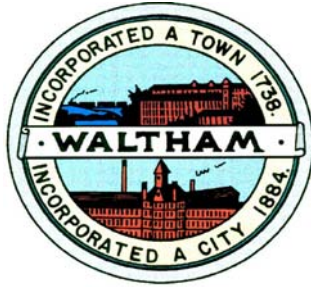


The City of Waltham



*Invites
Interested Parties
To propose the best offer and or bid
For the service or product herewith described:*

LOGAN PARK IMPROVEMENTS

The bid opening will be held: Thursday August 30, 2012 at 10:00 am

Phone: 781-314-3244, Fax: 781-314-3245

SECTION 00050
CITY OF WALTHAM
MASSACHUSETTS

NOTICE TO BIDDERS, INCLUDING SUB-BIDDERS

LOGAN PARK IMPROVEMENTS
WALTHAM, MASSACHUSETTS

The City of Waltham, Massachusetts invites sealed bids from Contractors for the LOGAN PARK IMPROVEMENTS Waltham, Massachusetts. The work of this Contract includes demolition of miscellaneous park elements and furnishing and installing new playground equipment, a play area with concrete curbing and fiber mulch safety surfacing, replenishment of existing fiber mulch safety surfacing, park sign, double bench, metal fence panels and tree planting.

PLANS, SPECIFICATIONS and other Contract Documents may be obtained after 3:00 pm August 10, 2012 by visiting the City's web Site at www.city.waltham.ma.us/open-bids Copies of Addenda will be emailed to the registered Bidders without charge.

Sealed **GENERAL BIDS** for this project will be accepted from eligible bidders at the Purchasing Department, Waltham City Hall, 610 Main Street, Waltham, MA 02452 until **10:00 AM on August 30, 2012**, at which place and time they shall be publicly opened, read aloud and recorded for presentation to the Awarding Authority.

A **PRE-BID CONFERENCE and SITE INSPECTION** will be held for all interested parties at **10:00 AM on August 23, 2012** at 120 Woerd Avenue, Waltham, MA. Attendance at this pre-bid conference is strongly recommended but not mandatory for parties submitting a bid. It will be the only opportunity to visit the site prior to the bid opening.

Each general bid, and each sub-bid shall be accompanied by a bid deposit in the form of a bid bond, certified check, or a treasurer's or cashier's check issued by a responsible bank or trust company, payable to the City of Waltham in the amount of five percent (5%) of the value of the bid. Bid deposits will be dealt with as provided in Massachusetts General Laws.

Bids shall be made on the basis of the Prevailing Wage Rates as determined by the Commissioner of Labor and Industries, Pursuant to the Provisions of the Massachusetts General Laws, a copy of which is available in the City web site or by request to jpedulla@city.waltham.ma.us and is made a part of the Contract.

Bidders' selection procedures and contract award shall be in conformity with applicable statutes of the Commonwealth of Massachusetts.

Performance and Labor and Materials payment bonds in the full amount of the contract price will be required from the successful bidder.

LOGAN PARK IMPROVEMENTS
Waltham, MA
CDBG Fund # 290-175-2012-8038
IDIS # 704

Carolyn Cooney & Associates Inc.
Milford, MA

The Awarding Authority reserves the right to reject any or all general bids, if it be in the public interest to do so, and to reject any sub-bid on any sub-trade if it determines that such sub-bid does not represent the sub-bid of a person competent to perform the work as specified or that less than three such sub-bids were received and that the prices are not reasonable for acceptance without further competition.

The successful bidder will be required to furnish a Certificate of Insurance, with the following verbatim text included in the description of services: **“The City of Waltham is a named additional insured for General Liability and Vehicle Liability under the contract”** in the amount of \$500,000 per occurrence and \$1,000,000 in the aggregate and Worker’s Compensation Insurance as prescribed by law. See paragraph 1.28.

In accordance with M.G.L., the undersigned certifies that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by OSHA that is at least 10 hours in duration at the time the employee begins work and shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

CONTRACT TIME. The time for Substantial Completion of the work is **45 calendar days** from the Contractor’s receipt of the Notice to Proceed.

CITY OF WALTHAM

Joseph Pedulla, Chief Procurement Officer
Purchasing Department
City Hall, 610 Main Street
Waltham, MA 02452

END OF SECTION

NOTICE TO BIDDERS,
00050 - 2

SECTION 00100 - INSTRUCTION TO BIDDERS

PART 1 - GENERAL

1.01 SCHEDULE OF DATES

- A. Deadline for Advertisement for Bids: Central Register – July 31, 2012 4:00 P.M.
- B. Advertisement appears in Central Register, Plans and Specifications ready for Bidders at the Offices of the Waltham Purchasing Agent after **8:30 P.M. on August 8, 2012.**
- C. Pre-bid walkthrough on **Thursday August 23, 2012, at 10:00 A.M** at the Logan Park, 120 Woerd Avenue Waltham, MA.
- D. Questions and requests for interpretations may be submitted in writing to Jpedulla@city.waltham.ma.us up to and including: **August 24, 2012, 12:00 noon**
- E. Addenda will be issued to all registered contractors and copies will be posted on the city web site.
- F. General Bids Deadline: **10:00 A.M. on August 30, 2012**, in the Purchasing Department, City Hall, 610 Main Street, Waltham, MA 02452, Attn: J. Pedulla, CPO, where the bids will be publicly open and read.

1.02 BIDDING PROCEDURE

- A. Bids for the work are subject to the provisions of General Laws, Chapter 30, 39M. Regulations governing the bidding procedures as set forth in the above mentioned amended General Laws must be followed.
- B. In the event of any inconsistencies between any of the provisions of these Contract Documents and of the cited statute, anything herein to the contrary notwithstanding, the provisions of the said statute shall control.
- C. No General Bid received by the Awarding Authority after the time respectively established herein for the opening of General Bids will be considered, regardless of the cause for the delay in the receipt of any such bid.

1.03 WITHDRAWAL OF BIDS

- A. Bids may be withdrawn prior to the time respectively established for the opening of General Bids only on written request to the Awarding Authority.

INSTRUCTION TO BIDDERS
00100 - 1

1.04 INTERPRETATION OF CONTRACT DOCUMENTS

- A. No oral interpretation will be made to any bidder. All questions or requests for interpretations must be made in writing to the Architect.
- B. Every interpretation made to a bidder will be in the form of an Addendum to the drawings and/or specifications, which will be made available to all persons to whom Contract Documents have been issued.
- C. Failure of the Awarding Authority to send, or of any bidder to receive any such Addendum shall not relieve any bidder from obligation under his bid as submitted.
- D. All such Addenda shall become a part of the Contract Documents.

1.05 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- A. Each bidder shall visit the site of the proposed work and fully acquaint himself with conditions as they exist, and shall also thoroughly examine the Contract Documents. Failure of any bidder to visit the site and acquaint himself with the Contract Documents shall not relieve any bidder from any obligation with respect to his bid.
- B. By submitting a bid, the bidder agrees that the Contract Documents are adequate and that the required result for a full and complete installation can be produced. The successful bidder shall furnish any and all labor, materials, insurance, permits and all other items needed to produce the required result to the satisfaction of the Awarding Authority.

1.06 BID SECURITY

- A. The General Contractor's bid must be accompanied by bid security in the amount of five percent (5%) of the bid.
- B. At the option of the bidder, the security may be bid bond, certified, treasurer's or cashier's check issued by a responsible bank or trust company. No other type of bid security is acceptable.

Bid Bonds shall be issued by a Surety Company qualified to do business under the laws of the Commonwealth of Massachusetts.

- C. Certified, Treasurer's or Cashier's check shall be made payable to the City of Waltham, Massachusetts.
- D. The bid security shall secure the execution of the Contract and the furnishing of a Performance and Payment Bond by the successful General Bidder.

INSTRUCTION TO BIDDERS
00100 - 2

- E. Should any General Bidder to whom an award is made fail to enter into a contract therefore within five (5) days, Saturdays, Sundays and Legal Holidays, excluded, after notice of award has been mailed to him or fail within such time to furnish a Performance Bond and also a Labor and Materials or Payment Bond as required, the amount so received from such General Bidder through his Bid Bond, Certified, Treasurer's or Cashier's check as bid deposit shall become the property of the City of Waltham, Massachusetts as liquidated damages; provided that the amount of the bid deposit, which becomes the property of the City of Waltham, Massachusetts, shall not in any event exceed the difference between his bid price and the bid price of the next lowest responsible and eligible bidder; and provided further that, in case of death, disability, bona fide clerical error or mechanical error of a substantial nature, or other unforeseen circumstances affecting the General Bidder, his deposit shall be returned to him.

1.07 BID FORM

- A. General Bids shall be submitted on the "FORM FOR GENERAL BID"- Sect 00300 - enclosed. Erasures or other changes must be explained or noted over the signature of the bidder.
- B. Bid forms must be completely filled in. Bids which are incomplete, conditional, or obscure, or which contain additions not called for will be rejected.
- D. General Bidders shall submit one set of executed bid forms to the Awarding Authority.

1.08 SUBMISSION OF BIDS AND BID SECURITIES

- A. Each bid submitted by a General Contractor shall be enclosed in a sealed envelope that shall be placed with the bid security in an outer envelope. The outer envelope shall be sealed and clearly marked as follows:

(Firm Name): _____
General Bid and Bid Security for:
Logan Park Improvements

1.09 AWARD OF CONTRACT

- A. The Contract shall be awarded to the lowest responsible and eligible General Bidder on the basis of competitive bids in accordance with the procedure set forth in the provision of Chapter 30, 39M of the General Laws of the Commonwealth of Massachusetts.
- B. If the bidder selected as the General Contractor fails to perform his agreement to execute a contract in accordance with the terms of his General Bid, and furnish a Performance Bond and also a Labor and Materials or Payment Bond, as stated in his General Bid in accordance with Section 44F, an award shall be made to the next lowest responsible and eligible bidder.

INSTRUCTION TO BIDDERS
00100 - 3

- C. The words “lowest responsible and eligible bidder” shall be the bidder whose name is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work and who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, on the work. Essential information in regard to such qualifications shall be submitted in such form as the Awarding Authority may require.
- D. Action on the award will be taken within sixty (60) days, Saturdays, Sundays and Legal Holidays excluded after the opening of the bids.

1.10 SECURITY FOR FAITHFUL PERFORMANCE

- A. The successful bidder must deliver to the Awarding Authority simultaneously with his delivery of the executed contract, an executed Performance Bond, and also a Labor and materials or Payment Bond, each issued by a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of One Hundred Percent (100%) of the Contract Price, as surety for the faithful performance of his contract, and for the payment of all persons performing labor or furnishing materials in connection therewith. Said bonds shall provide that, if the General Contractor fails or refuses to complete the Contract, the Surety Company will be obligated to do so.
- B. Premiums are to be paid by the General Contractor, and are to be included in the Contract Price.

1.11 EQUAL OPPORTUNITY

- A. The City of Waltham is an Equal Opportunity employer and will require compliance with the minority business enterprise plan (MBE) on file in the Purchasing Department.

1.12 PRE-BID WALK-THRU

- A. A pre-bid conference will be held at the site on **August 24, 2012, at 10:00 A.M.** at site of the project. Interested parties are encouraged to attend given that this will be the only time the building is open prior to the submission of bids. Further, prior to the bid opening, potential bidders may not go onto the site any time other than the aforementioned pre-bid conference.

1.13 SITE VISITS

- A. Prospective bidders are prohibited from going onto the site prior to the Bid Opening or any time other than the pre-bid walk-thru.

1.14 SECTION LEFT BLANK

1.15 EQUALITY

- A. Except where otherwise specifically provided to the contrary, the words “or approved equal” are hereby inserted immediately following the name or description of each article, assembly, system, or any component part thereof in the Contract Documents. It is the Contractor’s responsibility to provide all the research and documentation that would prove a product or assembly is “equal”. Failure to provide research or documentation does not alleviate the Contractor’s responsibility to meet the schedule.

1.16 TAX FREE NUMBER

- A. The City of Waltham has a tax-free number.

1.17 SCHEDULE

- A. The work of the Contract shall be Substantially Complete in **45 calendar days** after the date of commencement.

1.18 LATE FEES

- A. If the work is not Substantially Complete as specified in 1.17, the Contractor shall be charged a maximum of Five Hundred Dollars (\$500.00) per day to pay for consulting and testing fees required to manage and arrange for the completion of the project. Late fees will be deducted from the Contract via Change Order.

1.19 WEEKLY JOB MEETINGS

- A. There will be a weekly job meeting at the site on the same agreed-upon day and time. Time will be provided to discuss and view the progress of the work and to answer questions. The Contractor’s job Superintendent and Project Manager shall attend each meeting. The City reserves the right to have job meetings conducted in location of its choosing.

1.20 PROJECT SUPERINTENDENT

- A. The Contractor shall provide the same person as Superintendent for the entire duration of the project. Failure to maintain the same person in this position shall result in a One Thousand Dollar (\$1,000.00) penalty per incident which shall cover the Architect’s time to re-orient new personnel.

1.21 AWARD

- A. The Awarding Authority reserves the right to reject any or all bids if it be in the public interest to do so, and to act upon the bids and make its award in any lawful manner.

INSTRUCTION TO BIDDERS
00100 - 5

1.22 PREVAILING WAGE SCHEDULE

A. Bids shall be made on the basis of the Prevailing Wage Schedule, as determined by the Commissioner of Labor and Industries, pursuant to the provision of Chapter 30, 39M, of the Massachusetts General Laws. A copy of which is available in the City web site or by request to jpedulla@city.waltham.ma.us and is made a part of the Contract.

1.23 CONFLICT OF INTEREST

A. A bidder filing a proposal thereby certifies that the proposal is made in good faith, without fraud, collusion, or connection of any kind with any other bidder for the same work, and that the bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm.

1.24 PROCEED ORDERS

A. No bidder is to proceed without a proceed order as set out in the contract.

1.25 SECTION LEFT BLANK

1.26 COMPLIANCE WITH MASSACHUSETTS GENERAL LAWS

- A. Before a contract may be executed by the City, the successful Bidder will be required, in accordance with the provisions of M.G.L. Chapter 62C, Section 49A, to execute and file with the City the certificates in the Compliance Section:
- B. Pursuant to Massachusetts General Laws, Chapter 62C, Section 49A, I certify under the penalty of perjury that I, to the best of my knowledge and belief have filed all state tax returns and paid all the state taxes required under law.

1.27 CONSTRUCTION BARRICADES/FENCING

- A. The General Contractor shall provide all barricades/fencing to enclose the work area to prevent unauthorized access to the site.
1. The barricades/fencing shall provide enough room for all construction activities to be performed while separated from pedestrians, students, and staff on site.
 2. Safety is the sole responsibility of the Contractor and any barricades/fences necessary to protect the work and the public shall be provided.

1.28 INSURANCE

A. The contractor shall purchase and maintain, at his expense all insurance required by the Contract. Documents and all insurance required by the applicable laws of Massachusetts, including but not limited to, General Laws, Chapter 146, in connection with all hoisting equipment.

B. The Contractor shall purchase and maintain such insurance as will protect him from claims under workmen's compensation acts and from claims for damages because of bodily injury, including death and all property damage including, without limitation, damage to buildings and adjoining the site of construction which might arise from and during operations under this contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them including:

1. Statutory Worker's Compensation and Employer's Liability

The contractor shall provide insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws (so-called Worker's Compensation Act) to all persons to be employed under this contract and shall continue in force such insurance as aforesaid shall be deemed a material breach of this Contract and shall operate as an immediate termination thereof. The contractor shall, without limiting the generality of the foregoing, conform to the provisions of Section 34A of Chapter 149 of the General Laws, which Section is incorporated herein by reference and made a part of hereof.

2. Comprehensive General Liability Insurance

Minimum bodily injury limits of \$ 500,000 per person and \$ 1,000,000 per accident, and property damage limits of \$ 500,000 per accident and \$ 1,000,000 aggregate during any 12 month period, shall include the following:

- a. Public liability (bodily injury and property damage)
- b. X.C.U. (explosion, collapse, and underground utilities)
- c. Independent contractor's protective liability.
- d. Products and completed operations.

3. Comprehensive All Risk Motor Vehicle Liability Insurance

Minimum bodily injury limits of \$ 500,000 per person, \$ 1,000,000 per accident, and property damage limit of \$ 1,000,000 per accident.

4. All Risk Insurance

Covering all Contractor's equipment with a provision for Waiver of Subrogation against the Owner.

INSTRUCTION TO BIDDERS
00100 - 7

5. Excess Liability Insurance in Umbrella Form with combined Bodily Injury and Property Damage Limit of \$ 1,000,000.
6. The Certificate of Insurance shall read in the description of services as follows:
The City of Waltham is a named Additional Insured for General Liability and Vehicle liability as required by contract.

1.29 SITE ACCESS

- A. The General Contractor shall gain access to the site via routes approved by the Owner.
 1. The General Contractor as part of the bid price will restore all roads, curbs, driveways, walks and grassed or landscaped areas damaged during construction.

1.30 CONSTRUCTION TRAILER

- A. The General Contractor shall locate the construction trailer at locations approved by the Owner.
- B. The General Contractor shall locate all on site stored or staged materials within the enclosed area designated by the Owner.

1.31 BUILDING PERMIT FEES

- A. Building permit fees will be waived for this project. However the contractor shall apply for every permit as required by City Ordinances.

1.32 COMPLETE BID FORMS

- A. Please Note: Each bidder must fill in all the blanks on all the bid forms, even if the information is "zero dollars" or "not applicable". Also, please acknowledge all Addenda even if they do not pertain to your trade.

Signature of Individual or Corporate Name

By:

(Signature of Corporate Officer if applicable)

Title: _____

Social Security Number or Federal Identification Number: _____

END OF SECTION

INSTRUCTION TO BIDDERS
00100 - 8

SECTION 00300

FORM FOR GENERAL BID

**LOGAN PARK IMPROVEMENTS
WALTHAM, MASSACHUSETTS**

General Bid Opening Date: 10:00 am, August 30, 2012

J. Pedulla, Purchasing Agent
City of Waltham
610 Main Street
Waltham, MA 02452

A. Basic Price

The undersigned:

(Please type or print the business name of the bidding firm)

having visited the site of the above project and having familiarized myself with the local conditions affecting the cost of the work and with the contract documents, including Amendments and Addenda No's. _____, hereby proposes to furnish all labor, materials, tools, equipment, insurance, permits and taxes, and to do and lawfully perform all things as provided in the specifications, all in accordance with the contract documents, for the sum of:

Base Bid (in words) _____ **Dollars, \$** _____

PLEASE INCLUDE IN YOUR TOTAL BID PRICE \$2,500.00 POLICE DETAIL ALLOWANCE AS REQUIRED IN THE ALLOWANCE SECTION 01210

- A. The undersigned agrees that, if s/he is selected as General Contractor, s/he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each issued by a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of the contract price, the premiums for which are to be paid by the General Contractor and are included in the contract price.
- B. The undersigned certifies that s/he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work and that s/he will comply fully with all laws and regulations applicable to awards made.
- C. The undersigned as Bidder certifies that if this proposal is accepted, s/he will furnish to the City of Waltham with the invoice for the material or equipment supplied two copies of any and all

Material Safety Data Sheets applicable to such material or equipment, as required by M.G.L. Chapter 111F, so called "Right to Know Law".

- D. The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. The word "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.
- E. Substantial Completion
 - 1. The work of the Contract shall be Substantially Completed in **forty-five (45) calendar** days.
- H. In accordance with M.G.L., the undersigned certifies that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by OSHA that is at least 10 hours in duration at the time the employee begins work and shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

Sincerely,

(Bidder)

(Address of Bidder)

By:

(Title - Owner*, Partner*)

(Seal, if Corporation)

By:

(If Corporation - Name and Office)

* If the business owned by the individual or partnership is conducted under a trade or assumed name, a certified copy of doing business under an assumed name should be annexed.

PROOF OF CONTRACTOR’S RESPONSIBILITY

Before a contract will be awarded to any bidder, he/she will be required to furnish evidence satisfactory to the City that he/she has all of the following qualifications:

- A. Ability, equipment, organization, and financial resources sufficient or enable him/her to construct and complete the work successfully within the time required.
- B. Experience during the past three (3) years in the successful completion of similar projects, the magnitude of which shall be not less than one-half (1/2) the work herein specified. In this connection, the attention of the bidder is directed to the “Bidder’s Experience” attached hereto, which shall be used in determining the responsibility of the bidder. The City may require additional information is necessary to determine the responsibility of the bidder.
- C. An experienced bidder shall be construed to mean that the bidder has an individuals within his/her organization with the experience to supervise a job of this nature. In addition, the bidder shall have within his/her organization, or within his/her sub-contractor’s organization, an individual who has previously installed and supervised the installation of play equipment.

In the event the bidder fails, refuses, or neglects to submit any required information within the reasonable time stated in any request or fails to qualify as a responsible bidder, his/her bid guaranty shall be forfeited to the use of the owner, not as a penalty, but as liquidated damages.

The determination of whether a bidder is responsible shall rest solely with the City.

BIDDER’S EXPERIENCE

The following is a list of the projects similar in character and scope to the work specified under this contract, which have successfully been completed by this bidder during the past three years.

This information must be furnished by each bidder. A completed project is one that has been accepted and the final payment received from the City or authorized representative.

Bidder’s Signature

Date

Compliance

(Required Documents.)

Compliance

The compliance documents in this section must be completed, signed and returned **with your bid package.**

Purchasing Department

City of Waltham
610 Main Street
Waltham, MA 02452

Failure to submit the completed documents will cause the disqualification of the proposal.

Section Index

	Check when Complete
• Non-collusion form and Tax Compliance form.....	_____
• Corporation Identification Form.....	_____
• Certificate of Vote Authorization.....	_____
• Certificate of Insurance (showing all limits of WC &GL).....	_____
• Three (3) References.....	_____
• 5% Bid Bond or Certified Check.....	_____
• Debarment Certificate	_____
• Prevailing Wage Certificate.....	_____
• Right-to-know Law.....	_____
• OSHA 10 Certificate for all Assigned Employees (MGL ch30, §39M and Ch 149)	_____

Before the commencement of the Job, the contractor must provide to the above office:

- Materials and Performance Bond for 100% of the contract value and naming the City of Waltham ***(letter must be included with your response)***

Your Company's Name: _____

Service or Product Bid _____

NOTE: Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

NON-COLLUSION FORM AND TAX COMPLIANCE FORM

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity or group of individuals. The undersigned certifies that no representations made by any City officials, employees, entity, or group of individuals other than the Purchasing Agent of the City of Waltham was relied upon in the making of this bid

_____, _____
(Signature of person signing bid or proposal) Date

(Name of business)

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, & 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

_____, _____
Signature of person submitting bid or proposal Date

Name of business

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

CERTIFICATE OF VOTE OF AUTHORIZATION

Date:

I _____, Clerk of _____ hereby certify that at a meeting of the Board of Directors of said Corporation duly held on the _____ day of _____ at which time a quorum was present and voting throughout, the following vote was duly passed and is now in full force and effect:

VOTED: That _____ (*name*) is hereby authorized, directed and empowered for the name and on behalf of this Corporation to sign, seal with the corporate seat, execute, acknowledge and deliver all contracts and other obligations of this Corporation; the execution of any such contract to be valid and binding upon this Corporation for all purposes, and that this vote shall remain in full force and effect unless and until the same has been altered, amended or revoked by a subsequent vote of such directors and a certificate of such later vote attested by the Clerk of this Corporation.

I further certify that _____ is duly elected/appointed _____ of said corporation

SIGNED:

(Corporate Seal)

Clerk of the Corporation:

Print Name: _____

COMMONWEALTH OF MASSACHUSETTS

County of _____

Date:

Then personally appeared the above named and acknowledged the foregoing instrument to be their free act and deed before me, _____

Notary Public;

My Commission expires: _____

CORPORATION IDENTIFICATION

The bidder for the information of the Awarding Authority furnishes the following information.

If a Corporation:

Incorporated in what state _____

President _____

Treasurer _____

Secretary _____

Federal ID Number _____

If a foreign (out of State) Corporation – Are you registered to do business in Massachusetts?

Yes _____, No _____

If you are selected for this work you are required under M.G.L.ch. 30S, 39L to obtain from the Secretary of State, Foreign Corp. Section, State House, Boston, a certificate stating that you Corporation is registered, and furnish said certificate to the Awarding Authority prior to the award.

If a Partnership: (Name all partners)

Name of partner _____

Residence _____

Name of partner _____

Residence _____

If an Individual:

Name _____

Residence _____

If an Individual doing business under a firm's name:

Name of Firm _____

Name of Individual _____

Business Address _____

Residence _____

Date _____

Name of Bidder _____

By _____ Print Name

Signature _____, Title _____

Business Address (POST OFFICE BOX NUMBER NOT ACCEPTABLE)

City State Telephone Number Today's Date

PROVIDE THREE (3) SERVICE APPROPRIATE REFERENCES

1. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

2. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

3. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided, A Payroll Form has been printed on the reverse of this page and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

In addition, every contractor and subcontractor is required to submit, on a weekly basis, a copy of his or her weekly payroll records to the awarding authority. For every week in which an apprentice is employed, a photocopy of the apprentice's identification card must be attached to the payroll report. Once collected, the awarding authority is also required to preserve those reports for three years.

In addition, each such contractor, subcontractor, or public body shall furnish to the awarding authority directly, within fifteen days after completion of its portion of the work, a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

_____, 200 _____

I _____,
(Name of signatory party) _____ (Title)

I do hereby state that I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____, Title _____

Print _____

WEEKLY PAYROLL REPORT FORM

Company Name: _____
 Prime Contractor
 Project Name: _____
 Subcontractor
 Awarding Auth.: _____
 List Prime Contractor: _____
 Work Week Ending: _____
 Employer Signature: _____
 Final Report
 Print Name & Title: _____

Employee Name & Address	Work Classification	(A) Hours Worked							(B) Hourly Base Wage	Employer Contributions			(F) [B+C+D+E] Hourly Total Wage (prev. wage)	(G) [A*F] Weekly Total Amount			
		S	M	T	T	W	T	F		S	(C) Health & Welfare	(D) Pension			(E) Supp. Unemp.		
		(A) Tot. Hrs.															

NOTE: Every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority.

RIGHT TO KNOW LAW

Any vendor who receives an order or orders resulting from this invitation agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to M.G.L. c. 111F, §§8,9 and 10 and the regulations contained in 441 CMR 21.06 when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to M.G.L. c. 111F §7 and regulations contained in 441 CMR 21.05. Failure to furnish MSDS and/or labels on each container may result in civil or criminal penalties, including bid debarment and action to prevent the vendor from selling said substances, or mixtures containing said substances within the Commonwealth. All vendors furnishing substances or mixtures subject to Chapter 111F or M.G.L. are cautioned to obtain and read the laws, rules and regulations referenced above. Copies may be obtained from the State House Bookstore, Secretary of State, State House, Room 117, Boston, MA (617) 727-2834.

Authorized Signature Indicating Compliance with the Right-to-know laws:

Signature

Date

Print Name

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package may cause the disqualification of your proposal.

DEBARMENT CERTIFICATION

In connection with this bid and all procurement transactions, by signature thereon, the respondent certifies that neither the company nor its principals are suspended, debarred, proposed for debarment, declared ineligible, or voluntarily excluded from the award of contracts, procurement or non procurement programs from the Commonwealth of Massachusetts, the US Federal Government and /or the City of Waltham. "Principals" means officers, directors, owners, partners and persons having primary interest, management or supervisory responsibilities with the business entity. Vendors shall provide immediate written notification to the Purchasing Agent of the City of Waltham at any time during the period of the contract of prior to the contract award if the vendor learns of any changed condition with regards to the debarment of the company or its officers. This certification is a material representation of fact upon which reliance will be placed when making the business award. If at any time it is determined that the vendor knowingly misrepresented this certification, in addition to other legal remedies available to the city of Waltham, the contract will be cancelled and the award revoked.

Company Name _____

Address _____

City _____, State _____, Zip Code _____

Phone Number (____) _____

E-Mail Address _____

Signed by Authorized Company Representative:

Print name _____,

Date _____

10 HOURS OSHA TRAINING CONFIRMATION

Chapter 306 of the Acts of 2004

CONSTRUCTION PROJECTS

AN ACT RELATIVE TO THE HEALTH AND SAFETY ON PUBLIC

The undersigned hereby certifies that all employees to be employed at a worksite for construction, reconstruction, alteration, remodeling, repair, installation, demolition, maintenance or repair of any public work or any public building estimated to cost more than \$10,000.00 have successfully completed a course in construction safety and health approved by the **United States Occupational Safety and Health Administration** that is at least **10 hours** in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first payroll report for each employee and will comply with all laws and regulations applicable to awards of subcontracts subject to section 44F.

Company Name: _____

Address: _____

Signature: _____

Title: _____

Print Name _____

Date

See Chapter 306 of the Acts of 2004

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

SECTION 01010

SUMMARY OF WORK

PART 1- GENERAL

1.01 PROJECT DESCRIPTION

- A. The project consists of improvements to the existing Logan Park, 120 Woerd Avenue, Waltham, MA 02453, as described in the Contract Documents.

1.02 WORK TO BE DONE

- A. The work of this Contract includes, but is not limited to:
 - 1. Demolition of miscellaneous park elements including bituminous concrete paving, turf, play equipment, park sign, and planting.
 - 2. Furnishing and installing new playground equipment, new safety surfacing, new concrete curbing at new play area, new sign, and new metal fence panels.

1.03 CONTRACT TIME

- A. The time for Substantial Completion of the work is **45** calendar days from the Contractor's receipt of the Notice to Proceed.
- B. The Contractor shall submit shop drawings, data and samples and place his/her order sufficiently early to permit consideration and approval by the Landscape Architect before materials are necessary for incorporation into the Work. Any delay resulting from the Contractor's failure to do so shall not be used as a basis of a claim against the Owner.

1.04 CONTRACT DOCUMENTS

- A. The Contract Documents are enumerated in the Agreement, and include these Specifications and the Drawings, for the City of Waltham, by Carolyn Cooney & Associates, Landscape Architects, 13 Elm Street, Milford, MA 01757.

1.05 INSPECTION OF THE SITE

- A. It is a requirement of the Contract that the Contractor and his/her subcontractors shall have thoroughly inspected the site during the bidding period. By submitting a bid they confirm that they are thoroughly familiar with the site and all existing conditions which impact and affect their work. Requests for extra compensation will not be considered for any work which could have been foreseen by a visual inspection of the site.

1.06 CONTRACTOR'S USE OF THE SITE

- A. The Contract Limit Line shown on the Drawings defines the boundary of the site available to the Contractor for construction purposes.
- B. Vehicular access to the site will be limited to that equipment necessary to install the improvements. Vehicular access shall be through existing rail openings.
- C. There shall be no on-site parking
- D. The Contractor shall furnish his/her own toilet facilities on-site.
- E. The Contractor shall take all precautions necessary to protect the abutting properties during construction. Any and all damage caused by construction operations shall be repaired.
- F. The project site shall be kept clean and free from accumulation of waste material and debris.
 - 1. The Contractor, his/her Subcontractors, and their employees shall be respectful and courteous of the neighborhood while working on site.

1.07 CITY OF WALTHAM NOISE ORDINANCE

- A. The Contractor is advised that the City of Waltham has a Noise Ordinance, Section 10-6, which has the authority to regulate the noise generating activities of this Contract. In general the Ordinance prohibits excessive noise created by construction, building, remodeling, excavating, land clearing, or by any of the equipment associated with such work. The Police Department considers the startup or idle running of truck engines and/or equipment prior to 7:00 AM a violation.

1.08 ENCLOSURES

- A. Provide at the earliest practical time temporary enclosure of materials, work in progress and completed portions of the work to provide protection to the work and the employees.

1.09 SAFETY AND SECURITY

- A. The Contractor shall be responsible for the safety and security of those areas of the park site where construction is occurring and for the safety of all persons using the park site.
 - 1. Particular attention is called to the fact that the construction site is located

within a playground and the necessity of preventing the access by children to the construction site.

- (a) Safety measures shall all include all those actions deemed necessary by the Contractor to ensure the safety of park users. These may include but are not necessarily limited to:
 - (1) Temporary fencing at construction area, where indicated on the Drawings.
 - (2) Filling in of all excavations at the end of the work day.
 - (3) At a minimum, when mechanical equipment is being used, the area shall be fenced off to prevent the entry of children or other park users.

- B. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions & programs in connection with the work. He/she shall promulgate safety regulations and shall notify the Owner of particular hazards.

- C. The Contractor shall erect and maintain, as required by existing conditions and progress of work, all reasonable safeguards for safety and security. This includes the construction of barriers and the posting of danger signs and other warnings against hazards. By these and other necessary methods the Contractor shall stop unauthorized entry within the Contract Limit of Work Line, which for this project is defined by the temporary construction fencing shown on the Drawings.

- D. The requirement for a temporary construction fence in the designated area of the site does not relieve the Contractor from his responsibility of carrying out the incidental work items outside of the fence in safe manner. The Contractor is responsible for provision of additional safeguards not specifically required by the Drawings if these are necessary to protect health and safety.

- E. The Contractor shall cooperate with and maintain a close liaison with the Recreation Department, Planning Department, Police Department, and Fire Department, and he/she shall abide by safety or security related requests from any of these authorities.

END OF SECTION

SECTION 01020

ALLOWANCES

PART 1- GENERAL

1.01 ALLOWANCE FOR POLICE DETAIL

- A. The Contractor shall include as a line item in his/her bid, an allowance in the amount of \$2500 for the cost of police detail. This sum shall be included in the total bid price proposed by the Contractor.
- B. This allowance will cover the cost to the Contractor for police detail, if required to complete the work of this Contract.
 - 1. The cost for police detail will be reimbursed to the Contractor as described in Section 1040 - Control of Work, Section 1.05 Traffic Police.
- C. If the cost for Police Detail is more or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order.
- D. The allowance and reimbursement for police detail does not include any provisions for Contractor overhead and profit or other expenses related to police detail, other than the direct costs billed to the Contractor by the City of Waltham Police Department.

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1- GENERAL

1.01 BASE BID & ALTERNATES

A. Measurement & Payment

1. Measurement for payment for construction of Waltham Park Improvements to Logan Park shall be on a lump-sum basis.
2. Payment of the lump-sum price under the Base Bid of the Proposal adjusted for accepted Alternates, shall fully compensate the Contractor for furnishing all labor, materials, equipment and incidentals required for work described in Section 01010, Summary of Work of this Specification.

1.02 PAYMENT PROCEDURES

- A. Contractor shall submit substantiated monthly estimates for progress payments. The period covered by each Application for Payment shall be one (1) calendar month ending on the last day of the month.
- B. Payment will be made in accordance with the requirements of Section 39K, M.G.L.
- C. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Submittals Schedule (preliminary if not final).
 6. Copies of permits.
 7. Initial progress report.
 8. Certificates of insurance and insurance policies.
- D. Refer to Section 01700 - Project Close-out for additional requirements for payments at Substantial Completion and Final Completion.

1.03 ADDITIONAL WORK

- A. Additional Work, if any, shall be performed at a mutually satisfactory price agreed upon between the Contractor and the Owner through the process described in Section 01028 - Change Order Procedure.

END OF SECTION

SECTION 01028

CHANGE ORDER PROCEDURE

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to Attachment A and D of the Contract, concerning Change Orders. All Change Orders must be signed and approved by the Chief Procurement Officer and the City Auditor prior to execution of the Work.

1.02 SCOPE OF WORK

- A. Work included: Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the Owner and issued after execution of the Contract, in accordance with the provisions of this Section.

1.03 SUBMITTALS

- A. Make submittals directly to the Landscape Architect at the address shown on the Project Manual.
- B. Prepare in accordance with change order format in Appendix A of the Contract.

1.04 PRODUCT HANDLING

- A. Maintain a "Register of Proposal Requests and Change Orders" at the job Site, accurately reflecting current status of all pertinent data.
- B. Make the Register available to the Landscape Architect/Engineer for review at his/her request.

1.05 CHANGES INITIATED BY THE OWNER

- A. Should the City contemplate making a change in the Work or a change in the Contract Time of Completion, the Landscape Architect will issue a "Proposal Request" to the Contractor.
 - 1. Proposal Requests will be dated and will be numbered in sequence.
 - 2. The Proposal Request will describe the contemplated change, and will carry one of the following instructions to the Contractor:
 - (a) Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion.
 - (b) Make the described change in the Work, credit or cost for which will be determined in accordance with pertinent paragraphs of Appendix D Change Orders.

1.06 CHANGES INITIATED BY THE CONTRACTOR

- A. Should the Contractor discover a discrepancy among the Contract Documents, a concealed condition, or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, he shall notify the Landscape Architect.
- B. Upon agreement by the Landscape Architect that there is reasonable cause to consider the Contractor's proposed change, the Landscape Architect will issue a Proposal Request in accordance with the provisions described in Article 1.05 above.

1.07 PROCESSING PROPOSAL REQUESTS

- A. In response to each Request for Proposal, the Contractor shall:
 - 1. Submit to the Landscape Architect for review one copy of completed Change Order Form (Appendix A of the Contract).
 - 2. Meet with the Landscape Architect as required to explain costs and, when appropriate, to determine other acceptable ways to achieve the desired objective.
 - 3. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Landscape Architect in writing when such avoidance no longer is practicable.
- B. Upon the signature of the Chief Procurement Officer and the City Auditor, the Landscape Architect will issue a "Change Order" to the Contractor.

1.08 CHANGE ORDERS

- A. Change Orders will be dated and will be numbered in sequence.
- B. The Change Order will describe the change or changes and will refer to the Proposal Request(s) involved.
- C. The Landscape Architect will issue four copies of each Change Order to the Contractor.
 - 1. The Contractor promptly shall sign all four copies and return three copies to the Landscape Architect.

END OF SECTION

SECTION 01040

CONTROL OF WORK

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Contract Drawings, all of which apply to this section.

1.02 PLANT

- A. The Contractor shall furnish plant and equipment which will be efficient, appropriate, and of sufficient quantity to secure a satisfactory quality of work and a rate of progress which will insure the completion of the Work within the time stipulated in the Contract Documents. If at any time such plant appears to the Owner to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character, or increase the plant and equipment and the Contractor shall conform to such order. Failure of the Owner to give such order shall in no way relieve the Contractor of his obligations to secure the quality of work and rate of progress required. In addition, the Contractor shall maintain his equipment, including mufflers, oil seals or gaskets, and air pollution control devices, in proper working order.

1.03 PROJECT MANAGEMENT

- A. The Work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient labor and equipment to complete all the necessary work requirements within a minimum period of time and as stated in the Contract Documents.
- B. Prior to the start of work, the Contractor shall submit a Progress Schedule in a bar chart form at the preconstruction meeting to the Landscape Architect for completing the Work. See Section 01300 - Submittals of this Specification.
- C. The Contractor is fully responsible for the security and safety of partially completed work until the Project is finally accepted by the Owner and the Landscape Architect.
- D. Hours of work for construction activities are limited to 8:00 AM to 4:00 PM Monday through Friday. Any changes to the work schedule must be authorized by the Landscape Architect and City Officials.

- E. All work areas shall be secured, and materials and equipment shall be removed at the end of each work day.
- F. The Contractor shall retain on the Project during its progress, a competent full-time representative. This representative shall not be changed except with the consent of the Owner and Landscape Architect. The representative shall be in full charge of the Work and all instructions given to him shall be binding.

1.04 CITY OF WALTHAM NOISE ORDINANCE

- A. The Contractor is advised that the City of Waltham has a Noise Ordinance, Section 10-6, which has the authority to regulate the noise generating activities of this Contract. In general the Ordinance prohibits excessive noise created by construction, building, remodeling, excavating, land clearing, or by any of the equipment associated with such work. The Police Department considers the startup or idle running of truck engines and/or equipment prior to 7:00 AM a violation. Permits to waive the noise ordinance must be approved and issued by the Chief of Police.

1.05 TRAFFIC POLICE

- A. The Contractor shall provide for traffic control by uniformed police officers during all work within City streets. All bills for police detail must be paid in full by the Contractor. The Contractor will be reimbursed for these payments only after a qualifying bill stamped "Paid" by the City of Waltham Treasurer's Office is submitted to the Landscape Architect for reimbursement. Payment for special duty police will be made to the Contractor at a dollar for dollar reimbursement. Said price and payment shall be full compensation for furnishing all special duty police. The Contractor shall include in the lump sum bid price his/her line item an allowance for police detail as described in Section 01020 - Allowances.
- B. The rate of payment for any police officer employed by the Contractor shall be at the rate established by the police department providing services for special duty police officers (MGL 149 34B). Payment shall be made by the Contractor within 30 days of billing. Failure to pay an outstanding bill within 30 days may result in a penalty charge to the Contractor for late payment. There will be no reimbursement for any penalties or late charges that may be assessed against the Contractor for late payment. Furthermore, the Landscape Architect will accept no further requests for payment if police detail bills are more than 30 days in arrears.
 - 1. The estimated hourly cost for police detail is \$42.00 hourly for each officer; one-half day - \$168.00 per officer; and one full day - \$336.00 per officer. One-half day is the minimum charge per day.
- C. It is suggested that payments be made in person at the Treasurer's Office and that a photocopy of the bill be presented to the Treasurer's Office at the same time so

that it may be stamped “PAID” and then presented to the Landscape Architect by the Contractor as proof of payment.

- D. The Contractor will not be reimbursed for any detail that he fails to cancel when it is not required (inclement weather, change of plans, etc.). Reimbursement shall be made on all qualifying bills stamped “PAID” by the appropriate Treasurer’s Office, less any amount for unnecessary details not cancelled by the Contractor, and presented to the Landscape Architect. Reimbursement may be entered in the next following request for payment.

1.06 SITE INVESTIGATION OF EXISTING CONDITIONS

- A. The Contractor acknowledges that he/she has satisfied him/herself as to the conditions existing at the Site of the Work, the type of equipment required to perform the Work, the quality and the quantity of the materials to be furnished insofar as this information is reasonably ascertainable from an inspection of the Site, as well as from information presented by the Specifications made a part of the Contract. Any failure of the Contractor to acquaint himself/herself with available information will not relieve him from the responsibility for estimating properly the difficulty or cost of successfully performing the Work.
- B. No claim for extra compensation or extension of time will be allowed due to the Contractor’s failure to estimate properly the quantities, locations and measurements of all items required to complete the Work.
- C. Report any discrepancies to the Landscape Architect and request her/his interpretation.

1.07 PROTECTION OF WORK AREA

- A. The Contractor shall secure all work areas by 4:00 PM each work day.
- B. All of the Contractor’s equipment, supplies, etc. left on-site, shall be secured daily. In no case will the Owner assume responsibility for damage or loss of materials, tools or equipment left on-site.
- C. The Contractor shall take precautions to prevent injury to the public due to open excavations or excavated materials. All trenches, excavated materials, equipment, or other obstacles which could be dangerous to the public shall be secured in an agreed upon staging area.

1.08 LAWS AND REGULATIONS

- A. The Contractor shall keep himself fully informed of all State and Federal laws and Municipal ordinances and regulations in any manner affecting those engaged or employed in the Work, or the materials used in the Work, or in any way affecting

the conduct of the Work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

- B. If any discrepancy or inconsistency is discovered in the Plans, Specifications, or Contract for the Work in relation to any such laws, ordinances, regulations, orders or decrees, the Contractor shall forthwith report the same to the Landscape Architect in writing. He/she shall at all times himself/herself observe and comply with, and shall cause all his/her agents and employees to observe and comply with all such laws, ordinances, regulations, orders, and decrees, and shall protect and indemnify the Owner and its officers, agents and servants against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, and orders or decrees, whether by himself/herself or his/her employees or subcontractors.

1.10 PERMITS AND CODES

- A. Under this Contract, all work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
- B. Do not close any street, sidewalk, alley, or passageway. Conduct operations as to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, or other facilities near enough to the Work to be affected thereby.
- C. Where code references are given, the latest issue of that Code in effect at the time of bidding shall be used. Code references are given to indicate the minimum quality and performance acceptable. Where Specifications and/or Contract Drawings indicate more stringent requirements, the Specifications or Contract Drawings shall govern.
- D. The Contractor, under this Contract shall be responsible for providing and filing all Plans, Specifications and other documents, pay all requisite fees and secure all permits, inspections and approvals necessary for legal installation and operation of the systems and or equipment furnished under this Contract, except as otherwise specified.
 - 1. Fees for City of Waltham permits will be waived by the City.
- E. Comply also with applicable provisions of American National Standard Code for Building Construction ANSI A10.6.

1.11 INSPECTION AND TESTS

- A. Testing shall be as specified in Section 01400-Quality Control.
- B. All material and workmanship shall be subject to inspection and examination by the Landscape Architect at any and all times during construction.
- C. All work that is unsatisfactory, or fails to comply with the Specifications in the opinion of the Landscape Architect or City Officials, shall be corrected by the Contractor at his own expense to the satisfaction of the Landscape Architect.

1.12 SANITARY REGULATIONS

- A. The Contractor shall provide adequate sanitary facilities for the use of those employed on the Work. Such facilities shall be made available when the first employees arrive on the Site of the Work, shall be properly secluded from public observation, and shall be constructed and maintained during the progress of the Work.
- B. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He/she shall vigorously prohibit the committing of nuisance on the Site of the Work, on lands of the Owner, or an adjacent property.

1.13 COORDINATION WITH UTILITIES

- A. The Contractor shall coordinate his/her Work with the utility companies to prevent damages or disruption to existing equipment and to coordinate new utility installations. The Contractor shall contact the utility companies owning underground equipment in the area of his work prior to commencing excavation. Contact with the utility companies shall be made sufficiently in advance so they can properly locate their equipment.
- B. The contractor shall be responsible for locating all site items such as utilities which could be affected by this Contract prior to the start of construction. The Contractor shall contact Dig-Safe (1-888-344-7233) prior to the start of construction, and obtain a Certificate verifying that the location work has been completed. Contact the City of Waltham Engineer to verify the location of additional on-site utilities. Contact telephone and communications companies to verify location of cables.
- C. All right-of-way and site utilities (water, sewer, drainage) shall be inspected and approved by the City Engineer's Office.
- D. Site information: No representations are made indicating subsurface conditions. It is expressly understood that the Owner/Landscape Architect will not be

responsible for interpretations or conclusions drawn therefrom by the Contractor.

1.14 FIRE PROTECTION

- A. Gasoline and other flammable liquids shall not be stored on site. They shall be dispensed from a UL listed safety containers in conformance with the National Board of Fire Underwriters recommendations. Do not store flammables near buildings.

1.15 CLEANUP

- A. During the course of the Work, the Contractor shall keep the Site in as clean and neat a condition as possible. He/she shall dispose of all residue resulting from the work. At the conclusion of the day's work, the Contractor shall leave the entire Site of the Work in a neat and orderly condition.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Contract Drawings, all of which apply to this section.
- B. Examine and coordinate all Contract Drawings and other section of the Specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section. Coordinate work with other trades to assure the steady progress of all work under the Contract.

1.02 SCOPE OF WORK

- A. The Work under this Section consists of field staking the horizontal and vertical alignment of site improvements .

1.03 QUALIFICATIONS AND SUBMITTALS

- A. The Contractor shall engage the services of a Professional Engineer or Land Surveyor Registered in the Commonwealth of Massachusetts and shall submit the name, address, and registration number of such person or persons to the Landscape Architect in writing.

PART 2 - MATERIALS

2.01 LAYOUT AND STAKING

- A. The Contractor shall be responsible for furnishing all stakes, pins, and grade markings as required to implement the work of layout and staking and shall make all field adjustments ordered by the Landscape Architect at no extra cost to the Owner.
- B. Upon request by the Landscape Architect, the Contractor shall make available to the Owner survey instruments necessary to check proposed vertical and horizontal alignments at no extra cost.

PART 3 - EXECUTION

3.01 SURVEY LAYOUT

- A. The Contractor shall use the alignments shown on the Plans to obtain the

alignment which shall be approved subject to field adjustments as ordered by the Landscape Architect.

- B. The Surveyor shall lay out the necessary grades and locations of the play area and play equipment.
- C. The Contractor shall inform the Landscape Architect when the general layout is completed and shall not begin excavation until the various alignments are approved by the Landscape Architect. Any discrepancies encountered in field conditions shall be reported to the Landscape Architect immediately.
- D. The Contractor shall be responsible for maintaining the correct vertical and horizontal alignment of all elements, which responsibility shall not be waived by the Landscape Architect's approval of the basic layout and stakeout.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Documents, all of which apply to work of this section.

1.02 SCOPE OF WORK

- A. Attend project meetings to enable orderly review during progress of the Work, and to provide for systematic discussion of problems, as long as deemed necessary by the Landscape Architect throughout the construction period.
- B. The Contractor's relations with his subcontractors and materials suppliers, and discussion relative thereto, are the Contractor's responsibility and normally are not part of Project Meetings content.

1.03 QUALITY ASSURANCE

- A. For those persons designated by the Contractor to attend and participate in Project Meetings, provide required authority to commit the Contractor to solutions agreed upon in the Project Meetings.

1.04 MEETING NOTES

- A. The Landscape Architect will compile minutes of each Project Meeting and furnish copies to the attendees, Contractor, and Owner before the next scheduled meeting.

PART 2 - NOT USED

PART 3 - EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. The Contractor shall arrange for a Preconstruction Meeting within 5 days after the award of contract, prior to commencing any work on site, in order to coordinate between him/herself, his/her Subcontractors, the Owner, and the Landscape Architect the procedures to be followed on the project.
- B. Contractor is to coordinate attendance by authorized representatives of the Owner,

the Contractor, site work subcontractors, and the Landscape Architect. Authorized representatives of the Owner include the City of Waltham Engineering Department, 119 School Street, Waltham, MA 02451-4596, (781) 314-3830.

- C. Minimum agenda: Data will be distributed and discussed on at least the following items:
 - 1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers and Owner.
 - 2. Channels and procedures for communication.
 - 3. Construction schedule, including sequence of critical work.
 - 4. Contract Documents and revisions.
 - 5. Processing of Shop Drawings and other data submitted to the Owner for review, including the process for reviewing water, sewer and drainage submittals.
 - 6. Processing of Bulletins, field decisions, and Change Orders.
 - 7. Procedures for safety, first aid, security, quality control, housekeeping, and related matters.
 - 8. Submittal of Construction Fence layout.
 - 9. Submittal of Progress Schedule, Tabulation of Submittals and Schedule of Values.

3.02 PROJECT MEETINGS

- A. Frequency: Project Meeting shall in general be held at regular intervals not less frequently than once a week. Meetings will be chaired by the Landscape Architect.
- B. Location: Project meetings will be held at the job site.
- C. Attendance:
 - 1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at Project Meetings throughout the progress of the work.
 - 2. Site work subcontractors, material suppliers, and others may be invited to attend those Project Meetings in which their aspect of the Work is involved.
- D. Minimum Agenda:
 - 1. Review progress of the Work since last meetings, including status of submittals for approval.

2. Identify problems which impede planned progress.
3. Develop corrective measures and procedures to regain planned schedule.
4. Complete other current business.

E. Revision to Minutes:

1. Unless published minutes are challenged in writing prior to the next regularly scheduled Project Meeting, they will be accepted as properly stating the activities and decisions of the meeting.
2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
3. Challenge to minutes shall be settled at the start of the next regularly scheduled meeting.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Consult the individual Sections of the Specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

1.02 SCOPE OF WORK

- A. The scope of the work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor material, equipment, services and incidentals necessary to complete all the work in accordance with the contract documents, which are intended to describe and provide for a finished piece of work.
- B. The type of work includes the following without limiting the generality thereof:
 - 1. Progress Schedules.
 - 2. Schedule of Values.
 - 3. Shop drawings.
 - 4. Product Data.
 - 5. Samples.

1.03 QUALITY ASSURANCE

- A. Coordination of submittals:
 - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 - 2. Verify that each item and the associated submittal conform in all respects with the specified requirements.
 - 3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.
- B. Timeliness - The Contractor shall transmit each submittal to the Landscape Architect well in advance of performing related Work or other applicable

activities, so that the installation shall not be delayed by processing times, including disapproval and re-submittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. **Items with long lead times for orders such as site furnishings need to be submitted immediately.** No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Landscape Architect in advance of the Work.

1. Sequence - The Contractor shall transmit each submittal in a sequence which will not result in the approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.
- C. Contractor's Review and Approval - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Landscape Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To" or "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section or Drawing No. to which the submittal refers, purpose (first submittal, re-submittal), description, remarks, distribution record, and signature of transmitter.
- D. "Or-Equals", "or equal as approved" or "or approved equal" - On the transmittal, or on a separate sheet attached to the transmittal, the Contractor shall direct attention to any deviations including minor limitations and variations, from the Contract Documents. Do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Owner.
1. The Contractor and all Subcontractors shall submit to the Landscape Architect for consideration of any Or-Equal substitution, a written point by point comparison containing the name and full particulars of the proposed product to the product named or described in the Contract Documents.
 2. Such submittal shall in no event be made later than 30 calendar days prior to the incorporation of the item into the Work. In any case in which the time period specified in the Contract Documents from the Notice to Proceed to Substantial Completion is less than 30 days, this requirement can be waived by the Landscape Architect.
 3. Upon receipt of a written request for approval of an Or-Equal substitution, the Landscape Architect shall investigate whether the proposed item shall be considered equal to the item named or described in the Contract Documents. Upon conclusion of the investigation, the Landscape Architect shall promptly advise that the item is, or is not, considered acceptable as an Or-Equal substitution. Such written notice must have the

concurrence of the Owner.

4. In no case may an item be furnished on the Work other than the item named or described, unless the Landscape Architect, with the Authority's concurrence, shall consider the item equal to the item so named or described, as provided by M.G.L. c.30 § 39M.
 5. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Landscape Architect at the expense of the Contractor or Subcontractor submitting the substitution.
 6. The Landscape Architect and/or the Authority may require that full size samples of both the specified and proposed products be submitted for review and evaluation. The Contractor or Subcontractor, as the case may be, shall bear full cost for providing, delivering, and disposal of all such samples.
 7. The Contractor or Subcontractor, as the case may be, shall assume full responsibility for the performance of any item submitted as an "Or-Equal" and assume the costs of any changes in any Work which may be due to such substitution.
- E. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, handling, inspecting and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.
- F. Unless otherwise indicated on the Contract Drawings, or specified, only new materials and equipment shall be incorporated into the Work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Owner. No materials shall be delivered to the work without prior approval of the Owner.
- G. By approving and submitting shop drawings, product data, and samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the contract documents.
- H. The inspection and approval by the Landscape Architect of shop drawings, product data, and samples is general and does not relieve the Contractor from responsibility for compliance with the requirements of the Contract or for proper dimensions, fitting, construction, and construction sequencing.
- I. The Contractor or Subcontractors shall not be relieved of responsibility for any deviation from the Contract Drawings or Specifications unless the Contractor has specifically informed the Landscape Architect in writing of such deviation, and

the Landscape Architect has given specific written approval thereof.

- J. The Contractor shall submit to the Landscape Architect data relating to materials and equipment he proposes to furnish for the Work. Such data shall be in sufficient detail to enable the Landscape Architect to identify the particular product and to form an opinion as to its conformity to the Specifications. Submittals shall, at minimum, include the following:
1. Name of Manufacturer.
 2. Dimensional requirements for the material.
 3. Class and/or type of material.
 4. Strength requirements for the material.
 5. Sieve analysis of fill materials.
 6. And any other information that is required in determining conformance of the submittal with the Specifications or the Contract Drawings.

1.04 LANDSCAPE ARCHITECT'S ACTION

- A. The Landscape Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:
1. Final Unrestricted Release: Where marked "Approved" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
 2. Final-But-Restricted Release: When marked "Approved as Noted" the Work may proceed provided it complies with the Landscape Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend upon these compliances.
 3. Returned for Resubmittal: When marked "Revise & Resubmit" or "Disapproved", the Work covered by the submittal (purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new submittal resubmitted without delay, in accordance with the Landscape Architect's notations stating the reasons for returning the submittal.

1.05 PROGRESS SCHEDULES

- A. At the Preconstruction Meeting, the Contractor shall submit a progress schedule in bar chart form. Indicate a time bar for each major category or unit of work to be performed, properly sequenced and coordinated with other elements of the work.
- B. With the progress schedule, submit a tabulation of all submittals which will

clearly show: the submittal name and section, date to Landscape Architect for review, date required back to Contractor to maintain the orderly progress of the work, and those submittals required early because of long lead time for ordering, manufacture or fabrication. The Contractor shall submit shop drawings, data and samples or place his/her order sufficiently early to permit consideration and approval by the Landscape Architect before materials are necessary for incorporation into the Work. Any delay resulting from the Contractor's failure to do so shall not be used as a basis of a claim against the Owner.

- C. Monthly, as the job progresses, submit updates of the original progress schedule to show actual progress on the job and any revisions to the projected completion date.

1.06 SCHEDULE OF VALUES

- A. With the progress schedule, submit a schedule of values on an AIA "Request for Payment" form which breaks down the contract price by specification sections. This schedule of values shall be in reasonable correspondence with the Contractor's actual costs for each Subcontract or trade, and it shall serve as the basis for the evaluation and approval of monthly requests for Payment as they are submitted.

1.07 SHOP DRAWINGS

- A. Shop drawings shall be complete. Give all information necessary or requested in the individual section of the specifications. They shall also show adjoining Work and details of connection thereto.
- B. Shop drawings shall be for whole systems. Partial submissions will not be accepted.
- C. The Landscape Architect reserves the right to review and approve shop drawings only after approval of related product data and samples. Shop drawings for water, sewer, and drainage will require review by the City Engineer.
- D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Landscape Architect's stamp.
- E. The Contractor shall submit to the Landscape Architect one legible original and two copies of each shop drawing. Transparency and prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.
- F. When the original is returned by the Landscape Architect with the stamp "Revise

and Resubmit” or “Disapproved”, the Contractor shall correct the original drawing or prepare a new drawing and resubmit the original and two copies thereof to the Landscape Architect for approval. This procedure shall be repeated until the Landscape Architect’s approval is obtained.

G. When the original is returned by the Landscape Architect with the stamp “Approved” or “Approved as Corrected”, the Contractor shall provide and distribute the copies for all Contractor and Subcontractors use, and in addition submit, within 10 calendar days after approval, 3 prints to the Landscape Architect.

H. The Contractor shall maintain one full set of approved shop drawings at the site.

1.08 SUBMISSION OF PRODUCT DATA

A. The Contractor shall submit 6 copies of Product Data to the Landscape Architect. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.

B. Product Data shall be accompanied by a transmittal notice. The Contractor’s stamp of approval shall appear on the printed information itself, in a location which will not mar legibility.

C. Product Data returned by the Landscape Architect as “Disapproved” shall be resubmitted in 6 copies until the Landscape Architects approval is obtained.

D. When the Product Data are acceptable, the Landscape Architect will stamp them “Approved” or “Approved as Corrected,” retain 3 copies, and return 4 copies to the Contractor. The Contractor shall provide and distribute additional copies as may be required to complete the Work.

E. The Contractor shall maintain one full set of approved, original, Product Data at the site.

1.09 SUBMISSION OF SAMPLES

A. Unless otherwise specified in the individual section, the Contractor shall submit two specimens of each sample.

B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved in the Work.

C. Samples which can be conveniently mailed shall be sent directly to the Landscape

Architect, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.

- D. All other samples shall be delivered to the project site with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Landscape Architect.
- E. If a sample is rejected by the Landscape Architect, a new sample shall be resubmitted in a manner specified hereinabove. This procedure shall be repeated until the sample is approved by the Landscape Architect.
- F. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the Specifications.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. The scope of the work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services, and incidentals necessary to complete all of the work in accordance with the Contract Documents, which are intended to describe and provide for a finished piece of work.
- B. The work includes the following, without limiting the generality thereof;
 - 1. The Contractor shall make available to the Owner's testing laboratory any samples or specimens which the laboratory may require to perform quality control testing on concrete, fill materials, or other material as the Owner may elect to provide additional testing for.
 - 2. The coordinating and scheduling of work and the giving of timely notice so as to afford the Owner's testing laboratory the opportunity to take samples and make observations or tests.

1.03 TESTING LABORATORY

- A. The Owner will select, engage, and pay for the services of an independent testing laboratory to perform structural tests on concrete and such other materials as the Landscape Architect/Engineer may deem appropriate.
- B. Retesting of materials which fail the original test shall be paid for by the Contractor.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES & CONTROLS

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Contract Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. The scope of the work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services, and incidentals necessary to complete all of the work in accordance with the Contract Documents, which are intended to describe and provide for a finished piece of work.
- B. The work includes the following, without limiting the generality thereof;
 - 1. Temporary utilities.
 - 2. Field equipment.
 - 3. Barriers and enclosures.
 - 4. Safety and security.
 - 5. Project identification.

1.03 TEMPORARY UTILITIES

- A. The Contractor is responsible for all temporary electrical distribution, lighting, and water distribution from existing sources.
- B. The Contractor shall provide and pay for his own temporary telephone service within the Contract Limit Line.
- C. The provision for temporary toilets is included under Section 01010 - Summary of Work.

1.04 FIELD EQUIPMENT

- A. The Contractor shall provide a transit, rod and level on site for checking layouts and installations.

1.05 TRAFFIC CONTROL

- A. Traffic police will be required for operations within City streets. Refer to Section 01040 - Control of the Work, Section 1.05 for police requirements and cost and Section 01020 - Allowances for allowance to be included in the bid price.

1.06 BARRIERS AND ENCLOSURES

- A. The Contractor shall provide and maintain sufficient fencing and warning signs around the work area to limit unauthorized entry within the Contract Limit Line.
- B. At the earliest practical time provide temporary enclosure of materials, equipment, work in progress and completed portions of the work to provide protection to the work and employees.

1.07 SAFETY AND SECURITY

- A. The Contractor shall be responsible for the safety and security of the site within the Contract Limit Line, and for the safety of all persons who enter within the Contract Limit Line.
 - 1. Gates or other temporary openings in the fencing used to allow construction personnel or equipment access shall be maintained closed at all times to prevent access by the public.
- B. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.
- C. The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying the Owner of particular hazards.
- D. The Contractor shall cooperate with and maintain a close liaison with the Police Department and Fire Departments, and he shall abide by safety-related requests from any of these agencies.

1.08 PROJECT IDENTIFICATION

- A. The Contractor shall furnish and install one (1) 4'-0" x 6'-0" project sign, as indicated, conforming to the City of Waltham requirements.
 - 1. Such sign shall be fabricated from:

- (a) 1" thick MDO exterior plywood, laminated with waterproof glue. All edges of sign shall be banded with 1" x ½" pressure-treated pine banding.
 - (b) 1" thick SignPly, single-sided, painted aluminum over furniture grade exterior plywood core, with factory-baked polyester paint on the finished side with a mill-finished aluminum backer to provide balance and prevent warping. Edge shall be sealed with Omega "H" channel edge cap and waterproof Omega sealant. Color shall be selected from Manufacturers standard colors as manufactured by Laminators, Inc., 3255 Penn Street, Hatfield, PA 19440, or approved equal.
- B. Sign shall be supported by 2 - 4" x 4" D. F. post supports set in 12" diameter concrete footings to a depth of four feet so that sign is raised a minimum of 4' above grade, or attached securely to the existing chain link fence at specified mounting height. All nails, nuts, bolts and other connecting hardware shall be galvanized. (Note: Alternate methods of support may be required due to site conditions) The sign shall be lettered by a professional sign painter in accordance with the general layout provided. Submit shop drawing indicating sign construction, lettering, and wording. Wording shall be approved by the City of Waltham Planning Department.
- C. At completion of the project, remove and dispose of the sign, supports, and footings and completely refurbish the area.
- D. The City of Waltham shall direct the location of the sign.
- E. Contractor shall post all required project postings, including EEO poster, Notice to All Employees, and Davis-Bacon wage rates, on the back of the sign under a weatherproof transparent cover (visqueen, plastic, etc).
- F. Typeface for sign shall be Helvetica with letters not to exceed 4" high or less than 3-3/4" high. Information shall be all capital letters, all lines centered.
- G. Background paint shall be black; lettering shall be white.
- H. Graphics for the sign shall be as indicated on the following page.

**LOGAN PARK
IMPROVEMENTS
CITY OF WALTHAM
MAYOR JEANNETTE A. MCCARTHY**
City of Waltham Parks Department
City of Waltham Recreation Department
**COMMUNITY DEVELOPMENT
BLOCK GRANT PROGRAM**

Landscape Architect
Carolyn Cooney & Associates
Milford, MA

Contractor

Funded By:
U.S. Department of Housing and Urban Development
Through:
Community Development Block Grant

END OF SECTION

SECTION 01700

PROJECT CLOSE-OUT

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Drawings, all of which apply to this section.
- B. Project close-out procedures are subject to the requirements of M.G.L. Chapter 30, Section 39G, excerpted in Division 0, Section 00830.

1.02 SCOPE OF WORK

- A. The scope of work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services, incidentals necessary to complete all of the work in accordance with the Contract Documents, which are intended to describe and provide for a finished piece of work.
- B. The type of work includes the following, without limiting the generality thereof:
 - 1. Final Cleaning.
 - 2. Substantial Completion
 - 3. Recording as-built information and coordination with others to produce final As-Built Drawings.
 - 4. Work and coordination with others to set granite property bounds.
 - 5. Warranties.
 - 6. Operating and Maintenance Manuals: Provide one copy to City of Waltham Recreation Department and one copy to City of Waltham Engineering Department, Water/Sewer Division.
 - 7. Final Completion.

1.03 FINAL CLEANING

- A. Immediately prior to Substantial Completion of the work, the Contractor shall perform all cleanup work as follows:
 - 1. Remove all waste materials and rubbish from the site and legally dispose of it.
 - 2. Remove all tools, equipment, machinery, surplus material, temporary enclosures, and any other material belonging to the Contractor or his Subcontractors.
 - 3. Clean all surfaces, fixtures, and equipment within the work areas, and any surfaces outside the work area which have been made dirty by the work of the contract. Leave the entire site clean and ready for use.

1.04 SUBSTANTIAL COMPLETION

- A. Related Requirements: The Contractor's attention is directed to the General and Supplementary Conditions of the Contract and M.G.L. Chapter 30, Section 39G for additional information covering substantial completion procedures and payments.
 - 1. Substantial Completion is defined in MGL 149 Section 39G, excerpts of which are included in Attachment B, Section 00830 of Division 0.
- B. Upon Substantial Completion of the project, the Contractor shall present written certification that the work is substantially complete. The Landscape Architect will promptly, and in no case later than 21 days after the Contractor's certification, respond in writing declaring the work has reached Substantial Completion, or he shall provide an itemized list of incomplete or unsatisfactory items that must be completed to achieve Substantial Completion.
- C. Within 65 days after the effective date of a declaration of substantial completion, the Landscape Architect will send the Contractor a Substantial Completion estimate, which will be the balance of the Contract price minus a one percent retention for final completion, amounts to cover any outstanding claims, any amounts estimated to cover incomplete or unsatisfactory work, and the sum of all demands for direct payment made by Subcontractors.
 - 1. Refer to MGL 149 Section 39G for additional information concerning payment, excerpted in Division 0, Section 00830-B.

1.05 AS-BUILT RECORD DRAWINGS (Electronic and Hard-copy)

- A. General: Do not use As-Built Record Drawings for construction purposes. Protect As-Built Record Drawings from deterioration and loss. Provide access to As-Built Record Drawings for Architect's and Owner's reference during normal working hours.
 - 1. As-Built Record Drawings: Maintain and submit one set of black-line white prints of As-Built Record Contract Drawings and Shop Drawings.
 - (a) Mark As-Built Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, Subcontractor, or similar entity, to prepare the marked-up As-Built Record Prints.
 - (1) Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - (2) Accurately record information in an understandable drawing technique.

- (3) Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - (4) Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
 - (b) Mark as-built record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 - (c) Mark important additional information that was either shown schematically or omitted from original Drawings.
 - (d) Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 - (e) Identify and date each As-Built Record Drawing; include the designation "PROJECT AS-BUILT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
2. The Landscape Architect will provide the Contractor with an Autocad file of the site plan. The Contractor shall edit the file to provide the City of Waltham with an electronic as-built drawing file at the close-out of the project.
3. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - (a) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - (b) Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - (c) Note related Change Orders, As-Built Drawings, and Product Data, where applicable.
4. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
 - (a) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

- (b) Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
- (c) Note related Change Orders, As-Built Drawings, and Record Specifications, where applicable.

1.06 WARRANTIES

- A. Submittal Time: Submit written warranties on request of the Landscape Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
 - 1. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - (a) Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - (b) Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - (c) Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 2. Provide additional copies of each warranty to include in operation and maintenance manuals. At Substantial Completion of the project, the Contractor shall deliver to the Landscape Architect copies of all warranties for the various materials and pieces of equipment included in the project. These warranties shall be submitted in duplicate and shall be bound together with the operating and maintenance data called for above.

1.07 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
 - 1. Operation Data:
 - (a) Emergency instructions and procedures.
 - (b) System, subsystem, and equipment descriptions, including operating standards.
 - (c) Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - (d) Description of controls and sequence of operations.
 - (e) Piping diagrams.

2. Maintenance Data:

- (a) Manufacturer's information, including list of spare parts.
- (b) Name, address, and telephone number of Installer or supplier.
- (c) Maintenance procedures.
- (d) Maintenance and service schedules for preventive and routine maintenance.
- (e) Maintenance record forms.
- (f) Sources of spare parts and maintenance materials.
- (g) Copies of maintenance service agreements.
- (h) Copies of warranties and bonds.

- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.08 FINAL COMPLETION

- A. Related Requirements: The Contractor's attention is directed to the General and Supplementary Conditions of the Contract and M.G.L. Chapter 30, Section 39G covering closeout and final payment procedures.
- B. Final Completion:
1. Within fifteen (15) days of the effective declaration of Substantial Completion, the Landscape Architect will send the Contractor by certified mail, return receipt requested, a complete final punch list of all incomplete or unsatisfactory work items necessary to achieve Final Completion.
 - (a) If the Contractor fails to complete such work within forty-five (45) days after receipt of the list, or by the contractual completion date, whichever is later, the awarding authority may, subsequent to seven (7) days written notice to the Contractor, terminate the Contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the Contractor.
 2. The Contractor shall notify the Landscape Architect when the work is completed. The Landscape Architect will promptly make an inspection, and in no case later than thirty (30) days after notification by the Contractor that the work is complete, send the Contractor a final estimate for the Contract balance due, holding back any amount estimated to cover work which is still incomplete or unsatisfactory.
 3. Upon completion of all remaining items, and after receipt of all appropriate

Record Specifications, Record Product Data, Operating and Maintenance Manuals, Warranties, Guarantees and any Spare Parts as required by the Contract Documents, the Contractor shall provide a notarized Contractor's Certificate and Release and a final Application for Payment to the Owner to complete the close-out process.

END OF SECTION

SECTION 02100

SITE PREPARATION AND DEMOLITION

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.
- B. Contact Dig-Safe (1-888-344-7233) seventy-two hours prior to the start of any removals or excavation work, and obtain a Certificate verifying that marking the location of utilities has been completed. Contact the City of Waltham Engineer to verify the location of additional on-site utilities. Coordinate demolition work with utility companies. Dig-safe does not locate telephone and cable lines; contact the specific utilities involved for this information.

1.02 SCOPE OF WORK

- A. Provide all equipment and do all work necessary to prepare the site complete, as indicated on the Drawings and as specified.
- B. The work shall include, but is not limited to, the following:
 - 1. Marking the location of utilities within the Limit of Work Line.
 - 2. Removal of incidental site items not indicated on the site plan which will impede proposed construction.
 - 3. Protection of existing site elements to remain

1.03 RELATED WORK

- A. Section 01050 - Field Engineering: Layout of site improvements.
- B. Section 01500 - Temporary Facilities and Controls.
- C. Section 02200 - Earthwork.

1.04 SUBMITTALS

- A. Copies of required permits.
- B. Provide certificate verifying marking of utilities thru Dig-safe.
- C. Submit shop drawing or description of temporary signs including text, for approval by the Landscape Architect, prior to their installation.

1.05 REFERENCES

- A. All work shall comply with the minimum standards of the latest editions of the

following codes and specifications, subject to modifications and amendments outlined herein.

1. MHD: “Standard Specifications for Highways and Bridges”, Department of Public Works, Commonwealth of Massachusetts, latest edition.
2. Federal, State and/or Municipal Codes.
3. Public Safety Codes.
4. U.S. Public Health Service.
5. National Electric Manufacturers Association.
6. American National Standards Institute.
7. American Society of Mechanical Engineers.
8. Commercial Standards.
9. Federal Specifications.
10. Occupational Safety and Health Regulations.
11. Americans with Disabilities Act Guidelines (ADAAG) for Building and Facilities, 36 CFR Part 1191.
12. MAAB CMR 521 Regulations.
13. National Arborist Association Standards, National Arborist Association, 124 Route 101, Bedford, NH 03102.
14. OSHA Construction Regulations Title 29 CFR Part 1926.

1.06 EXAMINATION OF SITE AND DOCUMENTS

- A. The Contractor shall inform him/herself of existing conditions of the site before submitting his/her bid. No claim for extra compensation or extension of contract time will be allowed on account of conditions which are apparent from a thorough visual examination of the site.

1.07 MAINTENANCE OF ACCESS ON SIDEWALKS AND ROADS

- A. The Contractor shall not close or obstruct any portion of street or sidewalk without obtaining permits therefor from the proper municipal authorities. Streets and sidewalks shall be maintained passable by the Contractor at his own expense, and the Contractor shall assume full responsibility for the adequacy and safety of provisions made. He shall conduct construction operations such that interference with the flow of vehicular and pedestrian traffic is held to a minimum.
- B. The Contractor shall coordinate with the City Fire and Police at all times. The Contractor shall notify the Waltham Fire Department and Waltham Police Department when any street or any portion of the traveled way is to be closed regardless of the length of time or day. No street shall be closed without the approval of the Consolidated Public Works Department of the City of Waltham.
- C. Keep all adjacent streets and sidewalks swept clean at all times. Cleanup operations not performed in a timely manner will be performed by the City of Waltham and back-charged to the Contractor.

1.08 PERMITS AND CODES

- A. All work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
- B. The Contractor, under this Section, shall be responsible for providing and filing all Plans, Specifications and other documents, pay all requisite fees and secure all permits, inspections and approvals necessary for legal installation and operation of the systems and or equipment finished under this Section.

1.09 TRAFFIC POLICE

- A. Traffic police will be required for operations within City streets. Refer to Section 01040 - Control of the Work, Section 1.05 for police requirements.

1.10 CONDITIONS OF WORK

- A. The Work of this Project is subject to the restrictions of the City of Waltham Noise Ordinance. Refer to Section 01010 - Summary of Work, Section 1.06.
- B. Conduct the work giving consideration to protection of the public, protection of the existing work from weather; control of noise, shocks, and vibration; control of dirt and dust; orderly access and storage of materials; protection of existing buildings; protection of adjacent buildings and property. Coordinate work and cooperate with the Owner and Landscape Architect at all times.
- C. Schedule site preparation and removal work in connection with the progress schedule required by the General Conditions.
- D. The Site Preparation / Demolition Plan endeavors to describe the scope and intent of Work. No guarantee is expressed or implied that the Site Preparation and Demolition Plan describes the full extent of objects to be removed in order to facilitate construction. Site Preparation operations not specifically identified on the Contract Drawings shall be considered as part of the basic lump sum contract and do not qualify as extra work.
- E. All other work requiring removal, such as fence, tree roots and former buried footings shall be removed and discarded as required for proper construction of new work without additional cost to the Owner.
- F. No extra demolition shall be performed without first notifying and obtaining written approval of the Landscape Architect.

1.12 DRAINAGE AND EROSION CONTROL

- A. Upon entry to the site, the Contractor shall assume responsibility for site and subsurface drainage. During the Contract period the Contractor shall maintain drainage in a manner satisfactory to the Landscape Architect. At all times, the adjacent areas shall be protected and maintained in their existing conditions.
- B. It shall be the responsibility of the Contractor to render the site erosion-free, at all times during the Contract period. The Contractor shall take special precautions to prevent erosion run-off from slopes, drainage trenches, granular bases, structures, and other improvements. Hay bales, jute mesh, catch basin insert filtration bags, and siltation fabrics shall be used, as determined by the Landscape Architect.

1.13 DELIVERY, STORAGE AND HANDLING

- A. Materials shall be stored in a dry location, off the ground and in such manner as to prevent damage, intrusion of foreign matter and weather. All materials which have become damaged or otherwise unfit for use during delivery or storage shall be replaced at the expense of the Contractor.
- B. Handle and store salvaged chain link fence components in a way to prevent damage and deterioration.

PART 2 - PRODUCTS

2.01 LAYOUT AND STAKING

- A. Refer to Section 01050 - Field Engineering for layout and staking requirements.

2.02 DUST CONTROL

- A. Water for dust control shall be free from contaminants hazardous to human health and plant growth. No calcium chloride may be used.

PART 3 - EXECUTION

3.01 LOCATING UTILITIES & SITE ITEMS AFFECTING THE WORK

- A. Prior to site preparation and removals operation, the Contractor shall locate and mark all site items such as utilities which could be affected by site preparation and removals.
- B. Contact Dig-Safe (1-888-344-7233) seventy-two hours prior to the start of any removals or excavation work, and obtain a Certificate verifying that marking the location of utilities has been completed. Contact the City of Waltham Engineering Department to verify the location of additional on-site utilities.

Coordinate demolition work with utility companies. Dig-safe does not locate telephone and cable lines; contact the specific utilities involved for this information.

3.02 PROJECT CONDITIONS

- A. All apparatus, storage and the operation of work people in connection with activities under this Section shall be confined to the area within the Contract Limit of Work Line as shown on the Contract Drawings and shall not encumber areas outside the site.
- B. Thoroughly wet down all work during demolition to prevent the spread of dust. Avoid flooding or contaminated run-off.
- C. All existing items to remain which are damaged by the Contractor will be repaired or replaced at the Contractor's expense. Replacement or repaired items shall be equal to new items as specified.
- D. The Contractor shall be responsible for the methods used in this work including properly protecting against damage to existing and proposed site improvements, structures, site features, utility lines, trees, lawns, etc. Check with municipality and local utility companies for locations of existing utilities which may be in use or abandoned. Investigate and ascertain that underground utilities are correctly located and that they have been shut off and/or abandoned before disturbing them.

3.03 PROTECTION

- A. The Contractor shall assume complete responsibility and liability for the safety and structural integrity of all work and utilities to remain during the performance of all work.
- B. The Contractor shall provide safeguards including, but not limited to, warning signs, barricades, temporary construction fences, warning lights and other items required for protection of personnel and the general public during the performance of all work.
- C. The Contractor shall provide barricades for substantial construction in accordance with safety regulations of authorities having jurisdiction and insurance requirements.
- D. All features related to protection shall be maintained until that unit of work has been completed to the point that the danger no longer exists.

3.04 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit

installation of new construction, and as indicated on the Drawings. Removal includes digging out stumps and obstructions and grubbing roots.

- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated.

3.05 PAVING

- A. The line between existing pavement to be removed and existing pavement to remain shall be cut neatly saw-cut through full depth of pavement section so as to leave a smooth, straight and vertical edge. Cut to the dimensions given or directed. Remove the portion behind the cut with proper tools.

- 1. Existing pavement which is damaged, disturbed or settled by construction operations shall be cut back by the same method and replaced as directed by the Landscape architect at no additional cost to the Owner.

3.06 PLANTING AREAS

- A. Remove and dispose of existing grass sod. It shall be the Contractor's option to stockpile existing topsoil for re-use, or to provide new for re-spreading after re-grading of planting beds is accomplished.

3.07 FOOTINGS & MISCELLANEOUS SITE ITEMS

- A. Footings & miscellaneous site items shall be removed in their entirety and legally disposed of. Holes resulting from demolition shall be backfilled and compacted in accordance with Section 02200 Earthwork.

3.10 CLEANUP

- A. Keep work areas free from accumulation of debris during the work under this Section and leave the premises in a clean condition after completion of the Work of this Section.
- B. At the completion of the work of this Section, properly and legally dispose of all items removed and not scheduled to remain, including surplus soil material, unsuitable topsoil, demolished materials, and waste materials including trash and debris, and any other waste materials in connection with the work under this Section and leave the premises in a clean condition.

END OF SECTION

SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.
- B. Contact Dig-Safe (1-888-344-7233) seventy-two hours prior to the start of any removals or excavation work, and obtain a Certificate verifying that marking the location of utilities has been completed. Contact the City of Waltham Engineer to verify the location of additional on-site utilities. Coordinate earthwork with utility companies.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, as indicated on the Contract Drawings and as specified herein.
- B. The work shall include, but is not limited to, the following:
 - 1. Installation of base course for bituminous concrete paving.
 - 2. Installation of base course for new play area.
 - 3. Miscellaneous fill for footings.

1.03 RELATED WORK

- A. Section 02100 - Site Preparation & Demolition
- B. Section 02510 - Bituminous Concrete Paving
- C. Section 02800 - Site Furnishings
- D. Section 02950 - Planting: See Planting for loam & plant mix.
- E. Section 10430 - Exterior Signs

1.04 REFERENCES

- A. All work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein.
 - 1. MHD: "Standard Specifications for Highways and Bridges", Department

- of Public Works, Commonwealth of Massachusetts, Latest Edition.
- 2. ASTM: American Society of Testing Materials.
- 3. AASHTO: American Association of State Highway and Transportation Officials.
- 4. ANSINFPA: American National Standards Institute, National Fire Protection Act.
- 5. Federal, State and/or Municipal Codes.
- 6. Public Safety Codes.
- 7. U.S. Public Health Service.
- 8. National Electric Manufacturers Association.
- 9. American National Standards Institute.
- 10. American Society of Mechanical Engineers.
- 11. Commercial Standards.
- 12. Federal Specifications.
- 13. Occupational Safety and Health Regulations.
- 14. OSHA Construction Regulations Title 29 CFR Part 1926.

1.05 EXAMINATION OF SITE AND DOCUMENTS

- A. By submitting a bid the Contractor affirms that he/she has carefully examined the site and conditions affecting Work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions which can be reasonably inferred from visual inspection of the site.

1.06 SUBMITTALS

- A. Submit to the Landscape Architect:
 - 1. A representative sample of approximately 5 pounds for each type of fill material.
 - 2. Supplier's or laboratory sieve analysis for each type of fill material demonstrating compliance with the Specifications.

1.07 PERMITS AND CODES

- A. All work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
 - 1. OSHA Construction Regulations Title 29 CFR Part 1926.
- B. The Contractor, under this Section, shall be responsible for providing and filing all Plans, Specifications and other documents, pay all requisite fees and secure all permits, inspections and approvals necessary for legal installation and operation of the systems and or equipment furnished under this Section.

- C. The Contractor shall include in his/her bid any charges by the Water Department, Utility Company, or other authorities for work done by them and charged to the Contractor.

1.08 CONDITIONS OF WORK

- A. Conduct the work giving consideration to protection of the public, protection of the existing work from weather; control of noise, shocks, and vibration; control of dirt and dust; orderly access and storage of materials; protection of existing buildings; protection of adjacent buildings and property. Coordinate work and cooperate with the Owner and Landscape Architect at all times.
- B. Schedule earthwork in connection with the progress schedule required by the General Conditions.

1.10 DISPOSITION OF EXISTING UTILITIES

- C. Site information: No representations are made indicating subsurface conditions. It is expressly understood that the Owner/Landscape Architect will not be responsible for interpretations or conclusions drawn therefrom by the Contractor.
- D. Existing Utilities
 1. Before starting earthwork, locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.
 2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, notify the Landscape Architect and Owner, and consult utility Owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility Owner.
 3. Do not interrupt existing utilities serving facilities occupied or used by Owner and others, during occupied hours, except when permitted in writing by Owner and then only after acceptable temporary utility services have been provided. Provide minimum of 48 hour notice to Owner, and receive written notice to proceed before interrupting any utility.
 4. Inactive utilities encountered or utilities abandoned during construction operations shall be removed, plugged or capped. The location of such utilities shall be noted on Record Drawings and reported in writing to the Landscape Architect.

1.11 DEFINITIONS

- A. Fill and backfill shall be, for the purpose of this Specification, considered interchangeable terms and shall mean material to be used to bring existing or construction grades up to finish subgrade levels.
- B. The words “finish grade” as used herein mean the required final grade elevations indicated on the Contract Drawings. Where not otherwise directed, areas outside buildings shall be given uniform slopes between points for which finish grades are shown, or between such point and existing grade, except that vertical curves or roundings shall be provided at abrupt changes in slope.
- E. The word “subgrade” as used herein, means the required surface of subsoil, borrow fill or compacted fill.
- F. “Trench shall be defined as an excavation of any length where the width is less than twice the depth. All other excavations shall be classified as open.
- G. “Unsuitable Materials” shall include the following:
 - 1. Pavements, utility structures, building foundations and other manmade structures.
 - 2. Peat, muck, organic silt and other organic materials subject to decomposition, consolidation or decay.
 - 3. Miscellaneous fill including cinders, ash, glass, wood, masonry and metal.
 - 4. Ledge and boulders except as specified herein for fills.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

- A. Suitable Backfill
 - 1. Suitable backfill shall be used whenever indicated on the Drawings, and for general grading.
 - 2. “Suitable Backfill” shall be natural soil, well-graded and free from all organic weak, compressible, and frozen materials, and shall contain no stone larger than two (2) inches in maximum dimension. It shall be of such nature and character that it can be dried and compacted and shall be free of all expansive materials (such as high plastic clays) and of materials subject to decay, decomposition, or dissolution, and shall conform to the following gradations:

<u>U.S. Sieve No.</u>	<u>% Passing by Weight</u>
2 inch	100%
#4	20-75%
#40	0-25%
#200	0-5%

3. Material from excavation on the site meeting the above requirements as evidenced by testing may be used as “Suitable backfill” provided it has not been contaminated with unsuitable material.

B. Aggregate Base Course, Aggregate Backfill & Gravel:

1. Where Aggregate Base Course, Aggregate Backfill or Gravel is indicated on the Drawings, this material shall conform to the requirements of M1.03.0 Gravel Borrow, Type C of the MHD Standard Specifications except that the largest stone dimension shall be one (1) inch. Gravel shall consist of inert material which is hard durable stone and coarse sand; free from loam, clay, organic material, surface coatings, trash, frozen materials and deleterious materials. Gradation requirements are as follows:

<u>Sieve Designation</u>	<u>Percent Passing</u>
1 inch	100
½ inch	50-85
No. 4	30-60
No. 50	8-28
No. 200	0-10

- C. Crushed Stone shall conform to the requirements of M2.01.0 Crushed Stone of the MHD Standard Specifications, sized as indicated on the Drawings, with gradation for size as required by the Standard Specifications.

PART 3 - EXECUTION

3.01 LAYOUT

- A. Layout site improvements as required in Section 01050 - Field Engineering.
- B. The Contractor shall inform the Landscape Architect when the general layout is completed and shall not begin excavation until the various alignments are approved by the Landscape Architect. Any discrepancies encountered in field conditions shall be reported to the Landscape Architect immediately.
- C. The Contractor shall be responsible for maintaining the correct vertical and

horizontal alignment of all elements, which responsibility shall not be waived by the Landscape Architect's approval of basic layout and stakeout.

3.02 PROTECTION

- A. The Contractor shall assume complete responsibility and liability for the safety and structural integrity of all work and utilities to remain during the performance of all work.
- B. The Contractor shall provide safeguards including, but not limited to, warning signs, barricades, temporary construction fences, warning lights and other items required for protection of personnel and the general public during the performance of all work.
- C. The Contractor shall provide barricades for substantial construction in accordance with safety regulations of authorities having jurisdiction and or insurance requirements.
- D. All features related to protection shall be maintained until that unit of work has been completed to the point that the danger no longer exists as approved by the Landscape Architect.

3.03 EXCAVATION

- A. Excavation is "Unclassified", and shall include excavation to subgrade elevations indicated on the Drawings, or required to accommodate new construction, regardless of the character of materials and obstructions encountered and shall be understood to include rock and boulders, shale, boulders, earth, hardpan, fill, foundations, pavements, curbs, piping and debris, except as follows:
 - 1. Notify the Landscape Architect prior to proceeding if materials greater than 1 cubic yard in size are encountered.
 - 2. Excavation of unanticipated materials encountered which are greater than 1 cubic yard in size and which could not be reasonably inferred from surface inspection will be paid for as an adjustment to the Contract Price due to unanticipated subsurface conditions, or adjustment may be made to the layout to avoid excavation of same.
- B. Unauthorized Excavation: When suitable bearing material is encountered at subgrade elevations shown and excavation is made to greater depth, bring grade back to elevation required by providing appropriate fill material at no additional cost.
- C. When excavation has reached required subgrade elevations, notify the Landscape Architect.

- D. If the “assumed” bearing materials are not encountered at the subgrade elevations indicated, additional excavation work may be authorized by the Owner. Do not perform additional excavation unless directed by the Landscape Architect in writing. Removal of unsuitable material and its replacement with proper backfill, if directed in writing by the Landscape Architect, will be paid for as an adjustment of the Contract price due to unanticipated subsurface conditions.
- E. During excavation, do not damage roots of trees which are to remain. When excavating or trenching within the branch spread of trees scheduled to remain, hand dig in a manner which will cause minimum damage to root systems. Do not cut tree roots over 2 inches in diameter. Do not leave surface roots exposed. Prune injured roots clean and backfill as soon as possible to the satisfaction of the Landscape Architect and Owner.
- F. Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions, stability of material excavated, or depth of excavation.
- G. Dewatering: Prevent water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Under no circumstances lay pipe or install appurtenances in water. Keep all trenches free from water until they have been backfilled.
- H. Materials Storage: Stockpile satisfactory excavated materials where directed until required for backfill or fill. The Landscape Architect shall approve the location of all stockpiles prior to placement. Place, grade and shape stockpiles for proper drainage.
 - 1. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees to remain.
 - 2. Legally dispose of excess soil material and waste materials off-site.
- I. Frost Protection
 - 1. Make no excavations to fill depth indicated when freezing temperature may be expected unless intended improvements can be accomplished immediately after the excavations have been completed. Protect bottom so excavated from frost if progress is delayed. Should protection fail, remove frozen materials and replace with gravel as directed at no cost to the Owner.
 - 2. Keep the site clear and free of accumulations of snow within the limit of the Contract lines as necessary to carry out the work of the Contract.

3. Fill materials containing frost shall not be utilized, nor shall filling be done over frozen materials.

3.04 BACKFILL AND FILL

- A. Backfill excavations as promptly as work permits, but not until completion of the following:
 1. Acceptance of construction below finish grade by Landscape Architect.
 2. Inspection, testing, approval and recording locations of underground utilities to the satisfaction of the Landscape Architect.
 3. Compaction testing of subgrade if required at that location.

3.05 PLACEMENT OF FILL

- A. Placement: Place backfill and fill materials in uniform lifts of not more than 12 inches in loose depth for ordinary fill and 8 inches in loose depth for other materials compacted by heavy compaction equipment and not more than 6 inches in loose depth for material compacted by hand operated tampers.
 1. Coordinate backfilling with the installation of the work of all trades.
 2. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 3. Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately the same elevation in each lift.
 4. Backfill by hand around pipe and for a depth of one (1) foot above the pipe. Use earth without rock fragments or large stones and tamp firmly in layers not exceeding 6 inches in thickness, taking care not to disturb the pipe. Compact the remainder of the backfill thoroughly with a rammer of suitable weight or with an approved mechanical tamper, or if the soil is granular, by flooding, provided that under pavements, walks and other surfacing, the backfill shall be tamped solidly in layers not exceeding 6 inches in thickness.
 5. Compact backfill to match adjacent areas as specified above. Correct

settlement of fill by filling to subgrade levels in all areas where settlement occurs.

3.06 COMPACTION

- A. Compact soil to not less than the following percentages of maximum density of soils in accordance with ASTM D1557, Method C or AASHTO T-180).
 - 1. Subgrade and base courses under all areas (with the exception of planting beds), utility trench backfill, fill at base and around footings, and curb subgrade: Compact each layer of backfill or fill material to 95 percent of maximum dry density.
 - 2. Planting beds: Compact to 85 percent of maximum dry density.
- B. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material, to prevent free water from appearing on surface during or subsequent to compaction operations. Remove and replace soil material that is too wet to permit compaction to specified density.

3.07 SUBGRADE PREPARATION AND GRAVEL PLACEMENT FOR PAVEMENTS

- A. Clean the rough subgrade of all loose, soft, foreign or other unsuitable material and reshape as required. Add suitable fill material to meet required grade.
- B. Compact to required grades and sections for paving. Tamp traces of trenches. Remove spongy or otherwise unsuitable material and replace with approved material. Loosen exceptionally hard spots and re-compact. Take every precaution to obtain a foundation of uniform bearing power. In absence of specific requirement, compact foundation by such means as will provide firm base and insurance against settlement of superimposed work.
- C. Roll longitudinally at sides, overlapping each pass by one-half of rear wheel. Fill all depressions or settlements which occur. Continue until all stones are firmly interlocked and surface is true and unyielding. After final rolling, surface is to be free of depressions or irregularities greater than 3/8 inch in ten (10) feet.
- D. Construct base course as detailed on the Contract Drawings for all areas of new paved surfaces in this Section. Placement of gravel base course shall conform to the requirements of MHD except as herein modified.
- E. Spread gravel from self-spreading vehicles, approved type of power grader or by hand upon prepared sub-grade. Spread evenly in layers so as to avoid separation of aggregates. Layers shall not exceed six (6) inches in depth after compaction. Remove stones larger than four (4) inches. When spread and rolled on the

prepared surface, it shall form a stable surface. Compaction shall have a density of not less than 95% of maximum density determined in accordance with ASSHTO-T-180 Method D. All rolling shall be done with a roller weighing 8 to 10 tons. Compact any portion which is not accessible to a roller by mechanical or hand tamper.

- F. Final rolled surface shall be true to the lines and grades indicated on the Contact Drawings or as directed by the Landscape Architect. Fill any depression that may appear during and after rolling with gravel and re-roll until the surface is true and even. Tolerance shall be 3/8 inch maximum above or below the cross-section grades and 3/8 inch maximum under a 10 foot line longitudinally.
- G. Maintain the surface of any layer in its finished condition until succeeding layer is placed. Properly drain the sub-base at all times.

3.08 GRADING

- A. The Contact Drawings indicate, in general, alignment and finish grade elevations. The Landscape Architect, however, may make such adjustments in grades and alignments as are found necessary in order to avoid interference with any special conditions encountered.
- B. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.
- C. Grade areas to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:
 - 1. Paved areas: Shape surface of areas under paved surfaces to line, grade and cross section to provide finished grades of pavements within tolerances specified.
- D. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.
- E. Complete grading operations after utilities have been installed, site improvements included under this Contract have been completed and all rubbish, materials and debris have been properly disposed of.
- F. Do all cutting, filling, reshaping, re-grading and re-compacting as necessary to meet the requirements of the Contract Drawings and this Section of the specifications. Maintain sub-grades at the levels specified until turned over to subsequent construction. Bring to required sub-grade levels any areas where settlement, erosion or other grade changes occur.

3.09 PROTECTION AND REPAIR

- A. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape and compact to required density prior to further construction.
- C. Whenever streets, lawns, sidewalks or improvements outside the Contract Limit of Work Line have been excavated in fulfilling the work required under this Contract, the Contractor shall furnish and install all material necessary to bring finish surfaces level with the existing conditions in accordance with the governing authority. Notify the proper authorities prior to restoring surfaces outside the Contract Limit of Work.
- D. Do all repairs and restoration to pavements, curbs, and other work inside and outside of the project site damaged by the work under this Contract and restore all existing work to a condition at least equal to the condition specified for this Contract for such improvements.

3.10 CLEANUP

- A. Keep all work areas free from accumulation of debris during the course of work under this Section.
- B. At the completion of the Work of this Section, properly and legally dispose of all excavated materials, all rubbish, debris, waste materials from, and about the site, building, and structures, including tools, scaffolds, apparatus and appliances used in connection with work under this Section and leave the premises in a clean condition.

END OF SECTION

SECTION 02510

BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Contract Drawings, all of which apply to this section.
- B. Examine and coordinate all Contract Drawings and other section of the specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section. Coordinate work with other trades to assure the steady progress of all work under the Contract. The Contractor shall refer to the Contract Documents for all new work and coordinate how it relates to the paving.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, as indicated on the Contract Drawings and/or as specified herein.
- B. The work shall include, but is not limited to, the following:
 - 1. Installation of new bituminous concrete pavement

1.03 RELATED WORK

- A. Section 02100 - Site Preparation and Demolition
- B. Section 02200 - Earthwork: Aggregate Base Course
- C. Section 02800 - Site Furnishings

1.04 REFERENCE STANDARDS

- A. Work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein.
 - 1. MHDSS: Standard Specifications: Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges, latest edition.
 - 2. ASTM: American Society for Testing and Materials.
 - 3. AASHTO: American Association of State Highway and Transportation Officials.
 - 4. Federal, State and/or Municipal Codes

5. Public Safety Codes
6. U.S. Public Health Service
7. National Electric Manufacturers Association
8. American National Standards Institute
9. American Society of Mechanical Engineers
10. Commercial Standards
11. Federal Specifications
12. Occupational Safety and Health Regulations
13. ADA: Americans with Disabilities Act

1.05 QUALIFICATIONS

- A. Installer: Company specializing in performing the work of this section with documented experience on at least two similar projects.

1.06 EXAMINATION OF SITE AND DOCUMENTS

- A. By submitting a bid the Contractor affirms that he/she has carefully examined the site and all conditions affecting Work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- B. Plans, surveys, measurements and dimensions under which the work is to be performed are believed to be correct, but the Contractor shall have to examine them for him/herself during the bidding period, as no additional compensation will be made for errors or inaccuracies that may be found therein.

1.07 SUBMITTALS

- A. The Contractor shall provide the following submittals for approval in conformance with requirements of SECTION 01300, SUBMITTALS. Do not order materials until Landscape Architect's approval of submittals, certifications or test results have been obtained. Delivered materials shall closely match the approved submittals.
 1. Submit the bituminous concrete design mix for each application, indicating aggregate sizes and proportions.
 2. Manufacturer's literature for tack coat demonstrating compliance with the specifications.

1.08 PERMITS AND CODES

- A. All work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.

- B. The Contractor, under this Section, shall be responsible for providing and filing all Plans, Specifications and other documents, pay all requisite fees and secure all permits, inspections and approvals necessary for legal installation and operation of the systems and or equipment finished under this Section.

1.09 CONDITIONS OF WORK

- A. Conduct the work giving consideration to protection of the public, protection of the existing work from weather; control of noise, shocks, and vibration; control of dirt and dust; orderly access and storage of materials; protection of existing buildings; protection of adjacent buildings and property. Coordinate work and cooperate with the Owner and Landscape Architect at all times.
- B. Schedule paving in connection with the progress schedule required by the General Conditions.

PART 2 - PRODUCTS

2.01 BITUMINOUS CONCRETE PAVEMENT

- A. Bituminous concrete shall be Class I, Type I-1, furnished and laid in accordance with Section 420 and 490 of the MHD Standard Specifications except as modified herein.
- B. Aggregate Base course for bituminous concrete shall be Compacted Aggregate Base Course as specified in Section 02200 - Earthwork.
 - 1. Subgrade and aggregate base course shall be installed and compacted as required in Section 02200 - Earthwork.
- C. Aggregate sizes and gradation for bituminous mixes shall be as follows:
 - 1. Bituminous concrete base course shall conform to MHD Standard Specifications, Section M3, Table A Job Mix Formula for "Base Course".
 - 2. Binder course shall conform to MHD Standard Specifications, Section M3, Table A Job Mix Formula for "Binder Course."
 - 3. Wearing course for bituminous concrete walkways shall be equivalent to MHD Standard Specifications, Section M3, Table A Job Mix Formula for "Surface Treatment" with a maximum aggregate size of 3/8".

2.02 TACK COAT

- A. Tack Coat shall be bitumen Grade, AC-10, or AC-20 asphalt cement conforming to Section M3 of the Standard Specifications.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Make any corrections necessary to base material furnished and placed under SECTION 02200, EARTHWORK, to bring base course materials to sections and elevations shown on the Contract Drawings.
- B. The contact surfaces of curbs, walls, manholes, catch basins or other appurtenant structures in pavement shall be painted thoroughly with a thin uniform coating of tack coat just before any bituminous mixture is placed against them.

3.02 PATCHES AND NEW PAVING ABUTTING EXISTING

- A. Where the line of demarcation between new and existing paving occurs, the existing paving shall be saw-cut to provide a clean sharp joint. The pavement shall be sawn by an approved machine to a depth which will permit the cutting of the pavement without damage to the pavement left in place.
 - 1. Protect sawn edges of paving from damage until new paving is placed against it. Existing pavement which is damaged, disturbed or settled, shall be cut back by the same method and replaced as directed by the Landscape Architect without additional cost to the Owner.
- B. Where new bituminous paving meets existing paving the finish grades in the new work shall be adjusted if necessary, to blend smoothly with the existing pavement. Seal joint at saw-cut line with an approved bituminous emulsion. Notify the Landscape Architect of discrepancies before preceding with the work.

3.03 PLACEMENT

- A. The mixtures shall be placed and compacted only at such times which permit the proper inspection and checking by the Landscape Architect.
- B. The mixtures shall be placed only upon approved surfaces that are clean and dry, and when weather conditions are suitable. No bituminous material shall be applied when the temperature is below 32 F.

- C. The temperature of bituminous concrete mixture when delivered to the site shall conform to the following, with a tolerance of plus or minus 20 F.

<u>Air Temperature</u>	<u>Project Delivery Temperatures</u>
35F	300F
40F	290F
65F	280F
90 F, or over	270F

- D. Place courses of bituminous concrete in conformance to application and depth

requirements shown on the Contract Drawings and specified herein. Depths referenced shall be compacted thicknesses. Bituminous concrete for binder course and wearing or top course shall be furnished and laid in accordance with Section 460 of the Standard Specifications, and as directed herein and by the details.

3.04 SPREADING

- A. The equipment for spreading and finishing shall be mechanical, self-powered pavers, capable of spreading and finishing the mixture true to lines, grade, width and crown by means of fully automated controls for both longitudinal and transverse slope.
- B. Mixtures shall be deposited in a mechanical spreader and immediately spread thereby, and then struck off in a uniform layer to the full width required and of such depth that each course, when compacted, shall have the required thickness and shall conform to the grade and cross section contour specified.
- C. Hand Spreading: Spreading by hand methods will be permitted only for particular locations in the work which because of irregularity, inaccessibility or other unavoidable obstacles do not allow mechanical spreading and finishing.
- D. Compaction:
 - 1. After the paving mixture has been properly spread, compaction shall be obtained by the use of power rollers of approved design and weight per inch of roller. The rollers shall be steel wheeled supplemented with pneumatic-tired rollers where required.
 - 2. Along curbs, structures and places not accessible with a roller, the mixture shall be thoroughly compacted with mechanical tamping devices. The surface of the mixture after compaction shall be smooth and true to the established line and grade.
 - 3. The densities of the completed pavement shall be not less than 95% of the density obtained from laboratory compaction of a mixture composed of the same materials in like proportions.
- E. All areas of finished paving on which water stands or which are found excessively uneven shall be promptly brought to the correct grade and line.
- F. When tested with a ten (10) foot straightedge there shall be no deviation from true surface planes represented by the grade elevations shown on the Contract Drawings in excess of one-quarter ($\frac{1}{4}$) inch.
- G. Do any repair or patching to pavements outside the project site damaged by work of the contract. All patching work required shall be in accordance with

SECTION 02540

PLAYGROUND SURFACING & CURBING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications and the Contract Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. Replenish engineered (EWF) surfacing in existing play areas to a compacted depth is level with top of curbing.
- B. Provide new fulldepth EWF with filter fabric separator and aggregate base at new swing area.
- C. Provide precast concrete curb edging at new swing area, to match existing.

1.03 RELATED WORK

- A. Section 02200 - Earthwork: Compacted gravel base under new play area.
- B. Section 02860 - Playground Equipment

1.04 SUBMITTALS

- A. Engineered Wood Fiber (EWF) Surfacing Surfacing:
 - 1. Submit sample.
 - 2. Submit independent laboratory tests validating conformance to the following standards:
 - (a) ASTM F 1292 - Impact attenuation: Submit test results for depth of surfacing to be installed from an independent testing lab on lab letterhead. The test shall meet or exceed Consumer Product Safety Guidelines for impact attenuation of <200G max and <1000 HIC (head injury criteria) determined by the fall height referenced in the specification ASTM F1487 for Play Ground Equipment. Safety surfacing shall provide the required attenuation for the maximum fall height of both existing play equipment and new play equipment installed under this contract.

- (b) ASTM 2075-10a: Tramp Metal Test
- (c) ASTM 2075-10a: Sieve Analysis
- (d) ASTM 20-75-10a: Hazardous Metal Test
- (e) ASTM 1951: Accessibility Testing

- 3. Manufacturer's Installation and Maintenance Instructions including instructions regarding compaction requirements.
- 4. A 25 Year Performance Warranty by the Manufacturer
- 5. Submit manufacturer's literature for filter fabric separator.

B. Precast Concrete Curbing for Edging

- 1. Submit manufacturer's literature for precast concrete curbing, demonstrating compliance with the Specifications.

1.05 FALL HEIGHT

- A. The Fall Height for the tot swing at Logan Park is ninety-six (96) inches.

1.06 REFERENCES

- A. ASTM F 1292 - Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.
- B. ASTM F 2075 - Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment.
- C. ASTM F 1951 - Standard Specification for Determination of Accessibility of Surface Systems Under and around Playground Equipment.
- D. U.S. Consumer Product Safety Commission (CPSC), Public Playground Handbook for Safety.
- E. ASTM D2434- Standard Test Method for Permeability of Granular Soils (Constant Head)
- F. Americans with Disabilities Act Guidelines (ADAAG) for Building and Facilities, 36 CFR Part 1191
- G. MAAB CMR 521 Regulations

1.07 QUALITY ASSURANCE

- A. Surfacing manufacturer shall have marketed the product in the United States for at least five (5) years.
- B. Installer shall be trained and certified by the manufacturer as a qualified installer of their product. In addition, the installer shall have experience in installing at least three (3) installations of similar size and complexity.

1.08 REGULATORY REQUIREMENTS

- A. Installation of surfacing shall conform to applicable requirements of ADAAG - Americans with Disabilities Act Accessibility Guidelines, U.S. Architectural and Transportation Barriers Compliance Board, Washington, D.C. - latest edition, and regulations of the Commonwealth of Massachusetts Architectural Access Board (MAAB), 521 CMR.

1.09 JOB CONDITIONS

- A. At the time of application ambient air temperature shall be between 40 degrees and 90 degrees F and remain so for at least 72 hours after completion, unless otherwise specifically allowed by the manufacturer of the safety surface. There shall be no fluctuation in temperature greater than 15 degrees F during the installation period, or 25 degrees F during the curing time.

1.10 DELIVERY STORAGE AND HANDLING

- A. All packaged materials shall be delivered to the site in original unopened containers clearly indicating manufacturer name, brand name, and other identifying information.
- B. All materials shall be protected from weather and other damage prior to application, during application and while curing.

PART 2 - MATERIALS

2.01 ENGINEERED WOOD FIBER & FILTER FABRIC

- A. Engineered wood fiber (EWF) shall be as supplied by New England Playground Surfacing, telephone 800. 888.7529, or approved equal, conforming to the following:
 - 1. Engineered Wood Fiber (EWF) for play surfacing shall be certified by a independent testing laboratory as meeting the following standards:
 - a) ASTM 1292-09 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment for Fall Heights Specified

- b) ASTM F 2075 - Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment.
 - c) ASTM F 1951 - Standard Specification for Determination of Accessibility of Surface Systems Under and around Playground Equipment.
 - 2. Composition of the material shall be a mix of random-sized wood fibers comprised of wood such as White Oak, Red Oak, Maple, Ash, Douglas Fir, Lodge Pole Pine, Yellow Pine, etc. Wood particles shall be approximately ten times longer than they are wide. The material shall be specifically marketed for use as an accessible resilient surfacing at play equipment. Standard wood chips or bark mulch will not be acceptable. Wood fiber shall have no twigs, leaf debris, or other organic material incorporated within it.
 - 3. The coefficient of permeability shall be greater than 0.6 cm/sec ASTM D2434.
- B. Filter fabric separator for new play area
 - 1. Geotextile subgrade stabilization fabric for placement over subgrade between gravel base and resilient engineered wood fiber surface shall be a high modulus, woven fabric conforming to the following:
 - a) Grab tensile strength – 300 lbs.
 - b) Grab tensile elongation – 35% max.
 - c) Burst strength – 600 psi
 - d) Trapezoid tear strength – 120 lbs.
 - e) Puncture resistance – 130 lbs.

2.02 WARRANTY FOR PLAYGROUND SURFACING

- A. EWF shall have a twenty-five year guarantee for impact attenuation.

2.03 PRECAST CONCRETE CURBING

- A. Provide precast concrete curbs with a minimum compression strength of 5000 pounds per square inch. Castings shall have plane smooth surfaces, true to line and face, free from defects, sharp arise, and with curved surfaces accurately reproduced. Edges of curbing shall have a radius or be mitered. Overall dimensions for each casting shall not vary more than 1/16 inch from those indicated.
- B. Concrete curbing shall be 135 lbs. per linear foot, with 5 - 7% air entrainment, manufactured to Massachusetts Highway specification.

C. Curb units shall be cast at the manufacturer's plant. Job site castings will not be permitted.

D. Dowels shall be #5 rebar, minimum 4 inches long.

2.04 AGGREGATE BASE COURSE FOR CURBING & SAFETY SURFACING

A. Aggregate base course shall conform to the requirements for base course specified in Section 02200 - Earthwork.

PART 3 - INSTALLATION

3.01 BASE PREPARATION (SURFACING AND CURBING)

A. Base course shall be installed and compacted as specified in Section 02200- Earthwork.

3.02 INSTALLATION

A. Precast Concrete Curbing

1. Verify that aggregate base course has been correctly installed and compacted.
2. Set curb true to line and grade on a foundation of one cubic foot of dry concrete for each linear foot of curb installed. Ram all spaces under the curb so that it is completely supported throughout the entire length.
3. Top line of curbing shall be a smooth line.
4. Install dowels to tie curb sections together.
5. Butt joint curb sections together.

B. Engineered Wood Fiber (EWF)

1. For new areas of safety surface, verify that grade and depth of gravel base is correctly installed.
2. Filter fabric shall be laid flat and smoothly with overlapping edges on top of stone drainage base as per the Drawings prior to installing the EWF.
3. EWF shall be installed in new areas to the depths indicated on the drawings. EWF shall be installed in existing areas to a height flush with the existing concrete curb.

4. Engineered wood fiber shall be compacted. Compaction shall be as recommended by the manufacturer of the EWF safety surface in order to achieve accessibility conformance.
 - a. The following general instructions shall be modified as recommended by the manufacturer of the EWF safety surface:
 - 1) Install 8 inches and fiber, soak with water and compact material to 6 inches. Subsequently install additional material in no more than 8" lifts, soak and compact until required depth is achieved.
 - 2) When calculating the required amount of EWF, a roughly a 33% compaction factor shall be added to the amount so that a 12" depth of EWF surfacing shall be calculated as 16", adjusted to the specific recommendations of the EWF manufacturer.

END OF SECTION

SECTION 02800

SITE FURNISHINGS

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, and as indicated on the Drawings and as specified.
- B. The work shall include, but is not limited to, the following:
 - (a) Supply and Install two (2) benches with backs
 - (b) Repair hardware on existing picnic tables (2)
 - (c) Supply and Install 6' Steel Lattice panels

1.03 RELATED SECTIONS

- A. Section 02200 - Earthwork.
- B. Section 02510 - Bituminous Concrete Paving.
- C. Section 03300 - Cast-in-Place Concrete.

1.04 SUBMITTALS

- A. Submit the following in accordance with the requirements of section 01300 - Submittals:
 - 1. Bench: Manufacturers catalog cuts, specifications, and color chart, demonstrating compliance with the Specifications.
 - 2. Manufacturer's information for specific type of Loctite or other adhesive being used on picnic table hardware.
 - 3. Metal panels: Provide manufacturer's shop drawings showing all details of connection and fabrication.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle metal fabrication items to prevent damage and deterioration. Store assembled items off the ground.

1.06 REFERENCE STANDARDS

- A. All work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein:
 1. American Institute of Steel Construction, (AISC).
 2. American Welding Society, (AWS)
 3. American Society for Testing and Materials, (ASTM).
 4. National Association of Architectural Metal Manufacturers, (NAAMM).
 5. Americans with Disabilities Act Accessibility Guidelines (ADAAG)
 6. Massachusetts Architectural Access Board Regulations, CMR 521 (MAAB)

1.07 WARRANTY

- A. Metal fence panels shall have a 2 year limited warranty on powder coated surfaces against corrosion or peeling and a 15 year limited warranty on steel posts and steel components against structural failure due to corrosion.

1.08 EXAMINATION OF SITE AND DOCUMENTS

- A. The Contractor shall inform him/herself of existing conditions of the site before submitting his/her bid and shall be fully responsible for carrying out all required site work to fully and properly execute the work of the Contract.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Steel fabrication for site improvements shall be accomplished using the highest standards of workmanship. Individual steel pieces to be welded shall be saw cut and carefully fitted together. All connections shall be full welded and ground flush and smooth. All fabricated steel items shall be fine sanded throughout prior to finishing to achieve a high standard of surface smoothness. All surfaces and connections shall be without visible grinding marks, surface differentiation or variation.

- B. Arc welding procedures shall conform to the current standards of the AWS. All welds shall be as designated on the plans and shall be ground smooth and flush to a neat finish. All welds shall be watertight and care shall be taken to minimize distortion due to heat. Metal shall not be primed, painted or galvanized before welding.

2.02 BENCHES

- A. Two (2) benches with backs, placed back to back, shall be Dumor Model No. 39-801 with S-1 embedment option or approved equal.
 - 1. Bench shall be 8' long.
 - 2. Bench slats shall be Ipe with clear preservative treatment.

2.03 EXISTING PICNIC TABLES AT LOGAN PARK

- A. Picnic tables to be repaired are plastisol coated perforated steel tables manufactured by Wabash Valley, Model No. PP105P - 46" ADA Table with 3 Seats.
- B. Missing hardware shall be replaced shall be with Wabash Valley standard hardware for this model number.
- C. Material for securing new and existing hardware in the table shall be Loctite Threadlockers, High Strength 262, or approved equal product.

2.04 METAL FENCE PANELS

- A. Metal panels shall be as manufactured by IDF Industrial Design & Fabrication, Inc., PO Box 733, Speonk, NY 11972 Phone: 631-325-1484; Fax 631-801-2748, email: idfabrication@verison.net, or approved equal.
 - 1. Metal panels shall match the design of existing panels in all respects. Existing panels were manufactured by IDF Industrial Design & Fabrication.
- B. Fence panels shall be fabricated with 5" x 5" steel posts. Steel panel frames shall be 1" x 2-1/2" steel box tube welded to perforated steel panel in dimensions and design as per the details. All hardware shall be stainless steel.
- C. Finish for metal fence panels:
 - 1. Galvanizing: All welded steel components shall be fully assembled prior to galvanizing. After fabrication, all steel shall be shot blasted to a white metal finish. The cleaned surface shall have an angular surface profile of 2.0 to 4.0 mils. After shot blasting, all steel shall be galvanized by the

Zinc Rich Powder Process. The Zinc Rich Powder coating is to be applied to a thickness of 2 mils & cured at 392 F for 2 minutes minimum. The coating shall firmly adhere and be free of spots, lumps or blisters.

2. Powder Coating: The Powder Coating shall be applied to the Zinc Rich prepared surface in such a manner that the coating will not peel off. The coating shall be TGIC-Polyester Powder applied to the Zinc coated steel via the Powder Coating Process. The Powder Coating shall be applied at a film thickness of 4 to 6 mils. The Powder Coating shall conform to the following ASTM Designations:
 - a) Adhesion D 3359-B
 - b) Pencil Hardness (H-2H) D 3363
 - c) Flexibility D 522 (Mod)
 - d) Impact Resistance D 2794 (Mod)
 - e) Abrasion Resistance D 4060 (Mod)
 - f) Salt Spray Resistance B 117
 - g) Humidity Resistance D 2247
3. Color of coating shall match that of existing metal fence panels.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Site improvements shall be fabricated and fastened in accordance with the Drawings and approved Shop Drawings. Site improvements shall be installed in a level, plumb condition, true to the lines and grades shown on plans.
- B. The Contractor shall be responsible for timing the delivery of items so as to minimize on-site storage time prior to installation and the Contractor shall handle site improvement materials and products in such a manner as to minimize any damage to the products' finish. Stored materials and items must be protected from weather, careless handling and vandalism. Suitable touch-up material shall be readily available to repair any damage immediately.
- C. Shim bolt connections as necessary and secure bolts. Exposed bolts shall be fastened with an approved semi-permanent adhesive to protect against vandalism.
- D. Install site furniture level and plumb, true to line and grade, and at height shown on the Drawings and recommended by the manufacturer.
- E. Field touch-up all abraded or scratched surfaces with manufacturer's recommended paint and/or cold galvanizing materials.

3.02 CONCRETE FOOTINGS

- A. Cast-in-place concrete footings for site improvements shall conform to the requirements of Section 03300 - Cast-in-place Concrete and shall be 4,000 psi minimum strength at 28 days.
- B. Compacted gravel backfill shall conform to the requirements of Section 02200 - Earthwork.

3.03 BENCHES

- A. Install benches level and plumb and to the heights and dimensions shown on the drawings.

3.04 REPAIR OF EXISTING PICNIC TABLES

- A. Picnic tables shall be disassembled in order to remove all existing hardware.
- B. Reassemble with existing and new hardware using Loctite High Strength, or other approved method, to make hardware vandal resistant.

3.05 METAL FENCE PANELS

- A. Attach metal fence panels to existing panel as shown in the approved shop drawings, in concrete footings.
- B. Install panels level and plumb and in alignment to existing panel.
- C. Contractor shall touch-up all chipped or scratched surfaces to the satisfaction of the Owner.
 - 1. Contractor shall provide the Owner with Touch-Up Paint.

END OF SECTION

SECTION 02860

PLAYGROUND EQUIPMENT & ACCESSORIES

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, and as indicated on the Drawings and as specified.
- B. The work shall include, but is not limited to furnishing and installing the following:
 - 1. Tot Swing Set
 - 2. Spring Animals (3)
 - 3. Modify existing swing set by removing and disposing of two enclosed bucket seats and chains and replacing with two new strap swings

1.03 RELATED SECTIONS

- A. Section 02200 - Earthwork.
- B. Section 03300 - Cast-in-Place Concrete.
- C. Section 02540 – Playground Surfacing and Curbing

1.04 SUBMITTALS

- A. Submit product data, shop drawings and fabrication details demonstrating compliance with the Specifications for all play equipment and sign Submit the following in accordance with the requirements of section 01300 - Submittals:
 - 1. Spring Animals: manufacturers catalog cuts, specifications, and color chart, demonstrating compliance with the Specifications. Provide certification IPEMA or equal third party certification of compliance with ASTM and Consumer Product Safety guidelines.

- (a) Submit manufacturer's recommended use zones for each spring animal.
- 2. Tot Swing Set: Provide complete manufacturer's shop drawings. Show details of welds and connections, and size of members, and method of attachment of swings.
- 3. Strap swings and enclosed bucket seats: Provide manufacturer's literature demonstrating IPEMA certification, or equal, demonstrating compliance with ASTM and Consumer Product safety guidelines,
- 4. Provide City of Waltham with manufacturer's warranty.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle metal fabrication items to prevent damage and deterioration. Store assembled items off the ground.

1.06 REFERENCE STANDARDS

- A. Materials, layout and installation of play equipment shall comply with the following guidelines and standards:
 - 1. ASTM F 1487 - American Society for Testing Materials Standard Consumer Safety Performance Specification for Playground Equipment for Public Use, latest edition.
 - 2. ASTM F2373-08 - Standard Consumer Safety Performance Specification for Public Use Play Equipment for Children 6 months through 23 months
 - 3. National Bureau of Standards, U.S. Consumer Product Safety Commission (CPSC), Public Playground Safety Handbook, 2008
 - 4. IPEMA - International Play Equipment Manufacturers Association

1.07 QUALITY ASSURANCE

- A. The Play Equipment manufacturer shall maintain and have in effect at the time of completed installation an insurance policy covering completed operations (Product Liability) with a minimum limit of \$1,000,000.00 (One Million Dollars) for each occurrence.
- B. All Play Equipment and Amenities shall be installed as per manufacturer's instructions

1.08 WARRANTY

A. Tot Swing shall have the following warranty:

1. 2 years - All workmanship and materials.
2. 2 years - Limited warranty on powder coated surfaces against corrosion or peeling.
3. 2 years - Limited warranty on all plastic components, molded rubber products, all moving parts and connections.
4. 5 years - Limited warranty on Dimensional Material against structural failure due to decay or termites.
5. 15 years - Limited warranty on steel posts and steel components against structural failure due to corrosion excluding moving parts.

B. Spring Animals shall have the following warranty:

1. 10 years – Warranty against failure due to material or production defects on all wooden components, painted or resin-coated panels, HPL and plastic panels, timbers and galvanized steel components.
2. 5 years – Warranty against failure due to material or production defects on springs, plastic slides and other steel or plastic parts.
3. 2 years - Warranty against failure due to material or production defects on all other movable parts.

PART 2 - PRODUCTS

2.01 LOGAN PARK

A. TOT SWINGS

1. Tot Swings shall be as manufactured by IDF Industrial Design & Fabrication, Inc., PO Box 733, Speonk, NY 11972 Phone: 631-325-1484; Fax 631-801-2748, email: idfabrication@verison.net, or approved equal.
 - a) Tot swings shall match the design of existing swings in all respects including finishes and profile and size of steel members. Existing swing set was manufactured by IDF Industrial Design & Fabrication.
2. Swings: Support Posts: Support post shall be fabricated from 5"X 5", 11 gauge steel tubing. Mounting plates shall be fabricated from ¼" x 9" X 10" steel flat stock and be welded between two support posts. A crossbeam attaches between two sets of frame supports.
 - a) Crossbeams: Crossbeam shall be fabricated from 3" OD steel pipe. End plates shall be ¼" x 6" X 10" steel flat stock welded to cross

beam. Crossbeam shall attach to post mounting plates with ½" machine bolts.

- b) Swing Hangers: Swing Hangers shall be fabricated from ductile iron and galvanized. The Hanger shall have an "oil-lite" bronze bearing and an axle bolt.
- c) Swing Chains: Chains shall be ¼" diameter galvanized proof coil steel chain. Chains shall attach to Hangers and Seats with 3/8" steel shackles and tamper resistant hardware. Chains to be plastisol-coated.
- d) Enclosed Infant Seats: Infant Seat shall be totally enclosed, constructed of vandal proof 70 Duro EPDM rubber with a .025 stainless steel insert and heavy duty hardware. Standard color is black.

3. Finish for metal swing components:

- a) Galvanizing: All welded steel components shall be fully assembled prior to galvanizing. After fabrication, all steel shall be shot blasted to a white metal finish. The cleaned surface shall have an angular surface profile of 2.0 to 4.0 mils. After shot blasting, all steel shall be galvanized by the Zinc Rich Powder Process. The Zinc Rich Powder coating is to be applied to a thickness of 2 mils & cured at 392 F for 2 minutes minimum. The coating shall firmly adhere and be free of spots, lumps or blisters.
- b) Powder Coating: The Powder Coating shall be applied to the Zinc Rich prepared surface in such a manner that the coating will not peel off. The coating shall be TGIC-Polyester Powder applied to the Zinc coated steel via the Powder Coating Process. The Powder Coating shall be applied at a film thickness of 4 to 6 mils. The Powder Coating shall conform to the following ASTM Designations:
 - 1) Adhesion D 3359-B
 - 2) Pencil Hardness (H-2H) D 3363
 - 3) Flexibility D 522 (Mod)
 - 4) Impact Resistance D 2794 (Mod)
 - 5) Abrasion Resistance D 4060 (Mod)
 - 6) Salt Spray Resistance B 117
 - 7) Humidity Resistance D 2247
- c) Color of coating shall match that of existing swing set.

B. STRAP SWINGS:

1. Strap Swing Seats for existing swing structure shall match existing and as follows
 - a) Strap seat shall be 5/16" x 6" x 24". Seat shall be constructed of vandal proof 70 Duro EPDM rubber with a .020 carbon steel insert to prevent vandalizing. End "Triangle" brackets shall be 1/4" galvanized steel wire, mounted in factory to the flexible rubber seat. Standard color is black.

C. SPRING ANIMALS

1. Spring animals shall be the following models manufactured by Kompan Inc. or equal:
 - a) M101P Hen
 - 1) Play element shall be in the form of a bird
 - b) M106P Gander
 - 1) Animal shall be in the form of a goose/bird with semi-enclosed sides to the spring play element.
 - c) M169P Snake
 - 1) Play element shall be in the form of a snake.
 - d) General requirements:
 - 1) Seats shall be constructed of 18 mm thick high-density polyethylene. Handle grips shall be constructed of 24.7 mm o.d. polypropylene tubing. Panels shall be constructed of 19 mm thick high-density polyethylene. Corner brackets shall be constructed of hot-dip galvanized steel. The spring shall be constructed of shot-peened steel that meets DN 17221. All hardware shall be stainless steel or delta coated for corrosion protection.
 - 2) Color of individual elements of the spring animals shall be able to be chosen from the spectrum of manufacturer's standard color choices without additional charge.

2.02 CONCRETE FOOTINGS

- A. Cast-in-place concrete footings for site improvements shall conform to the requirements of Section 03300 - Cast-in-place Concrete and shall be 4,000 psi minimum strength at 28 days.
- B. Compacted gravel backfill shall conform to the requirements of Section 02200 - Earthwork.

PART 3 - INSTALLATION

3.01 Verification of Use Zones

- A. Contractor shall layout all playground equipment as per the Drawings.
- B. The Contractor shall be aware of all clear Use Zones around the play equipment, as indicated on the drawings, and shall ensure that all minimum Use Zones are complied with.
- C. Use Zones are the areas around all play equipment that shall be clear of any obstacles, including, but not limited to, curbs, trees, and fencing. Contractor shall bring to the attention of the Landscape Architect any discrepancies between plans and actual site conditions, where there is a conflict with the required use zone.
 - 1. The Contractor shall notify the Landscape Architect for review of the layout prior to installation of play equipment.

3.02 FOOTINGS

- A. Coordinate installation of footings with installation of curbing.
- B. Coordinate installation of footings with use zones.
- C. Provide concrete footings dimensioned and spaced as shown on the Drawings. Top of footing shall be flush with and shall not protrude above aggregate base course in order to provide adequate depth of safety surfacing.
- D. Assemble play components according to manufacturer's instructions.
- E. Pour concrete footings and let set a minimum of 24 hours before proceeding.
- F. Place assembly in footings, block up, plumb and level.

END OF SECTION

SECTION 02950

PLANTING

PART I - GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.
- B. Examine all Contract Documents and all other Sections of the Specifications for requirements therein affecting the work of this trade.

1.02 REQUIREMENTS INCLUDED

- A. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to perform all planting work and related items as indicated on the Drawings and as specified.
- B. The work of this Section consists of providing all equipment and materials and do all work necessary to supply and place planting soils as indicated on the Drawings and as specified.
 - 1. On-site topsoil in planting beds may be stockpiled and respread if it meets these specifications.
 - 2. Supply, spread and grade additional off-site loam as necessary to bring planting beds to new required grades.
 - 3. Planting trees, including provision of backfill mix..
 - 4. Installing weed barrier fabric.
 - 5. Mulching new or restored areas of planting.
 - 6. Maintenance of new plantings.
 - 7. One year guarantee period for all plants.

1.03 RELATED WORK UNDER OTHER SECTIONS

- A. The following items of related work are specified and included in other Sections of the Specifications:
 - 1. Section 02100 - Site Preparation: Stripping grass and topsoil from planting beds.

1.04 REFERENCES

- A. The following standards shall apply to the work of this Section.

1. MHD Standard Specifications: Massachusetts Highway Department Standard Specifications for Highways and Bridges, 1988 Edition.
2. Hortus III, 1976, L. H. Bailey Hortorium.
3. American National Standards Institute (ANSI):
Z60.1 American Standard for Nursery Stock,, latest edition, published by American Association of Nurserymen, (AAN).

1.05 SUBMITTALS

- A. Submit proof of landscape Contractor's experience to the Owner's Representative in accordance with Quality Assurance paragraph of this Section 02950 - Planting.
- B. Submit to the Owner's Representative representative samples, certifications, manufacturer's product data and certified test results for materials specified below. Materials shall not be ordered or delivered until the required submittals have been reviewed and approved by the Owner's Representative. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The Owner's Representative reserves the right to reject, on or after delivery, any material which does not meet these Specifications.
- C. Submit test results for on-site topsoil and off-site loam borrow. Testing will be at the Contractor's expense. Perform tests for organic content, and pH by UMASS Soil and Plant Tissue Laboratory, West Experiment Station, North Pleasant Street, University of Massachusetts, Amherst, MA 01003, (413) 545-2311 or by a private testing laboratory. Provide testing laboratory with plant list to obtain recommendations for soil additives for species being planted. Testing reports shall include the following:
 1. Percent of organic matter.
 2. Recommendations for soil additives to correct soils deficiencies as necessary to accomplish planting work for the species of trees, grasses and perennials specified.
- D. Fertilizer: Submit product manufacturer's data for tree planting fertilizer. Submit fertilization rates for fertilizer product based upon soil testing analysis.

1.06 EXAMINATION OF CONDITIONS

- A. All areas to be planted shall be inspected by the Contractor before starting work and any defects such as incorrect grading or inadequate drainage shall be reported to the Owner's Representative prior to beginning this work.
- B. The Contractor shall be solely responsible for judging the full extent of work requirements involved, including but not limited to the potential need for storing and maintaining plants temporarily and/or re-handling plants prior to final

installation.

- C. Protection of plants is the full responsibility of the Contractor between the time of digging at the nursery and final acceptance.

1.07 QUALITY ASSURANCE

- A. The Contractor shall locate plant material sources and ensure that plants are shipped in timely fashion for installation. No substitutions are allowed without the written permission of the Landscape Architect.
- B. Qualification of Landscape Contractor: The work of this Section 02950 - Planting, shall be performed by a landscape contracting firm which has successfully installed work of a similar quality, schedule requirement, and construction detailing with a minimum of five years of experience.
- C. Qualification of Foreman or Crew Leader: All work of unloading, stockpiling, storing, transporting on-site - Planting, staking and guying, fertilizing, and maintenance of trees, shrubs, vines, groundcover, and perennials shall be supervised by a foreman or crew leader who is a certified landscape professional or a certified horticulturist.
 - 1. Landscape professional shall mean a Massachusetts Certified Landscape Professional certified by the Associated Landscape Contractors of Massachusetts.
 - 2. Horticulturist means a Massachusetts Certified Horticulturist as certified by the Massachusetts Nursery and Landscape Association.
 - 3. Certification shall be current. Proof of certification shall be submitted per Submittals paragraph of this Section 02950 - Planting.
- D. Qualification of Arborist: All work of pruning shall be performed by an arborist certified by the Massachusetts Arborist Association or the International Society of Arboriculture.

PART 2 - PRODUCTS

2.01 LOAM BORROW

- A. Loam borrow and on-site topsoil for re-use shall conform to the requirements of MHD Standard Specifications for Loam Borrow, M1.05.0.

2.02 SOIL ADDITIVES

- A. Acidulant for adjustment of loam borrow pH shall be commercial grade flours of sulfite, ferrous sulfate, or aluminum sulfate that are unadulterated. Acidulants shall be delivered in unopened containers with the name of the manufacturer,

material, analysis and net weight appearing on each container.

- B. Ground limestone for adjustment of loam borrow pH shall contain not less than eighty five percent (85%) of total carbonates and shall be ground to such fineness that forty percent (40%) will pass through 100 mesh sieve and ninety five percent (95%) will pass through a 20 mesh sieve. Contractor shall be aware of loam borrow pH and the amount of lime needed to adjust pH to specification in accordance with testing lab recommendations.
- C. Peat moss shall be composed of the partly decomposed stems and leaves of any of several species of sphagnum moss. It shall be free from wood, decomposed colloidal residue and other foreign matter. It shall have an acidity range of 3.3 pH to 5.5 pH as determined in accordance with the methods of testing of A.O.A.C., latest edition. Its water absorbing ability shall be a minimum of 1,100% by weight on an oven-dry basis.
- D. Gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) shall be agricultural grade, granular form.
- E. Commercial fertilizer shall be a product complying with the State and United States fertilizer laws. Deliver fertilizer to the site in the original unopened containers bearing the manufacturer's certificate of compliance covering analysis and which shall be furnished to the Owner's Representative. Fertilizer shall contain not less than the percentages of weight of ingredients as recommended by the soil analysis.

2.03 PLANT MATERIAL INSPECTION

- A. At least one month prior to the expected planting date, the Contractor shall request that the Owner's Representative provide a representative to select and tag stock to be planted under this Section 02950 - Planting.
- B. Plants to be inspected shall be in locations and conditions that allow direct and unobscured inspection by the Owner's Representative. Container grown or balled and burlapped shrubs shall be pulled from holding blocks by the nurseryman for scrutiny by the Owner's Representative at no additional cost to the Owner. Harvested trees held in storage shall not have branches tied up. Harvested trees shall not have trunks obscured by burlap, cardboard trunk protection, or other devices that would otherwise obscure inspection. In the event that branches are tied up, trunks are obscured by burlap or cardboard trunk protection, or root flares hidden by burlap and twine and the Owner's Representative cannot inspect root flares, trunks or branching habit, the Contractor shall bear all responsibility and costs associated with tree rejection at a later date during the course of the Contract.
- C. Inspection and approval of plants at the source shall not impair the right of subsequent inspection and rejection upon delivery to the site, or during the

progress of the work if the Owner's Representative finds that plants do not meet the requirements of the Plant List or this Contract, have declined noticeably due to handling abuse, lack of maintenance, or other causes. Cost of replacements, as required, shall be borne by the Contractor.

2.04 GRADES AND STANDARDS OF PLANTS

- A. The Contractor shall furnish all plants shown on the Contract Documents, as specified, and in quantities listed on the Plant List. No substitutions will be permitted, without written approval by the Owner's Representative. All plants shall be nursery grown unless specifically authorized to be collected as noted on the Plant List.
- B. All plants shall be typical of their species or variety and shall have a normal habit of growth and be legibly tagged with the proper name. Only plant stock grown within Hardiness Zones 1 through 6b, as established by the USDA Plant Hardiness Zone Map, latest edition, will be accepted.
- C. Plants shall be in accordance with ASNI Standards of the American Association of Nurserymen except as noted in this Section - Planting. Botanical plant names shall be in accordance with plant designations included in Hortus III.
- D. All deciduous trees shall meet the following standards:
 - 1. Trees shall have a single, straight trunk, well formed, and sturdy. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety.
 - 2. All pruning wounds shall show vigorous bark on all edges at the time of harvest. Pruning scars within the crown of any tree shall be clean cut and shall leave no protrusion beyond the branch collar.
 - 3. Trees shall be free from signs of pest and disease damage. The trunk shall be free from sun scald, frost cracks, and wounds resulting from abrasions, fire, animal damage, or other causes.
 - 4. All trees shall have healthy, vigorous leaves or needles of normal size, color, shape, and texture for the particular species and variety.
 - 5. Unless otherwise indicated on the Plant List, the height and spread of deciduous shade trees shall be the minimum requirements.
 - 6. Take caliper measurements for deciduous trees 6 inches above ground level up to and including 4 inches caliper size and 12 inches above ground for larger sizes.

7. No deciduous tree shall be pruned after the Owner's Representative has tagged the plant in the nursery except as directed by the Owner's Representative.
8. Unless otherwise noted on the Plant List, the height to the first branch shall be not less than 6.5 feet from finish grade to comply with ADA requirements.

2.05 ROOT SYSTEMS

- A. Each plant shall have an extensive, symmetrically balanced fibrous root system. Any root ball which shows signs of asymmetry, girdling, injury, or damage to the root system shall be rejected. All parts of the fibrous root system of all plants shall be moist and fresh with a white color when washed of soil. When the plant is removed from the container, the visible root mass shall be healthy with white root tips. The root systems of all plants shall be free of disease, insect pests, eggs, or larvae.
- B. Minimum root ball diameters and depths shall be in accordance with ANSI standards.
- C. No plants shall be loose in the container.
- D. Curling or spiraling of the roots along the walls of rigid containers will not be accepted. Curling, spiraling or girdling roots within balled and burlapped material will not be accepted. Container grown plants which have roots growing out of the container will be rejected.

2.06 MYCORRHIZAL FUNGAL INOCULANT

- A. Mycorrhizal fungal inoculant shall be live spores packaged in plastic packets. At minimum each packet of inoculant shall contain the following:
 1. Live spores of VA Endomycorrhizal fungi: Vesicular-Arbuscular mycorrhizae fungi, minimum of 8 species.
 2. Live spores of Ectomycorrhizal fungi: including *Pisolithus tinctorius*.
- B. Mycorrhizal fungal inoculant shall be manufactured by Plant Health Care Incorporated, 440 William Pitt Way, Pittsburgh, PA 15238, telephone, (800) 421-9051; Horticultural Alliance, 2946 Louise Street, Sarasota, FL 34237, (800) 628-6373; BioPlex Organics, 2213 Huber Drive, Manheim, PA 17545 (800) 441-3573, or approved equal.

2.07 PLANTING BACKFILL MIX

- A. Planting soil mix shall be an approved loam borrow that has been pH adjusted

according to particular planting applications and improved through the addition of organic matter as recommended by testing results for the particular species being planted.

2.08 WEED BARRIER

- A. Weed barrier shall be a spun polypropylene fabric which allows water and air flow through, weighing a minimum of 3 oz per square yard. Weed barrier shall be UV stabilized with a limited warranty life-time of at least 20 years, similar to Dupont Green Vista Professional Landscape Fabric, Mirafi Mscape, or approved equal.
 - 1. Flow rate through fabric shall not be less than 175 gal/min/square ft. as measured by ASTM D 4491.
- B. Anchor pins shall be U-shaped steel 6" x 1" x 6" minimum in profile.

2.10 MULCH

- A. Mulch shall be aged pine-bark mulch meeting the Specifications of the MHD Standard specifications for Aged Pine Bark Mulch, M6.04.5.

2.11 WATER

- A. The Contractor shall provide labor and water required to establish plants. During the maintenance period the Contractor shall water as required to insure that soil moisture is maintained to a depth of six inches or greater at all times.
 - 1. Watering shall be done in a manner that will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to the finished surface by the watering equipment. The Contractor shall furnish sufficient watering equipment to maintain required water levels in the soil.

PART 3- EXECUTION

3.01 FILLING AND COMPACTION OF LAWN AREAS

- A. Confirm that the subgrade is at the proper elevation and that no further earthwork is required to bring the subgrade to proper elevations. Subgrade elevations shall slope parallel to the finished grade and or toward the subsurface drain lines as shown on the Contract Documents. Fill any over excavation with approved fill and compact to the required subgrade compaction levels. Perform no work of placing and spreading loam until elevations have been accepted by the Owner's Representative.

- B. Protect adjacent walls, walks and utilities from damage or staining by the loam borrow.

3.02 FINE GRADING OF LAWN AREAS

- A. Immediately prior to dumping and spreading the loam borrow, the subgrade shall be cleaned of all stones greater than 2 inches and all debris or rubbish. Such material shall be removed from the site, not raked to the edges and buried.
- B. Loam borrow delivered to the site shall be protected from erosion at all times. Materials shall be spread immediately. Otherwise, materials that set on site for more than 24 hours shall be covered with tarpaulin or other soil erosion system acceptable to the Owner's Representative.
- C. No loam borrow shall be handled, planted, or seeded in any way if it is in a wet or frozen condition. A moist loam borrow is desirable.
- D. Soil additives per testing recommendations shall be spread and thoroughly incorporated into the layer of loam borrow by harrowing, tilling, or other methods reviewed by the Owner's Representative.
- E. After loam borrow and required additives have been spread, carefully prepare the loam borrow by scarifying, harrowing, or tilling the loam to integrate soil additives into the top six (6) inches of the loam. Remove all large stiff clods, lumps, brush, roots, stumps, litter and other foreign matter.
- F. The Contractor shall install loam borrow in successive horizontal lifts no thicker than 6 inches each lift prior to compaction, and shall compact each lift to the equivalent of 85% of maximum dry density. Final depth of compacted loam in planting beds shall be six (6").
- G. Compact each lift of loam sufficiently to reduce settling but not enough to prevent the movement of water and feeder roots through the soil. The loam borrow in each lift should feel firm to the foot in all areas and make only slight heel prints. At completion of the loam borrow installation, the soil should offer a firm, even resistance when a soil sampling tube is inserted from lift to lift.
- H. Select equipment and otherwise phase the installation of the loam borrow to ensure that wheeled equipment does not travel over subsoil, placed fills or ordinary borrow or already installed soil.

3.03 ACCEPTANCE OF LOAMING

- A. Confirm that the final grade of loam borrow is at the proper finish grade elevations. Adjust grade as required to meet the contours and spot elevations noted on the Plans. Request the presence of the Owner's Representative to

inspect final grade. Do not proceed with the remaining work of this Contract until the Owner's Representative has given his/her written approval of the final grade.

3.04 PLANTING SCHEDULE

A. Seasons for Planting:

1. Deciduous Plants - March 15 to May 15; October 10 to December 15
2. Evergreen Plants - September 1 to November 15; March 15 to May 1

B. Notify the Owner's Representative three working days prior to the proposed arrival of plant material on the site. Plants delivered to the site and not planted within 24 hours of delivery shall have their root balls covered with mulch and shall be watered on a daily basis such that root balls are kept moist throughout.

3.05 PLANTING OF TREES

A. Contractor shall locate all existing underground utilities that are within 10 feet of the proposed planting pits and notify the Owner's Representative of any conflicts prior to digging plant pits. Locations for trees shall be staked on the ground by the Contractor for approval by the Owner's Representative before any plant pits are dug. Notify the Owner's Representative no less than 3 days prior to requested date of inspection of staking to schedule site visit.

1. Circular plant pits shall not be required provided that the minimum dimension between the edge of the pit and the face of the rootball is not less than required by this Section 02950 - Planting.
2. All plant pits dug with a machine shall have the sides of the holes scraped with hand shovels to prevent glazing on compaction of the sides of the hole. Remove and stockpile excavated loam for reuse as backfill for plant pit. All subsoil excavated from the bottoms of planting pits shall be removed from the site.
3. Plant pits shall be dug to the dimensions shown on the Contract Documents.
4. Remove all soil from around the root flare of the stem of the plant and from the top of the rootball to determine the true depth of the rootball. Plants that have been planted such that root flares are buried will be rejected.
5. Plant rootballs must be damp and thoroughly protected from sun and wind from the beginning of the digging operation, during transportation, and at the site until the final planting.

6. Trees shall be placed in the center of plant pits, plumb, with the crown of their roots exposed and located above the surrounding finish grade.
 7. Prior to completion of planting installations, remove rope and cut wire baskets from the top 1/3 of the root balls. Pull burlap away from the trunk or stem of the plant and cut burlap from the top 1/3 of the root balls.
 8. Planting soil shall be backfilled with approved planting soil to the full depth of the planting pit. Eliminate air pockets and compact the soil by flooding the tree pit within 2 hours of planting installation. After water has drained from the planting pit and planting backfill has dried enough additional planting soil shall be spread in pit or bed to bring the finished surface of the planting pit or bed to grades shown on the Contract Documents. A saucer shall be formed around each plant at a depth of 3 inches for trees.
 9. All trees shall be inoculated with mycorrhizal fungi. Inoculant shall be added after the trees have been placed in their holes. Open the required number of packets for each plant and thoroughly mix the inoculant powder into the upper 10 inches (250 mm) of backfill soil.
 - a. The application rates for mycorrhizal fungal packets shall be in accordance with the manufacturer's recommendations.
- B. Contractor shall keep trees plumb and upright at all times.
- C. Pruning:
1. As directed by the Owner's Representative, each plant shall be pruned in accordance with the workmanship requirements of "Pruning Standards" for Class I, fine pruning, to preserve the natural character of the plant.
 2. Tree pruning, as required, shall be undertaken to the full height of affected trees.
 3. All dead wood or suckers and all broken or badly bruised branches shall be removed. Never cut a leader.
- D. In the event that rock or underground construction work or obstructions are encountered in any plant pit or bed excavation work, alternate locations will be selected by the Owner's Representative. Relocation of plant pits or beds shall be provided at no additional cost to the Owner.
- E. Absolutely no debris may be left on the site. Repair any damage to site as directed by the Owner's Representative, at no additional cost.

3.06 INSTALLATION OF WEED BARRIER

- A. Weed Barrier shall be installed over tree pits as shown on the Drawings.

3.07 MULCH

- A. Cover fabric with 3" of mulch continuous.

3.08 WATERING

- A. Plants shall be watered immediately following planting as necessary to thoroughly moisten rootball and plant pit loam and thereafter shall be inspected frequently for watering needs and watered, as required, to provide adequate moisture in the planting pit. The Contractor shall inspect tree pits 24 hours after initial watering to confirm that they are draining properly. If surface water or excessively saturated plant pit soils exist the Contractor shall immediately notify the Owner's Representative. The Owner's Representative will recommend remedial measures based upon site conditions.

3.09 MAINTENANCE

- A. Maintenance shall begin immediately after each plant is planted and shall continue for a minimum 30-day period, and afterwards as necessary to ensure establishment through the one-year guarantee period.
- B. Maintenance shall consist of keeping the plants in a healthy growing condition and shall include but is not limited to watering, weeding, cultivating, pruning, re-mulching, tightening and repairing of guys, straightening of trees to a plumb position, removal of dead material, resetting plants to proper grades or upright position, and maintaining the planting saucer.
 - 1. Plants shall be inspected for watering needs at least twice each week and watered to promote plant growth and vitality.
 - 2. For trees in lawn or mulched beds, apply water to the ground surface directly under the canopy. Water shall be applied at a sufficiently slow rate to prevent run off from the soil surface but great enough to equal 0.2 inches of water per square foot of canopy area per hour for 5 hours per week.
 - 3. Planting beds and individual plant pits shall be kept free of weeds, and mulch shall be replaced as required to maintain the specified layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the designed layout.

4. Plants that die during the maintenance period shall be removed and replaced by the Contractor during that growing season, unless directed otherwise by the Owner's Representative.
 5. Spraying of insecticides or herbicides shall be done by State-licensed professionals. Spraying for insects, pests and diseases shall conform to the National Arborist Association Standards under the section entitled "Standards for Pesticide Application Operations", as currently adopted and as approved by the Landscape Architect. All insecticides, pesticides, and herbicides shall be EPA-approved and shall conform to the requirements MCRG: Massachusetts Control Recommendation Guide for Insect, Disease, and Weed Pests of Shade Trees and Woody Ornamentals, latest edition, University of Massachusetts, Amherst, College of Food and Natural Resources.
- C. During the maintenance period, any decline in the condition of plantings shall require the Contractor to take immediate action to identify potential problems and undertake corrective measures.

3.010 ACCEPTANCE

- A. Upon completion of all planting work, the Contractor shall request in writing that the Owner's Representative inspect the planting work.
- B. Acceptance Standards: If plant material is reviewed when it is in full leaf, leaves shall be plump with water with a shape indicative of the species and shall be free of insect, pest and disease damage. Twigs shall have living cambium for their full length. Twigs and branches shall have a full bud set for their full length, including terminal buds. Trunks and branches shall be free of frost cracks; sun scald; damage due to insects, pests, and disease; structural defects; and damage resulting from machinery or tools. Plant material inspected and reviewed when the plants are not in full leaf shall have twigs, branches and trunks meeting the above requirements. All plants regardless of the season of review shall have a minimum of 75 percent healthy, balanced branching structure with a healthy terminal leader(s) with viable terminal bud(s).
- C. If any number of plants do not meet these Acceptance Standards at the time of inspection, or if in the opinion of the Owner's Representative workmanship is unacceptable, written notice will be given by the Owner's Representative to the Contractor in the form of a punch list which itemizes necessary planting replacements and/or other deficiencies to be remedied. All plants that do not meet these Acceptance Standards shall be removed from the project within seven days of receipt of the punch list. Replacements shall conform in all respects to the Specifications for new plants and shall be planted in the same manner.

3.011 GUARANTEE

- A. Trees, ornamental grasses and perennials shall be guaranteed for one year from the date of Substantial Completion of the entire project.
- B. At the end of the guarantee period, a final inspection will be held to determine whether any replacements are required. Each plant shall be healthy, shall have a character that is natural for its species as determined by the Owners Representative, and shall conform to the Acceptance Standards described in this Section 02950 - Planting. Plants found to be unacceptable shall be removed promptly from the site and replaced according to this Section 02950 - Planting. Replacements plants shall be guaranteed for an additional year.
- C. All replacements shall be plants of the same kind and size specified in the Plant List. The cost shall be borne by the Contractor, except for replacements due to vandalism.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1- GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, as indicated on the Drawings and as specified.
- B. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes. The work shall include, but is not limited to, the following:
 - 1. Footings.

1.03 RELATED WORK

- A. Section 02200 - Earthwork.
- B. Section 02600 - Play Equipment
- C. Section 02800 - Site Improvements.

1.04 SUBMITTALS

- A. Submit concrete mix designs.

:

1.05 REFERENCE STANDARDS

- A. All work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein.
 - 1. American Concrete Institute (ACI): ACI 305 & 306 Hot Weather Concreting/ACI 306 Cold Weather Concreting.
 - 2. Standard Specifications: Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges, latest edition, Construction and Materials Specifications for Concrete.

1.06 PROJECT CONDITIONS

- A. Establish and maintain required lines, surfaces, and elevations.
- B. Do not install concrete work over wet, saturated, muddy, or frozen subgrade.
- C. Do not install concrete when air temperature is below 40 degrees F.
- D. Calcium chloride, salt, or any other admixture to prevent concrete from freezing is prohibited.

PART 2 - PRODUCTS:

2.01 BASE COURSES

- A. Base material under footings shall be aggregate base as specified under Section 02200, Earthwork.

2.02 CONCRETE MIX

- A. Provide ASTM C94 ready-mixed concrete. Batch mixing at site is not acceptable. Use ACI 301 Method 1 or Method 2 to determine mix proportions.
- B. Concrete mix shall conform to the following City of Waltham standards:
 - 1. 7% (\pm 1-1/2%) air-entrained cement concrete
 - 2. 4,000 psi at 28 days
 - 3. 3/4" maximum stone
- C. Concrete slump shall be no less than 2" nor greater than 4" determined in accordance with ASTM C143.
- D. Concrete shall contain a water reducing agent to minimize the water cement ratio of the mix, at the specified slump.
- E. No calcium chloride or admixtures containing calcium chloride shall be added to the concrete. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Landscape Architect.
- F. No concrete shall be placed by pumping methods.

2.03 CEMENT - Cement shall be Portland Cement conforming to ASTM C150, Type II, Dark Color.

2.04 ADMIXTURES

- A. Except as otherwise specified, use of concrete admixtures shall conform to ACI 212.

- B. Air entraining agent shall conform to ASTM C260.
- C. Water reducing agent shall conform to ASTM C494, Type A.
- D. Water reducing agent-retarder shall conform to ASTM C494, Type D.

2.05 WATER - Water shall conform to ASTM C94.

PART 3 - EXECUTION

3.01 GRADING

- A. Make any corrections necessary to base course material furnished and installed under SECTION 02200, Earthwork, to bring base material to the sections and elevations shown on the Contract Drawings.
- B. Existing subgrade material which will not readily compact as required shall be removed and replaced with satisfactory materials. Additional materials needed to bring subgrade to required line and grade and to replace unsuitable material shall be material conforming to Section 02200 Earthwork.

3.02 FORMWORK

- A. Footing shall be formed with Sona tubes or other suitable forming material.

3.03 CONCRETE PLACEMENT

- A. Concrete shall be thoroughly spaded, and tamped, and vibrated to secure a solid homogenous mass, thoroughly worked around reinforcement and into corners of forms.

3.11 CLEAN-UP

- A. At the completion of the work of this section, all rubbish, debris, waste materials from, and about the site, including tools, scaffolds, apparatus and appliances used in connection with work under this Section shall be legally disposed of and the premises shall be left in a clean condition.

END OF SECTION

SECTION 10430

EXTERIOR SIGNS & PLAQUES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.

1.02 REQUIREMENTS INCLUDED

- A. Provide all equipment and materials, and do all work necessary to complete the installation of exterior signs as indicated on the Drawings and as specified.
- B. The work of this Section includes, but is not limited to:
 - 1. Furnishing and installing one (1) exterior park identification sign with on relocated and salvaged granite posts. Sign and sign posts shall both be installed by the sign vendor.
 - 2. Exact wording of sign and plaque are subject to change.
 - 3. Furnishing and installing one (1) bronze plaque with text.
- C. For construction signs refer to Section 01500 - Temporary Facilities.

1.03 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
 - 1. Section 01500 - Temporary Facilities.
 - 2. Section 02200 - Earthwork.
 - 3. Section 03300 - Cast-in-Place Concrete.

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.

B. American Society for Testing and Materials (ASTM):

1. B 209 Aluminum and Aluminum Alloy Sheet and Plate.
2. B 221 Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
3. B 308 Aluminum-Alloy 6061 T6 Standard Structural Shapes Rolled or Extruded.
4. B 429 Aluminum-Alloy Extruded Structural Pipe and Tubing.

1.05 SUBMITTALS

- A. Shop Drawings: Submit complete shop drawings of work of this Section. Show all details of construction and installation of each sign and type.
- B. Product Data: Submit manufacturer's product data of work of this Section. Provide complete product description and specifications, catalog cuts, and other descriptive data.
- C. Field Measurements: Take all necessary field measurements before preparation of shop drawings and fabrication. Do not delay progress of the job. If field measurements are not possible prior to fabrication, allow for field cutting and fitting.
- D. Verification Samples: Submit representative samples of the following materials for approval prior to construction. Show full color ranges and finish variations expected. Provide samples having minimum size of 144 sq. in.
 1. Paint color and finish sample on 1/8 in. thick aluminum for each color and finish required.
 2. Paint color and finish sample on 1/8 in. thick structural steel, for each color and finish required.
 3. Vinyl samples, in specified type style, size and graphic, for each color and finish designated on Drawings.
 4. Full size representative plotted templates for designated lettering, for each style, size, color, and finish designated on the Drawings. Include character and word spacing.

1.06 QUALITY ASSURANCE

- A. Source: For each material type required for the work of this Section, provide primary materials which are the product of one manufacturer. Provide secondary

or accessory materials which are acceptable to the manufacturers of primary materials.

- B. Installer: A firm with a minimum of three years experience in type of work required by this Section and which is acceptable to manufacturers of primary materials.
 - 1. If installer is different company than sign manufacturer, notify Architect in advance providing installer's name, address, telephone number, and name of contact person.
- C. All work and material shall be in accordance with all applicable codes and standards and shall be acceptable to all authorities having jurisdiction. Work shall meet or exceed the requirements of the Massachusetts State Building Code.
- D. Design Criteria: The Drawings indicate size, profiles, and dimensional requirements of signs and graphics. Other manufacturing methods may be considered provided the deviations in dimensions and profiles are minor and do not, in the opinion of the Architect, change the design concept.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and products unopened. Store and handle in strict compliance with manufacturer's instructions and recommendations. Store under cover and protect from weather damage.
- B. Sequence deliveries to avoid delays, but minimize on-site storage.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Provide products of one of the following manufacturers that meet or exceed requirements specified:
 - 1. Express Sign & Graphics, 301 Littleton Road, Chelmsford, MA 01824, p 978-250-9890, f 978-250-0975, or approved equal.
 - 2. 3M (Vinyls) or approved equal.
 - 3. Matthews (Acrylic polyurethane paint) or approved equal.

2.02 ALUMINUM MATERIALS

- A. General: Provide manufacturer's standard extrusions, sections, sheet, and plate,

of alloy and temper recommended by aluminum manufacturer or finisher for type, use, and finish indicated, but not less than strength and durability properties specified below:

1. Structural Aluminum Shapes: ASTM B 308, 6061 alloy.
2. Extruded Aluminum Bars, Rods, Shapes, and Tubes: ASTM B 221, 6063 alloy.
3. Aluminum Sheet and Plate: ASTM B 209, alloy 1100, 3003, or 5052.

B. VINYL MATERIALS

1. Applied Vinyl Graphics: Provide opaque non-reflective vinyl film, 0.0035-inch minimum thickness, with pressure-sensitive adhesive backing, suitable for exterior applications. Color shall be as indicated.

2.03 GRANITE POSTS

- A. Granite shall be salvaged from existing sign and re-used.

2.04 BRONZE PLAQUE

- A. Provide bronze casting, copper alloy UNS C83600, complying with the requirements of ASTM B584.
1. Casting shall be free from pits, scale, sand holes, or other defects. Comply with the requirements specified for metal, border style, background, texture, and finish and with requirements shown for finish, size, shape, and copy.
 2. Border style: Single Line
 3. Background Texture:
 4. Background Finish: Baked Enamel Dark Brown
 5. Font Finish: Satin Polished
 6. Font: Helvetica Bold
 7. Provide Clear Organic Coating for all surfaces: Air-dried acrylic coating equal to Inctalac as developed by International Copper Research Corporation, 1.0-mil minimum dry thickness.

2.05 MISCELLANEOUS MATERIALS

- A. Fasteners: Unless otherwise indicated, use concealed fasteners in all work of this Section. Fabricate fasteners from metals that are non-corrosive to sign surface materials and mounting substrates.

1. Fasteners shall be roundhead or countersunk, and tamperproof.
 2. Spacers and washers shall be neoprene.
- B. Anchors and Inserts: Provide non-ferrous metal or stainless steel anchors and inserts for exterior installations. Provide toothed steel or lead expansion bolt devices for drilled-in place anchors. Furnish inserts to other trades when required to be cast into concrete.
- C. Permanent Bond Adhesive: Provide structural adhesive suitable for bonding a variety of dissimilar industrial surfaces over a wide temperature range, similar to “PR-943”, manufactured by Products Research and Chemical Corporation, Gloucester City, NJ 08030, or approved equal.

2.06 FABRICATION

- A. General: Fabricate work of this Section in conformance with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, and sizes. Owner and/or Architect will provide name of complex.
- B. All Sign Types: Fabricate flat and curved signs using metals and shapes of sufficient thickness, with reinforcing when necessary, to produce sufficient flatness, free of “oil canning”, and to impart sufficient strength for size, design, and application indicated.
1. Fabricate brackets, and fittings from extruded aluminum to suit sign for panel construction and mounting conditions indicated; all seams welded and ground smooth prior to painting.
 2. Colors: Where applied graphics require color selection, provide colors as indicated and as approved by the Owner and Landscape Architect.
 3. Graphic Content and Style: Provide graphics for signs in letter style, size, spacing, and arrangement indicated.

2.07 FINISHES

- A. Acrylic Polyurethane Finish: Painted surfaces shall be painted with Matthews Acrylic Polyurethane, manufactured by Matthews Paint Company, Wheeling, IL 60090, or approved equal, in strict compliance with coating system manufacturer’s instructions and recommendations for surface preparation, mil thickness, curing and other requirements.
- B. Colors and Surface Textures: For exposed sign material that requires selection of materials with integral or applied colors, surface textures, or other characteristics

related to appearance, provide color matches as selected by the Owner and Landscape Architect.

PART 3 - EXECUTION

3.01 GENERAL

- A. Locate sign units and accessories where shown and scheduled. Use mounting methods indicated.
- B. Fastening to In-Place Construction: Provide anchorage devices and fasteners necessary for securing work of this Section to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through bolts, lag bolts, wood screws, and other connectors required.
- C. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of work of this Section.
- D. Erect work square, plumb and true, accurately fitted, and with tight joints and intersections. All anchors, inserts and other members to be set in concrete shall be furnished loose by this trade to be built-into concrete and granite by those trades. Avoid field cutting or drilling to greatest extent possible.
- E. Brace work rigid and secure to surrounding construction. Provide temporary bracing or anchors where required.
- F. Fit exposed connections accurately together to form hairline joints, except where invisible joints are indicated. Shop weld connections.
- G. Electrolytic Isolation: Where dissimilar metals are to come into contact with one another, or in contact with concrete, isolate by application of a heavy coating of bituminous paint on contact surfaces in addition to shop coat specified above. Do not permit the bituminous paint in any way to remain on surfaces to be exposed or to receive sealant.

3.02 PROTECTION OF WORK

- A. Adjacent work, etc., shall be protected from stain and damage during entire operation. Damaged and stained areas shall be replaced or repaired to equal their original conditions.
- B. Completed walkways shall be adequately protected from damage or stain until acceptance by the Owner.

3.03 INSPECTION

- A. The Installer shall examine substrates, supports, and conditions detrimental to the proper completion of work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning of installation will be construed as installer accepting substrates and conditions.

3.04 SIGN INSTALLATION

- A. Sign and granite sign posts shall both be installed by sign vendor.
- B. General Installation Requirements: Strictly comply with manufacturer's instructions and recommendations, except where more restrictive requirements are specified in this section.
- C. Installation: Install units plumb, level, in alignment and plane without warp or rack. Anchor securely in place.

3.05 PLAQUE INSTALLATION

- A. Install plaque in location as shown and as detailed.
- B. Edge of plaque shall be flush with adjacent paving with 1/16" lippage maximum.

3.06 TOLERANCES

- A. The following allowable installed tolerances are allowable variations from locations and dimensions indicated by the Contract Documents. Do not add these tolerances to any allowable tolerances indicated for other work.
 - 1. Allowable Variation from True Plumb: $\pm 1/8$ in. in 10 ft. - 0 in.
 - 2. Allowable Variation from True Line: $\pm 1/8$ in. in 10 ft. - 0 in.
 - 3. Allowable Variation from True Level: $\pm 1/16$ in. in 10 ft. - 0 in.

3.07 ADJUSTING, CLEANING, TOUCH-UP, AND PROTECTION

- A. Clean exposed surfaces using manufacturer's printed instructions recommending materials and methods to be used. Remove and replace work which cannot be successfully cleaned.
- B. Touch-up damaged coatings and finishes. Eliminate visible evidence of repair.
- C. Provide temporary protection during the course of work, and immediately after completion to ensure work is not damaged or deteriorated in any way at time of

final acceptance. Remove temporary protections and re-clean as necessary immediately prior to final acceptance.

END OF SECTION

List of Drawings for Logan Park:

- L.1 EXISTING CONDITIONS PLAN
- L.2 SITE PREPARATION PLAN
- L.3 MATERIALS PLAN
- L.4 LAYOUT PLAN
- L.5 GRADING PLAN
- L.6 DETAILS
- L.7 DETAILS

Construction Documents

Waltham Park Improvements Project

IMPROVEMENTS TO LOGAN PARK

**120 WOERD AVENUE
WALTHAM, MASSACHUSETTS 02453**

Locus Plan



MAYOR JEANNETTE A. McCARTHY
CITY OF WALTHAM

CITY OF WALTHAM PLANNING DEPARTMENT
119 SCHOOL STREET
WALTHAM, MASSACHUSETTS 02451

CITY OF WALTHAM RECREATION DEPARTMENT
510 MOODY STREET
WALTHAM, MASSACHUSETTS 02453

AUGUST 15, 2012

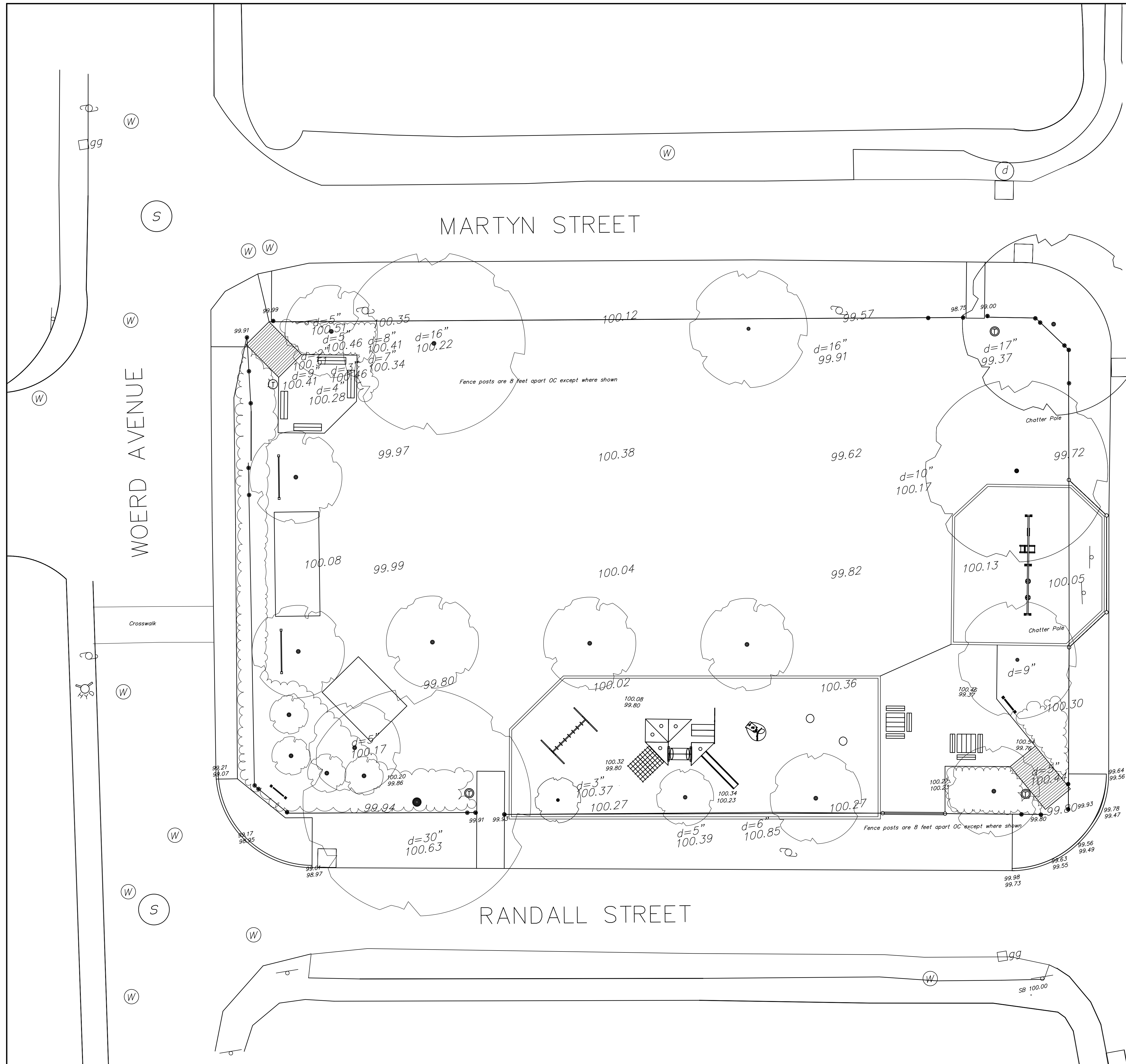
LANDSCAPE ARCHITECT:
CAROLYN COONEY & ASSOCIATES
13 ELM STREET
MILFORD, MASSACHUSETTS 01757
TEL: (508) 478-8426 FAX: (508)
478-8607

FUNDED BY:

UNITED STATES DEPARTMENT OF
HOUSING AND URBAN DEVELOPMENT
COMMUNITY DEVELOPMENT BLOCK
GRANT FUND

Index of Drawings

L-1	EXISTING CONDITIONS PLAN
L-2	SITE PREPARATION PLAN
L-3	MATERIALS PLAN
L-4	LAYOUT PLAN
L-5	GRADING PLAN
L-6	DETAILS
L-7	DETAILS

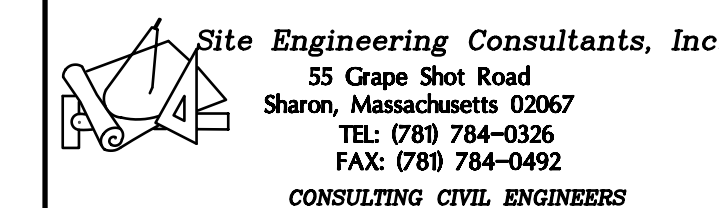


GENERAL NOTES:

1. THE SOURCE OF THE EXISTING CONDITIONS PLAN IS THE "SITE LAYOUT AND MATERIALS PLAN" DATED OCTOBER 26, 2007 PREPARED BY PLAY SITE ARCHITECTURE FOR THE LOGAN PARK RECONSTRUCTION PROJECT. THIS PLAN IS A DESIGN PLAN, AND NOT AN AS-BUILT RECORD. ACCORDINGLY, INFORMATION ON THE EXISTING CONDITIONS PLAN MAY NOT ACCURATELY REFLECT PRESENT SITE CONDITIONS.
2. THE CONTRACTOR SHALL INFORM HIM/HERSELF OF EXISTING CONDITIONS OF THE SITE BEFORE SUBMITTING HIS/HER BID. NO CLAIM FOR EXTRA COMPENSATION OR EXTENSION OF CONTRACT TIME WILL BE ALLOWED ON ACCOUNT OF CONDITIONS WHICH ARE APPARENT FROM A THOROUGH VISUAL EXAMINATION OF THE SITE.
2. DEVIATIONS: THE CONTRACTOR SHALL REPORT ALL DEVIATIONS IN THE EXISTING CONDITIONS TO THE LANDSCAPE ARCHITECT (508) 478-8426, PRIOR TO STARTING WORK.
4. UTILITIES: UTILITY LOCATIONS HAVE BEEN TAKEN FROM EXISTING CONDITIONS DRAWINGS AS AVAILABLE. LOCATION AND DEPTH OF UTILITIES ARE APPROXIMATE. NO GUARANTEE IS EXPRESSED OR IMPLIED THAT UTILITY LINES ARE AT THE LOCATIONS OR DEPTH SHOWN, OR THAT THE DRAWINGS INDICATE ALL UTILITIES WHICH MAY EXIST. PRIOR TO ALL EXCAVATION, CONFIRM IN WRITING TO LANDSCAPE ARCHITECT AND CITY THAT YOU HAVE CONTACTED: (1) "DIG SAFE" (888-344-7233) TO MARK LOCATION OF RECORDED UTILITIES, AND (2) THE CITY ENGINEERING DEPARTMENT FOR SITE INFORMATION. CONTRACTOR SHALL PROVIDE "DIG SAFE" NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED BOTH ON AND OFF PROJECT SITE.

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No.	Description	Date

REVISIONS		
No.	Description	Date

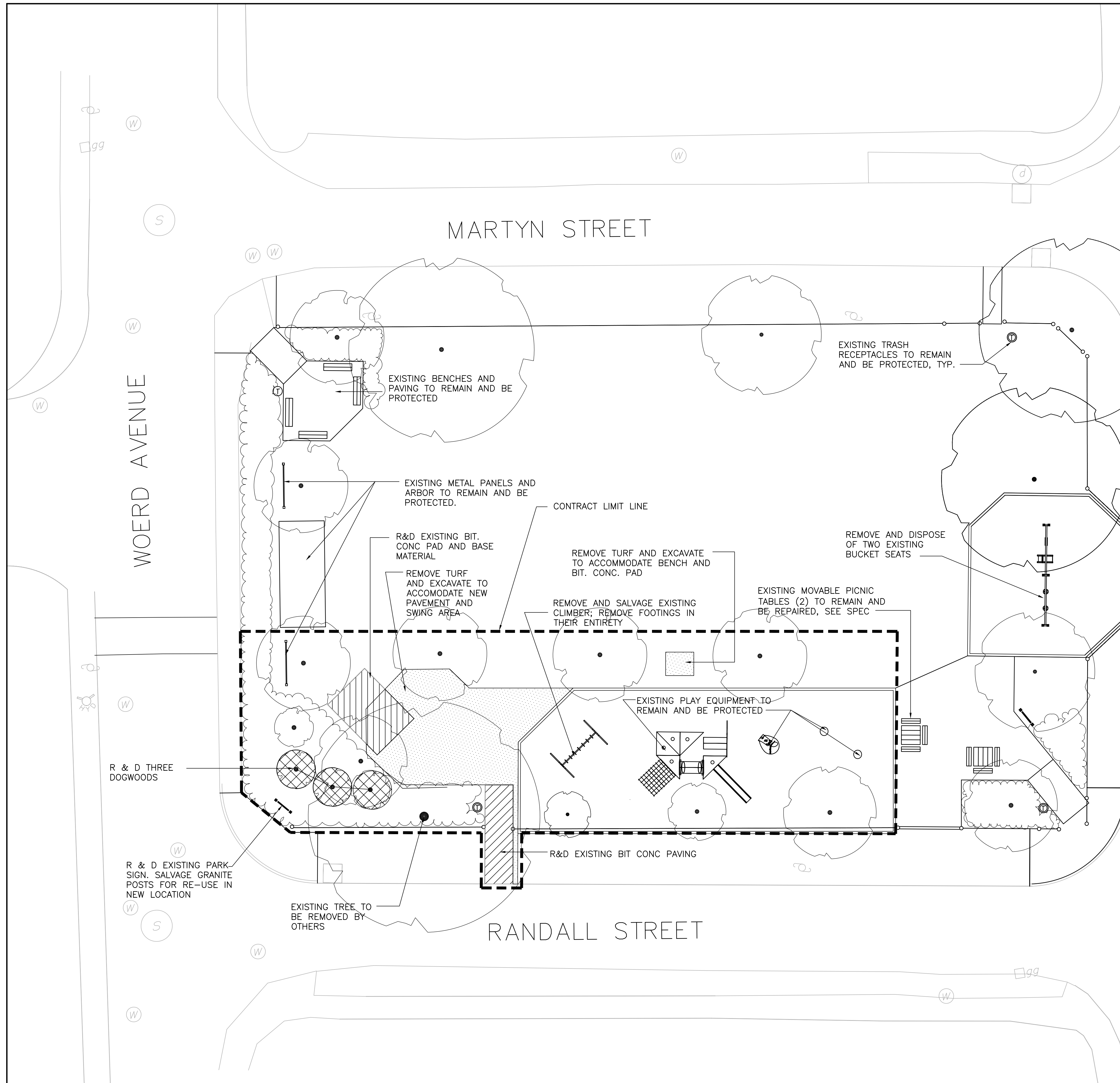
Project:
WALTHAM PARK IMPROVEMENTS PROJECT
LOGAN PARK

Prepared For:
WALTHAM PLANNING DEPARTMENT
119 SCHOOL STREET
WALTHAM, MA 02451

TITLE:
EXISTING CONDITIONS PLAN

Scale 1" = 10' Date AUG 15, 2012
 Drawn By CCC
 Checked By DRB
 Approved By DRB
 Project No. 1201

DWG No. **L-1**



DEMOLITION NOTES:

GENERAL NOTES:

1. SITE INSPECTION: ALL BIDDERS ARE REQUIRED TO INSPECT THE CONSTRUCTION SITE TO VERIFY EXISTING CONDITIONS AND WILL BE HELD RESPONSIBLE FOR THE FULL EXTENT OF WORK REQUIRED.
2. DEVIATIONS: THE CONTRACTOR SHALL REPORT ALL DEVIATIONS IN THE EXISTING CONDITIONS TO THE LANDSCAPE ARCHITECT (508) 478-8426, PRIOR TO STARTING WORK.
3. SAW CUT LIMIT OF DEMOLITION AT ALL BITUMINOUS AND CEMENT CONCRETE PAVING FOR CLEAN EDGE. PAVEMENT TO BE REMOVED SHALL BE DISPOSED OF LEGALLY AT AN APPROPRIATE OFF-SITE LOCATION.
4. UTILITIES: UTILITY LOCATIONS HAVE BEEN TAKEN FROM EXISTING CONDITIONS DRAWINGS AS AVAILABLE. LOCATION AND DEPTH OF UTILITIES ARE APPROXIMATE. NO GUARANTEE IS EXPRESSED OR IMPLIED THAT UTILITY LINES ARE AT THE LOCATIONS OR DEPTH SHOWN, OR THAT THE DRAWINGS INDICATE ALL UTILITIES WHICH MAY EXIST. PRIOR TO ALL EXCAVATION, CONFIRM IN WRITING TO LANDSCAPE ARCHITECT AND CITY. THAT YOU HAVE CONTACTED: (1) "DIG SAFE" (888-344-7233) TO MARK LOCATION OF RECORDED UTILITIES, AND (2) THE CITY ENGINEERING DEPARTMENT FOR SITE INFORMATION. CONTRACTOR SHALL PROVIDE "DIG SAFE" NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED BOTH ON AND OFF PROJECT SITE.
5. DEMOLITION SHALL INCLUDE REMOVAL OF ALL EXISTING FEATURES NECESSARY FOR THE CONSTRUCTION OF NEW WORK. NO GUARANTEE IS EXPRESSED OR IMPLIED THAT THESE DEMOLITION PLANS DESCRIBE ALL THE MATERIALS, LIMITS, EXTENT, QUANTITY OR DEPTH OF MATERIAL WHICH MUST BE REMOVED OR PROTECTED. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT PRIOR TO REMOVAL OF ANY TREE, SHRUB, OR STRUCTURE NOT SPECIFICALLY NOTED TO BE REMOVED ON THE PLANS. FINES WILL BE IMPOSED FOR UNAUTHORIZED REMOVAL OF TREES AND SHRUBS.
6. SPRAY PAINT: DO NOT LEAVE PAINT CANS UNATTENDED AT ANY TIME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP AND REMOVAL OF ALL GRAFFITI RESULTING FROM UNATTENDED OR CARELESSLY DISCARDED PAINT OR OTHER MATERIAL.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE SAFETY OF THE PUBLIC THROUGH ERECTION OF FENCES AND BARRIERS AS NECESSARY AND AS REQUESTED BY THE CITY.
8. THE CONTRACTOR SHALL PROTECT ALL ABUTTING PROPERTIES AND EXISTING SITE ELEMENTS TO REMAIN. ANY DAMAGE INCURRED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY OF WALTHAM.
9. PROTECT ALL EXISTING ELEMENTS TO REMAIN.

SPECIAL NOTES:

1. RESTORE ALL AREAS DISTURBED BY DEMOLITION TO LAWN, AS DETAILED IN L-6/DETAIL 4, LOAM AND SEED, UNLESS SCHEDULED FOR OTHER SURFACING.

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 CONSULTING CIVIL ENGINEERS

No.	Description	Date

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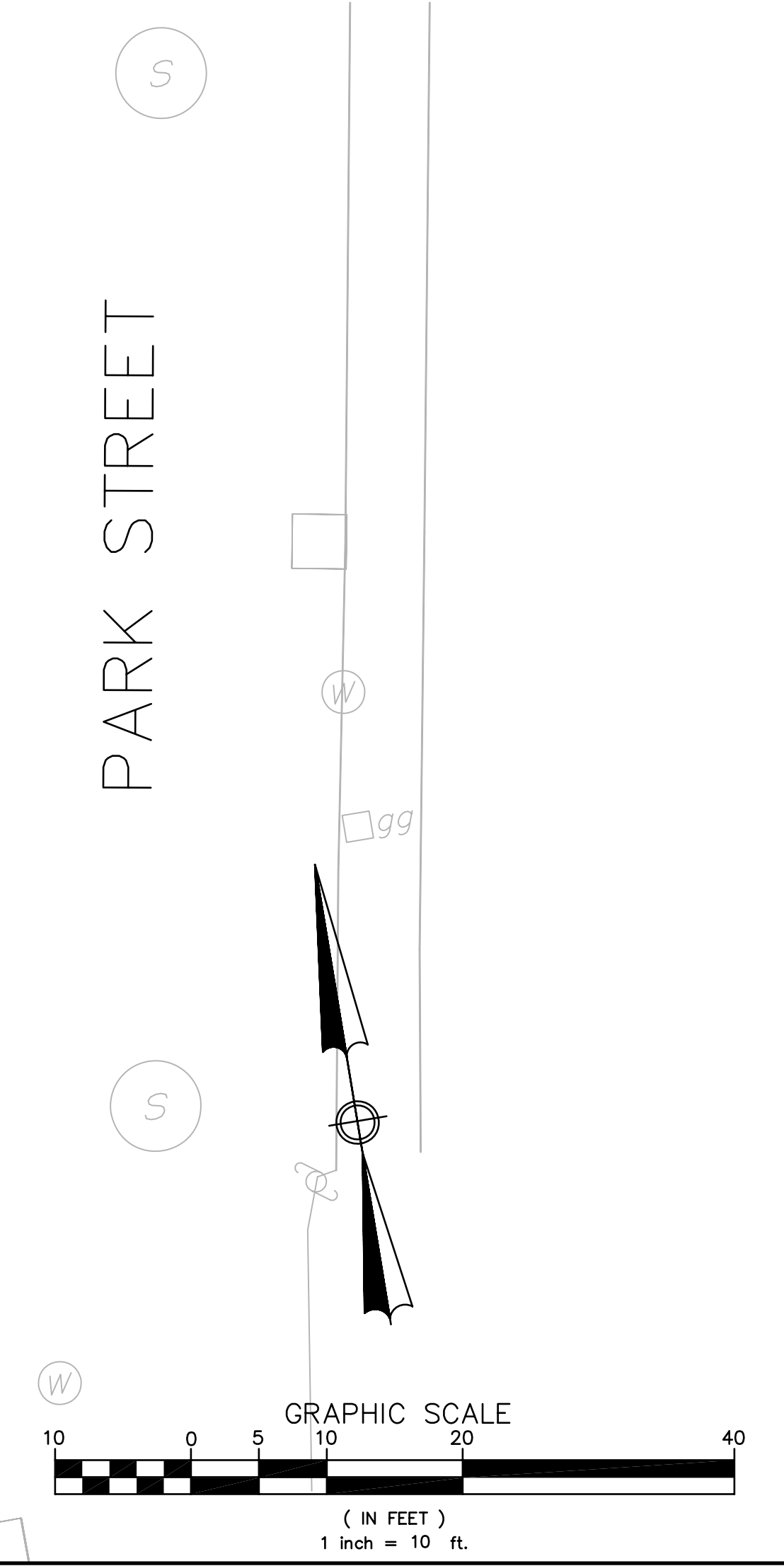
Project:
WALTHAM PARK IMPROVEMENTS PROJECT
LOGAN PARK

Prepared For:
WALTHAM PLANNING DEPARTMENT
119 SCHOOL STREET
WALTHAM, MA 02451

TITLE:
SITE PREPARATION PLAN

Scale 1" = 10'
 Date AUG 15, 2012
 Drawn By CCC
 Checked By DRB
 Approved By DRB
 Project No. 1201

DWG No. **L-2**



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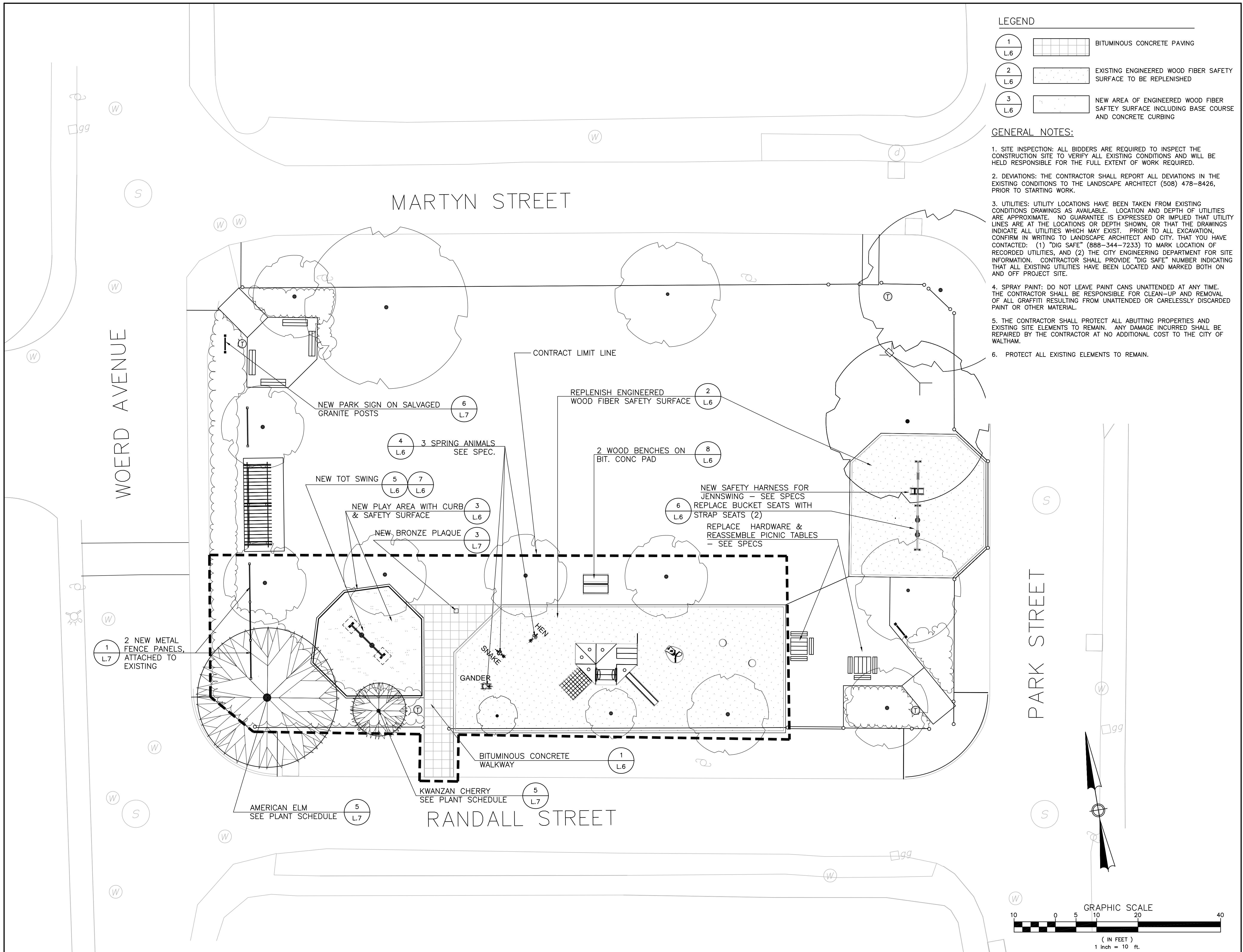
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LEGEND

- 1 L.6 BITUMINOUS CONCRETE PAVING
- 2 L.6 EXISTING ENGINEERED WOOD FIBER SAFETY SURFACE TO BE REPLENISHED
- 3 L.6 NEW AREA OF ENGINEERED WOOD FIBER SAFETY SURFACE INCLUDING BASE COURSE AND CONCRETE CURBING

GENERAL NOTES:

1. SITE INSPECTION: ALL BIDDERS ARE REQUIRED TO INSPECT THE CONSTRUCTION SITE TO VERIFY ALL EXISTING CONDITIONS AND WILL BE HELD RESPONSIBLE FOR THE FULL EXTENT OF WORK REQUIRED.
2. DEVIATIONS: THE CONTRACTOR SHALL REPORT ALL DEVIATIONS IN THE EXISTING CONDITIONS TO THE LANDSCAPE ARCHITECT (508) 478-8426, PRIOR TO STARTING WORK.
3. UTILITIES: UTILITY LOCATIONS HAVE BEEN TAKEN FROM EXISTING CONDITIONS DRAWINGS AS AVAILABLE. LOCATION AND DEPTH OF UTILITIES ARE APPROXIMATE. NO GUARANTEE IS EXPRESSED OR IMPLIED THAT UTILITY LINES ARE AT THE LOCATIONS OR DEPTH SHOWN, OR THAT THE DRAWINGS INDICATE ALL UTILITIES WHICH MAY EXIST. PRIOR TO ALL EXCAVATION, CONFIRM IN WRITING TO LANDSCAPE ARCHITECT AND CITY, THAT YOU HAVE CONTACTED: (1) "DIG SAFE" (888-344-7233) TO MARK LOCATION OF RECORDED UTILITIES, AND (2) THE CITY ENGINEERING DEPARTMENT FOR SITE INFORMATION. CONTRACTOR SHALL PROVIDE "DIG SAFE" NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED BOTH ON AND OFF PROJECT SITE.
4. SPRAY PAINT: DO NOT LEAVE PAINT CANS UNATTENDED AT ANY TIME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP AND REMOVAL OF ALL GRAFFITI RESULTING FROM UNATTENDED OR CARELESSLY DISCARDED PAINT OR OTHER MATERIAL.
5. THE CONTRACTOR SHALL PROTECT ALL ABUTTING PROPERTIES AND EXISTING SITE ELEMENTS TO REMAIN. ANY DAMAGE INCURRED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY OF WALTHAM.
6. PROTECT ALL EXISTING ELEMENTS TO REMAIN.



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No.	Description	Date

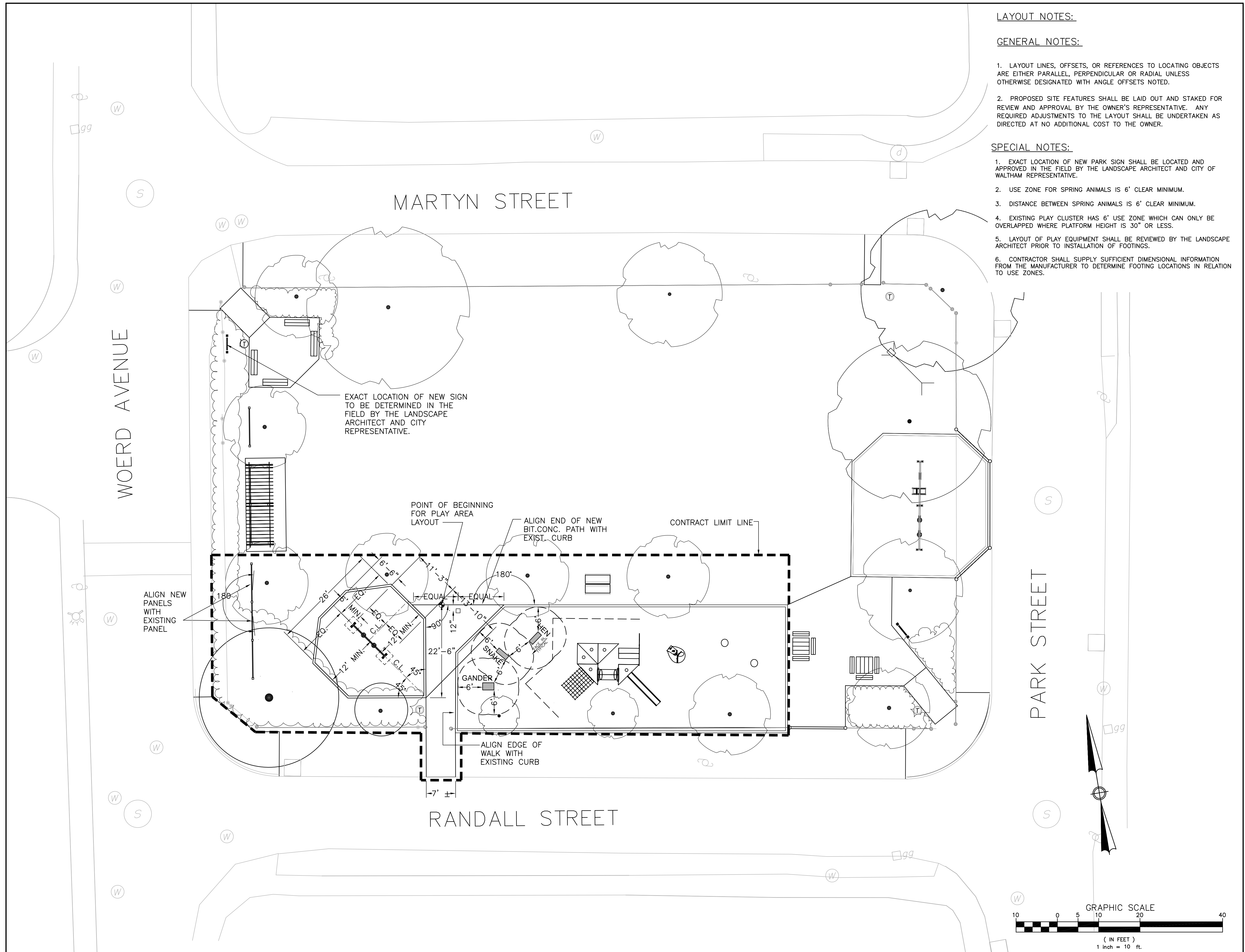
Project:
WALTHAM PARK IMPROVEMENTS PROJECT
LOGAN PARK

Prepared For:
WALTHAM PLANNING DEPARTMENT
119 SCHOOL STREET
WALTHAM, MA 02451

TITLE:
MATERIALS PLAN

Scale 1" = 10' Date AUG 15, 2012
 Drawn By CCC
 Checked By DRB
 Approved By DRB
 Project No. 1201

DWG No. **L-3**



LAYOUT NOTES:

GENERAL NOTES:

1. LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL, PERPENDICULAR OR RADIAL UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
2. PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED AT NO ADDITIONAL COST TO THE OWNER.

SPECIAL NOTES:

1. EXACT LOCATION OF NEW PARK SIGN SHALL BE LOCATED AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT AND CITY OF WALTHAM REPRESENTATIVE.
2. USE ZONE FOR SPRING ANIMALS IS 6' CLEAR MINIMUM.
3. DISTANCE BETWEEN SPRING ANIMALS IS 6' CLEAR MINIMUM.
4. EXISTING PLAY CLUSTER HAS 6' USE ZONE WHICH CAN ONLY BE OVERLAPPED WHERE PLATFORM HEIGHT IS 30" OR LESS.
5. LAYOUT OF PLAY EQUIPMENT SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF FOOTINGS.
6. CONTRACTOR SHALL SUPPLY SUFFICIENT DIMENSIONAL INFORMATION FROM THE MANUFACTURER TO DETERMINE FOOTING LOCATIONS IN RELATION TO USE ZONES.

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Project:
WALTHAM PARK IMPROVEMENTS PROJECT

LOGAN PARK

Prepared For:
WALTHAM PLANNING DEPARTMENT
 119 SCHOOL STREET
 WALTHAM, MA 02451

TITLE:
LAYOUT PLAN

Scale 1" = 10' Date AUG 15, 2012
 Drawn By CCC
 Checked By DRB
 Approved By DRB
 Project No. 1201

DWG No. **L-4**

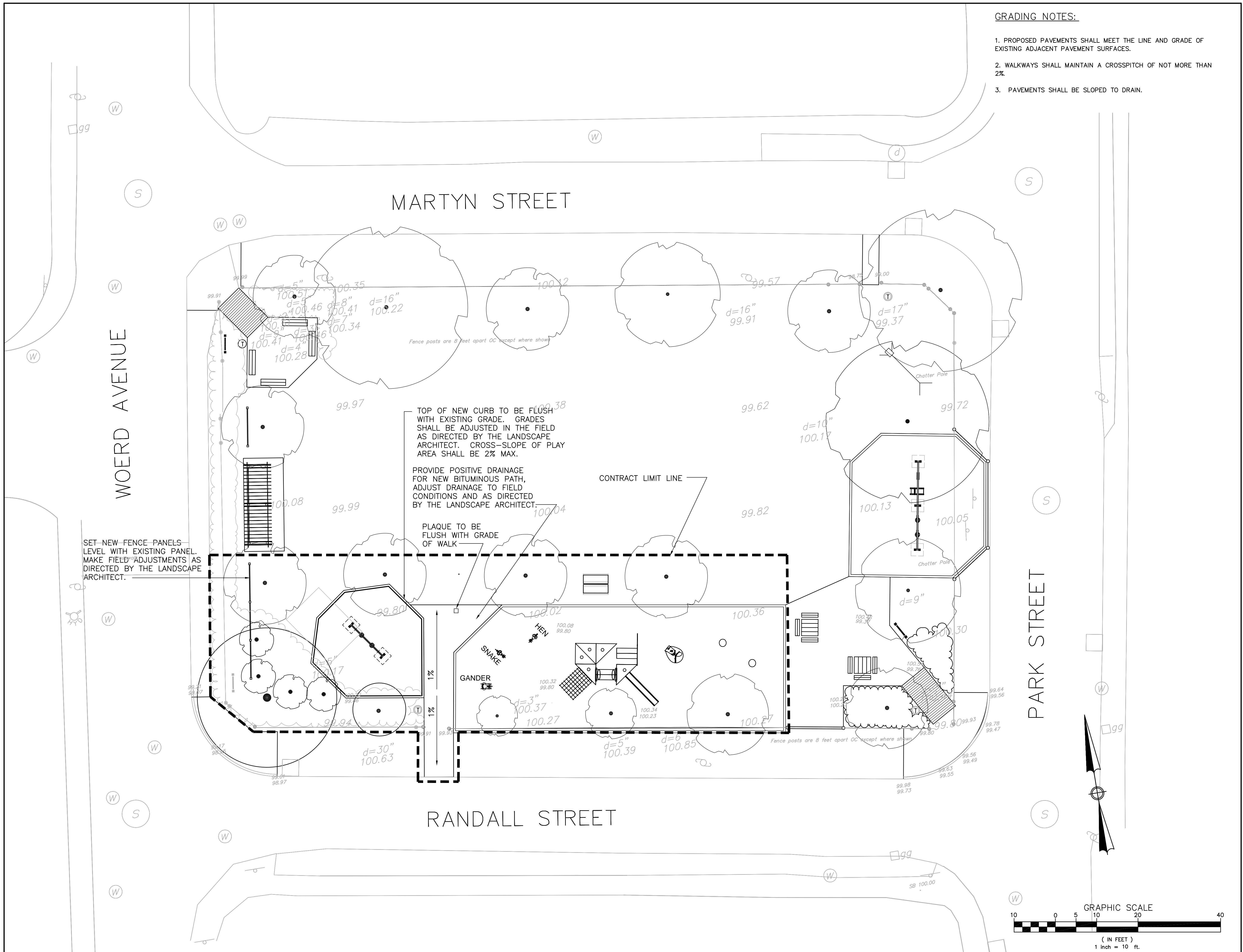
GRADING NOTES:

1. PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES.
2. WALKWAYS SHALL MAINTAIN A CROSSPITCH OF NOT MORE THAN 2%.
3. PAVEMENTS SHALL BE SLOPED TO DRAIN.

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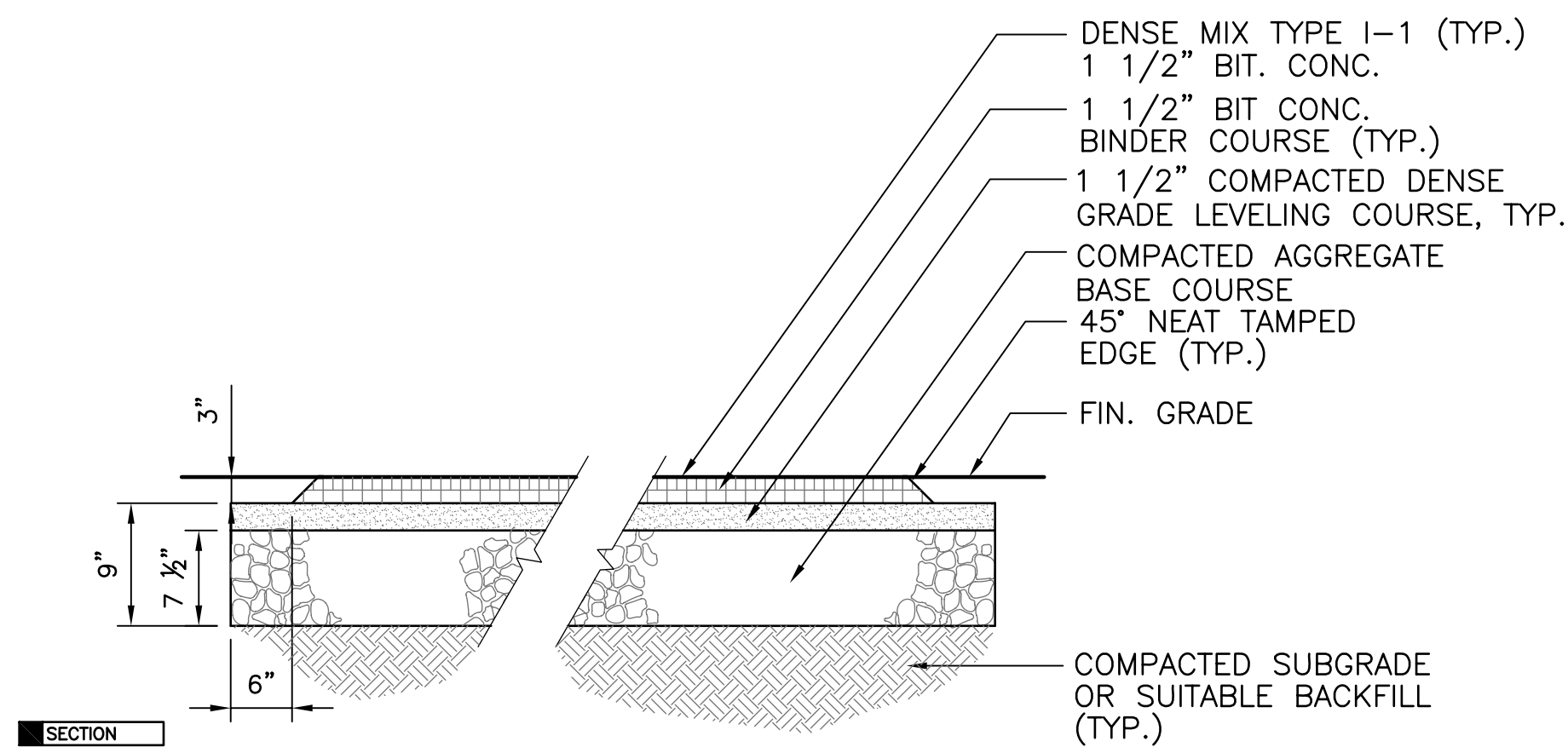
Project:
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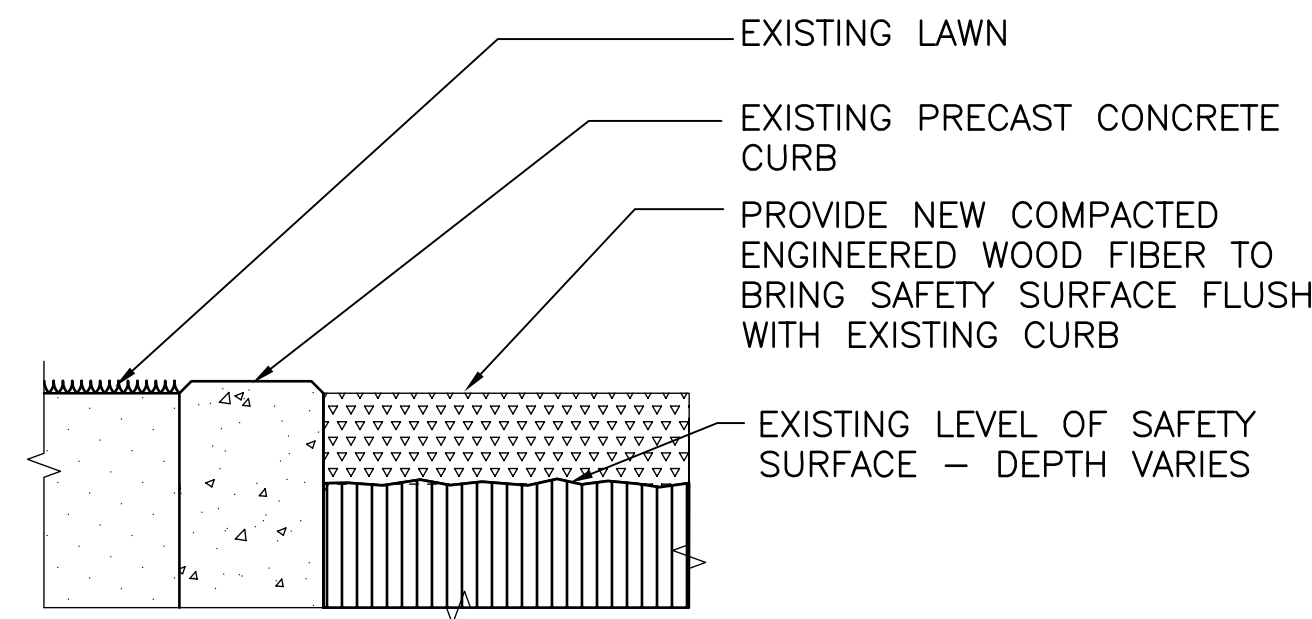
TITLE:
GRADING PLAN

Scale 1" = 10' Date AUG 15, 2012
 Drawn By CCC
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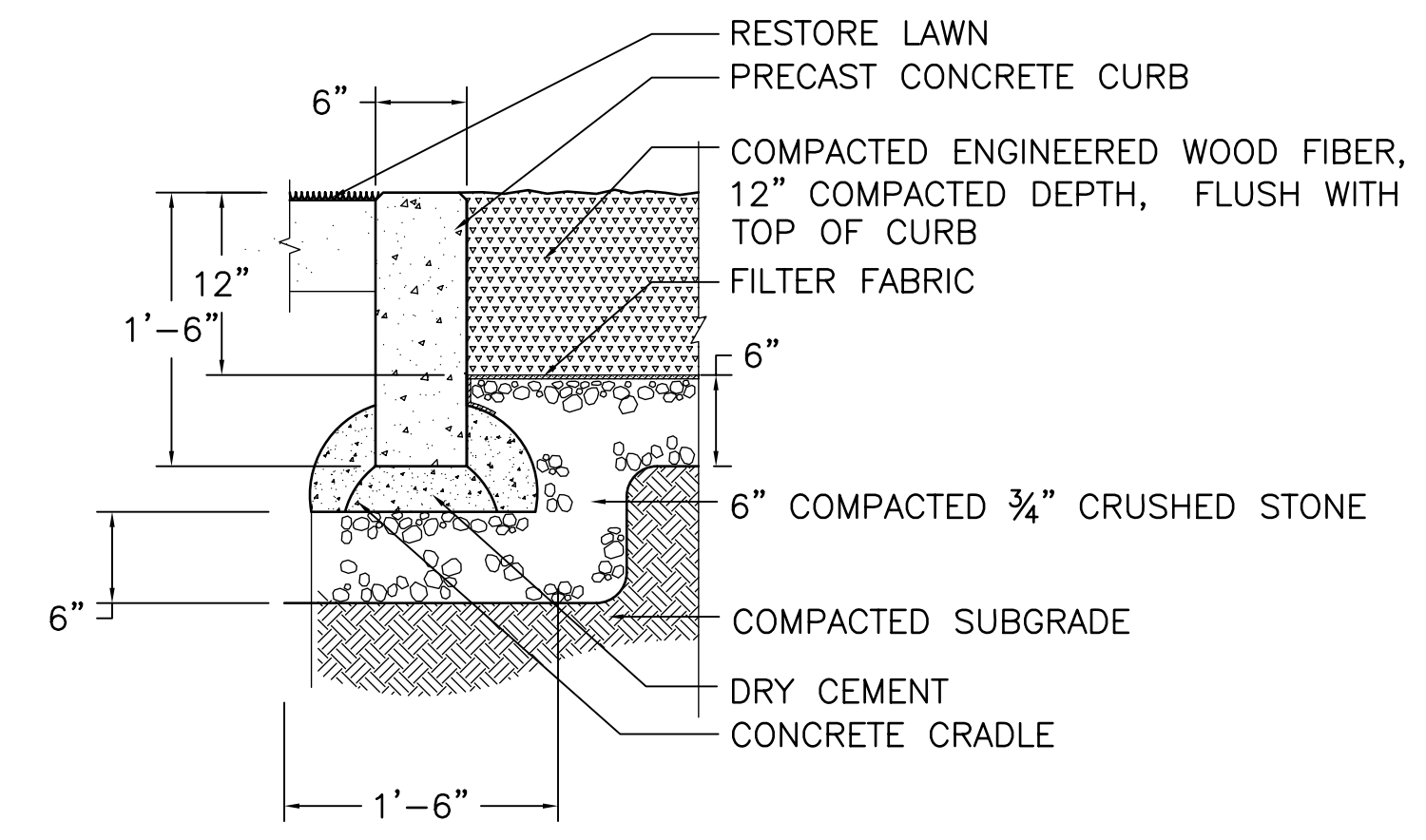
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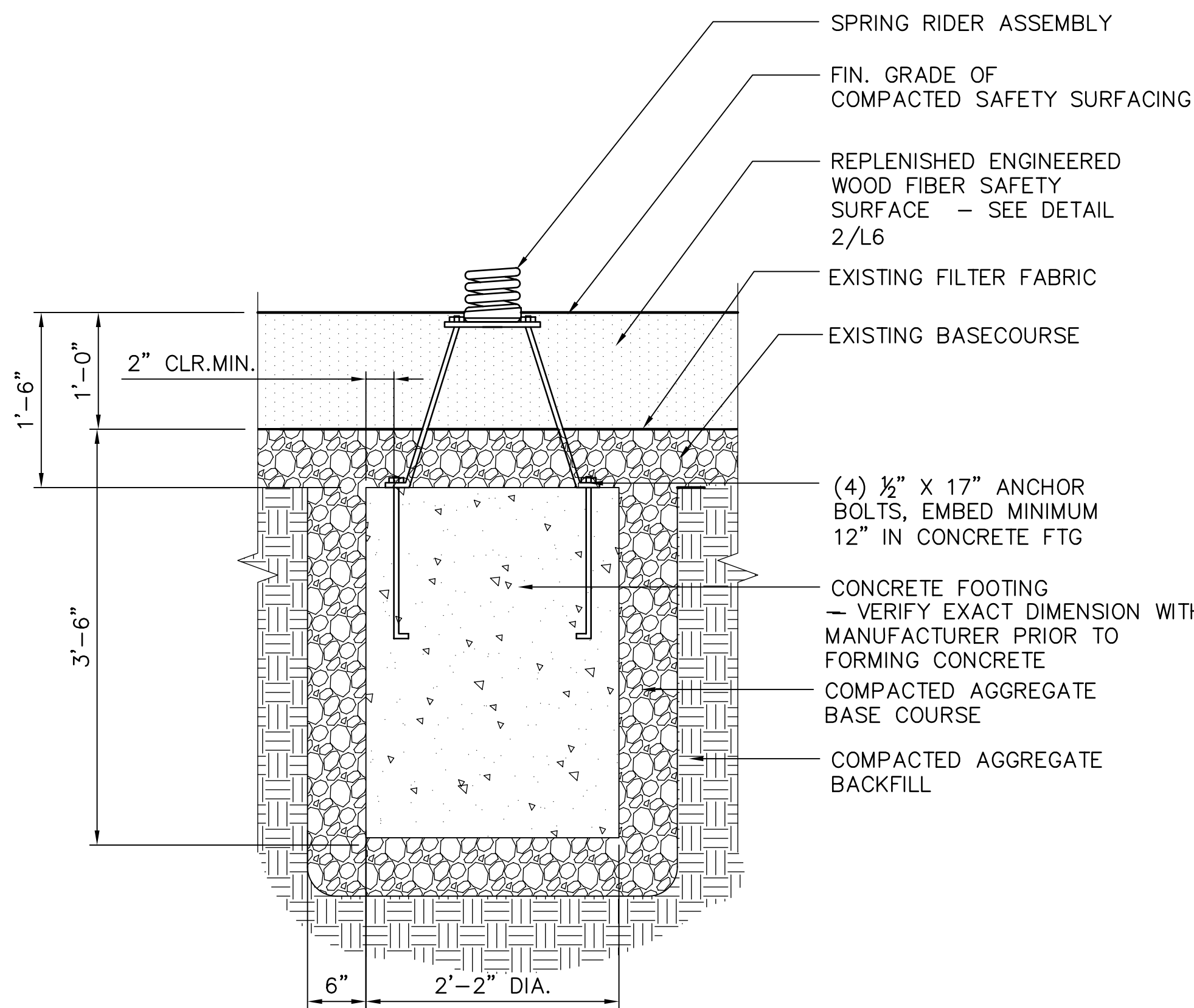
1 BITUMINOUS WALKWAY PAVEMENT
 N.T.S.



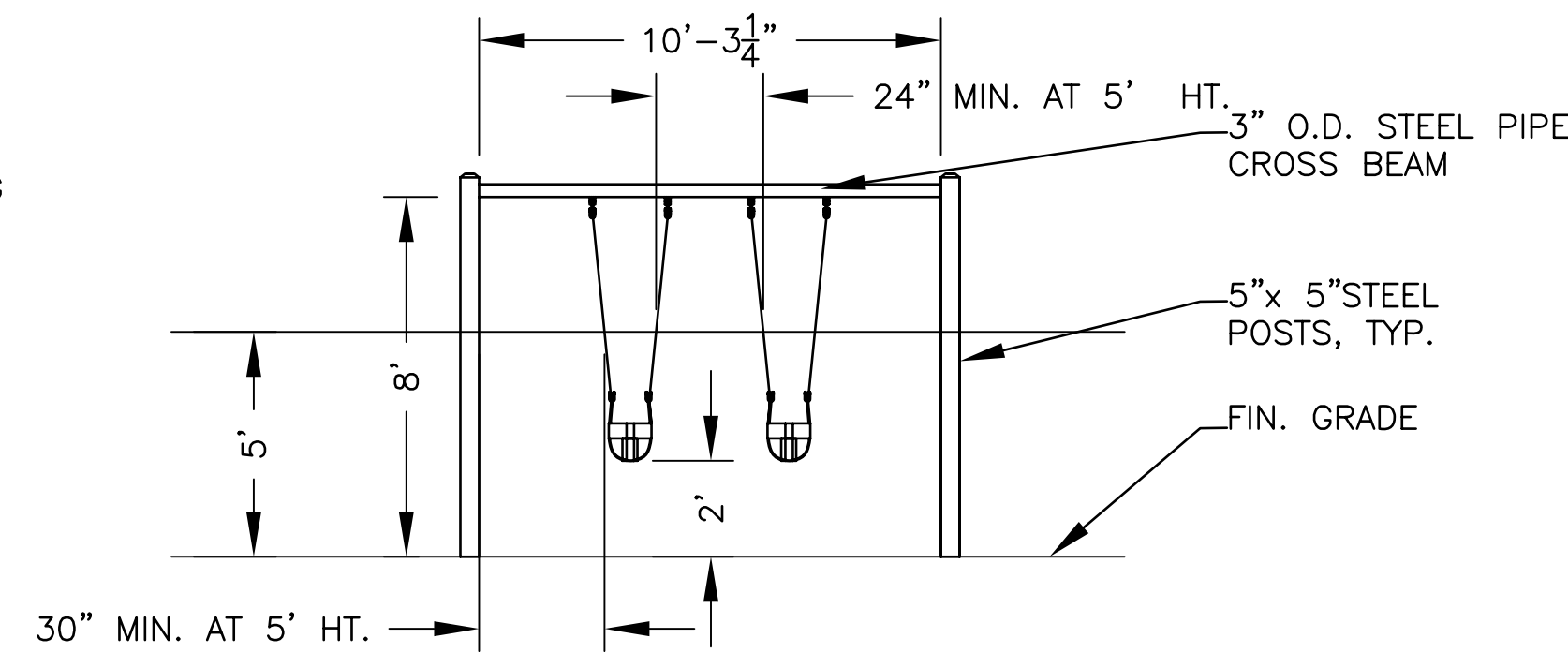
2 REPLENISHMENT OF ENGINEERED WOOD FIBER SAFETY SURFACE
 1-1/2" = 1'-0"



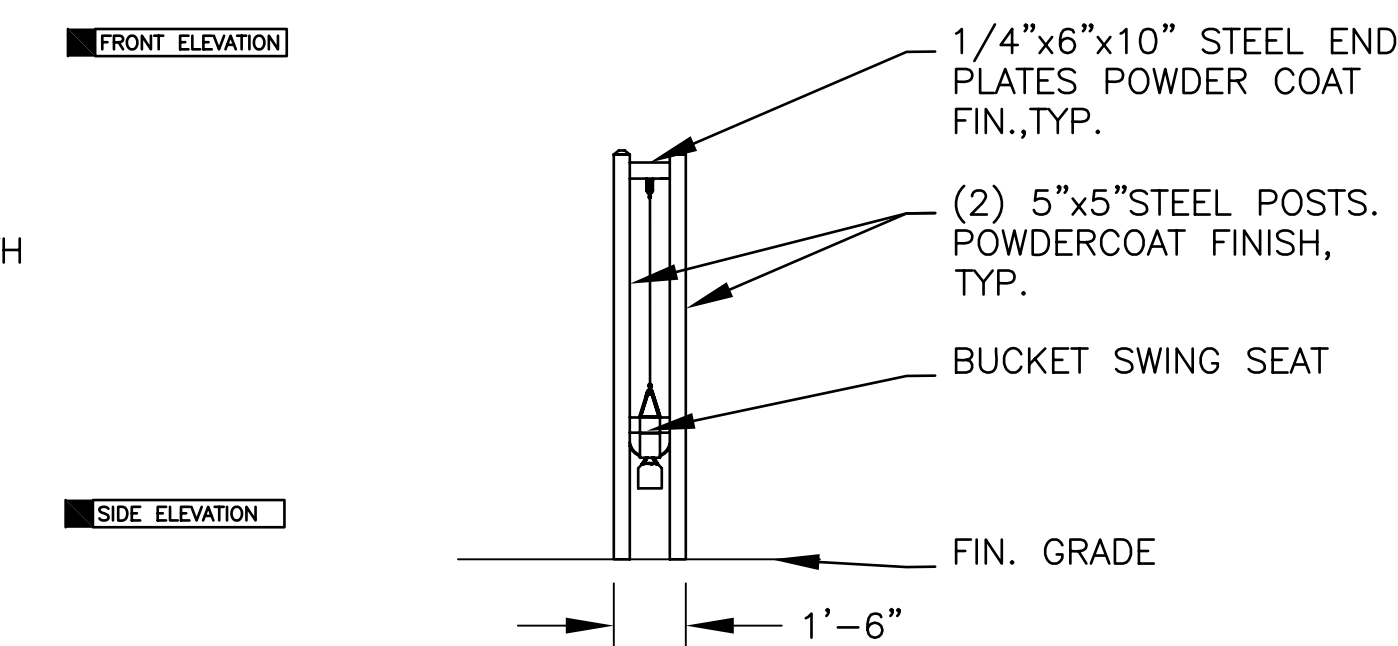
3 PRECAST CONCRETE CURB AND ENGINEERED WOOD FIBER AT NEW PLAY AREA
 1" = 1'-0"



4 SPRING ANIMAL FOOTING
 1" = 1'-0"

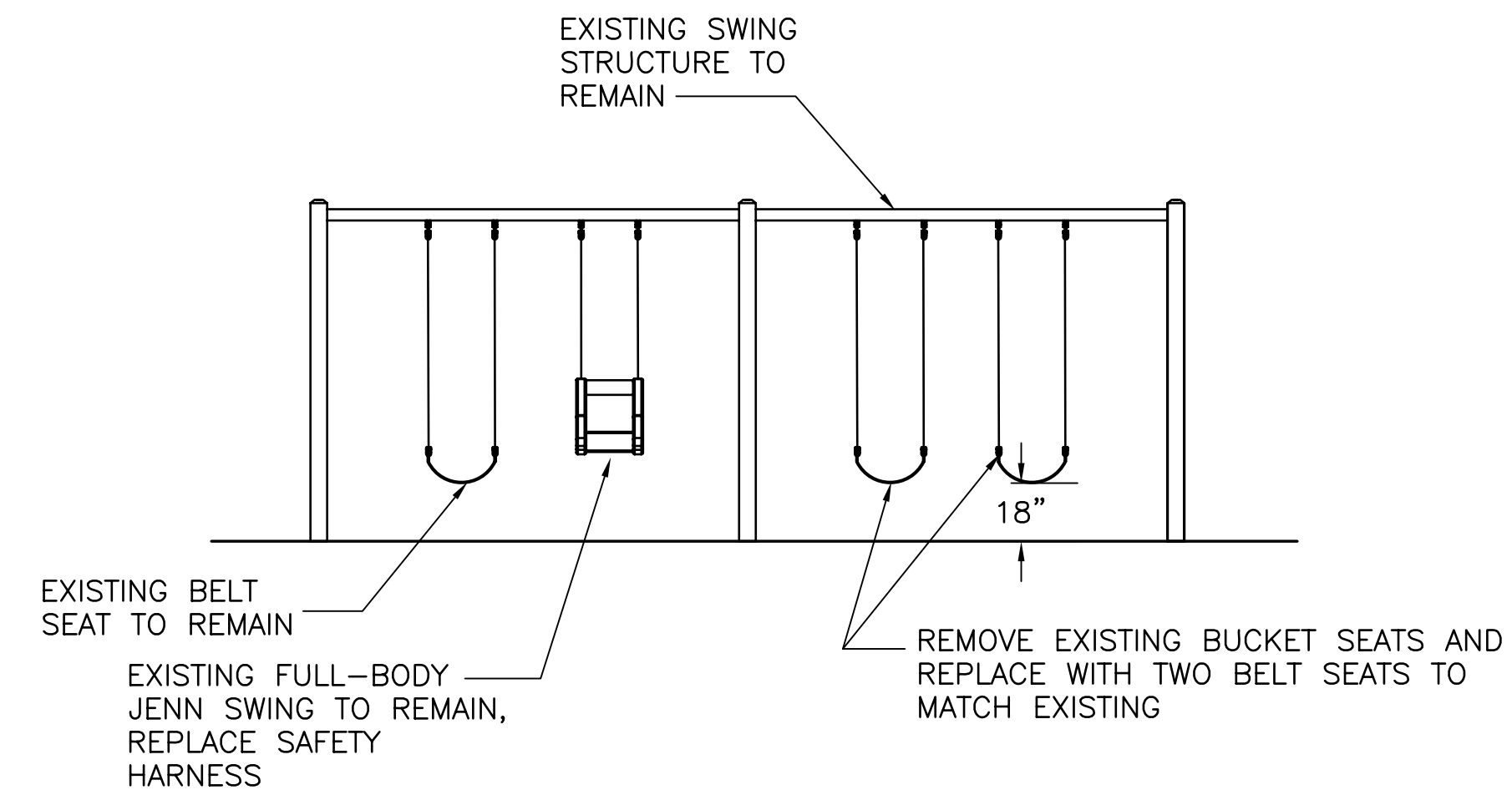


FRONT ELEVATION

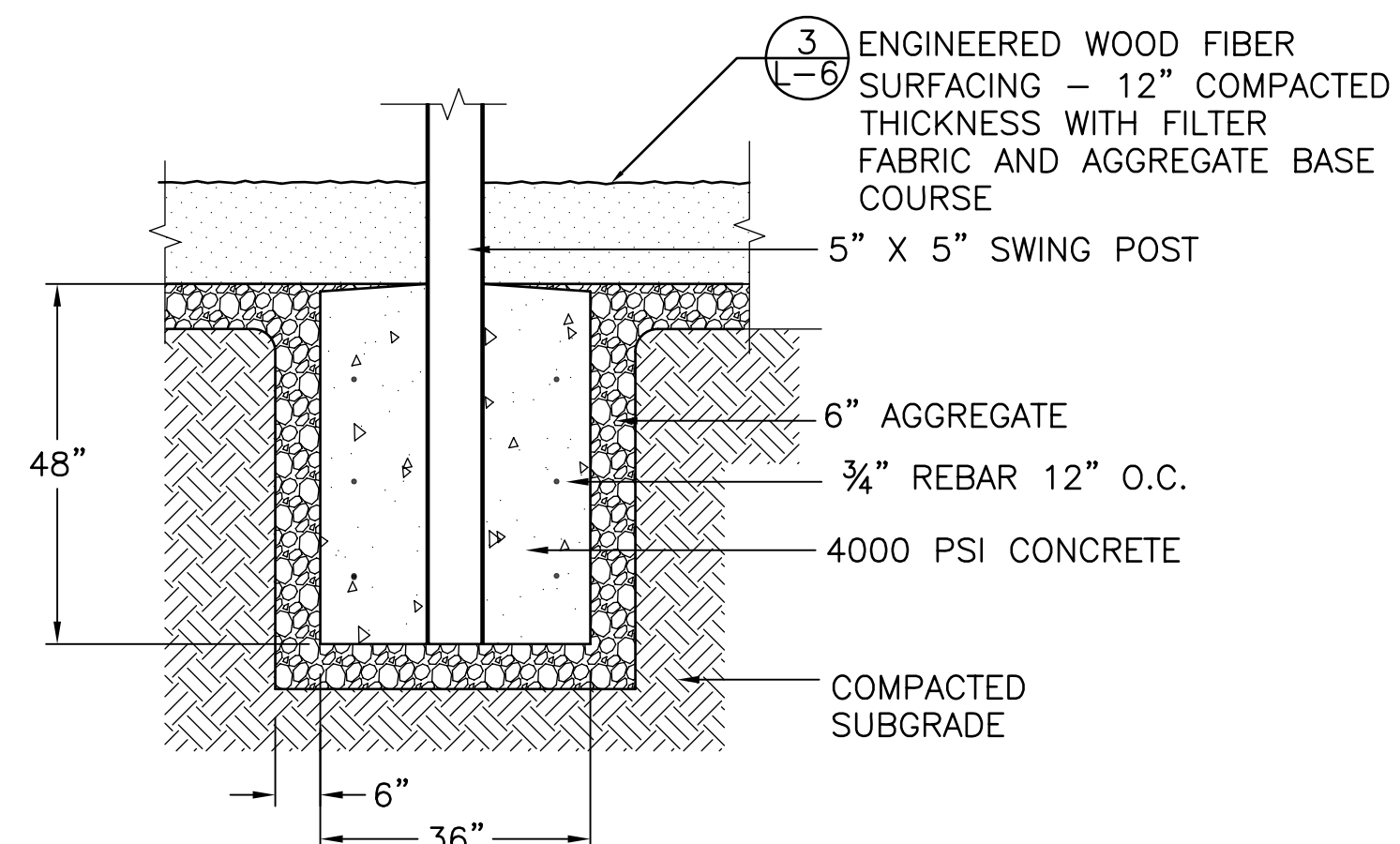


SIDE ELEVATION

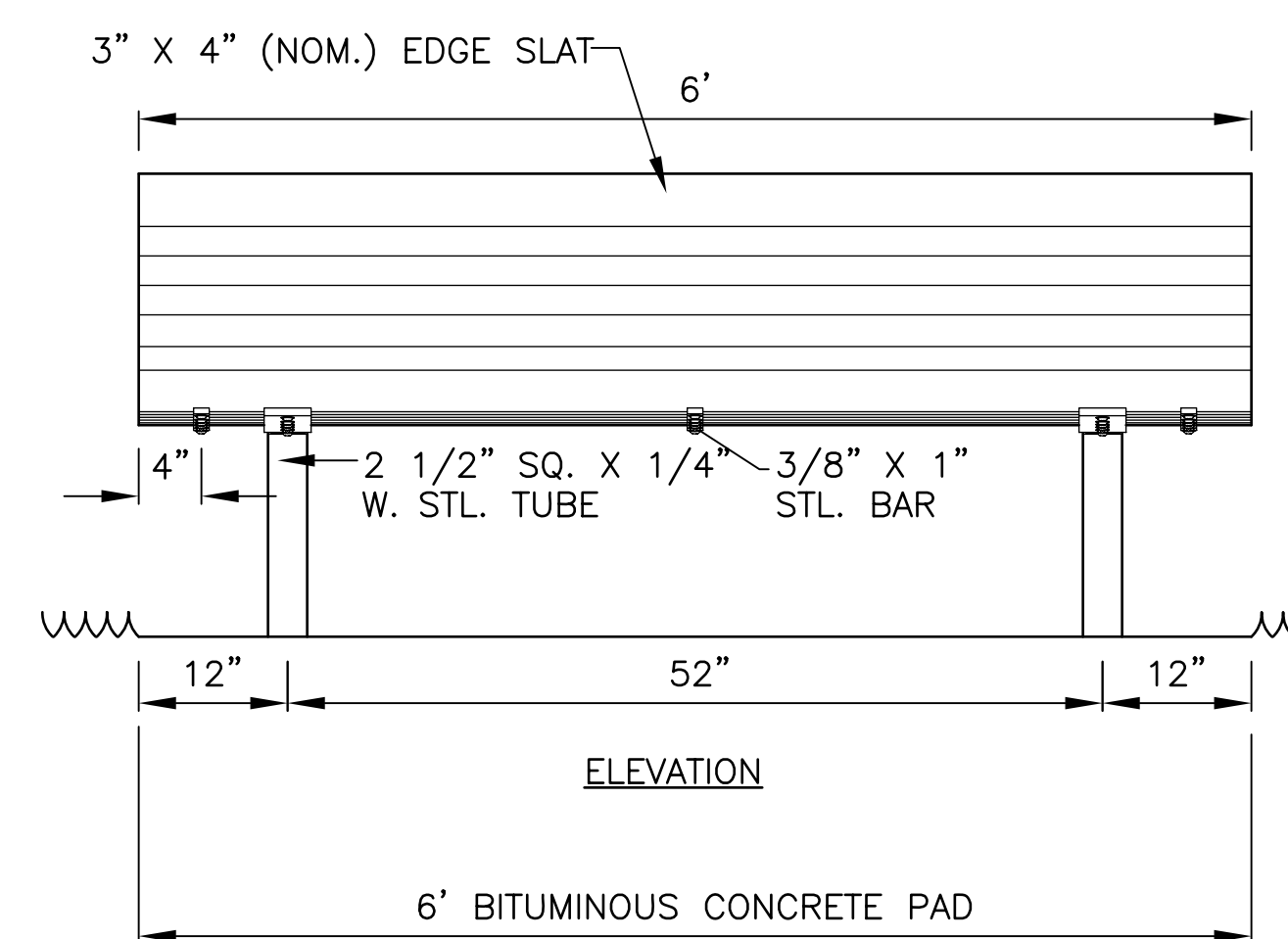
5 TOT SWING
 SCALE: 1/4" = 1'-0"



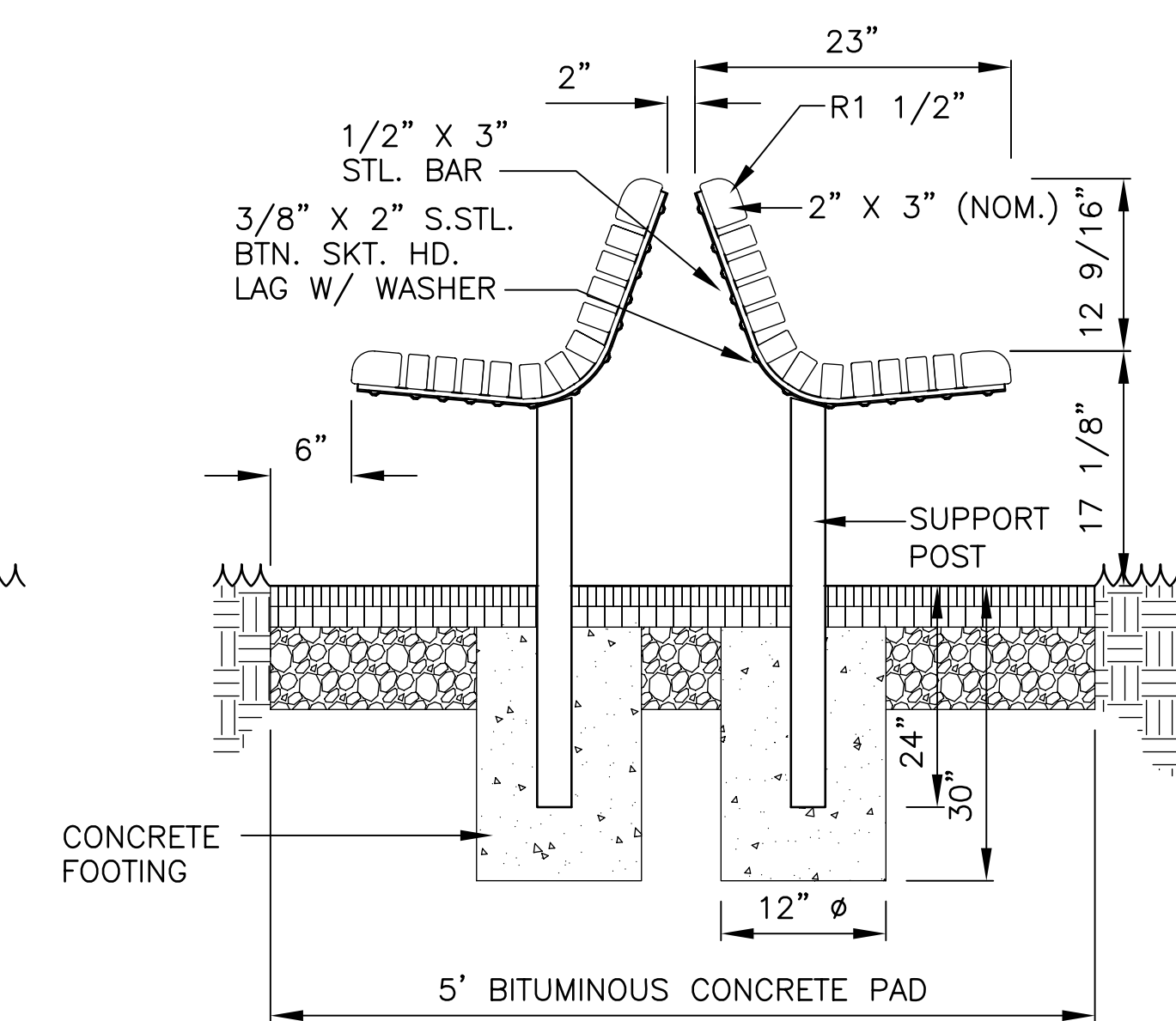
6 MODIFICATION OF EXISTING SWING STRUCTURE
 1/4" = 1'-0"



7 FOOTING FOR TOT SWING STRUCTURE
 1/2" = 1'-0"



8 BENCH DETAIL
 NOT TO SCALE



No.	Description	Date

REVISIONS		

Project:
WALTHAM PARK IMPROVEMENTS PROJECT

LOGAN PARK

Prepared For:

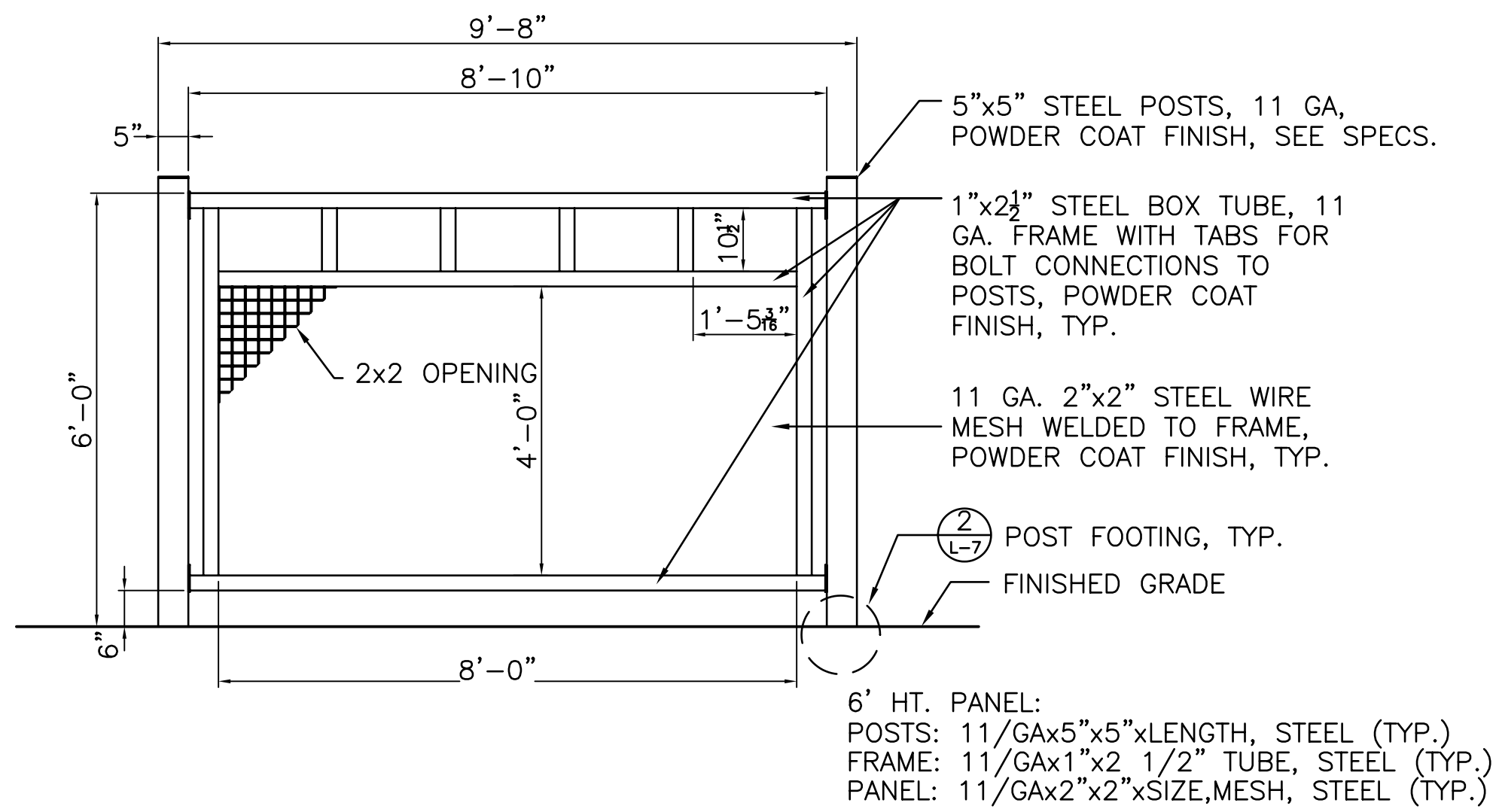
WALTHAM PLANNING DEPARTMENT
 119 SCHOOL STREET
 WALTHAM, MA 02451

TITLE:

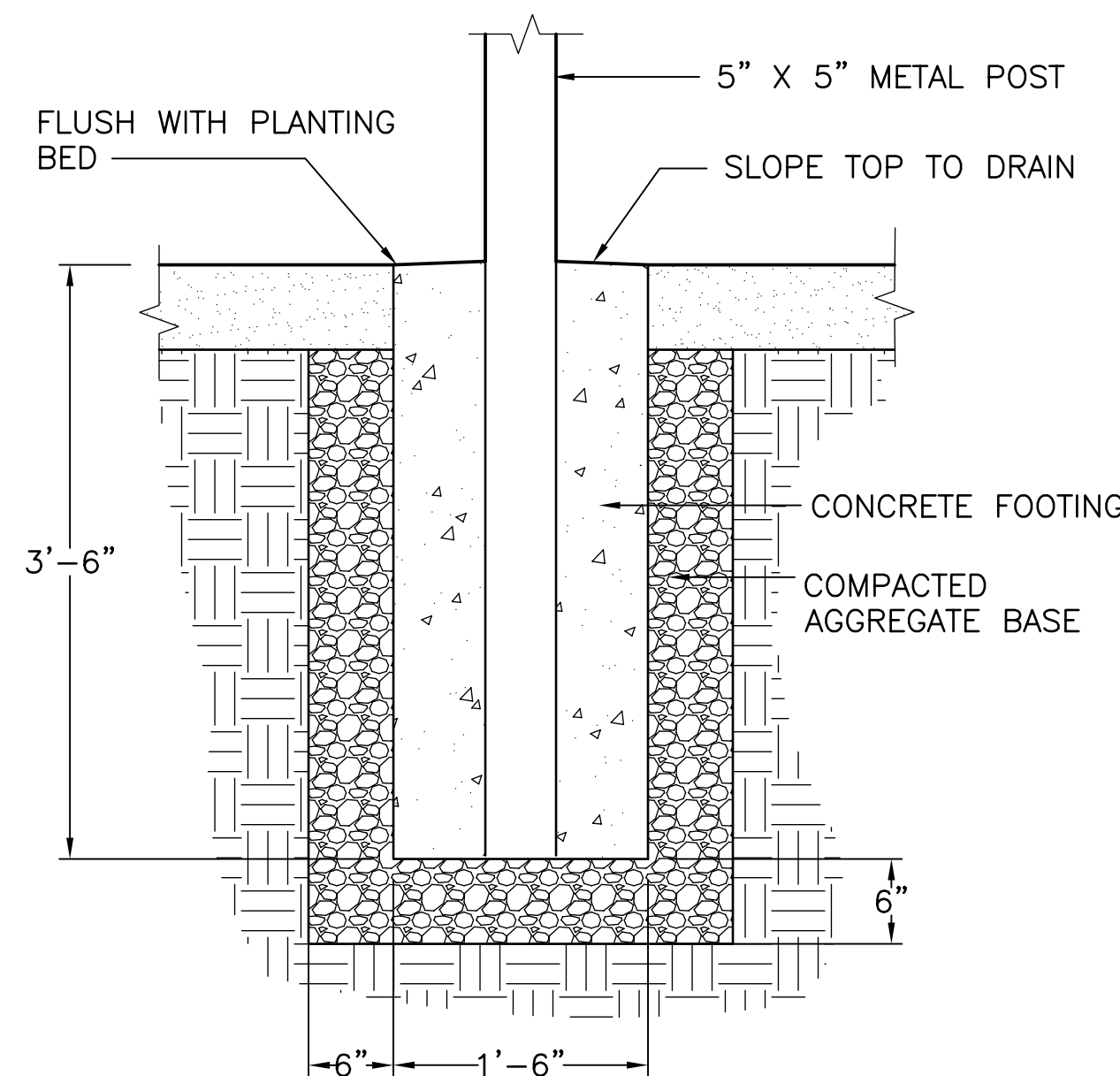
DETAILS

Scale AS NOTED Date AUG 15, 2012
 Drawn By CCC
 Checked By DRB
 Approved By DRB
 Project No. 1201

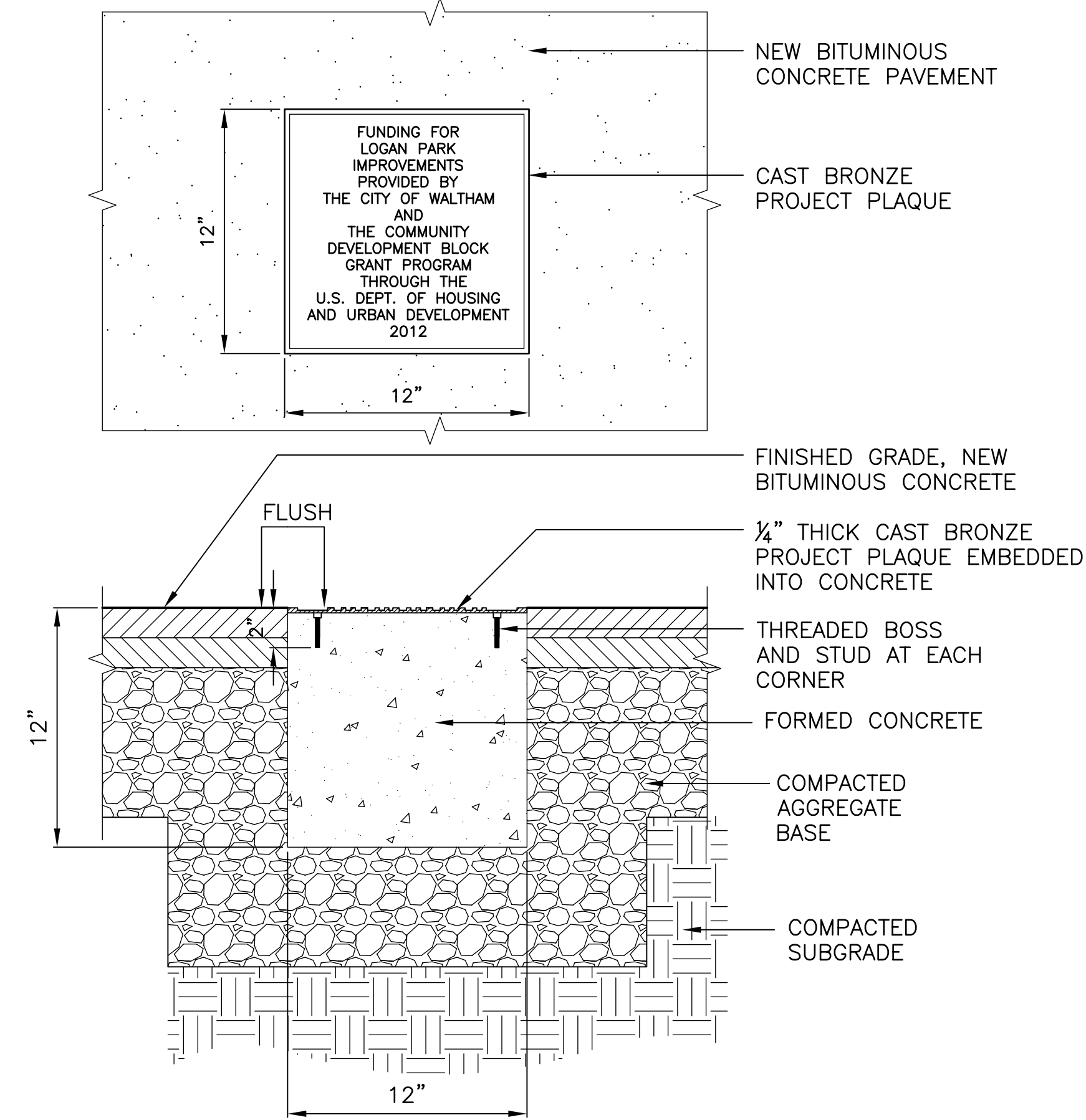
DWG No. **L-6**



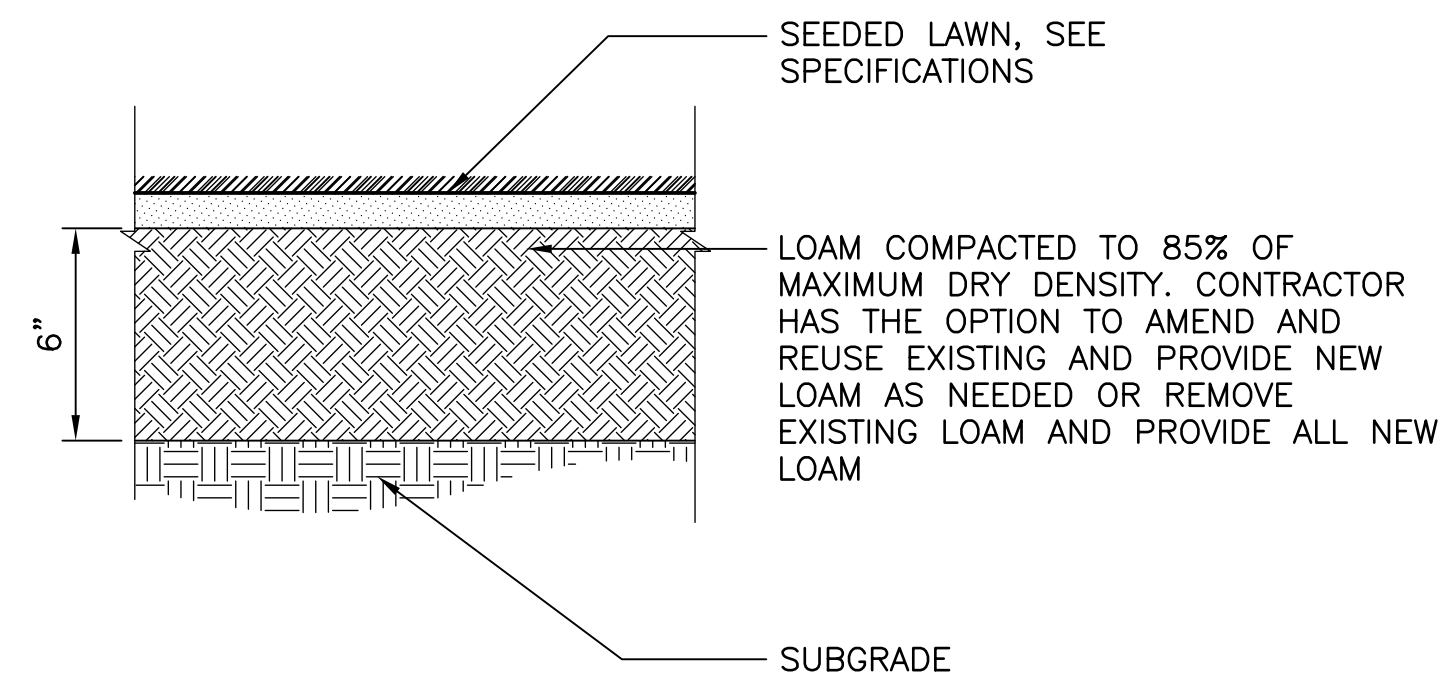
SECTION
1 METAL FENCE PANEL
 1/2" = 1'-0"



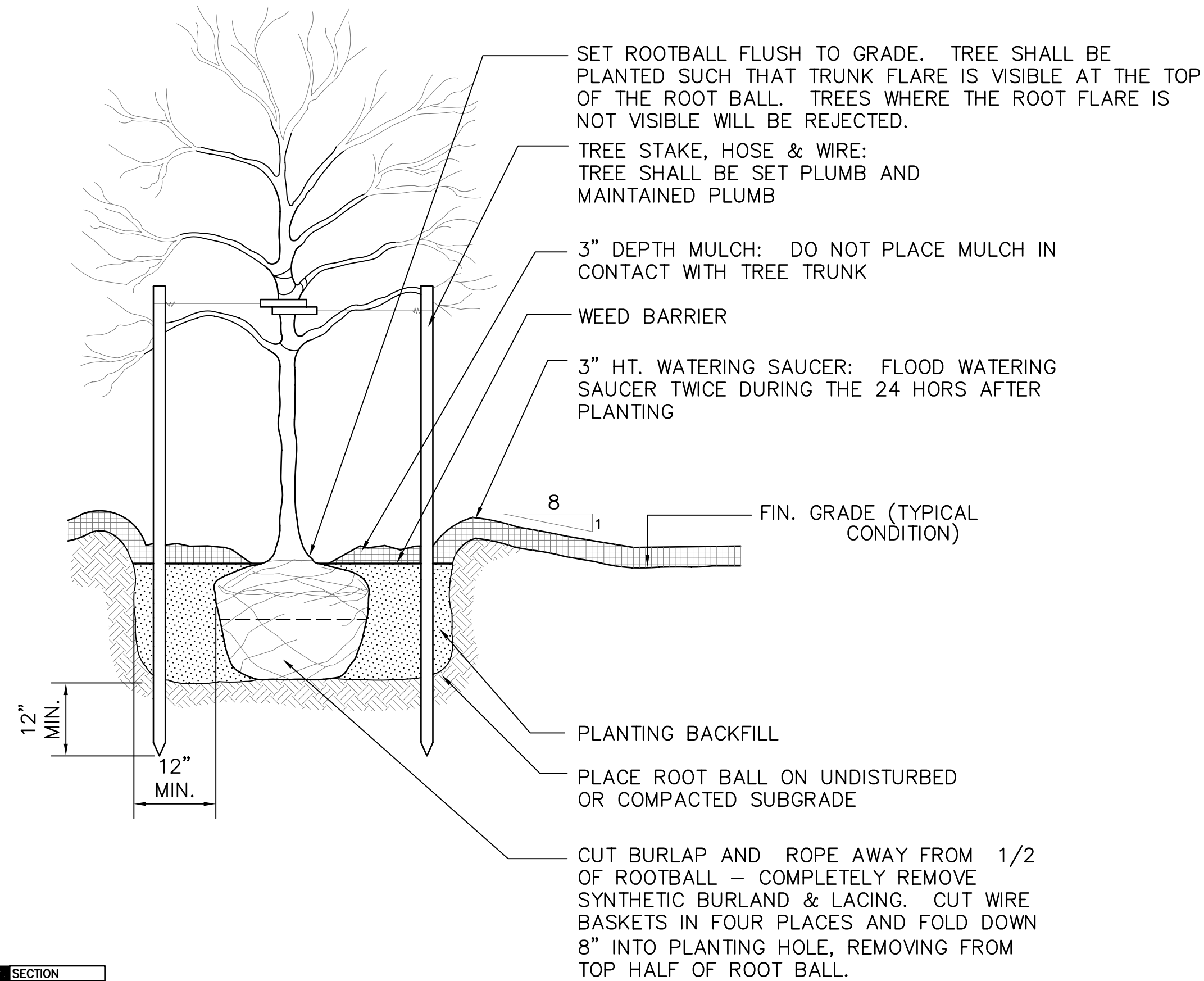
SECTION
2 FENCE PANEL FOOTING
 1" = 1'-0"



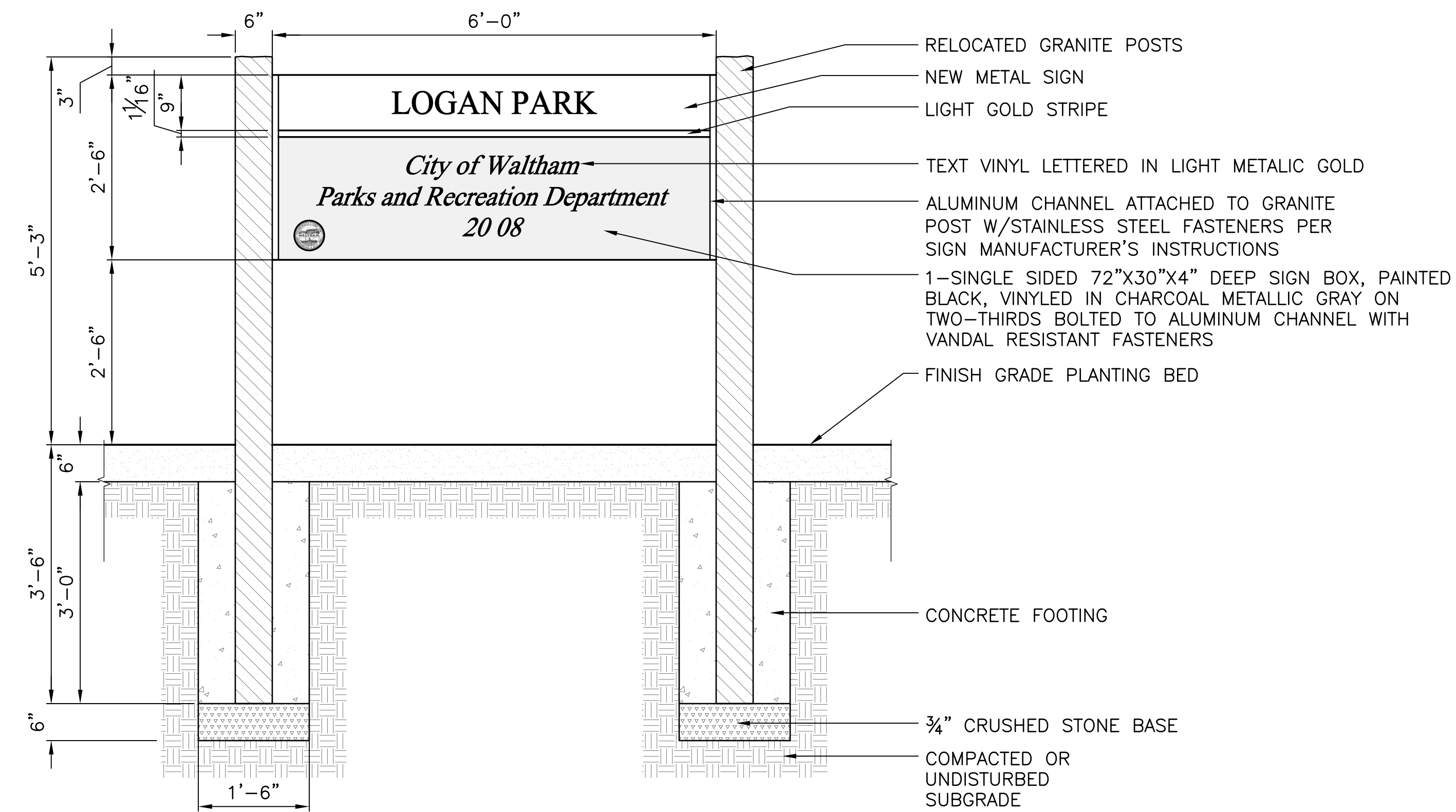
SECTION
3 BRONZE PLAQUE
 NOT TO SCALE



SECTION
4 LOAM AND SEED DETAIL
 N.T.S.



SECTION
5 TREE PLANTING
 N.T.S.



SECTION
6 PARK SIGN AND FOOTING DETAIL
 SCALE: 3/4" = 1'-0"

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 Landscape Architecture / Planning
 19 Elm Street, Milford, MA 01757
 Telephone 508 478 8426, Facsimile 508 478 8607

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 55 Grape Shot Road
 Sharon, Massachusetts 02067
 TEL: (781) 784-0326
 FAX: (781) 784-0492
 CONSULTING CIVIL ENGINEERS

No.	Description	Date

REVISIONS

Project:
WALTHAM PARK IMPROVEMENTS PROJECT
MCKENNA PLAYGROUND

Prepared For:
WALTHAM PLANNING DEPARTMENT
119 SCHOOL STREET
WALTHAM, MA 02451

TITLE:
DETAILS

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DWG No. **L-7**