



CITY OF STAMFORD
PURCHASING DEPARTMENT

Request for Proposal No.	RFP 867
Title	Roundabout Design & Inspection Services for Shippan Avenue, Harbor Drive, & Magee Avenue
Date Issued	March 31, 2022
Issued on behalf of	Traffic Engineering
Proposals Due	May 5, 2022 @ 4:00 P.M.
Submit Responses	Online via ProcureWare at https://stamfordct.procureware.com
Name saved file as	<i>Proposer Name</i> Response to Stamford RFP No. XXX
Deadline for questions	10 working days before the due date
Contact for Technical Questions/Project Manager	Frank Petise, Acting Transportation Bureau Chief, (203) 977-4124 or fpetise@stamfordct.gov
Contact for Purchasing Questions	Erik J. Larson, Purchasing Agent elarson@stamfordct.gov
Pre-Proposal Meeting	N/A
Mandatory	

Introduction

The City of Stamford, Connecticut is requesting proposals from qualified vendors to procure a multi-disciplinary consultant to undertake a full design for the construction of a full-sized roundabout at the intersection of Shippan Avenue-Harbor Drive-Magee Avenue based on the approved LOTCIP concept plans including all relevant surveys, permits, public meetings, and other associated design work as various progressing levels of the design process. The consultant may also be asked to perform construction inspection activities as part of this project. The full scope of work is described in the scope/specifications and drawings appended hereto.

INTERNET USAGE ACKNOWLEDGEMENT

Caution: The competitive bid/proposal process requires the City of Stamford provide all competitors with equal and timely access to information. To enhance our capabilities, the Purchasing Department is providing bid information over the Internet. You may use this application provided you agree with the following understandings:

1. The City cannot guarantee that the equipment involved in this technology will be available to provide information or receive transmittals. **IT IS YOUR RESPONSIBILITY TO ENSURE THAT YOU HAVE CURRENT INFORMATION AND THAT QUOTATIONS ARE RECEIVED AT THE DESIGNATED LOCATION, COMPLETE AND ON TIME.**
2. The City is not responsible for the confidentiality of information transmitted over the Internet.
3. The City makes no guarantee as to the completeness or accuracy of downloaded "Request for Bid", "Request for Proposal" or "Request for Qualification."

RFQ/RFP SUBMISSION REQUIREMENTS

The Purchasing Department requests that you identify clearly your fee proposal sheet(s), as well as your bid bond pages if applicable.

Bids/Proposals must be received by the due date and time in order to be considered. Please be advised that the Purchasing Department does not accept bids or proposals by email or fax. More Information: (203) 977-4108, (203) 977-4107 or (203) 977-4994.

The following documents should be returned with your RFQ/RFP:

- Contractor's Statement
- Non-Collusion Affidavit
- City of Stamford State of Connecticut Contractor Verification (in accordance with Public Act 16-67) Compliance Affidavit (**For all school projects**)
- A Certificate of Corporate Resolution signed by the Secretary of your firm, authorizing you to execute a contract.

Or

- A Certification as to Contract Signatory for Limited Liability Companies (LLCs) signed by the Secretary of your firm, authorizing you to execute a contract.
- Proposer's Information and Acknowledgement Form
- Department of the Treasury Internal Revenue Service Form W-9
- Commission on Human Rights and Opportunities Contract Compliance Regulations Notification to Bidders Form

[http://www.ct.gov/chro/lib/chro/Notification to Bidders.pdf](http://www.ct.gov/chro/lib/chro/Notification_to_Bidders.pdf)

The Purchasing Agent reserves the express right, on behalf of the City of Stamford, to waive any/all technical defects, irregularities and omissions if the best interest of the City is served.

Issuing Office

This RFP is being issued by the Purchasing Department of the City of Stamford on behalf of the department identified on the coversheet, hereinafter referred to as the "City." The issuing officer is the Purchasing Agent or designee.

Inquiries

All technical inquiries regarding this RFP must be in writing and must be addressed to the Technical Contact identified on the coversheet. The deadline for submitting questions related to this RFP is 10 working days before the due date. Responses to all questions will be furnished through a formal addendum following the closing date listed herein.

Incurring Cost

The City of Stamford will not be held responsible for any costs incurred by the proposer for work performed in preparation and production of a proposal or for any work performed prior to the issuance of a contract.

Rejection/Acceptance of Proposals

The City of Stamford reserves the right to refuse for any reason deemed to be in the City's best interest any and/or all proposals submitted under this RFP.

This RFP is not an offer to contract. Acceptance of a proposal neither commits the City of Stamford to award a contract with any firm, even if all requirements in this RFP are met, nor limits its right to negotiate in the best interest of the City of Stamford. The City of Stamford reserves the right to contract with any firm for any reason.

Addenda to RFP

Amendments to this RFP may be necessary prior to the closing date and will be furnished to all prospective proposers. Failure to acknowledge receipt of amendments in accordance with the instructions contained in the amendment may result in the proposal not being considered.

Submission of Proposals

Each proposer must submit their proposal via ProcureWare by the date and time stated on the cover sheet. Proposals received after the date and time prescribed shall not be considered for contract award and shall be returned to the proposer. Neither mailed, faxed or emailed RFP responses will be accepted as qualified RFP submission.

Proprietary Information

The City of Stamford will not disclose any portion of the proposals except to members of the proposal evaluation team prior to contract award. The City of Stamford retains the right to disclose the name of the successful proposer, the financial considerations and any other information in the proposal that is pertinent to the selection of the proposer.

Key Personnel

Vendors must clearly explain and identify, in detail, the services they provide and identify their qualifications. Vendors must provide a resume indicating their experience.

Independent Project Cost Determination and Gratuities

By submission of a proposal, the proposer certifies that in connection with its procurement:

The financial data in this offer has been arrived at independently, without consultation, communication, or agreement, for the purposes of restricting competition, as to any matter relating to such prices with any other proposer or competitor.

The financial data quoted in this offer will not change for a period of one hundred twenty (120) days after the receipt date at the City of Stamford of this offer.

Unless otherwise required by law, the financial data which has been quoted in this offer have not been knowingly disclosed by the proposer and will not knowingly be disclosed by the proposer prior to award, directly or indirectly to any other proposer or to any competitor.

No attempt has been made or will be made by the proposer to induce any other person or firm to submit or not to submit an offer for the purpose of restricting competition.

No elected official or appointed official or employee of the City of Stamford shall benefit financially or materially from this contract.

Prime Contractor Responsibility

Vendors submitting proposals to this RFP may not utilize the service of subcontractors without the prior written approval of the City of Stamford. If sub-contractors or partners are planned to be used, this should be clearly explained in the response. The prime contractor will be responsible for the entire contract performance whether or not a sub-contractor or partner is used to perform. All corporate information required in this RFP must be included for each proposed partner or sub-contractor. The proposal must also include copies of any agreements to be executed between the prime contractor and any partners or sub-contractors in the event of contract award. Under this RFP, the City of Stamford retains the right to approve all partners or sub-consultants.

Availability of Funds

The contract award under this RFP is contingent upon the availability of funds to the department identified on the coversheet. **In the event that funds are not available, any contract resulting from this RFP will become void and of no force and effect.**

Termination for Default or for the Convenience of the Contracting Agency

Performance under any contract resulting from this RFP may be terminated by the City of Stamford whenever:

The contractor shall default in the performance of his/her contract and shall default within the period specified by the contracting officer in a notice specifying default; or

The contracting officer shall determine that termination is in the best interest of the Office of Administration/Operations, the Purchasing Department or the City of Stamford.

Termination will be effected by delivery to the contractor of a notice to terminate, stating the date upon which the termination becomes effective.

In the event of termination of this agreement as a result of a breach by the Consultant hereunder, the City shall not be liable for any fees and may, at its sole discretion, award an agreement of the same services to another qualified firm with the best proposal or call for new proposals and award the agreement thereunder.

Ambiguity in the Request for Proposal (RFP)

Prior to submitting the proposal, the contractor is responsible to bring to the City's attention any ambiguity in this RFP. Failure to do so shall result in the contractor forfeiting any claim for adjustment based on such ambiguity as should have been noted by a prudent contractor.

In the event of any ambiguity between the City's RFP and the proposer's proposal, then whatever shall be more favorable to the City of Stamford as determined in the sole discretion of the City shall prevail and take precedence.

Ownership Information

The City of Stamford shall have unlimited rights to use, disclose or duplicate, for any purpose whatsoever, all information developed, derived, documented or furnished by the proposer under any contract resulting from this RFP.

In the event of contract award, all data collected and other documentation produced as part of the contract will become the exclusive property of the City of Stamford and may not be copied or removed by any employee of the proposer without written permission of the City of Stamford.

Negotiated Changes

In the event negotiated changes occur after the awarding of the contract, any policies called for in the original contract will remain in effect.

Contract Agreement

The selected proposer will be required to agree to and sign a formal written contract agreement in a form approved by the City of Stamford's Office of Legal Affairs.

Insurance Requirements

The selected proposer, upon the signing of the formal contract, will be required to deliver an insurance certificate in amounts, companies and terms acceptable to the Risk Manager of the City of Stamford. See attached insurance requirements.

Competition Intended

It is the City's intent that this RFP permit competition. It shall be the proposer's responsibility to advise the City in writing if any language, requirement, scope, specification, etc., or any combination thereof, inadvertently restricts or limits the requirements stated in this RFP to a single source. Such notification must be received by the City not later than seven (7) days prior to the date set for acceptance of proposals.

Tax Exempt

The City of Stamford is exempt from the payment of taxes imposed by the Federal Government and/or State of Connecticut. Such taxes must not be included in the bid price.

Sample Agreement

A sample agreement follows and is made a part of these conditions. It is an example only. The actual contract submitted for your firm's signature will vary based upon the particulars of the specific bid package. The sample is for illustrative purposes only and the terms of the final contract may differ substantially.

Notification to Bidders (Rev. 9-1-17)

The contract awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes.

The City of Stamford is an Affirmative Action/Equal Opportunity Employer/purchaser. Small, Minority, Women and Disadvantaged Business Enterprises are encouraged to respond.

The City of Stamford aggressively solicits the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials. "Minority business enterprise" is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: (1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n." "Minority" groups are defined in Section 32-9n of the Connecticut General Statutes as "(1) Black Americans; (2) Hispanic Americans; (3) persons who have origins in the Iberian Peninsula; (4) Women; (5) Asian Pacific Americans and Pacific Islanders; and (6) American Indians. An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The City will consider the following factors when reviewing the Bidder's/Proposer's qualifications:

- (a) success in implementing an affirmative action plan;
- (b) where applicable, success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) a promise to develop and implement a successful affirmative action plan;
- (d) submission of employment statistics contained in the Connecticut Commission on Human Rights and Opportunities ("CCHRO") "Employment Information Form", indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) a promise to set aside a portion of the contract for legitimate minority business enterprises.

2. Non-Discrimination

(a) The contractor agrees and warrants that in the performance of the contract, it will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, sexual orientation, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. If the contract is for a public works project, the contractor agrees and warrants that it will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such project. The contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, sexual orientation, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved;

(b) the contractor agrees, in all solicitations or advertisements for employees placed by or on

behalf of the contractor, to state that it is an "Affirmative Action-Equal Opportunity Employer" in accordance with regulations adopted by the CCHRO;

(c) the contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a copy of these provisions, advising the labor union or worker's representative of the contractor's commitments under these provisions and to post copies of the notice in conspicuous places available to employees and applicants for employment;

(d) the contractor agrees to comply with each provision of this section and Conn. Gen. Stat. Sections 4a-62, 32-9e, 46a-56 and 46a-68b to 46a-68k, inclusive, and with each regulation or relevant order issued by said CCHRO;

(e) the contractor agrees to provide the City with such information requested by the City, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the contractor.

3. Subcontractors

The contractor shall include the provisions of subsection (2) in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the City and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the CCHRO. The contractor shall take such action with respect to any such subcontract or purchase order as the City may direct as a means of enforcing such provisions.

The contractor agrees to comply with the CCHRO's requirements as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

GIFTS:

During the term of this contract, including any extensions, the Contractor shall refrain from making gifts of money, goods, real or personal property or services to any appointed or elected official or employee of the City of Stamford or the Stamford Board of Education or any appointed or elected official or employee of their Boards, Commissions, Departments, Agencies or Authorities. All references to the Contractor shall include its officers, directors, employees, and owners of more than 5% equity in the contractor. Violation of this provision shall constitute a material breach of this Agreement, for which this Agreement may be summarily terminated.

AGREEMENT

THIS AGREEMENT dated the _____ day of _____, _____, is by and between the **CITY OF STAMFORD** (hereinafter the “City”), a municipal corporation organized and existing pursuant to the laws of the State of Connecticut with a principal place of business located at 888 Washington Boulevard, Stamford, Connecticut, and acting herein by Caroline Simmons, its duly authorized Mayor, and _____ (hereinafter the “Consultant”), a _____ company with a principal place of business located at _____, and acting herein by _____, its duly authorized _____.

WITNESSETH

WHEREAS, The City solicited Request for Proposals No. _____ for _____ (hereinafter the “City’s RFP No. _____”);

WHEREAS, The Consultant submitted a proposal in response to the City’s RFP No. _____; and

WHEREAS, The City has accepted the Consultant’s proposal pursuant to the terms hereinafter set forth;

NOW THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. INCORPORATION OF RECITALS. The above terms and conditions are contractual in nature and not merely recitals and are hereby incorporated into this Agreement;

2. CONTRACT DOCUMENTS AND SCOPE OF SERVICES. The Contract Documents consist of this Agreement and the following Exhibits that, combined, define the duties, functions, obligations, responsibilities, and tasks of the Scope of Services:

Exhibit A – The City’s RFP No. _____; and

Exhibit B – The Consultant’s Proposal;

both attached hereto and hereby made a part hereof as if fully set forth herein;

3. NO EXCLUSIVE RIGHT TO WORK. Nothing contained herein shall grant the Consultant an exclusive right to perform the Scope of Services. The City may enter into similar agreements with other Consultants at its sole discretion on an as-needed basis;

4. DAYS/HOURS OF OPERATION. The Consultant shall, as directed by the City’s _____, provide the Scope of Services for _____ (_____) hours per _____ and _____ (_____) days per _____ in the City’s _____, during normal _____ hours, and shall always be readily available in person or by telephone for _____ consultation with the City’s _____;

5. COMPENSATION. The Consultant shall be compensated for the Scope of Services at the _____ rate of _____ (\$ _____) Dollars, payable in _____ installments;

6. TERM. The Term of this Agreement shall commence when signed below by the City’s Mayor and terminate _____ (_____) year(s) thereafter. The parties may, by mutual agreement, extend the Term of this Agreement for _____ (_____), additional years provided that all

other terms of this Agreement remain the same. No such extension shall be for greater than _____ (_____) year(s) and, under no circumstances, shall the entire Term of this Agreement, including any extension years, exceed _____ (_____) years;

or

COMMENCEMENT AND COMPLETION OF WORK. The Consultant shall commence the Scope of Services upon the execution of this Agreement by both parties and shall complete said services in a timely, efficient and diligent manner (certain time to complete? Any milestone dates?);

7. CONSULTANT'S REPRESENTATIVE AND KEY PERSONNEL. The following representative of the Consultant is hereby authorized to act on behalf of the Consultant with respect to the Scope of Services and shall have full authority to accept instructions, make decisions, communicate for and act on behalf of the Consultant at all times.

Consultant Representative: _____
Title: _____

In addition to the Consultant's Representative, the following Key Personnel of the Consultant shall be assigned to, participate in and be available to the City for the Scope of Services.

Key Personnel: _____
Title: _____
Title: _____

Neither the Consultant's Representative nor the Key Personnel shall be replaced by the Consultant without fifteen (15) days prior written consent of the City;

8. REPRESENTATIONS. The Consultant represents that it is qualified in relation to the Scope of Services and further represents that it has the requisite skill, expertise, and knowledge necessary to perform the Scope of Services, including any supplementary services. The Consultant hereby acknowledges that the City has relied upon said representations in entering into this Agreement;

9. CAPACITY/INDEPENDENT CONTRACTOR. Consultant is acting as an independent contractor and is not an employee of the City. This Agreement is for services only and does not create a partnership or joint venture between the Consultant and the City. The City shall not be required to pay, or make any contribution to, any social security, local, state or federal tax, unemployment compensation, workers' compensation, insurance premium, profit-sharing, pension or any other employee benefit for the Consultant during the Term of this Agreement. The Consultant is responsible for paying, and complying with reporting requirements for, all state, local, and federal taxes related to payments made to the Consultant under this Agreement;

10. INDEMNIFICATION. The Consultant shall indemnify, hold harmless and, at the City's option, defend the City, its officers, agents and employees, from third party claims for loss, cost, damage, liability, and/or injury to or death of a person, including the agents and employees of the Consultant, or loss of or damage to property, resulting directly or indirectly from the Consultant's or the Consultant's officers', agents' or employees' negligent performance pursuant to this Agreement, or by any negligent omission to perform some duty imposed by law or this Agreement upon the Consultant, its officers, agents and employees. The foregoing indemnity shall include

reasonable attorneys' fees and costs of suit, if applicable, shall not be limited by reason of any insurance coverage required pursuant to this Agreement, and shall survive the termination of this Agreement;

11. INSURANCE. The Consultant shall procure, at its sole expense, and maintain for the entire Term of this Agreement, including any extensions, insurance coverages as set forth in the City of Stamford Insurance Requirements included in the City's Request for Proposals No. _____ attached hereto as Exhibit A;

12. LIMITATION OF LIABILITY. The Consultant's sole remedy for City delays shall be an extension of time to complete the Scope of Services and the Consultant hereby waives any claims for consequential damages, including, but not limited to, principal office expense, loss of financing, reputation and/or lost profit;

13. ASSIGNMENT. The Consultant shall not assign or transfer any portion of the Scope of Services without the prior written approval of the City;

14. SUBCONTRACTING/SUBCONSULTING. Aside from those subconsultants/subcontractors disclosed in the Consultant's Proposal, attached hereto as Exhibit B, the Consultant is prohibited from further subconsulting/subcontracting the Scope of Services or any part of it unless the City first approves such subconsulting/subcontracting in writing and approves, in writing, of the specific subconsultant(s)/subcontractor(s) the Consultant proposes to be used. An agreement made in violation of this provision shall confer no rights on any party and shall be null and void. Should the City approve of a proposed subconsultant, the Consultant agrees to comply with the City's Code of Ordinances § 103.4;

15. REVIEW OF WORK. The Consultant shall permit the City, its agents and/or employees to review, at any time, all work performed pursuant to the terms of this Agreement at any stage of the work;

16. BOOKS AND RECORDS. The Consultant shall maintain or cause to be maintained all records, books, or other documents relative to charges, costs, expenses, fees, alleged breaches of this Agreement, settlement of claims, or any other matter pertaining to the Consultant's demand for compensation by the City for a period of not less than three (3) years from the date of the final payment for services performed under this Agreement;

17. CONTRACT EXTRAS. Pursuant to the City of Stamford Code of Ordinances, Section 23-18.4 C., it is specifically understood and agreed by the Consultant that all contract extras regarding this Agreement shall be governed by the City of Stamford Charter and/or Code of Ordinances. The City shall not be liable for payment of any additional costs, except as otherwise expressly set forth in this Agreement, unless the provisions of the City of Stamford Charter and/or Code of Ordinances are fully complied with. The City of Stamford Charter and Code of Ordinances can be found at www.municode.com;

18. COMPLIANCE WITH CITY OF STAMFORD CODE PROVISIONS. The Consultant hereby agrees to fully comply, to the extent applicable, with the requirements of the City of Stamford Code of Ordinances, Sections 103-1 through 103-10, regarding consultants in general. Failure to so comply shall constitute a material breach of the terms of this Agreement. The provisions of the City of Stamford Code of Ordinances can be found at www.municode.com;

19. TERMINATION.

- A. **TERMINATION FOR CAUSE, SANCTIONS AND PENALTIES.** If, through any cause, the Consultant shall fail to fulfill, in a timely and proper manner, its obligations under this Agreement, or if the Consultant shall violate any laws or any of the covenants, agreements,

or stipulations of this Agreement, the City shall thereupon have the right to terminate this Agreement for cause by giving written notice to the Consultant of such termination and specifying the effective date thereof, at least five (5) days before the effective date of such termination. In that event, all finished or unfinished reports, documents, data, studies, photographs, or other material prepared by the Consultant pursuant to its performance under this Agreement shall, at the option of the City, become the City's property. The Consultant shall be entitled to receive just and equitable compensation for any satisfactory services completed up to the effective date of termination. The Consultant shall not be responsible for any claims resulting from the City's use of the documents on another project or changes made to the documents without the Consultant's express written permission;

The term "cause" includes, without limitation the following:

- 1) If the Consultant furnished any statement, representation, warranty or certification in connection with this Agreement, which is materially false, deceptive, incorrect, or incomplete;
- 2) If the Consultant fails to perform to the City's satisfaction any material requirement of this Agreement or is in violation of any specific provision thereof or any State or Federal law or requirement; or
- 3) If the City reasonably determines that satisfactory performance of this Agreement is substantially endangered or can reasonably anticipate such an occurrence or default.

Should the City terminate this Agreement for cause, the Consultant shall not be relieved of liability to the City for any damages sustained by the City by virtue of any breach of this Agreement by the Consultant and the City may withhold any payment to the Consultant for the purposes of setoff until such time as the exact amount of damages due the City from the Consultant is determined. Further, if applicable, the City shall have the right to:

- 1) Complete the Scope of Services, or any part thereof, either by itself or by other consultants, at the expense of the Consultant;
- 2) Purchase the products or services that are the subject of this Agreement elsewhere and hold the Consultant responsible for any increase in cost;
- 3) Pursue any equitable remedy, including, but not limited to, specific performance or injunction; and/or
- 4) Disqualify the Consultant from bidding on, submitting proposals for, or being awarded any City contract for a period not to exceed two (2) years from the date of such termination;

B. TERMINATION FOR CONVENIENCE. The City may terminate this Agreement at any time the City determines that the purposes of the distribution of monies under the Agreement would no longer be served by the services provided. The City shall effect such termination by giving written notice of termination to the Consultant and specifying the effective date thereof, at least twenty (20) days before the effective date of such termination. In that event, all finished or unfinished documents and other materials as described Subsection A shall, at the option of the City, become property of the City. If the Agreement is terminated by the City as provided herein, the Consultant shall be paid an

amount which bears the same ratio to the total compensation as the services actually and satisfactorily performed to the effective date of termination bear to the total services of the Consultant pursuant to the terms of the Agreement, less payments of compensation previously made, and subject to the City's right of set off for any damages pursuant to the terms of the Agreement;

20. DISPUTE RESOLUTION.

- A. EXECUTIVE MEETING. The parties shall endeavor to resolve all claims, disputes, or other matters in controversy arising out of or related to this Agreement (“Claims”) through a meeting of the chief executives of each party, or their respective designees (“Executive Meeting”).

A request for an Executive Meeting shall be made by a party in writing and delivered to the other party. The request may be made concurrently with the filing of a non-binding mediation as set forth herein. The Executive Meeting shall be a condition precedent to mediation unless 30 days have passed after the Executive Meeting has been requested with no meeting having been held.

The Executive Meeting shall be held in the place where the Project is located, unless another location is mutually agreed upon.

- B. MEDIATION. Any Claim subject to, but not resolved by, an Executive Meeting shall be subject to mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its applicable rules and procedures in effect on the date of this Agreement. A request for mediation shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation.

The request may be made concurrently with the filing of arbitration but, in such event, mediation shall proceed in advance of arbitration, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

The parties shall share the mediator’s fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

- C. ARBITRATION. Any Claim subject to, but not resolved by, mediation shall, in the sole discretion of the City, be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its applicable rules and procedures in effect on the date of this Agreement. A demand for arbitration shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the arbitration.

A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for

arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law.

Any judgment will be entered or court action will be brought in a court of competent jurisdiction within the State of Connecticut.

D. **PERFORMANCE DURING DISPUTE.** Unless otherwise directed by the City, the Consultant shall continue performance under this Agreement while matters in dispute are being resolved.

E. **CLAIMS FOR DAMAGES.** Should either party to this Agreement suffer injury or damage to person or property because of any act or omission of the other party or of any of its employees, agents or others for whose acts it is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage;

21. COMPLIANCE WITH LAWS. The Consultant shall be responsible for compliance with all applicable federal, state and local laws, rules, regulations, codes, orders, ordinances, charters, statutes, policies and procedures;

22. CONFIDENTIALITY. During and after the Term of this Agreement, the Consultant, including, without limitation, its employees, agents, servants and representatives, shall not directly or indirectly disclose or make available to any person, firm, corporation, association or other entity of any reason or purpose whatsoever, or use or cause to be used in any manner adverse to the interest of the City, any financial, administrative or other confidential business information, except as require by law;

23. SETOFF OF PROPERTY TAXES OWED TO THE CITY OF STAMFORD. Pursuant to the City of Stamford Code of Ordinances Section 23-18.4.1 and Section 12-146b of the Connecticut General Statutes, as amended, the Consultant hereby acknowledges that the City shall have the right to set-off or withhold any payment, or portion thereof, due to the Consultant pursuant to this Agreement if any taxes levied by the City of Stamford against any property, both real and personal, owned by the Consultant are delinquent and have been so delinquent for a period of not less than one year. Any amount withheld from the Consultant pursuant to this section shall be applied to the Consultant's delinquent taxes, provided, however, that no such amount withheld shall exceed the amount of tax, plus penalty, lien fees and interest, outstanding at the time of withholding;

24. GIFTS. During the Term of this Agreement, including any extensions, the Consultant shall refrain from making gifts of money, goods, real or personal property or services to any appointed or elected official or employee of the City of Stamford or the Stamford Board of Education or any appointed or elected official or employee of their Boards, Commissions, Departments, Agencies or Authorities. All references to the Consultant shall include its members, officers, directors, employees, and owners of more than 5% equity in the Consultant;

25. CODE OF ETHICS. The Consultant is prohibited from using its status as a consultant to the City to derive any interest(s) or benefit(s) from other individuals or organizations and the Consultant shall comply with the prohibitions set forth in the Stamford Municipal Code of Ethics as codified in Chapter 19 of the City of Stamford Code of Ordinances;

26. MORALS CLAUSE. Neither the Consultant, the Consultant's Representatives nor the Consultant's key personnel shall commit any act or do anything which might reasonably be considered: (i) to be immoral, deceptive, scandalous or obscene; or (ii) to injure, tarnish, damage or otherwise negatively affect the community and/or the reputation and goodwill associated with the City. If the Consultant, the Consultant's Representative or the Consultant's key personnel is accused of any act involving moral or ethical issues, dishonestly, theft or misappropriation, under any law, or any act which casts an unfavorable light upon its association with the community and/or the City or the Consultant is accused of performing or committing any act which could adversely impact the Consultant's events, programs, services, or reputation, the City shall have the right to terminate this contract upon fifteen (15) days written notice specifying the reason, within which period the Consultant may cure such offense. The determination of whether and to what extent the offense is cured shall be made by the City at its sole discretion;

27. NON-APPROPRIATION. The Consultant acknowledges that the City is a municipal corporation, that the City's obligation to make payments under this Agreement is contingent upon the appropriation by the City's Board of Representatives of funds sufficient for such purposes for each budget year in which the Agreement is in effect;

28. GOVERNING LAWS. The parties deem this Agreement to have been made in the City of Stamford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Agreement to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Fairfield, at Stamford, only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court. The Consultant hereby waives any objection which it may now have or will have to the laying of venue of any claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding;

29. INTERPRETATION. The Consultant agrees that, in the event of any ambiguity between the terms of this Agreement and any of the incorporated Exhibits, the City, in its sole discretion, shall determine the terms and/or document(s) which shall prevail and take precedence, except for those terms relating to the Scope of Services or Compensation, to which such terms this section shall not apply; and

30. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original. The counterparts shall together constitute but one Agreement. Any signature on a copy of this Agreement or any document necessary or convenient thereto sent by facsimile, PDF or other electronic format shall be binding upon such transmission and the facsimile, PDF or other electronic format copy shall be deemed an original for the purposes of this Agreement.

31. NON-WAIVER. The failure of the City to insist upon strict performance of any of the terms, conditions or covenants herein shall not be deemed a waiver of any rights or remedies that the City may have; and shall not be deemed a waiver of any subsequent breach or default of the terms, conditions or covenants herein contained. The City reserves the right to require strict compliance therewith at any time, with or without notice, except as may be otherwise required herein.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK.

SIGNATURE PAGE FOLLOWS.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above written. Signed, sealed and delivered in the presence of:

CITY OF STAMFORD

Print:
Witness

By: _____
Caroline Simmons
Mayor
Date: _____

Print:
Witness

CONSULTANT

Print:
Witness

By: _____
_____, _____
Date: _____

Print:
Witness

Approved as to Form:

Approved as to Insurance:

Chris Dellaselva
Asst. Corp. Counsel

David Villalva
Risk Manager

Date: _____

Date: _____

Contractor's Statement

Pursuant to Section 103.1 of the Stamford Code of Ordinances, I hereby provide the following:

If a joint venture, trustee, partnership, limited liability company or partnership, the names and addresses of all joint ventures, beneficiaries, partners or members:

If a corporation, the names and addresses of all officers, and the names and addresses of all parties owning over 10% of its common stock or over 10% of its preferred stocks. If any of said stockholders is a holding corporation, the names and addresses of all persons owning a beneficial interest in over 10% if the common or preferred stock of said holding company.

The names and positions of all persons listed hereinabove who are elected or appointed officers or employees of the City of Stamford.

Name of Bidder/Proposer: _____

Signature of Bidder/Proposer: _____

Title: _____

Company Name: _____

Address: _____

Indicate if company submitting this proposal is: _____ MBE _____ WBE _____ DBE

Non-Collusion Affidavit

The undersigned, having been duly sworn, affirms and says that to the best of his/her knowledge and belief:

1. The prices in this Proposal have been arrived at independently without collusion, consultation, communication, or agreement with any other Proposer or with any competitor for the purpose of restricting competition.

2. Unless otherwise required by law, the prices, which have been quoted in this Proposal, have not been knowingly disclosed by the Proposer and will not knowingly be disclosed by the Proposer prior to opening, directly or indirectly, to any other Proposer or to any competitor.

3. No attempt has been made or will be made by the Proposer to induce any other person, partnership or corporation to submit or not to submit a Proposal for the purpose of restricting competition.

Name of Proposer: _____

By: _____

Print Name: _____

Title: _____

ACKNOWLEDGMENT

STATE OF _____

COUNTY OF _____ ss. _____

Date: _____

Personally appeared _____, as _____ of the above named firm, and attested that the foregoing statements are true and accurate to the best of his/her knowledge and belief.

Signature of Notary Public
My Commission Expires: _____

EFFECTIVE: 2/24/09

City of Stamford
State of Connecticut Contractor Verification (in accordance with Public Act 16-67)

Compliance Affidavit

I, the undersigned, personally and on behalf of _____, having
(Contractor)

been duly sworn, affirm and say that I have read, understand and am in compliance with Public Act 16-67 Concerning the Disclosure of Certain Education Personnel Records, Criminal Penalties for Threatening in Educational Settings and the Exclusion of a Minor's Name from Summary Process Complaints, and that neither I nor said Contractor, to the best of my knowledge, is in possession of any information indicating a finding of abuse or neglect or sexual misconduct, or otherwise have knowledge of such a condition(s) for any employees working on the project identified in RFQ/RFP or Bid S-_____. Further, if I or said Contractor
(RFQ/RFP or Bid Number)

become aware of any information indicating such a finding, or otherwise gain knowledge of such a condition, I and/or said Contractor will immediately forward such information to the City of Stamford.

Contractor Name: _____

Street Address: _____

City, State, Zip: _____

Title of person completing this form: _____

Signature: _____

Printed Name: _____

Date: _____

ACKNOWLEDGMENT

STATE OF _____

COUNTY OF _____ ss. _____

Date: _____

Personally appeared _____, as _____
of the above named Contractor, and attested that the foregoing statements are true and accurate to the best of his/her knowledge and belief on behalf of himself and said Contractor.

Signature of Notary Public

My Commission Expires: _____

CERTIFICATE OF CORPORATE RESOLUTION
RFQ/RFP

I, _____, SECRETARY OF _____
A CORPORATION EXISTING UNDER THE LAWS OF THE STATE OF _____, DO
HEREBY CERTIFY THAT THE FOLLOWING IS A TRUE COPY OF CERTAIN RESOLUTIONS
ADOPTED BY THE BOARD OF DIRECTORS OF SAID COMPANY, AT A MEETING THEREOF
DULY CALLED AND HELD ON THE _____ DAY OF _____, 20_____.

“RESOLVED, THAT THE _____
OF THE CORPORATION BE AND IS HEREBY AUTHORIZED TO SIGN
A CONTRACT WITH THE CITY OF STAMFORD, CONNECTICUT FOR
_____, RFP/RFQ No. _____”.

I, FURTHER CERTIFY THAT, _____ IS THE DULY
ELECTED _____ OF _____
AND THE FOREGOING RESOLUTION HAS NOT BEEN MODIFIED OR REPEALED AND IS
IN FULL FORCE AND EFFECT.

IN WITNESS WHEREOF, I HAVE, HEREUNTO, SUBSCRIBED BY NAME AND AFFIXED
THE SEAL OF SAID CORPORATION THE _____ DAY OF _____, 20_____.

SECRETARY

CERTIFICATION AS TO CONTRACT SIGNATORY
For Limited Liability Companies (LLCs)
(Effective 9/1/2011)

I, _____ a _____ of _____,
(name of member or manager) (Member or Manager) (name of LLC)

LLC, a limited liability company organized and existing under the laws of the State of Connecticut (hereinafter the "Company"), hereby certify that:

1. that _____ is run by _____
(name of LLC) (Members or Managers)

2. that _____ is a _____ of _____
(name of contact signatory) (Member/Manager) (name of LLC)

and

3. that as such _____ is not prohibited from or
(name of Member/Manager who is contract signatory)
limited by the articles of organization from binding the LLC.

IN WITNESS HEREOF, the undersigned has affixed his/her signature this _____ day of

_____, 20_____.

(LLC Seal)

(Circle this L.S. if there is no seal)

Secretary (name of Secretary)

PROPOSER'S INFORMATION AND ACKNOWLEDGEMENT FORM

RFP No: _____

Date: _____

Proposer's Name: _____

Street Address: _____

City State Zip

Business Telephone: _____

Email: _____

DUNS Number: _____ Tax Id. No.: _____

Indicate (Yes/No) if company submitting this proposal is:

_____ MBE _____ WBE _____ DBE
(If yes, attach relevant certification)

Signature: _____ Date: _____

Printed Name: _____

Title: _____

Addenda Acknowledgement – check and note date of addendum

<input type="checkbox"/> Addenda No. 1	<input type="checkbox"/> Addenda No. 2
<input type="checkbox"/> Addenda No. 3	<input type="checkbox"/> Addenda No. 4
<input type="checkbox"/> Addenda No. 5	<input type="checkbox"/> Addenda No. 6
<input type="checkbox"/> Addenda No. 7	<input type="checkbox"/> Addenda No. 8
<input type="checkbox"/> Addenda No. 9	<input type="checkbox"/> Addenda No. 10
<input type="checkbox"/> Addenda No. 11	<input type="checkbox"/> Addenda No. 12

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

▶ Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.					
	2 Business name/disregarded entity name, if different from above					
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.		4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):			
	<input type="checkbox"/> Individual/sole proprietor or single-member LLC	<input type="checkbox"/> C Corporation	<input type="checkbox"/> S Corporation	<input type="checkbox"/> Partnership	<input type="checkbox"/> Trust/estate	Exempt payee code (if any) _____
	<input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____					Exemption from FATCA reporting code (if any) _____
	Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.					(Applies to accounts maintained outside the U.S.)
	<input type="checkbox"/> Other (see instructions) ▶ _____					
5 Address (number, street, and apt. or suite no.) See instructions.				Requester's name and address (optional)		
6 City, state, and ZIP code						
7 List account number(s) here (optional)						

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number										
or										
Employer identification number										

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ▶	Date ▶
------------------	----------------------------	--------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.

COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
CONTRACT COMPLIANCE REGULATIONS
NOTIFICATION TO BIDDERS

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by [Sections 4a-60](#) and [4a-60a](#) of the Connecticut General Statutes; and, when the awarding agency is the State, [Sections 46a-71\(d\)](#) and [46a-81i\(d\)](#) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at [Section 46a-68j-21 through 43](#) of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by [Sections 4a-60](#) and [46a-71\(d\)](#) of the Connecticut General Statutes.

According to [Section 46a-68j-30\(9\)](#) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in [Section 4a-60](#) of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of [Section 32-9n](#).” “Minority” groups are defined in [Section 32-9n](#) of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by [Section 4a-60g](#) of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of [Section 46a-68j-21\(11\)](#) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with [Sections 46a-68-1 to 46a-68-17](#) of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. [See Section 46a-68j-30\(10\)\(E\)](#) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

The following [BIDDER CONTRACT COMPLIANCE MONITORING REPORT](#) must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to [Sections 4a-60](#) and [4a-60a](#) CONN. GEN. STAT., and [Sections 46a-68j-23](#) of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder’s good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) **Definition of Small Contractor**

[Section 4a-60g](#) CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision [4a-60g](#) CONN. GEN. STAT.

2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

MARKETING AND SALES: Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

LEGAL OCCUPATIONS: In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists

ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

BUILDING AND GROUNDS CLEANING AND MAINTENANCE: This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

CONSTRUCTION AND EXTRACTION: This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category.

INSTALLATION, MAINTENANCE AND REPAIR: Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

MATERIAL MOVING WORKERS: The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

PRODUCTION WORKERS: The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

<p><u>White</u> (not of Hispanic Origin)-All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u> (not of Hispanic Origin)-All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
--	---

BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART 1 – Bidder Information

<p>Company Name: Street Address: City & State: Chief Executive:</p>	<p>Bidder Federal Employer Identification Number: Or Social Security Number:</p>
<p>Major Business Activity: (brief description)</p>	<p>Bidder Identification (response optional/definitions on page 1)</p> <p>-Bidder is a small contractor? Yes No -Bidder is a minority business enterprise? Yes No (If yes, check ownership category) Black Hispanic Asian American American Indian/Alaskan Native Iberian Peninsula Individual(s) with a Physical Disability Female -Bidder is certified as above by State of CT? Yes No</p>
<p>Bidder Parent Company: (If any)</p>	
<p>Other Locations in CT: (If any)</p>	

PART II - Bidder Nondiscrimination Policies and Procedures

<p>1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes No</p>	<p>7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes No</p>
<p>2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes No</p>	<p>8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes No</p>
<p>3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes No</p>	<p>9. Does your company have a mandatory retirement age for all employees? Yes No</p>
<p>4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes No</p>	<p>10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes No N/A</p>
<p>5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes No</p>	<p>11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes No N/A</p>
<p>6. Does your company have a collective bargaining agreement with workers? Yes No</p> <p>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes No</p> <p>6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of CT? Yes No</p>	<p>12. Does your company have a written affirmative action Plan? Yes No If no, please explain.</p> <p>13. Is there a person in your company who is responsible for equal employment opportunity? Yes No If yes, give name and phone number:</p>

1. Will the work of this contract include subcontractors or suppliers? Yes No

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes No

PART IV - Bidder Employment Information

Date:

JOB CATEGORY*	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Management											
Business & Financial Ops											
Marketing & Sales											
Legal Occupations											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
Production Occupations											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification (X)	3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source		
State Employment Service				Work Experience	
Private Employment Agencies				Ability to Speak or Write English	
Schools and Colleges				Written Tests	
Newspaper Advertisement				High School Diploma	
Walk Ins				College Degree	
Present Employees				Union Membership	
Labor Organizations				Personal Recommendation	
Minority/Community Organizations				Height or Weight	
Others (please identify)				Car Ownership	
				Arrest Record	
				Wage Garnishments	

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

(Signature)	(Title)	(Date Signed)	(Telephone)
-------------	---------	---------------	-------------

Introduction

The City of Stamford submitted a Local Transportation Capital Improvement (LOTICIP) grant application to WestCOG and the State of Connecticut Department of Transportation for the construction of a full-sized roundabout at the intersection of Shippan Avenue-Harbor Drive-Magee Avenue on 2020 [See LOTICIP Application attachment in Appendix I]. The City received a Commitment to Fund Letter on February 9, 2022.

Project Description

The City seeks a multi-disciplinary consultant to undertake a full design for this roundabout based on the approved LOTICIP concept plans including all relevant surveys, permits, public meetings, and other associated design work as various progressing levels of the design process. The consultant may also be asked to perform construction inspection activities as part of this project.

Identified in the City Traffic Calming Master Plan and the Hazard Mitigation Plan this project is a key part of improving safety and the overall resiliency of the City's roadway infrastructure. The current intersection is over-sized and over built, has long crossing distances, poor bike facilities, and the signal infrastructure is aging. Additionally, the City owns property on 3 of the 4 corners at this location and along with the slight offset of the intersection, this is a prime candidate for a Roundabout.

The City of Stamford utilizes the Safe Systems approach to roadway safety and designing including the implementation of Complete Streets Design attributes per City Ordinance. Any designs shall seek to improve safety for all roadway users, with a particular emphasize on bicycle riders, walkers, and rollers. The consultant shall have demonstrated experience designing and implementing forward thinking Complete Streets designs. Walkability and people centered street design is the general philosophy of the City and any designs shall include robust elements of walkability, safety, and placemaking. The Roundabout also marks the entrance to the City's Shippan Point neighborhood and elements of gateway treatments should be considered by designers. Furthermore, the City's intention is to implement a fully bike protected roundabout with dedicated bike paths around the entire roundabout; consultants should be familiar with this style of roundabout design.

As the City seeks to create a mobility network grounded in safety and multi-modal options, this roundabout is a crucial part in achieving the City's goals. Consultants should understand the City's goals and intentions for this project and implement progressive, forward thinking design strategies to maximize safety.

Consultant Responsibilities

The Consultant shall perform all tasks, functions, and operations including, but not limited to: (Omissions do not negate consultant's obligation to perform any task necessary to complete the design.)

- Public Meetings
 - At least three (3) public meetings either on Zoom or similar system or in-person at the Stamford Government Center. Consultant shall take meeting minutes and prepare presentations and other visual delivery items for the project.
- Project status meetings
 - Meet with the City at least four (4) times either via webinar or in-person
- Survey
 - Provide an A2 and topographic survey in conformance with the Standards for Surveys and Maps in the State of Connecticut. The Survey shall extend 100' beyond the project limit lines for each roadway segment located in the project as shown in the draft plans in APPENDIX II. The survey must include locations, of edges of pavements and the location of trees, stonewalls, and permanent street furniture within a **survey corridor-seventy-five (75') feet on either side** of the street center line. The location of all overhead and underground utilities, utility pole numbers and ownership, location and elevations of manholes, hydrants, and other street furniture must be identified by the survey. The size and invert elevation of storm water drains and sanitary sewer lines and location shall also be furnished. Pavement contour plans of existing conditions at **one (1.0') foot** intervals shall be established for the entire survey corridor.
- Design Process

All steps of the design, the consultant shall anticipate comments from various City Departments, WestCOG, and CTDOT. All comments shall be discussed and incorporated into design plans where appropriate.

 - Preliminary Design Process
 - Prepare Preliminary design plans and reports at a 30% phase based on concept plans
 - Revised cost estimate
 - A minimum of three (3) hard copies along with electronic copies (PDF and DWG files) shall be submitted to the City.
 - Semi-Final Design Process
 - Prepare Semi-final design plans at a 80% phase
 - Revised cost estimate
 - A minimum of three (3) hard copies along with electronic copies (PDF and DWG files) shall be submitted to the City.

Shippan Avenue-Habor Drive-Magee Avenue Roundabout Design and Inspection Services RFP

- Final Design Phase
 - Incorporate any City or State comments into the final 100% design plans.
 - Full bid package
 - Final cost estimate
 - A minimum of three (3) hard copies along with electronic copies (PDF and DWG files) shall be submitted to the City.
- Permit assistance
 - Development and compilation of applications for permits to the City of Stamford Engineering Department and Land Use Board Permit approvals
 - Coastal Area Management (CAM) permits will be required to be submitted.
 - Development and compilation of applications for State permits as required.
- Potentially provide Construction Inspection Services (Fee not included in this submittal).

Schedule

- It is the City's goal to have final bid documents completed within 18 months from the notice to proceed.

Responses

Letter of Interest

The Letter of Interest must specify the following:

- The name and address of the prime Consultant.
- Name, title and telephone number of the individuals within the firm authorized to commit the company to this contract.
- The name, title and telephone number of the individual the City of Stamford should contact regarding questions, and clarifications.
- The corporation name and address of all proposed sub-consultants.
- The time for validity of the offer must be one hundred twenty (120) days from the due date of the proposal.

Technical Response

The Technical Response must contain the following:

- A description of the consultant's qualifications and proposed approach to the assignment, including a full description of the team, number of visits to the site, etc.

Shippan Avenue-Habor Drive-Magee Avenue Roundabout Design and Inspection Services RFP

- Details of the consultant's experience and plan for community outreach and communications.
- Familiarity and experience utilizing design guidance from the National Association of City Transportation Officials various design guides, City of Stamford plans, guides, and standards, FHWA standards and guidelines, NCHRP Report 672, other as well as CTDOT standards and guidelines.
- Resumes of key personnel proposed to work on the assignment with emphasis on relevant experience, including consultants/partners.
- A detailed organization chart.
- A list with descriptions of at least three (3) most recent similar or related design projects demonstrating experience within the last five (5) years. At least one (1) of these projects shall be a full sized Roundabout. All projects should include elements of Complete Streets Planning and design.
- Three references from similar types of projects including scope of work, consultant fees, and the name and phone number of the responsible project manager within the client organization that will be contacted as a reference.
- A Quotation of the firm's price(s) for providing the required services, including a breakdown – see item in attached Appendix II.

Fee

The overall fee proposed, including all sub-consultant(s) costs, shall be broken out as shown on the free proposal form for the specific tasks requested (see attached Appendix II).

Reimbursable expenses shall be broken out of the total fee and set as a not to exceed amount. This shall include customary costs for out-of-office use or distribution and expenses directly related to this project. They shall not include travel, meals, long distance calls, or taxes. Back up shall be provided with all invoices.

Hourly rates, including those for sub-consultants are to be included in the cost proposal to resolve any issues encountered during design and/or construction not covered under this proposal. Additional services, if necessary and agreed to prior by the City, will be negotiated based upon average hourly rates. Hourly rates are to be included in the cost proposal.

Format of Responses

- Only online submissions will be accepted

Evaluation Criteria

Criteria to be used as guidelines in selecting prospective consultant teams are:

- Successful completion of design of construction for projects of comparable size, complexity and detail.
- Technical qualifications including an experienced and well-rounded team.
- Replies to the Technical Response Criteria
- Familiarity with the contract documents and design intention.
- A clearly stated plan of action and approach to community engagement, design, and construction for this project.
- Cost Proposal.

Selection

Evaluations of proposals will be made by a selection committee consisting of representatives of the City of Stamford Office of Operations and the City of Stamford Purchasing Department.

Vendors may be asked to present their proposals to the selection committee and/or to respond to questions. Based on the information provided in the proposal and any additional information presented, a final selection will be made.

The City of Stamford reserves the right to reject any and/or all proposals submitted, to request information from any vendor and to negotiate with any of the vendors regarding the terms of the engagement. The City of Stamford intends to select the vendor that, in its opinion, best meets the City's needs, not necessarily the vendor that proposes the lowest fees.

APPENDIX II

APP I: FEE PROPOSAL FORM

For the services described in the preceding sections of this Request for Proposals pertaining to the Shippan-Harbror-Magee Roundabout:

TASK / DESCRIPTION	FEE
Task 1: Preliminary Engineering & Survey	
Task 2: Meetings (4) with City of Stamford	
Task 3: Meetings (3) with Public stakeholders.	
Task 4: Final Design, specifications, bid documents, including cost estimates.	
Task 5: Permit preparation process	
Reimbursables, as per RFP, not to exceed.	
TOTAL PROPOSAL COST	

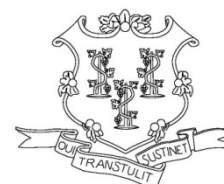
Note: Depending on available funding and City priorities, the City at its sole discretion may award any combination of the above listed tasks. The tasks are not listed in any particular order of priority. Proposers are advised to submit fees for each task independent of each other. The City may also choose to do a phased award to the selected vendor.

The validity of this offer is one hundred twenty (120) days from the date of the proposal.

APPENDIX I



Connecticut Department of Transportation



Local Transportation Capital Improvement Program Application

Municipality:	_____	COG:	_____
Route/Road:	_____		
Project Title:	_____		
Roadway Functional Classification (if applicable):	_____		
COG Contact Information:	_____		
	Name	Title	
	(475) 323-2072		
	Phone Number	Email	
Municipal Contact Information:	_____		
	Name	Title	
	Phone Number	Email	

The applicant must answer the questions below which are intended to address basic issues about existing conditions, project management, project costs, impacts on private property, utilities, wetlands, etc. You may provide your answer in the space provided below or submit separate answer sheets. **It is important that the application be as thorough as possible, as missing information will delay the review process. All project-related sections must be completely filled out or the application will be returned and will require resubmittal.**

The intent of the application is to establish eligibility, service life, and to ensure the Municipality is considering all pertinent aspects associated with major infrastructure improvements consistent with the purpose and need of the project.

(A) Project Information

1. Select the type of proposed improvement (select all that apply):

Please note: The entire application must be completed for all projects in addition to any necessary supplemental sections (K through P) as determined by the type of project.

- Roadway Geometric Improvement
- Stand-Alone Sidewalk Construction
- Bicycle/Pedestrian Improvement, including Multi-Use Trail Facilities
- Intersection Improvement

Provide additional information as required in section K

- Bridge Rehabilitation/Replacement

Provide additional information as required in section L

- Major Drainage Improvement

Provide additional information as required in section M

- Pavement Structure Improvement

Provide additional information as required in section N

- Traffic Signal Replacement/Upgrade/New Installation/Coordination

Provide additional information as required in section O

- Other (please specify): _____

Provide additional information as required in section P

2. Describe the purpose and need of the project (i.e. what are the problems to be corrected?). Please provide adequate detail to clearly convey the nature of the problem(s) to be corrected. Provide photographs to document the existing conditions and support the purpose and need. (Attachments acceptable)

3. Provide a project description, including project limits and length, that specifically describe how the proposed improvements will correct the problem(s) identified in the purpose and need. Describe what alternative(s) were considered. (Attachments acceptable)

4. Provide concept plans of the proposed improvement. The plans must be sufficiently developed and provide enough detail on a scaled drawing (including aerial photography base mapping if possible) to identify the following:

Inc. N/A **SEE ATTACHMENTS IN SECTION A FOR THOSE INCLUDED BELOW**

- Project location
 - Limits of project
 - Approximate limits and extent of any pavement widening or realignment
 - Proposed number of lanes, widths, and arrangements
 - Approximate limits and extent of any anticipated ROW acquisitions (based on available ROW information from Assessors maps, GIS data, etc.)
 - Structures (i.e. Retaining walls, bridges)
 - Watercourses
 - Typical Cross Section including lane and shoulder widths, pavement structure, etc.
5. Have the improvements at this location been previously submitted to the Department for funding? No Yes

If yes, when and under what program?

6. Have any other Federal or State funding sources been applied for or awarded for the improvements at this location? **No**

If yes, please list source, amount, and when awarded in detail below:

7. Does the project impact any State-owned Facilities (i.e. roads, bridges, etc.)?
 No Yes

If yes, describe the impacts:

8. In the area of the project, are there any known proposed developments?

No Yes

If yes, describe the proposed developments:

9. Design Standards to be used:

Established municipal standards

AASHTO Policy on Geometric Design of Highways and Streets

Connecticut Department of Transportation Highway Design Manual

AASHTO LRFD Bridge Design Specifications and Connecticut Department of Transportation Bridge Design Manual

Other, please specify: _____

(B) Rights of Way

1. Are any Right of Way (ROW) impacts anticipated? No Yes

If yes, describe the nature, extent, and type of impacts:

2. If ROW acquisitions will be required, who does the Municipality plan to have perform acquisition activities?

Municipal staff Consultant hired by Municipality State

3. If ROW acquisitions are to be performed by the Municipality's staff or their consultant, will the Municipality be seeking reimbursement for ROW costs?

No Yes

(C) Utilities

1. List all utilities within the project area, including their owners.

<u>Overhead</u>	<u>Underground</u>

2. Are any utility impacts anticipated? No Yes

If yes, explain the nature and extent of the impacts:

Note: Costs associated with utility betterments/upgrades that are not required to accommodate the proposed transportation improvement are not eligible project costs.

3. Have the utility companies been contacted to identify any plans to expand or improve existing utilities that would compromise the service life of the proposed improvements?

No Yes

If yes, describe any proposed improvements and their schedule:

(D) Storm water drainage system and under drains

1. Do any existing storm water drainage problems exist? No Yes

If yes, describe the problem(s):

2. Is any storm water drainage system work anticipated, including any new or modified drainage outlets? No Yes

If yes, explain the nature and extent of the improvements:

3. Are there any existing watercourse crossings that are proposed to be modified, rehabilitated, or replaced as part of the project? No Yes

If yes, indicate the type of improvement needed and the reason for it. Please also indicate if any existing watercourse crossings have inadequate hydraulic capacity:

(E) Rail Crossings

1. Are there any railroad crossings that are likely to be impacted as part of the project?

- No Yes
 At-grade
 Grade separated

If yes, describe impacts and any necessary modifications:

(F) Pedestrian/Bicycle Safety and Mobility SEE ATTACHMENTS IN SECTION F

1. Complete and attach the Department's Bicycle and Pedestrian Needs Assessment Form to this application (a copy of this form is included in Appendix D). In accordance with Connecticut General Statutes, Section 13a – 153f, and the Department's focus on accommodating non-motorized travel modes, accommodation of all users shall be a routine part of the planning, design, construction, and operating activities of all highways. The need for inclusion of accommodations for bicyclists and pedestrians, including those with disabilities, must be reviewed for every project, regardless of funding source.

(G) Traffic

The information below needs to be provided or reviewed (as specified) by the designer for all project types except for stand-alone sidewalk projects and bicycle/pedestrian improvements, and multi-use trail facilities that do not involve pedestrian crossings

1. Volumes SEE ATTACHMENTS IN SECTION G

Provide existing and 20-year Projected ADTs and Turning Volumes. Refer to the Preliminary Engineering/Preliminary Design section for guidance on traffic volumes.

2. Crash Experience SEE ATTACHMENTS IN SECTION G

Provide a summary of crash experience using the most current three year data, including a crash summary diagram, and analysis noting any discernable crash patterns.

3. Traffic Signals SEE ATTACHMENTS IN SECTION G

Review the existing traffic signal plans for projects involving signalized intersections

4. Speed Data

Provide 85th percentile speeds in the project area

40 MPH - SEE ATTACHMENT IN SECTION G

Provide all posted speed limits in the project area

25 MPH AT INTERSECTION

(H) Environmental Resource Involvement

Refer to Application Process/Preliminary Project Submittals - Information provided by the Department for more information.

1. Parks, Cemeteries, Historic Structures

- a. Are there any parks, cemeteries, or historic structures that are likely to be affected by the project? No Yes

If yes, describe the type and extent of the anticipated impact.

2. Wetlands

a. Are there any wetlands that are likely to be affected by the project?

No Yes

If yes, describe the type and extent of the anticipated impact.

3. Hazardous or Contaminated Sites

a. Has the potential for hazardous or contaminated sites and materials in the project area been investigated? No Yes

If yes, describe the type and extent of the anticipated impact.

(I) Public Involvement

Refer to Preliminary Engineering/Project Design - Public Involvement section for more information.

1. Has public involvement been conducted? No Yes

If yes, describe the public involvement effort, when it was conducted, and any public support or opposition to the project:

If no, describe the planned public involvement effort should the project move forward:

(J) Cost Estimate **SEE ATTACHMENT IN SECTION J**

1. Attach a preliminary cost estimate identifying:
 - a. Approximate quantities and assumed unit prices of the major contract items
 - b. An allowance for minor items (percentage of a)
 - c. Standard lump sum items (i.e. clearing and grubbing, mobilization, construction staking, maintenance and protection of traffic), as applicable (percentages of a + b)
 - d. Total contract items (a + b + c)
 - e. Contingencies (10% of d)
 - f. Incidentals to construction, (i.e. construction inspection, materials testing) (10% of d)
 - g. Rights of way costs
 - h. Eligible utility relocation costs (in accordance with CGS13a-98f)
Note: Costs associated with utility betterments/upgrades that are not required to accommodate the proposed transportation improvement are not eligible project costs
 - i. Total project costs (d + e + f + g + h)

Sample cost estimate form provided in Appendix M and the Excel spreadsheet is available for download from the Department's LOTCIP webpage: <https://www.ct.gov/dot/lotcip>

Refer to the Department's most current Cost Estimating Guidelines for cost estimate guidance or use town-generated unit prices. The anticipated costs for each phase of the project shall be well documented and based on reasonable anticipated costs.

The guidelines are located at:

<http://portal.ct.gov/-/media/DOT/documents/AEC/costestimatingguidelinespdf.pdf>

ADDITIONAL INFORMATION TO BE PROVIDED BASED ON IMPROVEMENT TYPE SELECTED IN SECTION (A)1:

(K) Roadway Geometric Improvements N/A

Proposed Design Speed

(L) Intersection Improvements

Capacity Analyses (For build and no-build conditions using existing and projected traffic volumes).* **SEE ATTACHED IN SECTION L**

(M) Bridge Rehabilitation/Replacement N/A

Latest Condition Report

(N) Major Drainage Improvement N/A

Material, Age, Hydraulic adequacy assessment of existing drainage system (Condition Report, post-cleaning is preferred)

(O) Pavement Structure Improvement N/A

The level of investigation will be dependent upon the proposed improvements. **Cores or test pits must be performed** such that a representative sample of the existing roadway condition is obtained. If varying pavement conditions exist along the roadway indicating the possibility of different pavement conditions, a test pit should be performed in each roadway section. **Pavement thickness and type, sub-base thickness and type**, and the presence of fines and/or groundwater must be noted. Attach the data obtained. If full depth reconstruction is proposed, cores or test pits may be required to justify the scope of the proposed improvements.

Approximate percentage of heavy vehicles: _____

What is the existing pavement type, condition, and thickness?

What is the anticipated pavement design? Describe the type and depth of each course including the base that is suitable for the ADT and percentage of heavy vehicles. Does it meet current design standards? Describe the cross-section (i.e. lanes and shoulder widths, etc.).

Describe how the service life requirement for the proposed pavement design was determined:

(P) Traffic Signal Replacement/Upgrade/New Installation/Coordination

Who is/will be responsible for ownership, maintenance, and electrical costs **N/A (removal)**

Age of existing signals **ORIGINALLY INSTALLED MAY 1997**

Capacity Analyses (For build and no-build conditions using existing and projected traffic volumes).* **SEE ATTACHED IN SECTION L**

Warrant Analysis for new signals **NO NEW SIGNAL PROPOSED**

Systems Engineering Analysis Form (SEAFORM) for Intelligent Transportation Systems (ITS) projects **N/A**

(Q) Other

To be determined based on type of improvement proposed.

***Capacity Analysis:** For the purposes of this application, a simplified analysis may be performed for signalized intersections that do not require detailed assumptions, proprietary software or specialized traffic engineering skills. The “Quick Estimation Method” is described in detail in the 2010 Highway Capacity Manual, with accompanying worksheets that can be completed by hand. A brief description of the method is also described in Section 3.3.6 of the FHWA Signal Timing Manual, where it is referred to as a “Critical Movement Analysis.” The relevant section of the FHWA publication can be accessed at: <http://ops.fhwa.dot.gov/publications/fhwahop08024/chapter3.htm>. This simplified analysis will yield an approximate critical volume/capacity ratio that can be used to assess overall operation of the intersection. The build and no-build conditions should be analyzed for the existing and projected traffic volumes.

APPLICATION SUBMISSION

This application and supporting documents must be submitted by the Municipality to their COG. At such time when the application is to be forwarded to the Department of Transportation by the COG, it must be forwarded electronically to:

Hugh.Hayward@ct.gov

Mr. Hugh H. Hayward, P.E.
Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546

Prepared by: FRANK W. PETISE, ACTING BUREAU CHIEF Date: 3/19/21

Name, Title and stamp of Responsible P.E. (Municipal or Consultant)

Frank W. Petise

Signature



Reviewed/Recommended by: DAVID R. MARTIN, Mayor Date: 3/22/21

Name and Title of Municipal Chief Administrative Officer

David R. Martin

Signature

Endorsed/Recommended by: _____ Date: _____

Name and Title of COG Executive Director

Signature

Section A

Project Location Map

Proposed Roundabout Conceptual Design Plans

Proposed Roundabout Conceptual Design Plans Include: Limits of project, approximate limits and extent of an pavement widening or realignment, proposed number of lanes, widths, and arrangements, and typical cross section including lane and shoulder widths, pavement structure, etc.

Informational Harbor Drive Road Diet Conceptual Design Plans

Informational Shippan Ave and Magee Ave Improvements Final Design Plans

File Path: J:\DWG\IP20180287C11\Civil\Traffic\Figures\20180287C11_LOC01.dwg Layout: SHIPPAN_HARBOR_MAGEE Plotted: Thu, May 14, 2020 - 12:29 PM User: gdepasquale
 Plotter: DWG TO PDF.PC3 CTB File: FO.STB
 LAYER STATE:



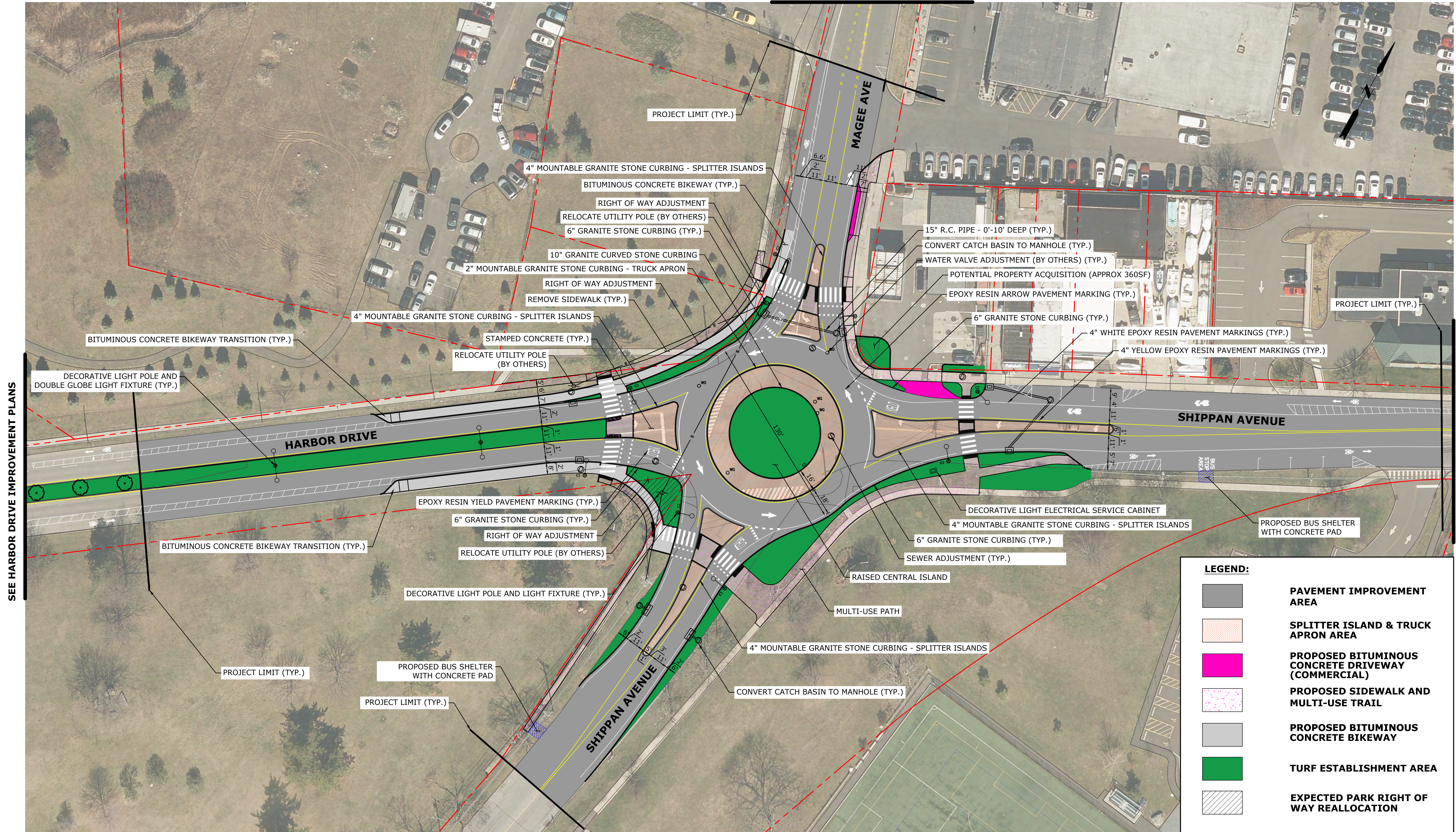
SCALE:	
HORZ.:	1" = 1000'
VERT.:	
DATUM:	
HORZ.:	
VERT.:	
GRAPHIC SCALE	

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 SHIPPAN/HARBOR/MAGEE
 ROUNDABOUT PROJECT
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C11
 DATE: MAY 2020
 SXN A

SEE MAGEE AVE. IMPROVEMENT PLANS



SEE HARBOR DRIVE IMPROVEMENT PLANS

SEE SHIPPAN AVE. IMPROVEMENT PLANS

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

File Path: J:\DWG\2018\0287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: CON-01 Plotted: Thu, July 08, 2021 - 5:30 PM User: stanski
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

SCALE:

HORZ.: 1" = 30'

VERT.: 1" = 10'

DATUM:

HORZ.: 1" = 30'

VERT.: 1" = 10'

30 15 0 30

GRAPHIC SCALE



FUSS & O'NEILL

146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

CITY OF STAMFORD

CONCEPTUAL ROUNDABOUT PLAN

SHIPPAN, MAGEE & HARBOR INTERSECTION IMPROVEMENTS

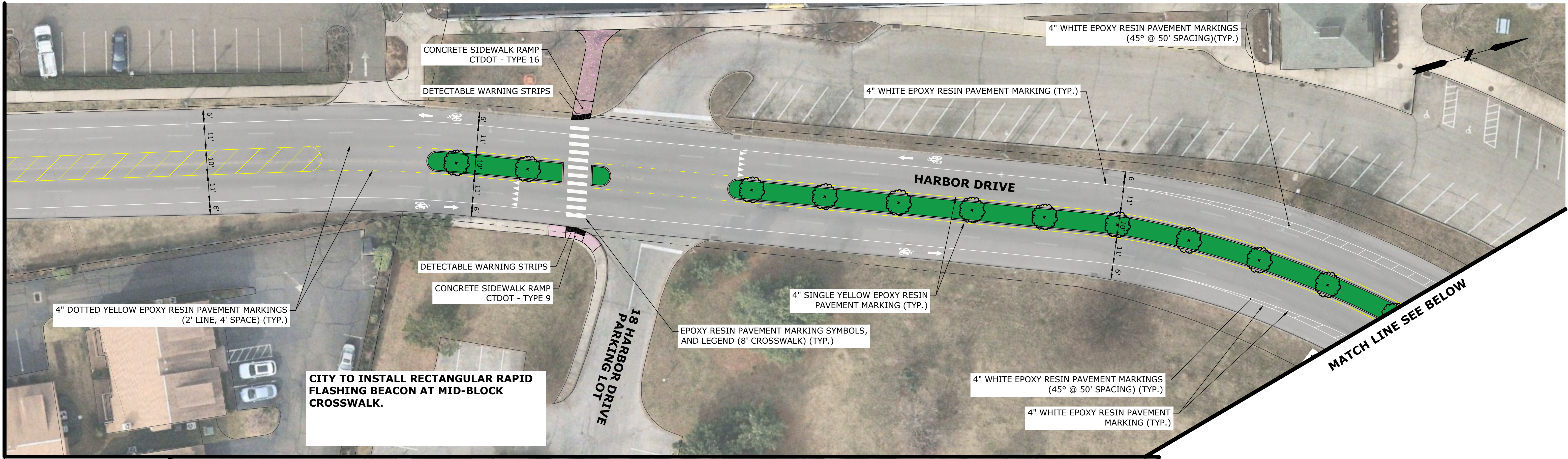
STAMFORD CONNECTICUT

PROJ. No.: 20180287.C10
DATE: JULY 2021

CON-01

File Path: J:\DWG\P2018\0287C20\Civil\Concepts\20180287C20_CON01.dwg Layout: CON-02 Plotted: Thu, March 18, 2021 - 12:16 PM User: truddiph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

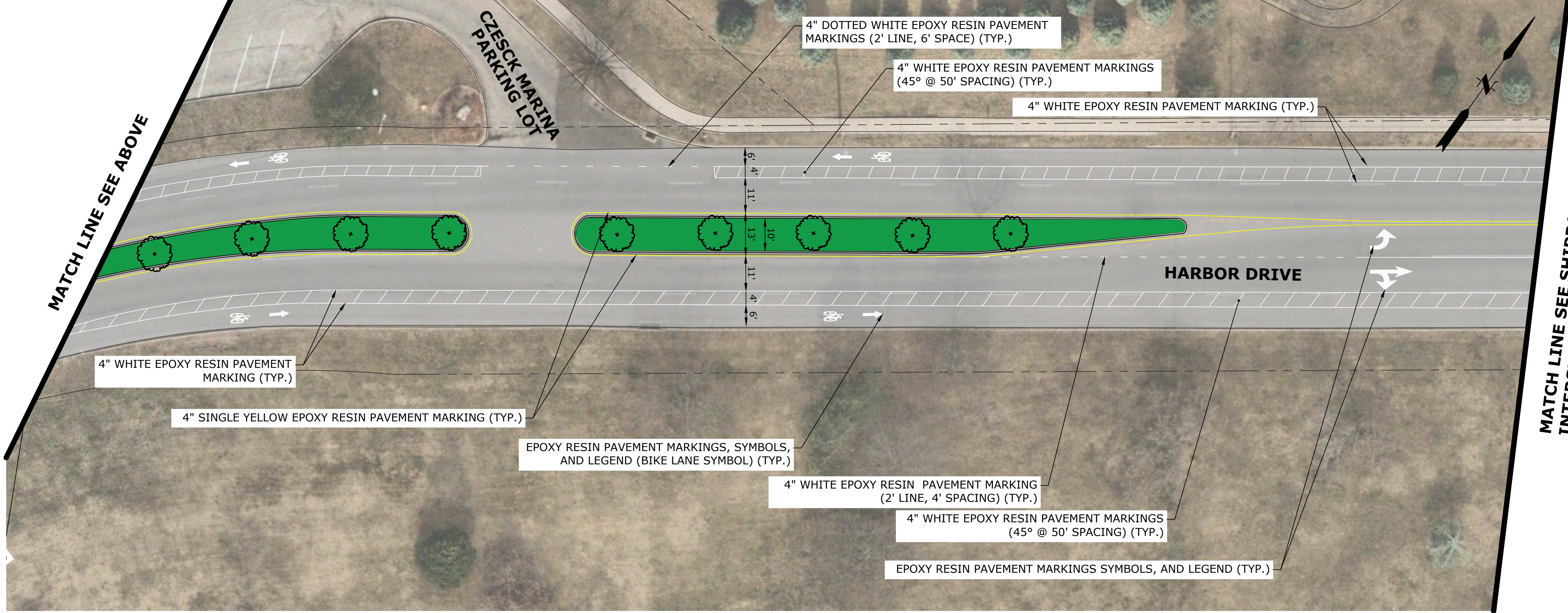
MATCH LINE SEE SHEET CON-03



CITY TO INSTALL RECTANGULAR RAPID FLASHING BEACON AT MID-BLOCK CROSSWALK.

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE



MATCH LINE SEE SHIPPAN, MAGEE & HARBOR INTERSECTION IMPROVEMENT PLAN

FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL	SEAL
------	------

SCALE:
 HORZ.: 1" = 20'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:
 GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

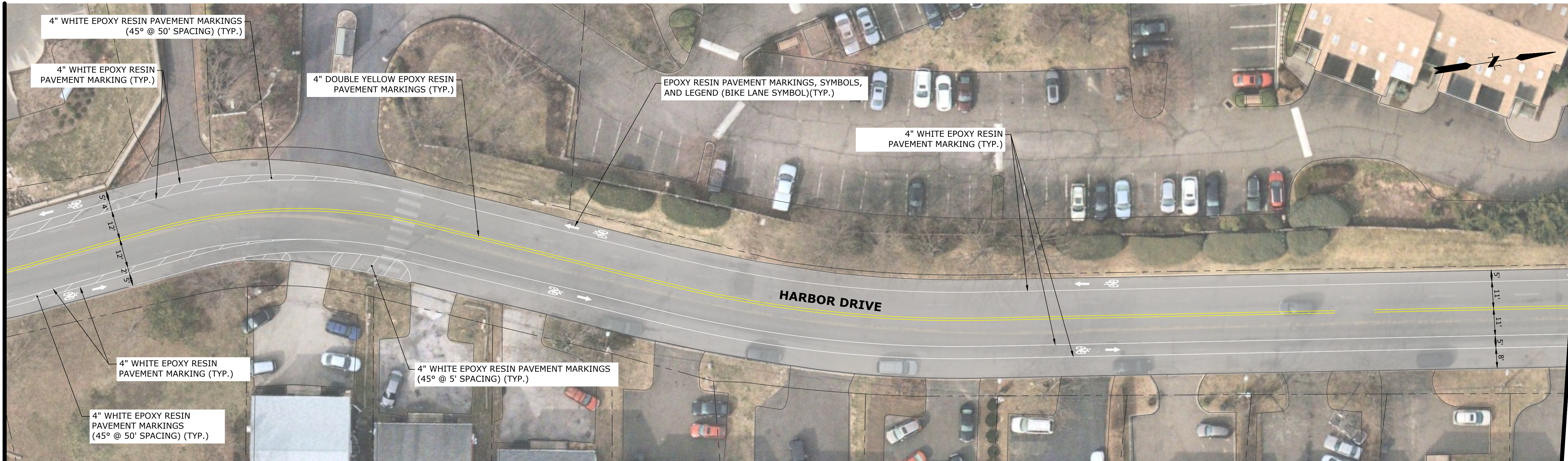
CITY OF STAMFORD
 CONCEPT PLAN
 HARBOR DRIVE ROAD DIET & ROADWAY IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021
CON-02

File Path: J:\DWG\2018\287\20180287\C20\CON-03.dwg Layout: CON-03 Plotted: Thu, March 18, 2021 - 12:17 PM User: truddiph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

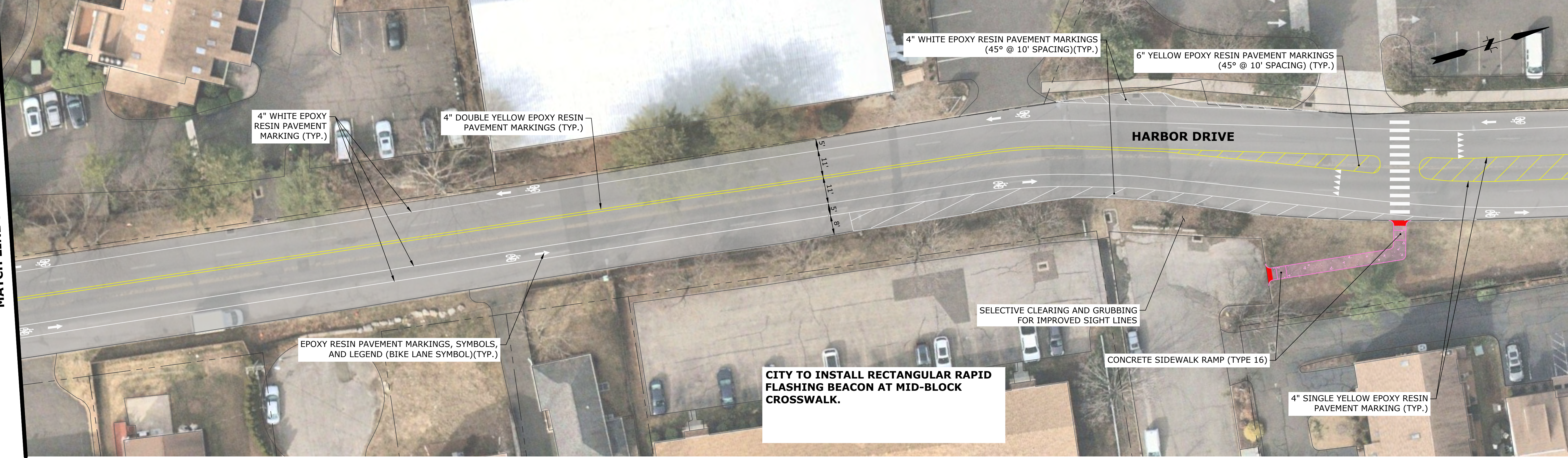
MATCH LINE SEE SHEET CON-04

MATCH LINE SEE BELOW



MATCH LINE SEE ABOVE

MATCH LINE SEE SHEET CON-02



FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

SCALE:
 HORZ.: 1" = 20'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:
 20 10 0 20
 GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 CONCEPT PLAN
 HARBOR DRIVE ROAD DIET & ROADWAY IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021
CON-03

File Path: J:\DWG\20180287\20180287\C20\Civil\Concepts\20180287C20_CON01.dwg Layout: CON-04 Plotted: Thu, March 18, 2021 - 12:17 PM User: truddiph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



PLAN NOTES:

1. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION. LOCATIONS MAY BE ADJUSTED IN DESIGN.
2. ELECTRONIC VERSIONS OF DRAWING AND DATA FILES THAT HAVE BEEN PROVIDED BY THE ENGINEER ARE APPROXIMATE UNTIL A FIELD SURVEY TAKES PLACE.
3. BASE PLAN: THE PROPERTY LINES SHOWN WERE DETERMINED BY GIS (PROVIDED BY THE CITY OF STAMFORD). THE TOPOGRAPHY AND PHYSICAL FEATURES ARE BASED ON AERIAL DIGITIZING PERFORMED BY (FUSS & O'NEILL) USING IMAGERY OBTAINED FROM ARCMAPS.
4. ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE LIMIT OF CONSTRUCTION SHALL BE ERADICATED AND/OR REMOVED.
5. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER (CITY OF STAMFORD).
6. SIGNS SHALL NOT BE PLACED LESS THEN 10 FEET FROM UTILITY POLES.

WORK RESTRICTIONS

1. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
2. WORK RESTRICTIONS TO BE DETERMINED BY THE CITY OF STAMFORD.

CONSTRUCTION LAYOUT

1. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, FIELD VERIFY PROPOSED UTILITY ROUTES AND IDENTIFY ANY INTERFERENCES OR OBSTRUCTIONS WITH EXISTING UTILITIES OR PUBLIC RIGHTS-OF-WAY.

2. IMMEDIATELY INFORM THE CITY OF STAMFORD (IN WRITING) IF EXISTING UTILITY CONDITIONS CONFLICT OR DIFFER FROM THAT INDICATED ON THE PLAN. ALSO, COORDINATE IF THE WORK CANNOT BE COMPLETED AS INDICATED.
3. BOUNDS OR MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.

EARTHWORK

1. NOTIFY UTILITY LOCATOR SERVICE AT LEAST 72 HOURS BEFORE STARTING EXCAVATION. CONTACT CONNECTICUT "CALL BEFORE YOU DIG" AT 1-800-922-4455.
2. STOP WORK IN THE VICINITY OF SUSPECTED CONTAMINATED SOIL, GROUNDWATER OR OTHER MEDIA. IMMEDIATELY NOTIFY THE OWNER SO THAT APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN. RESUME WORK IN THE IMMEDIATE VICINITY ONLY UPON DIRECTION BY THE OWNER.

UTILITIES

1. THE TYPE, SIZE AND LOCATION OF DEPICTED UNDERGROUND UTILITIES ARE UNKNOWN AND SHALL ASSUME NO GUARANTEE AS TO THE COMPLETENESS, SERVICEABILITY, EXISTENCE, OR ACCURACY OF UNDERGROUND FACILITIES. FIELD VERIFY THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES.

LEGEND:

	PAVEMENT MARKING IMPROVEMENT AREA
	PROPOSED MEDIAN
	PROPOSED SIDEWALK & RAMP

FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL	SEAL
------	------

--	--

--	--

SCALE:

HORZ.:	1" = 20'
VERT.:	

DATUM:

HORZ.:	
VERT.:	

GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 CONCEPT PLAN

HARBOR DRIVE ROAD DIET & ROADWAY IMPROVEMENTS
 STAMFORD CONNECTICUT

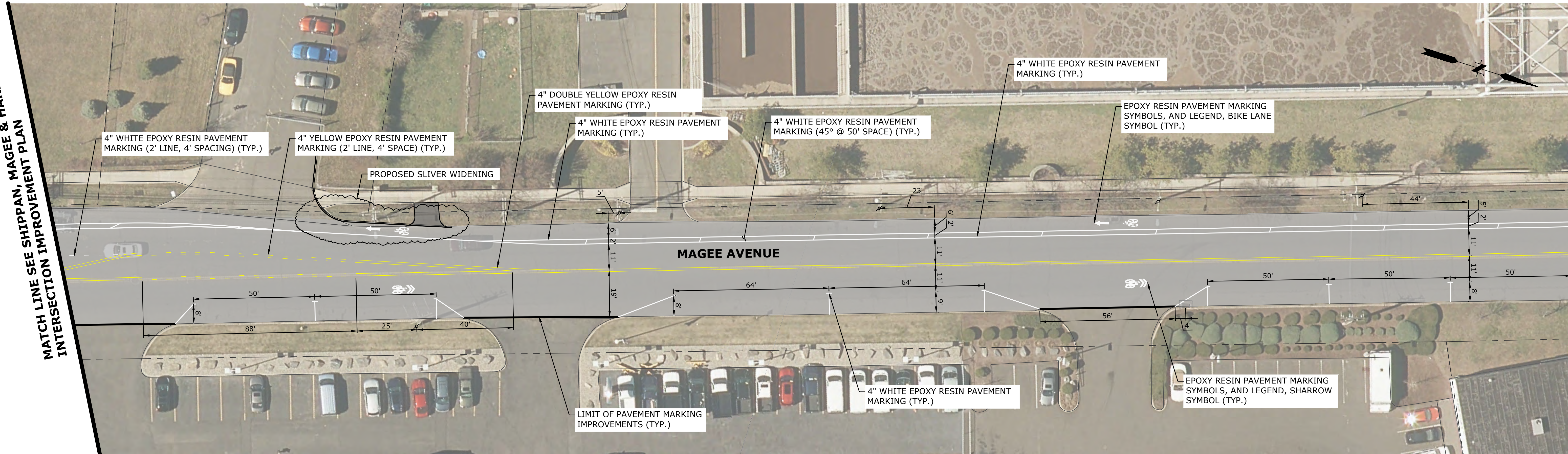
PROJ. No.: 20180287.C20
 DATE: MARCH 2021

CON-04

File Path: J:\DWG\2018\20180287\C10\CON01.dwg Layout: CON-05 Plotted: Thu, March 18, 2021 - 12:18 PM User: tudolph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

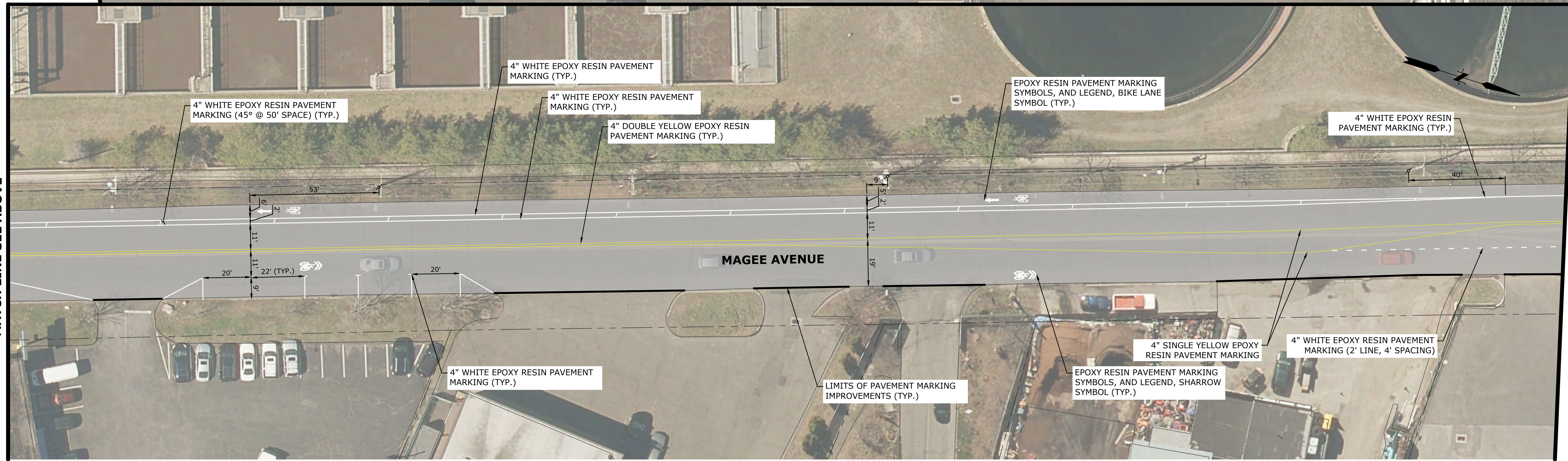
MATCH LINE SEE SHIPPAN, MAGEE & HARBOR INTERSECTION IMPROVEMENT PLAN

MATCH LINE SEE BELOW



MATCH LINE SEE ABOVE

MATCH LINE SEE SHEET CON-06

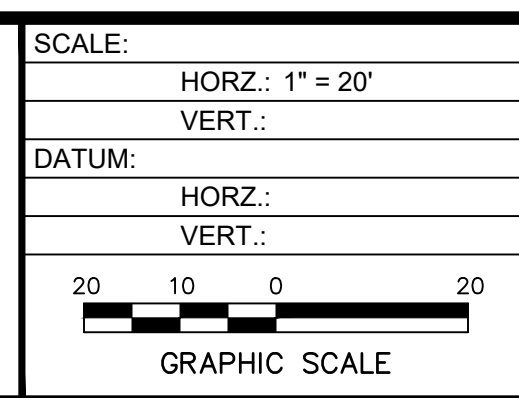


FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

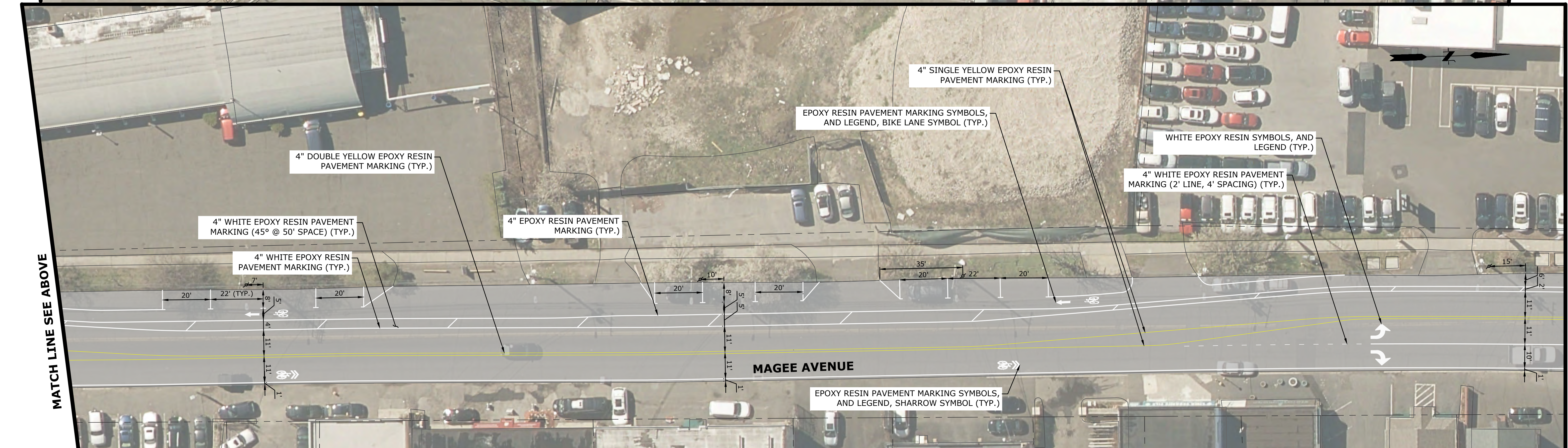
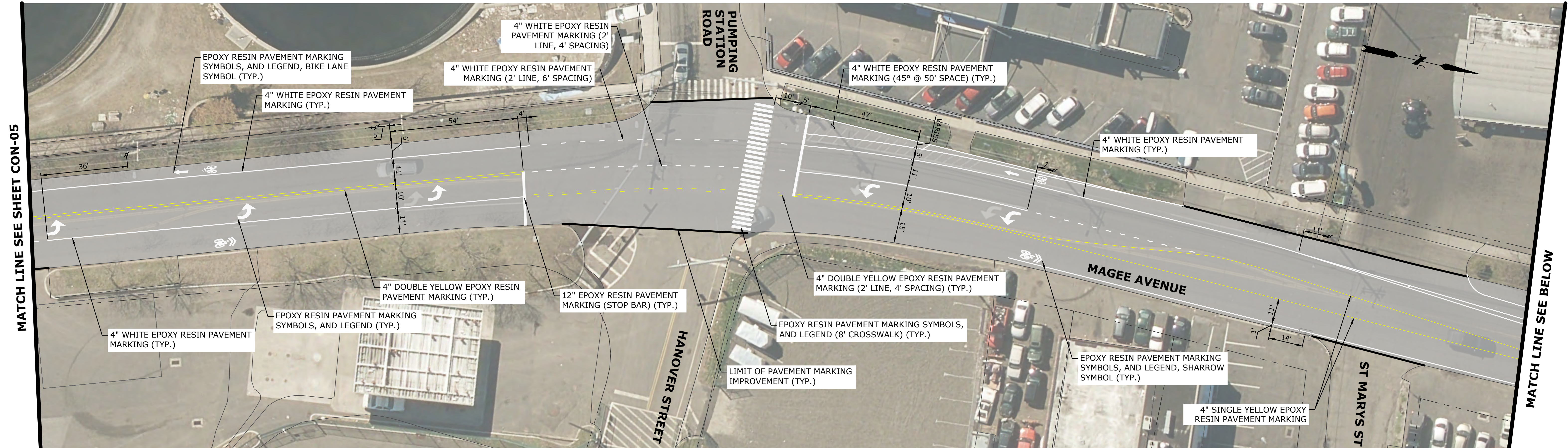


FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 FINAL CONCEPT PLAN
 SHIPPAN AVENUE AND MAGEE AVENUE ROADWAY IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021
CON-05

File Path: J:\DWG\2018\287\C10\CON01.dwg Layout: CON-06 Plotted: Thu, March 18, 2021 - 12:19 PM User: tudolph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

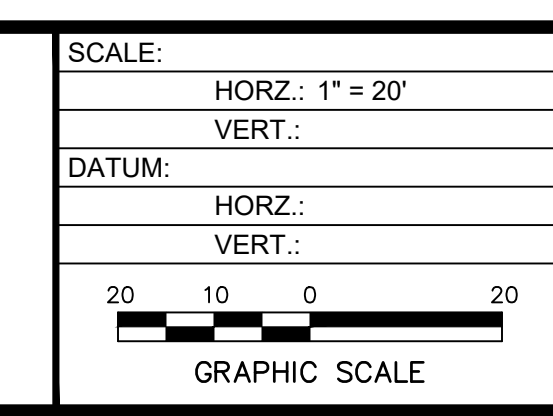


FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL



FUSS & O'NEILL

146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

FINAL CONCEPT PLAN

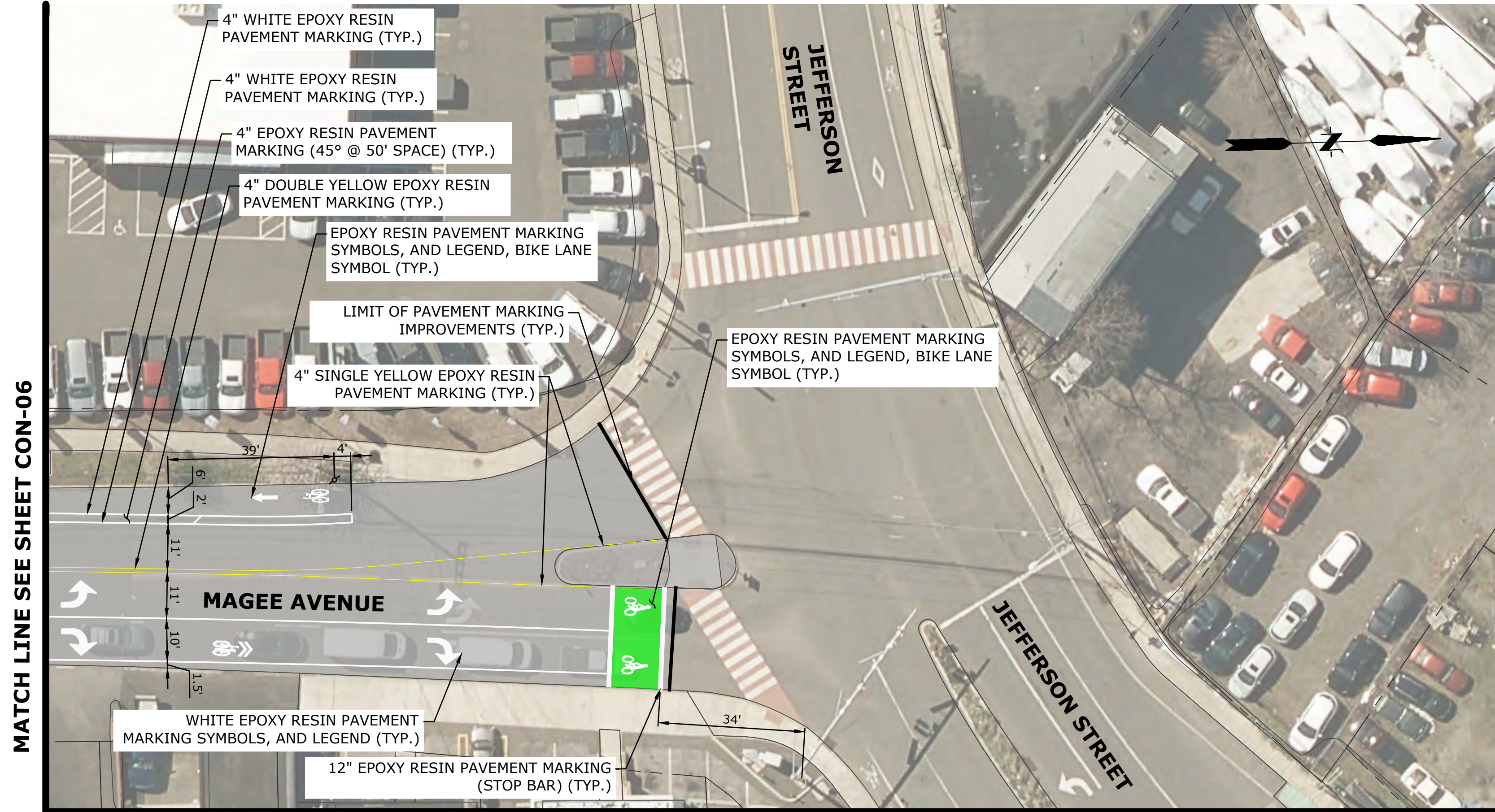
SHIPPAN AVENUE AND MAGEE AVENUE ROADWAY IMPROVEMENTS

STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021

CON-06

File Path: J:\DWG\2018\0287\C10\Civil\Concepts\20180287_C10_CON01.dwg Layout: CON-07 Plotted: Thu, March 18, 2021 - 12:19 PM User: tudolph
 MS VIEW: LAYER STATE: Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB



MATCH LINE SEE SHEET CON-06

FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

SCALE:	HORZ.: 1" = 20'
	VERT.:
DATUM:	HORZ.:
	VERT.:
GRAPHIC SCALE	

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

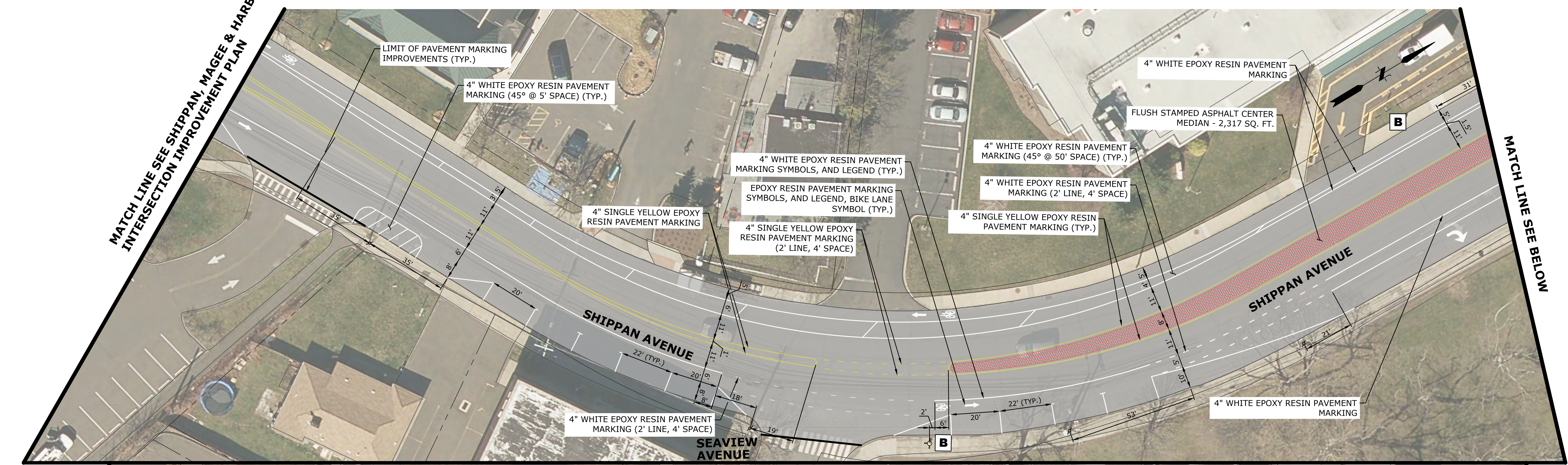
CITY OF STAMFORD
 FINAL CONCEPT PLAN
 SHIPPAN AVENUE AND MAGEE AVENUE ROADWAY
 IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021
CON-07

File Path: J:\DWG\2018\20180287\C10_CON01.dwg Layout: CON-08 Plotted: Thu, March 18, 2021 - 12:20 PM User: tudolph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

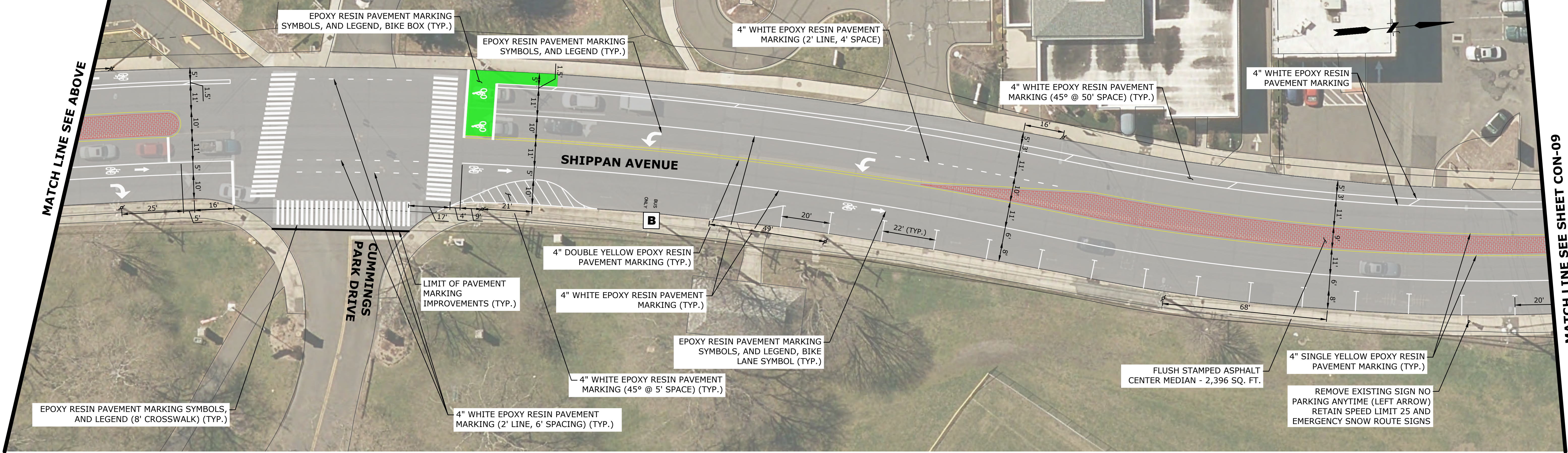
MATCH LINE SEE SHIPPAN, MAGEE & HARBOR
 INTERSECTION IMPROVEMENT PLAN

MATCH LINE SEE BELOW



MATCH LINE SEE ABOVE

MATCH LINE SEE SHEET CON-09

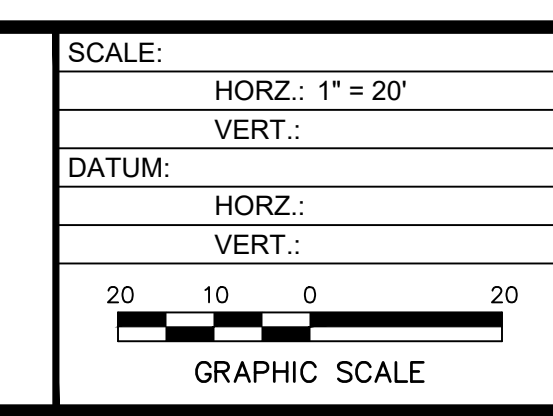


FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL



FUSS & O'NEILL

146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

FINAL CONCEPT PLAN

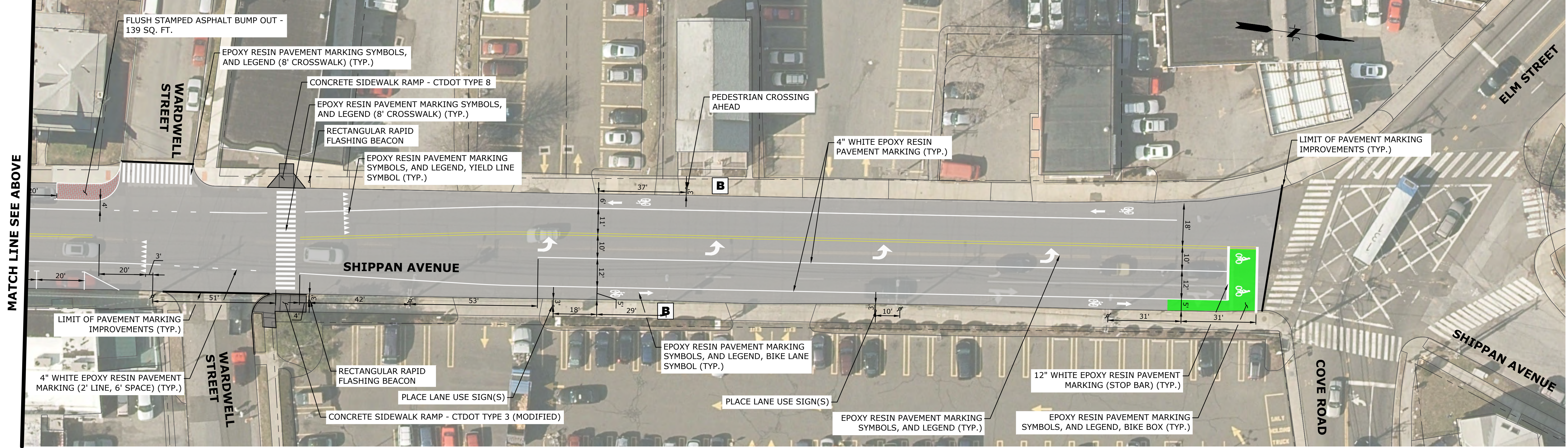
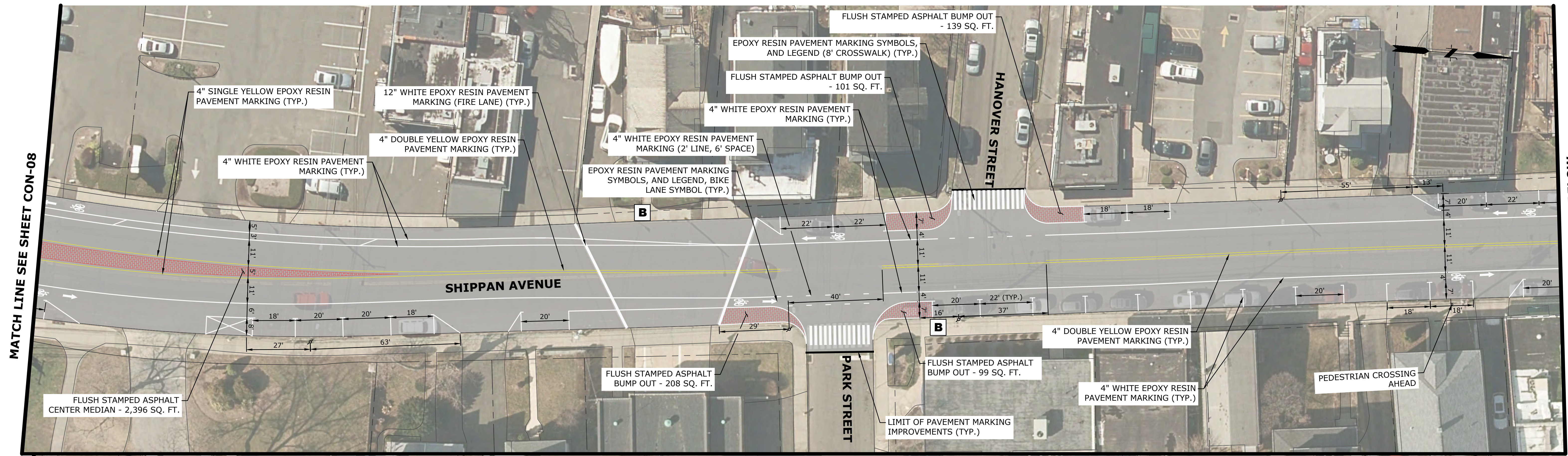
SHIPPAN AVENUE AND MAGEE AVENUE ROADWAY
 IMPROVEMENTS

STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021

CON-08

File Path: J:\DWG\2018\20180287\C10_CON09.dwg Layout: CON-09 Plotted: Thu, March 18, 2021 - 12:21 PM User: tudolph
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

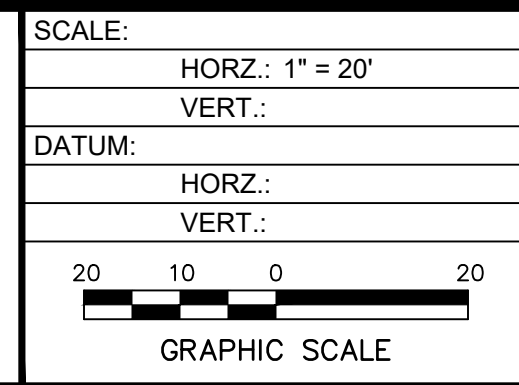


FOR INFORMATION PURPOSES ONLY. NOT INCLUDED IN PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL



FUSS & O'NEILL

146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

FINAL CONCEPT PLAN

SHIPPAN AVENUE AND MAGEE AVENUE ROADWAY IMPROVEMENTS

STAMFORD CONNECTICUT

PROJ. No.: 20180287.C20
 DATE: MARCH 2021

CON-09

Section B

There are no attachments for Section B.

Section C

There are no attachments for Section C.

Section D

There are no attachments for Section D.

Section E

There are no attachments for Section E.

Section F

Bicycle and Pedestrian Needs Form Bicycle and Pedestrian Map



CONNECTICUT DEPARTMENT OF TRANSPORTATION BICYCLE AND PEDESTRIAN TRAVEL NEEDS ASSESSMENT FORM (BPTNA)



In accordance with Connecticut General Statutes, Section 13a-153f, Accommodations and Provisions of Facilities for All Users and the Department’s Policy Statement No. EX.0-31, It is the policy of the Department to consider the needs of all users of all abilities and ages (specifically including pedestrians, bicyclists, transit users, and vehicle operators) in the planning, programming, design, construction, retrofit and maintenance activities related to all roads and streets as a means of providing a "safe, efficient transportation network which enhances quality of life and economic vitality." Therefore, the need for inclusion of accommodations specifically for bicyclists and pedestrians, including those with disabilities, must be reviewed for **every** project.

This form shall apply to all Department projects, mainline utility projects within the state right-of-way, the Office of the State Traffic Administration (OSTA) certificate applications receiving state or federal funding, and municipal transportation projects that receive state or federal funding. This form provides designers the documentation and information needed to make decisions on the need and extent of bicycle and pedestrian features that should be included in a project. This form is not intended to dictate what features should be included in a project design, as guidance on those questions can be found in numerous other reference documents. This form should be completed to the extent practical (at least Sections 1 & 2) during the project scoping phase and finalized by the completion of the Preliminary Design. Once signed, this form should be retained with the project documents.

Project Number(s):	N/A	Route(s):	Shippan Ave, Harbor Dr, Magee Ave
Project Name:	Shippan/Harbor/Magee Roundabout Project		
Municipality(s):	Stamford	Planning Region(s):	WestCOG

SECTION 1: APPLICABILITY

Although bicycle and pedestrian accommodations should be considered for all projects, certain types of projects (e.g. bridge deck patching, culvert re-lining, projects on expressway mainlines) do not typically provide reasonable opportunity to provide improvements for these travel modes. Considering the project type answer the question below. If the question below is answered **no**, please explain why, then skip to the last page, sign the form, and file this form with the project documents. If the answer is **yes**, go to Section 2 and complete the rest of the form.

Does this <u>project type</u> provide reasonable opportunity to provide improvements for non-motorized access?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

If no, why?

SECTION 2: ASSESSMENT OF STUDY AREA

2.1 Study Area Map **SEE MAP ATTACHED BELOW**

Identify any non-motorized and/or transit generators located within the Study Area (Study Area is generally defined as approximately ½ mile radius from the project limits). Using the letters in the code column below, create a map from a location plan or aerial photograph indicating the location of existing or planned non-motorized or transit user generators identified below (for planned facilities, precede the letter with a P-).

Non-Motorized/Transit User Generators	Code
<u>Residential Areas:</u> Indicate any general areas of dense residential housing	R
<u>Parks:</u> Include areas that would attract people, whether officially designated as a park or not	P
<u>Recreational Areas:</u> Examples include athletic fields, dog parks	RA
<u>Religious Facilities</u>	C
<u>Schools (including public and private schools, colleges, universities, daycare or other educational institution)</u>	S
<u>Health / Medical Facilities</u>	H
<u>Town Centers:</u> typically would include areas where Town Halls, Libraries and other public facilities exist	TC
<u>Shopping Centers:</u> especially centers with businesses where non-motorized customers might be expected (restaurants, bookstores, drug stores, etc.)	M
<u>Large Employment Businesses:</u> Factories, large office buildings, hospitals, government offices	E
<u>Bus Stops</u>	B
<u>Public Transit Facilities:</u> train/bus stations, airports	T
<u>Shared-use trail access / parking</u>	TA
<u>Other:</u> other known facilities expected to generate or attract non-motorized users	O

2.2 Analysis of Study Area		
Using the map prepared in Section 2.1, and the resources suggested below, answer the following questions about the study area. [For State/District-wide or Division of Traffic Engineering projects with many locations use the “Multi-location Table” at: https://www.ct.gov/dot/lib/dot/bptna-table_multiloc.docx to answer questions marked with an (*)]		Explain as needed (attach additional sheet(s) if needed)
a. * Referencing the CTDOT Interactive Bike Map located at: http://www.ctbikepedplan.org/interactivemap.html is this project located on the Connecticut Statewide On-Road or Off-Road Bicycle Planning Network?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
b. * Have all existing bicycle, pedestrian and transit features within and just beyond the project limits (such as: features and ADA accessibility of existing bus stops, sidewalks, shoulder widths, bicycle markings/signs, shared-use paths, etc.) been identified and assessed for condition and need? (If assistance is needed identifying Transit requirements a request can be sent to: DOT.PTransBikePed@ct.gov)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Areas within and just beyond the project limits have proposed pedestrian and bicycle safety improvements.
c. * Are there any areas of concern where physical impediments to non-motorized travel through the study area exist? Physical impediments can be excessive grade, limited width of roads/bridges, gaps or need for sidewalks (indicated by worn foot paths), utility poles or other appurtenances restricting access, etc.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
d. * Is there any reason to anticipate an increase in travel by non-motorized and /or transit users through the project limits in the future?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	This intersection is frequented and given the anticipated increase of pedestrian and bicycle use as more amenities become available.
e. * Based on the U.S. Access Board’s Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) , are there barriers to mobility inhibiting continuous access between schools, hospitals, senior care, or community centers, etc. for persons with disabilities that cannot be addressed in this project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
f. * Is there a pattern of bicycle or pedestrian crashes within the project area? Crash information can be found by accessing the UCONN Crash Repository at (https://www.ctcrash.uconn.edu/).	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

<p>g. Does the project provide <u>unique or primary access</u> (defined as access which is not otherwise available within approximately one-half mile of the project) :</p> <ul style="list-style-type: none"> • across a river, highway corridor or other natural and/or man-made barrier? • into or out of any of the bicycle and pedestrian generators listed above? • between communities? 	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>This roundabout provides a gateway for the Shippan Point Neighborhood, Cummings Park and Beach, the Shippan Ave Commercial District and the Shippan Landing Office Park, home to several multi-national corporations.</p>
<p>h. Is the project located near or provide new access or connectivity to state parks, forests or CT Designated Greenways? Information on State Parks, Forests and Greenways can be found at: http://www.ct.gov/deep/cwp/view.asp?a=2707&q=323852 and http://www.ct.gov/deep/parkmaps If yes, please notify the Trails and Greenways Program Coordinator at the Department of Energy & Environmental Protection, State Parks Division, by sending a location and description of the project to: deep.stateparks@ct.gov. This is for notification and not intended to be a formal review and /or concurrence.</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>i. In accordance to the Complete Streets Policy, the Department will include non-motorized users in traffic counts to the extent possible. Has the existing pedestrian and/or bicyclist usage patterns within the project limits, particularly at intersection and midblock crossings, been observed / collected?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>The neighborhood recommended to install the proposed roundabout to promote safety and address concerns for those in the area.</p>
<p>j. Has there been any documented public concern or comments about non-motorized and/or transit needs in the area?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>As summarized in the Stamford Traffic Calming Master Plan, there are public concerns regarding speeding, pedestrian and bicycle safety in this neighborhood.</p>
<p>k. Are there any comprehensive regional or local planning documents (such as Complete Streets Plan, Sidewalk Plan, Plan of Conservation & Development, etc.) that address bicyclists, pedestrian or transit user conditions within or proximate to the project limits? (Can usually be found on applicable website) Contact the RPO Coordination or Intermodal Planning units in the Bureau of Policy and Planning if assistance is needed.</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>The Stamford Traffic Calming Master Plan outlines the benefits of including a roundabout in the design for pedestrian and bicycle safety.</p>

SECTION 3: NON-MOTORIZED AND TRANSIT ACCOMMODATIONS

Identify any non-motorized and/or transit user accommodations/improvements that may be considered as part of this project. This section is provided as a list of countermeasures that may be appropriate and is not intended to dictate what features should be included in the project design. **[For State/District-wide or Division of Traffic Engineering projects with many locations answer this section by considering all sites as if they were one location]**

3.1 Pedestrian Facilities and Crossing Treatments		3.2 Bike Facilities (Cont.)	
a. New sidewalks	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	e. Signage and/or pavement markings	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
b. Pedestrian median crossing island	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	f. Bicycle parking, bike racks/lockers	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
c. Curb extension/bulb-outs	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	g. Trail Improvements, including parking	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
d. Reduced Corner Radius	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	h. Special height railings	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
e. Pedestrian bridge/tunnel	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	3.3 Bike & Pedestrian Treatments	
f. New or relocated unsignalized or mid-block crossing	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	a. Road diet	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
g. Enhanced illumination at pedestrian crossings	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	b. Narrowing travel lane width	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
h. Pedestrian signing and yield lines	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	c. Corridor-wide speed calming	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
i. Parking restrictions near crossings	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	3.4 Transit Facilities	
j. Pedestrian hybrid beacon [PHB; also known as the High intensity Activated crossWalk (HAWK)]	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	a. New or revised bus stops	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
k. Rectangular rapid flashing beacon (RRFB)	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	b. Bus shelters	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
l. Pedestrian fencing on bridges	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	c. Standing pads	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
		d. New or revised crossing for bus stop	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
		3.5 Streetscape Elements	
3.2 Bike Facilities		a. Landscaping, street trees, planters, buffer strips, etc.	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
a. Dedicated bike lane or cycle track	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	b. Decorative lighting	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>
b. Shared-used lanes	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	c. Public seating or benches	Yes <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
c. Shared-used path	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	3.6 Other (please specify):	
d. Wider shoulders	Yes <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Incorporates bike and pedestrian crossing through roundabout	

Once completed this form should be signed, attached to the Preliminary Design Statement, and filed with the project documents in ProjectWise. If the answer to the question under Section 1 "Applicability" is "Yes", please email the link to the completed form in ProjectWise (or a PDF copy) to: CTDOT.BikePedReviews@ct.gov. Comments will be provided if necessary however, designers are not required to obtain concurrence to move forward with design. This form will be maintained and periodically updated by the Office of Strategic Planning & Projects in the Bureau of Policy & Planning.

John Guzze, PE

Prepared By:

Project Engineer - Print Name
John A. Guzze

Signature

Date: 07/09/2021

Approved By:

Project Manager - Print Name
Frank W. Petise
Digitally signed by Frank W. Petise
DN: cn=Frank W. Petise, o=City of Stamford, ou=Transportation Traffic
and Parking, email=fpetise@stamfordct.gov, c=US
Date: 2020.05.13 17:03:20 -04'00'

Signature

Date _____



SCALE:
HORIZ.: 1" = 1000'
VERT.:
DATUM:
HORIZ.:
VERT.:
0 1 1000
GRAPHIC SCALE



FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 SHIPPAN/HARBOR/MAGEE
 ROUNDABOUT PROJECT
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C11
DATE: MAY 2020
SXN F

Section G

Traffic Volume Figures

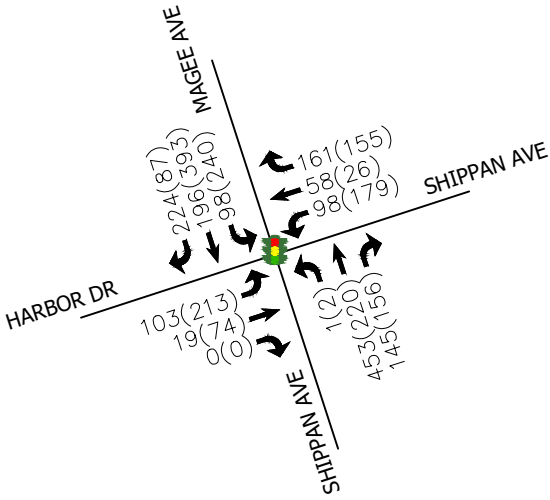
Crash Data Summary

Compiled Crash Data

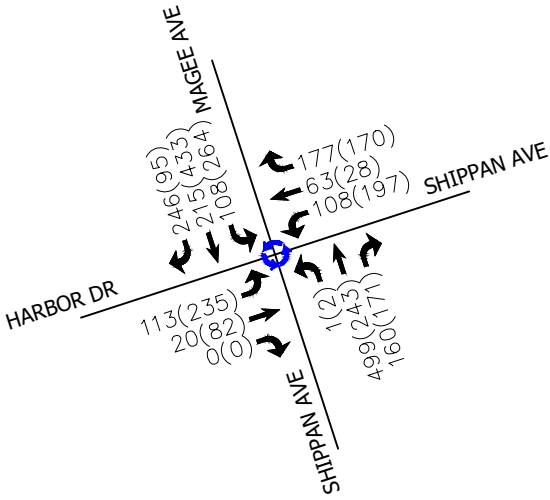
Collision Diagram

Existing Signal Plan

Shippan Avenue Speed Data



XX(XX) = WEEKDAY MORNING PEAK HOUR (WEEKDAY AFTERNOON PEAK HOUR)



XX(XX) = WEEKDAY MORNING PEAK HOUR (WEEKDAY AFTERNOON PEAK HOUR)

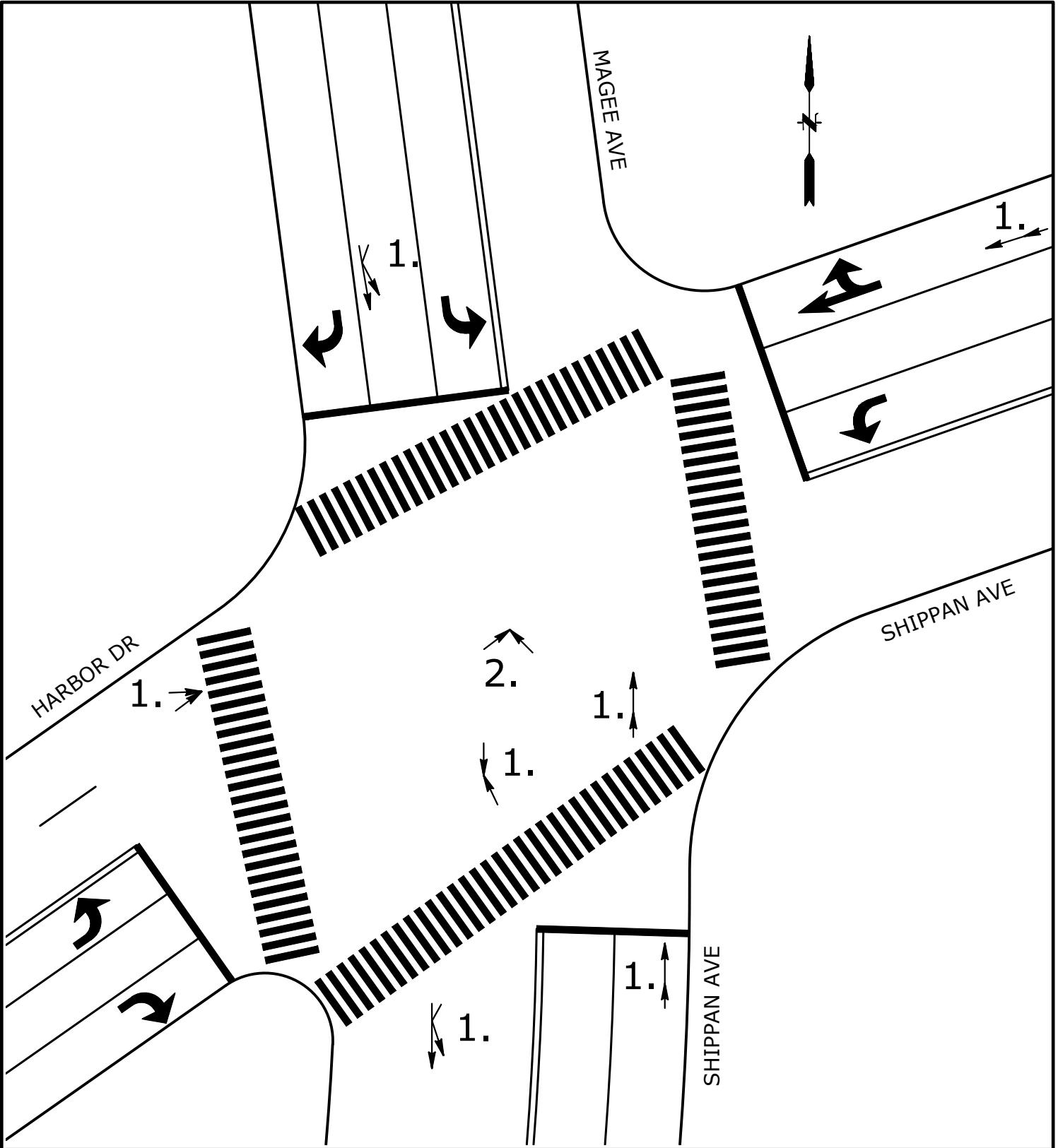
CRASH DATA SUMMARY - 1/1/2017 - 1/1/2020
 STUDY AREA: MAGEE AVE, SHIPPAN AVE AT HARBOR DR ROUNDABOUT
 STAMFORD, CONNECTICUT

Criteria	Magee Ave at Shippan Ave and Harbor Dr
YEAR	
2017	2
2018	2
2019	5
Total	9
DIRECTION	
Angle	3
Same Direction Sideswipe	2
Front to Rear	3
Other/Not Applicable	1
Total	9
SEVERITY	
Property Damage Only	6
Possible Injury	1
Suspected Injury	2

UConn Crash Data Repository
 Magee Ave, Shippan Ave, and Harbor Dr Roundabout
 Stamford, Connecticut
 1/1/2017 - 1/1/2020

Date Of Crash	Time Of Crash	Severity	No. of Veh.	Milemarker	Roadway	Intersecting Roadway	Collision Type	Weather	Light Condition	Road Surface Condition	Contributing Circumstances
1) Magee Ave, Shippan Ave, and Harbor Dr Roundabout											
1/29/2017	14:46:00	PDO	2	1.45	Shippan Ave	MAGEE AV	Sideswipe, same direction	Clear	Daylight	Dry	None
7/14/2017	9:00:00	PDO	2	1.45	SHIPPAN AVE	MAGEE AV	Front to rear	Rain	Daylight	Wet	None
6/24/2018	20:35:00	PDO	2	0	MAGEE AV	SHIPPAN AV	Angle	Rain	Dark-Lighted	Wet	None
11/6/2018	12:28:00	PDO	2	1.45	SHIPPAN AV	unknown	Sideswipe, same direction	Rain	Daylight	Wet	None
2/6/2019	17:51:00	Suspected Inj.	2	0	MAGEE AV	SHIPPAN AV	Other	Rain	Dark-Lighted	Wet	None
4/5/2019	19:24:00	Suspected Inj.	2	0	MAGEE AV	SHIPPAN AV	Angle	Rain	Dusk	Wet	None
9/6/2019	18:55:00	PDO	2	0	MAGEE AV	SHIPPAN AV	Angle	Cloudy	Dark-Lighted	Dry	Weather Conditions
7/10/2019	12:55:00	PDO	2	1.45	SHIPPAN AV	MAGEE AVE	Front to rear	Clear	Daylight	Dry	None
8/2/2019	14:24:00	Possible Inj.	2	1.47	SHIPPAN AV	Magee Ave	Front to rear	Clear	Daylight	Dry	None

*PDO = Property Damage Only



FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

COLLISION DIAGRAM

PERIOD COVERED
 01/01/2017 TO 01/01/2020
 SCALE - NONE

	FATAL ACCIDENT		PARKED VEHICLE
	REAR TO REAR COLLISION		OUT OF CONTROL
	FRONT TO FRONT COLLISION		FIXED OBJECT
	REAR END COLLISION		BICYCLE
	SIDESWIPE SAME DIRECTION		PEDESTRIAN
	SIDESWIPE OPPOSITE DIRECTION		MOTOR VEHICLE

TOWN OF - STAMFORD
 LOCATION - MAGEE AVENUE AT SHIPPAN AVENUE/HARBOR DRIVE
 COMPILED BY: GLD 04/26/2020 DRAWN BY: TJR 05/06/2020

NONE		PRE-EMPT 2		PRE-EMPT 1		MOVEMENT DIAGRAM								PRE-EMPT 1		PRE-EMPT 2			
NTOR		PHASE 1		PHASE 2		PHASE 3		PHASE 4		PHASE 5		PHASE 6		PHASE 7		PHASE 8			
FLASH	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	GRN	CL	CL	
1	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
2	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
3	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
4	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
5	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
6	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
8	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
P1	OFF	DW	DW	DW	W0	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
P2	OFF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
P3	OFF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
MIN	MAX	2/20	3/5	1/3	15/30	3/5	1/3	5/30	3/5	1/3	10/40	3/5	1/3	2/15	3/5	1/3	15/30	3/5	1/3

ENERGY BY-CITY METER # - INTERSECTION # 127

MAINT 24hr Norm SERVICE POLE-

NORMAL 1.271 kW 730 hr/mo 928 kWh/mo

FLASH kW hr/mo kWh/mo

PREVIOUS OFFICE RECORD SEE REV. #2 REVISION # 3

SIGNAL FACES

ALL SIGNALS SHALL HAVE LED RED. PLAN SEALED FOR REVISION NO. 3 ONLY.

PRE-EMPTION SETTINGS

PRIORITY	PRE-EMPT 1	PRE-EMPT 2
NO	NO	NO
DET. LOCK	YES	YES
DELAY	0	0
ALT. MIN. GRN.	5	5
ALT. YELLOW	PARENT	PARENT
ALT. RED	PARENT	PARENT
ALT. PED. CLR.	8	8
HOLD GREEN	10	10
HOLD YELLOW	3	3
HOLD RED	2	2
HOLD PHASE	280	180
EXIT PHASE	280	280
EXIT CALL	4	4

LEGEND

R	RED	PROPOSED CONTROLLER
Y	YELLOW	EXISTING CONTROLLER
G	GREEN	PROPOSED CONTROLLER
←	RED ARROW	EXISTING CONTROLLER
→	YELLOW ARROW	PROPOSED CONTROLLER
↔	GREEN ARROW	EXISTING CONTROLLER
↔	WALK/FL. S.W.	EXISTING CONTROLLER
W/W	DON'T WALK	EXISTING CONTROLLER
FL	FLASHING	PROPOSED CONTROLLER
○	PROPOSED WOOD SPAN POLE	EXISTING CONTROLLER
○	EXISTING WOOD SPAN POLE	EXISTING CONTROLLER
○	PROPOSED STEEL SPAN POLE	EXISTING CONTROLLER
○	EXISTING STEEL SPAN POLE	EXISTING CONTROLLER
○	PROPOSED UTILITY POLE	EXISTING CONTROLLER
○	EXISTING UTILITY POLE	EXISTING CONTROLLER
○	PEDESTAL MOUNTING	EXISTING CONTROLLER
○	PEDESTRIAN PUSH BUTTON & SIGN	EXISTING CONTROLLER
○	TRAFFIC SIGNAL FACE	EXISTING CONTROLLER
○	PEDESTRIAN SIGNAL FACE	EXISTING CONTROLLER
○	LOOP DETECTOR	EXISTING CONTROLLER
○	MAGNETIC DETECTOR	EXISTING CONTROLLER
○	SYSTEM DETECTOR	EXISTING CONTROLLER
○	OPTICAL DETECTOR	EXISTING CONTROLLER

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUR. OF ENGINEERING & HWY OPERATIONS DIVISION OF TRAFFIC ENGINEERING

TRAFFIC CONTROL SIGNAL

CITY OF STAMFORD SHIPPAN AVENUE, MAGEE AVENUE AND HARBOR DRIVE

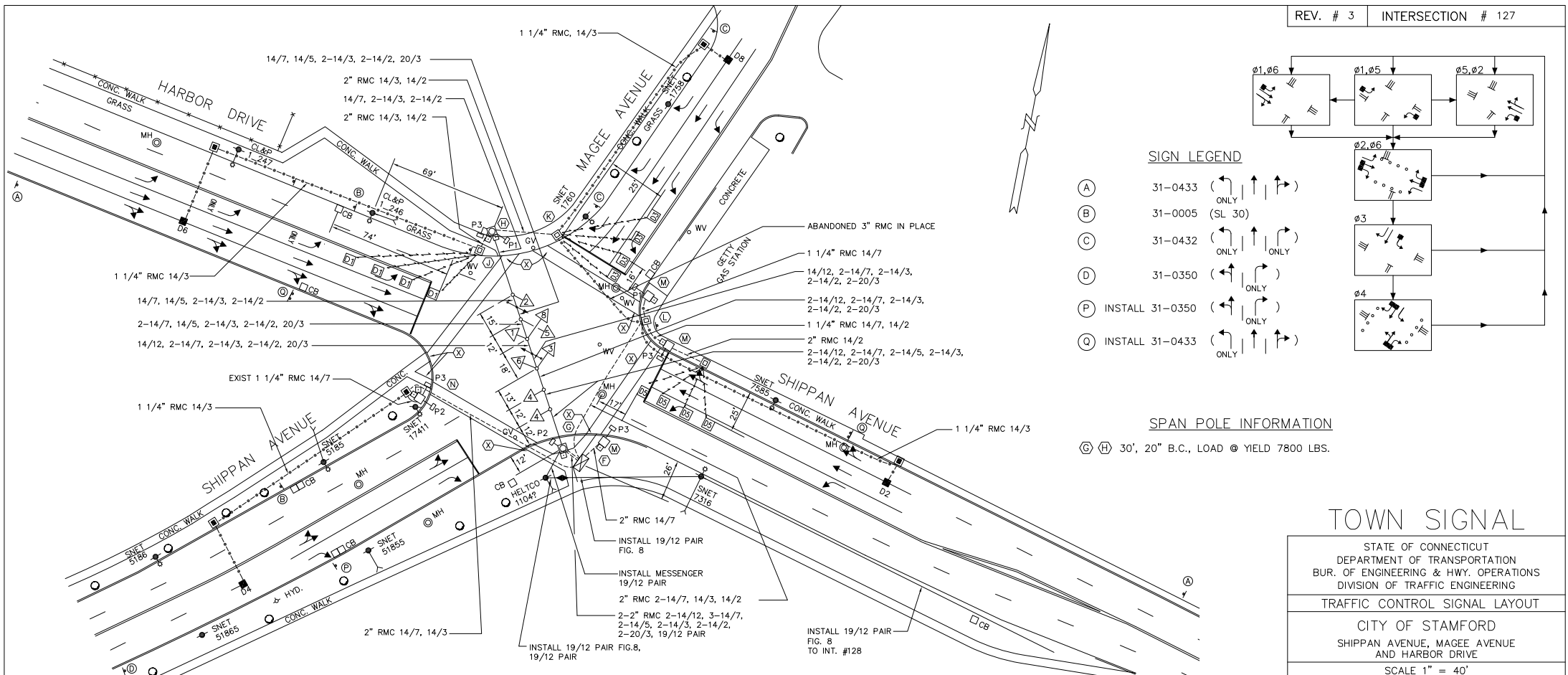
REV. # 3

TRAFFIC	ELECTRICAL
DATE	DATE
ENGINEER	FUSS & O'NEILL, INC.
DRAFTER	MAY 1997
CHECKED BY	
SUBMITTED BY	
APPROVED BY	
DATE	

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	STAMFORD	STPO-0005(836)	135-257	1997		24	81

CONSTRUCTION NOTES FOR REVISION NO. 3

- ALL TRAFFIC SIGNAL EQUIPMENT IS EXISTING EXCEPT AS NOTED.
- ALL WORK, EQUIPMENT AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD DETAILS AND SPECIFICATIONS OF THE CITY OF STAMFORD AND CONNDOT.
- THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT THE CITY OF STAMFORD PUBLIC WORKS DEPARTMENT AT (203)977-4863 IN ORDER TO MARK OUT THE LOCATION OF EXISTING SANITARY SEWER AND LATERALS.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF STAMFORD PRIOR TO COMMENCING CONSTRUCTION.
- WORK AT THIS INTERSECTION INVOLVES THE INSTALLATION OF A NEW CONTROLLER AND CABINET, CABLE, CONDUIT, COMMUNICATION CABLE PRE-EMPTION EQUIPMENT, SPAN POLES AND FOUNDATIONS, SIGNALS (PEDESTRIAN AND VEHICLE) AND DISCONNECT HANGERS.
- ALL 20/3 CABLE SHOWN ON THE PLAN SHALL BE CONTINUOUS OPTICAL CABLE.
- OPTICAL DETECTOR LOCATIONS ARE FOR ILLUSTRATION ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER OR HIS DESIGNATED REPRESENTATIVE.
- PRE-EMPTION IS TO OPERATE THROUGH THE INTERNAL PRE-EMPTION OF THE SIGNAL CONTROLLER.
- THE REMOVED EQUIPMENT SHALL REMAIN THE PROPERTY OF THE CITY OF STAMFORD. CONTACT MR. JOSEPH ANDREWS OF THE STAMFORD DEPARTMENT OF TRAFFIC AND PARKING AT (203)977-4704 TO COORDINATE THE RETURN OF THE EQUIPMENT.
- THE NEW CONTROLLER SHALL BE A TRANSYT MODEL 3000 SERIES.
- THE EXISTING COMMUNICATION CABLE SHALL BE REPLACED WITH THE NEW COMMUNICATION CABLE 12 PAIR NO. 19.
- LOOPS SHALL BE INSTALLED 3' OF EDGE OF PAVEMENT OR TRAVEL LANE, AND 8' APART UNLESS OTHERWISE NOTED.
- INSTALL FULL ACTUATED 8 PHASE CONTROLLER AND CABINET IN A TYPE P CABINET ON A TYPE IV TRAFFIC CONTROL FOUNDATION AT BACK OF WALK.
- INSTALL SPAN POLE AND FOUNDATION WITH PEDESTRIAN SIGNAL, PUSH BUTTON AND SIGN AT FACE OF WALK.
- INSTALL SPAN POLE AND FOUNDATION WITH PEDESTRIAN SIGNALS, PUSH BUTTONS (2) AND SIGNS AT BACK OF WALK.
- INSTALL TYPE II CONCRETE HANDHOLE OVER EXISTING CONDUIT. EXTEND 1 1/4" RMC INTO THIS HANDHOLE.
- REMOVE EXISTING TYPE I PEDESTAL FOUNDATION. INSTALL 30"x 30" CONCRETE HANDHOLE.
- REMOVE EXISTING HANDHOLE. INSTALL 30"x 30" CONCRETE HANDHOLE OVER EXISTING CONDUITS.
- INSTALL NEW PEDESTRIAN SIGNAL AND PUSH BUTTON ON EXISTING ALUMINUM PEDESTAL ADJACENT TO HANDICAP RAMP.
- INSTALL NEW PEDESTRIAN SIGNAL AND PUSH BUTTONS (2) ON EXISTING ALUMINUM PEDESTAL.
- REMOVE EXISTING SIDEWALK AND CURB, INSTALL HANDICAP RAMP. LOCATION OF RAMP TO BE DETERMINED IN FIELD AND REVIEWED BY THE CITY OF STAMFORD PUBLIC WORKS DEPARTMENT. SAW CUT PAVEMENTS ADJACENT TO RAMP AND REPAIR WITH 10" GRAVEL SUBBASE, 6" CLASS 4 BITUMINOUS CONCRETE AND 3" CLASS 1 BITUMINOUS CONCRETE.



RELEASED FOR CONSTRUCTION

PROJ. MANAGER:	
CHIEF DESIGNER:	
REVIEWED	BY DATE
LAYOUT	
TIMINGS	
WIRING	
DRAFTING	
FINAL	
STRUCTURAL	
REVISION DATE:	
Δ	Δ
Δ	Δ
Δ	Δ
DATUM: H: V:	
SCALE: 1" = 40'	

FUSS & O'NEILL, INC. Consulting Engineers
146 HARTFORD ROAD, MANCHESTER, CONNECTICUT 06040
(203) 646-2469

CITY OF STAMFORD
SIGNAL PLAN
INTERSECTION IMPROVEMENTS

SHIPPAN AVE., MAGEE AVE. & HARBOR DR. STAMFORD, CT.

JOB NUMBER 94-230A1 PHASE 4700 DATE 5/1/97 SHEET NO. 24 OF 81

Highest Speeds Summary Report

Title/Location:
Sign Address: 72591117370001

Measurement Period: 09/27/19 12:00:00 AM to 10/07/19 09:15:00 AM
Reporting Period: 09/27/19 12:00:00 AM to 10/07/19 09:15:00 AM

Total number of vehicles: 30788	Lowest Log Speed Setting: 15 MPH	Highest Log Speed Setting: 50 MPH
Posted Speed Limit: 25 MPH	Average Speed: 31 MPH	
25th Percentile Speed: 29 MPH	50th Percentile Speed: 33 MPH	85th Percentile Speed: 40 MPH
Total Vehicles For:		
Below 18: 1187	18 - 20: 1062	21 - 23: 1415
24 - 26: 2706	27 - 29: 5840	30 - 32: 6257
33 - 35: 6525	36 - 38: 3283	39 - 41: 1787
Above 42: 726		

Time	% Above Speed Limit	Below 18	18 - 20	21 - 23	24 - 26	27 - 29	30 - 32	33 - 35	36 - 38	39 - 41	Above 42	Total Vehicles
09/27/19 00:00	0	1	0	0	0	0	0	0	0	0	0	1
09/27/19 00:15	0	0	2	2	0	0	0	0	0	0	0	4
09/27/19 00:30	100	0	0	0	0	1	1	0	0	0	0	2
09/27/19 00:45	50	0	1	1	2	0	0	0	0	0	0	4
09/27/19 01:00	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 01:15	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 01:30	33	0	2	0	0	1	0	0	0	0	0	3
09/27/19 01:45	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 02:00	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 02:15	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 02:30	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 03:00	100	0	0	0	2	0	0	0	0	0	0	2
09/27/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 03:30	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 03:45	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 04:00	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 04:15	0	0	1	0	0	0	0	0	0	0	0	1
09/27/19 04:30	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 04:45	25	0	0	3	1	0	0	0	0	0	0	4
09/27/19 05:00	0	0	0	0	0	0	0	0	0	0	0	0
09/27/19 05:15	0	0	0	1	0	0	0	0	0	0	0	1
09/27/19 05:30	33	0	0	2	0	1	0	0	0	0	0	3
09/27/19 05:45	16	2	3	0	0	1	0	0	0	0	0	6
09/27/19 06:00	11	1	4	3	1	0	0	0	0	0	0	9
09/27/19 06:15	0	3	3	0	0	0	0	0	0	0	0	6
09/27/19 06:30	0	1	2	2	0	0	0	0	0	0	0	5
09/27/19 06:45	0	2	2	2	0	0	0	0	0	0	0	6
09/27/19 07:00	22	2	3	2	2	0	0	0	0	0	0	9
09/27/19 07:15	37	0	2	13	6	3	0	0	0	0	0	24
09/27/19 07:30	20	8	10	1	5	44	0	0	0	0	0	24

09/27/19 07:45	20	7	8	4	4	1	0	0	0	0	0	24
09/27/19 08:00	17	3	9	12	4	1	0	0	0	0	0	29
09/27/19 08:15	37	1	8	8	6	4	0	0	0	0	0	27
09/27/19 08:30	23	5	9	9	6	1	0	0	0	0	0	30
09/27/19 08:45	38	3	4	9	7	2	1	0	0	0	0	26
09/27/19 09:00	26	7	11	16	11	0	1	0	0	0	0	46
09/27/19 09:15	29	3	3	11	4	3	0	0	0	0	0	24
09/27/19 09:30	38	4	3	6	6	2	0	0	0	0	0	21
09/27/19 09:45	0	5	1	1	0	0	0	0	0	0	0	7
09/27/19 10:00	88	2	0	3	4	9	13	5	4	2	0	42
09/27/19 10:15	85	2	2	3	4	10	9	4	7	5	1	47
09/27/19 10:30	82	1	3	6	4	8	11	9	9	5	1	57
09/27/19 10:45	92	1	2	1	2	16	12	16	5	0	0	55
09/27/19 11:00	86	1	1	6	9	16	14	8	3	0	2	60
09/27/19 11:15	94	3	0	0	2	10	9	9	10	3	4	50
09/27/19 11:30	94	1	0	2	12	13	14	10	5	2	0	59
09/27/19 11:45	94	3	0	0	4	10	17	15	7	1	1	58
09/27/19 12:00	93	1	0	3	7	18	15	9	10	1	1	65
09/27/19 12:15	95	0	2	0	9	9	8	11	3	6	1	49
09/27/19 12:30	90	3	0	3	8	10	14	13	4	6	1	62
09/27/19 12:45	91	3	1	1	8	12	14	14	0	1	3	57
09/27/19 13:00	95	0	1	1	2	14	12	8	5	4	0	47
09/27/19 13:15	91	0	2	3	6	9	10	16	8	5	1	60
09/27/19 13:30	92	0	0	4	7	19	7	8	8	2	0	55
09/27/19 13:45	88	2	2	2	3	13	9	14	4	3	2	54
09/27/19 14:00	95	0	0	2	3	13	13	3	6	0	2	42
09/27/19 14:15	88	3	1	3	5	9	23	7	3	3	2	59
09/27/19 14:30	95	1	1	1	3	18	16	8	10	2	1	61
09/27/19 14:45	89	1	5	0	5	12	10	13	9	3	0	58
09/27/19 15:00	88	2	1	3	5	5	10	14	7	7	0	54
09/27/19 15:15	86	2	3	2	1	18	4	14	6	2	1	53
09/27/19 15:30	89	1	0	5	1	13	18	9	4	3	1	55
09/27/19 15:45	91	1	1	2	3	8	13	14	1	3	2	48
09/27/19 16:00	88	3	2	1	4	14	9	13	5	0	0	51
09/27/19 16:15	85	5	0	3	7	9	11	11	10	1	0	57
09/27/19 16:30	88	0	2	4	8	15	9	14	0	1	1	54
09/27/19 16:45	97	0	0	1	8	9	11	12	6	2	0	49
09/27/19 17:00	89	2	3	0	7	11	13	10	2	1	0	49
09/27/19 17:15	87	5	1	2	13	11	14	12	1	6	0	65
09/27/19 17:30	85	5	0	1	2	10	5	11	5	2	1	42
09/27/19 17:45	89	0	3	3	9	18	4	14	3	1	0	55
09/27/19 18:00	92	1	1	1	6	7	7	9	8	0	2	42
09/27/19 18:15	89	0	3	2	3	12	9	11	5	1	0	46
09/27/19 18:30	92	0	1	3	8	13	8	9	5	7	2	56
09/27/19 18:45	96	1	1	0	12	13	10	12	5	1	1	56
09/27/19 19:00	87	2	3	1	7	9	9	6	9	2	0	48
09/27/19 19:15	91	1	1	2	10	9	8	9	4	2	0	46
09/27/19 19:30	85	2	1	4	5	12	7	8	7	1	0	47

09/27/19 19:45	93	0	1	2	8	11	13	2	2	2	2	43
09/27/19 20:00	64	1	2	9	2	10	3	6	1	0	0	34
09/27/19 20:15	90	1	0	3	11	6	7	7	6	1	1	43
09/27/19 20:30	72	4	0	1	2	1	5	4	1	0	0	18
09/27/19 20:45	94	1	0	1	6	8	11	8	3	0	1	39
09/27/19 21:00	84	1	0	3	1	4	7	4	5	0	0	25
09/27/19 21:15	75	1	2	4	1	8	5	3	4	0	0	28
09/27/19 21:30	93	0	1	1	7	9	8	2	1	1	0	30
09/27/19 21:45	72	1	2	7	8	12	4	1	2	0	0	37
09/27/19 22:00	90	1	1	1	9	7	7	4	1	0	0	31
09/27/19 22:15	92	0	0	2	4	6	5	6	3	1	0	27
09/27/19 22:30	83	0	0	4	0	10	4	5	1	0	0	24
09/27/19 22:45	84	2	0	2	5	3	9	4	0	1	0	26
09/27/19 23:00	77	2	0	0	1	0	2	4	0	0	0	9
09/27/19 23:15	80	1	0	1	4	1	0	3	0	0	0	10
09/27/19 23:30	100	0	0	0	1	2	1	0	0	0	0	4
09/27/19 23:45	80	0	0	1	1	1	1	0	0	1	0	5
09/28/19 00:00	87	0	0	1	0	1	0	3	1	2	0	8
09/28/19 00:15	100	0	0	0	0	0	0	2	0	0	0	2
09/28/19 00:30	88	1	0	0	0	2	4	0	2	0	0	9
09/28/19 00:45	72	2	2	1	4	5	0	2	0	2	0	18
09/28/19 01:00	62	0	0	3	2	1	0	2	0	0	0	8
09/28/19 01:15	90	0	0	1	3	0	2	2	2	0	0	10
09/28/19 01:30	75	1	0	0	0	2	0	1	0	0	0	4
09/28/19 01:45	66	0	1	0	0	2	0	0	0	0	0	3
09/28/19 02:00	100	0	0	0	0	0	0	0	4	0	2	6
09/28/19 02:15	100	0	0	0	0	0	1	2	1	0	0	4
09/28/19 02:30	100	0	0	0	0	0	0	0	1	1	0	2
09/28/19 02:45	57	1	2	0	0	1	1	0	1	1	0	7
09/28/19 03:00	100	0	0	0	0	0	0	1	0	1	0	2
09/28/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
09/28/19 03:30	100	0	0	0	0	0	0	2	0	0	0	2
09/28/19 03:45	66	1	0	0	1	1	0	0	0	0	0	3
09/28/19 04:00	0	0	0	0	0	0	0	0	0	0	0	0
09/28/19 04:15	100	0	0	0	0	0	0	2	0	0	0	2
09/28/19 04:30	50	0	0	1	0	0	1	0	0	0	0	2
09/28/19 04:45	100	0	0	0	1	1	0	0	0	0	0	2
09/28/19 05:00	100	0	0	0	0	0	0	0	0	0	3	3
09/28/19 05:15	100	0	0	0	0	0	0	0	2	0	0	2
09/28/19 05:30	100	0	0	0	0	0	2	0	0	0	0	2
09/28/19 05:45	100	0	0	0	0	0	0	1	5	0	0	6
09/28/19 06:00	88	1	0	0	0	2	1	4	0	1	0	9
09/28/19 06:15	75	0	0	1	1	0	1	0	1	0	0	4
09/28/19 06:30	85	2	0	0	1	4	0	4	1	0	2	14
09/28/19 06:45	92	0	0	2	2	8	3	7	3	3	0	28
09/28/19 07:00	82	1	1	1	1	3	4	3	1	0	2	17
09/28/19 07:15	88	1	1	1	3	4	1	8	1	2	3	25
09/28/19 07:30	88	0	0	3	4	7	3	8	1	0	0	26

09/28/19 07:45	89	1	3	0	3	7	5	6	8	4	0	37
09/28/19 08:00	80	2	4	0	1	5	4	12	3	0	0	31
09/28/19 08:15	100	0	0	0	3	7	15	13	3	0	4	45
09/28/19 08:30	88	1	0	3	8	5	2	8	5	1	1	34
09/28/19 08:45	91	1	2	2	8	12	8	14	8	5	1	61
09/28/19 09:00	94	2	0	1	5	9	12	11	8	2	2	52
09/28/19 09:15	82	6	2	2	3	10	8	11	11	5	0	58
09/28/19 09:30	91	2	2	1	2	10	16	15	3	6	0	57
09/28/19 09:45	93	1	2	0	3	5	17	8	9	1	2	48
09/28/19 10:00	96	1	0	1	5	6	16	12	3	5	1	50
09/28/19 10:15	86	1	3	3	1	9	14	12	4	5	1	53
09/28/19 10:30	88	0	3	4	3	8	15	14	10	3	1	61
09/28/19 10:45	84	2	2	4	1	11	11	6	12	1	1	51
09/28/19 11:00	89	2	3	1	5	10	12	15	7	3	0	58
09/28/19 11:15	95	0	1	1	3	7	10	10	8	8	1	49
09/28/19 11:30	83	4	3	2	4	11	7	15	4	4	1	55
09/28/19 11:45	93	2	0	2	4	7	12	15	9	8	0	59
09/28/19 12:00	90	1	3	1	9	11	13	8	6	0	0	52
09/28/19 12:15	87	3	1	3	1	16	8	12	6	3	1	54
09/28/19 12:30	87	1	1	5	5	11	10	14	5	2	0	54
09/28/19 12:45	94	0	1	2	8	9	10	15	8	3	2	58
09/28/19 13:00	87	1	5	0	2	2	12	11	5	7	3	48
09/28/19 13:15	96	1	1	0	7	7	10	16	8	8	3	61
09/28/19 13:30	94	1	2	1	8	6	14	14	12	6	4	68
09/28/19 13:45	89	1	3	2	4	16	12	12	7	0	0	57
09/28/19 14:00	93	1	1	1	4	9	9	15	3	4	1	48
09/28/19 14:15	95	2	1	0	1	15	21	18	5	6	0	69
09/28/19 14:30	80	2	5	2	4	15	6	5	5	2	1	47
09/28/19 14:45	93	1	2	0	3	9	7	9	7	7	0	45
09/28/19 15:00	80	3	4	2	3	15	7	7	3	2	1	47
09/28/19 15:15	88	3	1	2	6	9	13	8	10	2	0	54
09/28/19 15:30	84	2	1	4	6	11	8	4	7	3	0	46
09/28/19 15:45	97	0	1	0	2	10	19	10	1	0	0	43
09/28/19 16:00	81	2	2	6	5	6	7	15	4	4	3	54
09/28/19 16:15	85	4	3	1	2	10	12	13	6	4	1	56
09/28/19 16:30	94	1	2	0	5	23	9	10	5	4	0	59
09/28/19 16:45	76	4	1	5	8	7	6	10	1	1	0	43
09/28/19 17:00	90	3	2	0	5	11	9	10	4	4	2	50
09/28/19 17:15	89	1	0	4	6	13	10	10	3	0	0	47
09/28/19 17:30	96	1	0	1	5	7	17	11	8	3	2	55
09/28/19 17:45	85	4	4	0	6	15	11	7	3	2	2	54
09/28/19 18:00	72	3	3	7	3	6	7	10	3	4	1	47
09/28/19 18:15	93	3	1	0	5	13	15	16	4	2	0	59
09/28/19 18:30	89	0	3	2	4	15	9	10	5	1	0	49
09/28/19 18:45	82	2	3	4	1	10	13	10	6	3	0	52
09/28/19 19:00	78	4	2	4	7	6	15	5	1	1	1	46
09/28/19 19:15	85	0	4	3	7	8	13	11	2	0	0	48
09/28/19 19:30	92	0	2	2	8	13	12	14	2	0	0	53

09/28/19 19:45	88	1	1	1	1	7	5	8	3	0	0	27
09/28/19 20:00	86	3	0	2	7	11	7	4	3	1	0	38
09/28/19 20:15	85	1	2	3	2	10	4	7	6	2	3	40
09/28/19 20:30	83	1	1	2	3	6	3	6	0	0	2	24
09/28/19 20:45	71	3	1	2	0	6	3	2	0	3	1	21
09/28/19 21:00	90	1	0	1	0	11	5	2	1	0	0	21
09/28/19 21:15	77	2	0	3	4	3	5	2	3	0	0	22
09/28/19 21:30	93	1	0	1	3	3	11	3	4	0	4	30
09/28/19 21:45	75	2	1	5	7	9	3	1	1	3	0	32
09/28/19 22:00	88	0	1	2	5	5	7	7	0	0	0	27
09/28/19 22:15	86	1	3	1	3	9	7	9	3	0	1	37
09/28/19 22:30	69	2	2	4	4	8	3	1	1	1	0	26
09/28/19 22:45	80	1	1	2	3	4	5	4	1	0	0	21
09/28/19 23:00	100	0	0	0	1	8	1	4	4	1	0	19
09/28/19 23:15	90	0	1	0	4	2	1	2	0	0	0	10
09/28/19 23:30	90	0	1	1	2	10	2	1	3	1	0	21
09/28/19 23:45	50	1	2	3	2	3	1	0	0	0	0	12
09/29/19 00:00	63	0	1	7	6	3	2	1	0	2	0	22
09/29/19 00:15	100	0	0	0	2	2	2	1	0	1	0	8
09/29/19 00:30	70	0	1	2	3	2	0	1	0	0	1	10
09/29/19 00:45	100	0	0	0	0	1	2	0	0	0	0	3
09/29/19 01:00	100	0	0	0	2	0	0	0	0	0	2	4
09/29/19 01:15	85	0	2	0	2	5	2	1	1	1	0	14
09/29/19 01:30	100	0	0	0	0	1	0	2	0	0	0	3
09/29/19 01:45	57	0	1	2	0	0	1	2	1	0	0	7
09/29/19 02:00	66	1	0	0	0	0	0	0	2	0	0	3
09/29/19 02:15	100	0	0	0	0	1	1	2	4	2	3	13
09/29/19 02:30	100	0	0	0	0	0	0	1	1	0	0	2
09/29/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
09/29/19 03:00	100	0	0	0	0	1	1	1	1	0	0	4
09/29/19 03:15	100	0	0	0	0	0	1	1	2	0	0	4
09/29/19 03:30	0	0	0	0	0	0	0	0	0	0	0	0
09/29/19 03:45	87	0	0	1	0	0	2	4	1	0	0	8
09/29/19 04:00	100	0	0	0	0	0	1	2	0	2	1	6
09/29/19 04:15	0	0	0	0	0	0	0	0	0	0	0	0
09/29/19 04:30	0	0	0	0	0	0	0	0	0	0	0	0
09/29/19 04:45	0	0	0	0	0	0	0	0	0	0	0	0
09/29/19 05:00	100	0	0	0	0	0	0	0	2	0	0	2
09/29/19 05:15	0	0	0	0	0	0	0	0	0	0	0	0
09/29/19 05:30	100	0	0	0	0	2	0	0	0	0	0	2
09/29/19 05:45	66	0	0	1	1	0	0	1	0	0	0	3
09/29/19 06:00	100	0	0	0	2	0	0	1	4	1	2	10
09/29/19 06:15	100	0	0	0	0	3	1	0	0	0	0	4
09/29/19 06:30	100	0	0	0	0	3	2	3	0	0	0	8
09/29/19 06:45	80	1	1	0	0	0	4	1	1	2	0	10
09/29/19 07:00	86	3	0	0	1	4	1	6	4	4	0	23
09/29/19 07:15	83	2	0	0	0	3	5	1	1	0	0	12
09/29/19 07:30	81	0	2	1	3	1	6	3	0	0	0	16

09/29/19 07:45	80	1	0	3	3	0	5	2	3	4	0	21
09/29/19 08:00	91	0	2	0	0	7	7	4	3	1	0	24
09/29/19 08:15	91	0	2	0	2	10	3	5	1	0	0	23
09/29/19 08:30	90	0	0	2	4	4	2	5	5	0	0	22
09/29/19 08:45	83	2	3	3	2	12	13	8	3	2	0	48
09/29/19 09:00	95	0	1	1	1	8	11	5	10	5	0	42
09/29/19 09:15	91	2	1	1	3	7	9	12	7	2	3	47
09/29/19 09:30	83	1	4	1	3	5	6	8	7	2	0	37
09/29/19 09:45	89	2	1	2	7	13	7	6	4	3	2	47
09/29/19 10:00	93	0	2	1	4	11	12	6	5	5	1	47
09/29/19 10:15	83	3	1	4	4	8	5	14	8	1	0	48
09/29/19 10:30	95	2	0	0	6	7	14	6	3	2	0	40
09/29/19 10:45	88	1	1	5	2	16	20	8	4	4	0	61
09/29/19 11:00	86	3	1	1	2	8	10	7	4	2	0	38
09/29/19 11:15	77	4	4	1	6	6	9	7	2	1	0	40
09/29/19 11:30	92	1	1	1	2	10	9	10	4	1	0	39
09/29/19 11:45	93	0	1	1	2	2	8	8	1	3	3	29
09/29/19 12:00	89	3	1	0	6	7	9	4	3	2	3	38
09/29/19 12:15	79	7	1	0	3	8	11	3	5	0	1	39
09/29/19 12:30	82	1	2	3	2	9	9	4	1	2	1	34
09/29/19 12:45	92	2	1	0	4	6	11	9	5	1	0	39
09/29/19 13:00	85	2	2	2	3	2	11	9	6	3	0	40
09/29/19 13:15	85	1	2	1	4	7	6	5	2	0	0	28
09/29/19 13:30	66	6	4	4	2	6	4	5	10	1	0	42
09/29/19 13:45	80	4	0	2	1	4	11	5	2	1	1	31
09/29/19 14:00	85	3	2	1	6	8	6	8	2	1	3	40
09/29/19 14:15	81	5	2	2	6	11	6	8	6	1	1	48
09/29/19 14:30	85	2	0	6	3	10	17	9	3	4	1	55
09/29/19 14:45	82	2	4	1	3	10	6	8	3	1	3	41
09/29/19 15:00	80	3	4	2	6	5	9	11	2	4	0	46
09/29/19 15:15	87	3	3	0	6	6	10	10	5	3	1	47
09/29/19 15:30	84	3	2	1	2	5	6	4	11	4	1	39
09/29/19 15:45	78	3	1	7	6	14	7	7	4	1	1	51
09/29/19 16:00	91	1	1	2	6	6	17	5	3	3	1	45
09/29/19 16:15	81	6	1	4	6	17	10	11	3	1	0	59
09/29/19 16:30	86	2	2	1	2	11	5	4	5	3	3	38
09/29/19 16:45	91	1	0	3	8	17	10	2	3	2	0	46
09/29/19 17:00	88	2	0	4	2	10	15	12	5	2	0	52
09/29/19 17:15	94	1	0	2	7	13	8	17	3	3	0	54
09/29/19 17:30	88	3	0	3	3	6	6	16	9	4	0	50
09/29/19 17:45	82	2	3	2	4	6	12	4	4	2	2	41
09/29/19 18:00	69	4	2	5	2	7	8	3	3	2	0	36
09/29/19 18:15	87	2	1	2	3	12	7	8	1	1	3	40
09/29/19 18:30	92	1	2	1	1	13	12	15	4	2	1	52
09/29/19 18:45	88	1	0	5	4	9	13	11	3	3	1	50
09/29/19 19:00	90	0	1	4	6	15	7	8	2	3	4	50
09/29/19 19:15	83	2	2	2	4	6	11	6	2	0	1	36
09/29/19 19:30	90	0	2	2	8	14	9	7	0	0	1	43

09/29/19 19:45	82	3	3	1	4	8	14	4	3	0	0	40
09/29/19 20:00	90	2	0	2	4	9	16	7	3	0	1	44
09/29/19 20:15	88	1	2	2	2	17	10	8	1	0	0	43
09/29/19 20:30	81	2	1	1	1	6	3	6	1	1	0	22
09/29/19 20:45	89	0	1	1	2	3	4	4	2	1	1	19
09/29/19 21:00	86	1	1	2	1	9	5	9	2	0	0	30
09/29/19 21:15	94	1	1	0	6	14	7	7	1	0	0	37
09/29/19 21:30	84	0	3	0	0	3	7	4	2	0	0	19
09/29/19 21:45	96	0	1	0	3	6	7	7	1	4	0	29
09/29/19 22:00	100	0	0	0	1	2	1	6	4	0	0	14
09/29/19 22:15	88	0	3	0	1	6	4	4	4	4	1	27
09/29/19 22:30	83	2	0	0	1	3	0	5	1	0	0	12
09/29/19 22:45	75	3	0	0	0	2	3	1	1	2	0	12
09/29/19 23:00	84	2	0	0	1	1	5	4	0	0	0	13
09/29/19 23:15	92	0	0	1	5	2	2	2	0	2	0	14
09/29/19 23:30	83	0	0	1	0	1	3	0	0	0	1	6
09/29/19 23:45	66	1	0	1	1	3	0	0	0	0	0	6
09/30/19 00:00	66	1	0	0	0	0	1	1	0	0	0	3
09/30/19 00:15	100	0	0	0	0	1	1	0	1	0	0	3
09/30/19 00:30	100	0	0	0	2	0	0	0	0	0	0	2
09/30/19 00:45	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 01:00	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 01:15	100	0	0	0	0	0	0	0	0	1	0	1
09/30/19 01:30	50	0	1	2	0	1	1	0	0	1	0	6
09/30/19 01:45	100	0	0	0	0	0	0	0	0	1	1	2
09/30/19 02:00	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 02:15	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 02:30	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 03:00	80	0	0	1	2	0	0	2	0	0	0	5
09/30/19 03:15	100	0	0	0	0	2	0	0	0	0	0	2
09/30/19 03:30	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 03:45	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 04:00	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 04:15	50	0	0	1	1	0	0	0	0	0	0	2
09/30/19 04:30	71	1	1	0	1	0	2	0	0	0	2	7
09/30/19 04:45	0	0	0	0	0	0	0	0	0	0	0	0
09/30/19 05:00	36	5	2	0	0	1	0	1	0	0	2	11
09/30/19 05:15	75	1	0	1	1	0	2	1	1	1	0	8
09/30/19 05:30	100	0	0	0	0	1	1	0	3	0	0	5
09/30/19 05:45	88	1	1	1	4	1	2	8	5	0	4	27
09/30/19 06:00	100	0	0	0	0	0	4	2	0	0	0	6
09/30/19 06:15	85	3	1	0	4	7	6	2	2	2	0	27
09/30/19 06:30	80	1	3	3	0	6	12	10	1	0	0	36
09/30/19 06:45	79	2	3	3	4	4	10	10	2	0	1	39
09/30/19 07:00	91	0	3	0	2	5	8	11	3	0	4	36
09/30/19 07:15	92	0	3	1	2	8	11	12	10	4	1	52
09/30/19 07:30	86	2	4	1	4	8	11	11	8	2	2	53

09/30/19 07:45	88	3	1	2	4	12	13	9	5	5	0	54
09/30/19 08:00	92	3	1	0	2	10	13	14	8	1	2	54
09/30/19 08:15	94	0	2	1	1	12	12	17	8	3	0	56
09/30/19 08:30	90	1	3	1	4	6	14	13	5	6	2	55
09/30/19 08:45	92	0	2	2	5	13	15	10	1	5	0	53
09/30/19 09:00	89	1	2	4	6	23	9	15	6	0	0	66
09/30/19 09:15	93	1	1	2	2	4	14	16	12	6	1	59
09/30/19 09:30	94	0	1	2	6	10	14	9	9	8	0	59
09/30/19 09:45	94	1	1	1	8	8	10	16	10	0	0	55
09/30/19 10:00	88	2	2	2	4	6	11	9	6	6	2	50
09/30/19 10:15	90	0	1	4	3	10	9	13	11	1	1	53
09/30/19 10:30	94	1	1	1	2	9	19	10	11	0	0	54
09/30/19 10:45	79	2	5	3	4	7	11	9	3	4	1	49
09/30/19 11:00	84	4	3	2	12	1	12	7	9	4	3	57
09/30/19 11:15	87	1	2	4	4	13	7	10	7	6	0	54
09/30/19 11:30	92	0	2	2	1	6	9	13	7	8	2	50
09/30/19 11:45	87	2	2	4	10	6	18	13	7	0	0	62
09/30/19 12:00	94	1	1	1	3	6	11	20	6	0	1	50
09/30/19 12:15	88	2	2	2	3	10	13	11	8	1	0	52
09/30/19 12:30	91	2	2	1	4	7	14	17	4	4	2	57
09/30/19 12:45	78	4	2	7	3	7	13	10	8	2	4	60
09/30/19 13:00	90	4	1	0	5	9	13	11	4	7	1	55
09/30/19 13:15	95	1	1	0	0	12	13	8	8	1	1	45
09/30/19 13:30	86	5	1	2	4	12	9	16	4	6	0	59
09/30/19 13:45	87	0	3	4	3	6	10	14	9	4	2	55
09/30/19 14:00	90	0	2	3	5	12	9	14	4	0	1	50
09/30/19 14:15	81	2	4	4	1	6	9	18	7	4	0	55
09/30/19 14:30	86	2	4	3	3	10	7	13	11	8	5	66
09/30/19 14:45	90	2	2	2	9	16	10	10	8	1	1	61
09/30/19 15:00	93	1	0	3	5	14	14	11	6	3	1	58
09/30/19 15:15	84	4	2	2	8	12	9	5	6	2	3	53
09/30/19 15:30	80	5	1	3	7	11	5	11	2	0	0	45
09/30/19 15:45	80	4	1	5	3	13	9	5	6	1	5	52
09/30/19 16:00	94	0	2	1	4	20	15	10	3	1	1	57
09/30/19 16:15	91	2	1	1	2	12	14	6	6	2	1	47
09/30/19 16:30	87	1	3	2	8	12	8	3	4	5	1	47
09/30/19 16:45	86	2	2	3	4	8	9	10	8	6	0	52
09/30/19 17:00	88	1	4	1	8	14	9	4	8	2	3	54
09/30/19 17:15	90	2	1	1	4	9	8	7	5	3	0	40
09/30/19 17:30	92	2	0	2	5	13	14	7	6	1	1	51
09/30/19 17:45	87	3	1	2	6	7	11	13	3	1	0	47
09/30/19 18:00	93	2	1	0	3	8	11	11	8	3	0	47
09/30/19 18:15	86	1	2	2	4	12	7	8	0	1	0	37
09/30/19 18:30	91	1	2	1	3	9	11	13	1	4	3	48
09/30/19 18:45	85	0	3	4	6	9	11	11	3	2	0	49
09/30/19 19:00	95	1	1	0	8	17	7	6	4	4	0	48
09/30/19 19:15	83	2	2	1	3	3	6	6	4	3	0	30
09/30/19 19:30	86	1	2	1	3	7	7	5	4	0	0	30

09/30/19 19:45	93	2	0	0	4	9	7	5	4	0	1	32
09/30/19 20:00	84	2	1	2	4	4	6	11	1	1	1	33
09/30/19 20:15	95	1	0	0	4	8	4	4	1	0	0	22
09/30/19 20:30	80	1	1	4	2	7	1	4	3	6	2	31
09/30/19 20:45	100	0	0	0	2	2	1	7	2	2	0	16
09/30/19 21:00	76	1	1	2	3	0	7	2	0	0	1	17
09/30/19 21:15	100	0	0	0	2	2	0	2	1	0	0	7
09/30/19 21:30	88	0	1	1	2	3	8	2	0	0	0	17
09/30/19 21:45	81	0	0	3	3	2	3	2	3	0	0	16
09/30/19 22:00	57	0	0	3	0	1	1	2	0	0	0	7
09/30/19 22:15	91	0	1	0	2	6	3	0	0	0	0	12
09/30/19 22:30	100	0	0	0	0	0	1	1	0	0	0	2
09/30/19 22:45	80	2	0	0	2	2	0	2	0	0	2	10
09/30/19 23:00	80	1	1	0	0	4	0	3	1	0	0	10
09/30/19 23:15	100	0	0	0	1	1	0	3	1	1	0	7
09/30/19 23:30	100	0	0	0	2	0	0	0	0	0	0	2
09/30/19 23:45	0	0	0	2	0	0	0	0	0	0	0	2
10/01/19 00:00	100	0	0	0	0	0	0	0	0	0	1	1
10/01/19 00:15	100	0	0	0	1	1	0	0	0	0	0	2
10/01/19 00:30	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 00:45	100	0	0	0	0	0	0	0	2	0	0	2
10/01/19 01:00	85	0	1	0	0	0	0	0	2	3	1	7
10/01/19 01:15	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 01:30	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 01:45	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 02:00	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 02:15	100	0	0	0	0	2	0	0	0	0	0	2
10/01/19 02:30	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 02:45	66	0	0	2	0	0	2	0	0	2	0	6
10/01/19 03:00	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 03:30	0	0	0	2	0	0	0	0	0	0	0	2
10/01/19 03:45	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 04:00	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 04:15	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 04:30	100	0	0	0	0	1	2	0	0	1	2	6
10/01/19 04:45	0	1	0	0	0	0	0	0	0	0	0	1
10/01/19 05:00	100	0	0	0	2	1	3	1	0	2	0	9
10/01/19 05:15	100	0	0	0	0	3	1	0	0	0	0	4
10/01/19 05:30	100	0	0	0	0	5	0	0	6	1	0	12
10/01/19 05:45	71	3	2	1	0	3	3	1	5	1	2	21
10/01/19 06:00	80	0	1	1	1	3	0	3	1	0	0	10
10/01/19 06:15	84	2	0	1	1	2	3	4	4	2	0	19
10/01/19 06:30	92	2	0	0	1	4	8	8	1	2	2	28
10/01/19 06:45	75	7	1	0	1	8	9	1	4	1	0	32
10/01/19 07:00	89	2	1	1	4	3	7	8	7	5	0	38
10/01/19 07:15	92	1	2	1	3	9	7	11	10	8	5	57
10/01/19 07:30	97	0	1	1	2	16	12	18	16	5	1	72

10/01/19 07:45	92	1	2	2	3	15	14	17	9	6	2	71
10/01/19 08:00	95	2	0	1	3	9	19	14	9	5	0	62
10/01/19 08:15	92	1	3	0	2	9	13	15	4	3	2	52
10/01/19 08:30	94	1	1	1	1	13	8	15	7	6	1	54
10/01/19 08:45	90	1	2	3	7	5	17	11	10	4	5	65
10/01/19 09:00	92	1	1	2	2	9	19	8	10	2	1	55
10/01/19 09:15	96	0	1	1	6	8	7	12	12	6	3	56
10/01/19 09:30	84	3	3	1	1	6	8	11	7	3	2	45
10/01/19 09:45	95	1	1	1	4	10	15	23	6	5	0	66
10/01/19 10:00	85	4	0	4	5	14	6	15	6	2	0	56
10/01/19 10:15	91	2	1	1	3	2	4	17	6	7	2	45
10/01/19 10:30	95	1	1	0	3	8	9	12	7	2	0	43
10/01/19 10:45	86	1	3	3	9	7	12	9	3	3	0	50
10/01/19 11:00	94	0	0	2	1	7	3	9	7	6	0	35
10/01/19 11:15	85	3	2	3	3	13	10	14	6	1	1	56
10/01/19 11:30	84	4	3	1	2	16	7	7	6	4	0	50
10/01/19 11:45	76	7	3	2	4	8	13	10	2	1	2	52
10/01/19 12:00	86	4	2	2	5	8	7	14	7	8	1	58
10/01/19 12:15	94	1	0	2	4	9	8	15	5	6	1	51
10/01/19 12:30	92	1	1	2	4	7	8	15	9	5	3	55
10/01/19 12:45	88	1	1	3	6	4	6	11	6	5	2	45
10/01/19 13:00	93	3	0	0	5	12	10	6	2	4	5	47
10/01/19 13:15	88	3	3	0	2	8	9	14	8	4	0	51
10/01/19 13:30	93	1	1	1	4	10	8	10	5	6	1	47
10/01/19 13:45	87	2	2	4	10	11	10	14	6	2	1	62
10/01/19 14:00	92	3	1	0	4	9	10	14	9	5	0	55
10/01/19 14:15	94	1	1	1	3	9	14	11	7	5	1	53
10/01/19 14:30	74	6	2	6	4	10	6	11	3	5	1	54
10/01/19 14:45	91	3	1	1	8	5	14	13	9	6	2	62
10/01/19 15:00	89	2	2	2	5	8	14	10	7	7	2	59
10/01/19 15:15	82	3	1	4	2	16	5	12	2	0	1	46
10/01/19 15:30	83	3	4	3	10	15	7	14	5	1	0	62
10/01/19 15:45	85	2	3	1	1	9	11	4	7	2	1	41
10/01/19 16:00	91	1	1	2	6	8	6	10	8	3	2	47
10/01/19 16:15	85	6	1	1	5	8	12	12	5	4	1	55
10/01/19 16:30	87	3	1	2	1	16	10	7	5	1	1	47
10/01/19 16:45	86	2	4	1	4	18	8	4	5	0	5	51
10/01/19 17:00	82	0	3	6	6	9	12	11	5	0	0	52
10/01/19 17:15	90	1	2	2	2	7	14	14	5	5	0	52
10/01/19 17:30	89	2	1	2	2	10	16	9	3	3	0	48
10/01/19 17:45	95	1	0	1	4	4	12	18	7	2	0	49
10/01/19 18:00	84	5	3	1	2	16	9	13	2	4	2	57
10/01/19 18:15	87	1	4	0	1	6	10	8	8	3	0	41
10/01/19 18:30	86	1	3	3	4	8	10	12	5	4	2	52
10/01/19 18:45	94	0	2	0	1	6	13	11	6	0	0	39
10/01/19 19:00	86	1	2	2	6	10	5	9	1	2	0	38
10/01/19 19:15	91	0	0	4	7	5	17	11	3	1	0	48
10/01/19 19:30	68	3	0	8	4	6	5	5	2	1	1	35

10/01/19 19:45	88	2	0	2	5	6	5	12	1	1	2	36
10/01/19 20:00	81	2	0	2	1	4	5	5	2	1	0	22
10/01/19 20:15	82	0	0	3	1	6	5	1	0	0	1	17
10/01/19 20:30	90	1	0	1	2	0	6	6	4	2	0	22
10/01/19 20:45	92	1	0	0	2	3	5	0	1	1	0	13
10/01/19 21:00	95	0	1	0	3	5	4	5	2	0	0	20
10/01/19 21:15	100	0	0	0	1	1	6	8	1	1	0	18
10/01/19 21:30	55	1	2	1	0	2	1	0	2	0	0	9
10/01/19 21:45	88	1	0	0	3	1	3	1	0	0	0	9
10/01/19 22:00	82	1	0	3	3	8	5	2	1	0	0	23
10/01/19 22:15	66	2	2	0	0	2	1	0	5	0	0	12
10/01/19 22:30	100	0	0	0	1	1	2	2	0	2	0	8
10/01/19 22:45	0	1	0	0	0	0	0	0	0	0	0	1
10/01/19 23:00	0	0	0	0	0	0	0	0	0	0	0	0
10/01/19 23:15	86	0	2	0	5	3	4	1	0	0	0	15
10/01/19 23:30	80	0	0	1	3	0	0	0	0	1	0	5
10/01/19 23:45	100	0	0	0	2	0	0	0	0	0	0	2
10/02/19 00:00	0	0	1	0	0	0	0	0	0	0	0	1
10/02/19 00:15	40	0	0	3	2	0	0	0	0	0	0	5
10/02/19 00:30	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 00:45	100	0	0	0	0	2	0	0	0	0	0	2
10/02/19 01:00	66	1	0	0	1	1	0	0	0	0	0	3
10/02/19 01:15	100	0	0	0	0	1	1	0	0	0	0	2
10/02/19 01:30	0	0	0	3	0	0	0	0	0	0	0	3
10/02/19 01:45	100	0	0	0	1	1	0	2	0	0	0	4
10/02/19 02:00	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 02:15	100	0	0	0	0	1	1	0	0	0	0	2
10/02/19 02:30	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 03:00	50	0	0	1	1	0	0	0	0	0	0	2
10/02/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 03:30	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 03:45	50	0	0	1	1	0	0	0	0	0	0	2
10/02/19 04:00	100	0	0	0	1	1	0	0	0	2	0	4
10/02/19 04:15	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 04:30	75	1	0	0	2	0	0	0	0	0	1	4
10/02/19 04:45	0	0	0	0	0	0	0	0	0	0	0	0
10/02/19 05:00	100	0	0	0	0	0	0	0	0	0	2	2
10/02/19 05:15	100	0	0	0	0	0	1	1	0	2	0	4
10/02/19 05:30	100	0	0	0	0	3	4	1	1	1	0	10
10/02/19 05:45	89	0	0	2	2	3	5	2	3	2	0	19
10/02/19 06:00	100	0	0	0	0	2	1	3	0	1	0	7
10/02/19 06:15	91	1	0	2	3	4	6	6	11	0	2	35
10/02/19 06:30	94	1	1	0	4	11	6	7	3	5	0	38
10/02/19 06:45	70	6	3	7	3	11	11	7	2	5	0	55
10/02/19 07:00	87	2	3	1	6	3	8	12	7	4	1	47
10/02/19 07:15	87	4	2	1	4	7	7	21	7	3	1	57
10/02/19 07:30	92	2	3	0	4	10	15	16	6	8	1	65

10/02/19 07:45	96	0	1	1	7	8	10	13	6	10	2	58
10/02/19 08:00	89	3	3	0	3	12	9	14	9	5	0	58
10/02/19 08:15	83	2	1	7	3	9	8	17	6	5	3	61
10/02/19 08:30	90	2	2	1	2	8	10	19	7	3	0	54
10/02/19 08:45	88	1	1	5	7	3	14	17	9	3	2	62
10/02/19 09:00	94	2	0	1	3	10	8	15	13	6	0	58
10/02/19 09:15	94	0	0	3	4	7	10	19	7	5	1	56
10/02/19 09:30	95	0	1	1	0	7	13	9	11	6	0	48
10/02/19 09:45	92	2	1	0	1	4	4	19	5	3	1	40
10/02/19 10:00	90	3	1	1	9	3	13	10	9	3	2	54
10/02/19 10:15	92	3	0	1	2	9	11	23	3	1	2	55
10/02/19 10:30	95	0	1	1	3	9	12	13	6	4	0	49
10/02/19 10:45	88	1	1	4	2	4	11	8	8	9	4	52
10/02/19 11:00	92	1	2	1	2	9	11	15	6	3	1	51
10/02/19 11:15	98	1	0	0	4	9	9	14	10	4	6	57
10/02/19 11:30	82	5	0	3	6	5	7	11	5	2	3	47
10/02/19 11:45	96	2	0	0	1	12	10	12	13	2	3	55
10/02/19 12:00	88	3	2	1	2	7	10	14	9	3	0	51
10/02/19 12:15	96	1	0	1	5	7	6	15	9	5	3	52
10/02/19 12:30	82	1	2	6	4	14	11	5	4	3	2	52
10/02/19 12:45	83	3	1	6	7	10	11	12	7	3	0	60
10/02/19 13:00	81	1	3	5	1	4	13	11	5	2	4	49
10/02/19 13:15	70	7	1	4	1	5	7	5	6	3	2	41
10/02/19 13:30	88	2	0	3	2	7	7	6	3	8	4	42
10/02/19 13:45	83	2	2	3	6	10	5	5	7	1	1	42
10/02/19 14:00	93	3	0	0	4	5	10	13	10	1	2	48
10/02/19 14:15	92	2	0	2	5	10	10	16	5	3	2	55
10/02/19 14:30	88	3	3	1	5	12	14	16	0	7	1	62
10/02/19 14:45	88	1	3	2	3	8	11	15	3	2	3	51
10/02/19 15:00	91	2	1	2	3	13	11	10	13	2	1	58
10/02/19 15:15	84	1	5	4	3	12	14	12	8	4	0	63
10/02/19 15:30	100	0	0	0	5	20	13	12	6	1	3	60
10/02/19 15:45	85	3	1	3	1	13	8	9	6	1	4	49
10/02/19 16:00	90	2	1	2	6	13	9	12	5	3	0	53
10/02/19 16:15	89	1	3	1	3	10	15	6	4	0	3	46
10/02/19 16:30	80	3	4	4	5	11	7	15	1	5	1	56
10/02/19 16:45	91	2	1	2	8	18	12	16	0	1	0	60
10/02/19 17:00	93	1	0	2	4	5	12	15	5	1	3	48
10/02/19 17:15	94	0	0	3	7	12	11	9	6	3	4	55
10/02/19 17:30	89	2	1	3	1	10	15	13	9	4	0	58
10/02/19 17:45	88	2	0	4	3	12	13	14	4	2	0	54
10/02/19 18:00	90	3	1	1	0	12	8	18	4	3	3	53
10/02/19 18:15	96	2	0	0	5	9	15	16	10	0	0	57
10/02/19 18:30	93	1	0	2	4	9	9	13	6	3	1	48
10/02/19 18:45	91	2	0	2	4	8	12	15	4	1	0	48
10/02/19 19:00	84	2	3	3	3	12	15	12	1	0	0	51
10/02/19 19:15	79	2	2	6	9	9	10	6	3	2	0	49
10/02/19 19:30	86	1	2	0	0	4	5	4	4	0	2	22

10/02/19 19:45	90	3	0	0	10	5	8	3	0	3	0	32
10/02/19 20:00	87	2	1	1	5	15	4	3	0	0	0	31
10/02/19 20:15	100	0	0	0	3	3	7	5	2	2	0	22
10/02/19 20:30	90	0	1	1	8	3	5	4	0	0	0	22
10/02/19 20:45	88	0	1	2	1	7	4	3	5	3	0	26
10/02/19 21:00	88	1	1	2	2	14	10	4	0	1	1	36
10/02/19 21:15	83	0	2	3	8	7	8	2	1	0	0	31
10/02/19 21:30	84	1	2	1	5	8	3	2	3	1	0	26
10/02/19 21:45	89	1	0	3	6	6	11	9	1	0	0	37
10/02/19 22:00	87	1	0	0	2	2	2	0	1	0	0	8
10/02/19 22:15	82	1	1	3	5	5	6	4	2	2	0	29
10/02/19 22:30	91	1	0	1	2	4	7	6	2	0	0	23
10/02/19 22:45	68	1	1	3	0	4	3	1	1	1	1	16
10/02/19 23:00	83	1	0	1	5	2	2	1	0	0	0	12
10/02/19 23:15	83	0	0	1	2	2	0	1	0	0	0	6
10/02/19 23:30	100	0	0	0	0	0	0	2	0	0	0	2
10/02/19 23:45	83	0	1	0	1	1	1	0	0	0	2	6
10/03/19 00:00	71	0	0	2	0	0	3	0	1	0	1	7
10/03/19 00:15	100	0	0	0	2	0	0	0	0	0	0	2
10/03/19 00:30	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 00:45	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 01:00	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 01:15	100	0	0	0	0	0	1	1	0	0	0	2
10/03/19 01:30	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 01:45	100	0	0	0	0	0	2	0	2	0	0	4
10/03/19 02:00	100	0	0	0	0	0	0	2	0	0	0	2
10/03/19 02:15	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 02:30	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 03:00	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 03:30	0	0	0	0	0	0	0	0	0	0	0	0
10/03/19 03:45	50	0	0	1	1	0	0	0	0	0	0	2
10/03/19 04:00	100	0	0	0	0	2	0	0	0	0	0	2
10/03/19 04:15	100	0	0	0	0	0	1	1	0	4	0	6
10/03/19 04:30	0	0	0	2	0	0	0	0	0	0	0	2
10/03/19 04:45	50	0	0	1	1	0	0	0	0	0	0	2
10/03/19 05:00	100	0	0	0	0	0	0	0	0	1	0	1
10/03/19 05:15	100	0	0	0	0	0	2	1	0	0	0	3
10/03/19 05:30	90	0	0	1	0	2	4	3	0	1	0	11
10/03/19 05:45	78	1	0	2	2	3	3	0	1	2	0	14
10/03/19 06:00	80	3	0	0	0	1	4	5	2	0	0	15
10/03/19 06:15	96	0	0	1	3	4	8	5	4	4	0	29
10/03/19 06:30	85	3	1	1	0	6	11	7	4	2	0	35
10/03/19 06:45	68	4	3	6	2	7	6	5	1	6	1	41
10/03/19 07:00	84	3	3	1	5	9	5	7	7	2	4	46
10/03/19 07:15	87	4	1	2	3	10	10	11	9	6	2	58
10/03/19 07:30	94	1	2	1	4	10	24	17	9	4	1	73

10/03/19 07:45	92	3	1	1	2	7	13	20	7	7	3	64
10/03/19 08:00	96	1	0	1	1	8	18	20	6	6	0	61
10/03/19 08:15	93	1	1	2	6	7	13	18	8	5	1	62
10/03/19 08:30	82	4	4	1	3	7	11	7	7	5	1	50
10/03/19 08:45	89	3	1	2	4	13	10	6	13	4	3	59
10/03/19 09:00	89	3	2	1	3	13	9	12	7	5	2	57
10/03/19 09:15	95	2	0	0	2	9	12	12	6	3	0	46
10/03/19 09:30	97	1	0	0	4	8	7	15	3	2	0	40
10/03/19 09:45	96	1	1	0	5	11	15	16	5	5	3	62
10/03/19 10:00	93	1	0	2	4	7	7	18	6	3	1	49
10/03/19 10:15	77	2	1	5	2	4	6	6	7	2	1	36
10/03/19 10:30	94	2	0	1	3	7	9	11	16	2	2	53
10/03/19 10:45	91	1	1	3	3	13	10	14	7	3	1	56
10/03/19 11:00	85	3	1	2	3	7	9	11	3	0	1	40
10/03/19 11:15	95	1	1	0	5	12	8	11	5	0	1	44
10/03/19 11:30	94	0	1	1	3	8	4	10	4	4	0	35
10/03/19 11:45	90	3	1	0	2	8	9	13	2	5	1	44
10/03/19 12:00	93	2	1	0	3	7	9	17	5	3	0	47
10/03/19 12:15	95	2	0	0	4	10	11	10	5	2	1	45
10/03/19 12:30	93	2	1	0	3	8	19	9	3	0	0	45
10/03/19 12:45	85	2	2	2	5	4	10	10	3	2	0	40
10/03/19 13:00	97	1	0	0	4	7	12	11	5	0	1	41
10/03/19 13:15	88	0	2	3	5	10	8	9	3	3	2	45
10/03/19 13:30	93	2	0	1	4	6	8	12	7	2	2	44
10/03/19 13:45	89	1	2	2	2	9	12	13	2	0	3	46
10/03/19 14:00	90	1	0	3	2	7	9	8	3	6	1	40
10/03/19 14:15	87	1	2	4	3	17	10	10	6	2	0	55
10/03/19 14:30	88	2	2	2	4	10	10	9	9	2	2	52
10/03/19 14:45	87	2	5	1	4	23	13	6	8	0	0	62
10/03/19 15:00	84	3	1	3	2	12	10	7	7	1	0	46
10/03/19 15:15	89	0	3	2	5	10	9	9	2	6	0	46
10/03/19 15:30	91	2	0	3	8	13	11	8	8	3	0	56
10/03/19 15:45	93	2	0	0	0	0	5	10	7	5	1	30
10/03/19 16:00	80	3	3	2	5	9	10	6	3	0	0	41
10/03/19 16:15	88	0	0	5	2	12	5	16	3	2	0	45
10/03/19 16:30	90	1	1	2	7	8	9	7	5	3	0	43
10/03/19 16:45	93	0	1	2	3	12	12	11	5	1	1	48
10/03/19 17:00	88	2	0	3	7	6	10	8	7	1	0	44
10/03/19 17:15	82	2	2	6	4	16	15	3	4	6	0	58
10/03/19 17:30	97	0	1	0	2	11	13	9	6	1	0	43
10/03/19 17:45	83	2	3	3	1	10	11	8	6	2	3	49
10/03/19 18:00	86	5	1	0	3	5	16	8	4	2	0	44
10/03/19 18:15	91	2	1	1	2	9	12	8	6	3	3	47
10/03/19 18:30	88	1	2	2	1	5	11	16	4	2	0	44
10/03/19 18:45	94	0	0	2	0	7	9	9	3	3	1	34
10/03/19 19:00	90	0	1	3	6	8	10	5	7	2	2	44
10/03/19 19:15	88	2	0	1	2	10	1	6	3	2	0	27
10/03/19 19:30	90	2	0	1	2	8	5	7	2	1	2	30

10/03/19 19:45	90	0	1	2	5	11	4	4	4	1	0	32
10/03/19 20:00	94	1	0	0	4	5	2	1	4	0	0	17
10/03/19 20:15	100	0	0	0	7	1	3	2	1	0	0	14
10/03/19 20:30	91	0	0	3	4	11	8	8	0	0	0	34
10/03/19 20:45	97	1	0	0	5	10	10	4	2	2	0	34
10/03/19 21:00	82	0	2	2	3	5	5	4	2	0	0	23
10/03/19 21:15	90	0	1	2	4	9	9	3	2	0	2	32
10/03/19 21:30	85	2	0	1	2	3	3	2	5	2	1	21
10/03/19 21:45	95	0	1	0	1	10	6	3	0	0	0	21
10/03/19 22:00	100	0	0	0	3	3	4	1	6	0	2	19
10/03/19 22:15	94	1	0	0	6	7	3	2	0	0	0	19
10/03/19 22:30	100	0	0	0	3	3	4	2	0	0	2	14
10/03/19 22:45	63	1	1	2	3	2	0	0	0	2	0	11
10/03/19 23:00	72	0	1	2	1	4	1	1	1	0	0	11
10/03/19 23:15	100	0	0	0	0	0	3	0	0	0	0	3
10/03/19 23:30	100	0	0	0	2	0	0	0	0	0	0	2
10/03/19 23:45	50	0	1	1	0	0	0	0	0	0	2	4
10/04/19 00:00	100	0	0	0	0	2	1	3	0	0	0	6
10/04/19 00:15	88	0	0	1	1	3	2	0	1	1	0	9
10/04/19 00:30	100	0	0	0	0	3	1	0	0	0	0	4
10/04/19 00:45	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 01:00	100	0	0	0	0	2	1	2	0	0	0	5
10/04/19 01:15	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 01:30	100	0	0	0	0	0	1	1	0	0	0	2
10/04/19 01:45	83	0	0	1	2	1	1	1	0	0	0	6
10/04/19 02:00	100	0	0	0	0	2	3	0	0	0	0	5
10/04/19 02:15	100	0	0	0	1	0	0	1	0	0	2	4
10/04/19 02:30	100	0	0	0	0	0	0	0	0	1	0	1
10/04/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 03:00	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 03:30	100	0	0	0	2	0	0	0	0	0	0	2
10/04/19 03:45	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 04:00	100	0	0	0	0	2	1	1	1	0	0	5
10/04/19 04:15	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 04:30	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 04:45	0	0	0	0	0	0	0	0	0	0	0	0
10/04/19 05:00	100	0	0	0	0	1	1	0	0	1	1	4
10/04/19 05:15	100	0	0	0	0	0	2	2	0	1	2	7
10/04/19 05:30	100	0	0	0	0	0	2	1	0	0	0	3
10/04/19 05:45	93	0	1	0	2	0	5	5	1	0	2	16
10/04/19 06:00	82	1	1	1	1	0	0	7	0	3	3	17
10/04/19 06:15	84	0	2	2	0	3	4	13	0	1	0	25
10/04/19 06:30	77	1	3	0	1	5	6	0	0	2	0	18
10/04/19 06:45	89	3	1	1	2	13	6	14	6	1	0	47
10/04/19 07:00	97	1	0	0	6	1	8	22	7	1	1	47
10/04/19 07:15	90	1	3	1	4	8	7	11	10	2	6	53
10/04/19 07:30	91	2	2	2	6	9	15	19	5	6	1	67

10/04/19 07:45	96	0	1	1	8	7	14	10	3	8	0	52
10/04/19 08:00	93	2	1	1	1	5	12	26	5	4	3	60
10/04/19 08:15	85	6	1	3	1	4	17	15	13	4	3	67
10/04/19 08:30	94	1	1	1	1	9	12	18	10	6	0	59
10/04/19 08:45	93	2	0	3	6	11	13	23	12	3	1	74
10/04/19 09:00	85	0	4	4	5	15	15	6	3	5	0	57
10/04/19 09:15	87	4	3	1	3	5	12	22	7	7	0	64
10/04/19 09:30	79	3	3	6	5	5	7	17	5	5	2	58
10/04/19 09:45	91	2	2	1	3	10	16	14	6	2	0	56
10/04/19 10:00	92	1	2	0	2	8	5	13	5	2	0	38
10/04/19 10:15	91	1	2	2	6	10	10	9	8	10	1	59
10/04/19 10:30	97	0	0	1	2	7	10	16	6	4	2	48
10/04/19 10:45	89	0	3	2	3	10	9	11	6	3	2	49
10/04/19 11:00	89	1	2	1	4	5	9	5	4	7	1	39
10/04/19 11:15	98	1	0	0	1	9	16	22	10	1	2	62
10/04/19 11:30	86	0	2	6	4	18	11	9	6	3	1	60
10/04/19 11:45	83	2	3	3	4	12	4	12	3	4	1	48
10/04/19 12:00	93	0	1	3	4	8	13	11	9	7	2	58
10/04/19 12:15	87	1	1	4	4	13	6	6	6	6	2	49
10/04/19 12:30	93	1	0	2	1	8	17	9	4	1	1	44
10/04/19 12:45	84	2	2	6	6	7	11	17	7	2	5	65
10/04/19 13:00	90	0	4	1	1	9	11	14	7	5	1	53
10/04/19 13:15	89	1	4	1	2	15	8	13	6	6	1	57
10/04/19 13:30	85	1	4	2	1	7	18	8	4	0	2	47
10/04/19 13:45	82	1	5	3	3	12	13	8	4	3	0	52
10/04/19 14:00	86	4	0	3	4	16	10	8	0	2	4	51
10/04/19 14:15	89	0	5	0	2	7	9	8	14	3	0	48
10/04/19 14:30	82	3	2	4	5	10	10	8	5	3	1	51
10/04/19 14:45	85	4	3	2	10	12	10	9	6	2	2	60
10/04/19 15:00	87	4	0	3	0	2	16	11	6	11	5	58
10/04/19 15:15	85	2	2	4	6	7	15	14	5	2	0	57
10/04/19 15:30	93	1	1	2	8	9	11	18	7	3	0	60
10/04/19 15:45	94	0	2	1	4	10	14	16	5	0	0	52
10/04/19 16:00	90	3	1	1	3	9	17	11	6	2	0	53
10/04/19 16:15	83	1	2	4	5	10	8	6	3	3	1	43
10/04/19 16:30	80	4	3	2	8	11	8	5	5	1	0	47
10/04/19 16:45	89	1	3	1	6	9	13	9	4	3	0	49
10/04/19 17:00	86	3	1	3	4	14	17	8	1	1	0	52
10/04/19 17:15	91	1	1	2	6	12	10	9	4	2	1	48
10/04/19 17:30	92	2	1	1	5	8	13	13	6	4	0	53
10/04/19 17:45	86	1	3	3	7	10	8	15	4	2	0	53
10/04/19 18:00	91	0	3	1	2	13	10	12	3	5	0	49
10/04/19 18:15	94	1	2	0	5	12	9	5	12	5	0	51
10/04/19 18:30	93	1	0	2	3	8	14	13	4	2	2	49
10/04/19 18:45	95	1	0	1	2	6	15	11	9	0	1	46
10/04/19 19:00	88	3	3	1	4	14	19	8	6	2	0	60
10/04/19 19:15	89	0	0	5	6	13	5	15	5	0	0	49
10/04/19 19:30	89	4	0	2	7	14	6	17	4	1	0	55

10/04/19 19:45	92	1	2	1	3	8	12	8	12	8	0	55
10/04/19 20:00	82	0	0	7	4	11	8	3	2	3	1	39
10/04/19 20:15	92	0	2	1	0	14	7	4	5	3	2	38
10/04/19 20:30	87	0	3	2	4	10	10	6	2	2	0	39
10/04/19 20:45	93	1	0	1	4	11	5	5	4	1	0	32
10/04/19 21:00	76	1	1	2	4	2	4	2	0	0	1	17
10/04/19 21:15	83	0	1	2	0	8	3	1	1	1	1	18
10/04/19 21:30	92	0	0	3	14	9	7	5	3	1	0	42
10/04/19 21:45	100	0	0	0	2	7	5	2	0	0	0	16
10/04/19 22:00	92	1	1	0	0	10	3	6	2	2	0	25
10/04/19 22:15	94	1	0	0	2	4	4	4	2	0	0	17
10/04/19 22:30	77	0	2	2	1	2	3	7	0	1	0	18
10/04/19 22:45	95	0	1	0	4	7	3	4	0	2	1	22
10/04/19 23:00	95	0	0	1	1	2	5	8	2	0	2	21
10/04/19 23:15	80	0	1	3	2	0	10	2	0	3	0	21
10/04/19 23:30	80	1	0	3	4	2	7	3	0	0	0	20
10/04/19 23:45	100	0	0	0	0	2	2	0	0	0	0	4
10/05/19 00:00	85	1	0	0	0	2	2	1	1	0	0	7
10/05/19 00:15	100	0	0	0	0	0	2	0	1	1	0	4
10/05/19 00:30	66	1	2	2	1	2	2	1	1	2	1	15
10/05/19 00:45	100	0	0	0	0	0	2	2	0	0	2	6
10/05/19 01:00	100	0	0	0	1	1	1	1	0	0	0	4
10/05/19 01:15	100	0	0	0	2	0	0	1	1	1	0	5
10/05/19 01:30	85	0	0	1	2	2	0	0	0	2	0	7
10/05/19 01:45	100	0	0	0	1	2	2	0	1	1	1	8
10/05/19 02:00	50	0	1	0	0	1	0	0	0	0	0	2
10/05/19 02:15	100	0	0	0	0	0	0	0	0	0	1	1
10/05/19 02:30	50	0	0	1	0	0	1	0	0	0	0	2
10/05/19 02:45	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 03:00	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 03:30	75	0	0	1	0	1	0	1	0	0	1	4
10/05/19 03:45	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 04:00	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 04:15	100	0	0	0	0	2	2	0	0	0	0	4
10/05/19 04:30	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 04:45	100	0	0	0	2	0	0	0	0	0	0	2
10/05/19 05:00	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 05:15	0	0	0	0	0	0	0	0	0	0	0	0
10/05/19 05:30	100	0	0	0	0	0	1	2	1	0	1	5
10/05/19 05:45	100	0	0	0	1	5	2	2	0	0	0	10
10/05/19 06:00	100	0	0	0	0	2	0	0	0	0	0	2
10/05/19 06:15	50	1	0	1	2	0	0	0	0	0	0	4
10/05/19 06:30	66	1	2	0	2	0	0	1	1	2	0	9
10/05/19 06:45	100	0	0	0	0	2	0	2	0	2	5	11
10/05/19 07:00	83	2	1	0	0	2	3	5	4	1	0	18
10/05/19 07:15	100	0	0	0	2	6	8	4	5	0	2	27
10/05/19 07:30	79	2	4	1	1	6	4	9	2	5	0	34

10/05/19 07:45	88	1	2	1	2	8	6	5	3	7	0	35
10/05/19 08:00	94	2	0	0	7	4	10	13	2	1	0	39
10/05/19 08:15	90	2	2	0	2	7	9	10	5	7	0	44
10/05/19 08:30	91	1	2	1	1	1	8	17	10	4	0	45
10/05/19 08:45	95	0	2	0	2	11	7	13	8	4	1	48
10/05/19 09:00	90	3	1	1	2	9	17	12	5	2	1	53
10/05/19 09:15	87	2	1	3	4	5	5	14	6	5	4	49
10/05/19 09:30	92	1	1	2	3	9	15	11	6	4	2	54
10/05/19 09:45	86	2	3	1	2	6	11	9	2	6	1	43
10/05/19 10:00	96	0	1	1	6	10	17	11	6	6	0	58
10/05/19 10:15	97	0	0	1	3	8	5	19	5	5	3	49
10/05/19 10:30	98	0	0	1	0	6	10	19	13	7	1	57
10/05/19 10:45	93	3	1	0	6	16	14	6	11	4	2	63
10/05/19 11:00	88	3	4	0	9	8	10	14	8	2	2	60
10/05/19 11:15	92	1	2	1	4	5	12	12	4	7	2	50
10/05/19 11:30	96	1	1	0	7	8	13	12	8	1	4	55
10/05/19 11:45	90	2	1	2	6	9	6	16	9	4	0	55
10/05/19 12:00	83	3	4	4	2	9	17	14	4	5	3	65
10/05/19 12:15	93	1	1	2	4	12	17	15	5	5	2	64
10/05/19 12:30	94	2	1	0	3	14	12	15	5	2	1	55
10/05/19 12:45	90	1	3	1	2	7	18	13	4	2	4	55
10/05/19 13:00	88	2	2	3	6	11	15	13	4	5	2	63
10/05/19 13:15	96	1	1	0	2	9	10	19	8	1	0	51
10/05/19 13:30	98	0	0	1	8	8	8	12	10	7	1	55
10/05/19 13:45	90	1	2	2	4	5	12	13	9	1	4	53
10/05/19 14:00	83	2	3	4	1	6	14	14	5	4	0	53
10/05/19 14:15	93	3	0	1	2	8	13	24	4	6	2	63
10/05/19 14:30	92	1	1	2	6	14	8	11	8	2	2	55
10/05/19 14:45	86	4	3	2	6	11	12	18	8	1	3	68
10/05/19 15:00	92	1	2	2	8	6	20	13	12	2	1	67
10/05/19 15:15	78	4	2	4	5	3	13	10	3	2	1	47
10/05/19 15:30	89	1	3	3	9	11	14	8	8	5	2	64
10/05/19 15:45	85	3	3	1	3	10	11	6	5	3	3	48
10/05/19 16:00	92	2	1	1	1	13	11	17	5	1	0	52
10/05/19 16:15	91	0	0	5	5	10	9	20	8	2	0	59
10/05/19 16:30	79	6	3	2	2	14	11	12	3	1	0	54
10/05/19 16:45	86	1	3	2	9	5	5	9	2	6	4	46
10/05/19 17:00	94	2	0	1	9	10	9	11	8	3	1	54
10/05/19 17:15	93	0	2	1	6	9	13	12	4	0	1	48
10/05/19 17:30	88	0	5	1	4	7	14	14	5	4	0	54
10/05/19 17:45	83	4	3	2	5	14	8	10	5	4	0	55
10/05/19 18:00	85	6	1	1	3	6	11	16	5	4	1	54
10/05/19 18:15	97	0	0	1	3	7	8	14	7	2	0	42
10/05/19 18:30	80	2	3	3	4	6	12	3	5	2	0	40
10/05/19 18:45	92	3	0	1	5	15	8	14	8	0	1	55
10/05/19 19:00	92	2	1	1	3	8	10	15	5	3	4	52
10/05/19 19:15	82	1	2	7	12	12	9	8	3	0	3	57
10/05/19 19:30	85	0	1	4	7	6	7	3	1	2	3	34

10/05/19 19:45	87	1	2	3	8	15	5	11	3	1	0	49
10/05/19 20:00	85	3	2	1	2	13	3	11	5	0	0	40
10/05/19 20:15	81	1	3	2	6	5	7	7	1	1	0	33
10/05/19 20:30	88	0	0	4	4	7	7	11	0	1	0	34
10/05/19 20:45	79	0	3	3	2	7	6	2	1	3	2	29
10/05/19 21:00	72	0	1	5	4	5	3	2	0	2	0	22
10/05/19 21:15	75	3	0	4	8	5	6	0	0	2	0	28
10/05/19 21:30	80	1	3	1	1	6	5	7	2	0	0	26
10/05/19 21:45	72	1	0	4	3	1	6	2	0	1	0	18
10/05/19 22:00	90	1	2	0	5	8	8	4	2	0	0	30
10/05/19 22:15	91	1	1	0	3	6	3	6	3	1	0	24
10/05/19 22:30	84	2	0	2	2	6	3	7	4	0	0	26
10/05/19 22:45	92	0	0	1	0	6	4	1	1	0	0	13
10/05/19 23:00	87	1	0	1	0	4	7	0	2	1	0	16
10/05/19 23:15	68	3	2	6	5	8	6	2	0	1	2	35
10/05/19 23:30	85	2	2	0	3	6	8	3	3	0	0	27
10/05/19 23:45	75	3	0	4	3	6	5	5	0	0	2	28
10/06/19 00:00	78	3	4	1	3	10	10	4	1	1	0	37
10/06/19 00:15	80	3	0	0	2	3	5	2	0	0	0	15
10/06/19 00:30	80	0	1	0	1	2	0	0	0	0	1	5
10/06/19 00:45	60	1	0	1	1	0	2	0	0	0	0	5
10/06/19 01:00	76	2	1	0	0	0	5	4	1	0	0	13
10/06/19 01:15	100	0	0	0	0	0	0	2	0	0	0	2
10/06/19 01:30	100	0	0	0	0	2	0	0	0	0	1	3
10/06/19 01:45	100	0	0	0	0	0	2	2	0	0	0	4
10/06/19 02:00	0	0	0	0	0	0	0	0	0	0	0	0
10/06/19 02:15	100	0	0	0	0	0	2	1	3	0	0	6
10/06/19 02:30	50	1	0	0	0	0	0	1	0	0	0	2
10/06/19 02:45	50	0	2	0	0	0	0	2	0	0	0	4
10/06/19 03:00	0	0	0	0	0	0	0	0	0	0	0	0
10/06/19 03:15	0	0	0	0	0	0	0	0	0	0	0	0
10/06/19 03:30	75	1	0	0	0	0	0	0	0	0	3	4
10/06/19 03:45	0	0	0	0	0	0	0	0	0	0	0	0
10/06/19 04:00	0	0	0	0	0	0	0	0	0	0	0	0
10/06/19 04:15	66	0	0	1	1	1	0	0	0	0	0	3
10/06/19 04:30	0	0	0	0	0	0	0	0	0	0	0	0
10/06/19 04:45	0	0	2	0	0	0	0	0	0	0	0	2
10/06/19 05:00	100	0	0	0	1	1	0	0	0	0	0	2
10/06/19 05:15	0	2	0	0	0	0	0	0	0	0	0	2
10/06/19 05:30	0	1	0	0	0	0	0	0	0	0	0	1
10/06/19 05:45	57	0	2	1	0	2	0	0	0	2	0	7
10/06/19 06:00	55	0	0	4	0	0	0	4	1	0	0	9
10/06/19 06:15	83	1	0	0	0	2	1	2	0	0	0	6
10/06/19 06:30	100	0	0	0	0	0	0	2	0	0	0	2
10/06/19 06:45	0	1	0	0	0	0	0	0	0	0	0	1
10/06/19 07:00	68	1	1	3	1	1	1	1	5	0	2	16
10/06/19 07:15	90	0	1	0	0	2	3	0	5	0	0	11
10/06/19 07:30	100	0	0	0	1	1	1	3	2	2	0	10

10/06/19 07:45	93	0	1	1	1	4	6	9	1	5	2	30
10/06/19 08:00	90	1	0	2	1	4	12	5	2	3	1	31
10/06/19 08:15	93	1	0	1	3	5	5	5	7	4	2	33
10/06/19 08:30	85	2	2	0	0	7	3	5	4	3	1	27
10/06/19 08:45	91	1	1	1	4	5	4	8	4	4	4	36
10/06/19 09:00	92	2	1	0	2	6	12	8	2	3	2	38
10/06/19 09:15	95	1	1	0	1	10	7	8	10	3	0	41
10/06/19 09:30	91	0	1	2	0	5	7	5	9	2	4	35
10/06/19 09:45	91	2	2	1	7	8	6	14	7	8	2	57
10/06/19 10:00	94	2	1	0	3	6	6	19	10	3	3	53
10/06/19 10:15	86	2	0	4	4	4	10	14	4	1	2	45
10/06/19 10:30	91	3	0	0	1	5	2	13	9	2	0	35
10/06/19 10:45	94	1	0	2	0	7	6	14	13	8	2	53
10/06/19 11:00	93	0	2	2	8	12	9	20	3	3	0	59
10/06/19 11:15	92	2	2	1	4	12	9	22	6	6	4	68
10/06/19 11:30	94	2	1	0	1	7	14	17	7	3	2	54
10/06/19 11:45	95	1	1	0	1	3	11	16	8	4	2	47
10/06/19 12:00	89	2	1	2	1	11	8	10	3	11	0	49
10/06/19 12:15	95	1	0	1	5	10	7	7	5	7	1	44
10/06/19 12:30	92	1	1	1	4	4	7	14	6	1	1	40
10/06/19 12:45	85	3	2	2	0	9	4	13	11	3	1	48
10/06/19 13:00	87	2	3	1	1	8	7	11	6	6	2	47
10/06/19 13:15	77	4	4	3	4	12	6	11	4	0	0	48
10/06/19 13:30	93	3	0	0	3	12	6	9	5	6	1	45
10/06/19 13:45	95	1	1	0	2	7	6	18	8	2	0	45
10/06/19 14:00	84	7	1	0	7	5	9	12	6	4	0	51
10/06/19 14:15	88	3	1	2	4	13	10	10	5	3	1	52
10/06/19 14:30	93	1	2	1	3	15	13	20	3	4	0	62
10/06/19 14:45	86	3	1	3	3	13	3	17	2	6	0	51
10/06/19 15:00	88	3	0	2	6	7	7	10	5	2	3	45
10/06/19 15:15	89	4	0	1	5	7	11	9	4	4	1	46
10/06/19 15:30	89	2	1	3	8	11	12	9	4	4	1	55
10/06/19 15:45	93	0	1	3	5	13	13	15	5	3	0	58
10/06/19 16:00	93	0	2	2	1	11	12	15	11	3	1	58
10/06/19 16:15	88	2	2	2	4	9	15	7	9	0	2	52
10/06/19 16:30	89	3	1	1	2	6	16	8	7	5	0	49
10/06/19 16:45	81	1	5	3	1	15	9	8	4	3	0	49
10/06/19 17:00	82	6	2	0	6	8	8	13	1	1	0	45
10/06/19 17:15	93	1	0	2	4	14	16	9	1	1	1	49
10/06/19 17:30	86	2	3	1	4	5	6	16	6	2	0	45
10/06/19 17:45	78	2	1	9	5	12	6	10	2	5	4	56
10/06/19 18:00	80	4	1	3	4	7	10	5	4	3	0	41
10/06/19 18:15	91	1	1	1	1	2	12	13	5	1	0	37
10/06/19 18:30	80	2	2	4	2	6	9	7	3	4	1	40
10/06/19 18:45	89	1	2	0	1	6	7	6	5	0	0	28
10/06/19 19:00	90	1	1	1	3	4	4	3	4	10	0	31
10/06/19 19:15	87	1	0	2	3	8	1	6	2	1	0	24
10/06/19 19:30	85	2	1	1	1	2	4	13	2	2	0	28

10/06/19 19:45	66	2	4	3	1	2	1	9	5	0	0	27
10/06/19 20:00	77	2	1	2	2	1	2	6	4	2	0	22
10/06/19 20:15	96	1	0	0	4	6	8	2	6	1	0	28
10/06/19 20:30	91	0	0	2	2	8	5	6	0	0	0	23
10/06/19 20:45	96	0	1	0	2	5	6	9	1	0	1	25
10/06/19 21:00	94	0	0	1	0	5	6	4	0	0	2	18
10/06/19 21:15	86	0	2	1	2	8	4	3	1	0	1	22
10/06/19 21:30	76	1	0	2	1	1	4	3	1	0	0	13
10/06/19 21:45	100	0	0	0	0	0	2	0	0	0	0	2
10/06/19 22:00	91	0	0	1	1	6	1	1	2	0	0	12
10/06/19 22:15	90	1	0	0	1	4	1	3	0	0	1	11
10/06/19 22:30	55	0	1	3	0	1	1	3	0	0	0	9
10/06/19 22:45	100	0	0	0	1	1	0	0	0	0	0	2
10/06/19 23:00	50	0	0	1	1	0	0	0	0	0	0	2
10/06/19 23:15	75	0	1	0	0	0	3	0	0	0	0	4
10/06/19 23:30	100	0	0	0	1	1	0	0	0	0	0	2
10/06/19 23:45	100	0	0	0	0	0	0	0	0	1	0	1
10/07/19 00:00	100	0	0	0	0	0	0	0	1	1	0	2
10/07/19 00:15	100	0	0	0	0	0	1	1	0	0	0	2
10/07/19 00:30	100	0	0	0	0	0	0	0	0	1	0	1
10/07/19 00:45	75	0	0	1	0	1	2	0	0	0	0	4
10/07/19 01:00	66	1	0	0	0	1	1	0	0	0	0	3
10/07/19 01:15	100	0	0	0	2	0	0	0	0	2	0	4
10/07/19 01:30	0	0	0	0	0	0	0	0	0	0	0	0
10/07/19 01:45	0	0	0	0	0	0	0	0	0	0	0	0
10/07/19 02:00	0	0	0	0	0	0	0	0	0	0	0	0
10/07/19 02:15	100	0	0	0	0	0	2	0	0	0	0	2
10/07/19 02:30	0	0	0	0	0	0	0	0	0	0	0	0
10/07/19 02:45	100	0	0	0	0	0	0	0	0	2	0	2
10/07/19 03:00	0	0	0	0	0	0	0	0	0	0	0	0
10/07/19 03:15	100	0	0	0	2	0	1	1	0	0	2	6
10/07/19 03:30	100	0	0	0	0	2	0	0	0	0	0	2
10/07/19 03:45	66	1	0	0	1	1	0	0	0	0	0	3
10/07/19 04:00	0	1	0	0	0	0	0	0	0	0	0	1
10/07/19 04:15	66	0	2	0	2	1	1	0	0	0	0	6
10/07/19 04:30	0	1	0	0	0	0	0	0	0	0	0	1
10/07/19 04:45	100	0	0	0	0	2	2	0	0	0	0	4
10/07/19 05:00	33	3	1	2	0	0	1	1	0	0	1	9
10/07/19 05:15	100	0	0	0	0	0	0	0	0	0	2	2
10/07/19 05:30	100	0	0	0	0	3	1	2	2	0	0	8
10/07/19 05:45	80	1	3	1	0	7	5	4	1	2	1	25
10/07/19 06:00	94	1	0	0	1	5	1	6	3	0	0	17
10/07/19 06:15	92	2	0	0	1	5	8	6	3	0	0	25
10/07/19 06:30	92	0	1	1	4	4	8	5	3	2	0	28
10/07/19 06:45	80	2	4	3	7	10	4	9	7	1	0	47
10/07/19 07:00	88	2	3	1	6	9	5	8	8	6	3	51
10/07/19 07:15	95	2	1	0	2	7	11	20	12	5	2	62
10/07/19 07:30	91	1	1	4	1	12	15	16	9	4	5	68

10/07/19 07:45	90	3	0	3	3	7	19	18	9	3	0	65
10/07/19 08:00	98	0	1	0	4	17	11	27	3	2	0	65
10/07/19 08:15	92	2	0	2	3	6	13	15	8	2	6	57
10/07/19 08:30	88	1	2	5	3	17	18	13	6	2	2	69
10/07/19 08:45	94	1	2	1	5	6	25	14	12	3	0	69
10/07/19 09:00	94	1	2	0	7	9	9	14	8	4	1	55
10/07/19 09:15	92	3	0	1	2	10	13	11	2	7	2	51

Section H

There are no attachments for Section H.

Section I

There are no attachments for Section I.

Section J

Cost Summary Table

Proposal Estimate



City of Stamford
Magee at Shippan/Harbor Roundabout

<u>Construction Cost Element</u>	<u>LOTICIP Participating (\$)</u>	<u>LOTICIP Non-Participating (\$)</u>	<u>Total (\$)</u>
Contract	\$ 2,284,668.21	\$ 211,848.48	\$ 2,496,516.69
Incidentals	\$ 228,466.82	\$ 21,184.85	\$ 249,651.67
Contingency	\$ 228,466.82	\$ 21,184.85	\$ 249,651.67
Utilities	\$ -	\$ -	\$ -
Right of Way	\$ 35,000.00	\$ -	\$ 35,000.00
Grand Total:	\$ 2,776,601.85	\$ 254,218.18	\$ 3,030,820.03

***All efforts will be made to re-utilize or re-purpose any existing materials and appurtenances where feasible.*

PROPOSAL ESTIMATE

FOR THE CONSTRUCTION OF:

MAGEE AT SHIPPAN/HARBOR ROUNDABOUT
STAMFORD, CT

TOWN OF STAMFORD, CT
PROJECT NO. 20180287.C11
ESTIMATE BY GLD
DATE 5/13/2020
REVISED 7/9/2021
CHECKED BY JAG

NO.	ITEM	UNIT	QUANTITY	PRICE	LOT/CIP PARTICIPATING	LOT/CIP NON-PARTICIPATING	TOTAL COST
0000159	2" SCHEDULE 40 PVC CONDUIT IN TRENCH	l.f.	900	\$10.00	\$9,000.00		\$9,000.00
0000462	600V COPPER WIRE NO. 6, AWG	l.f.	1065	\$3.00	\$3,195.00		\$3,195.00
0000564	CENTRAL ISLAND LIGHTING AND CONTROLS	l.s.	1	\$10,000.00	\$10,000.00		\$10,000.00
0202000	EARTH EXCAVATION	c.y.	2357	\$20.00	\$47,132.84		\$47,132.84
0202100	ROCK EXCAVATION	c.y.	236	\$80.00	\$18,869.14		\$18,869.14
0202513	REMOVAL OF CONCRETE SIDEWALK	s.y.	375	\$15.00	\$5,625.00		\$5,625.00
0202529	CUT BITUMINOUS CONCRETE PAVEMENT	l.f.	2500	\$6.00	\$15,000.00		\$15,000.00
0209001	FORMATION OF SUBGRADE	s.y.	4400	\$3.00	\$13,200.00		\$13,200.00
0212000	SUBBASE	c.y.	1475	\$40.00	\$59,000.00		\$59,000.00
0219001	SEDIMENTATION CONTROL SYSTEM	l.f.	2500	\$5.50	\$13,750.00		\$13,750.00
0219011	SEDIMENT CONTROL SYSTEM AT CATCH BASIN	ea.	8	\$150.00	\$1,200.00		\$1,200.00
0406002	TEMPORARY PAVEMENT	s.y.	848	\$40.00	\$33,920.00		\$33,920.00
0406170	HMA S1	ton	1000	\$105.00	\$105,000.00		\$105,000.00
0406171	HMA S0.5	ton	1250	\$95.00	\$118,750.00		\$118,750.00
0406236	MATERIAL FOR TACK COAT	gal	650	\$6.00	\$3,900.00		\$3,900.00
0406267	MILLING OF HMA (0" TO 4")	s.y.	2050	\$12.50	\$25,625.00		\$25,625.00
0406999	ASPHALT ADJUSTMENT COST	est.	4000	\$1.00	\$4,000.00		\$4,000.00
0586001.10	TYPE "C" CATCH BASIN - 0' - 10' DEEP	ea.	8	\$3,750.00	\$30,000.00		\$30,000.00
0586500.10	MANHOLE - 0' - 10' DEEP	ea.	2	\$3,500.00	\$7,000.00		\$7,000.00
0586650	RESET MANHOLE	ea.	2	\$750.00	\$1,500.00		\$1,500.00
0586703	CONVERT CATCH BASIN TO MANHOLE	ea.	8	\$2,400.00	\$19,200.00		\$19,200.00
0601020	STAMPED CONCRETE	s.f.	7500	\$30.00	\$225,000.00		\$225,000.00
0686000.15	15" R.C. PIPE - 0' - 10' DEEP	l.f.	200	\$60.00	\$12,000.00		\$12,000.00
0813021	6" GRANITE STONE CURBING	l.f.	1400	\$40.00	\$56,000.00		\$56,000.00
0813022	2" MOUNTABLE GRANITE STONE CURBING - TRUCK APRON	l.f.	325	\$45.00	\$14,625.00		\$14,625.00
0813023	4" MOUNTABLE GRANITE STONE CURBING - SPLITTER ISLANDS	l.f.	1525	\$50.00	\$76,250.00		\$76,250.00
0813034	6" GRANITE CENTRAL ISLAND CURBING	l.f.	200	\$55.00	\$11,000.00		\$11,000.00
0921001	CONCRETE SIDEWALK	s.f.	8000	\$12.50	\$100,000.00		\$100,000.00
0921005	CONCRETE SIDEWALK RAMP	s.f.	1500	\$20.00	\$30,000.00		\$30,000.00
0922250	BITUMINOUS CONCRETE BIKEWAY	s.y.	450	\$85.00	\$38,250.00		\$38,250.00
0922500	BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)	s.y.	40	\$50.00	\$2,000.00		\$2,000.00
0944000	FURNISHING AND PLACING TOPSOIL	s.y.	1500	\$7.00	\$10,500.00		\$10,500.00
0947304	BUS STOP CONCRETE PAD WITH SHELTER	ea.	2	\$5,000.00	\$10,000.00		\$10,000.00
0949715	LANDSCAPING / GATEWAY TREATMENT	l.s.	1	\$50,000.00		\$50,000.00	\$50,000.00
0950005	TURF ESTABLISHMENT	s.y.	1900	\$2.00	\$3,800.00		\$3,800.00
0969060	CONSTRUCTION FIELD OFFICE, SMALL	mo.	12	\$2,500.00	\$30,000.00		\$30,000.00
0970006	TRAFFICPERSON (MUNICIPAL POLICE OFFICER)	est.	288000	\$1.00	\$288,000.00		\$288,000.00
1003381	DECORATIVE LIGHT POLE AND DOUBLE GLOBE LIGHT FIXTURE	ea.	2	\$9,000.00		\$18,000.00	\$18,000.00
1003382	DECORATIVE LIGHT POLE AND LIGHT FIXTURE	ea.	8	\$6,000.00		\$48,000.00	\$48,000.00
1010001	CONCRETE HANDHOLE	ea.	10	\$400.00		\$4,000.00	\$4,000.00
1017014	DECORATIVE LIGHT ELECTRICAL SERVICE CABINET	ea.	1	\$25,000.00		\$25,000.00	\$25,000.00
1118012	REMOVAL AND/OR RELOCATION OF TRAFFIC SIGNAL EQUIPMENT	l.s.	1	\$15,000.00	\$15,000.00		\$15,000.00
1118051	TEMPORARY SIGNALIZATION (SITE NO. 1)	l.s.	1	\$5,000.00	\$5,000.00		\$5,000.00
1206023	REMOVAL AND RELOCATION OF EXISTING SIGNS	l.s.	1	\$1,000.00	\$1,000.00		\$1,000.00
1208932	SIGN FACE - SHEET ALUMINUM (TYPE IV RETROREFLECTIVE SHEETING)	s.f.	400	\$40.00	\$16,000.00		\$16,000.00
1210101	4" WHITE EPOXY RESIN PAVEMENT MARKINGS	l.f.	3005	\$0.50	\$1,502.50		\$1,502.50
1210102	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS	l.f.	2400	\$0.50	\$1,200.00		\$1,200.00
1210105	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS	s.f.	125	\$4.00	\$500.00		\$500.00
1220027	CONSTRUCTION SIGNS	s.f.	300	\$15.00	\$4,500.00		\$4,500.00
1303195	REMOVE HYDRANT (WATER MAIN)	ea.	1	\$2,250.00	\$2,250.00		\$2,250.00
1303198	HYDRANT (WATER MAIN)	ea.	1	\$4,500.00	\$4,500.00		\$4,500.00
	STREET ELECTRICAL AND CONDUIT	l.f.	2000	\$30.00	\$60,000.00		\$60,000.00
A	Major Items Subtotal (EXCLUDES CLEARING AND GRUBBING, M&PT MOBILIZATION, CONSTRUCTION STAKING)				\$1,563,744.48	\$145,000.00	\$1,708,744.48
B	Minor Items Subtotal (0% at Final Design)	20	% of Line "A"		\$312,748.90	\$29,000.00	\$341,748.90
C	Major and Minor Contract Items Subtotal (A + B)				\$1,876,493.37	\$174,000.00	\$2,050,493.37
	Other Item Allowances						
	Clearing and Grubbing (suggested 0.5% - 2%)	0.5	% of Line "C"		\$9,382.47	\$870.00	\$10,252.47
	M & P of Traffic (suggested 2% - 5%)	5	% of Line "C"		\$93,824.67	\$8,700.00	\$102,524.67
	Mobilization (suggested 4% - 10%)	7	% of Line "C"		\$131,354.54	\$12,180.00	\$143,534.54
	Construction Staking (suggested 1% - 2%)	1.5	% of Line "C"		\$28,147.40	\$2,610.00	\$30,757.40
D	Other Items Subtotal				\$262,709.07	\$24,360.00	\$287,069.07
E	CONTRACT SUBTOTAL (C + D)				\$2,139,202.44	\$198,360.00	\$2,337,562.44
	Inflation Costs (Simple Method)						
	Date of Estimate	Jul-21					
	Anticipated Bid Date	Apr-23					
	Base Years	1.7					
	Annual Inflation (4% annually, 0% at Final Design)	4%					
F	Inflation Subtotal	6.8%	of Line "E"		\$145,465.77	\$13,488.48	\$158,954.25
G	TOTAL CONTRACT COST ESTIMATE (E + F)				\$2,284,668.21	\$211,848.48	\$2,496,516.69
	Project Costs Summary						
	Contract Cost Estimate (Line "G")				\$2,284,668.21	\$211,848.48	\$2,496,516.69
	Contingencies (10% for all LOTCIP projects)	10%			\$228,466.82	\$21,184.85	\$249,651.67
	Incidentals (10% for all LOTCIP projects)	10%			\$228,466.82	\$21,184.85	\$249,651.67
	ROW	LS			\$35,000.00	\$0.00	\$35,000.00
	Utilities	LS			\$0.00	\$0.00	\$0.00
	TOTAL PROJECT COST				\$2,776,601.85	\$254,218.18	\$3,030,820.03

Section K

There are no attachments for Section K.

Section L

2020 Weekday Morning Background

2040 Weekday Morning Background

2020 Weekday Morning Roundabout

2040 Weekday Morning Roundabout

2020 Weekday Afternoon Background























2040 Weekday Afternoon Background

2020 Weekday Afternoon Roundabout

2040 Weekday Afternoon Roundabout

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2020 AM Background

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	18	0	95	56	156	1	440	141	95	190	217
Future Volume (vph)	100	18	0	95	56	156	1	440	141	95	190	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	1		1	1		0	0		1	1		1
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.890				0.850			0.850
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1601	1733	1837	1636	3004	0	0	1783	1383	1518	1529	1449
Flt Permitted	0.567			0.745						0.237		
Satd. Flow (perm)	955	1733	1837	1283	3004	0	0	1783	1383	379	1529	1449
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					167				151			233
Link Speed (mph)		30			25			25				25
Link Distance (ft)		541			366			740				259
Travel Time (s)		12.3			10.0			20.2				7.1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	9%	6%	0%	3%	4%	8%	0%	3%	9%	11%	16%	4%
Adj. Flow (vph)	107	19	0	102	60	167	1	472	151	102	204	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	19	0	102	227	0	0	473	151	102	204	233
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3 4	3 4
Permitted Phases	6			2			4			4		
Detector Phase	1	6	6	5	2		4	4	4	3	3 4	3 4
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		15.0	15.0	15.0	5.0		
Minimum Split (s)	9.0	32.5	32.5	9.0	32.5		35.0	35.0	35.0	9.0		
Total Split (s)	11.0	33.0	33.0	11.0	33.0		46.0	46.0	46.0	10.0		
Total Split (%)	11.0%	33.0%	33.0%	11.0%	33.0%		46.0%	46.0%	46.0%	10.0%		
Maximum Green (s)	7.0	25.5	25.5	7.0	25.5		39.0	39.0	39.0	6.0		
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7		3.7	3.7	3.7	3.0		
All-Red Time (s)	1.0	3.8	3.8	1.0	3.8		3.3	3.3	3.3	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
Total Lost Time (s)	4.0	7.5	7.5	4.0	7.5			7.0	7.0	4.0		
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		
Recall Mode	None	None	None	None	C-Max		None	None	None	None		
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		18.0	18.0		18.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		3	3		3		0	0	0			
Act Effct Green (s)	44.2	33.7		41.0	30.6			32.7	32.7	41.7	45.7	45.7
Actuated g/C Ratio	0.44	0.34		0.41	0.31			0.33	0.33	0.42	0.46	0.46
v/c Ratio	0.23	0.03		0.19	0.22			0.81	0.27	0.45	0.29	0.30

Lanes, Volumes, Timings
 1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
 2020 AM Background

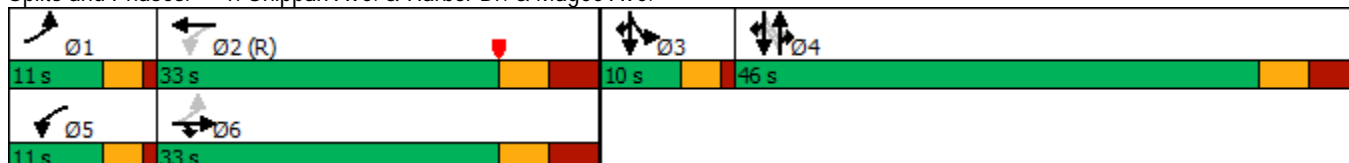


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	19.0	27.7		18.6	9.5			41.9	4.8	21.0	17.1	2.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	27.7		18.6	9.5			41.9	4.8	21.0	17.1	2.7
LOS	B	C		B	A			D	A	C	B	A
Approach Delay		20.3			12.3			32.9			11.6	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	39	9		37	15			268	0	36	77	0
Queue Length 95th (ft)	80	28		77	45			362	39	60	114	36
Internal Link Dist (ft)		461			286			660			179	
Turn Bay Length (ft)	280			165					235	165		100
Base Capacity (vph)	476	584		557	1035			695	631	226	795	865
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.22	0.03		0.18	0.22			0.68	0.24	0.45	0.26	0.27

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 20.7
 Intersection LOS: C
 Intersection Capacity Utilization 65.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Shippan Ave. & Harbor Dr. & Magee Ave.



HCM Signalized Intersection Capacity Analysis Shippan at Magee Roadway Improvements
 1: Shippan Ave. & Harbor Dr. & Magee Ave. 2020 AM Background


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	18	0	95	56	156	1	440	141	95	190	217
Future Volume (vph)	100	18	0	95	56	156	1	440	141	95	190	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	12	9	12	11	10	10	10	10
Total Lost time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.89			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1601	1733		1636	3003			1783	1383	1518	1529	1449
Flt Permitted	0.57	1.00		0.75	1.00			1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	956	1733		1283	3003			1782	1383	378	1529	1449
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor (vph)	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Adj. Flow (vph)	107	19	0	102	60	167	1	472	151	102	204	233
RTOR Reduction (vph)	0	0	0	0	116	0	0	0	102	0	0	134
Lane Group Flow (vph)	107	19	0	102	111	0	0	473	49	102	204	99
Heavy Vehicles (%)	9%	6%	0%	3%	4%	8%	0%	3%	9%	11%	16%	4%
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3	4
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	41.1	32.9		36.5	30.6			32.7	32.7	38.7	42.7	42.7
Effective Green, g (s)	41.1	32.9		36.5	30.6			32.7	32.7	38.7	42.7	42.7
Actuated g/C Ratio	0.41	0.33		0.36	0.31			0.33	0.33	0.39	0.43	0.43
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0		
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0	2.0		
Lane Grp Cap (vph)	445	570		489	918			582	452	214	652	618
v/s Ratio Prot	c0.02	0.01		0.01	0.04				0.04	c0.03	0.13	0.07
v/s Ratio Perm	c0.08			0.06				c0.27		0.16		
v/c Ratio	0.24	0.03		0.21	0.12			0.81	0.11	0.48	0.31	0.16
Uniform Delay, d1	18.6	22.8		21.5	25.0			30.8	23.5	21.8	18.9	17.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0		0.1	0.3			8.1	0.0	0.6	0.1	0.0
Delay (s)	18.7	22.8		21.6	25.3			38.9	23.5	22.4	19.0	17.7
Level of Service	B	C		C	C			D	C	C	B	B
Approach Delay (s)		19.3			24.1			35.2			19.1	
Approach LOS		B			C			D			B	

Intersection Summary		
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.51	C
Actuated Cycle Length (s)	100.0	Sum of lost time (s)
Intersection Capacity Utilization	65.5%	22.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2040 AM Background

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	20	0	108	63	177	1	499	160	108	215	246
Future Volume (vph)	113	20	0	108	63	177	1	499	160	108	215	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	1		1	1		0	0		1	1		1
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.890				0.850			0.850
Fl _t Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1601	1733	1837	1636	3004	0	0	1783	1383	1518	1529	1449
Fl _t Permitted	0.583			0.744						0.202		
Satd. Flow (perm)	982	1733	1837	1281	3004	0	0	1783	1383	323	1529	1449
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					184				167			256
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		541			366			740			259	
Travel Time (s)		12.3			10.0			20.2			7.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	9%	6%	0%	3%	4%	8%	0%	3%	9%	11%	16%	4%
Adj. Flow (vph)	118	21	0	113	66	184	1	520	167	113	224	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	21	0	113	250	0	0	521	167	113	224	256
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3 4	3 4
Permitted Phases	6			2			4			4		
Detector Phase	1	6	6	5	2		4	4	4	3	3 4	3 4
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		15.0	15.0	15.0	5.0		
Minimum Split (s)	9.0	32.5	32.5	9.0	32.5		35.0	35.0	35.0	9.0		
Total Split (s)	11.0	33.0	33.0	11.0	33.0		46.0	46.0	46.0	10.0		
Total Split (%)	11.0%	33.0%	33.0%	11.0%	33.0%		46.0%	46.0%	46.0%	10.0%		
Maximum Green (s)	7.0	25.5	25.5	7.0	25.5		39.0	39.0	39.0	6.0		
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7		3.7	3.7	3.7	3.0		
All-Red Time (s)	1.0	3.8	3.8	1.0	3.8		3.3	3.3	3.3	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
Total Lost Time (s)	4.0	7.5	7.5	4.0	7.5			7.0	7.0	4.0		
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		
Recall Mode	None	None	None	None	C-Max		None	None	None	None		
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		18.0	18.0		18.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		3	3		3		0	0	0			
Act Effct Green (s)	41.3	29.9		39.7	29.2			34.5	34.5	43.5	47.5	47.5
Actuated g/C Ratio	0.41	0.30		0.40	0.29			0.34	0.34	0.44	0.48	0.48
v/c Ratio	0.26	0.04		0.21	0.25			0.85	0.28	0.53	0.31	0.31
Control Delay	20.3	28.2		19.6	9.6			43.6	4.6	23.7	16.6	2.7

Lanes, Volumes, Timings
 1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
 2040 AM Background

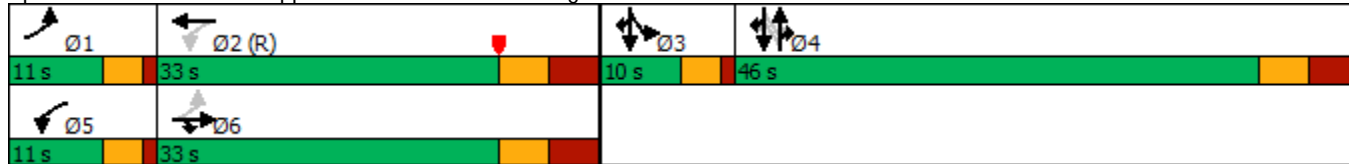


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	28.2		19.6	9.6			43.6	4.6	23.7	16.6	2.7
LOS	C	C		B	A			D	A	C	B	A
Approach Delay		21.5			12.7			34.1			11.9	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	46	10		44	16			291	0	37	80	0
Queue Length 95th (ft)	87	29		84	48			411	41	66	125	37
Internal Link Dist (ft)		461			286			660			179	
Turn Bay Length (ft)	280			165					235	165		100
Base Capacity (vph)	455	518		539	1006			695	641	212	795	876
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.26	0.04		0.21	0.25			0.75	0.26	0.53	0.28	0.29

Intersection Summary
























Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 21.4
 Intersection Capacity Utilization 70.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 1: Shippan Ave. & Harbor Dr. & Magee Ave.



HCM Signalized Intersection Capacity Analysis
1: Shippan Ave. & Harbor Dr. & Magee Ave.

















Shippan at Magee Roadway Improvements
2040 AM Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	20	0	108	63	177	1	499	160	108	215	246
Future Volume (vph)	113	20	0	108	63	177	1	499	160	108	215	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	12	9	12	11	10	10	10	10
Total Lost time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00	1.00	1.00	1.00
Fr _t	1.00	1.00		1.00	0.89			1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1601	1733		1636	3003			1783	1383	1518	1529	1449
Fl _t Permitted	0.58	1.00		0.74	1.00			1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	982	1733		1280	3003			1783	1383	323	1529	1449
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	118	21	0	112	66	184	1	520	167	112	224	256
RTOR Reduction (vph)	0	0	0	0	130	0	0	0	109	0	0	142
Lane Group Flow (vph)	118	21	0	113	120	0	0	521	58	113	224	114
Heavy Vehicles (%)	9%	6%	0%	3%	4%	8%	0%	3%	9%	11%	16%	4%
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3	4
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	37.7	29.9		36.3	29.2			34.5	34.5	40.5	44.5	44.5
Effective Green, g (s)	37.7	29.9		36.3	29.2			34.5	34.5	40.5	44.5	44.5
Actuated g/C Ratio	0.38	0.30		0.36	0.29			0.34	0.34	0.40	0.44	0.44
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0		
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0	2.0		
Lane Grp Cap (vph)	418	518		489	876			615	477	202	680	644
v/s Ratio Prot	c0.02	0.01		0.02	0.04				0.04	c0.03	0.15	0.08
v/s Ratio Perm	c0.08			0.07				0.29		0.19		
v/c Ratio	0.28	0.04		0.23	0.14			0.85	0.12	0.56	0.33	0.18
Uniform Delay, d ₁	21.0	24.9		21.8	26.1			30.3	22.4	21.4	18.0	16.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	0.1	0.0		0.1	0.3			10.1	0.0	1.9	0.1	0.0
Delay (s)	21.1	24.9		21.9	26.4			40.4	22.4	23.3	18.2	16.8
Level of Service	C	C		C	C			D	C	C	B	B
Approach Delay (s)		21.7			25.0			36.0			18.5	
Approach LOS		C			C			D			B	
Intersection Summary												
HCM 2000 Control Delay			26.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			22.5			
Intersection Capacity Utilization			70.1%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2020 AM Roundabout

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	18	0	95	56	156	1	440	141	95	190	217
Future Volume (vph)	100	18	0	95	56	156	1	440	141	95	190	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.931			0.967				0.942
Fl _t Protected		0.959			0.985							0.991
Satd. Flow (prot)	0	1623	0	0	1648	0	0	1700	0	0	1507	0
Fl _t Permitted		0.959			0.985							0.991
Satd. Flow (perm)	0	1623	0	0	1648	0	0	1700	0	0	1507	0
Link Speed (mph)		30			25			25				25
Link Distance (ft)		541			366			740				259
Travel Time (s)		12.3			10.0			20.2				7.1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	9%	6%	0%	3%	4%	8%	0%	3%	9%	11%	16%	4%
Adj. Flow (vph)	107	19	0	102	60	167	1	472	151	102	204	233
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	329	0	0	624	0	0	539	0
Sign Control		Yield			Yield			Yield			Yield	

















Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	89.3%
Analysis Period (min)	15
	ICU Level of Service E

Intersection				
Intersection Delay, s/veh	10.6			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	126	329	624	539
Demand Flow Rate, veh/h	137	347	652	592
Vehicles Circulating, veh/h	455	604	250	168
Vehicles Exiting, veh/h	305	298	342	783
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.2	11.8	11.9	9.4
Approach LOS	A	B	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	137	347	652	592
Cap Entry Lane, veh/h	868	745	1069	1163
Entry HV Adj Factor	0.919	0.947	0.957	0.911
Flow Entry, veh/h	126	329	624	539
Cap Entry, veh/h	797	706	1023	1059
V/C Ratio	0.158	0.466	0.610	0.509
Control Delay, s/veh	6.2	11.8	11.9	9.4
LOS	A	B	B	A
95th %tile Queue, veh	1	2	4	3

Lanes, Volumes, Timings
 1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
 2040 AM Roundabout

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	20	0	108	63	177	1	499	160	108	215	246
Future Volume (vph)	113	20	0	108	63	177	1	499	160	108	215	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.932			0.967				0.942
Flt Protected		0.959			0.985						0.991	
Satd. Flow (prot)	0	1623	0	0	1650	0	0	1700	0	0	1507	0
Flt Permitted		0.959			0.985						0.991	
Satd. Flow (perm)	0	1623	0	0	1650	0	0	1700	0	0	1507	0
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		541			382			740			259	
Travel Time (s)		12.3			10.4			20.2			7.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	9%	6%	0%	3%	4%	8%	0%	3%	9%	11%	16%	4%
Adj. Flow (vph)	118	21	0	113	66	184	1	520	167	113	224	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	139	0	0	363	0	0	688	0	0	593	0
Sign Control		Yield			Yield			Yield			Yield	























Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	97.3%
Analysis Period (min)	15
	ICU Level of Service F

Intersection				
Intersection Delay, s/veh	12.8			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	139	363	688	593
Demand Flow Rate, veh/h	151	384	719	651
Vehicles Circulating, veh/h	501	666	276	186
Vehicles Exiting, veh/h	336	329	376	864
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.7	14.6	14.7	10.8
Approach LOS	A	B	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	151	384	719	651
Cap Entry Lane, veh/h	828	700	1041	1141
Entry HV Adj Factor	0.919	0.946	0.957	0.911
Flow Entry, veh/h	139	363	688	593
Cap Entry, veh/h	761	662	997	1040
V/C Ratio	0.182	0.549	0.690	0.570
Control Delay, s/veh	6.7	14.6	14.7	10.8
LOS	A	B	B	B
95th %tile Queue, veh	1	3	6	4

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2020 PM Background

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	72	0	174	25	150	2	214	151	233	382	84
Future Volume (vph)	207	72	0	174	25	150	2	214	151	233	382	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	1		1	1		0	0		1	1		1
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.871				0.850			0.850
Fl _t Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1711	1818	1837	1636	3118	0	0	1784	1463	1685	1756	1449
Fl _t Permitted	0.600			0.706				0.996		0.505		
Satd. Flow (perm)	1080	1818	1837	1216	3118	0	0	1776	1463	896	1756	1449
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					163				164			103
Link Speed (mph)		30			25			25				25
Link Distance (ft)		541			530			740				259
Travel Time (s)		12.3			14.5			20.2				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	2%	1%	0%	3%	0%	1%	0%	3%	3%	0%	1%	4%
Adj. Flow (vph)	224	78	0	189	27	163	2	232	164	253	414	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	78	0	189	190	0	0	234	164	253	414	91
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3 4	3 4
Permitted Phases	6			2			4			4		
Detector Phase	1	6	6	5	2		4	4	4	3	3 4	3 4
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		15.0	15.0	15.0	5.0		
Minimum Split (s)	9.0	32.5	32.5	9.0	32.5		35.0	35.0	35.0	9.0		
Total Split (s)	15.0	22.0	22.0	15.0	22.0		35.0	35.0	35.0	18.0		
Total Split (%)	16.7%	24.4%	24.4%	16.7%	24.4%		38.9%	38.9%	38.9%	20.0%		
Maximum Green (s)	11.0	14.5	14.5	11.0	14.5		28.0	28.0	28.0	14.0		
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7		3.7	3.7	3.7	3.0		
All-Red Time (s)	1.0	3.8	3.8	1.0	3.8		3.3	3.3	3.3	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
Total Lost Time (s)	4.0	7.5	7.5	4.0	7.5			7.0	7.0	4.0		
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		
Recall Mode	None	None	None	None	C-Max		None	None	None	None		
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		18.0	18.0		18.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		4	4		4		4	4	4			
Act Effct Green (s)	38.5	23.7		36.0	22.5			19.8	19.8	36.8	40.8	40.8
Actuated g/C Ratio	0.43	0.26		0.40	0.25			0.22	0.22	0.41	0.45	0.45
v/c Ratio	0.41	0.16		0.36	0.21			0.60	0.36	0.52	0.52	0.13

Lanes, Volumes, Timings
 1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
 2020 PM Background

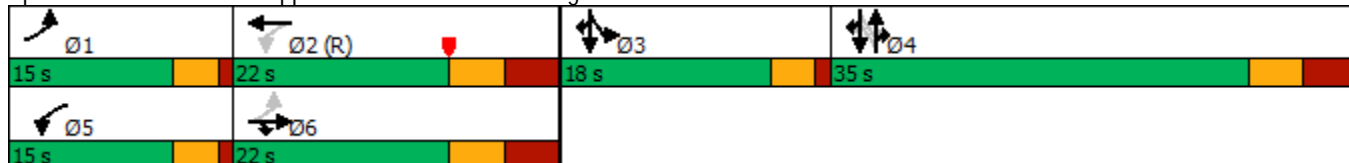


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	19.8	30.3		19.0	8.4			37.3	6.6	19.2	19.5	2.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	30.3		19.0	8.4			37.3	6.6	19.2	19.5	2.3
LOS	B	C		B	A			D	A	B	B	A
Approach Delay		22.5			13.7			24.6			17.3	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	75	34		62	6			122	0	91	166	0
Queue Length 95th (ft)	151	81		130	36			172	43	118	202	17
Internal Link Dist (ft)		461			450			660			179	
Turn Bay Length (ft)	280			165					235	165		100
Base Capacity (vph)	549	478		558	901			552	568	489	940	823
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.41	0.16		0.34	0.21			0.42	0.29	0.52	0.44	0.11























Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 19.0
 Intersection LOS: B
 Intersection Capacity Utilization 69.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Shippan Ave. & Harbor Dr. & Magee Ave.


























HCM Signalized Intersection Capacity Analysis Shippan at Magee Roadway Improvements
 1: Shippan Ave. & Harbor Dr. & Magee Ave. 2020 PM Background

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	207	72	0	174	25	150	2	214	151	233	382	84	
Future Volume (vph)	207	72	0	174	25	150	2	214	151	233	382	84	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	10	12	9	12	11	10	10	10	10	
Total Lost time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.87			1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1711	1818		1636	3119			1783	1463	1685	1756	1449	
Flt Permitted	0.60	1.00		0.71	1.00			1.00	1.00	0.50	1.00	1.00	
Satd. Flow (perm)	1081	1818		1216	3119			1776	1463	895	1756	1449	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor (vph)	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	
Adj. Flow (vph)	224	78	0	189	27	163	2	232	164	253	414	91	
RTOR Reduction (vph)	0	0	0	0	122	0	0	0	128	0	0	53	
Lane Group Flow (vph)	224	78	0	189	68	0	0	234	36	253	414	38	
Heavy Vehicles (%)	2%	1%	0%	3%	0%	1%	0%	3%	3%	0%	1%	4%	
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot	
Protected Phases	1	6	6	5	2			4	4	3	3	4	
Permitted Phases	6			2			4			4			
Actuated Green, G (s)	34.9	23.7		32.5	22.5			19.8	19.8	33.8	37.8	37.8	
Effective Green, g (s)	34.9	23.7		32.5	22.5			19.8	19.8	33.8	37.8	37.8	
Actuated g/C Ratio	0.39	0.26		0.36	0.25			0.22	0.22	0.38	0.42	0.42	
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0			
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0	2.0			
Lane Grp Cap (vph)	497	478		485	779			390	321	459	737	608	
v/s Ratio Prot	c0.06	0.04		0.04	0.02					0.02	0.09	c0.24	
v/s Ratio Perm	c0.12			0.10				0.13		0.12			
v/c Ratio	0.45	0.16		0.39	0.09			0.60	0.11	0.55	0.56	0.06	
Uniform Delay, d1	19.4	25.5		20.8	25.9			31.5	28.1	20.7	19.8	15.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.2	0.2			1.7	0.1	0.8	0.6	0.0	
Delay (s)	19.7	25.6		21.0	26.1			33.2	28.1	21.6	20.4	15.6	
Level of Service	B	C		C	C			C	C	C	C	B	
Approach Delay (s)		21.2			23.5			31.1			20.2		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			23.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.55										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	22.5
Intersection Capacity Utilization			69.6%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2040 PM Background

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	82	0	197	28	170	2	243	171	264	433	95
Future Volume (vph)	235	82	0	197	28	170	2	243	171	264	433	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	1		1	1		0	0		1	1		1
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.871				0.850			0.850
Fl _t Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1711	1818	1837	1636	3117	0	0	1784	1463	1685	1756	1449
Fl _t Permitted	0.585			0.701				0.996		0.468		
Satd. Flow (perm)	1053	1818	1837	1207	3117	0	0	1776	1463	830	1756	1449
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					179				180			103
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		541			530			740			259	
Travel Time (s)		12.3			14.5			20.2			7.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	1%	0%	3%	0%	1%	0%	3%	3%	0%	1%	4%
Adj. Flow (vph)	247	86	0	207	29	179	2	256	180	278	456	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	86	0	207	208	0	0	258	180	278	456	100
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3 4	3 4
Permitted Phases	6			2			4			4		
Detector Phase	1	6	6	5	2		4	4	4	3	3 4	3 4
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		15.0	15.0	15.0	5.0		
Minimum Split (s)	9.0	32.5	32.5	9.0	32.5		35.0	35.0	35.0	9.0		
Total Split (s)	15.0	22.0	22.0	15.0	22.0		35.0	35.0	35.0	18.0		
Total Split (%)	16.7%	24.4%	24.4%	16.7%	24.4%		38.9%	38.9%	38.9%	20.0%		
Maximum Green (s)	11.0	14.5	14.5	11.0	14.5		28.0	28.0	28.0	14.0		
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7		3.7	3.7	3.7	3.0		
All-Red Time (s)	1.0	3.8	3.8	1.0	3.8		3.3	3.3	3.3	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		
Total Lost Time (s)	4.0	7.5	7.5	4.0	7.5			7.0	7.0	4.0		
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		
Recall Mode	None	None	None	None	C-Max		None	None	None	None		
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		18.0	18.0		18.0		21.0	21.0	21.0			
Pedestrian Calls (#/hr)		4	4		4		4	4	4			
Act Effct Green (s)	37.5	22.1		34.9	20.8			20.8	20.8	37.8	41.8	41.8
Actuated g/C Ratio	0.42	0.25		0.39	0.23			0.23	0.23	0.42	0.46	0.46
v/c Ratio	0.47	0.19		0.40	0.24			0.63	0.38	0.58	0.56	0.14
Control Delay	21.5	31.8		20.4	8.5			37.5	6.4	20.0	19.8	2.6

Lanes, Volumes, Timings
 1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
 2040 PM Background



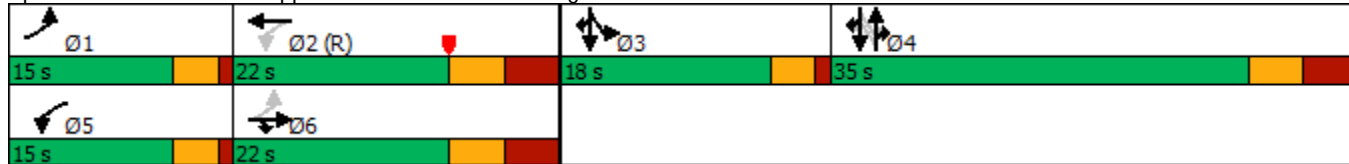
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	31.8		20.4	8.5			37.5	6.4	20.0	19.8	2.6
LOS	C	C		C	A			D	A	B	B	A
Approach Delay		24.1			14.4			24.7			17.8	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	86	39		71	6			134	0	99	184	0
Queue Length 95th (ft)	167	87		142	37			190	45	130	227	21
Internal Link Dist (ft)		461			450			660			179	
Turn Bay Length (ft)	280			165					235	165		100
Base Capacity (vph)	529	446		539	858			552	579	481	956	835
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.47	0.19		0.38	0.24			0.47	0.31	0.58	0.48	0.12

Intersection Summary

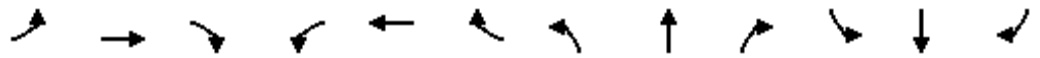
Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 19.6
 Intersection Capacity Utilization 73.7%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 1: Shippan Ave. & Harbor Dr. & Magee Ave.



HCM Signalized Intersection Capacity Analysis Shippan at Magee Roadway Improvements
 1: Shippan Ave. & Harbor Dr. & Magee Ave. 2040 PM Background



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	82	0	197	28	170	2	243	171	264	433	95
Future Volume (vph)	235	82	0	197	28	170	2	243	171	264	433	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	12	9	12	11	10	10	10	10
Total Lost time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00	1.00	1.00	1.00	1.00
Fr _t	1.00	1.00		1.00	0.87			1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1711	1818		1636	3117			1783	1463	1685	1756	1449
Fl _t Permitted	0.58	1.00		0.70	1.00			1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	1053	1818		1207	3117			1776	1463	829	1756	1449
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	247	86	0	207	29	179	2	256	180	278	456	100
RTOR Reduction (vph)	0	0	0	0	138	0	0	0	138	0	0	57
Lane Group Flow (vph)	247	86	0	207	70	0	0	258	42	278	456	43
Heavy Vehicles (%)	2%	1%	0%	3%	0%	1%	0%	3%	3%	0%	1%	4%
Turn Type	pm+pt	NA	Prot	pm+pt	NA		Perm	NA	Prot	D.P+P	NA	Prot
Protected Phases	1	6	6	5	2			4	4	3	3 4	3 4
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	34.0	22.1		31.4	20.8			20.8	20.8	34.8	38.8	38.8
Effective Green, g (s)	34.0	22.1		31.4	20.8			20.8	20.8	34.8	38.8	38.8
Actuated g/C Ratio	0.38	0.25		0.35	0.23			0.23	0.23	0.39	0.43	0.43
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0	7.0	4.0		
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0	2.0		
Lane Grp Cap (vph)	484	446		471	720			410	338	453	757	624
v/s Ratio Prot	c0.07	0.05		0.05	0.02				0.03	0.10	c0.26	0.03
v/s Ratio Perm	c0.13			0.10				0.15		0.14		
v/c Ratio	0.51	0.19		0.44	0.10			0.63	0.12	0.61	0.60	0.07
Uniform Delay, d ₁	20.4	26.9		21.8	27.2			31.1	27.4	20.4	19.7	15.0
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	0.4	0.1		0.2	0.3			2.2	0.1	1.7	0.9	0.0
Delay (s)	20.8	27.0		22.1	27.5			33.3	27.4	22.2	20.6	15.0
Level of Service	C	C		C	C			C	C	C	C	B
Approach Delay (s)		22.4			24.8			30.9			20.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2020 PM Roundabout

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	72	0	174	25	150	2	214	151	233	382	84
Future Volume (vph)	207	72	0	174	25	150	2	214	151	233	382	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.942			0.944				0.984
Flt Protected		0.964			0.976							0.984
Satd. Flow (prot)	0	1740	0	0	1714	0	0	1684	0	0	1700	0
Flt Permitted		0.964			0.976							0.984
Satd. Flow (perm)	0	1740	0	0	1714	0	0	1684	0	0	1700	0
Link Speed (mph)		30			25			25				25
Link Distance (ft)		541			530			740				259
Travel Time (s)		12.3			14.5			20.2				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	2%	1%	0%	3%	0%	1%	0%	3%	3%	0%	1%	4%
Adj. Flow (vph)	224	78	0	189	27	163	2	232	164	253	414	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	302	0	0	379	0	0	398	0	0	758	0
Sign Control		Yield			Yield			Yield			Yield	

















Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	93.9%
ICU Level of Service	F
Analysis Period (min)	15

Intersection				
Intersection Delay, s/veh	13.3			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	302	379	398	758
Demand Flow Rate, veh/h	307	387	410	766
Vehicles Circulating, veh/h	866	469	560	224
Vehicles Exiting, veh/h	124	501	613	632
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.3	10.1	12.5	14.1
Approach LOS	C	B	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	307	387	410	766
Cap Entry Lane, veh/h	571	855	779	1098
Entry HV Adj Factor	0.984	0.979	0.971	0.989
Flow Entry, veh/h	302	379	398	758
Cap Entry, veh/h	562	838	757	1086
V/C Ratio	0.538	0.452	0.526	0.698
Control Delay, s/veh	16.3	10.1	12.5	14.1
LOS	C	B	B	B
95th %tile Queue, veh	3	2	3	6

Lanes, Volumes, Timings
1: Shippan Ave. & Harbor Dr. & Magee Ave.

Shippan at Magee Roadway Improvements
2040 PM Roundabout

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	82	0	197	28	170	2	243	171	264	433	95
Future Volume (vph)	235	82	0	197	28	170	2	243	171	264	433	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	10	12	9	12	11	10	10	10	10
Storage Length (ft)	280		0	165		0	0		235	165		100
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	50			85			25			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.942			0.945				0.984
Flt Protected		0.964			0.976							0.984
Satd. Flow (prot)	0	1740	0	0	1714	0	0	1685	0	0	1700	0
Flt Permitted		0.964			0.976							0.984
Satd. Flow (perm)	0	1740	0	0	1714	0	0	1685	0	0	1700	0
Link Speed (mph)		30			25			25				25
Link Distance (ft)		541			341			740				259
Travel Time (s)		12.3			9.3			20.2				7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	1%	0%	3%	0%	1%	0%	3%	3%	0%	1%	4%
Adj. Flow (vph)	247	86	0	207	29	179	2	256	180	278	456	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	333	0	0	415	0	0	438	0	0	834	0
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	102.4%
Analysis Period (min)	15
	ICU Level of Service G

Intersection				
Intersection Delay, s/veh	17.1			
Intersection LOS	C			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	333	415	438	834
Demand Flow Rate, veh/h	339	423	451	843
Vehicles Circulating, veh/h	952	518	617	244
Vehicles Exiting, veh/h	135	550	674	697
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	22.3	11.9	15.8	18.3
Approach LOS	C	B	C	C
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	339	423	451	843
Cap Entry Lane, veh/h	523	814	735	1076
Entry HV Adj Factor	0.983	0.981	0.972	0.990
Flow Entry, veh/h	333	415	438	834
Cap Entry, veh/h	514	798	715	1065
V/C Ratio	0.649	0.520	0.613	0.784
Control Delay, s/veh	22.3	11.9	15.8	18.3
LOS	C	B	C	C
95th %tile Queue, veh	5	3	4	8

Section L

Table 1

Intersection Level of Service Summary

Shippan/Harbor/Magee Roundabout Project LOTCIP Application

Stamford, CT

Signalized Intersection	Condition			
	2020 Background	2040 Background	2020 Roundabout	2040 Roundabout
Shippan Avenue at Harbor Drive at Magee Avenue				
Morning	0.51/LOS C/26.3s*	0.56/LOS C/26.8s	LOS B/10.6s**	LOS B/12.8s**
Afternoon	0.55/LOS C/23.4s**	0.60/LOS C/23.9s**	LOS B/13.3s**	LOS C/17.1s**

*Values indicated are intersection v/c Ratio/LOS/Delay

** Values indicated are intersection LOS/Delay. V/c Ratios are not applicable to roundabouts.

Section M

There are no attachments for Section M.

Section N

There are no attachments for Section N.

Section O

There are no attachments for Section O.

Section P

There are no attachments for Section P.

Section Q

Letter of Support from the Mayor

Turning Movement Counts

Plan from Stamford Traffic Calming Master Plan Excerpt

Bicycle Network from Stamford Bicycle and Pedestrian Plan Excerpt

WestCOG Hazard Mitigation Plan Excerpt

AutoTurn Movements

Fastest Path Analysis

**CITY OF
STAMFORD**



innovating since 1641

OFFICE OF OPERATIONS

TRANSPORTATION, TRAFFIC & PARKING

Tel: (203) 977-5466/Fax: (203) 977-4004

Government Center, 888 Washington Blvd., 7TH Floor, Stamford, CT 06901

MAYOR
DAVID MARTIN

DIRECTOR OF OPERATIONS
MARK MCGRATH
Email:
mmcgrath1@stamfordct.gov

TRANSPORTATION BUREAU CHIEF
JAMES TRAVERS
Email: jtravers@stamfordct.gov

TRAFFIC ENGINEER
FRANK PETISE, P.E.
Email: fpetise@stamfordct.gov

May 12, 2020

Mr. Francis Pickering
Executive Director
Western Connecticut Council of Governments
1 Riverside Road
Sandy Hook, Connecticut 06482

RE: FY 2020–2021 LOTCIP Project Solicitation: Shippan/Harbor/Magee Roundabout Project

Dear Mr. Pickering,

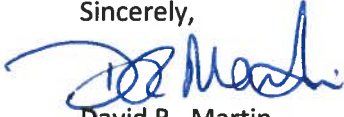
The intersection of Shippan Avenue, Harbor Drive, and Magee Avenue is a focal point of the Cove and Shippan neighborhoods serving as a key connection point to several diverse neighborhoods and buildings in Stamford.

This intersection is a gateway for the Shippan Point Neighborhood, Cummings Park and Beach, the Shippan Avenue Commercial District and the Shippan Landing Office Park, home to several multi-national corporations. This intersection is directly adjacent to some of Stamford's largest parks and beaches which draws children and families from across the Region. However, the current intersection lacks bicycle facilities and has aging signal equipment. Replacing this aging signal with a modern roundabout will not only serve as a gateway to the neighborhoods, commercial districts and office park, but it will also effectively handle the seasonal influx of traffic to the parks and beaches. The administration's priorities has been to make Stamford a safer city and to upgrade its infrastructure; this project will do both. The roundabout design will enhance pedestrian safety and will complement the bike infrastructure investments in the area. Stamford is committed to being on the cutting edge for transportation safety and mobility. This project will completely transform this intersection that will improve traffic flow, enhance mobility, and increase safety while decreasing the long term costs of maintaining an aging traffic signal.

The City of Stamford is committed to the safety, mobility and accessibility of all transportation users. To that end, I strongly support improvements to the intersection of Shippan Avenue, Harbor Drive, and Magee Avenue. We will allocate local funding for the conceptual, preliminary and final designs for this project.

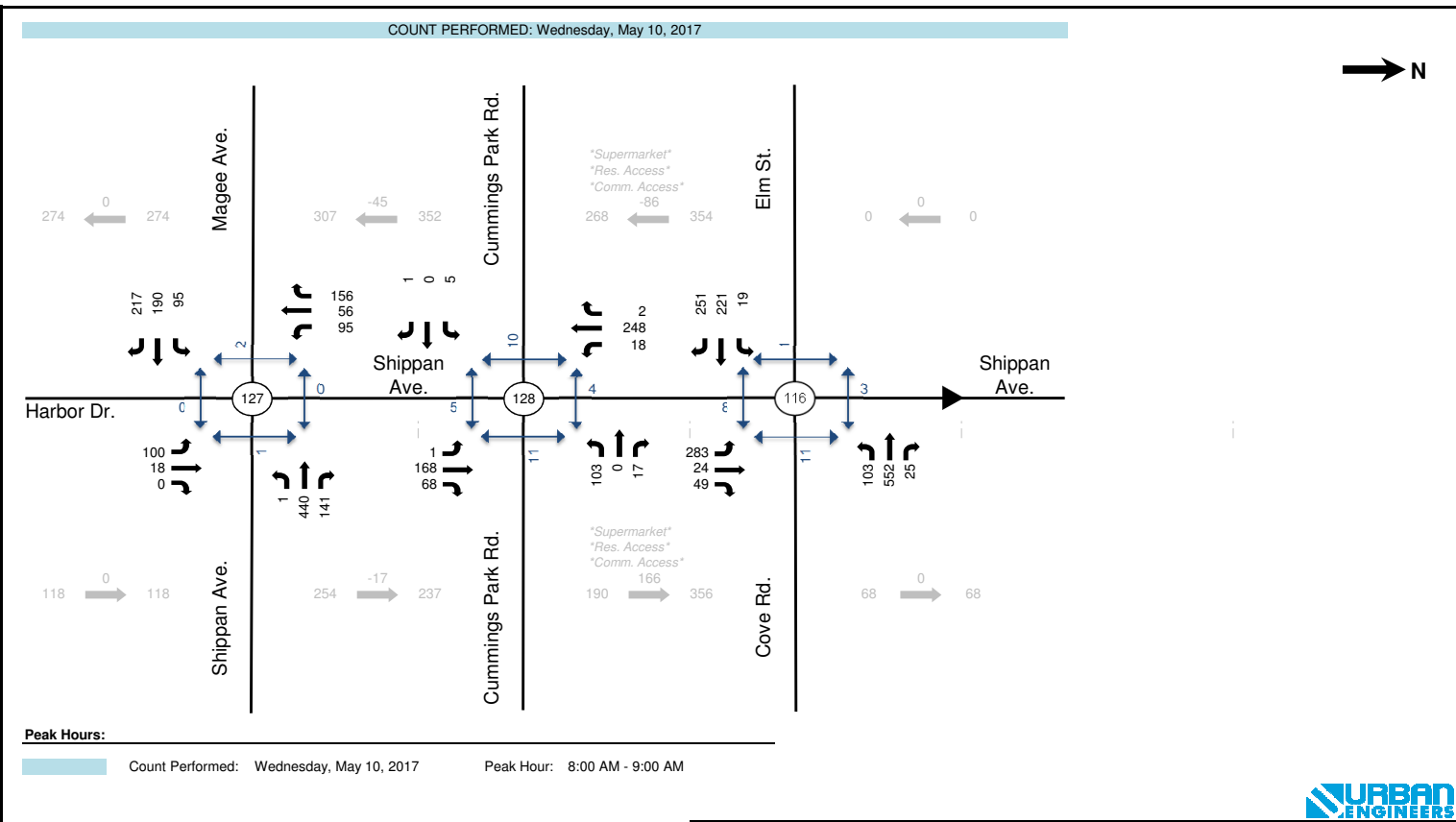
Should you have any questions or require any additional information please contact Jim Travers, Bureau Chief of Transportation, Traffic and Parking at 203-977-5466 or by e-mail at JTravers@stamfordct.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Martin", with a stylized flourish at the end.

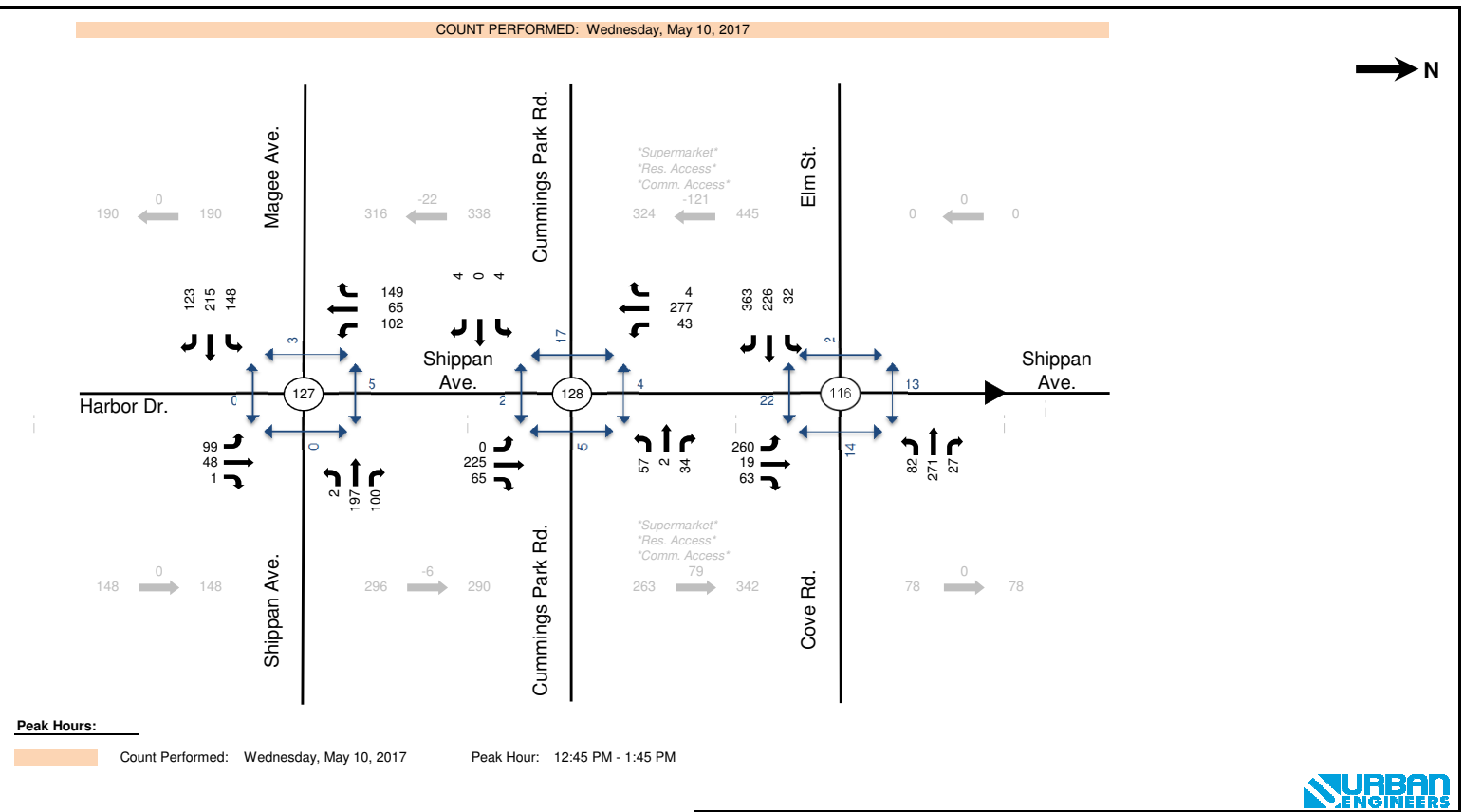
David R. Martin
Mayor

Cc: Jim Travers, Transportation, Traffic & Parking Bureau
Frank Petise, Transportation, Traffic & Parking Bureau



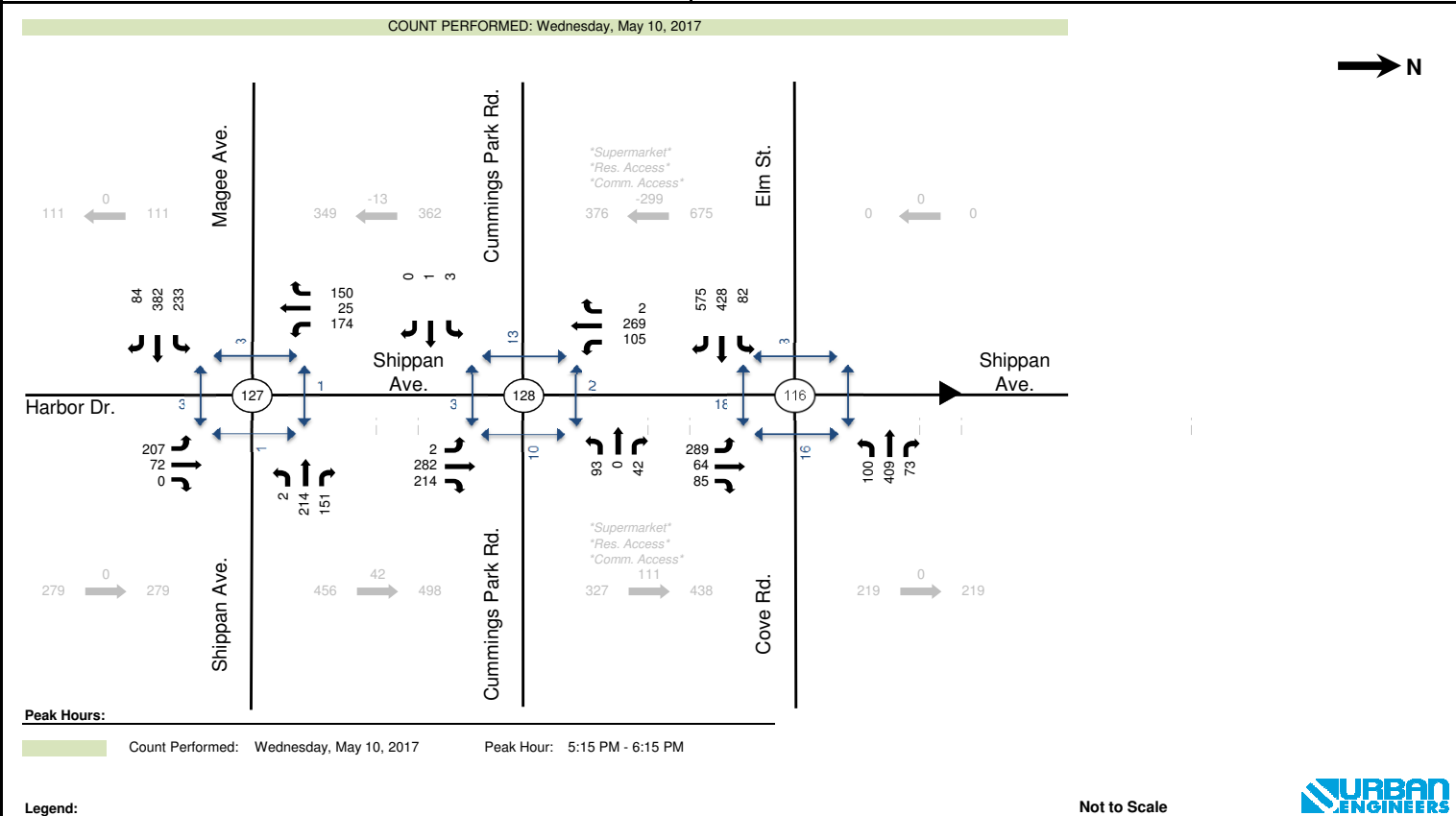
Stamford Traffic Signal Optimization - Data Collection
Route 7: Shippan Ave.
AM Peak Hour Volumes - Raw

Not to Scale



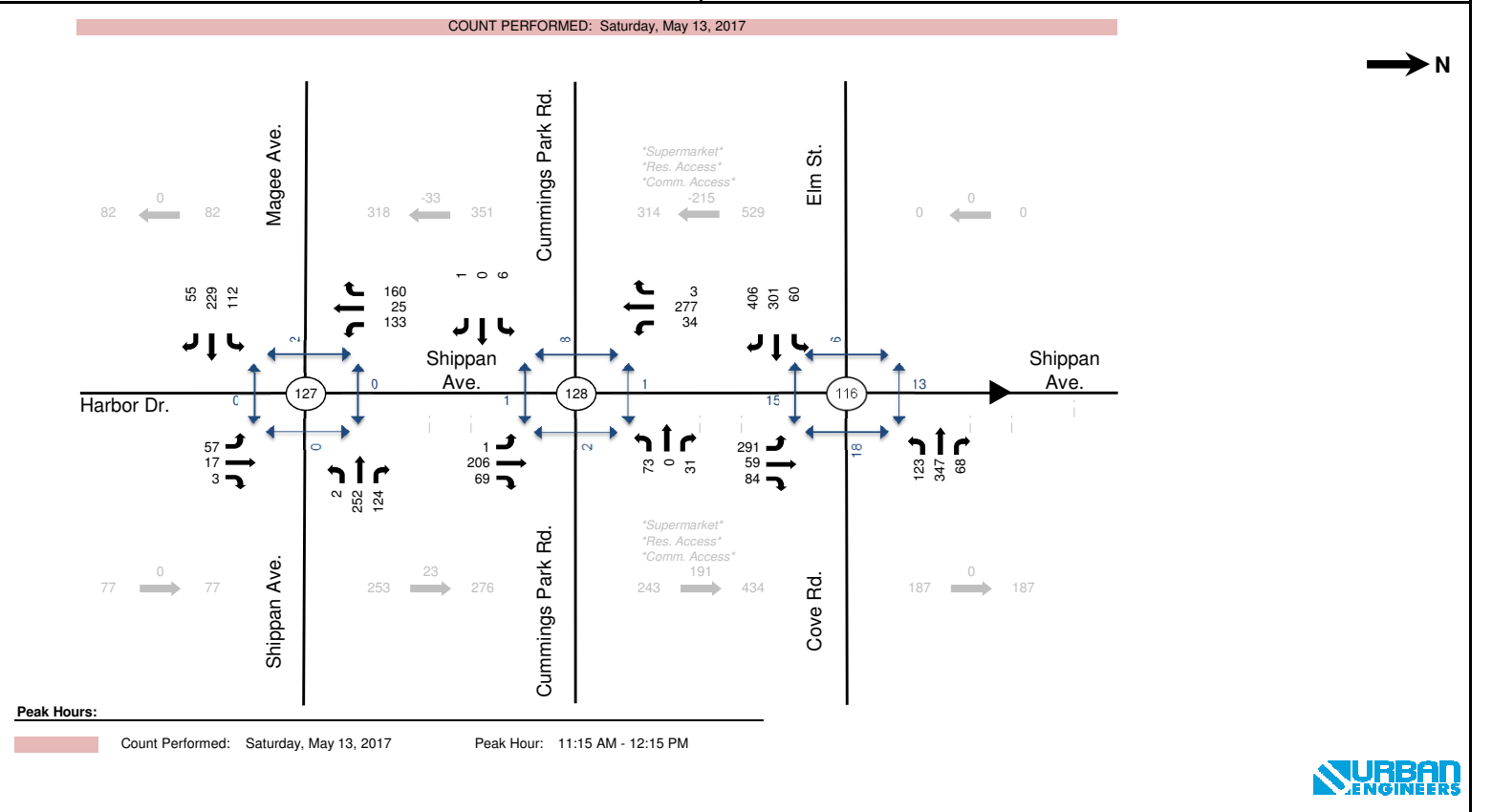
Stamford Traffic Signal Optimization - Data Collection
Route 7: Shippan Ave.
MID Peak Hour Volumes - Raw

Not to Scale



Stamford Traffic Signal Optimization - Data Collection
Route 7: Shippan Ave.
PM Peak Hour Volumes - Raw

Not to Scale

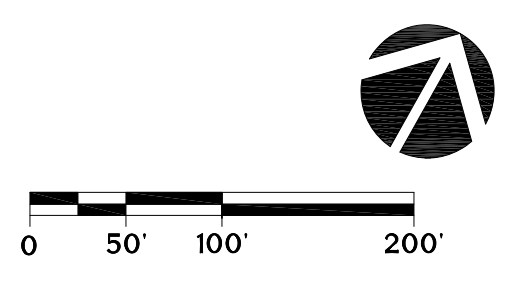
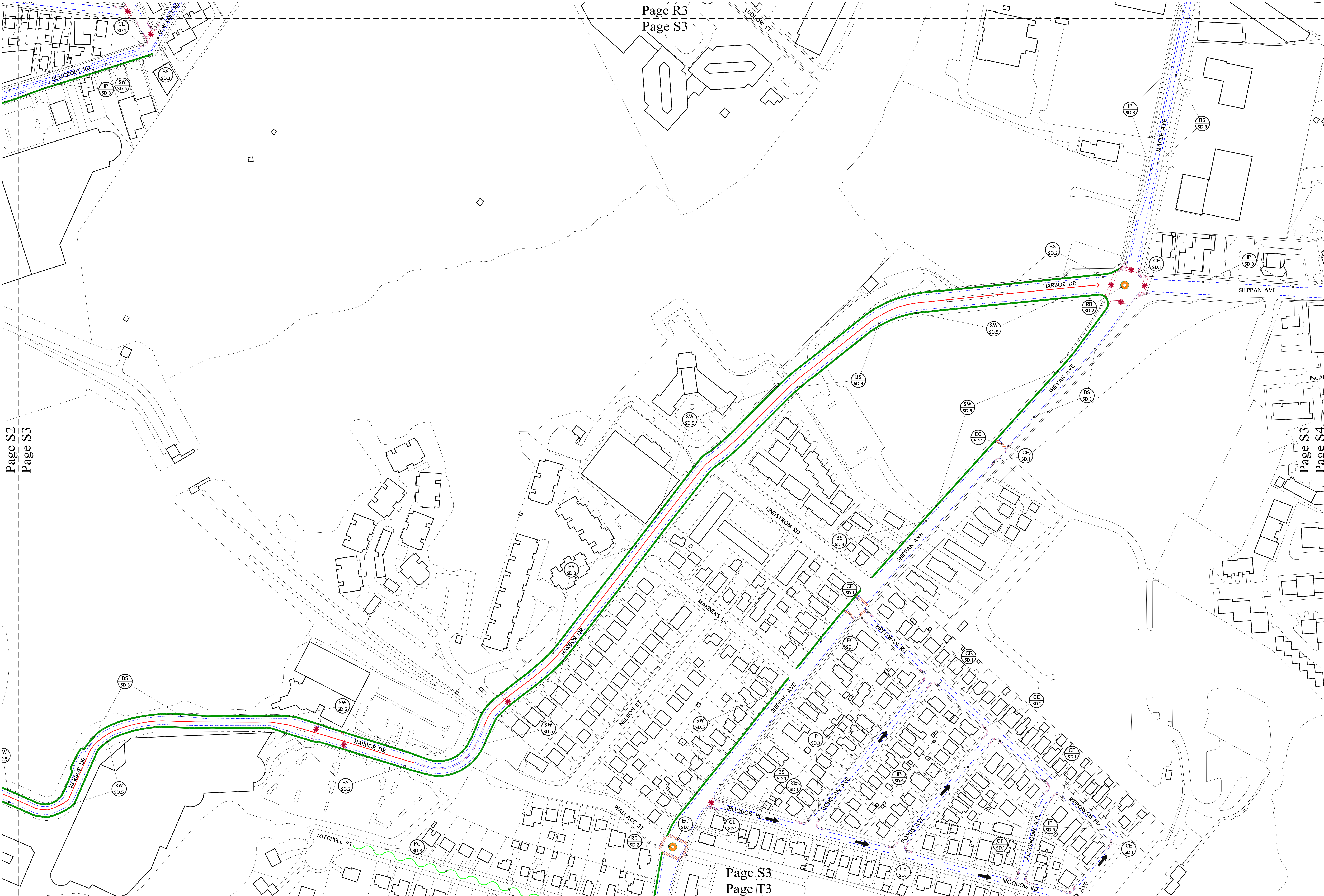


Stamford Traffic Signal Optimization - Data Collection
Route 7: Shippan Ave.
SAT Peak Hour Volumes - Raw

Not to Scale



- Legend:
- Vehicle Turning Movement Count (TMC)
 - Pedestrian Count
 - TMC Volume Balancing
 - One-way street
 - Intersection ID Number
 - Automatic Traffic Recorder (ATR) Volume



- | | | | | | | | |
|---------------------|-------------|--------------------|--|---|--|--|--|
| BIKE LANE/ SHOULDER | — — — — — | CURB EXTENSION | | DIVERTER | | EXISTING CROSSWALKS | |
| INSET PARKING | - - - - - | ENHANCED CROSSWALK | | RAISED CROSSWALK/
SPECIALLY TREATED
CROSSWALK | | NOTE:
ALL EXISTING CROSSWALKS
ARE TO BE CONVERTED TO
ENHANCED CROSSWALKS AS
FUNDING BECOMES AVAILABLE
IN ORDER TO IMPROVE
PEDESTRIAN SAFETY. | |
| MEDIAN ISLAND | — — — — — | ROUNDABOUT | | RAISED INTERSECTION | | | |
| PARKING CHICANE | ~ ~ ~ ~ ~ | SPEED TABLE | | EXISTING ONE WAY STREET | | | |
| ROAD DIET | ← — — — — → | | | | | | |
| SIDEWALK | — — — — — | | | | | | |

STAMFORD TRAFFIC CALMING

APRIL 2011

NO.

S3

MINOR RETROFIT MAP (south)

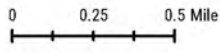


Recommendations	Bike Lane	Separated Bike Lane	Existing Bike Network	Other	MTA Station
New Bike/Ped Bridge	Buffered Bike Lane	Trail / Shared Use Path	Bike Lane	High School; Middle School	Commerical Zone
Neighborhood Bikeway	Climbing Lane	Unpaved Nature Trail	Paved Trail	Elementary School	
		Unpaved Trail			

MAJOR RETROFIT MAP (south)



Recommendations	Bike Lane	Separated Bike Lane	Buffered Bike Lane	Trail / Shared Use Path	Climbing Lane	Unpaved Nature Trail	Existing Bike Network	Other	MTA Station
New Bike/Ped Bridge	Neighborhood Bikeway	Paved Trail	Unpaved Trail	High School; Middle School	Commercial Zone	Elementary School			



Complete a design to remove the traffic lights at the Magee Ave, Shippan Ave, and Harbor Dr intersection and construct a roundabout to allow for more efficient traffic flow during an emergency, and to reduce the reliance of power during an outage on a main evacuation route.

Lead	Traffic Engineering
Cost	More than \$1 million
Funding	Capital Improvement Plan, LOTCIP Grant
Timeframe	2024
Priority	High

Action SFD-07

Implement a modern traffic signal with a backup power source at the Shippan Ave, Elm St, and Cove Rd intersection.

Lead	Traffic Engineering
Cost	More than \$500,000
Funding	Capital Improvement Plan, CMAQ Grant
Timeframe	2025
Priority	High

Action SFD-08

Greenwich Avenue – Davenport Street Waterside Circulator to improve traffic safety and enhance evacuation route for the Waterside neighborhood.

Lead	Traffic Engineering
Cost	More than \$1 million
Funding	Capital Improvement Plan, LOTCIP Grant, Private Developer Contribution
Timeframe	2023
Priority	High

Action SFD-09

Washington Boulevard and Pulaski Street Roadway Widening to improve traffic safety and enhance evacuation routes for the Waterside & South End Neighborhoods.

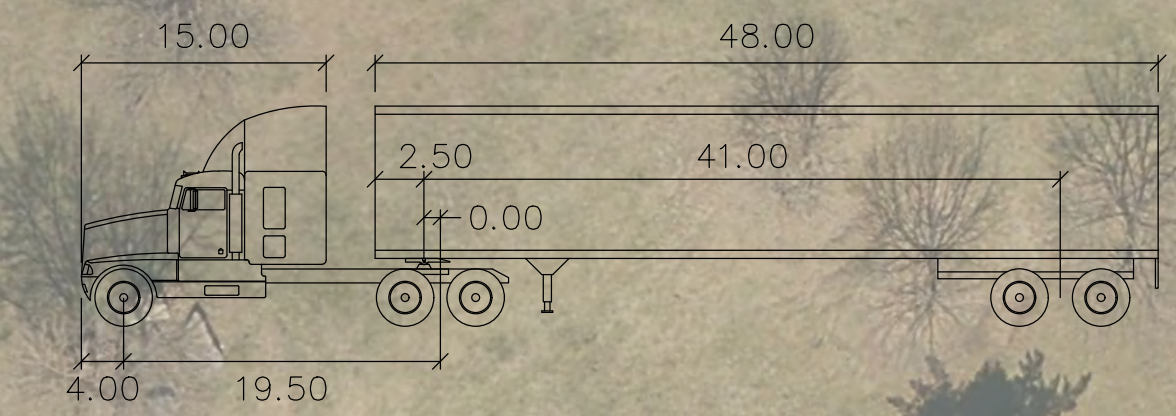
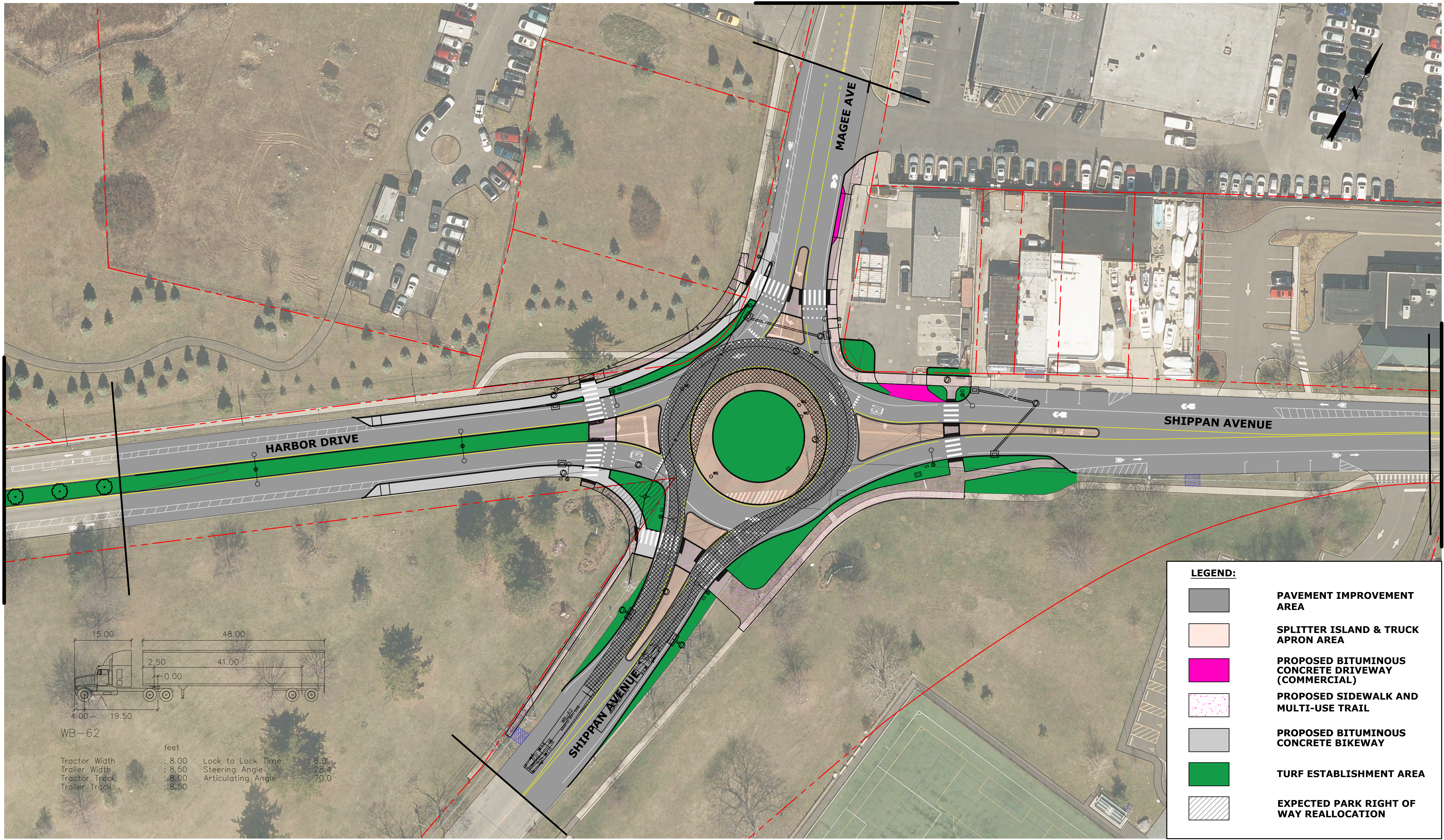
Lead	Traffic Engineering
Cost	More than \$1 million
Funding	Capital Improvement Plan, Private Developer Contribution
Timeframe	2021
Priority	High

Action SFD-10

Lower Atlantic Street Roadway Widening (Washington Boulevard to Station Place/Dock Street) to improve traffic safety and enhance evacuation routes for the Waterside & South End Neighborhoods

Lead	Traffic Engineering
Cost	More than \$1 million

File Path: J:\DWG\2018\20180287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-01 Plotted: Thu, July 08, 2021 - 5:41 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



WB-62

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

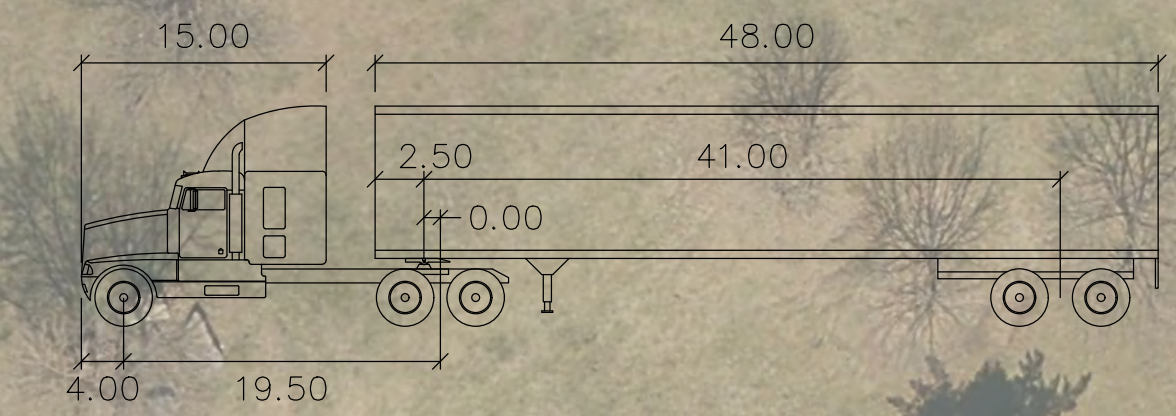
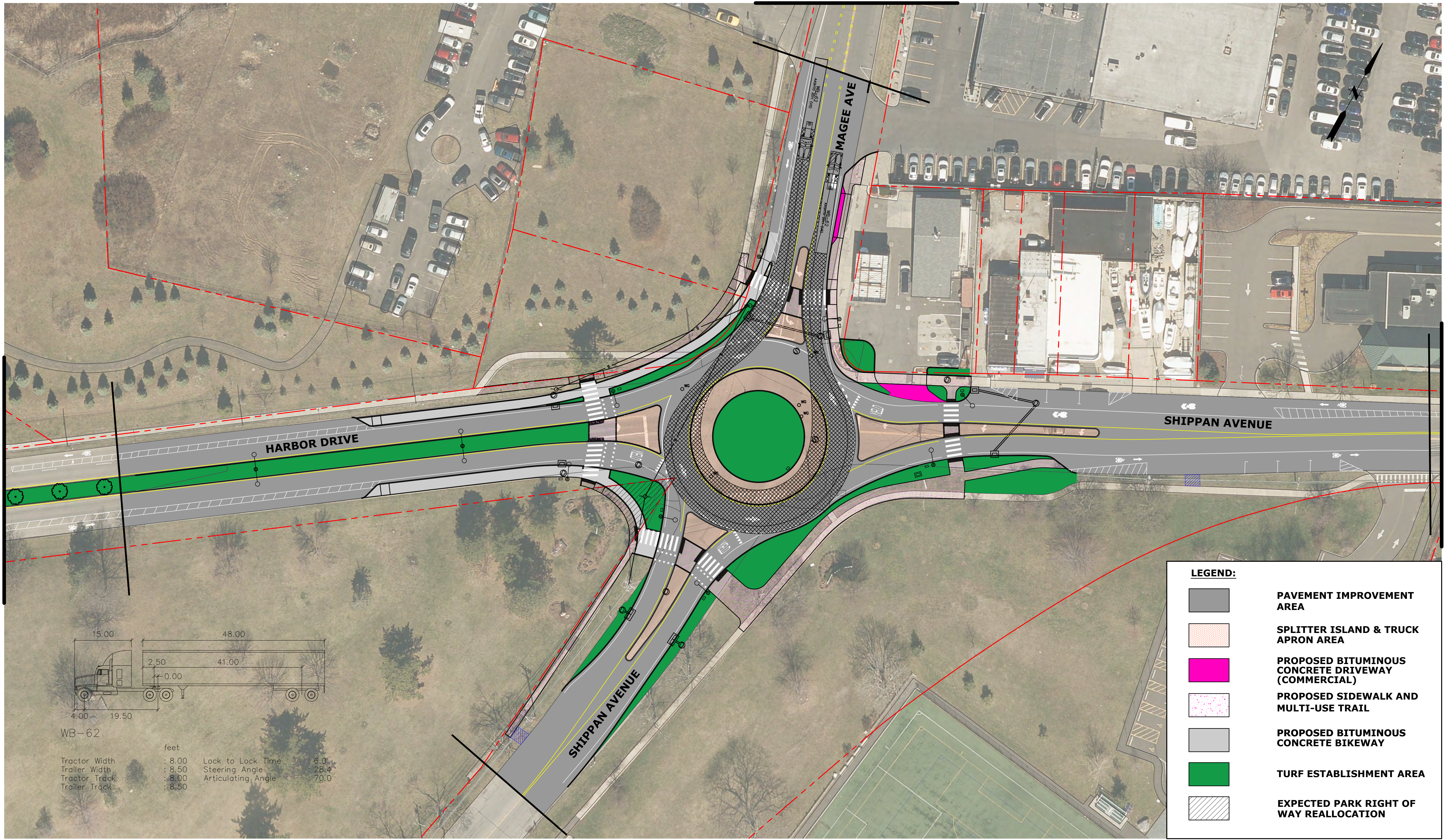
SCALE:
 HORZ.: 1" = 30'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:
 30 15 0 30
 GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 AUTOTURN MOVEMENTS
 SHIPPAN, MAGEE & HARBOR INTERSECTION
 IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021
AUT-01

File Path: J:\DWG\2018\287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-02 Plotted: Thu, July 08, 2021 - 5:42 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



WB-62

feet			
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

SCALE:
 HORZ.: 1" = 30'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:

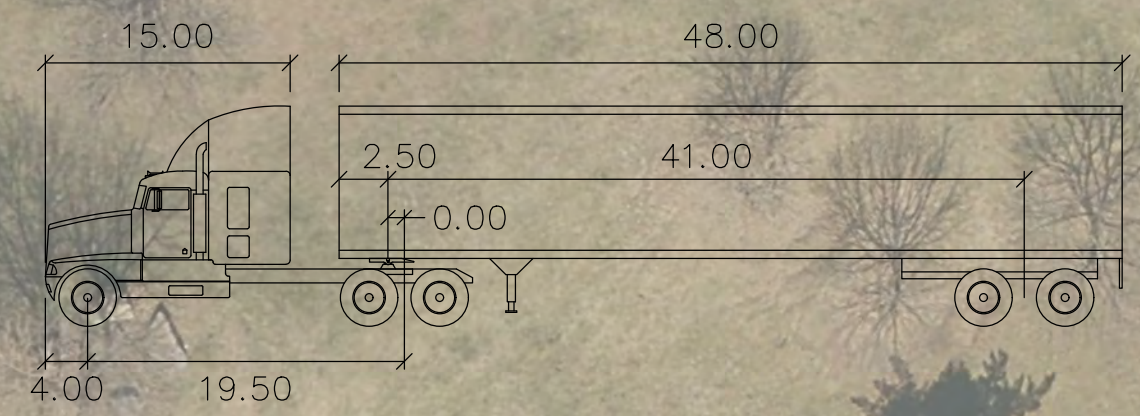
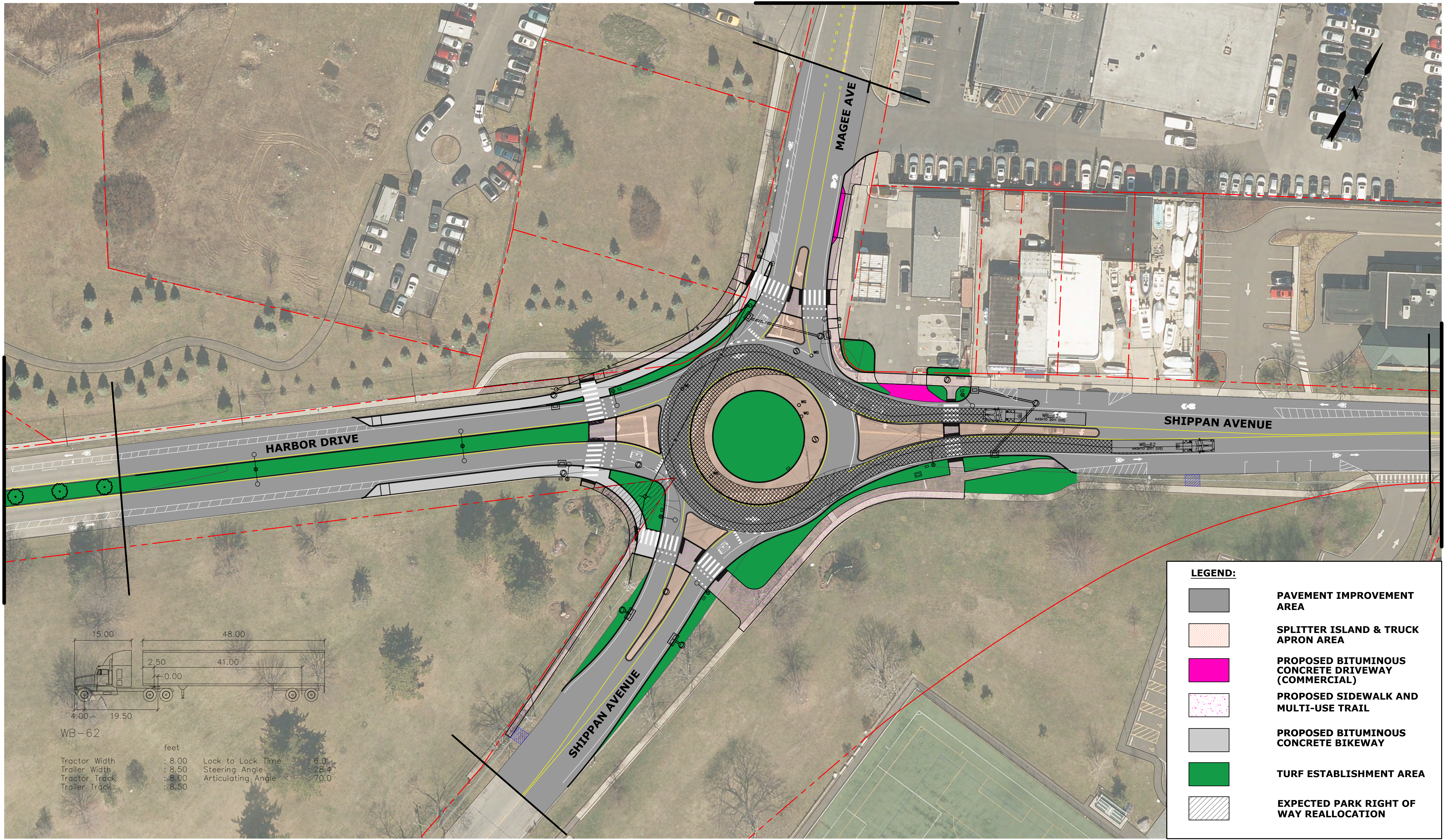
 GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 AUTOTURN MOVEMENTS
 SHIPPAN, MAGEE & HARBOR INTERSECTION
 IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021
AUT-02

File Path: J:\DWG\2018\20180287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-03 Plotted: Thu, July 08, 2021 - 5:42 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



WB-62

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

SCALE:

HORZ.: 1" = 30'

VERT.:

DATUM:

HORZ.:

VERT.:

GRAPHIC SCALE

FUSS & O'NEILL

146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

AUTOTURN MOVEMENTS

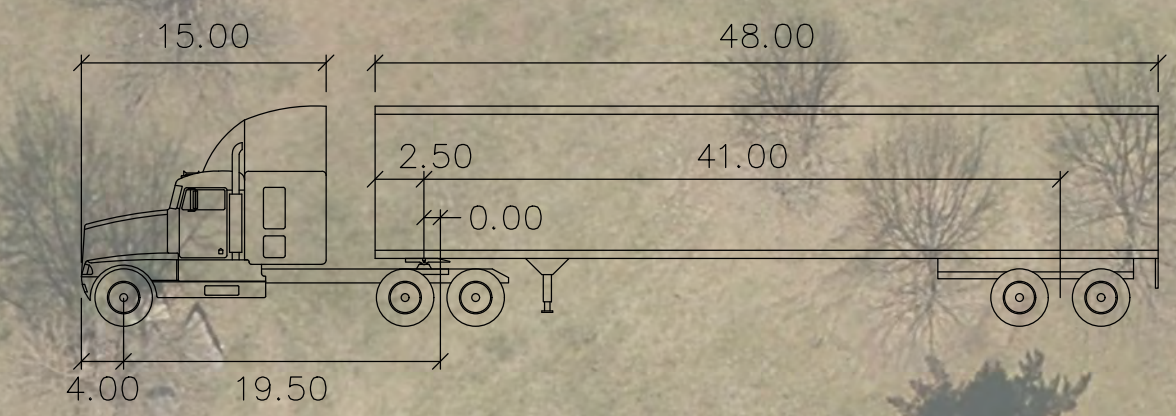
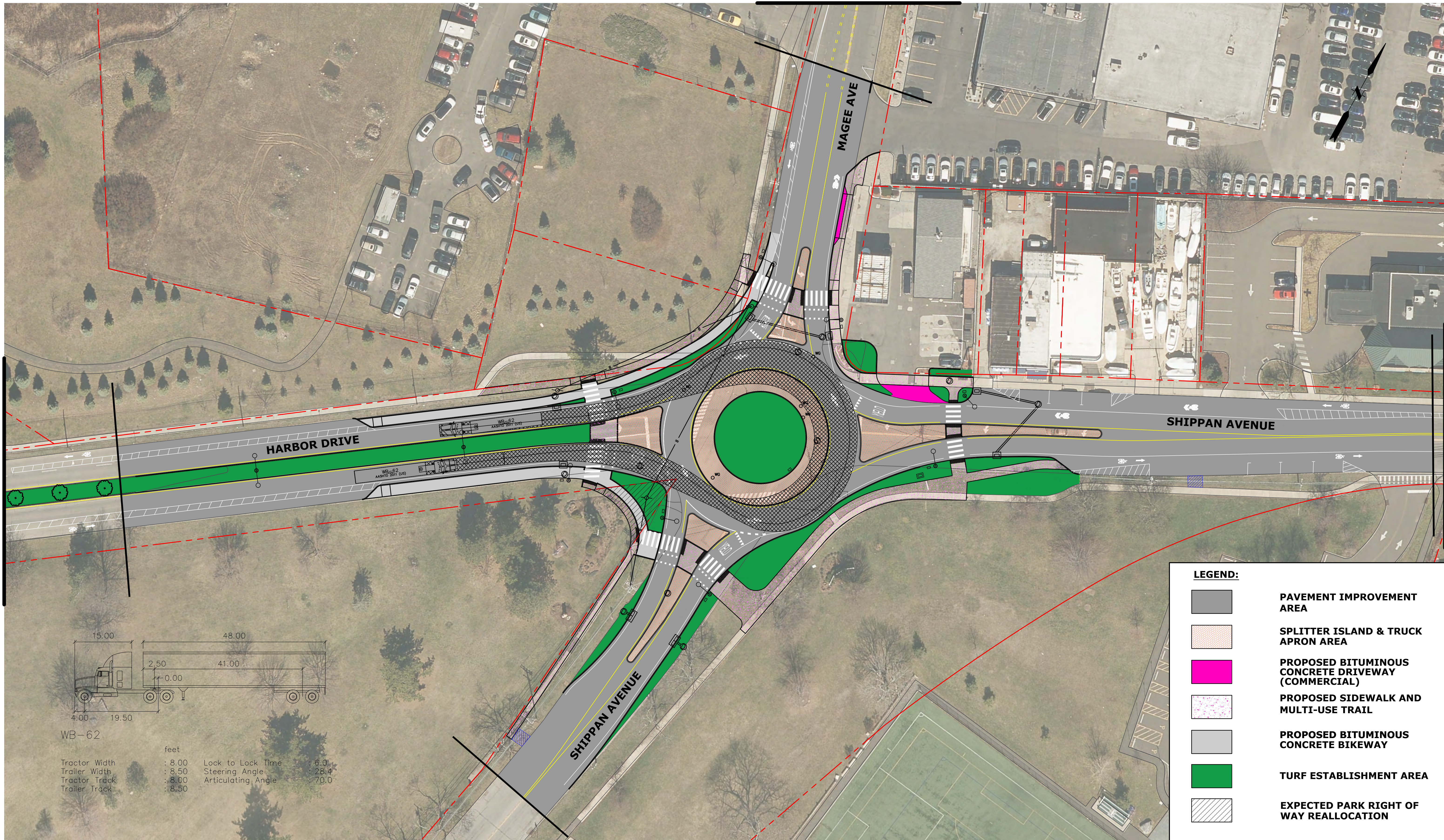
SHIPPAN, MAGEE & HARBOR INTERSECTION
 IMPROVEMENTS

STAMFORD
CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021

AUT-03

File Path: J:\DWG\2018\287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-04 Plotted: Thu, July 08, 2021 - 5:42 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



WB-62

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

SCALE:

HORZ.: 1" = 30'

VERT.:

DATUM:

HORZ.:

VERT.:

30 15 0 30

GRAPHIC SCALE

FUSS & O'NEILL

146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

AUTOTURN MOVEMENTS

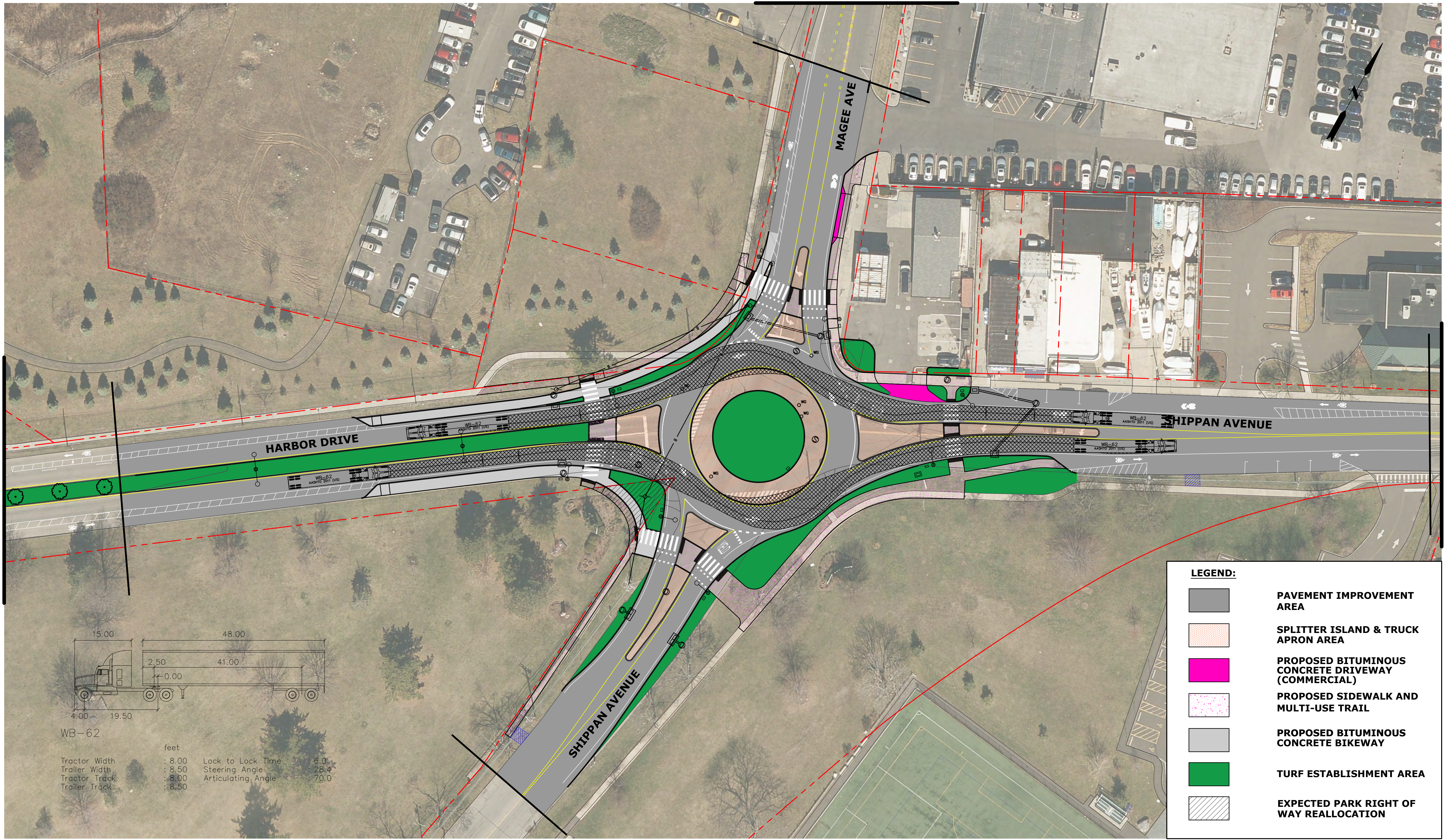
SHIPPAN, MAGEE & HARBOR INTERSECTION
 IMPROVEMENTS

STAMFORD
CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021

AUT-04

File Path: J:\DWG\2018\20180287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-05 Plotted: Thu, July 08, 2021 - 5:43 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

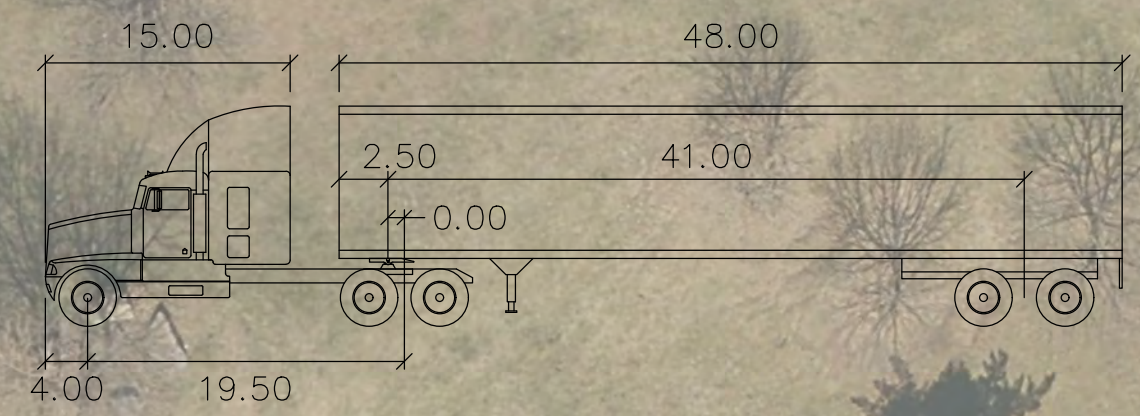
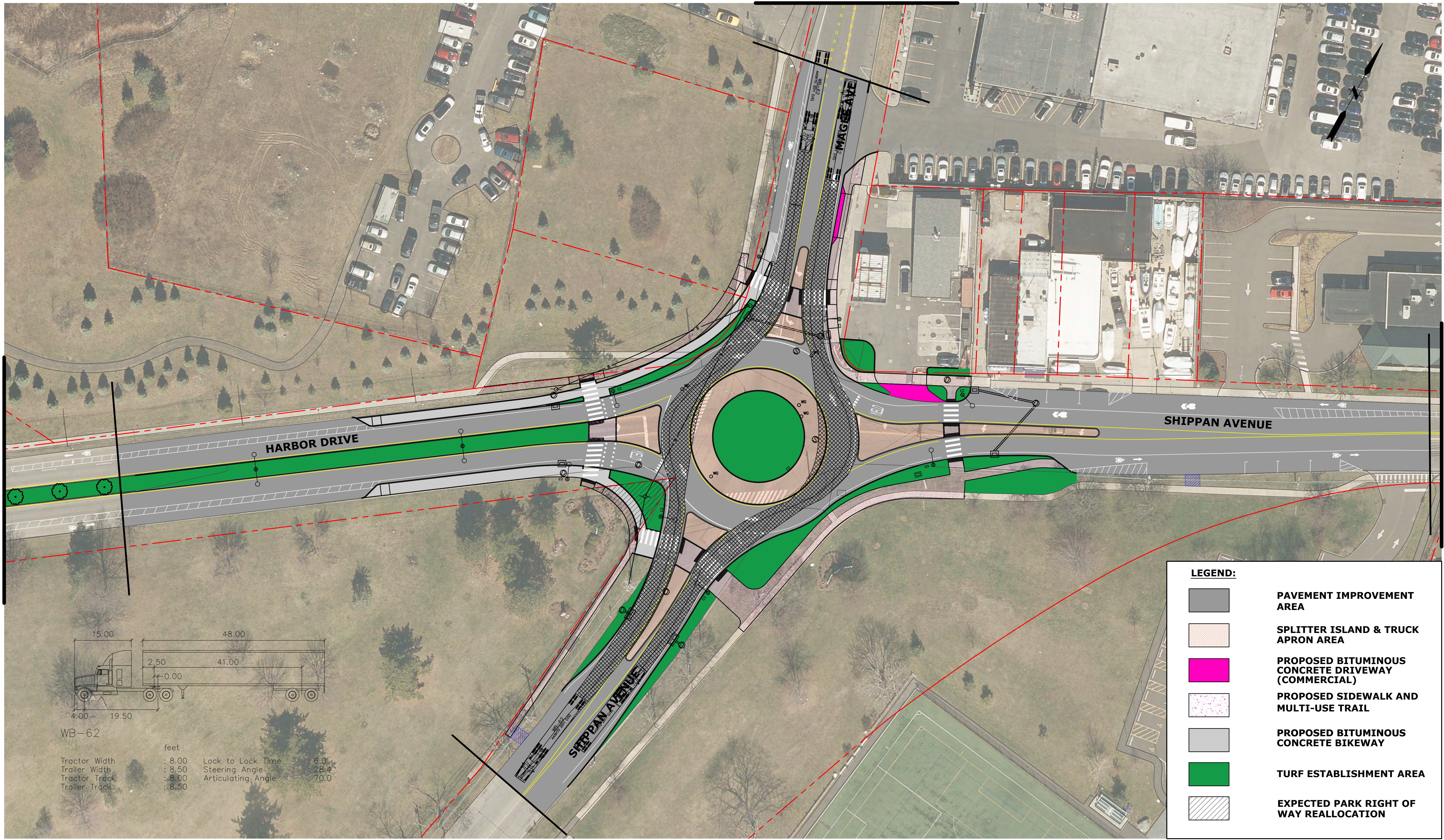
SCALE:
 HORZ.: 1" = 30'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:
 GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 AUTOTURN MOVEMENTS
 SHIPPAN, MAGEE & HARBOR INTERSECTION
 IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021
AUT-05

File Path: J:\DWG\2018\20180287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-06 Plotted: Thu, July 08, 2021 - 5:43 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:



WB-62

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

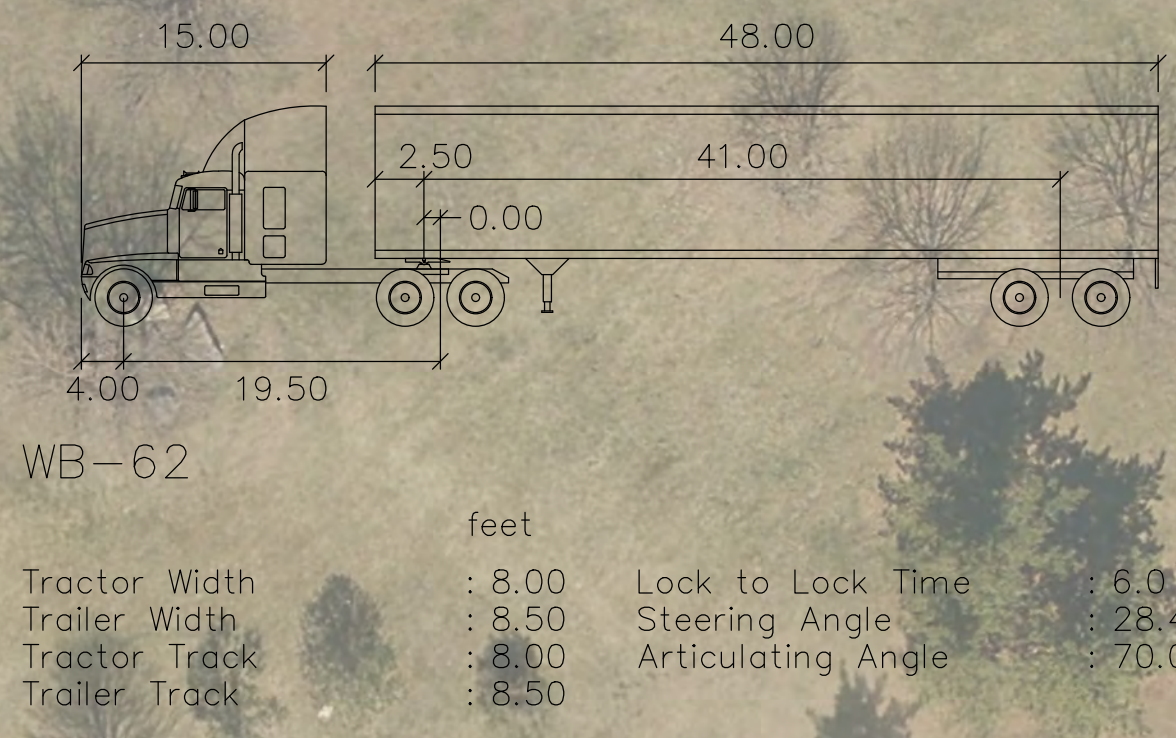
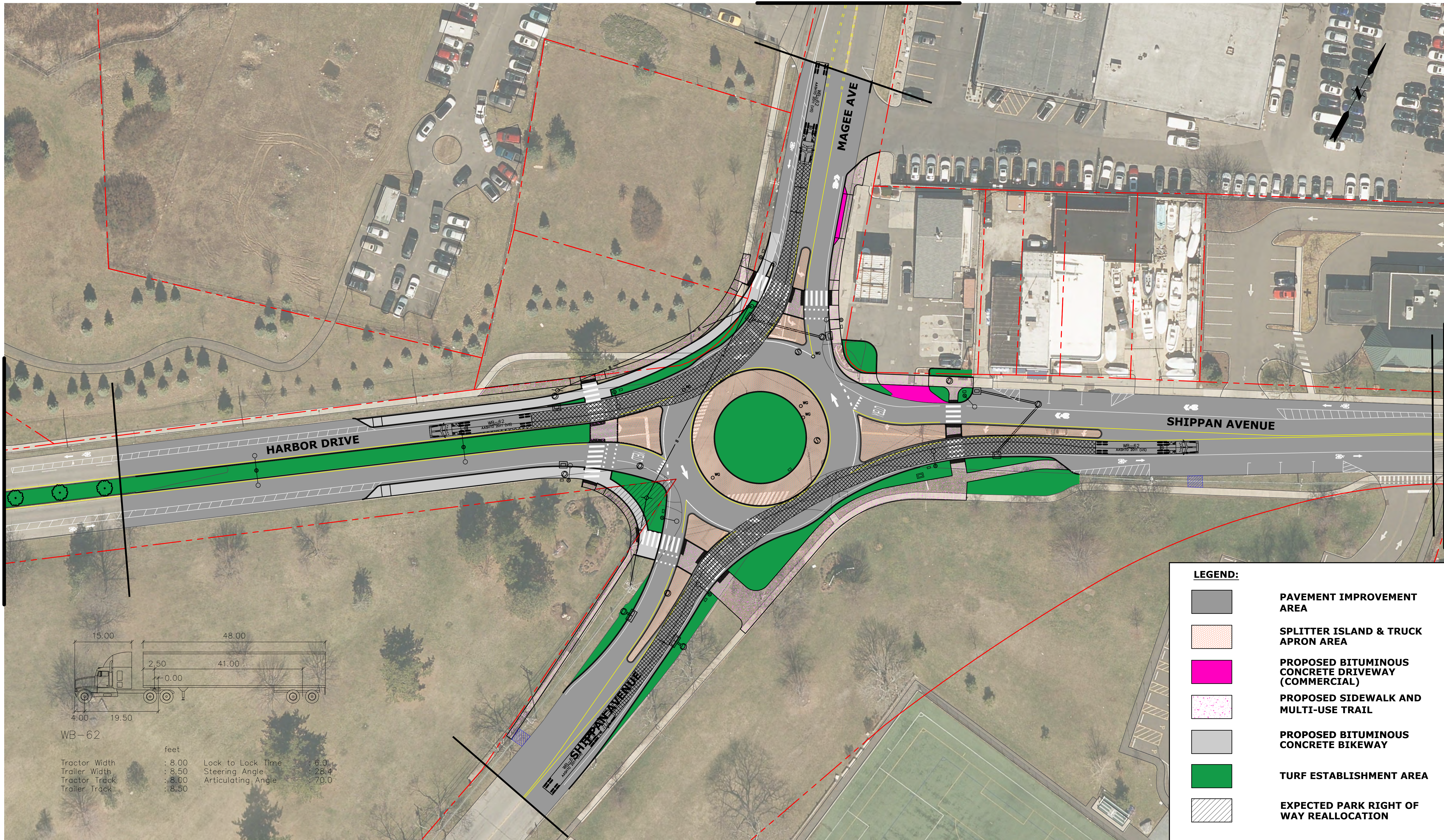
SCALE:
 HORZ.: 1" = 30'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:
 30 15 0 30
 GRAPHIC SCALE

FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD
 AUTOTURN MOVEMENTS
 SHIPPAN, MAGEE & HARBOR INTERSECTION
 IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021
AUT-06

File Path: J:\DWG\2018\20180287C10\Civil\Concepts\20180287C10_CON02.dwg Layout: AUT-07 Plotted: Thu, July 08, 2021 - 5:43 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

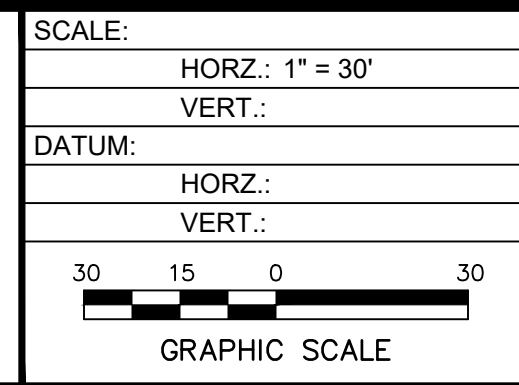


PROPOSED LOTCIP PROJECT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL



FUSS & O'NEILL
 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

AUTOTURN MOVEMENTS

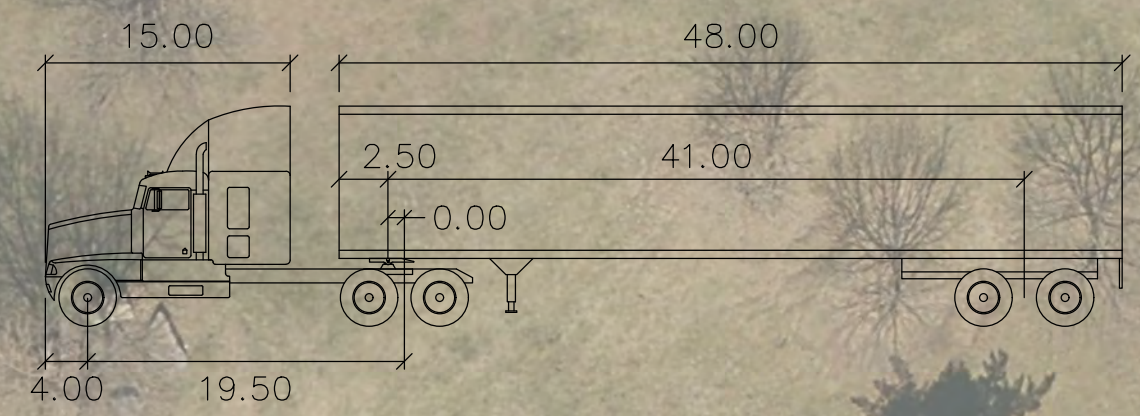
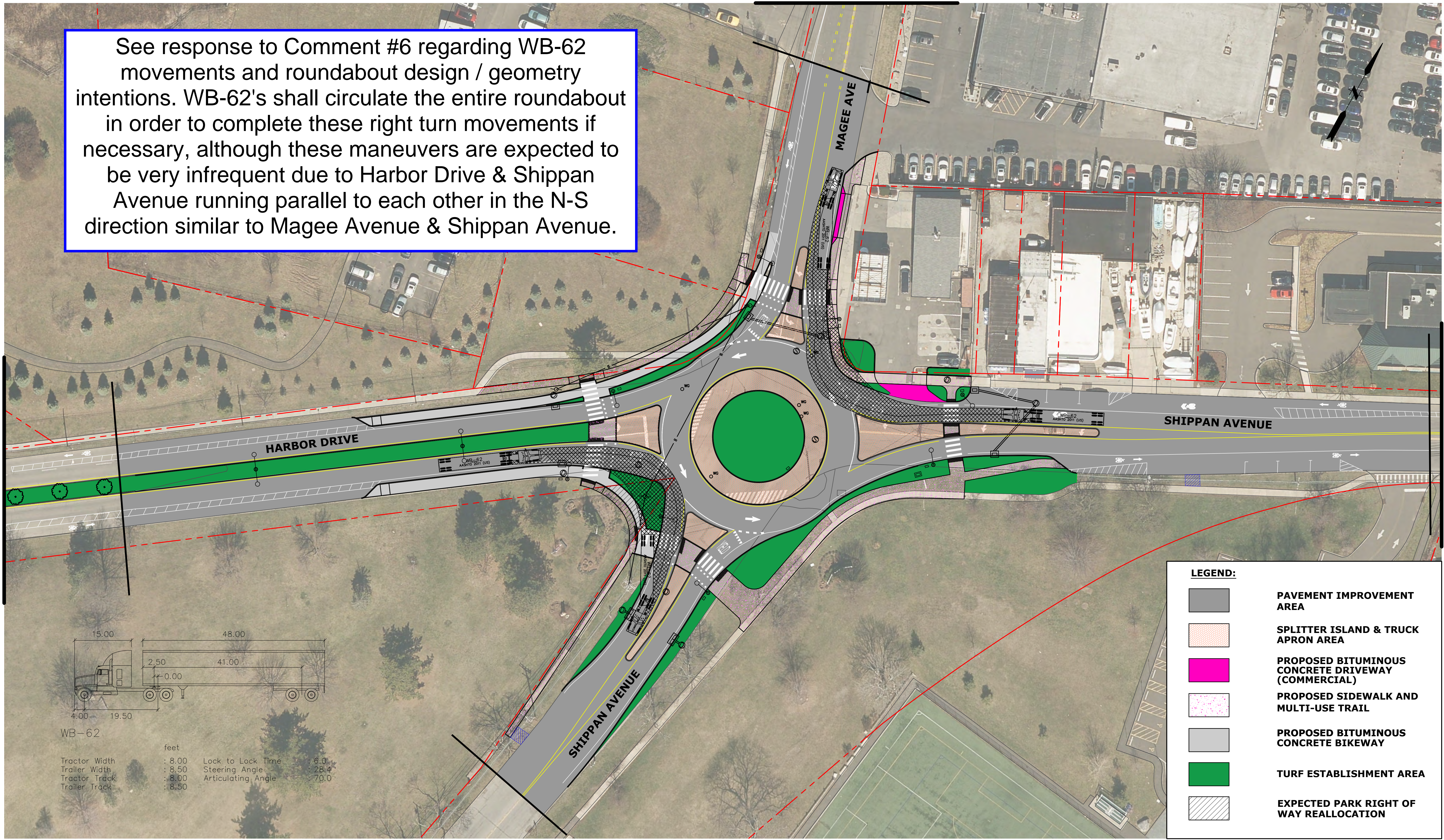
SHIPPAN, MAGEE & HARBOR INTERSECTION IMPROVEMENTS

STAMFORD CONNECTICUT

PROJ. No.: 20180287.C10
 DATE: JULY 2021

AUT-07

See response to Comment #6 regarding WB-62 movements and roundabout design / geometry intentions. WB-62's shall circulate the entire roundabout in order to complete these right turn movements if necessary, although these maneuvers are expected to be very infrequent due to Harbor Drive & Shippan Avenue running parallel to each other in the N-S direction similar to Magee Avenue & Shippan Avenue.



WB-62

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

LEGEND:

- PAVEMENT IMPROVEMENT AREA
- SPLITTER ISLAND & TRUCK APRON AREA
- PROPOSED BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
- PROPOSED SIDEWALK AND MULTI-USE TRAIL
- PROPOSED BITUMINOUS CONCRETE BIKEWAY
- TURF ESTABLISHMENT AREA
- EXPECTED PARK RIGHT OF WAY REALLOCATION

PROPOSED LOTCIP PROJECT

File Path: J:\DWG\2018\20180228\20180228\C10_CON02.dwg Layout: AUT-08 Plotted: Thu, July 08, 2021 - 5:44 PM User: stanski
 Plotter: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3 CTB File: FO.STB
 LAYER STATE:

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

SCALE:

HORZ.: 1" = 30'

VERT.:

DATUM:

HORZ.:

VERT.:

GRAPHIC SCALE

FUSS & O'NEILL

146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

CITY OF STAMFORD

AUTOTURN MOVEMENTS

SHIPPAN, MAGEE & HARBOR INTERSECTION IMPROVEMENTS

STAMFORD CONNECTICUT

PROJ. No.: 20180228.C10
 DATE: JULY 2021

AUT-08

Entry Median Offset: 5.00 ft Entry Edge Offset: 5.00 ft Central Island Offset: 5.00 ft
 Exit Median Offset: 5.00 ft Exit Edge Offset: 5.00 ft Apply to All Approaches

A vehicle is assumed to be 6 ft (2 m) wide and maintain a minimum clearance of 2 ft (0.5 m) from a roadway centerline or concrete curb and flush with a painted edge line (3). Thus the centerline of the vehicle path is drawn with the following distances to the particular geometric features:

- 5 ft (1.5 m) from a concrete curb,
- 5 ft (1.5 m) from a roadway centerline, and
- 3 ft (1.0 m) from a painted edge line.

FASTEST PATH RESULTS TABLE - THEORETICAL EDGES

Entry Leg	V1	V2	V3	V4	V5	V1<V2+15.00	V3>V1 and V3>V2	V5<V1 and V5-V4 <15.00	R1	R2	R3	R4	R5
Magee Ave.	22.4	18.5	23.8	15.3	N/A	Yes	Yes	N/A	124.1	86.2	145.5	52.1	N/A
Harbor Drive	22.3	17.5	29.3	15.3	14.9	Yes	Yes	Yes	122.0	74.1	255.3	52.1	43.5
Shippan Ave. WB	23.3	18.2	26.1	15.3	N/A	Yes	Yes	N/A	137.2	81.9	187.1	52.1	N/A
Accel(ft/s ²)	2.0	-2.0	2.0	-2.0	2.0								
SE(%)	2.0	-2.0	2.0	-2.0	2.0								

Roundabouts: An Informational Guide

Exhibit 1-9
Roundabout Category Comparison

Design Element	Mini-Roundabout	Single-Lane Roundabout	Multilane Roundabout
Desirable maximum entry design speed	15 to 20 mph (25 to 30 km/h)	20 to 25 mph (30 to 40 km/h)	25 to 30 mph (40 to 50 km/h)
Maximum number of entering lanes per approach	1	1	2+

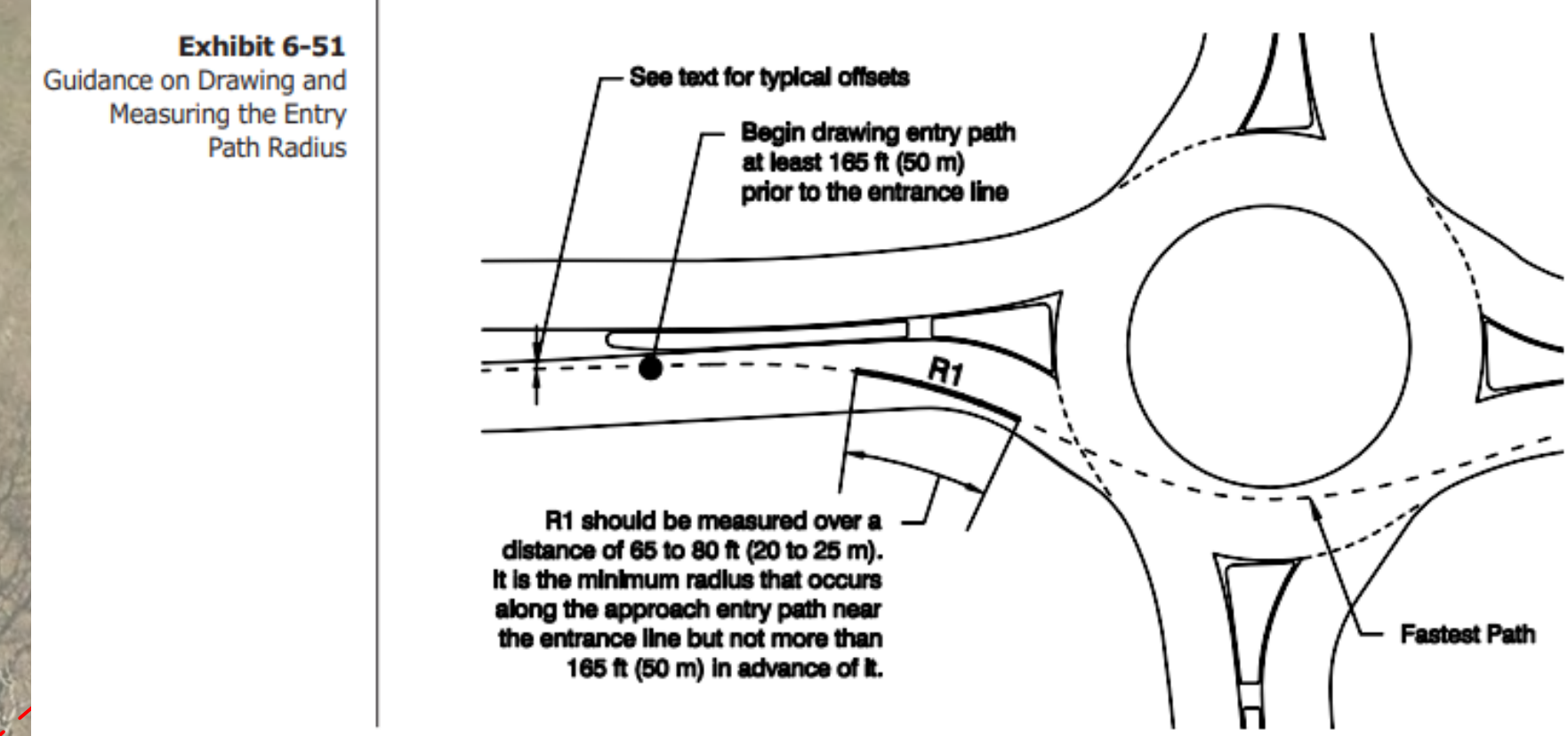
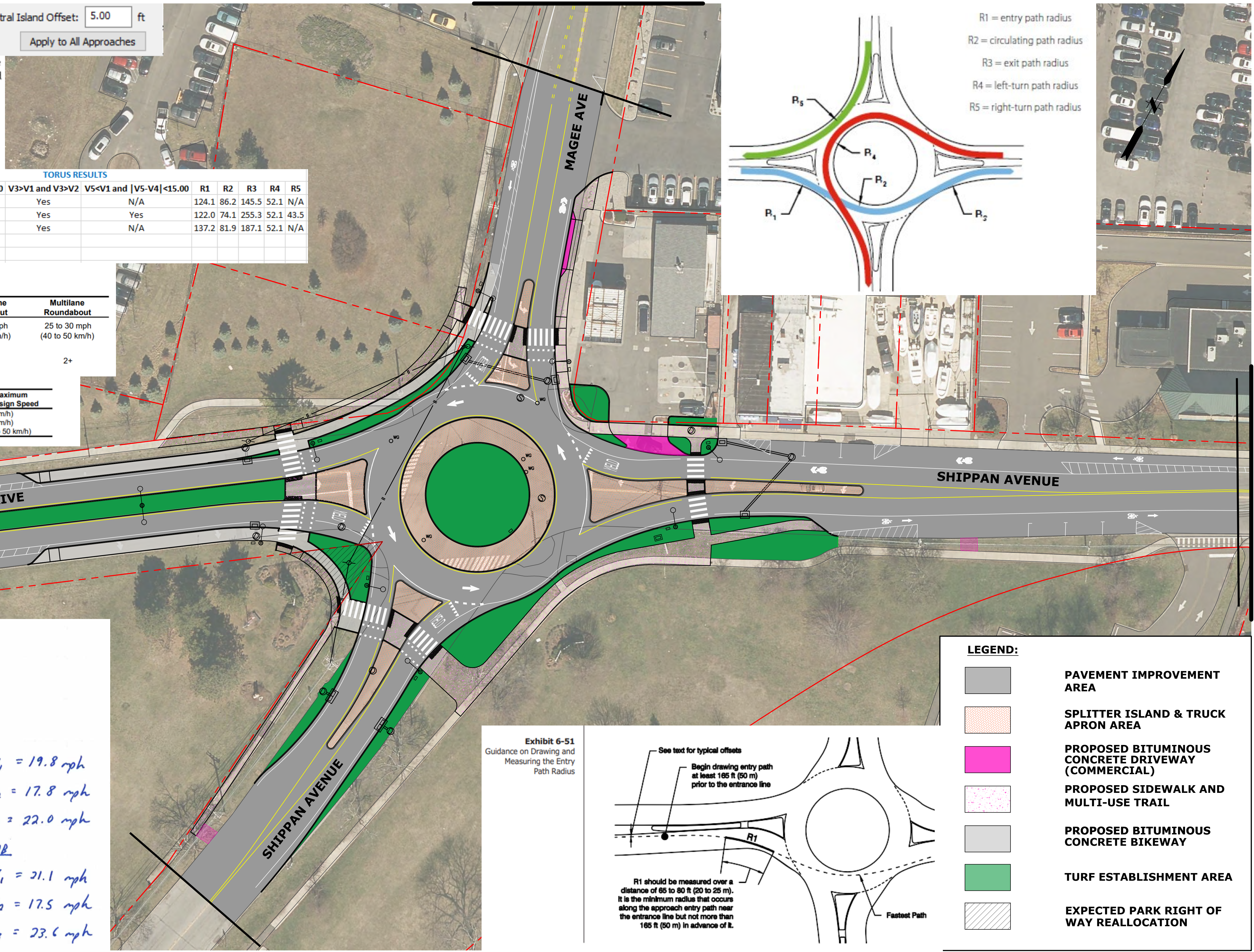
Exhibit 6-47
Recommended Maximum Entry Design Speeds

Site Category	Recommended Maximum Theoretical Entry Design Speed
Mini-Roundabout	20 mph (30 km/h)
Single Lane	25 mph (40 km/h)
Multilane	25 to 30 mph (40 to 50 km/h)

Stamford: Fastest Path Analysis; Manual Evaluation

Vehicle Speed Estimation
 $V = 3.4415R^{0.3861}$, for $e = +0.02$
 $V = 3.4614R^{0.3678}$, for $e = -0.02$

<u>Harbor Drive</u>	<u>Magee Ave</u>
$R_1 = 122'$ $V_1 = 20.2$ mph	$R_1 = 115'$ $V_1 = 19.8$ mph
$R_2 = 74'$ $V_2 = 16.8$ mph	$R_2 = 86'$ $V_2 = 17.8$ mph
$R_3 = 255'$ $V_3 = 26.5$ mph	$R_3 = 153'$ $V_3 = 22.0$ mph
<u>Shippan Ave NB</u>	<u>Shippan Ave WB</u>
$R_1 = 104'$ $V_1 = 19.1$ mph	$R_1 = 137'$ $V_1 = 21.1$ mph
$R_2 = 70'$ $V_2 = 16.5$ mph	$R_2 = 82'$ $V_2 = 17.5$ mph
$R_3 = 215'$ $V_3 = 24.9$ mph	$R_3 = 187'$ $V_3 = 23.6$ mph



File Path: J:\DWG\20180228\C10\Civil\Concepts\20180228\C10_CON02.dwg Layout: CON-01 Plotted: Wed, July 07, 2021 - 1:58 PM User: jguzzo Plotter: DWG TO PDF.PC3 CTB File: FO.STB LAYER STATE:

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.			xx/xx	xx

SEAL

SEAL

SCALE:
 HORZ.: 1" = 30'
 VERT.:
 DATUM:
 HORZ.:
 VERT.:
 GRAPHIC SCALE



CITY OF STAMFORD
 CONCEPTUAL ROUNDABOUT PLAN
 SHIPPAN, MAGEE & HARBOR INTERSECTION IMPROVEMENTS
 STAMFORD CONNECTICUT

PROJ. No.: 20180228.C10
 DATE: JULY 2021
CON-01

CITY OF STAMFORD
INSURANCE REQUIREMENTS
Shippan Ave, Harbor Dr, and Magee Ave Roundabout
Design and Inspection Services

The Consultant is required to submit certificates of insurance, which contain the minimum insurance coverages described below:

1. Standard workers' compensation, which complies with all Connecticut workers' compensation statutes and regulations.
2. Employer's liability insurance, which contains limits of liability of not less than \$500,000 each accident, \$500,000 disease policy limit and \$500,000 disease – each employee.
3. Commercial general liability insurance, with a minimum limit of liability of \$1,000,000 combined single limit per occurrence and \$2,000,000 in the aggregate for bodily injury and property damage. Such coverage shall include the following:
 - (a) Products liability and completed operations, which shall be maintained for a period of not less than three (3) years following completion of the services under this Agreement or termination of the Agreement, whichever is later.
 - (b) Contractual liability insurance, which insures any indemnities contained in the Agreement between the Consultant and the City of Stamford;
 - (c) Broad form property damage coverage;
 - (d) Personal injury and advertising liability;
 - (e) City of Stamford and its employees, agents and officers designated as additional insureds;
 - (f) Policy shall be underwritten on an occurrence basis.
4. Commercial automobile liability insurance, which contains minimum limits of liability of \$1,000,000 per accident, and contains, at a minimum, the following coverage provisions:
 - (a) Coverage for all owned, non-owned and hired vehicles;
 - (b) City of Stamford and its employees, agents and officers designated as additional insureds.
5. Professional liability insurance, which covers the services to be provided pursuant to the Agreement between the City of Stamford and the Consultant. Insurance coverage should extend to any subcontracted work or services. The minimum limit of liability shall be \$2,000,000 per claim or per incident and in the aggregate.

6. If any insurance is underwritten on a claims made, as opposed to an occurrence basis, the retroactive date in the policy shall be the earlier of the effective date of the Agreement between the Consultant and the City of Stamford or the date the Consultant commences its services for the City. The policy shall also contain an extended reporting date of not less than three years following termination of the Agreement between the Consultant and the City of Stamford or conclusion of the services rendered by the Consultant, whichever is later.
7. All insurance required hereunder shall contain waivers of subrogation in favor of the City of Stamford and its employees, agents and officers. The Consultant shall waive any right of claim, loss or damage against the City of Stamford and its employees, agents and officers.
8. All insurance policies required under this Agreement shall contain thirty (30) days prior written notice to the City of Stamford's Risk Manager in the event of cancellation, termination or material change to any policy terms or conditions required hereunder.
9. The insurance required hereunder shall in no way serve to limit or reduce the liability of the Consultant under this Agreement.
10. The Consultant shall provide the Risk Manager with certificates of insurance, which evidence the insurance required hereunder. The Consultant shall provide the Risk Manager with renewal certificates of insurance within 15 days prior to the expiration of the policies. Consultant's failure to review said certificates of insurance or insurance policies shall not be deemed to be a waiver of the Consultant's obligations to comply with all provisions of these insurance requirements hereunder.

ACORD 101	CERTIFICATE OF INSURANCE
------------------	---------------------------------

PRODUCER
 Full Name of Insurance Agency
 Street Address
 City, State Zip Code
 Telephone Number / Facsimile Number

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

	COMPANIES AFFORDING COVERAGE
--	-------------------------------------

INSURED
 Name of Named Insured
 Street Address
 City, State Zip Code
 Telephone Number / Facsimile Number

COMPANY A	Name of Insurance Company
COMPANY B	Name of Insurance Company
COMPANY C	Name of Insurance Company

COVERAGES
 THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY (FOREIGN)	XXXXXXXXXX	XX/XX/XX	XX/XX/XX	GENERAL AGGREGATE \$2,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG \$2,000,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				PERSONAL & ADV INJURY \$1,000,000
					EACH OCCURRENCE \$1,000,000
					FIRE DAMAGE (Any one fire) \$XXX,XXX
					MED EXP (Any one person) \$XXX,XXX
A	AUTOMOBILE LIABILITY	XXXXXXXXXX	XX/XX/XX	XX/XX/XX	COMBINED SINGLE LIMIT \$1,000,000
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per Person) \$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per Accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE \$
	<input type="checkbox"/> HIRED AUTOS				
	<input type="checkbox"/> NON-OWNED AUTOS				
GARAGE LIABILITY					AUTO ONLY - EACH ACCIDENT \$
<input type="checkbox"/> ANY AUTO					OTHER THAN AUTO ONLY:
					EACH ACCIDENT \$
					AGGREGATE \$
	EXCESS LIABILITY				EACH OCCURRENCE \$
	<input type="checkbox"/> UMBRELLA FORM				AGGREGATE \$
	<input type="checkbox"/> OTHER THAN UMBRELLA FORM				\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	XXXXXXXXXX	XX/XX/XX	XX/XX/XX	<input checked="" type="checkbox"/> STATUTORY LIMITS \$
	EMPLOYERS' LIABILITY				EACH ACCIDENT \$500,000
	THE PROPRIETOR/PARTNERS/EXECUTIVE OFFICERS ARE: <input checked="" type="checkbox"/> INCL <input type="checkbox"/> EXCL				DISEASE - POLICY LIMIT \$500,000
					DISEASE - EACH EMPLOYEE \$500,000
C	Professional Liability	XXXXXXXXXX	XX/XX/XX	XX/XX/XX	\$2,000,000 per occur/aggregate

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS:
City of Stamford and its employees, agents and officers designated as additional insureds under commercial general liability and automobile liability. All insurance required hereunder shall be primary, not excess or contributory, to any insurance maintained by or on behalf of the City of Stamford. Waiver of subrogation in favor of City of Stamford and its employees, agents and officers.

CERTIFICATE HOLDER

 City of Stamford
 888 Washington Boulevard
 Stamford, CT 06901

CANCELLATION
 SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, INSURANCE COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.