO-A**-40D-40L-40K-UL
 Initial Delivered Lumens: 43,698

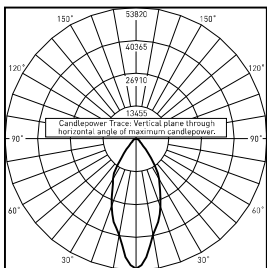


OSQ-HO-A**-40D-40L-40K-UL
 Mounting Height: 25' (7.6m) A.F.G., 60° Tilt
 Initial Delivered Lumens: 41,542
 Initial FC at grade

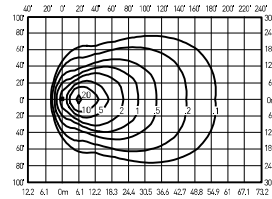
40° Flood Distribution				
Lumen Package	3000K/70 CRI	4000K/70 CRI	5000K/90 CRI	5700K/70 CRI
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
40L	39,258	41,542	33,469	42,411
50L	47,939	50,729	41,055	51,790
65L	62,326	65,953	52,766	67,332

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

60D



CESTL Test Report #: PL09262-001A
 OSQ-HO-A**-60D-40L-40K-UL
 Initial Delivered Lumens: 42,715



OSQ-HO-A**-60D-40L-40K-UL
 Mounting Height: 25' (7.6m) A.F.G., 60° Tilt
 Initial Delivered Lumens: 41,542
 Initial FC at grade

60° Flood Distribution				
Lumen Package	3000K/70 CRI	4000K/70 CRI	5000K/90 CRI	5700K/70 CRI
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
40L	39,258	41,542	33,469	42,411
50L	47,939	50,729	41,055	51,790
65L	62,326	65,953	52,766	67,332

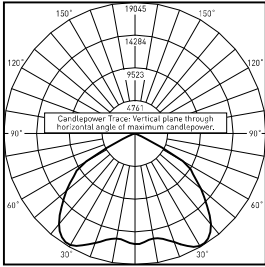
* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

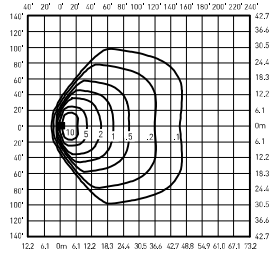
Photometry

All published luminaire photometric testing performed to IES LM-79-08 standards. To obtain an IES file specific to your project consult: <http://creelighting.com/products/outdoor/area/area-osq-high-output>

120D



CESTL Test Report #: PL09725-001A
OSQ-HO-A**-120D-40L-40K-UL
Initial Delivered Lumens: 43,044

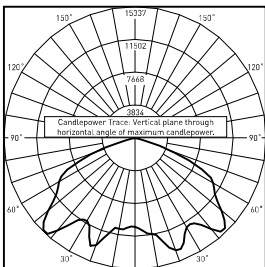


OSQ-HO-A**-120D-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G., 60° Tilt
Initial Delivered Lumens: 41,542
Initial FC at grade

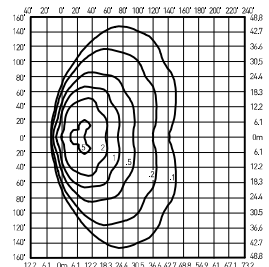
120° Flood Distribution				
Lumen Package	3000K/70 CRI	4000K/70 CRI	5000K/90 CRI	5700K/70 CRI
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
40L	39,258	41,542	33,469	42,411
50L	47,939	50,729	41,055	51,790
65L	62,326	65,953	52,766	67,332

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

WSN



CESTL Test Report #: PL07695-001A
OSQ-A**-WSN-U-30K-UL
Initial Delivered Lumens: 23,116



OSQ-HO-A**-WSN-40L-40K-UL
Mounting Height: 25' (7.6m) A.F.G., 60° tilt
Initial Delivered Lumens: 41,542
Initial FC at grade

Wide Sign Distribution				
Lumen Package	3000K/70 CRI	4000K/70 CRI	5000K/90 CRI	5700K/70 CRI
	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*	Initial Delivered Lumens*
40L	39,258	41,542	33,469	42,411
50L	47,939	50,729	41,055	51,790
65L	62,326	65,953	52,766	67,332

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

Luminaire EPA

Adjustable Arm Mount – OSQ-HO-AA Weight: 40L/50L, 120-480V: 73.0 lbs. (33.1kg); 65L, 120-480V: 75.0 lbs. (34.0kg)							
Single	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	3 @ 180°	4 @ 180°	4 @ 90°
Tenon Configuration (0°–90° Tilt); If used with Cree Lighting tenons, please add tenon EPA with Luminaire EPA							
PB-1A*; PW-1A3**	PB-2A*; PB-2R2.375; PW-2A3**	PB-2A*; PB-2R2.375; PW-2A3**	PB-3A*; PB-3R2.375	PB-3A*; PB-3R2.375	PB-3A*; PB-3R2.375	PB-4A*(180); PB-4R2.375	PB-4A*(90); PB-4R2.3(90)
0° Tilt							
1.16	2.03	2.03	2.90	2.63	2.90	3.77	3.77
10° Tilt							
1.67	3.06	3.06	4.45	4.27	4.45	5.83	5.83
20° Tilt							
2.35	4.41	4.41	6.48	6.34	6.48	8.54	8.54
30° Tilt							
2.99	5.70	5.70	8.41	8.29	8.41	11.12	11.12
45° Tilt							
3.85	7.41	7.41	10.98	10.89	10.98	14.54	14.54
60° Tilt							
4.51	8.73	8.73	12.95	12.91	12.95	17.18	17.18
70° Tilt							
4.83	9.37	9.37	13.91	13.88	13.91	18.45	18.45
80° Tilt							
5.02	9.76	9.76	14.50	14.44	14.50	19.24	19.24
90° Tilt							
5.02	9.76	9.76	14.50	14.44	14.50	19.24	19.24

* Specify pole size: 3 [3"], 4 [4"], 5 [5"], or 6 [6"] for single, double or triple luminaire orientation or 4 [4"], 5 [5"], or 6 [6"] for quad luminaire orientation
 ** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 [3"], 4 [4"], 5 [5"], or 6 [6"]

Tenon EPA

Part Number	EPA
PB-1A*	None
PB-2A*	0.82
PB-3A*	1.52
PB-4A*(180)	2.22
PB-4A*(90)	1.11
PB-2R2.375	0.92
PB-3R2.375	1.62
PB-4R2.375	2.32
PW-1A3**	0.47
PW-2A3**	0.94
WM-2	0.08
WM-4	0.25
WM-DM	None

* Specify pole size: 3 [3"], 4 [4"], 5 [5"], or 6 [6"] for single, double or triple luminaire orientation or 4 [4"], 5 [5"], or 6 [6"] for quad luminaire orientation
 ** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 [3"], 4 [4"], 5 [5"], or 6 [6"]

Tenons and Brackets† (must specify color)	
Square Internal Mount Vertical Tenons (Steel) - Mounts to 3-6" (76-152mm) square aluminum or steel poles PB-1A* – Single PB-2A* – 180° Twin PB-3A* – 180° Triple PB-4A*[90] – 90° Quad PB-4A*[180] – 180° Quad	Round External Mount Vertical Tenons (Steel) - Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons PB-2R2.375 – Twin PB-3R2.375 – Triple PB-4R2.375 – Quad
Wall Mount Brackets - Mounts to wall or roof WM-2 – Horizontal for OSQ-HO-AA mount WM-4 – L-Shape for OSQ-HO-AA mount WM-DM – Plate for OSQ-HO-DA mount	Mid-Pole Bracket - Mounts to square pole PW-1A3** – Single PW-2A3** – Double

† Refer to the [Bracket and Tenons spec sheet](#) for more details

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

Luminaire EPA

Fixed Arm Mount – OSQ-HO-DA Weight: 40L/50L, 120-480V: 70.0 lbs. (31.8kg); 65L, 120-480V: 72.0 lbs. (32.7kg)					
Single	2 @ 180°	2 @ 90°	3 @ 90°	3 @ 120°	4 @ 90°
1.06	1.93	1.93	2.80	2.53	3.67

Direct Mount Configurations

Compatibility with OSQ-HO-DA Direct Arm Mount					
Input Delivered Lumens	2 @ 90°	2 @ 180°	3 @ 90°	3 @ 120°	4 @ 90°
3" Square					
40L/50L/65L	N/A	✓	N/A	N/A	N/A
3" Round					
40L/50L/65L	N/A	✓	N/A	✓	N/A
4" Square					
40L/50L/65L	✓	✓	✓	N/A	✓
4" Round*					
40L/50L/65L	✓	✓	✓	✓	✓
5" Square					
40L/50L/65L	✓	✓	✓	N/A	✓
5" Round					
40L/50L/65L	✓	✓	✓	✓	✓
6" + Square					
40L/50L/65L	✓	✓	✓	N/A	✓
6" + Round					
40L/50L/65L	✓	✓	✓	✓	✓

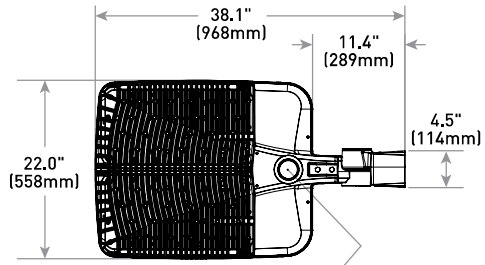
* Note: only 0.10" clearance between mounts on 4 @ 90°

OSQ™ High Output LED Area/Flood Luminaire featuring Cree TrueWhite® Technology

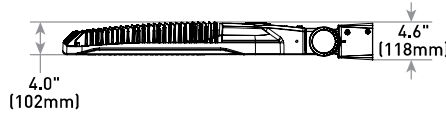
AA Mount



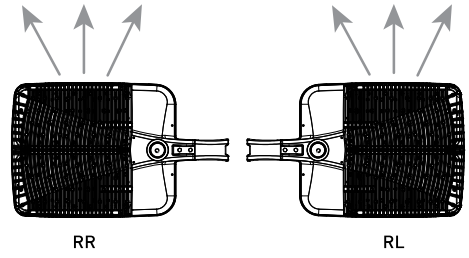
Lumen Package	Voltage	Weight
40/50L	120-480V	73.0 lbs. (33.1kg)
65L	120-480V	75.0 lbs. (34.0kg)



NEMA® 7-Pin Photocell Receptacle location (ordered as an option)



RR/RL Configuration





Town of Southern Shores

5375 N. Virginia Dare Trail, Southern Shores, NC 27949
Phone 252-261-2394 / Fax 252-255-0876
info@southernshores-nc.gov
www.southernshores-nc.gov

PLANNING BOARD GENERAL APPLICATION FORM TOWN OF SOUTHERN SHORES, NC 27949

Date: 6/15/21 Filing Fee: \$.10/SF Receipt No. 964735 Application No. SPA-2101

NOTE: The Planning Board will follow the specific provisions of the Zoning Ordinance Chapter 36. Article X Administration and Enforcement, Section 36-299.

Please check the applicable Chapter/Article:

- Chapter 30. Subdivisions-Town Code
- Chapter 36. Article VII. Schedule of District Regulations. Section 36-207 C-General Commercial District
- Chapter 36. Article IX. Planned Unit Development (PUD)
- Chapter 36. Article X. Administration and Enforcement, Section 36-299 (b) Application for Building Permits and Site Plan Review other than one and two family dwelling units *
- Chapter 36. Article X. Section 36-300-Application for Permit for Conditional Use
- Chapter 36. Article X. Section 36-303 Fees
- Chapter 36. Article X. Section 36-304-Vested Rights
- Chapter 36. Article XIV. Changes and Amendments

Certification and Standing: As applicant of standing for project to be reviewed I certify that the information on this application is complete and accurate.

Applicant

Name Southern Shores Owner, LLC *(Applicant must be property owner by Town policy)*
 Address: 610 E. Morehead St., Suite 100
Charlotte, NC 28202
 Phone 704.319.4922 Email lkpartee@astonprop.com

Junior Box = 24,000sf
 Small Shop = 6,000sf
 Total = 30,000sf

Applicant's Representative (if any)

Name Aston Properties, L. Karen Partee, VP Const & Dev
 Agent, Contractor, Other (Circle one)
 Address 610 E. Morehead St., Suite 100
Charlotte, NC 28202
 Phone 704.319.4922 Email lkpartee@astonprop.com

Fee Due = \$3,000.00

Property Involved: Southern Shores Martin's Point (Commercial only)

Address: 5539 N. Croatan Highway Zoning district C
PIN 986720717057
 Section _____ Block _____ Lot _____ Lot size (sq.ft.) 18.1 Ac

Request: Site Plan Review Final Site Plan Review Conditional Use Permitted Use
 PUD (Planned Unit Development) Subdivision Ordinance Vested Right Variance

Change To: Zoning Map Zoning Ordinance

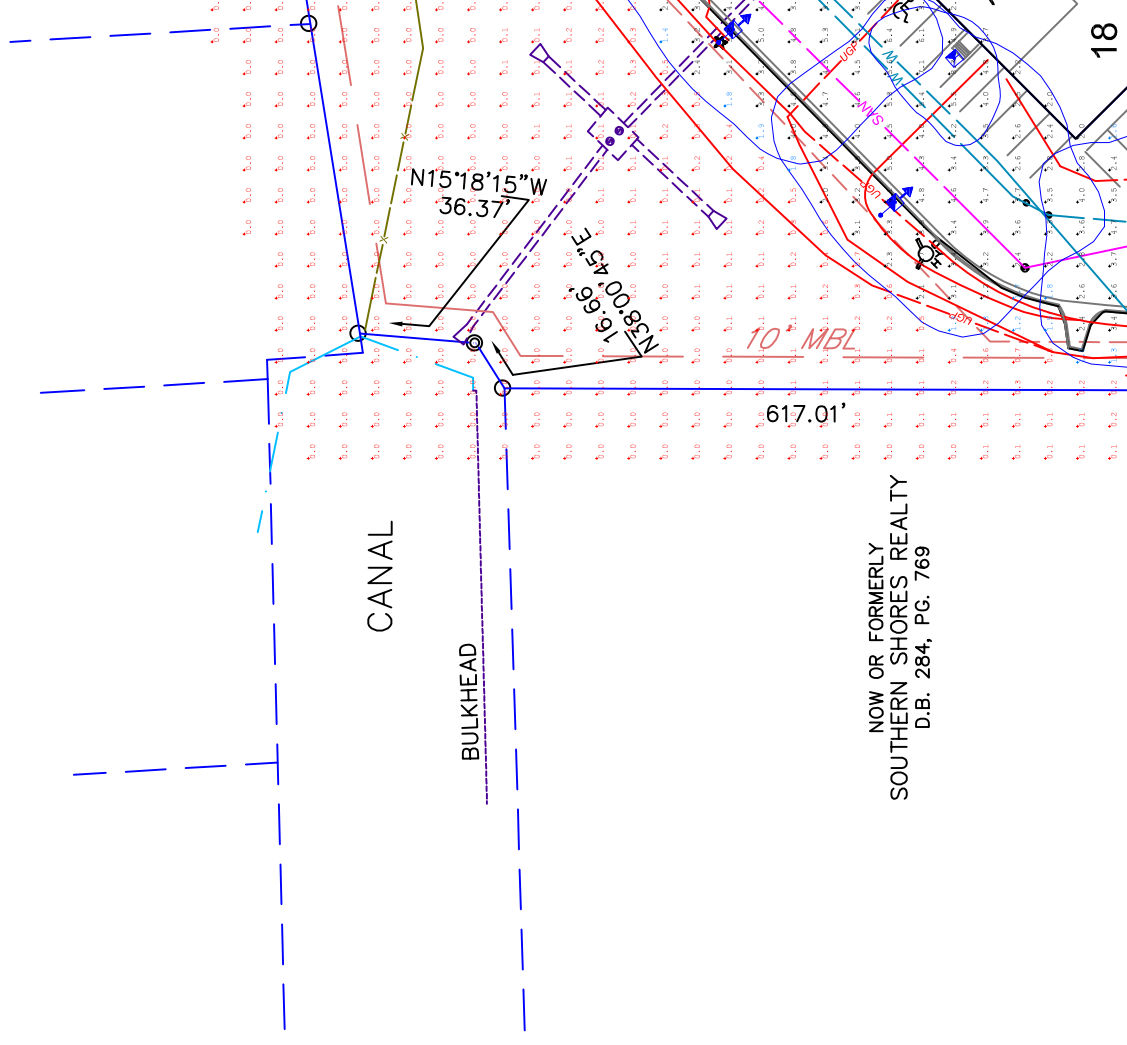
L. Karen Partee
 Signature

June 14, 2021
 Date

* Attach supporting documentation and twelve copies of the site plan.

REVISIONS

REV #	DATE	BY:



NOW OR FORMERLY
SOUTHERN SHORES REALTY
D.B. 284, PG. 769

XSP Series

XSPW™ LED Wall Mount Luminaire featuring Cree TrueWhite® Technology

Product Description

The XSPW™ LED wall mount luminaire has a slim, low profile design intended for outdoor wall mounted applications. The rugged lightweight aluminum housing and mounting box are designed for installation over standard single gang J-Boxes and mud ring single gang J-Boxes. The luminaire allows for through-wired or conduit entry from the top, bottom, sides and rear. The housing design is intended specifically for LED technology including a weathertight LED driver compartment and thermal management. Optic design features industry-leading NanoOptic® Precision Delivery Grid™ system in multiple distributions.

Applications: General area and security lighting

Performance Summary

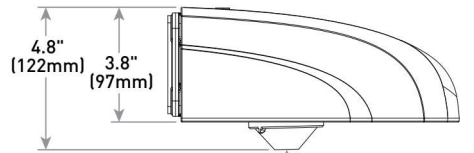
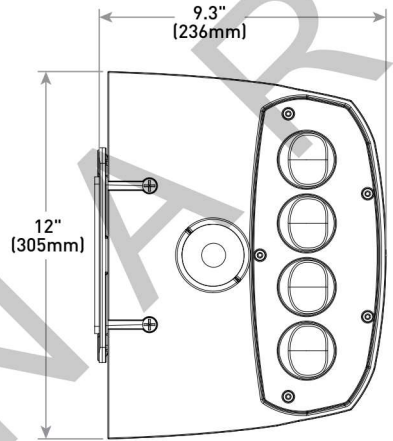
NanoOptic® Precision Delivery Grid™ optic
Assembled in the U.S.A. of U.S. and imported parts
CRI: Minimum 70 CRI (3000K, 4000K & 5700K); 90 CRI (5000K)
CCT: 3000K, 4000K, 5000K, 5700K
Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

* See <http://lighting.cree.com/warranty> for warranty terms

Accessories

Field-Installed
Beauty Plate WM-PLT12** - 12" [305mm] Square WM-PMT14** - 14" [356mm] Square - Covers holes left by incumbent wall packs

** Must specify color



Multi-Level Sensor location (ordered as an option)

Weight
9.5 lbs. [4.3kg]

Ordering Information

Example: XSPW-B-WM-2ME-2L-30K-UL-BK

XSPW	B	WM						
Product	Version	Mounting	Optic	Lumen Package*	CCT	Voltage	Color Options	Options
XSPW	B	WM Wall	2ME Type II Medium 3ME Type III Medium 4ME Type IV Medium	2L 2,500 lumens 4L 4,200 lumens 6L 6,000 lumens 8L 8,425 lumens	30K 3000K - 70 CRI 40K 4000K - 70 CRI 50K 5000K - 90 CRI 57K 5700K - 70 CRI	UL Universal 120-277V UH Universal 347-480V 34 347V	BK Black BZ Bronze SV Silver WH White	ML Multi-Level - Refer to ML spec sheet for details - Available with UL voltage only P Button Photocell - Not available with ML or PML option - Available with UL and 34 voltages only PML Programmable Multi-Level - Refer to PML spec sheet for details - Available with UL voltage only

* Lumen Package selection codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values



Rev. Date: VersionB V1 R4 12/22/2017



XSPW™ LED Wall Mount Luminaire featuring Cree TrueWhite® Technology

Product Specifications**CREE TRUEWHITE® TECHNOLOGY**

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Luminaire housing specifically designed for LED applications with advanced LED thermal management and driver
- Luminaire mounting box designed for installation over standard single gang J-Boxes and mud ring single gang J-Boxes
- Luminaire can also be direct mounted to a wall and surface wired
- Secures to wall with four 3/16" (5mm) screws (by others)
- Conduit entry from top, bottom, sides, and rear
- Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, black, white and bronze are available
- **Weight:** 9.5lbs. (4.3kg)

ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Controls by others
- **10V Source Current:** 0.15 mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed (pending)
- Suitable for wet locations
- Designed for downlight applications only
- Designed and suitable for easy through-wiring Enclosure rated IP66 per IEC 60529 (pending)
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2 (pending)
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions (pending)
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA

Delivered Lumens & Electrical Data*									
Lumen Package	CCT/CRI	System Watts 120-480V	Efficacy	Total Current (A)					
				120V	208V	240V	277V	347V	480V
2L	30K/70 CRI	20	125	0.19	0.11	0.09	0.08	0.06	0.05
	40K/70 CRI	19	132	0.18	0.10	0.09	0.08	0.06	0.04
	50K/90 CRI	24	104	0.22	0.13	0.11	0.10	0.08	0.06
	57K/70 CRI	19	132	0.18	0.10	0.09	0.08	0.06	0.04
4L	30K/70 CRI	33	127	0.31	0.18	0.15	0.13	0.11	0.08
	40K/70 CRI	32	131	0.30	0.17	0.15	0.13	0.10	0.07
	50K/90 CRI	41	102	0.38	0.22	0.19	0.16	0.13	0.09
	57K/70 CRI	31	135	0.29	0.17	0.14	0.12	0.10	0.07
6L	30K/70 CRI	50	120	0.46	0.27	0.23	0.20	0.16	0.12
	40K/70 CRI	48	125	0.44	0.26	0.22	0.19	0.15	0.11
	50K/90 CRI	63	95	0.58	0.34	0.29	0.25	0.20	0.15
	57K/70 CRI	46	130	0.43	0.25	0.21	0.18	0.15	0.11
8L	30K/70 CRI	77	109	0.71	0.41	0.36	0.31	0.25	0.18
	40K/70 CRI	73	115	0.68	0.39	0.34	0.29	0.23	0.17
	50K/90 CRI	77	93	0.71	0.41	0.36	0.31	0.25	0.18
	57K/70 CRI	72	117	0.67	0.38	0.33	0.29	0.23	0.17

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%

XSPW Series Lumen Maintenance Factors¹

Ambient	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Projected ² LMF	100K hr Calculated ³ LMF
5°C (41°F)	1.04	1.00	0.96	0.92	0.88
10°C (50°F)	1.03	0.99	0.95	0.91	0.87
15°C (59°F)	1.02	0.98	0.94	0.90	0.86
20°C (68°F)	1.01	0.97	0.93	0.89	0.85
25°C (77°F)	1.00	0.96	0.92	0.88	0.84

¹ Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors

² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

XSPW™ LED Wall Mount Luminaire featuring Cree TrueWhite® Technology

Type II Medium Distribution								
Lumen Package	3000K		4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,500	TBD	2,500	TBD	2,500	TBD	2,500	TBD
4L	4,200	TBD	4,200	TBD	4,200	TBD	4,200	TBD
6L	6,000	TBD	6,000	TBD	6,000	TBD	6,000	TBD
8L	8,425	TBD	8,425	TBD	7,125	TBD	8,425	TBD

Type III Medium Distribution								
Lumen Package	3000K		4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,500	TBD	2,500	TBD	2,500	TBD	2,500	TBD
4L	4,200	TBD	4,200	TBD	4,200	TBD	4,200	TBD
6L	6,000	TBD	6,000	TBD	6,000	TBD	6,000	TBD
8L	8,425	TBD	8,425	TBD	7,125	TBD	8,425	TBD

Type IV Medium Distribution								
Lumen Package	3000K		4000K		5000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
2L	2,500	TBD	2,500	TBD	2,500	TBD	2,500	TBD
4L	4,200	TBD	4,200	TBD	4,200	TBD	4,200	TBD
6L	6,000	TBD	6,000	TBD	6,000	TBD	6,000	TBD
8L	8,425	TBD	8,425	TBD	7,125	TBD	8,425	TBD

FINANCIAL ADVISORY AGREEMENT

The Financial Advisory Agreement (the "Agreement") is entered into on July 29, 2021, between the Town of Southern Shores, NC ("the Town") and DEC Associates, Inc. ("the Advisor"). The Agreement is specific to a Beach Nourishment/Shoreline Protection project financing specifically "the Financing" closing on or about October 2021.

In connection with the Financing, the Advisor will perform the following services:

1. Review financial and other information related to the Town and the project,
2. Evaluate alternative approaches and structures (GOs, COPs, Special Obligation, other structures, if available) for the Financing,
3. Assist in directing and coordinating credit processes to maximize the credit rating with lenders,
4. Assist in the development of a well-defined marketing strategy to achieve the best possible financing terms including the lowest cost, interest rate, and total debt service for the Financing,
5. Assist and advise in the selection of financing mode(s) and lender(s) and the negotiation of terms,
6. Assist the Town in working with the Local Government Commission, Bond Counsel, Town Attorney and others to implement the Financing,
7. Make presentations to Town Council, as requested, to discuss the FEMA Special Obligation Bonds.
8. Assist in the closing of the Financing by coordinating, reviewing, monitoring, and following-through on all elements of the financing process to insure timely and proper closing of the financing.

For these services DEC Associates, Inc will charge as the fee a sum of \$30,000, plus out of pocket expenses. Actual out of pocket expenses will be billed with the fee invoice. This Agreement is cancellable by the Town or the Advisor with thirty (30) days' notice. Upon notice by either party, services provided by DEC will be prorated and billed to the Town. This fee does not include services rendered by others.

Our firm is registered with the Securities and Exchange Commission (SEC) as a Municipal Advisor and has MA and MA-I filings with the SEC. Pursuant to our best practices and registration requirements, our firm, after reasonable diligence, has no known conflicts of interest pursuant to this contract. Additionally, our firm is not aware of any material legal or disciplinary events applying to it.



Town of Southern Shores, North Carolina



DEC Associates, Inc.

 Cliff Ogburn

 Town Manager

 Title

 Date



 Andrew Carter

 Director

 Title

 July 29, 2021

 Date

**Town of Southern Shores
Budget Amendment Number # 11**

**Streets, Beaches, etc
Increases**

Decreases

<u>Account Number</u>	<u>Description</u>	<u>Amount</u>	<u>Account Number</u>	<u>Description</u>	<u>Amount</u>
	<u>Revenues</u>				
40-39909	Unassigned Fund Balance	\$32,500			
	<u>Expenditures</u>				
57-50137	BN-Financial Planning	\$32,500			

Explanation: Cost of DEC Associates, Inc. to provide financial advising to the Town for the Beach Nourishment Project.
The expected closing date to be October 2021.

Recommended By:

Approved By:

Cliff Ogburn, Town Manager

Tom Bennett, Mayor

Date



**TOWN OF SOUTHERN SHORES, NORTH CAROLINA
RESOLUTION 2021-09-01**

RESOLUTION OF THE TOWN OF SOUTHERN SHORES, NORTH CAROLINA, DIRECTING THE APPLICATION TO THE LOCAL GOVERNMENT COMMISSION FOR APPROVAL OF A SPECIAL OBLIGATION BOND; REQUESTING LOCAL GOVERNMENT COMMISSION APPROVAL OF THE TOWN'S SPECIAL OBLIGATION BOND; AND CERTAIN RELATED MATTERS

WHEREAS, the Town Council (the "*Town Council*") of the Town of Southern Shores, North Carolina (the "*Town*") hereby determines that it is necessary to provide beach nourishment for the purpose of beach erosion control and flood and hurricane protection works (the "*Project*");

WHEREAS, the Town has created two Municipal Service Districts (the "*MSDs*"), in accordance with Article 23 of Chapter 160A of the North Carolina General Statutes, in which the Project will be located;

WHEREAS, the Town Council is considering the issuance of a special obligation bond to finance the Project and related costs of issuance (the "*2021 Bond*") in an aggregate principal amount currently estimated not to exceed \$8,100,000;

WHEREAS, the Town has retained (A) Parker Poe Adams & Bernstein LLP, as bond counsel for the 2021 Bond and (B) DEC Associates Inc., as financial advisor for the 2021 Bond;

WHEREAS, the Town Council wants the Town Finance Officer (1) to file with the North Carolina Local Government Commission (the "*Commission*") an application for its approval of the 2021 Bond, on a form prescribed by the Commission, (2) to request in such application that the Commission approve (a) the negotiation of the sale of the 2021 Bond to a financial institution (the "*Purchaser*") to be determined by the Authorized Officers, as defined herein, through a private placement and (b) the financing team for the 2021 Bond, (3) to state in such application such facts and to attach thereto such exhibits in regard to the 2021 Bond and to the Town and its financial condition, as may be required by the Commission, and (4) to take all other action necessary for the issuance of the 2021 Bond;

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF SOUTHERN SHORES, NORTH CAROLINA, AS FOLLOWS:

Section 1. That the 2021 Bond is to be issued by the Town for the purpose of providing funds (1) to finance the costs of the Project and (2) to pay the costs of issuing the 2021 Bond, as set out fully in the documents attached to the Town's application to the Commission. The use of the proceeds of the 2021 Bond, as described, is necessary in order to provide for beach erosion control and flood and hurricane protection works in the MSDs.

Section 2. That the Finance Officer, or her designee, is hereby authorized directed and designated to file an application with the Commission for its approval of the issuance of the 2021 Bond and is hereby authorized to request bids from financial institutions for the purchase of the 2021 Bond.

Section 3. In addition to the bond counsel and the financial advisor, the Authorized Officers are each hereby authorized to retain the services of other professionals as they deem necessary and appropriate to complete the transactions contemplated by this Resolution.

Section 4. The Town Council finds and determines and asks the Commission to find and determine from the Town’s application and supporting documentation:

- (1) that the issuance of the 2021 Bond is necessary or expedient;
- (2) that the not to exceed stated principal amount of the 2021 Bond will be sufficient but is not excessive, when added to other money available to the Town, for the proposed Project;
- (3) that the proposed Project is feasible;
- (4) that the Town’s debt management procedure and policies are good; and
- (5) that the 2021 Bond can be marketed at a reasonable interest cost to the Town.

Section 5. The Mayor, the Town Manager, the Finance Officer and the Town Clerk are hereby authorized, individually and collectively (the “Authorized Officers”), to do any and all other things necessary to complete the steps necessary for the issuance of the 2021 Bond.

Section 6. This Resolution is effective on the date of its adoption.

Thomas G. Bennett, Mayor
Town of Southern Shores, NC

Attest: _____
Sheila Kane, Town Clerk

STATE OF NORTH CAROLINA)
)
COUNTY OF DARE) SS:

I, *Sheila Kane*, Town Clerk of the Town of Southern Shores, North Carolina, ***DO HEREBY CERTIFY*** that the foregoing is a true and exact copy of a resolution entitled “**RESOLUTION OF THE TOWN OF SOUTHERN SHORES, NORTH CAROLINA, DIRECTING THE APPLICATION TO THE LOCAL GOVERNMENT COMMISSION FOR APPROVAL OF A SPECIAL OBLIGATION BOND; REQUESTING LOCAL GOVERNMENT COMMISSION APPROVAL OF THE TOWN’S SPECIAL OBLIGATION BOND; AND CERTAIN RELATED MATTERS**” adopted by the Town Council of the Town of Southern Shores, North Carolina, at a meeting held on the 7th day of September, 2021.

WITNESS my hand and the corporate seal of the Town of Southern Shores, North Carolina, this the 7th day of September 2021.

[Seal]

Sheila Kane
Town Clerk
Town of Southern Shores, North Carolina



AGENDA ITEM SUMMARY

MEETING DATE: September 7, 2021

ITEM TITLE: Consideration of Dare County Tourism Impact Grant

ITEM SUMMARY: Staff is requesting authorization to apply to the Dare County Tourism Board for a Tourism Impact Grant. The grant request would be for funding to secure traffic data that will be instrumental in helping the Town better evaluate and understand the impacts that tourism related traffic generates. Further funding may be requested to purchase equipment used to mitigate the impacts of tourism generated traffic. The town has contracted in previous summers to place signage and barricades along US 158 at South Dogwood to prohibit left hand turns on to South Dogwood. The grant request would be in an amount not to exceed \$50,000 and requires no match. The information collected is likely useful on a county wide level.

Companies such as Strelight Data, collect location records from smart phones and navigation devices in connected cars and trucks. Data is derived from navigation-GPS data and Location-Based Services (LBS) data. Adding context from numerous other sources like parcel data and digital road network data, they can develop a view into traffic patterns in Southern Shores as well as all of Dare County.

This data can help us to better understand where the traffic that cuts through the residential streets of Southern Shores originates from including from within the county or out. We can determine the volume of traffic that uses Southern Shores as a cut through by either turning off US 158 or NC 12, and where it exits the residential streets including the turning movements in general. This information would be on a platform that we can access and analyze data to see the routes taken to and through the Town.

STAFF RECOMMENDATION: Staff recommends approval of a grant application for the described purposes.

REQUESTED ACTION: A motion to authorize the Town Manager to apply for a DCTB Tourism Impact Grant.

ATTACHMENTS: Blank copy of Dare County Tourism Impact Grant Application

White paper explaining Strelight Data's Methodology and Data Sources

**DARE COUNTY TOURISM BOARD
(DBA OUTER BANKS VISITORS BUREAU)
TOURISM IMPACT GRANT
RULES & QUALIFICATIONS**

Created 6/21/2019

Program Intent

Dare County Tourism Board's Tourism Impact Grant (TIG) program was established to financially assist Dare County Governmental Units and other Non-profit Organizations with programs or services needed due to the impact of tourism on the County.

The Dare County Tourism Board (hereinafter "Tourism Board" or "Board") makes funding for TIG grants available by an annual appropriation as approved by the Board from short-term unappropriated funds. Short-term funds accrue from 30% of the ¼ of the 1% occupancy tax and 1% prepared meal tax revenues generated annually in the Special Revenue Fund.

Qualified applicants must submit an application containing an outline of the project, the impact of the project on tourism, a statement of need, a copy of the most recent balance sheet, and a budget overview of the entire project's funding and expenditures; which shall include other grants or secured funding services.

Applicant Assumes This Risk

Should local, state or federal laws prohibit the Dare County Tourism Board's performance, disband the Dare County Tourism Board or repeal the Board's enabling legislation, then the Dare County Tourism Board shall have no obligation to fulfill the terms and obligations of this agreement, including, but not limited to funding and reimbursement of applicant's expenditures. If the Dare County Tourism Board's authority hereunder is limited or terminated, then this Agreement shall be void as of the effective date of said ordinance, law or regulation and the Dare County Tourism Board shall be forgiven all performance obligations that are its responsibility under this agreement that is or are made contrary to law. All applicants must agree to this tremendous limitation to the Dare County Tourism Board's performance obligations, assume the risks associated therewith, including the risk that the Applicant may not be reimbursed for expenditures under this program.

Grant Criteria

- A. Applicants shall be Dare County Local Governments or a non-profit entity with its principal place of business in Dare County and having its non-profit status conferred in writing under Section 501 of the U.S. Internal Revenue Code.
- B. Project must be located in Dare County

**DARE COUNTY TOURISM BOARD
(DBA OUTER BANKS VISITORS BUREAU)
TOURISM IMPACT GRANT
RULES & QUALIFICATIONS**

- C. Match required for the Tourism Impact Grant shall be based on the amount awarded, as follows:

AWARDED AMOUNT	REQUIRED MATCH AMOUNT
Below \$50,000	No match required
\$50,000 - \$125,000	At least 25% match required from applicant
Over \$125,000	At least 50% match required from applicant

- D. Tourism Impact Grant Projects must be completed by the end of one full fiscal year from the date of the award. Project extensions must be approved in writing by the Board or staff if the Board has granted that authority to the staff.
- E. The Tourism Board will monitor the progress of each project. Should a project not materialize, or should it progress at a rate which would limit its viability (in the sole discretion of the Board), then the Board shall terminate or withdraw the award and grant itself, and the funds will be unencumbered and revert to the Tourism Impact Grant fund for future projects.
- F. Matching funds and expenditures must be related to the project covered by this application and not incurred prior to the date of grant submission.
- G. Grants will be paid as a reimbursement once the project is complete and all paid receipts (for both grant and match) presented as described under the terms of the Contract Agreement.
- H. Expenditures shall not be used for operations customarily funded by Governmental entities (including but not limited to repairs and maintenance).
- I. The following items are non-reimbursable: Preliminary architectural, engineering, surveying and other forms of professional services, in-kind services (ex. Administrative salaries of public employees) and any local, state or federal tax.
- J. If grant funds will be used to purchase and/or to make improvements to real property, then the real property must be lien and encumbrance free (except as to liens and/or encumbrances that are specifically approved by the Tourism Board in writing). Applicant may be required to provide the Tourism Board with a written “opinion on title” by a North Carolina licensed attorney. The scope and form of the opinion will be determined by the Tourism Board on a case-by-case basis.

**DARE COUNTY TOURISM BOARD
(DBA OUTER BANKS VISITORS BUREAU)
TOURISM IMPACT GRANT
RULES & QUALIFICATIONS**

- K. Property (real or personal) purchased and/or developed with this grant assistance shall be retained for use of the public and the applicant agrees to return the amount of the grant to the Tourism Board should the property or facility be converted to some other use. The Board, in its sole discretion, may require certain restrictions or easements be recorded in the public registry to evidence this requirement and obligation of the applicant or property owner.
- L. Grants cannot be transferred or assigned to a third party, unless approved by the Dare County Tourism Board in writing.
- M. Requirement for reimbursement for approved project must have the following:
1. Approvals from all organizations directly or indirectly involved in proposed project must agree with all terms and conditions outlined. Burden of compliance rests with the applying organization.
 2. Appropriate sign recognition of contribution made by the Dare County Tourism Board. To include Board logo and “Project Funded In Part By The Dare County Tourism Board” or other similar language approved by the Grant Administrator.
 3. If not a physical capital project, appropriate recognition of contribution made by the Dare County Tourism Board, including logo, must be in press releases and all associated publicity materials.
 4. Approved signage or other appropriate recognition must be maintained permanently.
 5. Copies of all invoices and payments related to the project.
- N. Applicant may only apply for one TIG grant per project, per Fiscal Year.
- O. Funding of phase projects does not obligate the Dare County Tourism Board to funding of any future phases of the same project.
- P. **Approved organization must come to the Outer Banks Visitors Bureau to meet with the Grant Administrator prior to submitting an application.** The purpose of this process is to jointly review the application and answer any questions the applicant may have.

**DARE COUNTY TOURISM BOARD
(DBA OUTER BANKS VISITORS BUREAU)
TOURISM IMPACT GRANT
RULES & QUALIFICATIONS**

- Q. Applications may be requested at any time; however, complete applications must be submitted between **September 1 and September 30** by U.S. Postal Service. Personal hand-delivery of applications will be accepted during this period, Monday through Friday 9:00 AM – 4:30 PM (excluding any holiday). A receipt must be signed by a Bureau employee and the delivery person as evidence of delivery within the allotted application period. One original and 15 copies clipped together (**NOT STAPLED**) of the application and any collateral material is required.
- R. Applications will be reviewed by the Grant Administrator as they are received. The applicant will be notified within seven days of receiving the application if it does not meet the requirements of the grant. The applicant will have a chance to modify, adjust and correct the application before it is submitted to the Steering Committee. The Grant Administrator and the Executive Director, or his/her designee will be available to assist the applicants.
- S. All proposals that meet mechanical guidelines will be forwarded to the Steering Committee for consideration. The Steering Committee will make its recommendations to the full Board of Directors at a regularly scheduled Board meeting. Recommended Tourism Impact Grant projects will then be forwarded to the Dare County Board of Commissioners for consensus.
- T. Applying organization will be notified within seven days following presentation to the Dare County Board of Commissioners as to acceptance or rejection of Tourism Impact Grant awards.

I have read and reviewed the documents and understand that our organization bears the responsibility to understand and comply with all terms and conditions. This application vests applicant with no rights or expectations of approval and certainly not receipt of funds.

Name and title of person making application: _____

Name of Local Government or Non-Profit: _____

Signature

Date

STREETLIGHT

Our Methodology and Data Sources

Updated October 2018

StreetLight InSight® Metrics: Our Methodology and Data Sources

This white paper describes the data sources and methodology employed by StreetLight Data to develop travel pattern Metrics. This document is relevant for all *StreetLight InSight* Metrics, whether they are available via the *StreetLight InSight* platform, via data API, or via custom delivery.

Table of Contents

<i>Locational Data Sources and Probe Technologies</i>	1
<i>Data Processing Methodology</i>	4
<i>Measuring Sample Size</i>	8

Locational Data Sources and Probe Technologies

StreetLight Data’s Metrics are currently derived from two types of locational “Big Data”: navigation-GPS data and Location-Based Services (LBS) data. StreetLight has incorporated and evaluated several other types of mobile data supply in the past, including cellular tower and ad-network derived data.

As the mobile data supply landscape has evolved and matured over time, we have determined that a combination of navigation-GPS data and LBS data is best suited to meet the needs of transportation planners. Our team phased out the use of cellular tower data because its low spatial precision and infrequent pinging frequency did not meet our standards for use in corridor studies, routing analyses, and many other Metrics. LBS data is suitable for these studies and offers a comparable sample size to cellular tower data.

As of July 2018, StreetLight’s data repositories process analytics for about 65M devices, or ~23% of the adult US and Canadian population, and about 12% of commercial truck trips. As detailed later in this report, sample size varies regionally, historically and by type of analysis conducted.

Our data supply grows each month as updated data sets are provided by suppliers. We currently use one major navigation-GPS data supplier, INRIX, and one LBS data supplier, Cuebiq. See Table 1, below, for more details on the different locational data sources StreetLight Data has recently evaluated.

Table 1 – Overview of Big Data supply options for transportation analytics. StreetLight recommends and uses a mix-and-match approach currently focused on navigation-GPS and LBS data types.

Type	Pros	Cons	Notes
<p>Cellular Tower: Derived from cellular tower “triangulation” and/or “multi-lateration” (100-2000m spatial precision)</p>	<ul style="list-style-type: none"> • Large sample size - Most telecom providers have over 30M devices • Ability to infer home and work locations 	<ul style="list-style-type: none"> • Very poor spatial precision (average of several hundred meters) • Infrequent pings for some suppliers • High cost • Consumers typically opt-out of data collection (vs. opt-in) • No differentiation of personal and commercial trips • Poor coverage in rural areas • No capture of short trips • No ability to reliably infer active modes of transportation 	<p>We haven’t seen the US cellular industry making investments to improve these weaknesses.</p>
<p>In-Vehicle Navigation-GPS: From connected cars and trucks (3-5m spatial precision)</p>	<ul style="list-style-type: none"> • Excellent spatial precision • Very frequent pings • Separates personal and commercial trips • Opt-in for consumers 	<ul style="list-style-type: none"> • Usually lower sample size • Difficulties inferring home/work (depending on supplier practices) • No non-vehicular modes 	<p>This data has been traditionally used for speed products.</p>
<p>Location-Based Services: Mix of navigation-GPS, aGPS, and sensor proximity data from apps that “foreground” and “background” with locational data collection (5-25m spatial precision)</p>	<ul style="list-style-type: none"> • Very good spatial precision • Frequent ping rate • Superior ability to infer trip purpose and trip chains • Ability to infer modes (walk/bike/transit/Gig Driving) accurately • Large and growing sample size • Opt-in for consumers 	<ul style="list-style-type: none"> • Less mature suppliers • Variation in sample size and characteristics across suppliers requires more sophisticated data processing 	<p>Several players are emerging in this new market with very large sample sizes, opening up the possibility of a healthy, competitive supply base.</p>
<p>Ad-Network Derived Data: When user sees an ad on their phone, their location is recorded by the ad-network</p>	<ul style="list-style-type: none"> • Large sample size of individuals 	<ul style="list-style-type: none"> • Few pings per month mean inference of travel patterns is not feasible 	<p>This source should not be used until significant changes are made.</p>

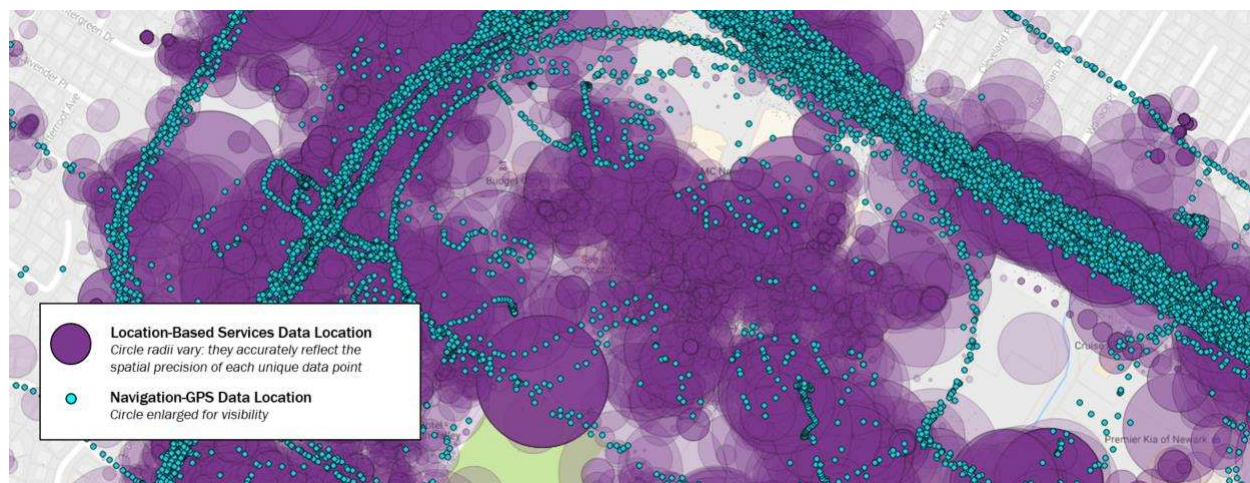
Our Navigation-GPS and LBS Data Sources

In this section, we will explain why access to two different Big Data sources is uniquely beneficial for transportation professionals. First, it is important to note that *StreetLight InSight* is:

- The first and only on-demand platform for planners to process Big Data into customized transportation analytics to their unique specifications, including the type of Big Data they would like to use.
- The first and only online platform that automatically provides comprehensive sample size information for analyses. (See more information on sample size on page 8 of this report.)

We selected navigation-GPS and LBS data because they are complementary resources that provide unique and valuable travel pattern information for transportation planning. See Figure 1 below for a visualization of these data sources.

Figure 1 – Filtered visualization of a subset of unprocessed navigation-GPS and LBS data near a mall in Fremont, California.



Location-Based Services (LBS) Data

LBS data can be processed into personal travel patterns at a comprehensive scale. Its fairly high spatial precision and regular ping rate allow for capturing trips as well as activity patterns (i.e.: home and work locations), trip purpose, and demographics. This makes it an ideal alternative to data derived from cellular towers, which also has a large sample size but unfortunately lacks spatial precision and pings infrequently.

Cuebiq, our LBS data supplier, provides pieces of software (called SDKs) to developers of mobile apps to facilitate Location-Based Services. These smartphone apps include couponing,

dating, weather, tourism, productivity, locating nearby services (i.e.: finding the closest restaurants, banks, or gas stations), and many more apps, all of which utilize their users' location in the physical world as part of their value. The apps collect anonymous user locations when they are operating in the foreground. In addition, these apps may collect anonymous user locations when operating in the background. This "background" data collection occurs when the device is moving. LBS software collects data with WiFi proximity, a-GPS and several other technologies. In fact, locations may be collected when devices are without cell coverage or in airplane mode. Additionally, all the data that StreetLight uses has better than 20-meter spatial precision. (Similarly, our partner INRIX collects some LBS data from navigation-oriented smart phone apps).

Navigation-GPS Data

Navigation-GPS data has a smaller sample size than LBS data, but it does differentiate commercial truck trips from personal vehicle trips. This makes navigation-GPS data ideal for commercial travel pattern analyses. Navigation-GPS data is also suitable for very fine resolution personal vehicle travel analyses (e.g.: speed along a very short road segment) because of its extremely high spatial precision and very frequent ping rate.

INRIX, our navigation-GPS data supplier, provides data that comes from commercial fleet navigation systems, navigation-GPS devices in personal vehicles, and turn-by-turn navigation smartphone apps. (These apps produce data that are like the LBS data described above). Segmented analytics for medium-duty and heavy-duty commercial trucks are available. For commercial trucks, if the vehicle's on-board fleet management system is within INRIX's partner system, INRIX (and thus StreetLight) will collect a ping every one to three minutes whenever the vehicle is on, even if the driver is not actively using navigation.

For personal vehicles, if the vehicle is in INRIX's partner system and has a navigation console, INRIX (and thus StreetLight) will collect a "ping" every few seconds whenever the vehicle is on, even if the driver is not actively using the navigation system. This provides a very complete picture of vehicles' travel patterns and certainty that the trips are in vehicles.

Data Processing Methodology

The following section contains an overview of the fundamental methodology that StreetLight Data uses to develop all Metrics. Each *StreetLight InSight* Metric has specific methodological details which can be shared with clients as needed by request.

Step 1 – ETL (Extract Transform and Load)

First, we pull data in bulk batches from our suppliers' secure cloud environments. This can occur daily, weekly, or monthly, depending on the supplier. The data do not contain any personally identifying information. They have been de-identified by suppliers before they are

obtained by StreetLight. StreetLight Data does not possess data that contains any personally identifying information.

The ETL process not only pulls the data from one environment securely to another, but also eliminates corrupted or spurious points, reorganizes data, and indexes it for faster retrieval and more efficient storage.

Step 2 – Data Cleaning and Quality Assurance

After the ETL process, we run several automated, rigorous quality assurance tests to establish key parameters of the data. To give a few examples, we conduct tests to:

- Verify that the volume of data has not changed unexpectedly,
- Ensure the data is properly geolocated,
- Confirm the data shares similar patterns to the previous batch of data from that particular supplier.

In addition, StreetLight staff visually and manually reviews key statistics about each data set. If anomalies or flaws are found, the data are reviewed by StreetLight in detail. Any concerns are escalated to our suppliers for further discussion.

Step 3 – Create Trips and Activities

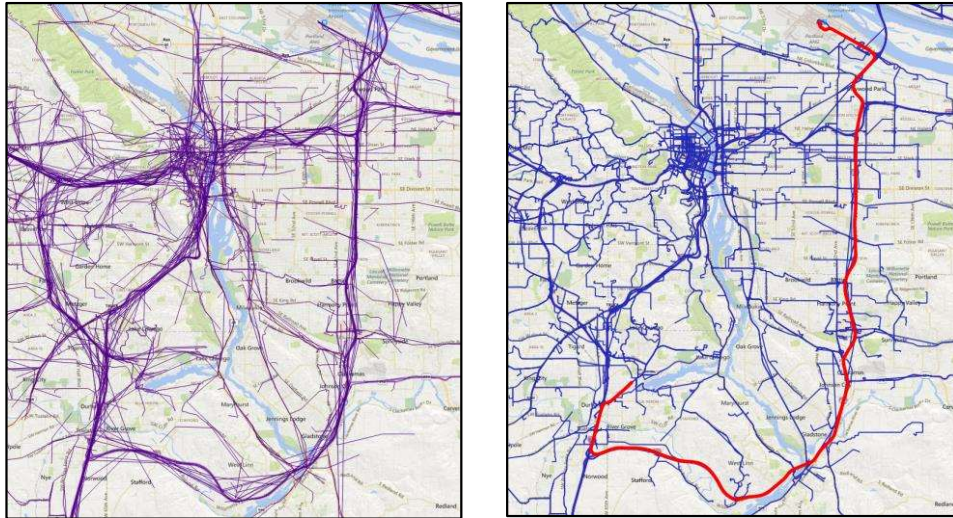
For any type of data supply, the next step is to group the data into key patterns. For example, for navigation-GPS data, a series of data points whose first time stamp is early in the morning, travels at reasonable speeds for a number of minutes, and then stands still for several minutes, could be grouped into a probable “trip.” For LBS data, we follow a similar approach. However, since LBS data continues to ping while the device is at the destination, we see clusters of pings in close proximity at the beginnings and ends of trips.

Step 4 – Contextualize

Next, StreetLight integrates other “contextual” data sets to add richness and improve accuracy of the mobile data. These include road networks and information like speed limits and directionality, land use data, parcel data, and census data, and more.

For example, a “trip” from a navigation-GPS or LBS device is a series of connected dots. If the traveler turns a corner but the device is only pinging every 10 seconds, then that intersection might be “missed” when all the device’s pings are connected to form a complete trip. StreetLight utilizes road network information including speed limits and directionality, to “lock” the trip to the road network. This “locking” process ensures that the complete route of the vehicle is represented, even though discrepancies in ping frequency may occur. Figure 2, below, illustrates this process.

Figure 2: “Unlocked” Trips becoming locked trips.



As another example, if a device that creates LBS data regularly pings on a block with residential land use, and those pings often occur overnight, there is a high probability that the owner of the device lives on that block/block group. This allows us to associate “home-based” trips and a “likely home location” to that device. In addition, we can append distribution of income and other demographics for residents of that census block to that device. That device can then “carry” that distribution everywhere else it goes. (Our demographic data sources for the US are the Census and American Community Surveys. In Canada, our source is Manifold Data.) This allows us to normalize the LBS sample to the population, and to add richness to analytics of travelers such as trip purpose and demographics.

Step 5 – More Quality Assurance

After patterns and context are established, additional automatic quality assurance tests are conducted to flag patterns that appear suspicious or unusual. For example, if a trip appears to start at 50 miles per hour in the middle of a four-lane highway, that start is flagged as “bad.” Flagged trips and activities are not deleted from databases altogether, but they are filtered out from *StreetLight InSight* queries and Metrics.

Step 6 – Normalize

Next, the data is normalized along several different parameters to create the StreetLight Index. As all data suppliers change their sample size regularly (usually increasing it), monthly normalization occurs.

For LBS devices, we perform a population-level normalization for each month of data. For each census block, StreetLight measures the number of devices in that sample that appear

to live there, and makes a ratio to the total population that are reported to live there. A device from a census block that has 1,000 residents and 200 StreetLight devices will be scaled differently everywhere in comparison to a device from a census block that has 1,000 residents and 500 StreetLight devices. Thus, the StreetLight Index for LBS data is normalized to adjust for any population sampling bias. It is not yet “expanded” to estimate the actual flow of travel.

For navigation-GPS trips, StreetLight uses a set of public loop counters at certain highway locations to measure the change in trip activity each month. Then it compares this ratio to the ratio of trips at the location, and normalizes appropriately. In addition, StreetLight systemically performs adjustments to best estimate total, normalized trips based on external calibration points. Such calibration points include public, high-quality vehicle count sensors (for example, those in PEMs systems, or the TMAS repository) as well as reports from surveys and other externally validated sources. Thus, the StreetLight Index for GPS data is normalized to adjust for change in our sample size. It is not normalized for population sampling bias (because we cannot infer home blocks for GPS data). This is one of the reasons we recommend LBS data for all personal travel analytics. The StreetLight Index for GPS data is not yet “expanded” to estimate the actual flow of travel.

Step 7 – Store Clean Data in Secure Data Repository

After being made into patterns, checked for quality assurance, normalized, and contextualized, the data is stored in a proprietary format. This enables extremely efficient responses to queries via the *StreetLight InSight* platform. By the time the data reaches this step, it takes up less than 5% of the initial space of the data before ETL. However, no information has been lost, and contextual richness has been added.

Step 8 – Aggregate in Response to Queries

Whenever a user runs a Metric query via *StreetLight InSight*, our platform automatically pulls the relevant trips from the data repository and aggregates the results. For example, if a user wants to know the share of trips from Origin Zone A to Destination Zone B vs. Destination Zone C during September 2017, they specify these parameters in *StreetLight InSight*. Trips that originated in Origin Zone A and ended in either Destination Zone B or Destination C during September 2017 will be pulled from the data repositories, aggregated appropriately, and organized into the desired Metrics.

Results always describe aggregate behavior, never the behavior of individuals.

Step 9 – Final Metric Quality Assurance

Before delivering results to the user, final Metric quality assurance steps are automatically performed. First, *StreetLight InSight* determines if the analysis zones are appropriate. If they

are nonviable polygon shapes, outside of the coverage area (for example, in an ocean) or too small (for example, analyzing trips that end at a single household) the Zone will be flagged for review. If a Metric returns a result with too few trips or activities to be statistically valid or to protect privacy, the result will be flagged. When results are flagged, StreetLight's support team personally reviews the results to determine if they are appropriate to deliver from a statistical/privacy perspective. The support team then personally discusses the best next steps with the user.

In general, *StreetLight InSight* response time varies according to the size and complexity of the user's query. Some runs take two seconds. Some take two minutes. Some take several hours. Users receive email notifications when longer projects are complete, and they can also monitor progress within *StreetLight InSight*. Results can be viewed as interactive maps and charts within the platform, or downloaded as CSV and shapefiles to be used in other tools.

Measuring Sample Size

StreetLight's Big Data resources include about 65M devices in the US and Canada, which covers approximately 23% of these countries' combined adult population. However, clients should not expect a 23% penetration rate for all *StreetLight InSight* analyses they run. Penetration rates for individual analyses can range from as small as 1% to as large as 35%.

As is the case with any Big Data provider, sample size and penetration rate for a given analysis depend on the specific parameters used in the study. The reason is that some data are useful for certain analyses, but are not useful for others. For example, a device may deliver high-quality, clean location data for one study, but messy, unusable location data – or no data at all – for another. Efficiently identifying the data that are “useful” for a particular analysis is a critical component of the data science value that differentiates StreetLight Data. Because penetration rates vary, sample sizes are automatically provided for almost all *StreetLight InSight* analyses¹. This allows users to calculate penetration rates and to better evaluate the representativeness of the sample. Sample size values also are

¹ Sample sizes are not automatically provided for Visitor Home-Work, AADT, or Traffic Diagnostics Projects. They are available by request. These analyses use a very large volume of location data, so providing sample sizes automatically via *StreetLight InSight* would negatively impact data processing speeds.

useful to clients who wish to normalize *StreetLight InSight* results through additional statistical analysis.

For LBS analyses, sample size is currently provided as the number of unique devices and/or number of trips for LBS analyses, depending on the type of analysis. These values should be thought of as most similar to “person trips.” Including both the number of devices and trips for all LBS analyses is in our product roadmap. Sample size is provided as number of trips for navigation-GPS analyses. These should be thought of as “vehicle trips.”

In general, though not always, the trip sample size for commercial navigation-GPS data will be higher than the device (truck) sample size. Commercial trucks that are in active use typically take many trips per week that are often on set routes; thus, they are more likely to have up-to-date fleet management tools, and that means they are more likely to be included in StreetLight’s navigation-GPS data set. Trucks that are more rarely used are less likely to be included in the data set.

In general, though not always, the trip sample size for LBS data will be lower than the device (person) sample size. The reason is that not all devices in StreetLight’s database capture every single trip perfectly. To illustrate, consider this hypothetical example:

- 8:00AM: Device creates location data at expected home location
- 2:00PM: Device creates location data at sports arena

This device has created useful information for analyzing the home locations of visitors to the arena. However, since the device didn’t create any location data on the trip to arena, perhaps because it was off, then the route taken and the travel time cannot be calculated with certainty. As result, it could not be used in an analysis of road activity on an arterial near the arena.

As another example, consider a device that generates regular pings for each trip taken over 10 days. However, the user deletes the smart phone app that created that data, and it stops pinging. That device then disappears for the last 20 days of the month. The device’s data can still be used, but the trip penetration for the month is only 33% of this person’s trips, not 100%.

Typical daily trip penetration rates are between 1 and 5% of all trips on any one specific day. StreetLight’s pricing and data structure encourage looking at many days of data. The costs are the same for analyzing an average day across three months and analyzing a single day. Thus, we encourage clients to evaluate the total sample across the entire study period instead of focusing on per-day penetration rates.



This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act

Finance Officer

**AGREEMENT FOR PROFESSIONAL SERVICES BETWEEN
VHB ENGINEERING NC, P.C AND
TOWN OF SOUTHERN SHORES, NORTH CAROLINA
FOR
GRANT APPLICATION ASSISTANCE
BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC)**

VHB CONTRACT NO. 85028.21

August 25, 2021

This Contract includes details of the services to be performed, timing of the services, and compensation for the above-referenced project. This Contract is subject to the attached Terms and Conditions, which contain the general terms of the engagement between the Town of Southern Shores, North Carolina, hereinafter called the "Client," and VHB Engineering NC, P.C. (VHB).

PART I

PROJECT DESCRIPTION

NC 12 through the Town of Southern Shores and the Town of Duck experiences regular flooding from rainwater runoff. In 2006, VHB completed the *NC 12 Drainage Study* in cooperation with the Client, the Town of Duck, and NCDOT, to address potential solutions to flooding throughout the roadway corridor. Since that time, the Client has implemented some of the recommendations, but several areas have not been improved and remain subject to regular flooding. The Client now intends to pursue funding through the Building Resilient Infrastructure and Communities (BRIC) program to implement additional improvements identified in the 2006 report as a comprehensive corridor hazard mitigation project. The BRIC program is administered by the Federal Emergency Management Agency (FEMA) and coordinated through the North Carolina Hazard Mitigation Office.

This Contract details the Scope of Services, Schedule, and Compensation for VHB to assist the Client with development and submittal of a BRIC application. The application will require pre-design level of refinement of the initial concepts included in the 2006 report in order to develop construction cost estimates, address potential right-of-way impacts, address grading and drainage issues, and confirm environmental compliance and permitting requirements. However, the preliminary engineering, final design, construction documents, environmental compliance documents and permitting of the drainage projects will be accomplished by subsequent Contract Amendment pending the actual grant award.

SCOPE OF SERVICES

In order to assist the Client with the BRIC funding application, VHB will undertake the following scope of services:

1.0 LETTER OF INTEREST

To initiate the BRIC application process, the Client will need to submit to the North Carolina Hazard Mitigation a Letter of Interest (LOI) by October 1, 2021. VHB will provide the Client with a project description narrative, vicinity map, concept plans, construction cost estimate, benefit/cost assessment, and other supporting information for inclusion in the LOI to be completed by the Client and submitted by the Client on Town letterhead.

A state-level decision on the LOI will be made by October 15. Should the Town's project be included in the state-level effort moving forward, VHB will undertake the following tasks.

2.0 PRE-DESIGN PLANS

Based on available Geographic Information Systems (GIS) data and the initial improvement concepts developed by VHB in the 2006 report, VHB will develop pre-design drawings to show improvements at the following locations (it should be noted that the Client has previously implemented the 2006 recommendations at East Dogwood Trail):

- Southern Shores Realty
 - Edge drain infiltration system with a drainage inlet that will allow for use of a portable pump
- Skyline Road
 - Infiltration swales adjacent to intersection
- Ocean Boulevard/Duck Road Split
 - Reconstruct the multi-use path and construct infiltration swales with drainage inlets and subsurface infiltration system (French drain system)
- Fourth Avenue
 - Construct swales within the NC 12 right-of-way
- Sea Oats Trail
 - Edge drain infiltration system

Right-of-way

VHB will utilize available GIS parcel boundary data to identify likely needs for private property easements to accommodate the proposed improvements. Actual development of easement exhibits and plats will be accomplished as part of final design under a contract amendment pending award of grant funds.

Construction cost estimate

Based on the pre-design plans, VHB will develop a preliminary opinion of probable construction cost. The primary purpose of the cost opinion will be for use in pursuing project funding. The opinion of cost to be developed by VHB will include individual estimates for each improvement location along with a total project cost encompassing all of the locations; this will form the basis for the requested BRIC funds.

3.0 BRIC APPLICATION

The BRIC application uses an online application as part of the FEMA GO program. The Client will need to add VHB as a user in the Client's FEMA GO system. This will allow VHB to develop a BRIC application for approval and submittal by the Client to the state no later than November 24, 2021. Following this submittal, the State Hazard Mitigation Officer will review the submittal and offer comments prior to resubmittal no later than January 7, 2022. Based on state-level review and comment, this scope includes one round of revisions by VHB to the online BRIC application. VHB anticipates that the funding application will include the following elements:

- A revised project narrative describing the project history, elements, and anticipated benefits. The narrative will respond to the funding solicitation guidance and program goals.
- The pre-design plans and cost estimate developed during the previous task.
- A revised benefit/cost analysis using the benefit/cost tool included in the program guidance.
- Mapping and other support information previously provided as part of the LOI.
- Identification of likely environmental compliance and permitting requirements.

4.0 COORDINATION AND MEETINGS

During development of the LOI and BRIC application, VHB will coordinate our efforts with the Client and the State Hazard Mitigation Officer. To review plan progress and solicit input in developing the funding application, VHB will conduct regular Teams meetings. Assuming a Notice to Proceed on September 7, 2021, this Agreement includes four coordination meetings prior to the November 24 submittal to the state, and one additional meeting prior to the January 7, 2022 final submittal.



SCHEDULE

VHB will begin the work included in this scope of service upon approval of this Agreement. Consistent with the BRIC funding program, VHB will complete the work in accordance with the following schedule milestones:

- Letter of Interest October 1, 2021
- BRIC application November 24, 2021
- Final application January 7, 2022

SERVICES NOT INCLUDED

The following services are not anticipated and, therefore, not included in this Agreement at this time:

- Topographic and boundary survey;
- Subsurface utility locating;
- Geotechnical investigations;
- Final plans for the proposed improvements;
- Permitting of the proposed improvements;
- ALTA survey;
- Traffic or safety data collection or studies;
- Field surveys of threatened and endangered species;
- Cultural resource surveys;
- National Environmental Policy Act (NEPA) documentation;
- Subsurface testing for hazardous materials;
- Variance, special use, or conditional use permit requests or rezoning assistance;
- Design of public or private utility relocations.

COMPENSATION AND PAYMENT FOR VHB SERVICES

I. Fees and Reimbursable Expenses

VHB will complete the Scope of Services described herein for the Lump Sum Fee of \$25,000, which includes labor costs and expenses such as: printing and reprographics; travel and subsistence; computer charges; telephone charges; shipping, postage, and courier service charges; purchase of maps and similar documents; etc. These direct expenses will be billed at cost.

VHB Engineering NC, P.C., AUTHORIZATION

By: _____

Title: _____

Date: _____

CLIENT AUTHORIZATION



The Town of Southern Shores, North Carolina, agrees with Part I, which includes the Scope of Services, Schedule, and Compensation, and Part II, which includes the Terms and Conditions of our Agreement. Together they constitute the entire Agreement between VHB Engineering NC, P.C., and the Town of Southern Shores.

TOWN OF SOUTHERN SHORES, NORTH CAROLINA

By: _____

Title: _____

Date: _____

**Town of Southern Shores
Budget Amendment Number # 12**

Streets Increases			Streets Decreases		
<u>Account Number</u>	<u>Description</u>	<u>Amount</u>	<u>Account Number</u>	<u>Description</u>	<u>Amount</u>
40-39909	Revenues Unassigned Fund Balance	\$25,000			
57-50987	Expenditures FEMA BRIC GRANT Application	\$ 25,000			

Explanation: The cost to apply for FEMA BRIC Grant

Recommended By:

Cliff Ogburn, Town Manager

Approved By:

Tom Bennett, Mayor

Date