

**MAYOR**  
Michael L. Alvarez

**MAYOR PRO TEM**  
David Cohn



**TOWN COUNCIL**  
Gordon B. Daniels  
Christopher M. King  
Gary M. Savoie  
David K. Waddell

Indian Trail Town Council Meeting  
February 11, 2014  
Civic Building  
6:30 p.m.

1. **CALL MEETING TO ORDER AND PLEDGE OF ALLEGIANCE**
2. **ADDITIONS AND DELETIONS** **action**
3. **MOTION TO APPROVE AGENDA**
4. **COUNCIL CONSIDERATION OF APPOINTMENT PROCESS AND THE POSSIBLE SELECTION OF VACANT COUNCIL SEAT – REQUESTED BY MAYOR ALVAREZ**
5. **PRESENTATIONS**
  - a. [Proclamation for Paul Belk](#)
  - b. [Proclamation for Kelvin Seabrooks](#)
6. **PUBLIC COMMENTS**
7. **PUBLIC COMMENTS FOR FY 2014/2015 BUDGET DEVELOPMENT**
8. **CONSENT AGENDA** **action**
  - a. [Approval January 11, 2014 draft Minutes](#)
  - b. [Approval of January 14, 2014 Special Meeting Draft Minutes](#)
  - c. [Approval of Budget Amendments](#)
  - d. [Approval of LGC 203](#)
  - e. [Approval of refund of overpayment of taxes over \\$500](#)
  - f. [Approval of Jan Deans application for Transportation Advisory Committee](#)
  - g. [Approval of Chestnut Parkway Mitigation Fee](#)
  - h. [Approval of updated Capital Improvement Project Ordinance for Chestnut Parkway Mitigation Fee](#)
  - i. [Approval of Chestnut Parkway Surety Requirement](#)
  - j. [Amendment to the Construction, Engineering & Inspection Services for](#)

Unionville-Indian Trail Road Sidewalk Project

- k. [Approval of updated Capital Improvement Project Ordinance for C-4957 Unionville-Indian Trail Road Sidewalk Project](#)

## 9. PUBLIC HEARINGS

action

– *Please adhere to the following guidelines:*

- *Proceed to the podium, and state your name and address clearly;*
- *Be concise; avoid repetition; limit comments to three (3) minutes or less;*
- *Designate a spokesperson for large groups*

- a. [ZT2014-001 Flood Damage Reduction Ordinance Amendment](#): A request to amend Chapter 1360 of the Unified Development Ordinance per the request of the State. Applicant: Town of Indian Trail

## 10. BUSINESS ITEMS

- a. [Consider approval of the DENR Community Waste Reduction and Recycling Grant](#)
- b. [Consider approval of Union County Sewer Agreement for Crooked Creek Park](#)
- c. [Consider approval of Union county Water Agreement for Crooked Creek Park](#)
- d. Traffic Calming 101
- e. [Council Consideration of Approval for Traffic Calming Project](#)
- f. Consider approval of adding Law Enforcement Update and Town Committee Update after Public Comments- *Item Requested by Mayor Alvarez*

## 11. DISCUSSION ITEMS

- a. [Discussion and follow-up from January 11<sup>th</sup> Council Strategic Planning Session](#) including 5-year Transportation Plan, Economic Development Plan, and Communication's Plan
- b. [Discussion of future Law Enforcement Analysis](#)
- c. [Discussion on Bonterra Streets](#)

## 12. MANAGERS REPORT

## 13. COUNCIL COMMENTS

## 14. CLOSED SESSION

action

## 15. ADJOURN

action

**To speak concerning an item on the Agenda, please print your name and address on the sign up sheet on the table prior to the meeting. Each speaker will be limited to 3 minutes.**

**AS A COURTESY, PLEASE TURN CELL PHONES OFF WHILE MEETING IS IN PROGRESS**

*The Town of Indian Trail is committed to providing all citizens with the opportunity to participate fully in the public meeting process. Any person with a disability who needs an auxiliary aid or service in order to participate in this meeting may contact the Town Clerk at least 48 hours prior to the meeting. The e-mail address is [townclerk@admin.indiantrail.org](mailto:townclerk@admin.indiantrail.org); the phone number is 704-821-2541*

# Proclamation

**Whereas,** Paul Belk has been a lifelong resident of Union County and hales from a family that has been present in the area since prior to the Revolutionary War; and

**Whereas,** Paul has been medically retired from the Army National Guard after over 19 years of service to our nation serving as Chaplain Assistance in Iraq as well as other positions; and

**Whereas,** Paul has been a devoted husband for 22 years and is the father of 3 children Trevor 18, Cameron 13, and Savannah 11; and

**Whereas,** Paul has been a stroke victim since 2009, has overcome right side paralysis and severe speech impediment and went back to school in 2010; and

**Whereas,** Paul has shown immense courage by having gone from barely speaking and walking to walking better and his writing capabilities improve through the educational experience; and

**Whereas,** Paul is the Co-owner of Indian Trail's less Marketing helping local companies the word out about their services and offerings; and

**Now Therefore,** I Michael Alvarez, Mayor of Indian Trail, along with the Indian Trail Town Council congratulate Paul Belk on his being the recipient of the Help a Hero Scholarship of \$5,000. We wish him the best of luck in his future endeavors and thank him for his service.

**WITNESS MY HAND** and the official Seal of the Town of Indian Trail this 11<sup>th</sup> day of February, 2014

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Mayor Michael Alvarez

# Proclamation

**Whereas,** Kelvin J. Seabrooks is a former World Champion boxer at bantamweight, born and raised in Charlotte's Mecklenburg County; and

**Whereas,** Kelvin has changed the lives of countless young people through his Team Seabrooks program, he continues to work tirelessly with the youth of North Carolina showing them a better path in life by opening a youth and self defense program in Indian Trail; and

**Whereas,** Kelvin fought and won the United States Boxing Association bantamweight title and the International Boxing Federation bantamweight title; and

**Whereas,** Kelvin overcame, climbing off the canvas when winning both the USBA and IBF titles; and

**Whereas,** Kelvin traveled the world representing North Carolina in the boxing ring; and

**Whereas,** this month with the theme "honoring Champions in our Community" Kelvin will be recognized for his contributions to Indian Trail and North Carolina.

**Now Therefore,** I, Michael Alvarez, Mayor of Indian Trail, along with the Indian Trail Town Council congratulate Kelvin J. Seabrooks on his success and thank him for his contribution to our youth and community.

**WITNESS MY HAND** and the official Seal of the Town of Indian Trail this 11<sup>th</sup> day of February, 2014

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Mayor Michael Alvarez



**Town of Indian Trail**  
**Minutes of Town Council**  
**Strategic Planning Session**  
**January 11, 2014**  
**Civic Building**  
**08:30 A.M.**

The following members of the governing body were present:

Mayor: Michael L. Alvarez

Council Members: David Cohn, Gordon Daniels, Christopher King, and Gary Savoie.

Absent Members: David Waddell.

Staff Members: Town Manager Joe Fivas, Town Attorney Keith Merritt, Town Clerk Peggy Piontek, Finance Director Marsha Sutton, Planning Director Shelley DeHart, Director of Community & Economic Development Kelly Barnhardt, Director Of Engineering and Public Works Scott Kaufhold and Communications Coordinator Lindsey Edmonds.

**CALL MEETING TO ORDER AND PLEDGE OF ALLEGIANCE**

Mayor Alvarez called the meeting to order and lead in the Pledge of Allegiance.

**APPROVAL OF JANUARY 2, 2014 SPECIAL MEETING DRAFT MINUTES**

Christopher King made a motion to approve January 2, 2014 minutes  
Council voted unanimously in favor of the motion.

#### **ACCEPTANCE OF COUNCILMAN WADDELL'S RESIGNATION**

Christopher King made a motion to approve Councilman David Waddell's Resignation, effective January 31, 2014.

Council voted unanimously in favor of the motion.

Mayor Alvarez announced that Council Member Waddell was not present for the meeting.

Mr. Fivas provided a brief overview of how the meeting will be conducted requesting any modifications from Council, none were stated.

#### **PUBLIC COMMENTS FOR FY 2014/2015 BUDGET DEVELOPMENT**

Shirley Howe, 6205 Clearwater Dr., Indian Trail, NC welcomed the two new Council Members. Ms. Howe commented on roads stating that the older developments need repair, providing specific issues in Beacon Hills. She addressed the quality of work being substandard requesting they be approved for repair in the upcoming budget. Code Enforcement needs additional staff to ensure appropriate enforcement, especially those that do not have an HOA requesting fast tracking Municipal Ordinances by late spring so they can be enforced. Ms. Howe concluded by asking Council to consider the safety needs in our parks by adding additional deputies in the budget.

Samantha Towns, 104 Pine Lake Drive, Monroe, NC addressed movement of funds in budget; she feels the codes used to accomplish this task should be published for the public to prevent criticism from residents. Ms. Towns requested Council address status of the North Carolina League of Municipalities because it was stated in the 2013 Budget highlights that there was pressure for municipalities cuts on State funding and would like information on where Indian Trail stands with regard to this.

Mayor closed public comments.

#### **REVIEW OF BUDGET PROCESS**

Mr. Fivas replied to Ms. Towns on the State funding pressures, stating that the legislators did discuss changes that would impact State funding, however they modified their budget in other areas and now are healthier than they were in the past.

Mr. Fivas advised that the Budget Schedule item will be on 1/14 agenda for approval, but reviewed it so Council can modify before it is presented. Mr. Fivas presented an overview on the budget process from incoming revenues to outgoing expenditures, Council's priorities for needs and goals working with residents. He requested that once the budget is delivered on May 5th, at that point it's the Council's

document and if there is something that they would like changed to please let staff know so it can be modified to accommodate within the statutory requirements.

### **STRATEGIC PLANNING SESSION**

Mr. Fivas advised this is conveying what we have now and if we are headed in the right direction, if Council wants to go in a different direction, we would like to discuss it today.

Mr. Fivas advised that staff needs Council's input on whether or not to conduct a Phase I study on the property that we have been directed to purchase on Old Monroe Road and Chestnut Lane. The cost to conduct the study is \$1,800, although not required for purchase; once we purchase the property we take ownership of any environmental issues if no study is conducted. After a lengthy discussion, by consensus Council agreed that the Phase I study should be conducted.

Bonterra Village - Ms. DeHart provided an update and the history of the Bonterra Subdivision approval process. It was approved and annexed into the town in April 2001 as a mixed use project. Private streets were permitted allowing the lot definition to apply to middle of street. In 2006 the definition was amended but Phases I and II were approved prior to amendment.

Mr. Fivas advised that one of the questions we're getting is what we know about the streets and their condition, Mr. Kaufhold provided that information.

Mr. Kaufhold stated at the Town's request the developer provided over 60 pavement cores for the streets in Phase I and II, to find out how much asphalt and stone was used, nothing below that because it's not typical for as built conditions. We compared that to the Town standards and it was met at 100%, but 50-60% stronger than State requirements on average.

Mr. Fivas stated that we have been asked by the Bonterra HOA if we have any interest in taking over those private streets and making them public. One of the reasons is because there are other Phases of this neighborhood that will be built as public streets and they are trying to figure out the legalities. He stated that both he and Mr. Merritt have spoken with the HOA to determine if there is a legal way to do it. From a staff perspective we advised Bonterra HOA this has been done in the past with another subdivision by putting a tax assessment on their property to repay the funds. Staff informed Bonterra they would have to put a certain amount of money in a fund to repair those roads, when needed, at a later date. Mr. Fivas inquired if this is something Council wants to resolve.

Mr. Merritt advised the legal issue is that the homeowners own the property to middle of road, explaining this is unusual as property is generally owned by developer as fee simple. We need to get the property from residents if we wish to take over the road. One way is to get each property owner to convey that property to the town which would be cumbersome. The other way is that there are documents that the roads are considered to be common areas and that could be conveyed. The HOA would need to review those documents and get the residents to approve it. These are issues the HOA

has to deal with, they need to be in a position to convey the property to town and to date they have not accomplished it. Until that point is reached, there is no acceptance that the town has to consider. At one point they requested the town give a conditional approval that if these challenges are met we would consider taking over the roads. The problem is that the lot lines are in the middle of the roads and each homeowner needs to be dealt with by the HOA to resolve this.

Council had a lengthy discussion and requested it be put on the January 28th agenda for further discussion.

Mr. Merritt requested permission to leave the meeting as his services were no longer required, Council approved his leaving.

**Update on current infrastructure projects & 5 year Transportation Plan**

Mr. Fivas provided updates on Highway 74 intersections, Chestnut Parkway, Old Monroe Road. **(COPY OF THE POWER POINT CAN BE FOUND IN THE CLERK'S OFFICE)**

**Park & Recreation**

Ms. Barnhardt presented an overview of the Park and Recreation Plan for 2014-2015, topics included timelines and amenities planned for both Chestnut Square Park and Crooked Creek Park, concluding with the PARTF Grant application timeline, anticipation of sponsorships and donations and advising the master plan is being updated. **(COPY OF THE POWER POINT CAN BE FOUND IN THE CLERK'S OFFICE)**

Mayor Alvarez requested Council approval to leave the meeting for a short period, Council approved. Mayo Alvarez turned the gavel over to Mayor Pro Tem Cohn.

**Communication**

Ms. Edmonds presented a Communications Plan that will provide a guideline for the strategies and tactics that will be used to achieve the Town's communication goals and objectives. **(COPY OF THE POWER POINT CAN BE FOUND IN THE CLERK'S OFFICE)**

**LUNCH**

Council took and returned from a brief recess for lunch.

**Economic Development**

Ms. Barnhardt presented an overview of the 2014-2015 Economic Development Plan, explaining what economic development entails, the goals, objectives and development examples from other jurisdictions. **(COPY OF THE POWER POINT CAN BE FOUND IN THE CLERK'S OFFICE)**

Mayor Alvarez returned to the meeting.

**CONTINUATION OF STRATEGIC PLANNING SESSION**

Mr. Fivas explained staff's documented plans for the future and requested thoughts/ideas from Council. Requesting an intermediary plan. Council had a lengthy discussion, topics included 3 year strategic plan, understanding our current situation, our strengths and weaknesses, opportunities, threats, where do we want to go, communication, downtown area where it will be and what it should look like, how to get there, timelines, definition of organization mission and values, set goals on quality of services, public safety, quality places, park areas, and Grants.

**CLOSED SESSION**

*None*

**ADJOURN**

David Cohn made a motion to adjourn  
Council voted unanimously in favor of the motion.

**APPROVED:**

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**Michael L. Alvarez, Mayor**

Attest:

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Peggy Piontek, Town Clerk



**Town of Indian Trail**  
**Minutes of Town Council**  
**January 14, 2014**  
**Civic Building**  
**06:30 P.M.**

The following members of the governing body were present:

Mayor: Michael L. Alvarez

Council Members: David Cohn, Gordon B. Daniels, Christopher King, and Gary M. Savoie.

Absent Members: David Waddell

Staff Members: Town Manager Joe Fivas, Town Clerk Peggy Piontek, Town Attorney Keith Merritt, Planning Director Shelley DeHart, Director of Community & Economic Development Kelly Barnhardt, Finance Director Marsha Sutton, Human Resources Director Carey Warner and Director of Engineering and Public Works Scott Kaufhold .

**CALL MEETING TO ORDER AND PLEDGE OF ALLEGIANCE**

Mayor Alvarez called the meeting to order and lead in the Pledge of Allegiance. He announced Council Member Waddell was not present.

Mayor Alvarez informed Council that several people signed up for public comments and requested permission to extend public comment period, Council approved.

**ADDITIONS AND DELETIONS**

*None*

**MOTION TO APPROVE AGENDA**

Christopher King made a motion to approve the agenda  
Council voted unanimously in favor of the motion

**PRESENTATIONS**

a. Swearing in of Mayor Pro Tem

Town Clerk, Peggy Piontek administered the Oath to Mayor Pro Tempore David Cohn. **(COPY ATTACHED HERETO AND MADE A PART OF THE MINUTES)**

**PUBLIC COMMENTS**

Samantha Towns 104 Pinelake Drive, Monroe, NC stated that it is time to consider the town's image. She referred to the voting turnout in November and feels that Mr. Drehs should be appointed and recommended the Council follow the law to prevent any lawsuits.

Jonathan Baer requested his comments be recorded as verbatim, Council approved the request. A copy of the documents that Mr. Baer provided to the Clerk upon conclusion of his comments is **ATTACHED HERETO AND MADE A PART OF THE RECORD.**

Steven Long, 1012 Cranston Crossing Place, Indian Trail, NC stated that there are approximately 14 different openings on the town committees and boards. He urged citizens to take an application fill it out to take ownership and get involved. As far as replacing Mr. Waddell's seat, it should be done within the town charter. He referred to time shared with Charlotte Mayor Patrick Cannon, his shared ideals and goals especially with youth, economic growth, public safety and roads are a herald for us to realize ??? and take the plunge. If taxes and my love for this town are sure things.

Cathi Higgins, 3004 Clover Hill Road, Indian Trail, NC, reminded everyone that Mr. Baer did not state his address. Ms. Higgins addressed the appointment of the next council person, thanked Mr. Waddell for his service. Logically if this vacancy had occurred in November David Drehs would be sitting in that

chair right now. Residents voted only 2 months ago, she referred to the 500 voting residents who wanted to put David Drehs on the Council. She continued to express his qualifications.

Shirley Howe, 6205 Clearwater Drive, Indian Trail, NC advised that she wanted to speak on the upcoming open seat for the Town Council position and explained why she endorsed David Drehs, stating his credentials. Ms. Howe explained her point is that there is a movement to appoint the vacant seat to a female that should not be considered in her opinion. This would provide an open door for a preselected female or male to get a free ride to claim the Council seat and suggested Council not be fooled.

Roger Fish, 1101 Magna Lane, Indian Trail, NC feels the next 2-5 years will be critical in Indian Trail and it will be a wonderful time to be on the Council. He believes it's important that Council maintains their freedom of action on who to choose, but feels there is merit to look at Mr. Drehs, he has done his due diligence, has voter approval, and would be an asset to the Council.

Michael Faulkenberry, 519 Pickett Circle, Indian Trail, NC feels Mr. Drehs is the best choice for Mr. Waddell's seat and provided some background on him. He agrees with Mr. King that we should have holiday lights in Indian Trail. The representation for Alliance of South Charlotte Communities should be put up for discussion and applications taken just like any committee.

Jan Brown, 6727 Long Nook Lane, Indian Trail, NC would like Council to interview several people, requested he be considered and provided his background and credentials.

David Drehs, 3216 Bow Club Trail, Indian Trail, NC stated he appreciated the comments that have been made about him this evening. He listed comparisons between him and Mr. Waddell. He is willing to accomplish any procedures or jump through any hoops Council wants and believes he would be an asset to the Town.

**PUBLIC COMMENTS FOR FY 2014/2015 BUDGET DEVELOPMENT**

*No one had signed up to speak.*

**CONSENT AGENDA**

- a. Approval December 10, 2013 draft Minutes
- b. Approval of 2014/2015 Budget Schedule **(COPY ATTACHED HERETO AND MADE A PART OF THE MINUTES)**

Christopher King made a motion to approve the Consent Agenda  
Council voted unanimously in favor of the motion

## PUBLIC HEARINGS

### a. Annexation 139 Lot 2 The Gardens

Ms. DeHart provided an explanation of what an annexation is and the process that is involved. Ms. DeHart then stated the subject property is located within "The Gardens at Brandon Oaks" within the unincorporated area of Union County. The subject property is developed with a single-family residential home. The parcel is approximately .179 acres in size, and is zoned Union County Residential-20 (R-20). This property is one of the two last remaining unincorporated county properties located within the Brandon Oaks Subdivision.

Ms. DeHart stated that the following consistency finding, pursuant to NCGS § 160A-31(d) regarding voluntary annexations in North Carolina, must be made for the annexation to be valid: The Town Council of Indian Trail finds that, pursuant to the requirements of NCGS § 160A- 31(d), that the proposed Annexation Ordinance #139 petition offered by the applicants does in fact meet all requirements for a proper voluntary annexation under North Carolina law and is found to be valid in form and manner.

Mayor Alvarez opened and closed public comments as no one had signed up to speak.

David Cohn made a motion to approve extending the corporate limits of the Town of Indian Trail to include Annexation Ordinance #139, establishing the effective date of this Annexation to January 15, 2014.

Council voted unanimously in favor of the motion. **(COPY ATTACHED HERETO AND MADE A PART OF THE MINUTES)**

### b. ZT2013-005 Town Committee Reorganization

Mr. Burhans explained the UDO Text Amendment Process. Mr. Burhans stated that this is a request to amend several sections of the Unified Development Ordinance (UDO) to help implement the recent Town Council decision to repurpose the Parks, Tree, and Greenway Committee into the Parks, Arts, Recreating, and Culture Advisory Committee. The repurposing action created the need for a standalone Tree Advisory Committee. Town staff has proposed having members of the Planning Board staff the new Tree Advisory Committee.

The Planning Board met on December 17, 2013 to hear the proposed amendment in a public meeting, made the following findings and unanimously voted to transmit a recommendation to approve:

1. The proposed UDO amendment is consistent with the following goal:

2.3.3 of the Comprehensive Plan- *Parks and Recreation, Open Space, and Natural Environment* because it will help facilitate creation of the Tree Advisory Committee, which will be focused on providing advisory services to help protect the Indian Trail tree canopy and natural environment. The proposed amendments will also help ensure guidance related to parks, art, recreation, and cultural enrichment is provided by the PARC Committee, whose mission and expertise is tailored to these areas.

2. This UDO ordinance amendment is in the best interest of the public because it helps facilitate the creation of focused, advisory committees that will ensure that Town Council, staff, and citizens are provided with meaningful and informed guidance.

Mayor Alvarez opened and closed Public comments as no one signed up to speak.

Mayor Alvarez asked Council to reopen public comments for Mr. Fish - Council agreed.

Roger Fish explained the purpose of having a Tree Committee, the history and importance of our trees and ensuring their protection concluding that the PARC Committee agrees with this request.

Mayor Alvarez again closed the public comments portion of the hearing.

David Cohn made a motion to approve the required findings for ZT2013-005 and Comprehensive Plan Consistency Statement as previously read into the record and found in the Draft Ordinance Council voted unanimously in favor of the motion. **(COPY ATTACHED HERETO AND MADE A PART OF THE MINUTES)**

David Cohn made a motion to approve text amendment ZT2013-005 Council voted unanimously in favor of the motion

#### **BUSINESS ITEMS**

*None*

#### **DISCUSSION ITEMS**

- a. Discussion on process to fill ABC Board position

Mr. Fivas inquired what is the process Council wants to go through to select the individual, providing what has been accomplished in the past. Stating that if there is a change now would be the time to do so. By consensus Council agreed to continue as has been done previously.

- b. Discussion on filling vacant Council seat

Mr. Merritt read the statute and advised there is no prescribed method on how the seat is filled. He provided some history on the last 2 vacancies. Ultimately recommending that Council adopts some procedure and follow that. Council had a lengthy discussion on this topic.

David Cohn made a motion to approve the first runner up from the November elections to be the person that the Council appoints after January 31st.

Motion resulted in a tie:

2 in favor -Chris King and David Cohn

2 Opposed – Gordon Daniels and Gary Savoie

Mayor Alvarez broke the tie in favor of the motion, the motion passed.

c. Discussion on PARTF Grant

Mr. Fivas provided an update on the grant advising it will be on the consent agenda on January 28<sup>th</sup>, if there are any questions it's imperative that Council ask prior to that meeting because if it doesn't get approved on that date we won't get it in on time to meet the January 31st deadline.

d. Discussion on Representative for Alliance for South Charlotte Communities

Mr. Fivas advised that this is another appointee that the Council can choose to represent Indian Trail. He requested what process Council wants to perform to fill that position.

Mr. Savoie stated this is an important position and recommends opening it up, see what applicants we receive to get the best person sitting there. By consensus Council agreed, and doing it within 30 days maximum 60 days was suggested by Mr. Daniels.

**MANAGERS REPORT**

*None*

**COUNCIL COMMENTS**

Mr. King had no comments.

Mr. Daniels stated that in his opinion the process is what it is. This is tough process to pick a person to fill this seat, but it's an appointment and not an election. The election ended and this is a new process, we have to look at it as such. If we try to take one process and fit it into another process he believes is wrong. If we want to get the best possible person and that person is the person we've been discussing this evening that will become evident.

Mr. Cohn said he believes it was done the right way, the residents spoke and that's the way they wanted it done. To comment that's not the clean way to do it is shocking that an election is not the clean way to do it. Five people interviewing each applicant for 10 minutes and deciding who should be picked is not the clean way to do it; it's the least transparent way to do anything. He knows for a fact that emails are sent influencing people. He believes the people choose who they wanted; he thanked Mr. King and Mayor Alvarez for doing the right thing. He's hopeful that we will do the right thing in February. The people made the decision and we can't be any more transparent than that.

Mayor Alvarez stated that budget season is in full gear, urging Council to have a couple of public hearings. We need to review all policies and charters, close loopholes and bring to modern times, making sure policies are in order and transparent. Couple of items that need to be addressed is Public Comments and Law Enforcement. He will be putting an item on the agenda for the upcoming meetings and feels it's important to have the committees report to Council so we know what they're doing and provide them support, law enforcement as well. On the Tree Committee he likes the idea of adding beautification to their agenda.

Mr. Savoie state that his comments were not against Mr. Cohn, it was about creating a policy to have a guideline to go forward with.

**CLOSED SESSION**

*None*

**ADJOURN**

Christopher King made a motion to adjourn  
Council voted unanimously in favor of the motion

**APPROVED:**

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**Michael L. Alvarez, Mayor**

Attest:

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Peggy Piontek, Town Clerk





**TO:** Mayor and Town Council  
**FROM:** Joe Fivas  
**CC:** Marsha Sutton  
**DATE:** January 28, 2014  
**SUBJECT:** Budget Amendments for January 28<sup>th</sup> Meeting

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Please find attached budget amendments processed through January 22, 2014. Please feel free to call, email, come in or ask any questions you may have regarding these matters.













**TOWN OF INDIAN TRAIL  
BUDGET TO BUDGET AMENDMENT REQUEST**

DATE

1/2/14

DEPARTMENT

Various

Account Number	(Transfer In / Out) Type	Amount	Account Name <u>Description</u>
10-00-4120-397-000	In	4,100 <sup>00</sup>	Contract Services
10-00-4120-260-000	Out	4,100 <sup>00</sup>	Office Supp. & Materials
10-00-5000-325-000	In	50 <sup>00</sup>	Postage
10-00-5000-343-000	In	50 <sup>00</sup>	Printer/Copier Usage
10-00-5000-185-000	Out	100 <sup>00</sup>	Unemp. Insurance
10-20-4510-396-000	In	750 <sup>00</sup>	
10-20-4510-397-000	Out	750 <sup>00</sup>	Contract Services
10-40-4910-396-000	In	400 <sup>00</sup>	Filing Fees
10-40-4910-491-000	Out	400 <sup>00</sup>	Dues & Subscriptions
10-40-4920-315-000	In	100 <sup>00</sup>	Business Expenses
10-40-4920-493-000	In	200 <sup>00</sup>	Event Expenses
10-40-4920-397-000	Out	300 <sup>00</sup>	Contract Services
10-40-4920-493-000	In	410 <sup>00</sup>	July 4th Parade
10-40-4920-493-000	Out	410 <sup>00</sup>	Community Events

Adm  
|  
HR  
|  
Eng.  
|  
Planin  
|  
Comm & Econ  
Devs  
|

**EXPLANATION:**

Reallocate funds within Departments

**REQUESTED BY:**

**FINANCE:**

*Maisha A. Sutton*

**TOWN MANAGER:**

*[Signature]*

For Finance Dept Only:

EFFECTIVE DATE: 1-2-14 JOURNAL NO. ASSIGNED: 398

FISCAL YEAR: 2014 ENTERED: MAM

PERIOD: 7 DATE: 1-2-14







**TO:** Mayor and Town Council

**FROM:** Joe Fivas

**CC:** Marsha Sutton

**DATE:** January 28, 2014

**SUBJECT:** LGC-203 Report of Deposits and Investments

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As required by the Town's Cash Management Policy, attached is a copy of the LGC-203 report submitted to the LGC (Local Government Commission) during the month of January for the period ending December 31, 2013.

This report is a semi-annual report of all cash and investments held by the Town. The LGC reviews these reports to determine:

- All funds are in authorized depositories and properly collateralized/secured
- All investments are permitted by General Statute
- The average maturity of investments are appropriate for the Town

This report is submitted to you for informational purposes and no action is required.

State of North Carolina  
 LOCAL GOVERNMENT COMMISSION  
 325 North Salisbury Street, Raleigh, North Carolina 27603-1385  
 REPORT OF DEPOSITS AND INVESTMENTS

(As required by G.S. 159-33 and G.S. 115C-446)

Report Period

As of: **DECEMBER 31** 2013

(June 30 or December 31, and Year)

Name of Unit \*\* **INDIAN TRAIL**  
 \*\* Note - Discretely Presented Component Units must submit separate LGC-203 reports  
 Legal Name of Unit: **Town of Indian Trail**

LGC Use Only		
Unit Code	Unit Type	Rec'd Date
191	A	

**CERTIFICATION**

This is to certify that the data contained in this report is accurate to the best of my knowledge and belief.

Name of Official (Type or print your name)	Unit Mailing Address - Street	Telephone Number, including area code	
<b>Marsha G. Sutton</b>	<b>P. O. Box 2430</b>	Number	Extension
<b>Finance Director</b>	<b>Indian Trail, NC, 28079</b>	<b>704-821-5401</b>	
		<b>financedirector@admin.indiantrail.org</b>	
		<b>Signature of Official (only if mailing or faxing)</b>	

**I. Cash on hand**

	Amount	
Petty cash funds and change funds	\$ 850	
Undeposited receipts		<b>Total Cash on Hand</b>
		<b>\$ 850</b>

**II. Dedicated Method Financial Institutions**

\*\* If you have additional deposits in Dedicated Banks (non-pooling), you must use the LGC-203 Standard Form

	C.D.s	Interest Bearing Checking Accounts	
<b>FINISTAR (dedicated amounts)</b> attach statement or leave blank if NA			
<b>CDARS - attach statement or leave blank if NA</b>			
<b>Totals for Finistar and CDARS</b>	\$ -	\$ -	<b>Total Dedicated Deposits</b> \$

**III. Pooling Method Financial Institutions**

\*\* LIST ONLY BANKS INCLUDED ON POOLING BANK MEMO

*One line for each Bank - please provide totals for each Bank*

	Demand Deposits		Time Deposits		Interest Bearing Checking Accounts
	(Non-interest bearing)	Regular Savings	C.D.s		
(1) Branch Banking & Trust			\$ 278,504		\$ 5,290,757
(2) First Citizens Bank & Trust Company	\$ 164,989			\$ 132,778	
(3) Park Sterling Bank			\$ 1,501,554		
(4) Yadkin Valley Bank			\$ 213,595		
(5)					
<b>FINISTAR (pooling amounts)</b> attach statement or leave blank if NA					
<b>Totals for All Pooling Banks</b>	\$ 164,989	\$	\$ 2,126,431	\$ 5,290,757	<b>Total Pooling Deposits</b> \$ 7,582,177

**IV. Investments NCCMT**

	Amount
North Carolina Capital Management Trust Cash Portfolio	\$ 7,871,317
North Carolina Capital Management Trust Term Portfolio	\$ 14,373,896

**V. Summary: Please recheck totals.**

(1) Total Cash on hand (TOTAL FROM SECTION I)	\$ 850	
(2) Total Dedicated Method (TOTAL FROM SECTION II)	\$	
(3) Total Pooling Method (TOTAL FROM SECTION III)	\$ 7,582,177	
(4) Total cash (lines 1, 2 & 3 combined)		\$ 7,583,027
(5) NCCMT (TOTAL FROM SECTION IV)		\$ 22,245,213
(6) Total cash and investments (lines 4 plus 5)		\$ 29,828,240
(7) Please enter (subtract) Unexpended bond and/or note proceeds	\$ -	
(8) Net cash and investments (line 6 minus 7)		\$ 29,828,240



**TO:** Mayor and Town Council  
**FROM:** Joe Fivas  
**DATE:** January 28, 2014  
**SUBJECT:** Tax Refunds greater than \$500

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Please find attached copies of tax refunds greater than \$500.00

1. Owens, KL - \$550.60 refunded to mortgage company as taxes were previously paid by attorney.
2. Sunbelt Rentals - \$5637.47 refunded to taxpayer. Union County taxes were incorrectly included in payment.
3. Millendorf, Jack - \$552.60 refunded to mortgage company as taxes were previously paid by attorney.
4. Powell, Michael - \$557.89 refunded to mortgage company as taxes were previously paid by the mortgage company.
5. Brucia, Flavia - \$570.62 \$557.89 refunded to mortgage company as taxes were previously paid by the mortgage company.
6. Waste Pro - \$1302.60 refunded to taxpayer as they are not the property owner.
7. Casper, David - \$1170.94 refunded to taxpayer as taxes were previously paid by attorney.
8. Qin, Wenlong - \$546.77 refunded to taxpayer as taxes were previously paid by attorney.
9. Harrell, Dean - \$2716.63 refunded to taxpayer as taxes were previously paid by attorney.
10. Old Monroe Development - \$581.44 refunded to taxpayer as taxes were previously paid by attorney.
11. Centex Homes - \$505.20 refunded to mortgage company as taxes were previously paid by attorney.
12. FS Development - \$753.98 refunded to taxpayer as payment was for incorrect parcel.

If you need any clarification on any of these items, please feel free to contact Marsha Sutton at (704) 821-5401.



## Town of Indian Trail

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### Memo

TO: Mayor and Town Council

FROM: Scott J. Kaufhold, P.E., Director of Engineering and Public Works

COUNCIL DATE: February 11, 2014

SUBJECT: Chestnut Parkway Mitigation Fee

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#### **General Information:**

The North Carolina Division of Water Resources (NCDWR) requires compensatory mitigation for losses of streams and wetlands. This fee in-lieu initiative offsets unavoidable environmental damage from transportation-infrastructure improvements and other economic development, and help to prevent harmful pollutants from endangering water quality in sensitive river basins.

In order to satisfy the compensatory mitigation requirement of the 401-404 permit issued for Chestnut Parkway, Phase 1B, a fee in the amount of \$51,376.50 has been assessed by the North Carolina Ecosystem Enhancement Program (NCEEP). This fee must be paid prior to commencing construction activities within the identified wetlands.

#### **Required Actions:**

Approval of Payment Fee

#### **Attachments:**

1. NCEEP Invoice
2. Map



**Ecosystem  
Enhancement  
PROGRAM**  
**INVOICE #20906**  
December 23, 2013

Scott Kaufold  
Town of Indian Trail  
Box 2430  
Indian Trail, NC 28079

**Project:** Highway 74 Connector- Chestnut Pkwy Phase I  
**County:** Union  
**USACE#:** 2013-01509  
**WQ permit#:** 13-1156  
**EEP #:** 21094  
**Location:** Yadkin 03040105

**invoice expires: February 23, 2014**

You have elected to satisfy the compensatory mitigation requirements of the Section 401/404/CAMA permit(s) issued for the above referenced project through payment of a fee to the North Carolina Ecosystem Enhancement Program (NCEEP). In accordance with 15A NCAC 2R .0402(d), the amount due is based upon the 2013-2014 Fee Schedule and has been calculated as follows (Please note: payment for wetlands is calculated in increments of 0.25 acres). If you have any questions concerning this payment, please call Kelly Williams at (919) 707-8915.

Habitat Type	Invoiced Amount		Fee Schedule	=	Cost
Riparian Wetlands	0.75 acres	x	\$ 68,502.00		\$51,376.50

**TOTAL AMOUNT DUE if paid within 60 days** **\$51,376.50**

If payment is not received within 60 days of the date of this invoice, it will expire. Note that your permit(s) may require payment before this date. **Subsequent invoice extensions will be based on the fee schedule in effect on the date they are issued.** Extensions may be requested by emailing the NCEEP In-Lieu Fee Program Coordinator at [kelly.williams@ncdenr.gov](mailto:kelly.williams@ncdenr.gov). Please submit an ePayment at <http://portal.ncdenr.org/web/eed/epayment> or send a check payable to NCEEP for the Total Amount Due to the address below and enclose a copy of this invoice.

US Mail:  
NCDENR Ecosystem Enhancement Program  
1652 Mail Service Center  
Raleigh, NC 27699-1652

Physical Address (for other delivery services):  
NCDENR Ecosystem Enhancement Program  
217 West Jones St., Suite 3000A  
Raleigh, N.C. 27603

If the account name on the check is not the same as the permit holder's name, please include a signed statement by the permit holder that the check is being written on behalf of, and with full knowledge and authorization of, the permit holder. Refunds of payments made to NCEEP are only approved under certain conditions. All refund requests must be submitted in accordance with EEP's refund policy at [www.nceep.net](http://www.nceep.net).

**YOU MUST BE IN POSSESSION OF THE PAYMENT RECEIPT FROM NCEEP PRIOR TO COMMENCING THE ACTIVITIES AUTHORIZED BY THE DEPARTMENT OF ARMY 404 PERMIT, CAMA PERMIT AND/OR THE 401 WATER QUALITY CERTIFICATION.**

cc: Karen Higgins, NCDWR Wetlands/401 Unit  
Steve Kichowski, USACE-Asheville  
Alan Johnson, NCDWR-Mooresville  
Gregg Antemann, agent  
File

*Restoring... Enhancing... Protecting Our State*





**PRELIMINARY  
 NOT FOR  
 CONSTRUCTION**

Corp. NC License C-039

**Scott Garner Property  
 Due Diligence Study**  
 Indian Trail North Carolina  
 NC 74

Project No: \_\_\_\_\_  
 Drawn By: \_\_\_\_\_  
 Designed By: \_\_\_\_\_  
 Checked By: \_\_\_\_\_  
 Original Issue Date: \_\_\_\_\_

Revisions:

Sheet Title:

Sheet No:



## Town of Indian Trail

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### Memo

TO: Mayor and Town Council

FROM: Scott J. Kaufhold, P.E., Director of Engineering and Public Works

COUNCIL DATE: February 11, 2014

SUBJECT: Chestnut Parkway Phase 1B Surety Requirement

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#### **General Information:**

NCDOT requires a Warranty/Repair Guarantee Surety in an amount equal to one hundred percent (100%) of the cost/value of improvements along US 74 related to Chestnut Parkway Phase 1B. The Town's cost has been approved by NCDOT for \$220,000.00. The surety, in the form of a Letter of Credit, Surety Bond, or Cash Surety, will be held by NCDOT for one (1) year from date of acceptance. The Town's cost to acquire the surety is \$2,200.00.

#### **Required Actions:**

1. Council Approval of Surety Requirement



## Town of Indian Trail

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### Memo

TO: Mayor and Town Council

FROM: Scott J. Kaufhold, P.E., Director of Engineering and Public Works

COUNCIL DATE: February 11, 2014

SUBJECT: Amendment to the CEI Services for Unionville Indian Trail Road Sidewalk Project

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#### **General Information:**

Federally funded CMAQ projects require oversight through Construction, Engineering, and Inspection (CEI) services. On March 12, 2013, Council awarded the CEI contract for C-4957B Unionville Indian Trail Road Sidewalk Project to Alley, Williams, Carmen & King, Inc. in the amount of \$161,672.80. Due to contractor and construction delays, an additional \$15,000 is anticipated to complete Phase 1A of this project.

#### **Required Actions:**

Council Approval



## Town of Indian Trail

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### Memo

TO: Mayor and Town Council

FROM: Marsha Sutton, Finance Director  
Scott J. Kaufhold, P.E., Director of Engineering and Public Works

COUNCIL DATE: February 11, 2014

SUBJECT: Amended Capital Project Ordinance for Unionville Indian Trail Road Sidewalk

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#### **General Information:**

Pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the adoption of an ordinance is required in order to authorize capital project expenditures.

#### **Required actions:**

Council Approval

#### **Attachment:**

Amended Capital Project Ordinance for C-4957B Unionville Indian Trail Road Sidewalk

**AN ORDINANCE AMENDING THE CAPITAL PROJECT ORDINANCE FOR  
C-4957 B UNIONVILLE INDIAN TRAIL ROAD SIDEWALK IMPROVEMENTS**

**WHEREAS**, the Town of Indian Trail desires to promote pedestrian activity in the Town and to provide for more connections to facilities throughout the Town; and

**WHEREAS**, certain grant funding to accomplish this goal is available and has been approved for the Town of Indian Trail,

**NOW, THEREFORE, BE IT ORDAINED** by Town Council of the Town of Indian Trail, North Carolina, that, pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

**SECTION 1.** The project authorized is the construction of a sidewalk, providing for pedestrian activities, financed by a Federal Grant and Powell Bill Funds, to be commonly known as the C-4957 B Unionville Indian Trail Road Sidewalk Improvements.

**SECTION 2.** The officers of the Town are hereby directed to proceed with the capital project within the term of the grant documents and budget contained herein.

**SECTION 3.** The following amounts are appropriated for this project:

	Current Budget	Revised Budget
Construction	\$1,025,942.23	\$1,025,942.23
Construction Engineering Inspection Services	<u>\$161,672.80</u>	<u>\$176,672.80</u>
Total Appropriations	<u><u>\$1,187,615.03</u></u>	<u><u>\$1,202,615.03</u></u>

**SECTION 4.** The following revenues are anticipated to complete this project:

	Current Budget	Revised Budget
Federal Grant	\$509,776.00	\$509,776.00
20% Matching Funds (Powell Bill)	\$127,444.00	\$127,444.00
Powell Bill Fund	<u>\$550,395.03</u>	<u>\$565,395.03</u>
Total Estimated Revenues	<u><u>\$1,187,615.03</u></u>	<u><u>\$1,202,615.03</u></u>

**SECTION 5.** The Finance Director is hereby directed to maintain within the capital project fund sufficient detailed accounting records to satisfy the requirements of the grantor agency, the grant agreements, and federal regulations.

**SECTION 6.** Funds may be advanced from the Powell Bill Fund for the purpose of making payments as due. Reimbursement requests should be made to the grantor agency in an orderly and timely manner.

**SECTION 7.** The Finance Director is directed to report on the financial status of the project element in Section 3 and as requested by the Town of Indian Trail.

**SECTION 8.** The Budget Officer is directed to include an analysis of the estimated spending and capital project revenue in the budget for this, and other active capital projects, with the Budget Ordinance.

**SECTION 10.** Copies of this capital project ordinance shall be made available to the Clerk and the Finance Director for direction in carrying out this project.

**ADOPTED BY THE TOWN COUNCIL this the 11th day of February, 2014.**

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Michael L Alvarez, Mayor

Attest:

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Peggy Piontek, Town Clerk



## Town of Indian Trail

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### Memo

**TO:** Mayor and Town Council

**FROM:** Marsha Sutton, Finance Director  
Scott J. Kaufhold, P.E., Director of Engineering and Public Works

**COUNCIL DATE:** January 28, 2014

**SUBJECT:** Amendment to the Capital Project Ordinance for C-4957 B Unionville Indian Trail Road Sidewalk Improvements

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#### **General Information:**

Pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the adoption of an ordinance is required in order to authorize capital project expenditures.

#### **Required actions:**

Council Adoption of the Amended Ordinance

#### **Attachment:**

Amended Capital Project Ordinance for C-4957 B Unionville Indian Trail Road Sidewalk Improvements

**AN ORDINANCE AMENDING THE CAPITAL PROJECT ORDINANCE FOR  
C-4957 B UNIONVILLE INDIAN TRAIL ROAD SIDEWALK IMPROVEMENTS**

**WHEREAS**, the Town of Indian Trail desires to promote pedestrian activity in the Town and to provide for more connections to facilities throughout the Town; and

**WHEREAS**, certain grant funding to accomplish this goal is available and has been approved for the Town of Indian Trail,

**NOW, THEREFORE, BE IT ORDAINED** by Town Council of the Town of Indian Trail, North Carolina, that, pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

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**SECTION 2.** The officers of the Town are hereby directed to proceed with the capital project within the term of the grant documents and budget contained herein.

**SECTION 3.** The following amounts are appropriated for this project:

	Current Budget	Revised Budget
Construction	\$1,025,942.23	\$1,025,942.23
Construction Engineering Inspection Services	<u>\$161,672.80</u>	<u>\$176,672.80</u>
Total Appropriations	<u><u>\$1,187,615.03</u></u>	<u><u>\$1,202,615.03</u></u>

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**SECTION 8.** The Budget Officer is directed to include an analysis of the estimated spending and capital project revenue in the budget for this, and other active capital projects, with the Budget Ordinance.

**SECTION 10.** Copies of this capital project ordinance shall be made available to the Clerk and the Finance Director for direction in carrying out this project.

**ADOPTED BY THE TOWN COUNCIL this the 28th day of January, 2014.**

---

Michael L Alvarez, Mayor

Attest:

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Peggy Piontek, Town Clerk



P.O. Box 2430  
 Indian Trail, North Carolina 28079  
 Telephone (704) 821-5401  
 Fax (704) 821-9045

**PLANNING AND NEIGHBORHOOD SERVICES**

**Planning Board Transmittal for the February 11, 2014 Town Council Public Hearing**

<b>Case: ZT 2014-001 Flood Damage Reduction Ordinance Amendment</b>			
<b>Reference Name</b>	<b>General Housekeeping Amendment of Chapter 1360</b>		
<b>Planning Board Meeting Date</b>	November 19, 2013		
<b>Members Present</b>	Chair Cowan <input checked="" type="checkbox"/>	Jan Brown <input type="checkbox"/>	Vice Chair Larry Miller <input checked="" type="checkbox"/>
	Cathi Higgins <input checked="" type="checkbox"/>	Kelly D' Onofrio <input type="checkbox"/>	Robert Rollins <input checked="" type="checkbox"/>
	Alan Rosenberg <input type="checkbox"/>	Cheryl Mimy <input checked="" type="checkbox"/> Alternate 1	Steve Long <input checked="" type="checkbox"/> Alternate 2
	Sidney Sandy <input type="checkbox"/> Alternate 3		
<b>Case Found Complete</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
<b>Motion</b>	Recommend approval to Town Council with modification		
<b>Member Making the Motion</b>	Chair Patti Cowan		
<b>Second the Motion</b>	Boardmember Chip Long		
<b>Vote</b>	All seated members voted in favor of the Motion		

**Purpose of the Amendment:** This is a request to amend Chapter 1360 – Flood Damage Reduction Ordinance per the request of the State based on their review of recent amendments.

**Town Council Action:** *Receive transmittal report and public testimony and:*

1. *Concur with the findings and transmittal of the Planning Board to approve; or*
2. *Concur with the findings and approve as modified by Council; or*
3. *Do not make the findings and disapprove the amendment.*

## **Analysis**

The Town Council recently approved a text amendment of Chapter 1360-Flood Damage Reduction Ordinance (ZT2013-003) which provided new references to newly adopted FIS and DFIRM within this Chapter in December 2013. The State has completed its review of our Ordinance and has requested some very small modifications.

## **Planning Board**

The Planning Board met on January 21, 2014 to hear the proposed amendment in a public meeting. The Board had questions regarding an acronym-DFIRM within the proposed amendment. This acronym means – Digital Flood Insurance Rate Map. The Board then made the following findings with a suggested modification to add this acronym to the glossary portion of the ordinance and unanimously voted to transmit a recommendation to approve:

1. The proposed UDO amendment is consistent with the following goal of the Comprehensive Plan:

*Utilities* - because it will update our local regulations consistent with the requirements of the State thus improving regulations with the intent of protecting life and property as it relates to the Special Flood Hazard Areas within the Town.

2. This UDO ordinance amendment is in the best interest of the public because it maintains current regulations within the Unified Development Ordinance consistent with the State upholding the Town's Flood Insurance Program for its residents.

### **Town Council Action:** *Receive transmittal report and public testimony and:*

1. *Concur with the findings and transmittal of the Planning Board to approve; or*
2. *Concur with the findings and approve as modified by Council; or*
3. *Do not make the findings and disapprove the amendment.*

### **Staff Contact**

Shelley DeHart, AICP  
srd@planning.indiantrail.org

Attachment 1- Planning Board Report  
Attachment 2- Draft Ordinance

**TC Attachment 1- Planning Board Report**



P.O. Box 2430  
 Indian Trail, North Carolina 28079  
 Telephone (704) 821-5401  
 Fax (704) 821-9045

PLANNING AND NEIGHBORHOOD SERVICES

**Zoning Staff Report**

<b>Case: ZT 2014-001 Amendment of UDO Related to Flood Damage Reduction</b>		
<b>Reference Name</b>	General Housekeeping of Chapter 1360	
<b>Applicant</b>	Town of Indian Trail	
<b>Submittal Date</b>	January 2, 2014	
<b>Location</b>	Town-wide	
<b>Tax Map Number</b>	N/A	
<b>Plan Consistency</b>	Town of Indian Trail Comprehensive Plan	Consistent With Request
<b>Recommendations &amp; Comments</b>	Planning Staff	Recommends Approval of Proposed Text Amendment.

**Project Summary**

This is a request to amend Chapter 1360 – Flood Damage Reduction Ordinance per the request of the State based on their review of recent amendments.

**Staff Recommendation-** Staff recommends based on the guidance of the adopted plans that the text amendment be supported by recommending its approval to the Town Council

**Analysis**

The Town Council recently approved a text amendment of Chapter 1360-Flood Damage Reduction Ordinance (ZT2013-003) which provided new references to newly adopted FIS and DFIRM within this Chapter in December 2013. The State has completed its review of our Ordinance and has requested some very small modifications.

## Required Consistency Findings

The Planning Board is required to make two consistency findings, one for consistency with Town adopted plans and another regarding the benefit of the public. Staff is of the opinion the following findings can be made:

1. The proposed UDO amendment is consistent with the following goal of the Comprehensive Plan:

*Utilities* - because it will update our local regulations consistent with the requirements of the State thus improving regulations with the intent of protecting life and property as it relates to the Special Flood Hazard Areas within the Town.

2. This UDO ordinance amendment is in the best interest of the public because it maintains current regulations within the Unified Development Ordinance consistent with the State upholding the Town's Flood Insurance Program for its residents.

Staff recommends that the Planning Board make the required consistency findings and recommend adoption of this UDO Text Amendment as presented to the Town Council.

### Staff Contact

Shelley DeHart, AICP

Director of Planning

[srd@planning.indiantrail.org](mailto:srd@planning.indiantrail.org)

Attachment 1: Draft Ordinance – See TC Attachment 2

**TC Attachment 2- Draft Ordinance**



**Section 1 – UDO CHAPTER 1360 is hereby amended as shown in Exhibit A of this Ordinance;**

**Section 2-** This ordinance shall be effective immediately upon adoption.

SO ORDAINED THIS 11<sup>TH</sup> DAY OF FEBRUARY, 2014.

THE TOWN COUNCIL OF INDIAN TRAIL

By \_\_\_\_\_  
Honorable Michael L. Alvarez, Mayor

Attest:

\_\_\_\_\_  
Peggy Piontek, Town Clerk

## Chapter 1360. Flood Damage Reduction Ordinance

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### 1360.010 Statutory Authorization

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare. Consistent with the requirements and standards of the North Carolina General Statutes the Town Council of Indian Trail, North Carolina has adopted the following standards in order to reduce property loss and damage associated with flooding. A complete Table of Contents for this Chapter is provided in Appendix 3 of this UDO.

### 1360.020 Purpose

- A.** The Special Flood Hazard Area (SFHA) of the Town is subject to periodic inundation that could result in loss of life and property, hazards to public health and safety, disruption of commerce and governmental services, damage to and disruption of public utilities, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These losses and hazards are caused by the cumulative effect of obstructions in SFHAs, which increase flood heights and velocities, and by the occupancy in flood-prone areas by uses that are vulnerable to floods, or hazardous to other properties, because they are inadequately elevated, flood proofed, or otherwise protected from flood damages. Therefore, the regulations set forth in this section are designed to:
1. restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;
  2. require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;
  3. control the alteration of natural SFHAs, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
  4. prevent or control filling, grading, dredging, and all other development that may increase erosion or flood damage; and
  5. prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.
- B.** The degree of flood protection required by this section is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This section does not imply that land outside the SFHA will be free from flooding or flood damages. Neither shall this section create liability on the part of the Town or by any officer or employee thereof for any flood damages that result from reliance on this section or any administrative decision lawfully made hereunder.

### 1360.030 Definitions

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

1. *Accessory structure* (appurtenant structure) means a structure located on the same parcel of property as the principal Structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory Structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.
2. *Addition* (to an existing building) means an extension or increase in the floor area or height of a building or structure.
3. *Appeal* means a request for a review of the floodplain administrator's interpretation of any provision of this ordinance.
4. *Area of shallow flooding* means a designated Zone AO on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.
5. *Areas of Special Flood Hazard* see *special flood hazard area* (SFHA).
6. *Basement* means any area of the building having its floor subgrade (below ground level) on all sides.
7. *Base Flood* means the flood having a one (1) percent chance of being equaled or exceeded in any given year.
8. *Base Flood Elevation (BFE)* means a determination of the water surface elevations of the base flood as published in the *flood insurance study*. When the BFE has not been provided in a *SFHA*, it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the *freeboard*, establishes the *regulatory flood protection elevation*.
9. *Buildings* see *structure*.
10. *Chemical storage facility* means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.
11. *Development* means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.
- ~~11-12.~~ *DFIRM* means digital flood insurance rate map
- ~~12-13.~~ *Disposal* means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwater.
- ~~13-14.~~ *Elevated building* means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.
- ~~14-15.~~ *Encroachment* means the advance or infringement of uses, fill, excavation, buildings, Structures or development into a SFHA, which may impede or alter the flow capacity of a SFHA. Building renovations contained within the existing building footprint area are not considered an encroachment.

**15-16.** *Existing manufactured home park or manufactured home subdivision* means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the initial effective date of the floodplain management regulations adopted by the community.

**16-17.** *Flood or flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- a. the overflow of inland or tidal waters; and/or
- b. the unusual and rapid accumulation of runoff of surface waters from any source.

**17-18.** *Flood boundary and floodway map (FBFM)* means an official map of a community, issued by the Federal Emergency Management Agency, on which the SFHAs and the floodways are delineated. This official map is a supplement to and shall be used in conjunction with the *flood insurance rate map (FIRM)*.

**18-19.** *Flood hazard boundary map (FHBM)* means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the SFHAs have been defined as Zone A.

**19-20.** *Flood insurance* means the insurance coverage provided under the National Flood Insurance Program.

**20-21.** *Flood Insurance Rate Map (FIRM)* means an official map of a community, issued by the Federal Emergency Management Agency, on which both the SFHAs and the risk premium zones applicable to the community are delineated.

**21-22.** *Flood insurance study (FIS)* means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the Federal Emergency Management Agency. The flood insurance study report includes *flood insurance rate maps (FIRMs)* and *flood boundary and floodway maps (FBFMs)*, if published.

**22-23.** *Flood prone area* see *floodplain*.

**23-24.** *Floodplain* means any land area susceptible to being inundated by water from any source.

**24-25.** *Floodplain administrator* is the individual appointed to administer and enforce the floodplain management regulations. For the purposes of this ordinance, *floodplain administrator* is synonymous with *storm water administrator*.

**25-26.** *Floodplain development permit* means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

**26-27.** *Floodplain management* means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the SFHAs, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

**27-28.** *Floodplain management regulations* means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes Federal, State or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

**28-29.** *Floodproofing* means any combination of structural and nonstructural additions, changes, or adjustments to Structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

**29-30.** *Floodway* means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

**30-31.** *Flood zone* means a geographical area shown on a *flood hazard boundary map* or *flood insurance rate map* that reflects the severity or type of flooding in the area.

**31-32.** *Freeboard* means the height added to the *base flood elevation* (BFE) to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and *floodway* conditions, such as wave action, blockage of bridge openings, and the hydrological effect of urbanization of the watershed. The *base flood elevation* plus the *freeboard* establishes the *regulatory flood protection elevation*.

**32-33.** *Hazardous waste management facility* means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

**33-34.** *Highest adjacent grade (HAG)* means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the *structure*.

**34-35.** *Historic structure* means any *structure* that is:

- a. listed individually in the National Register of Historic Places (a listing maintained by the US Department Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
- b. certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- c. individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program"; or
- d. certified as contributing to the historical significance of a historic district designated by a community with a "Certified Local Government (CLG) Program". Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

**35-36.** *Lowest adjacent grade (LAG)* means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

**36-37.** *Lowest floor* means lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's *lowest floor* provided that such an enclosure is not built so as to render the Structure in violation of the applicable non-elevation design requirements of this ordinance.

**37-38.** *Manufactured home* means a *structure*, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term *manufactured home* does not include a *recreational vehicle*.

**38-39.** *Manufactured Home Park or Subdivision* means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**39-40.** *Market value* means the building value, not including the land value and that of any accessory Structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (actual cash value); or adjusted tax assessed values.

**40-41.** *Mean Sea Level* means, for purposes of this ordinance, the National Geodetic Vertical Datum (NGVD) as corrected in 1929, the North American Vertical Datum (NAVD) as corrected in 1988, or other vertical control datum used as a reference for establishing varying elevations within the SFHAs, to which Base Flood Elevations (BFEs) shown on a FIRM are referenced. Refer to each FIRM panel to determine datum used.

**41-42.** *New Construction* means *structures* for which the *start of construction* commenced on or after the effective date of the initial floodplain management regulations and includes any subsequent improvements to such *structures*.

**42-43.** *Non-Encroachment Area* means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

**43-44.** *Post-FIRM* means construction or other development for which the *start of construction* occurred on or after the effective date of the initial *flood insurance rate map*.

**44-45.** *Pre-FIRM* means construction or other development for which the *start of construction* occurred before the effective date of the initial *flood insurance rate map*.

**45-46.** *Principally Above Ground* means that at least 51% of the actual cash value of the *structure* is above ground.

**46-47.** *Public safety and/or nuisance* means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

**47-48.** *Recreational vehicle (RV)* means a vehicle, which is:

- a. built on a single chassis;
- b. 400 square feet or less when measured at the largest horizontal projection;
- c. designed to be self-propelled or permanently towable by a light duty truck; and
- d. designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

- 48-49.** *Reference level* is the bottom of the lowest horizontal structural member of the *lowest floor for structures* within all *SFHAs*. Reference level also defined as the bottom of the lowest horizontal structural member of the lowest floor for structures within all *SFHAs*.
- 49-50.** *Regulatory flood protection elevation* means the *base flood elevation* plus the *freeboard*. In *SFHAs* where *base flood elevations* (BFEs) have been determined, this elevation shall be the BFE plus two (2) feet of freeboard. In *SFHAs* where no BFE has been established, this elevation shall be at least two (2) feet above the highest adjacent grade.
- 50-51.** *Remedy a violation* means to bring the *structure* or other development into compliance with State and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the Structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the *structure* or other development.
- 51-52.** *Riverine* means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.
- 52-53.** *Salvage yard* means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.
- 53-54.** *Solid waste disposal facility* means any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a) (35).
- 54-55.** *Solid waste disposal site* means, as defined in NCGS 130A-290(a) (36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.
- 55-56.** *Special flood hazard area (SFHA)* means the land in the floodplain subject to a one percent (1%) or greater chance of being flooded in any given year, as determined in Section 1360.040B of this ordinance. Riverine SFHAs are shown on new format FIRMs as Zones A, AE, AH, AO, AR, and A99. Older FIRMs may have numbered A Zones (A1-A30).
- 56-57.** *Start of Construction* includes substantial improvement, and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a Structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main Structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.
- 57-58.** *Storm Water Administrator* is the individual appointed by the Town Manager to administer and enforce the floodplain management regulations and the Post-Construction Storm Water Ordinance in the Town of Indian Trail.

~~58-59.~~ *Structure* means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

~~59-60.~~ *Substantial damage* means damage of any origin sustained by a *structure* during any one-year period whereby the cost of restoring the *structure* to its before damaged condition would equal or exceed 50 percent of the market value of the Structure before the damage occurred. See definition of *substantial improvement*.

~~60-61.~~ *Substantial improvement* means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a Structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the *structure* before the *start of construction* of the improvement. This term includes *structures* which have incurred *substantial damage*, regardless of the actual repair work performed. The term does not, however, include either:

- a. any correction of existing violations of State or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or
- b. any alteration of a *historic structure* provided that the alteration will not preclude the structure's continued designation as a *historic structure*.

~~61-62.~~ *Variance* is a grant of relief from the requirements of this ordinance.

~~62-63.~~ *Violation* means the failure of a Structure or other development to be fully compliant with the community's floodplain management regulations. A *structure* or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 1360.100 and Sections 1360.120 is presumed to be in violation until such time as that documentation is provided.

~~63-64.~~ *Water surface elevation (WSE)* means the height, in relation to mean sea level, of floods of various magnitudes and frequencies in the SFHAs.

~~64-65.~~ *Watercourse* means a lake, river, creek, stream, wash, channel or other topographic feature on or over which water flows at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

## 1360.040 General Provisions

### A. Lands to Which this Ordinance Applies

This ordinance shall apply to all SFHAs within the jurisdiction, including Extra-Territorial Jurisdictions (ETJs) if applicable, of the Town of Indian Trail and within the jurisdiction of any other community whose governing body agrees, by resolution, to such applicability.

### B. Basis for Establishing the Special Flood Hazard Areas.

The SFHAs are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its FIS dated February 19, 2014 for Union County and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance. Future revisions to the FIS and DFRIM panels that do not change flood hazard data within the jurisdictional authority of the Town of Indian Trail are also adopted by reference and declared a part of this ordinance. dated October 16, 2008, which are adopted by reference and declared to be a part of this ordinance.

### **1360.050 Establishment of Floodplain Development Permit**

A floodplain development permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within SFHAs determined in accordance with the provisions of Section 1360.040B of this ordinance.

### **1360.060 Compliance**

No structure or land within a Special Flood Hazard Area shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations. It is the property owners' and/or developers' responsibility to ensure all other ordinances are met including but not limited to the Post-Construction Storm Water Ordinance, Erosion and Sedimentation requirements, and Federal Water Pollution Control Act of 1972 ("Clean Water Act").

### **1360.070 Abrogation and Greater Restrictions**

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

### **1360.080 Interpretation**

In the interpretation and application of this ordinance, all provisions shall be:

- A.** considered as minimum requirements;
- B.** liberally construed in favor of the governing body; and
- C.** deemed neither to limit nor repeal any other powers granted to the Town under State statutes.

### **1360.090 Penalties for Violation**

Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$500.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the Town of Indian Trail from taking such other lawful action as is necessary to prevent or remedy any violation.

### **1360.100 Administration**

#### **A. Designation of Storm Water Administrator**

The Town Manager designates the Indian Trail Town Engineer as the Storm Water Administrator. The Storm Water Administrator, and his or her designees, is the person with the authority to administer, implement and enforce the provisions of this ordinance. The Storm Water Administrator, and his or her designees, administers the Flood Damage Reduction Ordinance as well as the Post Construction Ordinance.

#### **B. Duties and Responsibilities of the Storm Water Administrator**

The Storm Water Administrator shall perform, but not be limited to, the following duties:

- 1.** Review all floodplain development applications and issue permits for all proposed development within SFHAs to assure that the requirements of this ordinance have been satisfied.
- 2.** Review all proposed development within SFHAs to assure that all necessary local, state and federal permits have been received.

- 3.** Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- 4.** Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.
- 5.** Prevent encroachments into the SFHAs, floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Section 1360.120A, Section 1360.120A.18, and Section 1360.150 are met.
- 6.** Obtain actual elevation (in relation to mean sea level) of the Reference Level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with Section 1360.110D
- 7.** Obtain actual elevation (in relation to mean sea level) to which all new and substantially improved Structures and utilities have been floodproofed, in accordance with the provisions of Section 1360.110D.
- 8.** Obtain actual elevation (in relation to mean sea level) of all public utilities in accordance with the provisions of Section 1360.110D.
- 9.** When floodproofing is utilized for a particular Structure, obtain certifications from a registered professional engineer in accordance with the provisions of Section 1360.110D and 1360.120B.2.
- 10.** Where interpretation is needed as to the exact location of boundaries of the SFHAs, Floodways, or Non-Encroachment Areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- 11.** When Base Flood Elevation (BFE) data has not been provided, obtain, review, and reasonably utilize any Base Flood Elevation (BFE) data, along with Floodway data or Non-Encroachment Area data available from a Federal, State, or other source, including data developed pursuant to Section 1360.130B.2, in order to administer the provisions of this ordinance.
- 12.** When Base Flood Elevation (BFE) data is provided but no Floodway or Non-Encroachment Area data has been provided in accordance with Section 1360.040B, obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a Federal, State, or other source in order to administer the provisions of this ordinance.
- 13.** When the lowest floor and the lowest adjacent grade of a structure or the lowest ground elevation of a parcel in a special flood hazard area is above the base flood elevation, advise the property owner of the option to apply for a Letter of Map Amendment (LOMA) from FEMA. Maintain a copy of the LOMA issued by FEMA in the floodplain development permit file.
- 14.** Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.

15. Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the Storm Water Administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Storm Water Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.
16. Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Storm Water Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing or in charge of the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
17. Revoke floodplain development permits as required. The Storm Water Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.
18. Make periodic inspections throughout the SFHAs within the jurisdiction of the community.
19. Follow through with corrective procedures of Section 1360.160.
20. Review, provide input, and make recommendations for variance requests.
21. Maintain a current map repository to include, but not limited to, the FIS Report, FIRM and other official flood maps and studies adopted in accordance with Section 1360.040B of this ordinance, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.
22. Coordinate revisions to FIS reports and FIRMs, including Letters of Map Change (LOMC), Letters of Map Revision Based on Fill (LOMR-F), and Letters of Map Revision (LOMR).

### **1360.110 Floodplain Development Application, Permit and Certification Requirements**

- A. Any development in a special flood hazard area is required to have a floodplain development permit prior to the actual start of construction.
- B. Application for a floodplain development permit shall be made to the Storm Water Administrator prior to any development activities located within SFHAs. The following items shall be presented to Storm Water Administrator to apply for a floodplain development permit:
  1. A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
    - a. the nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed Structures, utility systems,



9. A description of proposed watercourse alteration or relocation, when applicable, including an engineering report, on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation. The engineering report will include all applicable calculations, hydrologic and hydraulic models, and must be signed and sealed by a North Carolina registered professional engineer.

**C. The Floodplain Development Permit shall include, but not be limited to:**

1. A detailed narrative of the development to be permitted under the Floodplain Development Permit.
2. The Special Flood Hazard Area determination for the proposed development in accordance with available data specified in Section 1360.040B.
3. The regulatory flood protection elevation required for the reference level and all attendant utilities.
4. The regulatory flood protection elevation required for the protection of all public utilities.
5. All certification submittal requirements with timelines.
6. A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, as applicable.
7. The flood openings requirements, if in Zones A, AO, or AE.
8. Limitations of below BFE enclosure uses (if applicable). (i.e., parking, building access and limited storage only).

**D. Certification Requirements.**

**1. Elevation Certificates**

- a. A floor elevation or flood proofing certification must be submitted to the Storm Water Administrator within seven (7) calendar days of establishment of the lowest floor elevation, or flood proofing by whatever construction techniques. It shall be the duty of the permit holder to submit to the Storm Water Administrator a certification of the elevation of the lowest floor, flood proofed elevation, as built, in relation to mean sea level after construction is complete, prior to the issuance of a certificate of occupancy. Said certification shall be prepared by or under the direct supervision of a North Carolina registered land surveyor or professional engineer and certified by same. When flood proofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a North Carolina professional engineer and certified by same. Any work done within the seven (7) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Storm Water Administrator shall, in a timely manner, review the floor elevation survey as submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project. Any work completed by the permit holder prior to Storm Water Administrator approval, shall be at the permit holder's own risk.

- b. A final as-built Elevation Certificate (FEMA Form 81-31) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Storm Water Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Storm Water Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

## **2. Floodproofing Certificate**

- a. If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a Floodproofing Certificate (FEMA Form 81-65), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Storm Water Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to mean sea level. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer and certified by same. The Storm Water Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
- 3. If a manufactured home is placed within Zone A, AO, or AE, and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required in accordance with the provisions of Section 1360.120B.3.
  - 4. If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit
  - 5. Certification Exemptions. The following Structures, if located within Zone A, AO, or AE, are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:
    - a. Recreational vehicles meeting requirements of Section 1360.120B.6;
    - b. Temporary structures meeting requirements of Section 1360.120B.7; and
    - c. Accessory structures less than 150 square feet meeting requirements of Section 1360.120B.8.

## **E. Expiration of Floodplain Development Permit**

Floodplain Development Permits issued pursuant to this ordinance expire two years after the date of issuance unless: 1) the work has commenced within two (2) years after the date of

issuance, or 2) the issuance of the permit is legally challenged in which case the permit is valid for two (2) years after the challenge has been resolved.

## **1360.120 Provisions for Flood Hazard Reduction**

### **A. General Standards**

In all SFHAs, the following provisions are required:

- 1.** The Town of Indian Trail has prohibited most development in all studied and non-studied SFHAs. No encroachments, including fill, new construction, stormwater detention, substantial improvements and other developments shall be permitted within any portion of SFHAs unless a variance is granted, with the following exceptions:
  - a.** The development is for roads, greenway trails, boardwalks, pedestrian crossings, agricultural uses, forestry, parks, playground or other park related equipment, fences (min eighty (80) percent of the fence shall be open area), public utilities and facilities such as wastewater utility lines, storm drainage construction and repair with approval by the Storm Water Administrator, gas, electrical, water systems and similar uses that are located and constructed to minimize flood damage.
- 2.** All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the Structure.
- 3.** All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- 4.** All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- 5.** Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding to the regulatory flood protection elevation. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, hot water heaters, and electric outlets/switches.
- 6.** All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- 7.** New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
- 8.** On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- 9.** Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this ordinance, shall meet the requirements of new construction as contained in this ordinance.
- 10.** Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the SFHAs , provided there is no additional encroachment below the SFHAs , and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

11. New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted.
12. All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.
13. All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
14. All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
15. All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
16. When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.
17. When a structure is located in multiple SFHAs or in a special flood hazard area with multiple base flood elevations, the provisions for the more restrictive special flood hazard area and the highest base flood elevation shall apply.
18. For projects granted a variance, a “No-Impact” certification is required from a North Carolina registered professional engineer. “No-Impact” means no increase in flood elevations greater than zero (0.00) feet, no decrease in flood elevations of more than one-tenth (0.10) of a foot, and no increase in floodway or non-encroachment area widths.

## **B. Specific Standards**

The following specific standards apply to projects that have been granted a development variance or meet the criteria as identified in Section 1360.120A. In all SFHAs where base flood elevation (BFE) data has been provided, as set forth in Section 1360.040B, the following provisions, in addition to the provisions of Section 1360.120A, are required:

### **1. Residential Construction.**

New construction and substantial improvement of any residential Structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Section ~~1360.03050~~<sup>1360.03049</sup> of this ordinance. The regulatory flood protection elevation being the base flood elevation plus two (2.0) feet of freeboard.

### **2. Non-Residential Construction.**

New construction and substantial improvement of any commercial, industrial, or other non-residential Structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Section ~~1360.03050~~<sup>1360.03049</sup> of this ordinance. Structures located in A, AE, and AO, and Zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the Structure, together with attendant utility and sanitary facilities, below the regulatory flood protection elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer shall

certify that the standards of this subsection are satisfied. Such certification shall be provided to the Storm Water Administrator along with the operational and maintenance plans.

### **3. Manufactured Homes.**

- a.** New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation, as defined in Section ~~1360.03050~~1360.03049 of this ordinance.
- b.** Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
- c.** All enclosures or skirting below the lowest floor shall meet the requirements of Section 1360.120B.4.
- d.** An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Storm Water Administrator and the local Emergency Management coordinator.

### **4. Elevated Buildings.**

Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:

- a.** shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;
- b.** shall be constructed entirely of flood resistant materials at least to the regulatory flood protection elevation;
- c.** shall include, in Zones A, AO, and AE, flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or meet or exceed the following minimum design criteria:
  - (1)** a minimum of two flood openings on different sides of each enclosed area subject to flooding;
  - (2)** the total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;
  - (3)** if a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;

- (4) the bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;
- (5) flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and
- (6) enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

## **5. Additions/Improvements.**

- a. Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing Structure are:
  - (1) Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.
  - (2) A substantial improvement, the existing structure and the addition and/or improvements must comply with the standards for new construction.
- b. Additions to post-FIRM structures with no modifications to the existing Structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.
- c. Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
  - (1) Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.
  - (2) A substantial improvement, the existing Structure and the addition and/or improvements must comply with the standards for new construction.

## **6. Recreational Vehicles.**

Recreational vehicles shall either:

- a. Be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or
- b. Meet all the requirements for new construction.

## **7. Temporary Non-Residential Structures.**

Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the Storm Water Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Storm Water Administrator for review and written approval:

- a. a specified time period for which the temporary use will be permitted. Time specified may not exceed three months, renewable up to one year;

- b. the name, address, and phone number of the individual responsible for the removal of the temporary structure;
- c. the time frame prior to the event at which a Structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
- d. a copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
- e. designation, accompanied by documentation, of a location outside the special flood hazard area, to which the temporary structure will be moved.

### **8. Accessory Structures.**

When accessory structures (sheds, detached garages, etc.) are to be placed within a special flood hazard area, the following criteria shall be met:

- a. accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
- b. accessory structures shall not be temperature-controlled;
- c. accessory structures shall be designed to have low flood damage potential;
- d. accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- e. accessory structures shall be firmly anchored in accordance with the provisions of Section 1360.120A.2;
- f. all service facilities such as electrical shall be installed in accordance with the provisions of Section 1360.120A.5; and
- g. flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with the provisions of Section 1360.120B.4.c.
- h. an accessory Structure with a footprint less than 150 square feet that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory Structures in accordance with Section 1360.110D.

### **9. Parking Lots.**

All parking areas for new or substantially improved non-single family habitable buildings must be at an elevation such that water depths would be less than six (6.0) inches deep in any parking space during the occurrence of a FEMA base flood.

### **1360.130 Standards for Floodplains without Established Base Flood Elevations**

Within the SFHA designated as Approximate Zone A and established in Section 1360.040B, where no Base Flood Elevation (BFE) data has been provided by FEMA, the following provisions, in addition to the provisions of Section 1360.120A, shall apply:

- A.** No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five times the width of the stream, or minimum stream buffer requirements, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

- B.** The BFE used in determining the regulatory flood protection elevation shall be determined based on the following criteria:
- 1.** When base flood elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Section 1360.120A and Section 1360.120A.18.
  - 2.** When Floodway data is available from a Federal, State, or other source, all new construction and substantial improvements within Floodway and Non-Encroachment areas shall also comply with the requirements of Section 1360.120A.18 and Section 1360.150.
  - 3.** All subdivision, manufactured home park and other development proposals shall provide base flood elevation (BFE) data if development is greater than one (1) acre or has more than ten (10) lots/manufactured home sites. Such base flood elevation (BFE) data shall be adopted by reference in accordance with Section 1360.040B and utilized in implementing this ordinance.
  - 4.** When base flood elevation (BFE) data is not available from a federal, state, or other source as outlined above, the reference level shall be elevated or floodproofed (nonresidential) to or above the regulatory flood protection elevation, as defined in Section ~~1360.03050~~1360.03049. All other applicable provisions of Section 1360.120 shall also apply.

#### **1360.140 Standards for Riverine Floodplains with BFE but without Established Floodways or Non-Encroachment Areas**

Along rivers and streams where BFE data is provided by FEMA or is available from another source but neither floodway nor non-encroachment areas are identified for a special flood hazard area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- A.** Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1.0) foot at any point within the community. For projects granted a variance, a “No-Impact certification is required per Section 1360.130A.18

#### **1360.150 Floodways and Non-Encroachment Areas**

Areas designated as floodways or non-encroachment areas are located within the SFHAs established in Section 1360.040B. The Floodways and Non-Encroachment Areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions shall apply to all development within such areas:

- A.** No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that such Encroachment would not result in any increase in the FEMA Base Flood Elevations during the occurrence of a FEMA Base Flood. Such analysis shall be performed and certified by a North Carolina registered professional engineer and reviewed by the Storm Water Administrator. Any encroachment that would cause a rise in the FEMA Base Flood Elevation or an increase in the FEMA Floodway width during the occurrence of the FEMA Base Flood will require notification of impacted property owners, and a Conditional Letter of Map Revision (CLOMR) from FEMA. If approved and constructed, as-built plans must be submitted by the property owner and

approved by FEMA and a Letter of Map Revision (LOMR) issued before a Certificate of Occupancy will be issued.

- B.** For projects granted a variance, a “No-Impact” certification is required per Section 1360.130A.18.
- C.** If Section 1360.120A, Section 1360.120B.1, and Section 1360.150 is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.
- D.** No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision, provided the following provisions are met:
  - 1.** the anchoring and the elevation standards of Section 1360.120B.3; and
  - 2.** the no encroachment standard of Section 1360.120A, Section 1360.120B.1, and Section 1360.150A.

### **1360.160 Corrective Procedures**

- A.** Violations to be corrected: When the Storm Water Administrator finds violations of applicable State and local laws, it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.
- B.** Actions in event of failure to take corrective action: If the owner of a building or property shall fail to take prompt corrective action, the Storm Water Administrator shall give the owner written notice, by certified or registered mail to the owner’s last known address or by personal service, stating:
  - 1.** that the building or property is in violation of the floodplain management regulations;
  - 2.** that a hearing will be held before the Storm Water Administrator at a designated place and time, not later than ten days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and
  - 3.** that following the hearing, the Storm Water Administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.
- C.** Order to take corrective action: If, upon a hearing held pursuant to the notice prescribed above, the Storm Water Administrator shall find that the building or development is in violation of the Flood Damage Reduction Ordinance, they shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than 60 calendar days, nor more than 180 calendar days. Where the Storm Water Administrator finds that there is imminent danger to life or other property, they may order that corrective action be taken in such lesser period as may be feasible.
- D.** Appeal: Any owner who has received an order to take corrective action may appeal the order to the Board of Adjustment by giving notice of appeal in writing to the Storm Water Administrator and the clerk within 10 days following issuance of the final order. In the absence of an appeal, the order of the Storm Water Administrator shall be final. The Board of Adjustment shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.
- E.** Failure to comply with order: If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the Board of Adjustment following an appeal, the owner shall be guilty of a misdemeanor and subject to the penalties contained in Section 1360.090.

## **1360.170 Appeals and Variances**

### **A. Authority of Board of Adjustment.**

1. The Board of Adjustment shall hear and decide appeals from any order, decision, determination or interpretation made by the Storm Water Administrator pursuant to or regarding these regulations.
2. The Board of Adjustment shall hear and decide petitions for variances from the requirements of this ordinance.

### **B. Initiation and Filing of Appeal.**

1. An appeal of an order, decision, determination or interpretation made by the Storm Water Administrator, may be initiated by any person aggrieved by any officer, department, board or bureau of the town.
2. A notice of appeal in the form prescribed by the Board of Adjustment must be filed with the Board's Clerk, with a copy to the Storm Water Administrator, within 20 days of the order, decision, determination or interpretation and must be accompanied by a nonrefundable filing fee as established by the Town Council. Failure to timely file such notice and fee will constitute a waiver of any rights to appeal under this section and the Board of Adjustment shall have no jurisdiction to hear the appeal.

### **C. Standards and Hearing Procedure.**

1. The Board of Adjustment will conduct the hearing on an appeal of an order, decision, determination or interpretation of these regulations in accordance with its normal hearing procedures.
2. At the conclusion of the hearing, the Board of Adjustment may reverse or modify the order, decision, determination or interpretation under appeal upon finding an error in the application of these regulations on the part of the Storm Water Administrator who rendered the decision, determination or interpretation. In modifying the decision, determination or interpretation, the Board will have all the powers of the officer from whom the appeal is taken.

### **D. Initiation and Filing of Variance Petition.**

1. A petition for Variance may be initiated only by the owner of the affected property, or an agent authorized in writing to act on the owner's behalf.
2. A petition for a Variance from these regulations in the form prescribed by the Board of Adjustment must be filed with the Board's Clerk, with a copy to the Storm Water Administrator, and be accompanied by a nonrefundable filing fee as established by the Town Council.

### **E. Factors for Consideration and Determination of Completeness**

1. In passing upon variances, the Board of Adjustment shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and the:
  - a. danger that materials allowed to be placed in the special flood hazard area as a result of the variance may be swept onto other lands to the injury of others during a base flood;
  - b. danger to life and property due to flooding or erosion damage from a base flood;

- c. susceptibility of the proposed facility and its contents to flood damage and the effect of such damage during the base flood;
  - d. importance of the services provided by the proposed facility to the community;
  - e. necessity to the facility of a waterfront location, where applicable;
  - f. availability of alternative locations, not subject to flooding or erosion damage during a base flood, for the proposed use;
  - g. compatibility of the proposed use with existing and anticipated development;
  - h. relationship of the proposed use to the Town of Indian Trail and Union County floodplain management guidance documents, Union County Flood Hazard Mitigation Plans, the Union County Greenway Plan, and any other adopted land use plans for that area;
  - i. safety of access to the property in times of a base flood for ordinary and emergency vehicles;
  - j. expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters during a base flood expected at the site; and
  - k. costs of providing governmental services during and after flood events, including maintenance and repair of public utilities and facilities, such as sewer, gas, electrical and water systems and streets and bridges.
2. A written report addressing each of the above factors shall be submitted with the application for a Variance.
  3. Upon consideration of the factors listed above and the purposes of this ordinance, the Board of Adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
  4. Variances may be issued for the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

**F. Conditions for Variances.**

1. Variances shall not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.
2. Variances shall not be issued within any designated floodway or non-encroachment area if the Variance would result in any increase in flood levels during the FEMA base flood discharge unless the requirements of Section 1360.150 are met.
3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4. Variances shall only be issued prior to approval of a floodplain development permit.

**G. Standards for Granting Variance.**

1. Variances shall only be issued upon:
  - a. a showing of good and sufficient cause;
  - b. a determination that failure to grant the variance would result in exceptional hardship; and

- c. a determination that the granting of a variance will not result in a change of flood elevations and/or an increase in floodway and non-encroachment widths, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with other existing local laws or ordinances.
- 2. The fact that the property could be utilized more profitably or conveniently with the variance than without the variance shall not be considered as grounds for granting the variance.

**H. Notification and Recordkeeping.**

- 1. Any applicant to whom a Variance from the FEMA base flood elevation is granted shall be given written notice specifying the difference between the FEMA base flood elevation and the elevation to which the structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. Such notification shall be maintained with a record of all variance actions.
- 2. The Storm Water Administrator shall maintain the records of all appeal actions and report any variances regarding FEMA minimum standards to the Federal Emergency Management Agency and the State of North Carolina upon request.

**I. Appeal from Board of Adjustment.**

- 1. Any person aggrieved by the final decision of the Board of Adjustment to grant or deny a Floodplain Development Permit shall have 30 days to file an appeal to Union County Superior Court, as provided in N.C.G.S. 143-215.57 (c).
- 2. Any party aggrieved by the decision of the Board of Adjustment related to any other order, decision, determination or interpretation of these regulations, including the granting or denial of a variance, shall have 30 days from the receipt of the Board's decision to file a petition for review in the nature of certiorari in Union County Superior Court.

**1360.180 Legal Status Provisions.**

**A. Effect on Rights and Liabilities Under the Existing Flood Damage Prevention Regulations.**

This ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Reduction Ordinance enacted March 21, 1980 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued there under are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Reduction Ordinance of the Town of Indian Trail enacted on March 21, 1980, as amended, which are not re-enacted herein, are repealed.

**B. Effect Upon Outstanding Floodplain Development Permits**

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a Floodplain Development Permit has been granted by the Storm Water Administrator or his or her authorized agents before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of 6 months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

### **C. Severability**

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

### **1360.190 Effective Date**

This Chapter shall become effective on February 19, 2014 and the Flood Insurance Rate Maps (FIRMs) as compiled and dated February 19, 2014 are hereby adopted and shall serve as the base information for the enforcement of this chapter

### **1360.200 Adoption Certification**

This Section of the Indian Trail Unified Development Ordinance represents and a true and correct copy of the Flood Damage Reduction Ordinance as adopted by the Town Council of Indian Trail, North Carolina, on the 10~~4~~11th day of ~~October~~December February, ~~2013~~2014.

# Town of Indian Trail

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## Memo

**TO:** Mayor and Town Council

**FROM:** Shelley DeHart, AICP

**DATE:** February 5, 2014

**SUBJECT:** 2014 Community Waste Reduction & Recycling Grant

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Town staff is requesting the Council support a grant application to the N.C. Department of Environment and Natural Resources (NCDENR) to establish an “away from home” recycling program within our Town parks.

**Grant Program:** The grant, 2014 Community Waste Reduction and Recycling Grant, is intended to assist local governments in expanding, improving and implementing waste reduction and recycling programs in North Carolina. Standard projects are eligible for a grant award of up to \$30,000 and a minimum twenty percent local match is required. Distribution of grant funds is on a reimbursement basis and available on a fiscal calendar (July 2014 -2015).

**Away from Home Proposal:** The Town expanded its residential recycling program in 2012 which has resulted in a 92% increase in annual recycling collection. This increase translates into a savings to our Town residents because the Town pays for the disposal of trash material by the ton, thereby removing recycling material from this waste stream, reducing the tonnage resulting in a lower monthly tipping fee. In addition, the Town is credited monthly for this collected recycling material in the amount of ten dollars per ton (minimum). Staff is requesting to expand our local recycling program by establishing an “away from home recycling program” within our public parks (Attachment-1). In summary, this program would equip our Town parks with recycling collection receptacles, education, and public outreach. Waste Pro is proposed to partner with the Town by sponsoring a High School Recycling Education Video Contest. If the grant is awarded, the Town’s local match would be under \$6,000 for a \$35,700 project.

**Requested Council Action:** Staff is requesting the Council adopt a Resolution of Support for the 2014 Community Waste Reduction Recycling Grant Application (Attachment-2).



**Town of Indian Trail**

**Proposal for 2014 Community Waste Reduction and Recycling Grant**

Environmental Services  
February 21, 2014



## Indian Trail Away from Home Recycling Program for Public Parks

Prepared by:

Shelley DeHart, AICP

Director of Planning & Neighborhood Services

Town of Indian Trail

PO Box 2430

Indian Trail, NC 28079

Phone: 704 821-5401 ext 225

Fax : 704 821-9045

Email: [srd@planning.indiantrail.org](mailto:srd@planning.indiantrail.org)

Federal Tax ID number: 56-1108235

Date: February 21, 2014

### General Requirement:

- The Town of Indian Trail receives NC Solid Waste Disposal Tax proceeds on a quarterly basis. The Town uses these proceeds solely for providing solid waste management services as required by State law.
- The Town of Indian Trail has single-stream recycling services within our main facilities and employees are encouraged to recycle. Recycling material consists of mixed paper, glass bottles & jars, cans, all plastics 1-7, food boxes, and cardboard.

**Project Description:** The Town of Indian Trail expanded its residential recycling program in 2012 which has resulted in a 92% increase in annual recycling collection. The Town is proposing to expand its recycling program to our public parks & facilities in an “away from home recycling program.” The Town has an existing one-acre event park and two new parks currently under development which represents almost 200 acres of recreational facilities. These parks, at build-out, will consist of greenway trails, multi-purpose fields, tennis courts, volleyball courts, public plazas, softball fields, disc golf, splash pads, picnic areas, and a regional size nature playground which provides the Town the opportunity to divert recyclable materials from the waste stream. More importantly, this program will promote waste reduction and recycling education to the anticipated annual visitors. It is anticipated to be an on-going project that will be continued and enhanced throughout the life and use of our public parks. The proposed program consists of the following:

- The purchase of recycling receptacles for all three public parks collecting a mixed stream of plastic bottles, paper, glass and aluminum cans. The receptacles shall be a mix of:
  - 96 gallon Toter- roll carts (10 carts) to be used during special events (tournaments etc.) at the parks and during Town sponsored street events such as 4<sup>th</sup> of July Parade and street fairs. There is a 10-year warranty on these carts.
  - Permanent decorative recycling receptacles (35- units-30-50 gallon) strategically located near shelters, bleachers, concession areas, plazas, and parking lots. These receptacles will be clearly marked with a different top/lid from waste receptacles. 10-year warranty.
  - Permanent recycling stations (9-units) at greenway trailheads with receptacles spaced out along the trail. A minimum of a 5-year warranty.
  - Recycling will be collected by our public works department for pick-up by our service contractor- Waste Pro. Recyclables are delivered to Sonoco in Charlotte.



- Education and public outreach, in partnership with our solid waste provider – Waste Pro, is proposed as follows:
  - A bi-annual recycling newsletter will be mailed out to residents promoting the program, recycling education, and project status. All publications will be printed on recycled paper as required within the program.
  - Information signage within the kiosks at the public parks.
  - High School Recycling Video Contest - \$500 cash prize to the winning high school student sponsored by the Town’s Solid Waste provider, Waste Pro of North Carolina. (No grant funds are requested for this activity).

**Special Requirements:** - Only recycling receptacles will be purchased with grant funds. Matching waste receptacles are planned at the greenway trailhead stations, however these are separate waste receptacles and are not included within this budget.

**Project Timeline:**

- July 31, 2014 – Purchase of receptacles for parks and begin installation by our public works department.
- September 30, 2014 – First newsletter sent to residents educating them about the program and announcing the High School Student Recycling Video Contest.
- March 2014 –Second newsletter focused on recycling education, recycling program, and highlighting the video winner.
- June 30, 2015 submit final report to NC DENR.

**2. Project Budget**

Budget	State Grant Award	Local Match	Project Total
<b>Recycling Receptacles</b>			
Special Event Carts (10 - 96 gallon carts)	\$583	\$117	\$700
Crossing Paths Park (4-receptacles)	\$2,333	\$467	\$2800
Chestnut Square (20 receptacles)	\$11,666	\$2334.	\$14,000
Crooked Creek Park (20 receptacles- Phase 1)	\$11,666	\$2334	\$14,000
<b>Total</b>	<b>\$26,248</b>	<b>\$5,252</b>	<b>\$31,500</b>
<b>Public Outreach</b>	<b>\$3,500</b>	<b>\$ 700</b>	<b>\$4,200</b>
<b>Project Grand Total</b>	<b>\$29,748</b>	<b>\$5,952</b>	<b>\$35,700</b>

**Recycling Receptacle Examples**



Decorative Receptacles



Greenway Trail/ Nature Areas Receptacles- Recycle Only





3. Park Locations:  
Chestnut Square

concept



Crooked Creek Park



STATE OF NORTH CAROLINA)  
 )  
TOWN OF INDIAN TRAIL )

RESOLUTION #

**A RESOLUTION SUPPORTING THE 2014 COMMUNITY WASTE REDUCTION AND  
RECYCLING GRANT APPLICATION IN THE TOWN OF INDIAN TRAIL, UNION COUNTY,  
NORTH CAROLINA**

WHEREAS, it is reported that North Carolina throws away about 270 million dollars worth of recyclable goods each year; and

WHEREAS, recycling in North Carolina is a job creator and growing part of our state’s economy. Recycling employs more than 14,000 North Carolinians and recycling jobs have increased about 48 percent in the last ten years; and

WHEREAS, the Town of Indian Trail recognizes the importance of recycling not only to the economy but to the environment and quality of life for our residents; and

WHEREAS, the Town has an opportunity of expanding its current recycling program in partnership with the State by establishing an “away from home” recycling and public education program within its public parks.

**NOW THEREFORE, BE IT RESOLVED** by the Town Council of Indian Trail, North Carolina hereby endorses the 2014 Community Waste Reduction & Recycling Grant Application for the establishment of the “away from home” recycling and education program within the Town’s public park system.

**AND IT IS SO ORDAINED** this 11<sup>th</sup> day of February, 2014.

**TOWN OF INDIAN TRAIL COUNCIL**

Attest:

\_\_\_\_\_  
Peggy Piontek, Town Clerk

\_\_\_\_\_  
Michael Alvarez, Mayor

APPROVED AS TO FORM:

\_\_\_\_\_  
TOWN ATTORNEY



**TO:** Mayor and Town Council

**FROM:** Kelly Barnhardt,  
Director of Parks & Recreation

**DATE:** February 7, 2014

**SUBJECT:** Approval of Sewer Agreement for Crooked Creek Park

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The Town's park consultant Woolpert has been working with Union County to be granted a sewer permit for Crooked Creek Park. The Town will hopefully receive the Agreement before the end of the day on Friday, February 7th. Staff will update agenda and provide information to Council once this Agreement has been received.



**TO:** Mayor and Town Council

**FROM:** Kelly Barnhardt,  
Director of Parks & Recreation

**DATE:** February 7, 2014

**SUBJECT:** Approval of Water Agreement for Crooked Creek Park

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The Town's park consultant Woolpert has been working with Union County to be granted a water permit for Crooked Creek Park. The Town will hopefully receive the Agreement before the end of the day on Friday, February 7th. Staff will update agenda and provide information to Council once this Agreement has been received.



## Town of Indian Trail

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### Memo

TO: Mayor and Town Council

FROM: Scott J. Kaufhold, P.E., Director of Engineering and Public Works

COUNCIL DATE: February 11, 2014

SUBJECT: Traffic Calming 101

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### **General Information:**

The goals of Indian Trail's Neighborhood Traffic Calming Policy, adopted by Council on April 10, 2012, are to reduce speed on residential streets, rout cut-through traffic back to collector and arterial roadways, preserve emergency vehicle access, and increase safety for pedestrians. Staff will present to Council a brief overview of traffic calming.



## Town of Indian Trail

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### Memo

TO: Mayor and Town Council

FROM: Scott J. Kaufhold, P.E., Director of Engineering and Public Works

COUNCIL DATE: February 11, 2014

SUBJECT: Traffic Calming Measures for Spanish Moss Road

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#### **Background Information:**

Following receipt of a formal request and signed petition for Traffic Calming measures, staff collected existing traffic data to include both vehicular speed and volume on Spanish Moss Road in the Brandon Oaks subdivision. The data provided warrant for the installation of temporary speed tables as outlined in the Traffic Calming Policy. Temporary speed tables were installed in July, 2013 and a second round of traffic data was collected afterwards to measure the effectiveness of the temporary devices in reducing vehicular speed and volume. The data was presented at the September 18<sup>th</sup> Brandon Oaks HOA meeting and at a public hearing held during the November 12<sup>th</sup> Town Council meeting. At that time, staff was asked to obtain further public input from the affected residents on traffic calming options. The results of this task were presented at the December 10<sup>th</sup> Town Council meeting.

#### **Report Data:**

1) Location map, 2) Resident petition, 3) Pre-temporary speed table installation traffic data, 4) Post-temporary speed table installation traffic data, 5) Map of proposed traffic calming measures, 6) Cost estimates for proposed traffic calming measures

#### **Traffic Calming Options:**

1) Do nothing, 2) install 3 asphalt speed tables, 3) install a temporary (6 month) road closure at Mustang Drive, 4) install a permanent road closure at Mustang Drive

#### **Required Actions:**

1) Select traffic calming measures for Spanish Moss Road  
2) Approve funding for selected traffic calming measures for Spanish Moss Road



## LOCATION MAP

- Legend
-  UC Road Centerlines
  -  Indian Trail Parcels
  -  PROJECT LOCATION



1 inch = 300 feet



## TOWN OF INDIAN TRAIL PETITION FOR TRAFFIC CALMING

We, the homeowners on Spanish Moss Road request the Town of Indian Trail consider installing some form of permanent traffic calming to our street. We understand that the decision to implement a permanent installation may only be made by the Town Council of Indian Trail in accordance with the Town's Neighborhood Traffic Calming Policy.

Property Owner Signature	Address	Phone Number
<i>[Signature]</i>	1028 Spanish Moss Rd	704-942-0201
Diana Seizer	1023 Spanish Moss Rd	704-821-6220
Steph [Signature]	1018 Spanish Moss Rd	704-684-5323
Delia Poplar	1015 Spanish Moss Rd	(704) 684-1381
Arny B. Nava K.	1030 Spanish Moss Rd	704-220-6578
Stephanie Anderson	1027 Spanish Moss Rd	704-220-6312
Kene Atkinson	1029 Spanish Moss	704-628-4280
Amelia Nava	1013 Spanish Moss Rd	704-681-2106
Virginia [Signature]	1016 Spanish Moss Rd	704-628-4508
Michelle DeCaro	1012 Spanish Moss Rd	704-661-4017
Carrie Hallyburton	1000 Spanish Moss Rd.	704-525-4199
Conrad [Signature]	1017 Spanish Moss Rd.	704-607-2987
repts - Michael Chaffins	2002 Spanish Moss Rd.	443-370-7759
Nancy [Signature]	1025 Spanish Moss Rd	704-821-6517
Marylann Jones	1032 Spanish Moss	704-684-1379
Ginger Smith	2000 Spanish Moss	704-821-0651
Thomas Ford	2003 Spanish Moss Rd	704-499-1913
Suk Yu	1031 Spanish Moss Rd	704-615-8358
Scott Kelly	1019 Spanish Moss Rd	616-638-9199
Gina McManus	1014 Spanish Moss	704-724-3587
Steven Brown	1010 Spanish Moss	704-666-0451
same house - Dawn Steps	1008 Spanish Moss	704-254-6929
[Signature]	1006 Spanish Moss	704-628-4421
[Signature]	1006 Spanish Moss	704-628-4421
[Signature]	1004 Spanish Moss	808-344-3504

(Attach additional pages if necessary)





**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
01/29/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	2	2	4	5	2	0	0	0	0	0	0	0	0	0	15
12 PM	2	4	6	4	2	0	0	0	0	0	0	0	0	0	18
13:00	0	0	1	7	2	3	0	0	0	0	0	0	0	0	13
14:00	2	3	3	4	4	0	0	0	0	0	0	0	0	0	16
15:00	4	5	4	10	2	1	0	0	0	0	0	0	0	0	26
16:00	1	5	12	8	3	0	0	0	0	0	0	0	0	0	29
17:00	1	6	7	5	3	0	0	0	0	0	0	0	0	0	22
18:00	1	3	6	6	5	0	0	0	0	0	0	0	0	0	21
19:00	1	1	7	2	1	1	0	0	0	0	0	0	0	0	13
20:00	1	2	6	4	1	1	0	0	0	0	0	0	0	0	15
21:00	0	2	5	1	3	1	0	0	0	0	0	0	0	0	12
22:00	0	0	3	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>15</b>	<b>33</b>	<b>65</b>	<b>58</b>	<b>29</b>	<b>7</b>	<b>0</b>	<b>207</b>							

Daily

15th Percentile : 13 MPH  
 50th Percentile : 23 MPH  
 85th Percentile : 30 MPH  
 95th Percentile : 34 MPH

Mean Speed(Average) : 23 MPH  
 10 MPH Pace Speed : 20-29 MPH  
 Number in Pace : 102  
 Percent in Pace : 49.3%  
 Number of Vehicles > 25 MPH : 94  
 Percent of Vehicles > 25 MPH : 45.4%



# SPEED/VOLUME SURVEY

## BRANDON OAKS SUBDIVISION

### SPANISH MOSS ROAD

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	999	Total
01/30/13	1	1	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
01:00	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
02:00	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
05:00	0	1	1	3	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
06:00	1	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
07:00	6	10	7	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	
08:00	1	2	13	8	4	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	
09:00	1	3	7	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	
10:00	0	1	6	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	
11:00	0	3	2	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
12 PM	1	3	9	11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
13:00	2	0	5	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	
14:00	3	5	5	8	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	
15:00	1	3	12	8	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	34	
16:00	5	7	8	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	
17:00	2	3	5	9	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	
18:00	10	8	5	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	
19:00	9	17	5	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	
20:00	109	90	14	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217	
21:00	124	15	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143	
22:00	1	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
23:00	4	3	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
<b>Total</b>	<b>283</b>	<b>177</b>	<b>113</b>	<b>101</b>	<b>47</b>	<b>9</b>	<b>10</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>741</b>															

Daily

15th Percentile : 6 MPH  
 50th Percentile : 13 MPH  
 85th Percentile : 25 MPH  
 95th Percentile : 31 MPH

Mean Speed(Average) : 16 MPH  
 10 MPH Pace Speed : 6-15 MPH  
 Number in Pace : 341  
 Percent in Pace : 46.0%  
 Number of Vehicles > 25 MPH : 168  
 Percent of Vehicles > 25 MPH : 22.7%



**SPEED/VOLUME SURVEY**  
**BRANDON OAKS SUBDIVISION**  
**SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
 Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
01/31/13	2	1	1	1	0	0	0	0	0	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
03:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	1	4	2	0	0	0	0	0	0	0	0	0	8
06:00	2	0	5	2	0	2	0	0	0	0	0	0	0	0	11
07:00	1	2	9	9	10	1	0	0	0	0	0	0	0	0	32
08:00	1	7	6	7	7	0	0	0	0	0	0	0	0	0	28
09:00	0	1	2	6	1	0	0	0	0	0	0	0	0	0	10
10:00	1	2	2	4	3	1	1	0	0	0	0	0	0	0	14
11:00	0	0	5	6	0	0	0	0	0	0	0	0	0	0	11
12 PM	0	1	8	4	4	1	1	0	0	0	0	0	0	0	19
13:00	1	1	9	9	7	3	0	0	0	0	0	0	0	0	30
14:00	3	3	5	5	4	0	0	0	0	0	0	0	0	0	20
15:00	0	9	10	7	6	0	0	0	0	0	0	0	0	0	32
16:00	2	4	4	5	0	3	0	0	0	0	0	0	0	0	18
17:00	2	5	7	8	0	0	0	0	0	0	0	0	0	0	22
18:00	2	10	11	6	2	0	0	0	0	0	0	0	0	0	31
19:00	1	3	4	4	1	1	0	0	0	0	0	0	0	0	14
20:00	1	1	6	2	2	0	0	0	0	0	0	0	0	0	12
21:00	2	4	8	5	0	0	0	0	0	0	0	0	0	0	19
22:00	0	0	3	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
<b>Total</b>	<b>22</b>	<b>57</b>	<b>108</b>	<b>100</b>	<b>50</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>351</b>						

Daily  
 15th Percentile : 13 MPH  
 50th Percentile : 23 MPH  
 85th Percentile : 30 MPH  
 95th Percentile : 34 MPH

Mean Speed(Average) : 23 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 173  
 Percent in Pace : 49.3%  
 Number of Vehicles > 25 MPH : 164  
 Percent of Vehicles > 25 MPH : 46.7%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
02/01/13	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
05:00	1	0	0	4	1	0	0	0	0	0	0	0	0	0	6
06:00	2	1	3	5	0	0	0	0	0	0	0	0	0	0	11
07:00	5	6	10	8	3	0	1	0	0	0	0	0	0	0	33
08:00	3	4	8	7	3	0	0	0	0	7	0	0	0	0	25
09:00	0	3	5	3	2	0	0	0	0	0	0	0	0	0	13
10:00	0	7	2	2	3	0	0	0	0	0	0	0	0	0	14
11:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
12 PM	1	3	4	2	1	0	0	0	0	0	0	0	0	0	11
13:00	1	0	4	2	4	0	0	0	0	0	0	0	0	0	11
14:00	3	2	2	1	2	0	0	0	0	1	0	0	0	0	10
15:00	0	3	3	3	3	0	0	0	0	0	0	0	0	0	12
16:00	1	0	8	4	2	0	0	0	0	0	0	0	0	0	15
17:00	2	1	2	4	1	0	0	0	0	4	0	0	0	0	10
18:00	3	1	1	4	4	0	0	0	0	0	0	0	0	0	13
19:00	0	0	1	6	2	1	0	0	0	0	0	0	0	0	10
20:00	0	0	2	3	1	1	0	0	0	0	0	1	0	0	7
21:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
22:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>22</b>	<b>32</b>	<b>59</b>	<b>60</b>	<b>33</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>216</b>

Daily

15th Percentile : 11 MPH  
 50th Percentile : 23 MPH  
 85th Percentile : 31 MPH  
 95th Percentile : 35 MPH

Mean Speed(Average) : 23 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 97  
 Percent in Pace : 44.9%  
 Number of Vehicles > 25 MPH : 103  
 Percent of Vehicles > 25 MPH : 47.7%



**SPEED/VOLUME SURVEY**  
**BRANDON OAKS SUBDIVISION**  
**SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
 Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	76	999	Total
02/02/13	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4
06:00	0	1	1	3	0	0	1	0	0	0	0	0	0	0	0	6
07:00	2	0	0	1	1	1	0	0	0	0	0	0	0	0	0	5
08:00	0	1	3	3	2	1	1	0	0	0	0	0	0	0	0	11
09:00	1	2	0	1	3	2	1	0	0	0	0	0	0	0	0	10
10:00	1	1	5	5	6	2	0	0	0	0	0	0	0	0	0	20
11:00	0	4	1	1	0	0	0	0	0	0	0	0	0	0	0	6
12 PM	0	4	5	3	3	0	0	0	0	0	0	0	0	0	0	15
13:00	1	0	4	5	1	1	0	0	0	0	0	0	0	0	0	12
14:00	2	3	0	5	1	0	0	0	0	0	0	0	0	0	0	11
15:00	0	1	0	4	2	0	0	0	0	0	0	0	0	0	0	7
16:00	2	2	3	6	2	0	0	0	0	0	0	0	0	0	0	15
17:00	0	4	1	2	2	0	0	0	0	0	0	0	0	0	0	9
18:00	1	1	2	1	0	1	0	0	0	0	0	0	0	0	0	6
19:00	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	8
20:00	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	2	2	1	0	2	0	0	0	0	0	0	0	0	7
23:00	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>11</b>	<b>27</b>	<b>33</b>	<b>54</b>	<b>24</b>	<b>10</b>	<b>7</b>	<b>0</b>	<b>166</b>							

Daily

15th Percentile : 13 MPH  
 50th Percentile : 24 MPH  
 85th Percentile : 32 MPH  
 95th Percentile : 38 MPH

Mean Speed(Average) : 24 MPH  
 10 MPH Pace Speed : 22-31 MPH  
 Number in Pace : 74  
 Percent in Pace : 44.6%  
 Number of Vehicles > 25 MPH : 95  
 Percent of Vehicles > 25 MPH : 57.2%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
02/03/13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3
06:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
08:00	1	0	3	1	0	1	0	0	0	0	0	0	0	0	6
09:00	2	0	1	3	2	1	0	0	0	0	0	0	0	0	9
10:00	1	0	0	0	3	1	1	0	0	0	0	0	0	0	6
11:00	2	2	2	4	1	1	0	0	0	0	0	0	0	0	12
12 PM	1	1	6	0	1	0	0	0	0	0	0	0	0	0	9
13:00	0	1	2	1	2	1	0	0	0	0	0	0	0	0	7
14:00	1	3	1	1	2	0	0	0	0	0	0	0	0	0	8
15:00	0	2	2	3	1	0	0	0	0	0	0	0	0	0	8
16:00	1	1	3	3	1	0	0	0	0	0	0	0	0	0	9
17:00	1	1	3	1	0	0	0	0	0	0	0	0	0	0	6
18:00	2	0	4	2	0	0	0	0	0	0	0	0	0	0	8
19:00	0	1	2	5	1	0	0	0	0	0	0	0	0	0	9
20:00	0	3	2	1	2	0	0	0	0	0	0	0	0	0	8
21:00	0	0	4	1	2	1	0	0	0	0	0	0	0	0	8
22:00	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
23:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>13</b>	<b>15</b>	<b>38</b>	<b>31</b>	<b>24</b>	<b>7</b>	<b>5</b>	<b>0</b>	<b>133</b>						

Daily

15th Percentile : 12 MPH  
 50th Percentile : 23 MPH  
 85th Percentile : 32 MPH  
 95th Percentile : 38 MPH

Mean Speed(Average) : 24 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 58  
 Percent in Pace : 43.6%  
 Number of Vehicles > 25 MPH : 67  
 Percent of Vehicles > 25 MPH : 50.4%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
02/04/13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	0	0	4	1	1	0	0	0	0	0	0	0	0	7
06:00	1	3	2	1	2	0	0	0	0	0	0	0	0	0	9
07:00	2	5	5	7	2	0	1	0	0	0	0	0	0	0	22
08:00	0	2	4	4	2	0	0	0	0	0	0	0	0	0	12
09:00	0	2	3	2	1	1	1	0	0	0	0	0	0	0	10
10:00	1	1	1	4	1	0	0	0	0	0	0	0	0	0	8
11:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
12 PM	0	1	0	0	3	0	0	0	0	0	0	0	0	0	4
13:00	1	1	2	2	2	1	0	0	0	0	0	0	0	0	9
14:00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3
15:00	1	1	3	4	0	0	0	0	0	0	0	0	0	0	9
16:00	1	4	2	1	1	0	0	0	0	0	0	0	0	0	9
17:00	0	1	5	5	3	1	0	0	0	0	0	0	0	0	15
18:00	0	2	3	1	1	1	0	0	0	0	0	0	0	0	8
19:00	0	1	6	2	1	0	0	0	0	0	0	0	0	0	10
20:00	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>8</b>	<b>27</b>	<b>37</b>	<b>44</b>	<b>21</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>144</b>						

Daily

15th Percentile : 13 MPH  
 50th Percentile : 23 MPH  
 85th Percentile : 31 MPH  
 95th Percentile : 35 MPH

Mean Speed(Average) : 23 MPH  
 10 MPH Pace Speed : 21-30 MPH  
 Number in Pace : 68  
 Percent in Pace : 47.2%  
 Number of Vehicles > 25 MPH : 72  
 Percent of Vehicles > 25 MPH : 50.0%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
02/05/13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	1	1	2	2	1	0	0	0	0	0	0	0	0	8
06:00	2	0	2	5	2	0	0	0	0	0	0	0	0	0	11
07:00	3	2	3	3	2	2	1	0	0	0	0	0	0	0	16
08:00	0	0	4	5	1	1	0	0	0	0	0	0	0	0	11
09:00	0	2	0	0	2	1	3	0	0	0	0	0	0	0	8
10:00	0	1	3	2	3	1	1	0	0	0	0	0	0	0	11
11:00	1	1	1	2	1	1	0	0	0	0	0	0	0	0	7
12 PM	0	1	1	2	1	0	0	0	0	0	0	0	0	0	5
13:00	0	1	0	2	1	1	0	0	0	0	0	0	0	0	5
14:00	1	2	1	1	1	2	1	0	0	0	0	0	0	0	9
15:00	0	1	8	6	0	0	0	0	0	0	0	0	0	0	15
16:00	1	1	3	6	2	0	0	0	0	0	0	0	0	0	13
17:00	0	1	1	4	1	1	0	0	0	0	0	0	0	0	8
18:00	2	1	3	4	1	0	0	0	0	0	0	0	0	0	11
19:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	4
20:00	1	0	0	1	1	0	1	0	0	0	0	0	0	0	4
21:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>12</b>	<b>15</b>	<b>35</b>	<b>48</b>	<b>24</b>	<b>12</b>	<b>9</b>	<b>0</b>	<b>155</b>						

Daily

15th Percentile : 13 MPH  
 50th Percentile : 25 MPH  
 85th Percentile : 34 MPH  
 95th Percentile : 40 MPH

Mean Speed(Average) : 25 MPH  
 10 MPH Pace Speed : 22-31 MPH  
 Number in Pace : 71  
 Percent in Pace : 45.6%  
 Number of Vehicles > 25 MPH : 93  
 Percent of Vehicles > 25 MPH : 60.0%



# SPEED/VOLUME SURVEY

## BRANDON OAKS SUBDIVISION

### SPANISH MOSS ROAD

Date Start: 29-Jan-13  
Date End: 06-Feb-13

Lane1, Lane2

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
02/06/13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	4	1	0	0	0	0	0	0	0	0	0	6
06:00	2	1	3	3	1	1	0	0	0	0	0	0	0	0	11
07:00	1	3	6	4	4	1	0	0	0	0	0	0	0	0	19
08:00	0	2	4	3	2	1	0	2	0	0	0	0	0	0	12
09:00	0	1	3	0	1	0	0	0	0	0	0	0	0	0	5
10:00	3	1	1	4	5	1	0	0	0	0	0	0	0	0	15
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
<b>Total</b>	<b>7</b>	<b>9</b>	<b>18</b>	<b>18</b>	<b>14</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>73</b>						

Daily

15th Percentile : 12 MPH  
 50th Percentile : 24 MPH  
 85th Percentile : 33 MPH  
 95th Percentile : 37 MPH

Mean Speed(Average) : 24 MPH  
 10 MPH Pace Speed : 23-32 MPH  
 Number in Pace : 30  
 Percent in Pace : 41.1%  
 Number of Vehicles > 25 MPH : 39  
 Percent of Vehicles > 25 MPH : 53.4%

<b>Grand Total</b>	<b>393</b>	<b>392</b>	<b>506</b>	<b>514</b>	<b>266</b>	<b>70</b>	<b>41</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2186</b>
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Overall

15th Percentile : 8 MPH  
 50th Percentile : 20 MPH  
 85th Percentile : 30 MPH  
 95th Percentile : 35 MPH

Mean Speed(Average) : 20 MPH  
 10 MPH Pace Speed : 20-29 MPH  
 Number in Pace : 795  
 Percent in Pace : 36.4%  
 Number of Vehicles > 25 MPH : 895  
 Percent of Vehicles > 25 MPH : 40.9%



**SPEED/VOLUME SURVEY**  
**BRANDON OAKS SUBDIVISION**  
**SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
 Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	999	Total
07/05/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	3	8	4	2	0	0	0	0	0	0	0	0	0	0	0	17
16:00	1	6	8	5	0	0	0	0	0	0	0	0	0	0	0	20
17:00	12	9	5	4	0	0	0	0	0	0	0	0	0	0	0	30
18:00	0	2	8	3	0	0	0	0	0	0	0	0	0	0	0	13
19:00	0	2	4	4	0	0	0	0	0	0	0	0	0	0	0	10
20:00	2	2	4	0	1	0	0	0	0	0	0	0	0	0	0	9
21:00	0	4	3	2	0	0	0	0	0	0	0	0	0	0	0	9
22:00	27	7	2	1	0	0	0	0	0	0	0	0	0	0	0	37
23:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>45</b>	<b>43</b>	<b>41</b>	<b>21</b>	<b>1</b>	<b>0</b>	<b>151</b>									

Daily

15th Percentile : 6 MPH  
 50th Percentile : 15 MPH  
 85th Percentile : 23 MPH  
 95th Percentile : 27 MPH

Mean Speed(Average) : 16 MPH  
 10 MPH Pace Speed : 8-17 MPH  
 Number in Pace : 64  
 Percent in Pace : 42.4%  
 Number of Vehicles > 25 MPH : 22  
 Percent of Vehicles > 25 MPH : 14.6%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/06/13	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:00	1	1	3	0	1	0	0	0	0	0	0	0	0	0	6
08:00	3	1	5	1	0	0	0	0	0	0	0	0	0	0	10
09:00	3	1	2	1	1	0	0	0	0	0	0	0	0	0	8
10:00	0	1	6	2	1	0	0	0	0	0	0	0	0	0	10
11:00	2	7	1	4	0	0	0	0	0	0	0	0	0	0	14
12 PM	1	5	1	1	0	1	0	0	0	0	0	0	0	0	9
13:00	2	7	8	5	2	0	0	0	0	0	0	0	0	0	24
14:00	0	2	7	4	0	0	0	1	0	4	0	0	0	0	14
15:00	6	7	7	3	0	1	0	0	0	0	0	0	0	0	24
16:00	21	5	3	5	1	0	0	0	0	0	0	0	0	0	35
17:00	1	6	4	4	1	0	0	0	0	0	0	0	0	0	16
18:00	1	3	5	4	0	0	0	0	0	0	0	0	0	0	13
19:00	21	5	3	1	0	0	0	0	0	0	0	0	0	0	30
20:00	6	1	4	1	0	0	0	0	0	0	0	0	0	0	12
21:00	1	2	5	1	0	0	0	0	0	0	0	0	0	0	9
22:00	1	2	1	1	0	0	0	0	0	0	0	0	0	0	5
23:00	1	1	2	1	0	0	0	0	0	0	0	0	0	0	5
<b>Total</b>	<b>73</b>	<b>62</b>	<b>68</b>	<b>39</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>252</b>

Daily

15th Percentile : 7 MPH  
 50th Percentile : 15 MPH  
 85th Percentile : 25 MPH  
 95th Percentile : 29 MPH

Mean Speed(Average) : 17 MPH  
 10 MPH Pace Speed : 7-16 MPH  
 Number in Pace : 101  
 Percent in Pace : 40.1%  
 Number of Vehicles > 25 MPH : 49  
 Percent of Vehicles > 25 MPH : 19.4%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/07/13	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:00	3	0	2	1	1	0	0	0	0	0	0	0	0	0	7
08:00	1	1	2	2	0	0	0	0	0	0	0	0	0	0	6
09:00	3	2	2	3	0	0	0	0	0	0	0	0	0	0	10
10:00	5	2	1	1	2	0	0	0	0	0	0	0	0	0	11
11:00	3	1	4	4	0	0	0	0	0	0	0	0	0	0	12
12 PM	1	3	2	0	0	0	0	0	0	0	0	0	0	0	6
13:00	3	3	5	2	0	0	0	0	0	0	0	0	0	0	13
14:00	2	4	3	4	0	0	0	0	0	0	0	0	0	0	13
15:00	2	2	4	6	0	1	0	0	0	0	0	0	0	0	15
16:00	3	4	5	6	2	0	0	0	0	0	0	0	0	0	20
17:00	20	3	2	2	1	0	0	0	0	0	0	0	0	0	28
18:00	1	1	1	6	2	0	0	0	0	0	0	0	0	0	11
19:00	20	32	19	4	1	0	0	0	0	0	0	0	0	0	76
20:00	1	2	3	3	1	0	0	0	0	0	0	0	0	0	10
21:00	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3
22:00	0	1	3	5	1	0	0	0	0	0	0	0	0	0	10
23:00	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	69	66	64	54	11	1	0	0	0	0	0	0	0	0	265

Daily

15th Percentile : 7 MPH  
 50th Percentile : 16 MPH  
 85th Percentile : 26 MPH  
 95th Percentile : 29 MPH

Mean Speed(Average) : 17 MPH  
 10 MPH Pace Speed : 8-17 MPH  
 Number in Pace : 102  
 Percent in Pace : 38.5%  
 Number of Vehicles > 25 MPH : 66  
 Percent of Vehicles > 25 MPH : 24.9%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/08/13	1	2	0	0	1	0	0	0	0	0	0	0	0	0	4
01:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
06:00	2	0	0	3	0	0	0	0	0	0	0	0	0	0	5
07:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4
08:00	1	4	4	1	3	0	0	0	0	0	0	0	0	0	13
09:00	0	2	5	3	2	0	0	0	0	0	0	0	0	0	12
10:00	2	0	8	1	1	1	0	0	0	0	0	0	0	0	13
11:00	0	1	1	9	0	0	0	0	0	0	0	0	0	0	11
12 PM	3	11	7	4	1	0	0	0	0	0	0	0	0	0	26
13:00	1	3	8	5	1	0	0	0	0	0	0	0	0	0	18
14:00	0	3	5	4	0	0	0	0	0	0	0	0	0	0	12
15:00	4	3	3	7	1	1	0	0	0	0	0	0	0	0	19
16:00	2	5	0	4	1	0	0	0	0	0	0	0	0	0	12
17:00	3	5	7	3	1	0	0	0	0	3	0	0	0	0	19
18:00	0	3	6	4	2	0	0	0	0	0	0	0	0	0	15
19:00	3	3	4	6	1	0	0	0	0	0	0	0	0	0	17
20:00	2	6	4	1	0	0	0	0	0	1	0	0	0	0	13
21:00	4	9	5	1	0	0	0	0	0	0	0	0	0	0	19
22:00	1	3	6	0	0	0	0	0	0	0	0	0	0	0	10
23:00	3	1	2	1	0	0	0	0	0	0	0	0	0	0	7
<b>Total</b>	<b>33</b>	<b>64</b>	<b>81</b>	<b>58</b>	<b>17</b>	<b>2</b>	<b>0</b>	<b>255</b>							

Daily

15th Percentile : 10 MPH  
 50th Percentile : 19 MPH  
 85th Percentile : 27 MPH  
 95th Percentile : 31 MPH

Mean Speed(Average) : 20 MPH  
 10 MPH Pace Speed : 18-27 MPH  
 Number in Pace : 116  
 Percent in Pace : 45.5%  
 Number of Vehicles > 25 MPH : 77  
 Percent of Vehicles > 25 MPH : 30.2%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/09/13	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	2	1	0	1	1	0	0	0	0	0	0	0	0	0	5
06:00	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4
07:00	0	2	3	4	0	0	0	0	0	0	0	0	0	0	9
08:00	1	0	3	2	1	0	0	0	0	0	0	0	0	0	7
09:00	4	1	5	1	1	0	0	0	0	0	0	0	0	0	12
10:00	0	4	9	3	1	0	0	0	0	0	0	0	0	0	17
11:00	0	2	7	5	2	0	0	0	0	0	0	0	0	0	16
12 PM	0	0	3	1	1	0	0	0	0	0	0	0	0	0	5
13:00	2	12	10	2	3	0	0	0	0	0	0	0	0	0	29
14:00	0	7	8	3	0	0	0	0	0	0	0	0	0	0	18
15:00	1	5	5	5	2	0	0	0	0	0	0	0	0	0	18
16:00	2	5	3	4	0	0	0	0	0	0	0	0	0	0	14
17:00	2	6	7	9	2	0	0	0	0	0	0	0	0	0	26
18:00	3	0	2	7	4	0	0	0	0	0	0	0	0	0	16
19:00	4	3	5	4	1	0	0	0	0	0	0	0	0	0	17
20:00	3	6	3	6	0	0	0	0	0	0	0	0	0	0	18
21:00	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	1	2	9	0	0	0	0	0	0	0	0	0	0	0	12
23:00	1	0	1	3	1	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>27</b>	<b>58</b>	<b>94</b>	<b>62</b>	<b>20</b>	<b>0</b>	<b>261</b>								

Daily

15th Percentile : 11 MPH  
 50th Percentile : 20 MPH  
 65th Percentile : 27 MPH  
 95th Percentile : 31 MPH

Mean Speed(Average) : 21 MPH  
 10 MPH Pace Speed : 19-28 MPH  
 Number in Pace : 129  
 Percent in Pace : 49.4%  
 Number of Vehicles > 25 MPH : 82  
 Percent of Vehicles > 25 MPH : 31.4%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/10/13	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:00	0	3	2	1	1	0	0	0	0	0	0	0	0	0	7
08:00	2	3	8	6	1	0	0	0	0	0	0	0	0	0	20
09:00	2	1	2	2	0	0	0	0	0	0	0	0	0	0	7
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	2	0	0	1	1	0	0	0	0	0	0	0	0	0	4
12 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
13:00	1	1	2	0	0	0	0	0	0	0	0	0	0	0	4
14:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4
15:00	2	1	3	1	0	0	0	0	0	0	0	0	0	0	7
16:00	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5
17:00	29	12	3	1	0	0	0	0	0	0	0	0	0	0	45
18:00	1	7	3	0	0	0	0	0	0	0	0	0	0	0	11
19:00	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
20:00	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4
21:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
23:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>47</b>	<b>39</b>	<b>37</b>	<b>19</b>	<b>4</b>	<b>0</b>	<b>146</b>								

Daily

15th Percentile : 6 MPH  
 50th Percentile : 14 MPH  
 85th Percentile : 24 MPH  
 95th Percentile : 28 MPH

Mean Speed(Average) : 16 MPH  
 10 MPH Pace Speed : 7-16 MPH  
 Number in Pace : 63  
 Percent in Pace : 43.2%  
 Number of Vehicles > 25 MPH : 23  
 Percent of Vehicles > 25 MPH : 15.8%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/11/13	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
08:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
09:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	4	0	1	0	0	0	0	0	0	0	0	0	0	5
11:00	1	0	3	1	1	0	0	0	0	0	0	0	0	0	6
12 PM	0	3	4	0	0	0	0	0	0	0	0	0	0	0	7
13:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4
14:00	4	3	3	0	0	0	0	0	0	0	0	0	0	0	10
15:00	0	2	3	2	0	0	0	0	0	0	0	0	0	0	7
16:00	0	4	4	0	0	0	0	0	0	0	0	0	0	0	8
17:00	1	4	3	1	1	0	0	0	0	0	0	0	0	0	10
18:00	1	2	4	1	0	0	0	0	0	0	0	0	0	0	8
19:00	2	0	4	1	1	0	0	0	0	0	0	0	0	0	8
20:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
22:00	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5
<b>Total</b>	<b>11</b>	<b>32</b>	<b>43</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>98</b>								

Daily  
 15th Percentile : 10 MPH  
 50th Percentile : 18 MPH  
 85th Percentile : 24 MPH  
 95th Percentile : 28 MPH  
 Mean Speed(Average) : 19 MPH  
 10 MPH Pace Speed : 16-25 MPH  
 Number in Pace : 56  
 Percent in Pace : 57.1%  
 Number of Vehicles > 25 MPH : 12  
 Percent of Vehicles > 25 MPH : 12.2%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/12/13	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
07:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
08:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0	4
09:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	2	2	1	0	0	0	0	0	0	0	0	0	0	5
11:00	1	3	2	0	0	0	0	0	0	0	0	0	0	0	6
12 PM	1	5	3	0	2	0	0	0	1	0	0	0	0	0	12
13:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
14:00	2	1	1	1	0	0	0	0	0	0	0	0	0	0	5
15:00	1	0	1	0	1	0	0	0	0	0	0	0	0	0	3
16:00	0	2	4	2	0	0	0	0	0	0	0	0	0	0	8
17:00	1	3	0	3	0	0	0	0	0	0	0	0	0	0	7
18:00	2	2	3	0	0	0	0	0	0	0	0	0	0	0	7
19:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5
20:00	1	1	3	1	0	0	0	0	0	0	0	0	0	0	6
21:00	1	3	1	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>17</b>	<b>30</b>	<b>34</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>94</b>

Daily

15th Percentile : 8 MPH  
 50th Percentile : 17 MPH  
 85th Percentile : 24 MPH  
 95th Percentile : 28 MPH

Mean Speed(Average) : 18 MPH  
 10 MPH Pace Speed : 16-25 MPH  
 Number in Pace : 46  
 Percent in Pace : 48.9%  
 Number of Vehicles > 25 MPH : 13  
 Percent of Vehicles > 25 MPH : 13.8%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
	15	20	25	30	35	40	45	50	55	60	65	70	75	999	
07/13/13	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
09:00	1	0	2	1	0	0	0	0	0	0	0	0	0	0	4
10:00	1	0	5	0	0	0	0	0	0	0	0	0	0	0	6
11:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12 PM	2	1	2	0	0	0	0	0	0	0	0	0	0	0	5
13:00	1	7	3	2	1	0	0	0	0	0	0	0	0	0	14
14:00	4	1	4	2	0	0	0	0	0	0	0	0	0	0	11
15:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
16:00	2	8	3	2	1	0	0	0	0	0	0	0	0	0	16
17:00	1	3	5	2	0	0	0	0	0	0	0	0	0	0	11
18:00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
19:00	3	2	2	0	1	0	0	0	0	0	0	0	0	0	8
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
21:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	2	4	1	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>22</b>	<b>41</b>	<b>38</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>114</b>								

Daily

15th Percentile : 8 MPH  
 50th Percentile : 16 MPH  
 85th Percentile : 23 MPH  
 95th Percentile : 27 MPH

Mean Speed(Average) : 17 MPH  
 10 MPH Pace Speed : 15-24 MPH  
 Number in Pace : 57  
 Percent in Pace : 50.0%  
 Number of Vehicles > 25 MPH : 13  
 Percent of Vehicles > 25 MPH : 11.4%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane 1, Lane 2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/14/13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	14	0	0	1	0	0	0	0	0	0	0	0	0	0	15
09:00	9	1	1	0	0	0	0	0	0	0	0	0	0	0	11
10:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
11:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
12 PM	4	0	2	0	1	0	0	0	0	0	0	0	0	0	7
13:00	1	4	0	1	0	0	0	0	0	0	0	0	0	0	6
14:00	4	5	0	1	0	0	0	0	0	0	0	0	0	0	10
15:00	1	3	2	1	0	0	0	0	0	0	0	0	0	0	7
16:00	2	1	1	2	3	0	0	1	0	0	0	0	0	0	10
17:00	3	2	5	4	0	0	0	0	4	0	0	0	0	0	14
18:00	14	3	2	0	0	0	0	0	0	0	0	0	0	0	19
19:00	0	2	0	2	1	0	0	0	0	0	0	0	0	0	5
20:00	0	2	2	1	0	0	0	0	0	0	0	0	0	0	5
21:00	1	2	5	0	0	0	0	0	0	0	0	0	0	0	8
22:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>71</b>	<b>29</b>	<b>24</b>	<b>14</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>144</b>

Daily

15th Percentile : 5 MPH  
 50th Percentile : 11 MPH  
 85th Percentile : 22 MPH  
 95th Percentile : 28 MPH

Mean Speed(Average) : 14 MPH  
 10 MPH Pace Speed : 5-14 MPH  
 Number in Pace : 76  
 Percent in Pace : 52.8%  
 Number of Vehicles > 25 MPH : 20  
 Percent of Vehicles > 25 MPH : 13.9%



**SPEED/VOLUME SURVEY  
BRANDON OAKS SUBDIVISION  
SPANISH MOSS ROAD**

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/15/13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00	1	0	3	2	0	0	0	0	0	0	0	0	0	0	6
11:00	0	3	1	1	0	0	0	0	0	0	0	0	0	0	5
12 PM	0	2	6	0	0	0	0	0	0	0	0	0	0	0	8
13:00	1	2	2	2	0	0	0	0	0	0	0	0	0	0	7
14:00	1	4	4	0	0	0	0	0	0	0	0	0	0	0	9
15:00	0	2	1	1	0	0	0	0	0	0	0	0	0	0	4
16:00	1	2	2	1	0	0	0	0	0	0	0	0	0	0	6
17:00	1	2	3	0	1	0	0	0	0	0	0	0	0	0	7
18:00	0	5	2	3	0	0	0	0	0	0	0	0	0	0	10
19:00	0	3	9	1	0	0	0	0	0	0	0	0	0	0	13
20:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
21:00	1	2	3	1	0	0	0	0	0	0	0	0	0	0	7
22:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
23:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>9</b>	<b>33</b>	<b>41</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>96</b>								

Daily

15th Percentile : 11 MPH  
 50th Percentile : 19 MPH  
 85th Percentile : 24 MPH  
 95th Percentile : 27 MPH

Mean Speed(Average) : 19 MPH  
 10 MPH Pace Speed : 16-25 MPH  
 Number in Pace : 55  
 Percent in Pace : 57.3%  
 Number of Vehicles > 25 MPH : 13  
 Percent of Vehicles > 25 MPH : 13.5%



# SPEED/VOLUME SURVEY

## BRANDON OAKS SUBDIVISION

### SPANISH MOSS ROAD

Date Start: 05-Jul-13  
Date End: 16-Jul-13

Lane1, Lane2

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
07/16/13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
11:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
12 PM	1	1	3	2	0	0	0	0	0	0	0	0	0	0	7
13:00	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
14:00	0	2	0	3	0	0	0	0	0	0	0	0	0	0	5
15:00	2	1	4	0	0	0	0	0	0	0	0	0	0	0	7
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
<b>Total</b>	<b>10</b>	<b>19</b>	<b>10</b>	<b>6</b>	<b>0</b>	<b>45</b>									

Daily

15th Percentile : 8 MPH  
 50th Percentile : 15 MPH  
 85th Percentile : 23 MPH  
 95th Percentile : 27 MPH

Mean Speed(Average) : 16 MPH  
 10 MPH Pace Speed : 12-21 MPH  
 Number in Pace : 23  
 Percent in Pace : 51.1%  
 Number of Vehicles > 25 MPH : 6  
 Percent of Vehicles > 25 MPH : 13.3%

<b>Grand Total</b>	<b>434</b>	<b>516</b>	<b>575</b>	<b>313</b>	<b>75</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1921</b>
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Overall

15th Percentile : 7 MPH  
 50th Percentile : 17 MPH  
 85th Percentile : 25 MPH  
 95th Percentile : 29 MPH

Mean Speed(Average) : 18 MPH  
 10 MPH Pace Speed : 15-24 MPH  
 Number in Pace : 805  
 Percent in Pace : 41.9%  
 Number of Vehicles > 25 MPH : 396  
 Percent of Vehicles > 25 MPH : 20.6%



**BRANDON OAKS  
SUBDIVISION  
SPANISH MOSS ROAD**

Proposed  
Traffic Calming  
Design Layout

LEGEND	
	ROADWAY CENTERLINES
	RAISED ASPHALT SPEED TABLES
	TEMPORARY/PERMANENT ROAD CLOSURE



1 inch = 100 feet





**TOWN OF INDIAN TRAIL  
SPANISH MOSS ROAD TRAFFIC CALMING OPTIONS  
COST ESTIMATES**

Line Item	Item Type	Item Description	Quantity	Unit	Unit Price	Amount
<b>ASPHALT SPEED TABLES</b>						
1	SP1	Mobilization	1	LS	\$1,000.00	\$1,000.00
2	SP2	Raised Asphalt Speed Tables (include milling & thermo striping)	3	EA	\$5,000.00	\$15,000.00
3	SP3	Signage	1	LS	\$300.00	\$300.00
4	SP4	Traffic Control	1	LS	\$500.00	\$500.00
<b>Subtotal for Asphalt Speed Tables</b>						<b>\$16,800.00</b>

Line Item	Item Type	Item Description	Quantity	Unit	Unit Price	Amount
<b>TEMPORARY ROAD CLOSURE</b>						
1	SP1	Mobilization	1	LS	\$500.00	\$500.00
2	SP2	Small tree in large tree pot	4	EA	\$1,000.00	\$4,000.00
3	SP3	Signage	1	LS	\$300.00	\$300.00
<b>Subtotal for Temporary Road Closure</b>						<b>\$4,800.00</b>

Line Item	Item Type	Item Description	Quantity	Unit	Unit Price	Amount
<b>PERMANENT ROAD CLOSURE</b>						
1	SP1	Mobilization	1	LS	\$1,000.00	\$1,000.00
2	SP2	Grading (Demo, Grading, and Landscaping)	1	LS	\$6,000.00	\$6,000.00
3	SP3	Asphalt Pavement	180	TN	\$85.00	\$15,300.00
4	SP4	Curb and Gutter	320	LF	\$20.00	\$6,400.00
5	SP5	Signage	1	LS	\$300.00	\$300.00
6	SP6	Traffic Control	1	LS	\$1,000.00	\$1,000.00
<b>Subtotal for Permanent Road Closure</b>						<b>\$30,000.00</b>



**TO:** Mayor and Town Council

**FROM:** Joseph A. Fivas, Town Manager

**DATE:** February 7, 2014

**SUBJECT:** Discussion and follow-up from January 11<sup>th</sup> Council Strategic Planning Session

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This is a report and follow-up from the Town Council's January 11<sup>th</sup> Strategic Planning Session. Staff will look for guidance on 5-year Transportation Plan, Economic Development Plan, and Communication's Plan.



**TO:** Mayor and Town Council

**FROM:** Joseph A. Fivas, Town Manager

**DATE:** February 7, 2014

**SUBJECT:** Town Law Enforcement Analysis

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The Town Council discussed this agenda item at the January 11<sup>th</sup> Strategic Planning Session. At the January meeting, the Town Council place this item on February 11<sup>th</sup> Town Council meeting for discussion.

jaf

## Town of Indian Trail

# Memo

**TO:** Mayor and Town Council  
**FROM:** Joe Fivas, Town Manager  
**DATE:** January 28, 2014  
**SUBJECT:** Bonterra Streets



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At the January 11<sup>th</sup> Strategic Planning meeting, Council requested this item be placed on the January 28<sup>th</sup> Agenda.