

THE CITY OF WALTHAM
MASSACHUSETTS

PURCHASING DEPARTMENT

Cornelia Warren Park Improvements, 2019

ADDENDUM NO. 3

May 28, 2019

CHANGES, CORRECTIONS AND CLARIFICATIONS

The attention of bidders submitting proposals for the above subject project is called to the following addendum to the specifications. The items set forth herein, whether of omission, addition, substitution or clarification are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (NO 3) MUST BE ACKNOWLEDGED ON YOUR FORM FOR GENERAL BID PAGE.

ITEM 1: ANSWERS TO PRE-BID AND WRITTEN QUESTIONS

- Q16.** There are two pavement section details on C5.1, "Bit. Conc. Walk" and " Bit. Conc. Pavement". The combined asphalt thickness of the Bit. Conc. Walk is 3" and the combined asphalt thickness for the Bit. Conc. Pavement is 4". On sheet C3.1 all areas of asphalt pavement are labeled as "Bit Conc. Pavement" requiring 4" of asphalt pavement. Please confirm if this is the intent.
- A16.** No, the intent is that the "Bit. Conc. Pavement" detail is for the parking lot pavement, while the "Bit. Conc. Walk" detail is for the walking path and sidewalks. Detail sheet C5.1 has been revised to clarify the difference: "Bit. Conc. Pavement (vehicular)" shall be a total thickness of 4" in the parking lot. "Bit Conc. Pavement (sidewalk)" shall be a total thickness of 3" in all other non-vehicular pavement areas.

ITEM 2. REVISIONS

ITEM NO.7 Revisions to Drawings:

Drawing C1.1 has been revised to include sewer details.

Drawing C2.1 has been revised to include: removing and salvaging one existing pole; removing and salvaging granite piers; and removing and capping existing sewer.

Drawing C3.1 has been revised to show resetting salvaged granite piers at each curb cut.

Drawing C4.1 has been revised to include: updated Rim and Invert Schedules; relocated sewer line; revised Subsurface Infiltration Area 2; and additional trench drain.

Drawing C5.1 has been revised to clarify bituminous concrete details: vehicular vs. sidewalk.

Drawing C5.2 has been revised to re-name wood "guiderail" to wood "guardrail".

Drawing C5.4 has been revised to add "Drain Splash Block" detail.

Replace all Drawings with revised Drawings attached. Full plan-set attached. Sheets not listed above, have not been changed.

ITEM NO.8 ADD Specification Section 22 13 13 – Facility Sanitary Sewers.

End of Addendum 3

SECTION 221313 – FACILITY SANITARY SEWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe and fittings.
 - 2. Nonpressure and pressure couplings.
 - 3. Cleanouts.
 - 4. Manholes.
- B. Products and work shall be in accordance with the City of Waltham DPW.

1.3 DEFINITIONS

- A. FRP: Fiberglass-reinforced plastic.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Pipe and fittings.
 - 2. Cleanouts.
- B. Shop Drawings: For manholes. Include plans, elevations, sections, details, and frames and covers.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

- B. Protect pipe, pipe fittings, and seals from dirt and damage.
- C. Handle manholes according to manufacturer's written rigging instructions.

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Sanitary Sewerage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Owner no fewer than two days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Owner's written permission.

PART 2 - PRODUCTS

2.1 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

- A. Pipe and Fittings: ASTM A 74, Extra-Heavy class.
- B. Gaskets: ASTM C 564, rubber.
- C. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

2.2 PVC PIPE AND FITTINGS

- A. PVC Type PSM Sewer Piping:
 - 1. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
 - 2. Fittings: ASTM D 3034, PVC with bell ends.
 - 3. Gaskets: ASTM F 477, elastomeric seals.

2.3 NONPRESSURE-TYPE TRANSITION COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.
- B. Sleeve Materials:
 - 1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 - 2. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.
- C. Unshielded, Flexible Couplings:

1. Description: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.

2.4 CLEANOUTS

A. PVC Cleanouts:

1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.5 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C 478 precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 60 inches minimum.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
4. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section; with separate base slab or base section with integral floor.
5. Riser Sections: 4-inch minimum thickness, of length to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated; with top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C 990 bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C 923 cast or fitted into manhole walls, for each pipe connection.
9. Steps: Individual FRP steps, FRP ladder, or ASTM A 615/A 615M, deformed, 1/2-inch steel reinforcing rods encased in ASTM D 4101, PP; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
10. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch ID by 7- to 9-inch riser, with 4-inch-inimum-width flange and 26-inch-diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "SANITARY SEWER."
2. Material: ASTM A 536, Grade 60-40-18 ductile iron unless otherwise indicated.

2.6 CONCRETE

A. General: Cast-in-place concrete complying with ACI 318, ACI 350/350R and the following:

1. Cement: ASTM C 150, Type II.
 2. Fine Aggregate: ASTM C 33, sand.
 3. Coarse Aggregate: ASTM C 33, crushed gravel.
 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.
1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.
- C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.
1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
 - a. Invert Slope: 0.10 feet through manhole.
 2. Benches: Brick, sloped to drain into channel.
 - a. Slope: 8 percent.
 3. Cement: Portland cement conforming to ASTM Designation C150, Type I.
 4. Lime for mortar: Hydrated, conforming to ASTM Designation C-207, Type S.
 5. Sand: Clean, hard, sharp, durable particles, preferably siliceous, and with not more than 5 percent in volume of loam, mica, clay, or other deleterious substances, and free from injurious amounts of organic matter, graded from fine to coarse so that when tested dry, it will conform to the limits of ASTM Specification for Aggregate for Masonry Mortar, C144.
 6. Mortar: Conform to ASTM C270, Type S, consisting of 1 part Portland cement, 1/4 part lime, and 2 parts sand by volume. Mix mortar in the exact proportions specified. Approximate measurement of quantities is not permitted. Anti-freeze mixtures are not permitted.
 7. Water: Clean and fresh, free from injurious amounts of oils, acids, alkalis, or organic matter.
 8. Brick: Sound, hard and uniformly burned, regular and uniform in shape and size, of compact texture, and satisfactory to the Architect. Comply with ASTM Specification C32, Grade SS. Underburned cement or salmon brick is not acceptable. Use only whole brick.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."
- B. Excavating and Backfilling for Grease Trap:
 - 1. Excavate sufficient width and length for tank to depth determined by tank inlet elevation. Provide level bottom.
 - 2. Backfill with suitable excavated soil, mounding soil above original grade without compacting.

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.
- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.
- F. Install gravity-flow, nonpressure, piping according to the following:
 - 1. Install piping pitched down in direction of flow, at minimum slope of 1 percent unless otherwise indicated.
 - 2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
 - 3. Install piping with 48-inch minimum cover.
 - 4. Install hub-and-spigot, cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook."
 - 5. Install PVC gravity sewer piping according to ASTM D 2321 and ASTM F 1668.

- G. Install corrosion-protection piping encasement over the following underground metal piping according to ASTM A 674 or AWWA C105/A21.5:
 - 1. Hub-and-spigot, cast-iron soil pipe.
- H. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, nonpressure, drainage piping according to the following:
 - 1. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.
 - 2. Join PVC gravity sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
 - 3. Join dissimilar pipe materials with nonpressure-type, flexible or rigid couplings.
- B. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
 - 1. Use nonpressure flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.
 - a. Unshielded flexible couplings for pipes of same or slightly different OD.
 - b. Unshielded, increaser/reducer-pattern, flexible or rigid couplings for pipes with different OD.
 - c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.4 MANHOLE INSTALLATION

- A. General: Install manholes complete with appurtenances and accessories indicated.
- B. Install precast concrete manhole sections with sealants according to ASTM C 891.
- C. Install FRP manholes according to manufacturer's written instructions.
- D. Form continuous concrete channels and benches between inlets and outlet.
- E. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere unless otherwise indicated.
- F. Install manhole-cover inserts in frame and immediately below cover.

3.5 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318.

3.6 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts, and use cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
 - 1. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.
 - 2. Use Extra-Heavy-Duty, top-loading classification cleanouts in driveway.
- B. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.7 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping to building's sanitary building drains specified in Section 221316 "Sanitary Waste and Vent Piping."
- B. Make connections to existing piping and underground manholes in accordance with the Town of Andover DPW requirements.
 - 1. Protect existing piping and manholes to prevent concrete or debris from entering while making connections. Remove debris or other extraneous material that may accumulate.

3.8 IDENTIFICATION

- A. Comply with requirements in Section 31200 "Earth Moving" for underground utility identification devices. Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.
 - 1. Use detectable warning tape over ferrous piping.
 - 2. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.9 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
 - 1. Submit separate report for each system inspection.
 - 2. Defects requiring correction include the following:

- a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
 2. Test completed piping systems according to requirements of authorities having jurisdiction.
 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
 4. Submit separate report for each test.
 5. Hydrostatic Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction and the following:
 - a. Fill sewer piping with water. Test with pressure of at least 10-foothead of water, and maintain such pressure without leakage for at least 15 minutes.
 - b. Close openings in system and fill with water.
 - c. Purge air and refill with water.
 - d. Disconnect water supply.
 - e. Test and inspect joints for leaks.
 6. Air Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
 - a. Option: Test plastic gravity sewer piping according to ASTM F 1417.
 - b. Ductile-Iron Piping: Test according to AWWA C600, "Hydraulic Testing" Section.
 - c. PVC Piping: Test according to AWWA M23, "Testing and Maintenance" Chapter.
- C. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.10 CLEANING

- A. Clean dirt and superfluous material from interior of piping. Flush with potable water.

END OF SECTION

CORNELIA WARREN PARK

IN

WALTHAM, MASSACHUSETTS

(Middlesex County)

OWNER

City of Waltham
610 Main Street
Waltham, Massachusetts 02452

CIVIL ENGINEER/SURVEYOR AND LANDSCAPE ARCHITECT

Beals and Thomas, Inc.
Reservoir Corporate Center
144 Turnpike Road
Southborough, Massachusetts 01772

ELECTRICAL ENGINEER

American Electrical Testing Co., LLC
25 Forbes Boulevard, Suite #1
Foxboro, Massachusetts 02035

IRRIGATION CONSULTANT

Aqueous Consultants, LLC
2 Dundee Park Drive Suite 301B
Andover, Massachusetts 01810



Locus Map
Scale: 1" = 2000'



Issued for Bidding - May 3, 2019
Addendum 2 - May 24, 2019
Addendum 3 - May 28, 2019

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C5.3	Site Details #2
C5.4	Site Details #3
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E-2	Electrical Layout
E-3	One-Line and Schedules
IR-1.0	Electrical Details
IR-2.0	Irrigation Layout Plan
IR-3.0	Irrigation Details
	Irrigation Water Supply

PREPARED FOR:

**CITY OF
WALTHAM**
610 MAIN STREET
WALTHAM, MA 02452

RECORD OWNER:

**CITY OF
WALTHAM**
4800/73
054-004-0000

NO.	ISSUE DATE	DESCRIPTION
1	05/15/2018	ISSUED FOR PERMITS
2	05/15/2018	ISSUED FOR PERMITS
3	05/15/2018	ISSUED FOR PERMITS
4	05/15/2018	ISSUED FOR PERMITS
5	05/15/2018	ISSUED FOR PERMITS



TOPOGRAPHIC PLAN

**CORNELIA WARREN
FIELD
WALTHAM, MA
(MIDDLESEX COUNTY)**

PREPARED BY:

B. BEALS THOMAS
Surveying & Mapping
Environmental Services

BEALS AND THOMAS, INC.
Surveying & Mapping
144 Turpin Road
Waltham, MA 02452
Tel: 978.856.0560 | www.bealsandthomas.com

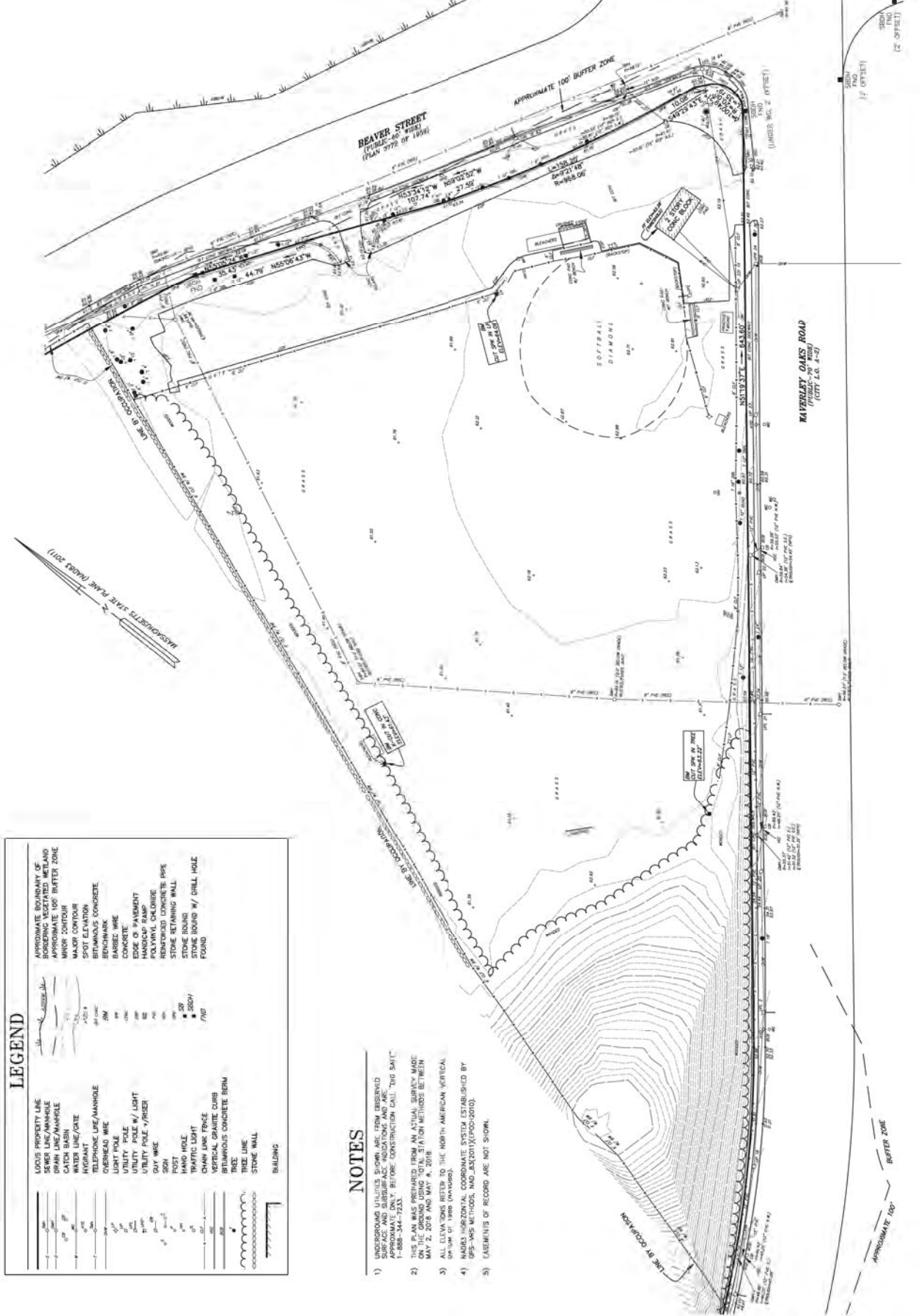
DATE: MAY 15, 2018

SCALE: 1" = 30'

BY: JOB NO. 2018-20

PL: PLAN NO. 44000008-000

SHEET No. 1 OF 1



LEGEND

	APPROXIMATE BOUNDARY OF BORROWING VEGETATED WETLAND
	APPROXIMATE 100' BUFFER ZONE
	MAJOR CONTOUR
	BENCHMARK
	BARBED WIRE
	CONCRETE
	EDGE OF PAVEMENT
	POLYMER CONCRETE PIPE
	REINFORCED CONCRETE PIPE
	STONE RETAINING WALL
	STONE BOUND W/ DRILL HOLE FOUND
	CHAIN LINK FENCE
	REINFORCED CONCRETE BERM
	TREE
	STONE WALL
	BUILDING
	UNDERGROUND UTILITY
	OVERHEAD WIRE
	UTILITY POLE
	UTILITY POLE W/ LIGHT
	UTILITY POLE W/ RISER
	POST
	HAND HOLE
	STAKE
	TRAFFIC LIGHT
	CHAIN LINK FENCE
	REINFORCED CONCRETE BERM
	TREE
	STONE WALL
	BUILDING

- NOTES**
- 1) UNDERGROUND UTILITIES SHOWN ARE FROM OBSERVED SURFACE AND SUBSURFACE INDICATIONS AND ARE APPROXIMATE ONLY. BEFORE CONSTRUCTION CALL "TIG SAKIT" 1-800-345-7324.
 - 2) THIS PLAN WAS PREPARED FROM AN ACTUAL SURVEY MADE ON THE GROUND USING TOTAL STATION METHODS BETWEEN MAY 2, 2018 AND MAY 4, 2018.
 - 3) ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL.
 - 4) HADS HORIZONTAL COORDINATE SYSTEM ESTABLISHED BY GPS-RTS METHODS, NAD 83(01) (4000000).
 - 5) EASEMENTS OF RECORD ARE NOT SHOWN.

PREPARED FOR:

**CITY OF
WALTHAM**

610 MAIN STREET
WALTHAM, MASSACHUSETTS

RECORD OWNER:

**CITY OF
WALTHAM**

1600 FSC
054-004-0005



CORRECT COPY TO BE USED

PREPARED BY:



BEALS + THOMAS
Civil Engineers • Landscape Architects •
Environmental Specialists
BEALS AND THOMAS, INC.
144 Turnpike Road
Southborough, Massachusetts 01772-2104
T 508.366.0500 | www.bealsandthomas.com

1	15/06/2018	ADDITION 3
2	15/06/2018	ISSUED FOR BIDDING
3		ISSUE DATE 15/06/2018
4		
5		

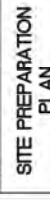
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PROJECT:

**CORNELIA
WARREN PARK**
WALTHAM,
MASSACHUSETTS

SCALE: 1" = 30'

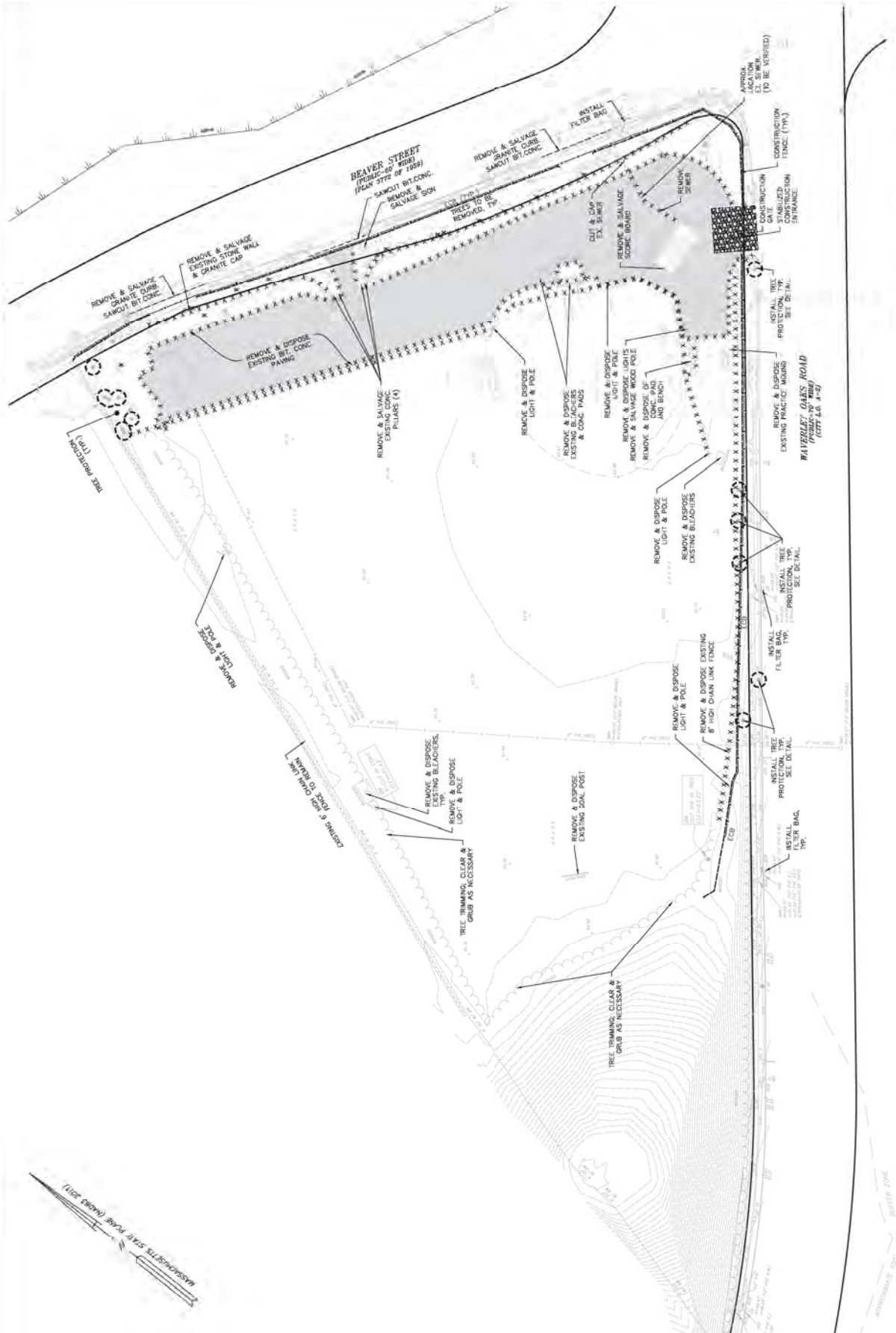
DATE: MAY 8, 2018



**SITE PREPARATION
PLAN**

BY: JAM, JDC, JSM
PROJECT NUMBER: 001

C2.1



FOR NOTE, REFERENCES AND LISTING SEE SHEET C-1.

BEALS AND THOMAS, INC. SHALL NOT BE RESPONSIBLE FOR CONTRACTOR MARKS OR WORK. CONTRACTORS OF THE FIELD OF THE CONTRACT TO VERIFY THE LOCATION OF ALL UTILITIES AND TO VERIFY THE LOCATION OF THE CONTRACT TO VERIFY THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

NO PART OF THIS PROJECT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BEALS AND THOMAS, INC.

PREPARED FOR:
CITY OF WALTHAM
 610 MAIN STREET
 WALTHAM, MASSACHUSETTS

RECORD OWNER:
CITY OF WALTHAM
 4600/39
 054-004-1005



DESIGNED BY:
BEALS + THOMAS
 Landscape Architecture
 Landscapes + Parks +
 Environmental Planning

BEALS AND THOMAS, INC.
 Research Corporate Center
 Southborough, Massachusetts 01772-2104
 T 508.366.0560 | www.bealsandthomas.com

1	REVISIONS ADDENDUM 3 - FIRE SAFE ONLY
2	REVISIONS ADDENDUM 2 - FIRE SAFE ONLY
3	REVISIONS ADDENDUM 1 - FIRE SAFE ONLY
4	REVISIONS ADDENDUM 0 - FIRE SAFE ONLY
5	REVISIONS ADDENDUM 0 - FIRE SAFE ONLY
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PROJECT:
CORNELIA WARREN PARK
 WALTHAM, MASSACHUSETTS

SCALE: 1" = 10'
 DATE: MAY 3, 2018

PLAYGROUND AND FITNESS DETAIL PLAN

B-1 JOB NO. 2018-001
 B-1 PLAN NO. 201800008-004
C3.3



FOR NOTES, REFERENCES AND LEGEND SEE SHEET C-1.

BEALS AND THOMAS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION METHODS, TECHNIQUES, OR MATERIALS USED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF WALTHAM AND THE STATE OF MASSACHUSETTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF WALTHAM AND THE STATE OF MASSACHUSETTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF WALTHAM AND THE STATE OF MASSACHUSETTS.

NO PART OF THIS DOCUMENT MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BEALS AND THOMAS, INC. SUCH PERMISSION SHALL BE OBTAINED BY CONTACTING BEALS AND THOMAS, INC. AT 508.366.0560.

PREPARED FOR:
CITY OF WALTHAM
 610 MAIN STREET
 WALTHAM, MASSACHUSETTS

RECORD OWNER:
CITY OF WALTHAM
 4600/189
 054-004-0005



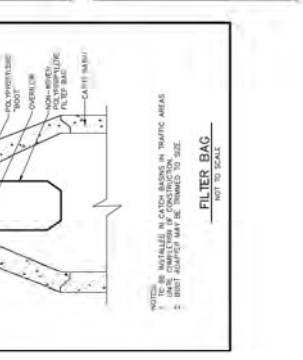
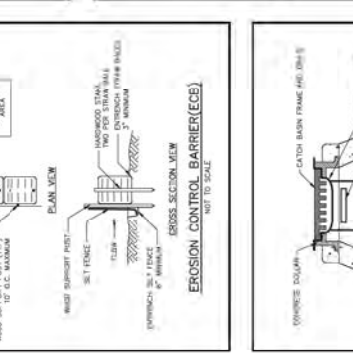
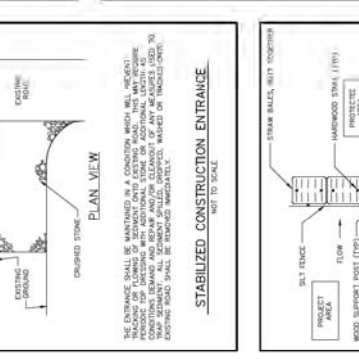
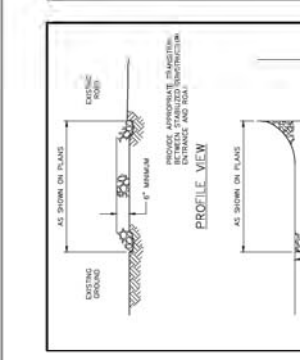
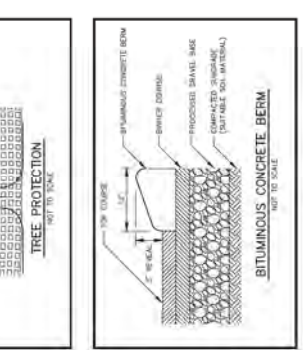
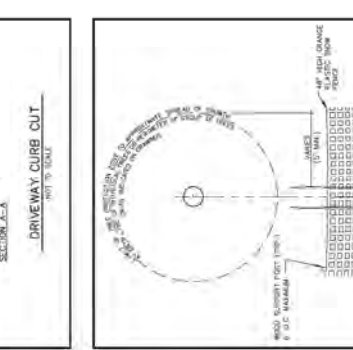
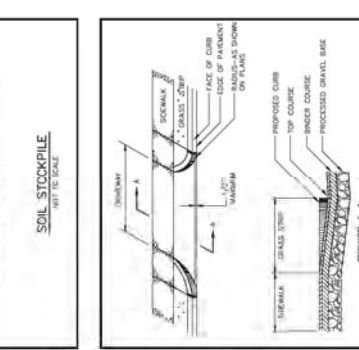
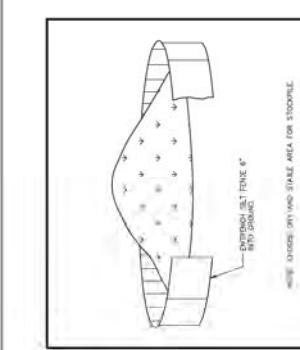
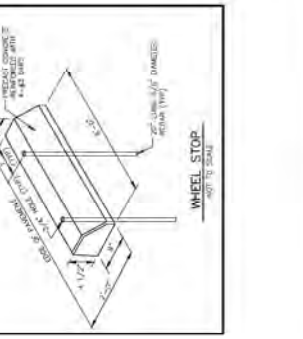
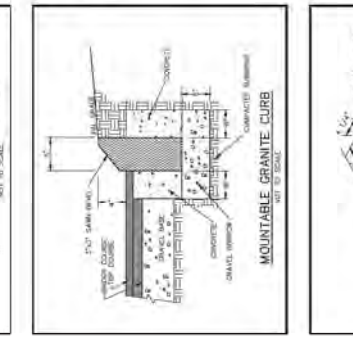
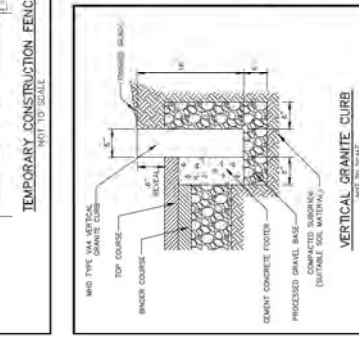
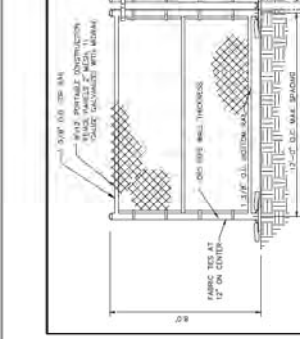
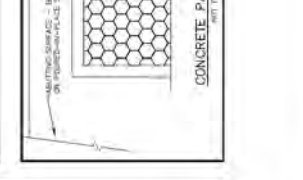
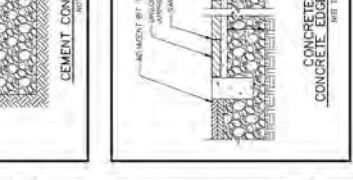
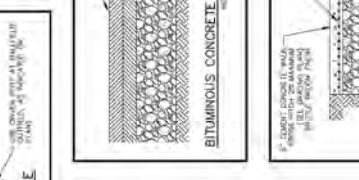
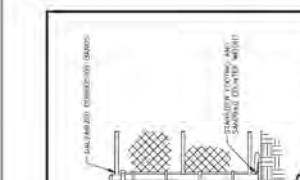
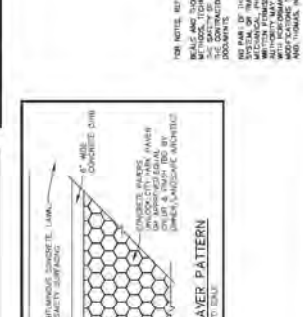
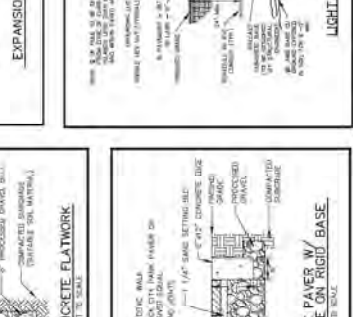
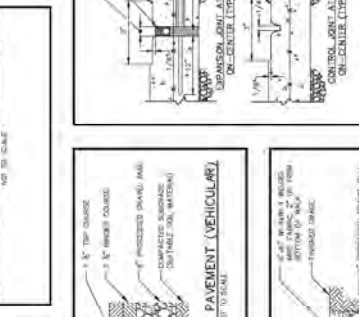
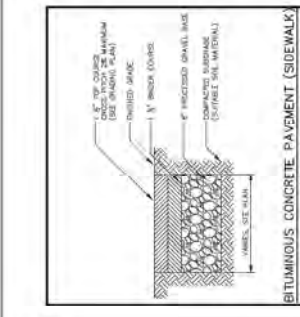
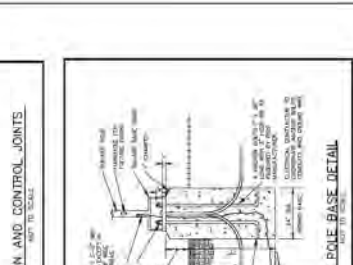
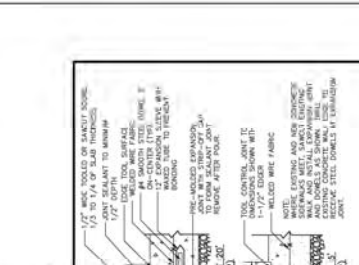
PROJECT:
CORNELIA WARREN PARK
 WALTHAM, MASSACHUSETTS

SCALE AS NOTED DATE: MAY 3, 2018

DIS: DWN: CHK'D: APP'D:

PREPARED BY:
BEALS + THOMAS
 Civil Engineers • Landscape Architects • Environmental Planners

BEALS AND THOMAS, INC.
 141 TURTLE ROAD
 Southborough, Massachusetts 01772-2104
 T 508.386.6500 | www.bealsandthomas.com



FOR NOTE, REFERENCES AND LEGEND SEE SHEET 011.

BEALS AND THOMAS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION OF THIS PROJECT UNLESS THE CONTRACTOR HAS OBTAINED THE NECESSARY PERMITS AND APPROVALS FROM THE CITY OF WALTHAM AND THE STATE OF MASSACHUSETTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF WALTHAM AND THE STATE OF MASSACHUSETTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF WALTHAM AND THE STATE OF MASSACHUSETTS.

8-1 JOB NO. 2018-003
 8-1 PLAN NO. 2018-003-003
C-5.1

PREPARED FOR:
CITY OF WALTHAM
 610 MAIN STREET
 WALTHAM, MASSACHUSETTS

RECORD OWNER:
CITY OF WALTHAM
 4600/39
 05-1-004-C015



PROJECT:

CORNELIA WARREN PARK
 WALTHAM, MASSACHUSETTS

SCALE AS NOTED DATE: MAY 3, 2018

DATE: 10/27/2018
 DRAWN: JRP/DFW
 CHECKED: JRP/DFW

DATE: 10/27/2018
 DRAWN: JRP/DFW
 CHECKED: JRP/DFW

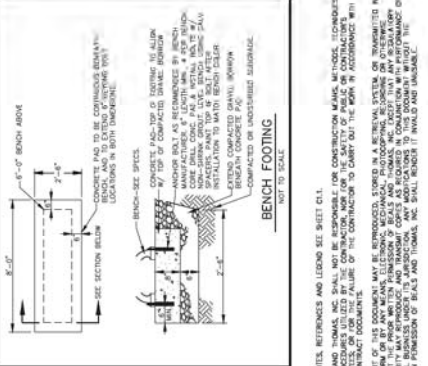
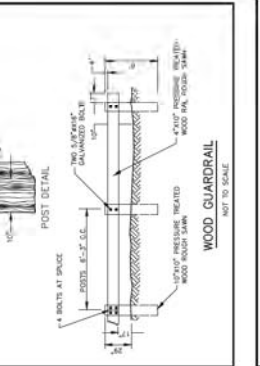
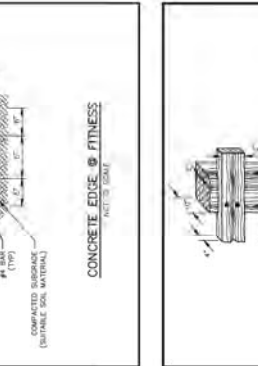
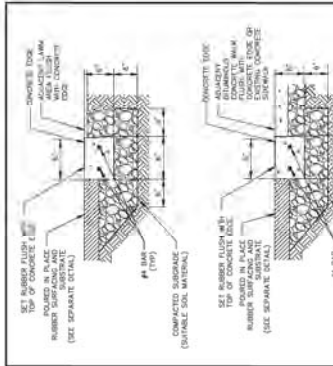
PROJECT:
CORNELIA WARREN PARK
 WALTHAM, MASSACHUSETTS

SCALE AS NOTED DATE: MAY 3, 2018

SITE DETAILS

BY: JRP NO. 19292-00
 DATE: 2/20/2019

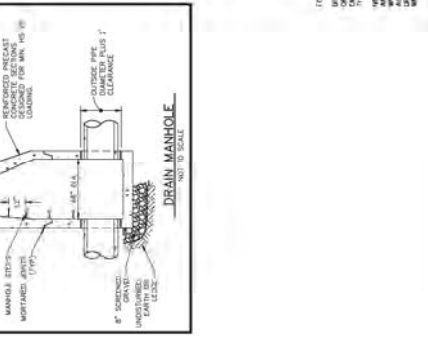
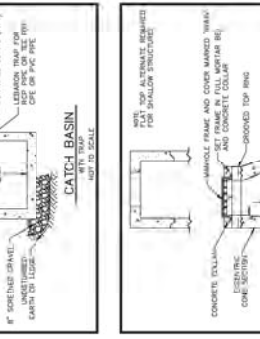
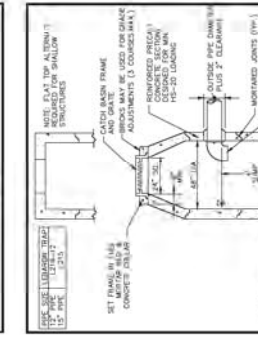
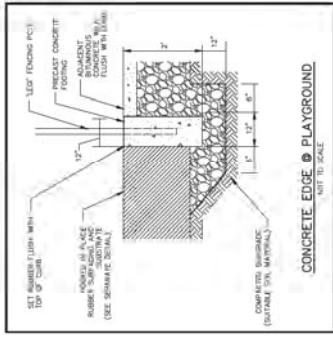
C5.2



FOR MORE REFERENCES AND LEGENDS SEE SHEET C1.1.

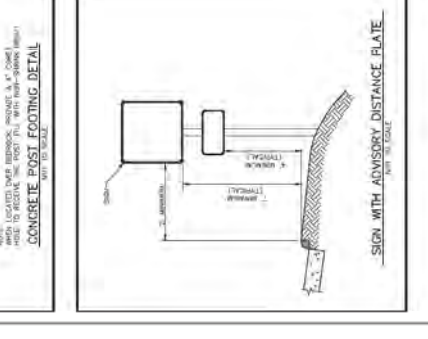
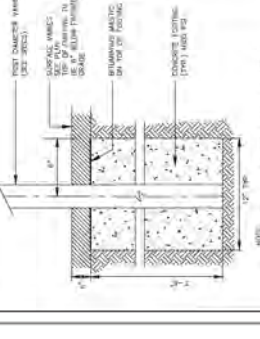
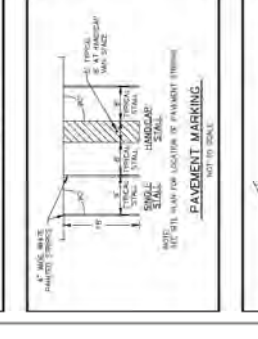
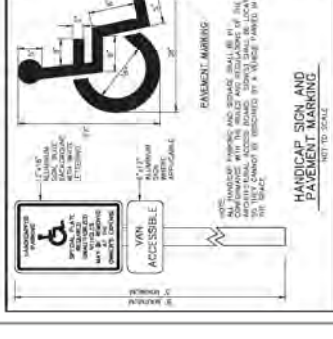
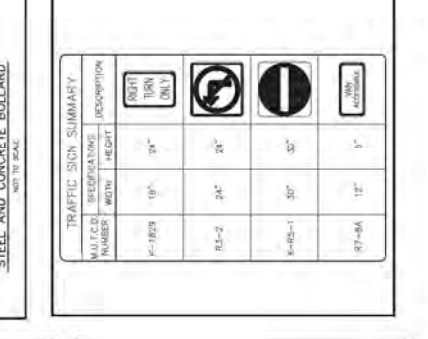
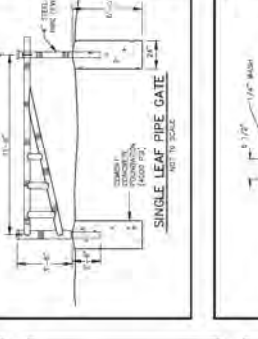
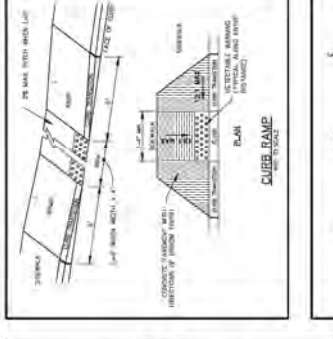
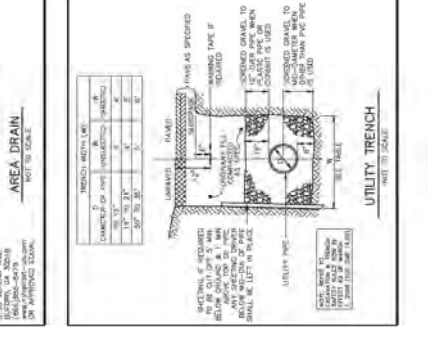
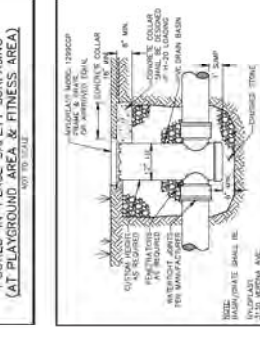
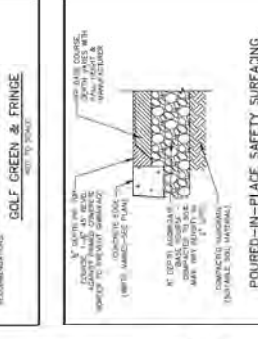
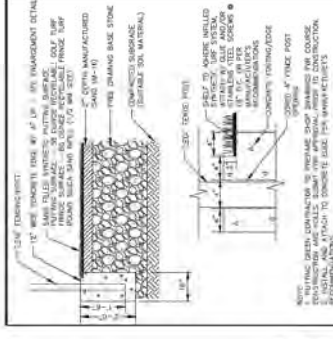
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TRAFFIC SIGN SUMMARY

WALSH NUMBER	DESCRIPTION	HEIGHT	WIDTH	DEPTH
R-1-1	RIGHT TURN ONLY	24"	18"	1 1/2"
R-2-2	[Symbol]	24"	24"	1 1/2"
R-4-1-1	[Symbol]	30"	30"	1 1/2"
R-7-3A	[Symbol]	12"	12"	1 1/2"



PREPARED FOR:

CITY OF WALTHAM
610 MAIN STREET
WALTHAM, MASSACHUSETTS

RECORD OWNER:

CITY OF WALTHAM
4600/38
05-1004-0015



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PREPARED BY:
BEALS + THOMAS
Civil Engineers + Landscape Architects +
Environmental Specialists

BEALS AND THOMAS, INC.
144 Fenwick Road
Southborough, Massachusetts 01772-2104
T 508.366.0560 | www.bealsthomason.com

1	15/07/2014	ADDRESS 3
2	15/07/2014	ISSUED FOR BIDDING
3		DATE SCALE 1/8"=1'-0"
4		DIS DWN
5		CIRCD
6		APP'D

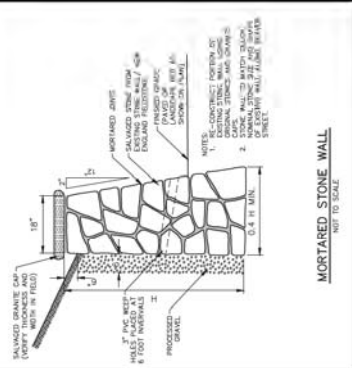
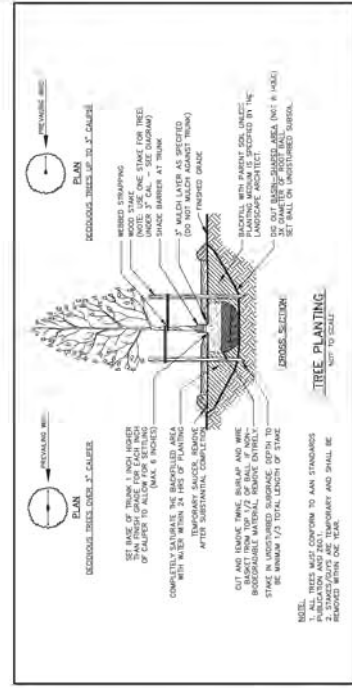
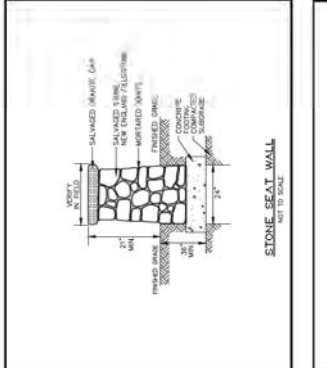
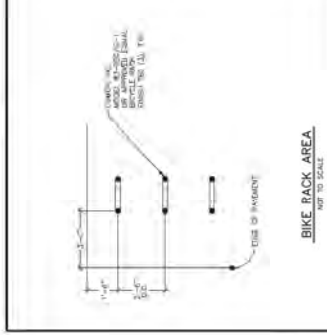
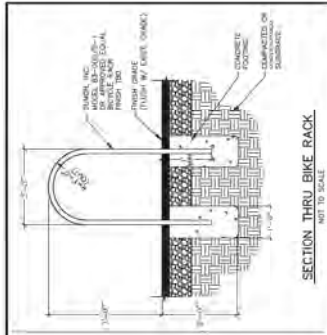
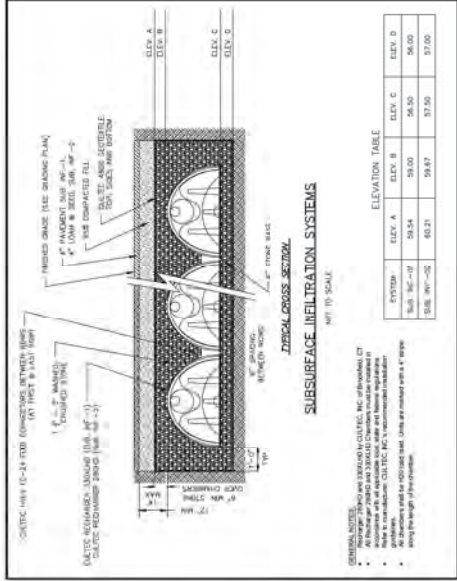
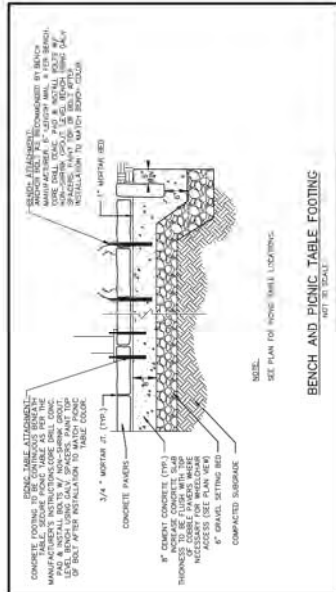
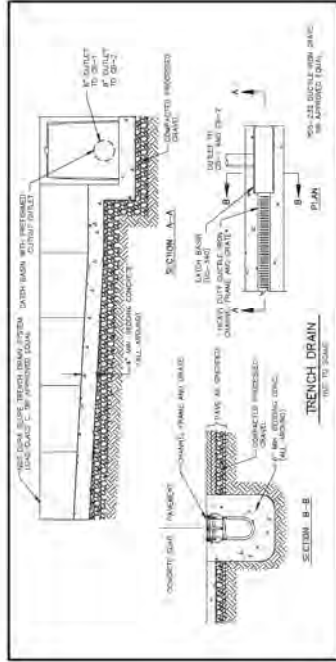
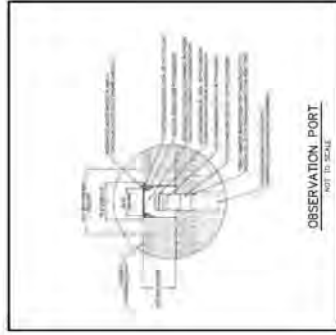
PROJECT:

CORNELIA WARREN PARK
WALTHAM,
MASSACHUSETTS

SCALE AS NOTED DATE: MAY 3, 2018

SITE DETAILS

B-1 JOB NO: 2018-030
B-1 PLAN NO: 2018-030-008
C5.4



CONTECH
CONCRETE PRODUCTS

CONCRETE PRODUCTS
CONCRETE PRODUCTS
CONCRETE PRODUCTS

OR NOTES, REFERENCES AND LEGEND SEE SHEET C1.1.
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VOID AND UNUSABLE.

PREPARED FOR:

CITY OF
WALTHAM
810 MAP STREET
WALTHAM, MASSACHUSETTS

PREPARED BY:

BEALS & THOMAS
Civil Engineering & Landscape Architecture
Professional Engineers
1000 Beacon Street, Suite 200
Boston, MA 02116
Tel: 617.552.1234 | www.bealsandthomas.com

PROJECT:
CORNELIA
WARREN PARK
WALTHAM,
MASSACHUSETTS

SCALE: DATE:

ELECTRICAL
DETAILS

REV. JOB NO. 10-0000
BY: PLAN NO. E-3

Control System Summary
Musco Lighting Control System

Project Information

Equipment Listing

Notes

Control System Summary
Musco Lighting Control System

Control System Summary
Musco Lighting Control System

Control System Summary
Musco Lighting Control System

LIGHTING CONTROL PANEL DETAILS

Mid-Drive Edition

Notes

Specifications

Dimensions

Materials

Installation

PARKING LOT LIGHTING DETAILS

Notes

Specifications

Dimensions

Materials

Installation

Notes

Specifications

Dimensions

Materials

Installation

Notes

Specifications

Dimensions

Materials

Installation

Notes

Specifications

Dimensions

Materials

Installation

Notes

Specifications

Dimensions

Materials

Installation

HANDHOLE / PULL BOX 12" X 12" X 24"

ISSUED FOR APPROVAL
NOT FOR CONSTRUCTION



PREPARED FOR:

CITY OF WALTHAM
610 MAIN STREET
WALTHAM, MASSACHUSETTS

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PREPARED BY:
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Civil Engineers • Landscape Architects •
Interior Designers • Planners •
Environmental Scientists

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Regional Corporate Center
1000 South Street
Southborough, Massachusetts 01772-2104
T 508.366.0560 | www.beasandthomas.com

3									
2									
1	06/27/16	CITY SPECIFICATIONS							
		ISSUE DATE	DESCRIPTION						
DES	MT	MT	MT	MT	MT	MT	MT	MT	MT
	DRN	CHKD	L	APP'D					

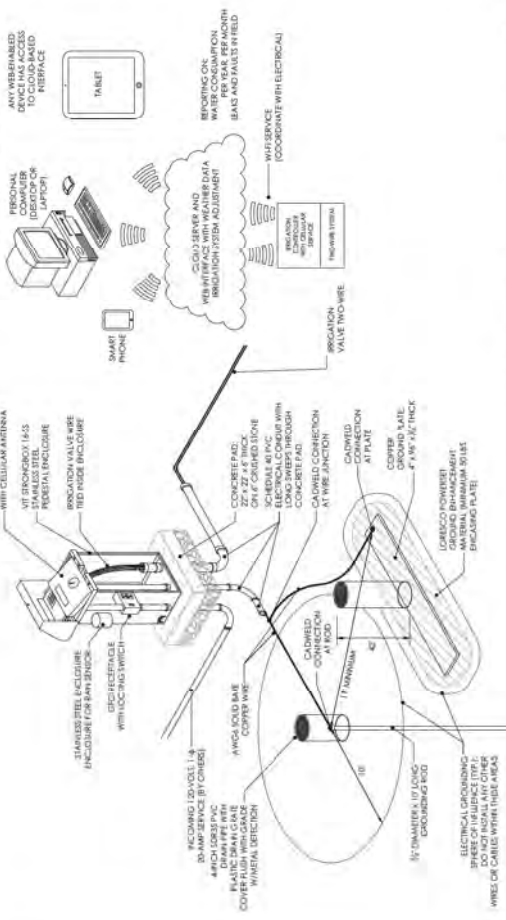
PROJECT:
CORNELIA WARREN PARK
WALTHAM, MASSACHUSETTS

SCALE: AS SHOWN DATE: 10/01/2019

IRRIGATION WATER SUPPLY

JOB NO. 19-1001
PLAN NO. **IR-3.0**

CENTRAL AND REMOTE CONTROL OPTIONS



9 PEDESTAL MOUNT CONTROLLER
NOT TO SCALE

