

MEMORANDUM

TO: Potential Bidders and Respondents
FROM: John P. O'Keefe, Town Manager; Christina Haskins, PE
RE: 2015 Junction Improvement Projects
DATE: May 13, 2015

The Town of Manchester, Vermont is accepting bids and responses to the following projects:

Sealed bids and/or RFP responses, *using the attached Bid and RFP Response Form*, must be returned on or before Wednesday, June 3, 2015 at 12:00 Noon via US Postal Service (or other delivery service) or hand-delivered to the following address:

SEALED BID/RFP – 2015 Junction Improvement Projects
John P. O'Keefe, Town Manager
Town of Manchester
6039 Main Street
Manchester Center, VT 05255

Please deliver all materials in a SEALED envelope. Verbal, emailed or faxed bids will not be considered.

General Specifications and Requirements

1. The Contractor shall provide evidence of Workers Compensation and a certificate of insurance naming the Town of Manchester as an additional insured (\$1,000,000 per occurrence and \$2,000,000 total liability) within two (2) business days of notification by the Town that the Town intends to award the Contract to the Contractor. The Town may nullify the awarding of the Contract for failure to satisfy this requirement in its entirety.
2. The Contractor shall submit to the Town by September 15, 2015 a final invoice. The Town agrees to pay the Contractor in a reasonable amount of time after reviewing and approving the invoice and other documents and the project is inspected by the Town's Department of Public Works Director and/or Town Engineer. The Contractor shall provide written proof and a letter certifying to the Town that the Contractor has fully paid all subcontractors and suppliers and that all liens associated with the project have been released before final payment by the Town.
3. The Town of Manchester reserves the right to accept or reject any or all bids, to waive all informalities, or to accept any bid or portion of a bid which it deems to be in the best interest of the Town.

4. Completion dates for specific projects are set forth in this document. The Town may assess a penalty of \$500.00 a day if all contracted work is not completed by the completion dates.
5. The contractor shall NOT work on weekends or holidays, including May 25, 2015, July 3 and July 4, 2015 without the written permission of the Town.
6. For all projects, the Contractor shall give the Town's Director of Public Works a minimum of five (5) days notice prior to the commencement of work associated with the described project.
7. The Town shall retain control of operations and shall have the authority to terminate any and all work if the Director of Public Works determines that project quality could be adversely affected due to inclement weather or other conditions.
8. The Contractor shall warranty materials and workmanship for a period of one (1) year from the date of completion.
9. Contractors agree to operate in compliance with all OSHA and VOSHA requirements and all generally accepted safety standards.
10. Contractors agree to provide all necessary traffic control, including police officers or certified flaggers, as well as signage.
11. For all Contracts, the Contractor agrees to indemnify and hold harmless the Town against all claims, demands, causes of action, suits or judgments, including attorney's fees, costs and expenses, which are a result of the Contractor's negligence, carelessness or mismanagement.

Respondents are encouraged to review the Town's Procurement Policy, located at:
<http://manchester-vt.gov/wp-content/uploads/2014/01/Procurement-Policy.pdf>.

Project #1: Installation of safety barriers in Factory Point Town Green along the Battenkill River, near Mill Pond Dam

Procurement Process: **SEALED BID**

Contract Completion Date: July 31, 2015

Contact: John P. O'Keefe, Town Manager - 802-362-1313, option 2 or j.okeefe@manchester-vt.gov

Project Description: This project shall include the installation of two steel commercial, heavy duty barriers (fences). The first fence, which shall be approximately 26 feet in length, shall be not less than 48 inches high from the bottom of the retaining wall to the top railing of the barrier. The barrier shall be mounted in the retaining wall (core drilled by the contractor). The second fence, which shall be approximately 6 feet in length, shall be not less than 60 inches high from the ground to the top railing of the barrier. The barrier shall be mounted in the ground, using concrete, at least 36 inches in depth.

Both barriers shall be "commercial grade" and have at least 16 gauge steel posts and 18 gauge steel pickets, with a satin black finish. The style shall be basic, with a top rail, lower rail, and non-ornamental posts and pickets. Posts, pickets and rails shall be square. Pickets and posts shall not be greater than 4 inches apart. Both barriers shall be installed in a manner consistent with general building code and so as to not create a gap between the barriers or between the barriers and the ground or bottom of the retaining wall greater than 4 inches. See attached barrier specification for detail.

All bid responses shall include a manufacturer spec sheet and/or cut sheet and a color photograph of the proposed barriers.

Payment at the lump sum bid price for this project will be full compensation for furnishing, transporting, handling and placing the materials specified including barriers, attachment hardware, and fasteners, removal and disposal of existing fence, coring the existing retaining wall and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Project #2: Installation of park lighting and electrical service in Factory Point Town Green

Procurement Process: **SEALED BID**

Contract Completion Date: electrical conduit and bases must be installed by June 30; light fixtures must be installed by August 31, 2015

Contact: John P. O'Keefe, Town Manager - 802-362-1313, option 2 or j.okeefe@manchester-vt.gov

Project Description: This project includes the installation of six (6) Philips LED lights in the Factory Point Town Green -- see below for list of specific light fixtures. Refer to Figure 1 for site plan. Final placement of lights shall be determined by the Town based on the site plan. Lights shall be Philips brand LED lights, TX1 City Post, 4000K, frosted globe with a black finish as noted below. Lights shall be mounted on 10 foot poles (R90D-10) with duplex receptacles (GFI) and button type photoelectric cell. Mounting bases shall be provided by the contractor based on the manufacturer's specifications.

- Light #1 near dam and historic marker: Type V, 101 Watts (TX164B-5HNA5-R-13)
- Light #2 to left of stage: Type III, 69 Watts (TX164B-3HNA3-R-13)
- Light #3 to right of stage: Type III, 69 Watts (TX164B-3HNA3-R-13)
- Light #4 northeast corner of Park: Type V, 101 Watts (TX164B-5HNA5-R-13)
- Light #5 near eastern entrance to Park: Type II, 77 Watts (TX148B-2HNA5-R-12)
- Light #6 in the center of the Park, near Depot Street: Type III, 69 Watts (TX164B-3HNA3-R-13)

All six lights shall include so-called Dynadimmer by Philips. Contractor shall provide Town with licensed Dynadimmer software, patch cords and operating manuals. Light #4 shall include a blank conduit from the base of Light #4 approximately 5 feet north for future lights. The light feed shall be sufficient to power an additional 6 lights over a distance of 250 feet. All six park lights shall be connected to the existing street light controls at the southwest corner of the Park.

The project shall also include the installation of electrical receptacles (8 outlets) on a pedestal provided by the Town. The electrical outlets shall be connected to an existing electrical service panel located in the southwest corner of the Town Green. The pedestal shall be located near the existing stage in the Town Green. The outlets shall have sufficient power (amperage) to provide electricity to a large band on the stage. The contractor shall also install a spare (2) #10 wire in the conduit from the power source to the pedestal at the stage. Furthermore, conduit and wiring shall be installed from the stage pedestal north, under the proposed sidewalk; the contractor shall install four outlets on a second pedestal provided by the Town near the split rail fence. All outlets shall be GFI and rated for outdoor use.

Unless otherwise provided for in the bid response, ditching, conduit installation and installation of lights bases shall be provided by the contractor. The Town of Manchester may consider bids based on the Town's Department of Public Works providing ditching for conduit and installation of light bases under the general

guidance of the contractor. Conduit, light base plates and ditching equipment shall be provided by the contractor. Any contractor that submits a bid that requires the Town to provide ditching and installation of light bases should indicate so in the NOTES section of the Bid and RFP Response Form.

The contractor is responsible for all permits and inspections.

Payment at the lump sum bid price for this project will be full compensation for furnishing, transporting, handling and placing the materials specified including lights, poles, bases, receptacles, controls, conduit and wiring, excavation, dewatering, removal and disposal of excess or unsuitable material off-site, restoration to finish grade, restoration of growth, connection to existing light controls, permits and inspections and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Project #3: Procurement of engraved granite veteran memorial markers

Procurement Process: **SEALED BID**

Contract Completion Date: July 15, 2015

Contact: John P. O’Keefe, Town Manager - 802-362-1313, option 2 or j.okeefe@manchester-vt.gov

Project Description: The Town is accepting bids to supply 13 memorial stones. The memorial stones will be mounted in a concrete sidewalk by masonry contractor selected by the Town under a separate project.

The stones shall be 24 inches long, 12 inches wide and 4 inches thick. The memorial stones shall be made of medium gray granite with no noticeable imperfections. The top of the memorial stones shall have a tiffany finish sufficient to provide a slip-resistant finish and the other sides of the memorial stone shall be sawn.

The submitted bid shall including the price of delivery to Manchester, Vermont. The memorial stones shall be delivered on or before July 15, 2015.

The Town and the selected contractor shall decide on the font style and font size. The memorial stones shall be engraved to read the following (bold text only):

<i>Stone #1</i>	<i>VETERANS WALKWAY DEDICATED 2015</i>
<i>Stone #2</i>	<i>WAR OF INDEPENDENCE 1775 - 1783</i>
<i>Stone #3</i>	<i>WAR OF 1812 1812 - 1815</i>
<i>Stone #4</i>	<i>MEXICAN-AMERICAN WAR 1846 - 1848</i>
<i>Stone #5</i>	<i>AMERICAN CIVIL WAR 1861 - 1865</i>
<i>Stone #6</i>	<i>SPANISH-AMERICAN WAR 1898 - 1902</i>
<i>Stone #7</i>	<i>FIRST WORLD WAR 1917 - 1918</i>

<i>Stone #8</i>	<i>SECOND WORLD WAR 1941 - 1945</i>
<i>Stone #9</i>	<i>KOREAN WAR 1950 - 1953</i>
<i>Stone #10</i>	<i>VIETNAM WAR 1964 - 1975</i>
<i>Stone #11</i>	<i>GULF WAR 1990 - 1991</i>
<i>Stone #12</i>	<i>GLOBAL WAR ON TERROR 2001 - PRESENT</i>
<i>Stone #13</i>	<i>IVAN C. BEATTIE PAVILION DEDICATED 2014</i>

Payment at the lump sum bid price for this project will be full compensation for furnishing and delivering the granite markers with the specified finish and engravings and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Project #4: Installation of new landscaping on western side of Town Green, near Depot Street

Procurement Process: **REQUEST FOR PROPOSALS (RFP)**

Contract Completion Date: August 15, 2015

Contact: John P. O'Keefe, Town Manager - 802-362-1313, option 2 or j.okeefe@manchester-vt.gov

Project Description: The Town is seeking responses from qualified landscaping companies. Overall cost of proposals shall not exceed \$6,000.00. All work shall be completed by August 15, 2015. This project is designed to mitigate the visual effect of utilities installed on the Town Green as part of the original Junction Improvement Project.

Proposals should consider plantings to screen the Depot Street side of the Green Mountain Power transformer (green box), provide landscaping behind the newly installed bike racks, screen the front of the streetlight lighting controls (wooden pedestal), the front of the smaller Green Mountain Power transformer near the pedestal and including plantings in an old horse trough adjacent to Depot Street and the Mill Pond. Refer to Figure 1 for approximate landscaping areas.

The contractor is responsible for providing all materials, including plants, mulch, soil and soil amendments if necessary, labor and equipment. Water is available on-site. Contractor shall provide the Town a twelve (12) month warranty on all plants.

Proposals shall include the overall cost of the project, a list of materials (including quantity) to be used, including plantings (include size of plantings whenever applicable), and a proposed design plan. Emphasis shall be placed on flowering and screening perennials, including plantings that are native to Vermont and flower at various times of the spring, summer and fall. Proposals should consider existing plants and conditions at the Factory Point Town Green.

Respondents shall provide at least three recent commercial projects and include color photographs of the projects. Respondents shall also provide at least three commercial references, including a contact name, email address and telephone number.

Finalist shall be provided an opportunity to meet onsite with the selection committee. Final selection shall be made based on overall quality of design, value, references and examples of previous commercial landscaping projects.

Interested landscaping companies are encouraged to contact Town Manager John P. O'Keefe at (802)-362-1313, option 2 or j.okeefe@manchester-vt.gov to arrange an onsite meeting to review the proposed area prior to submitting a response.

Payment at the lump sum bid price for this project will be full compensation for preparing a design plan, obtaining approval of the design plan from the Town, furnishing, transporting, handling and placing the approved materials, excavation, removal and disposal of excess or unsuitable material off-site, restoration to finish grade, restoration of growth and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Project #5: Construction of public sidewalks through Factory Point Town Green

Procurement Process: **SEALED BID**

Contract Completion Date: July 31, 2015

Contact: Christina Haskins, Town engineer - 802-768-8291 or chaskins@dufresnegroup.com.

Description: This project includes installation of a 6-foot wide portland cement concrete sidewalk in the Factory Point Town Green. Refer to the attached Figure 1 for site plan and Figure 2 for details. Specifically, the project includes the following:

- Construction of a sidewalk through the Factory Point Town Green, approximately 445 feet in length that connects on both ends to the sidewalk on Depot Street (Route 11/30), including concrete foot pads at all existing benches along sidewalk.
- Construction of a sidewalk through the center of the Factory Point Town Green, approximately 195 feet in length that connects on both ends to the first sidewalk in this project, including concrete foot pads at all existing benches along sidewalk.
- Construction of a spur sidewalk off of the first sidewalk in this project toward the River Walk, approximately 30 feet in length.
- Installation of approximately 180 square feet of concrete inside an existing stage. The Town's Department of Public Works shall remove the existing asphalt from the stage.
- Construction of a small handicap, ADA ramp onto the stage from the adjacent sidewalk.

All exposed concrete shall be sealed by the contractor. All work shall comply with ADA standards and the Town of Manchester Sidewalk Policy (attached). Work will be overseen by the Town's engineer. Some regrading may be required in order to comply with ADA standards (including but not limited to running slope and cross slope). Contractor shall be responsible for backfilling and reseeding.

The contractor shall be responsible for installing 13 memorial (granite) stones in the concrete flush with the sidewalk and stage in locations selected by the Town. The Town shall provide the memorial stones to the contractor.

Payment at the lump sum bid price for this project will be full compensation for furnishing, transporting, handling and placing the materials specified including concrete, gravel subbase, expansion joint material, pins, wire mesh and sealant, installation of thirteen granite markers, excavation, dewatering, removal and disposal of

excess or unsuitable material off-site, grading, restoration to finish grade, restoration of growth and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Project #6: Improve roadway drainage on Main Street

Procurement Process: **SEALED BID**

Contract Completion Date: July 15, 2015

Contact: Christina Haskins, Town engineer - 802-768-8291 or chaskins@dufresnegroup.com.

Description: This project includes installation of a new storm drain along Main Street, near Rite Aid Pharmacy, including approximately 155 LF of 15-inch HDPE pipe, one catch basin with frame and grate, connection to existing catch basin and pavement restoration. Refer to the attached Figure 3 for a site plan and Figure 4 for details. The project shall conform to the following specifications:

1. Storm Drain Pipe: High Density Polyethylene (HDPE) solid corrugated exterior/smooth interior pipe. Pipe shall have a reinforced bell with a polymer composite band. The bell tolerance device shall be installed by the manufacturer.
2. Backfill and Bedding: Crushed gravel for pipe, installed in 6-inch lifts and compacted to 95% Standard Proctor density.

<u>Sieve Designation</u>	<u>Percentage by Weight Passing Square Mesh Sieve</u>
1 ½-inch	100
No. 4	30-60
No. 8	20-55
No. 100	0-12
No. 200	0-3

3. The pipe shall be placed to the grade shown on Figure 3 using a level, transit or laser to set grade.
4. The pipe shall be placed in the alignment shown on Figure 3.
5. The pipe shall be backfilled as shown on Figure 3. Once flowable fill is installed, the trench shall be plated a minimum of 24-hours or until the flowable fill has set sufficiently to install pavement.
6. Traffic control shall be provided as required throughout the project. Two lanes of traffic shall be maintained at all times unless otherwise approved by the Public Works Director.

Work will be overseen by the Town's engineer.

Payment at the lump sum bid price for this project will be full compensation for furnishing, transporting, handling and placing the materials specified including 15-inch HDPE pipe, precast concrete catch basin, cast iron frame and grate, couplings, rigid board insulation, gravel bedding and blanket, flowable fill and pavement, excavation, excavation support, dewatering, removal and disposal of existing catch basin, removal and disposal of excess or unsuitable material off-site, connecting to structures, backfilling, restoration of surfaces, traffic control and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Project #7: Elimination of hashed shoulder (and pavement) on Depot Street in front of Town Green

Procurement Process: **SEALED BID**

Contract Completion Date: July 31, 2015

Contact: Christina Haskins, Town engineer - 802-768-8291 or chaskins@dufresnegroup.com.

Project Description: This project includes the removal of the hashed shoulder (and pavement) on Depot Street in front of the Factory Point Town Green, installation of approximately 185 feet of new granite curbing and backfilling of the area between new curbing and existing sidewalk with cobbles and common fill, topsoil and seeding. Refer to Figure 1 for site plan and Figure 5 for details.

Some roadway painting by the contractor may be necessary. The contractor will be responsible for installation of asphalt between the roadway and the new curbing. The granite curbing shall be furnished and installed in accordance with the Town of Manchester Sidewalk Policy (attached). Curbing shall have a 7 inch reveal.

The cobbles shall be installed as shown on Figure 1. The granite cobbles shall be split face on all sides, approximately 4-inch x 4-inch x 4-inch in dimension. Cobbles shall be set in 2,500 psi concrete, spaced approximately ¼-inch apart. Mortar shall be placed between the cobbles.

Traffic control shall be provided as required throughout the project. Two lanes of traffic shall be maintained at all times unless otherwise approved by the Public Works Director.

Work will be overseen by the Town's engineer.

Payment at the lump sum bid price for this project will be full compensation for furnishing, transporting, handling and placing the materials specified including granite curb, concrete, mortar and grout, crushed gravel leveling pads, fill material, granite cobbles, topsoil, seed, fertilizer, lyme and pavement, excavation, dewatering, sawcutting, removal and disposal of pavement, removal and disposal of excess or unsuitable material off-site, grading, restoration to finish grade, restoration of growth, traffic control and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

TOWN OF MANCHESTER, VERMONT
2015 Junction Improvement Projects
Bid and RFP Response Form

Please type or use permanent ink. All responses must include this form. Forms shall be submitted, in a sealed envelope, to:

SEALED BID / RFP – 2015 Junction Improvement Projects
 John P. O’Keefe, Town Manager
 Town of Manchester
 6039 Main Street
 Manchester Center, VT 05255

Verbal, emailed or faxed bids will not be considered. Late submissions will not be accepted.

Company Name: _____

Company Mailing Address: _____

Contact Name: _____

Contact Telephone Number: _____

Contact Email Address: _____

_____ I have read the Town’s Procurement Policy and this bid document and I understand its terms and conditions (please initial).

Please note, respondents are NOT required to bid on all of the projects.

Project Number	Short Description	Bid/Response Price
Project #1	TOWN GREEN SAFETY BARRIER	\$
Project #2	TOWN GREEN LIGHTING AND ELECTRICAL	\$
Project #3	SIDEWALK GRANITE MARKERS	\$
Project #4	TOWN GREEN LANDSCAPING	\$
Project #5	TOWN GREEN SIDEWALK CONSTRUCTION	\$
Project #6	MAIN STREET DRAINAGE IMPROVEMENT	\$
Project #7	DEPOT STREET SHOULDER PROJECT	\$

The Town is also accepting combined bids for projects #5, 6 and 7. Respondents are NOT required to submit a combined bid.

Projects #5, 6 and 7	SIDEWALK, DRAINAGE AND SHOULDER	\$
----------------------	---------------------------------	----

NOTES:

Projects #1 through #7 are eligible for the Manchester Based Business Waiver (preference), as authorized under the Town's Procurement Policy. Completion of the following section is OPTIONAL.

1. Is your business located in the Town or Village of Manchester? **YES or NO**

If so, what is the address of the business? _____

2. Is the majority owner of the responding business a legal resident of the Town or Village of Manchester? **YES or NO**

If so, what is the owner's legal address? _____

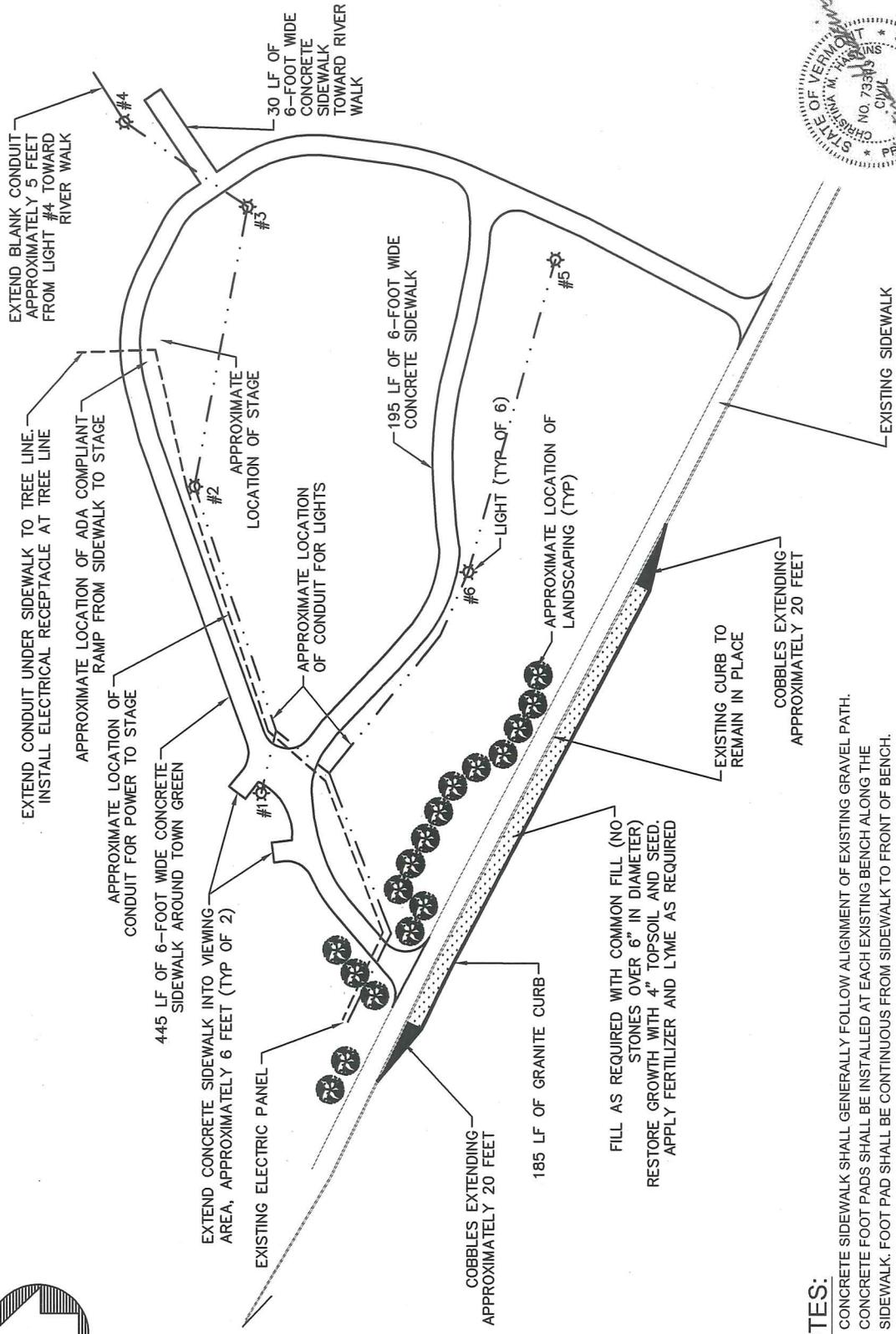
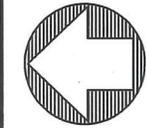
In developing these bids I have followed all instructions set forth by the Town of Manchester and hereby certify that the work to be performed will fully conform to conditions stipulated as part of the Town's request for bids. I have read the bid documents, including the General Specifications and Requirements, and agree to adhere to all of the provisions. The bid price includes any and all administrative costs, fuel costs, fees and taxes and all other associated costs of the project.

Furthermore, I certify that the prices in these bids have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such price with any other bidder or with any competitor.

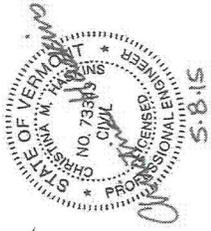
Signature

Date

Name



- NOTES:**
1. CONCRETE SIDEWALK SHALL GENERALLY FOLLOW ALIGNMENT OF EXISTING GRAVEL PATH.
 2. CONCRETE FOOT PADS SHALL BE INSTALLED AT EACH EXISTING BENCH ALONG THE SIDEWALK. FOOT PAD SHALL BE CONTINUOUS FROM SIDEWALK TO FRONT OF BENCH.
 3. EXACT LOCATION OF GRANITE CURB TO BE FIELD DETERMINED BY TOWN ENGINEER OR PUBLIC WORKS DIRECTOR.
 4. EXACT LOCATION OF CONDUIT TO BE DISCUSSED WITH THE TOWN PRIOR TO INSTALLATION.



<p>DUFRESNE GROUP CONSULTING ENGINEERS</p> <p>1888 Depot Street Manchester, Vermont 05440 Tel: (802) 768-8293 Fax: (802) 768-8315 E-mail: info@durfresne.com Website: www.durfresne.com</p>	Project #	7140022
	Project Mgr.	CMH
Design	CMH	
Drawn	CMH	
Checked by	CMH	
Date	MAY 2015	
Scale	AS SHOWN	
Approved by	CMH	

THE DRAWING FOR THIS PROJECT SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF DUFRESNE GROUP, INC.

DUFRESNE GROUP ©

MANCHESTER, VERMONT

FACTORY POINT TOWN GREEN
SITE PLAN

JUNCTION IMPROVEMENTS

FIG 1

DWS. NO. Figures.dwg
SHEET 1 OF 1



DUFRESNE GROUP
CONSULTING ENGINEERS

1881 Duff Street
Manchester, Vermont 05255
Tel: (802) 768-9291 Fax: (802) 768-9319
E-mail: info@dufresne.com
www.dufresne.com

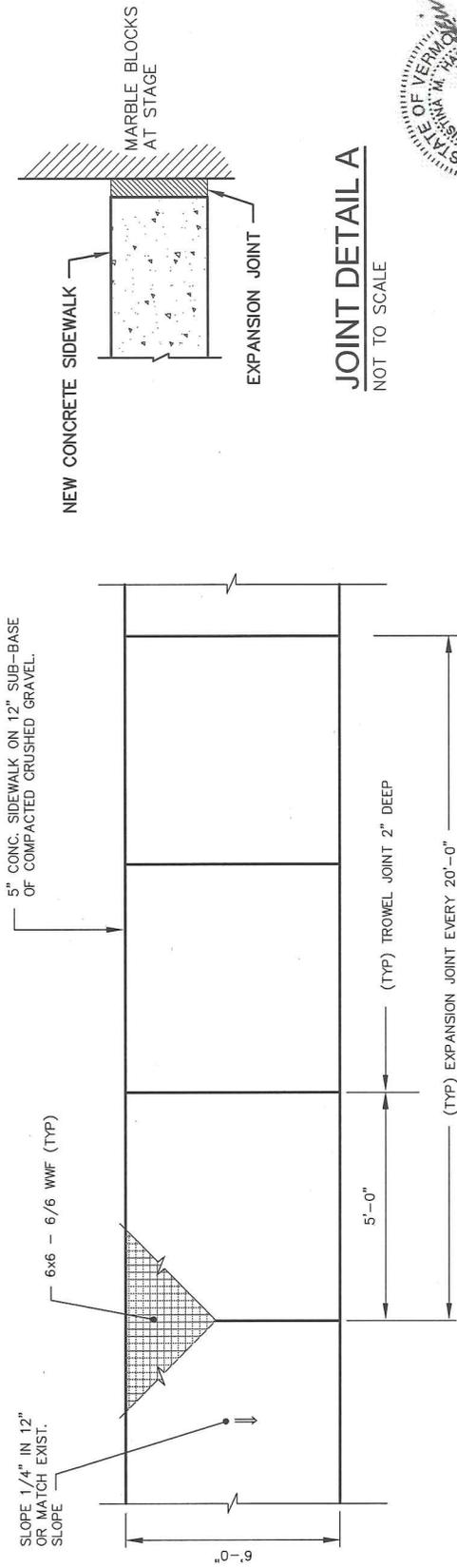
Project #	7140022
Project Mgr.	CMH
Design	CMH
Drawn	CMH
Checked by	CMH
Date	MAY 2015
Scale	AS SHOWN
Approved by	CMH

WE WARRANT THAT PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND APPROVED AS SHOWN ON THESE PLANS.
DUFRESNE GROUP ©

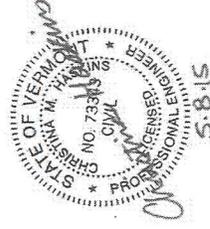
MANCHESTER, VERMONT
FACTORY POINT TOWN GREEN
SIDEWALK DETAILS
JUNCTION IMPROVEMENTS

FIG 2

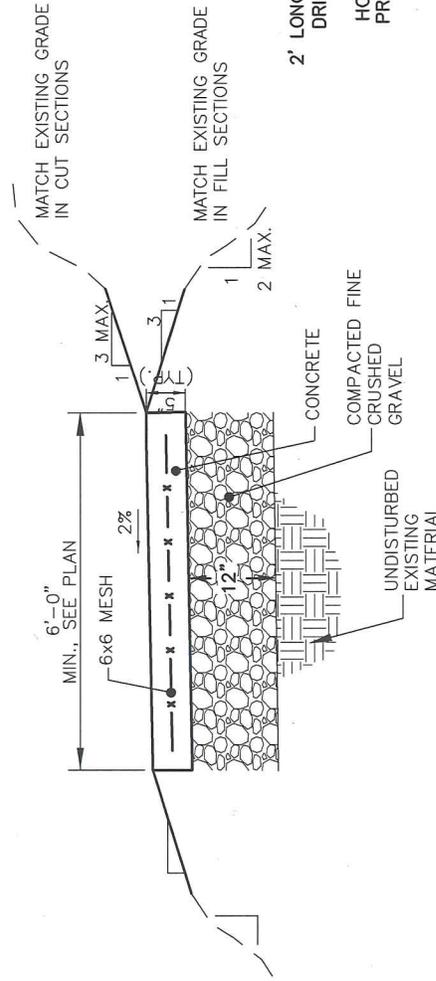
DWG. NO. Figures.dwg
SHEET 1 OF 1



JUNCTION DETAIL A
NOT TO SCALE



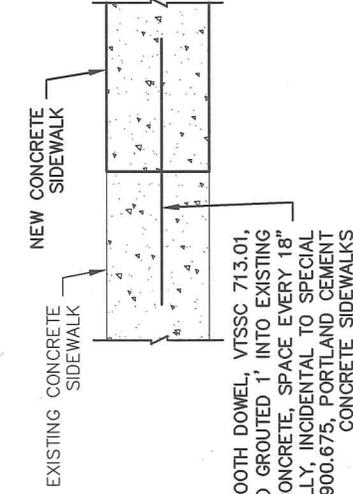
TYPICAL CONCRETE WALK PLAN
NOT TO SCALE



TYPICAL CONCRETE WALK SECTION
NOT TO SCALE

- NOTES:**
- RESTORE ALL DISTURBED GRASS AREA TO CLASS A RESTORATION.

JUNCTION DETAIL B
NOT TO SCALE



MANCHESTER, VERMONT



DUFRESNE GROUP
CONSULTING ENGINEERS
1885 Depot Street
Manchester, Vermont 05255
Tel: (802) 768-9291 Fax: (802) 768-9315
E-mail: info@dufresne.com
http://www.dufresne.com

Project #	7140022
Project Mgr.	CMH
Design	CMH
Drawn	CMH
Checked by	CMH
Date	MAY 2015
Scale	AS SHOWN
Approved by	CMH

WE WARRANT FOR THIS PROJECT THAT, HAVE BE RECEIVED THE NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND, THAT THIS PLAN IS THE FINAL DESIGN. ANY CHANGES TO THIS PROJECT SHALL BE RECORDED IN THE PROJECT RECORDS.

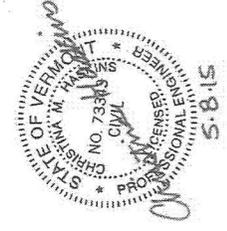
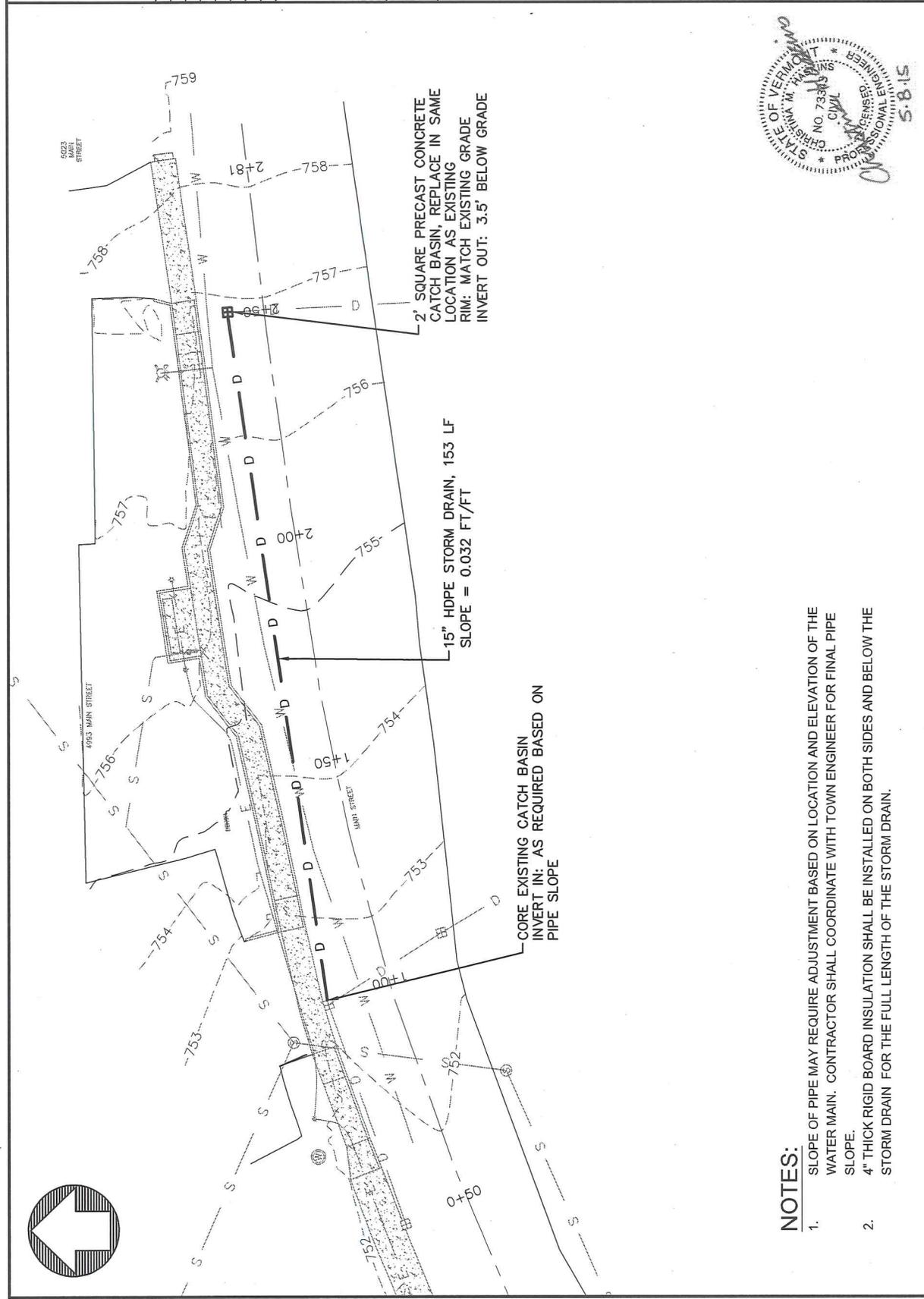
DUFRESNE GROUP ©

MANCHESTER, VERMONT
MAIN STREET DRAINAGE
SITE PLAN

JUNCTION IMPROVEMENTS

FIG 3

DWG. NO. Figures.dwg
SHEET 1 OF 1



- NOTES:**
1. SLOPE OF PIPE MAY REQUIRE ADJUSTMENT BASED ON LOCATION AND ELEVATION OF THE WATER MAIN. CONTRACTOR SHALL COORDINATE WITH TOWN ENGINEER FOR FINAL PIPE SLOPE.
 2. 4" THICK RIGID BOARD INSULATION SHALL BE INSTALLED ON BOTH SIDES AND BELOW THE STORM DRAIN FOR THE FULL LENGTH OF THE STORM DRAIN.



**DUFRESNE GROUP
CONSULTING ENGINEERS**
1688 Chapel Street
Manchester, Vermont 05265
Tel: (802) 768-8291 Fax: (802) 768-8315
Email: info@dufresne.com
www.dufresne.com

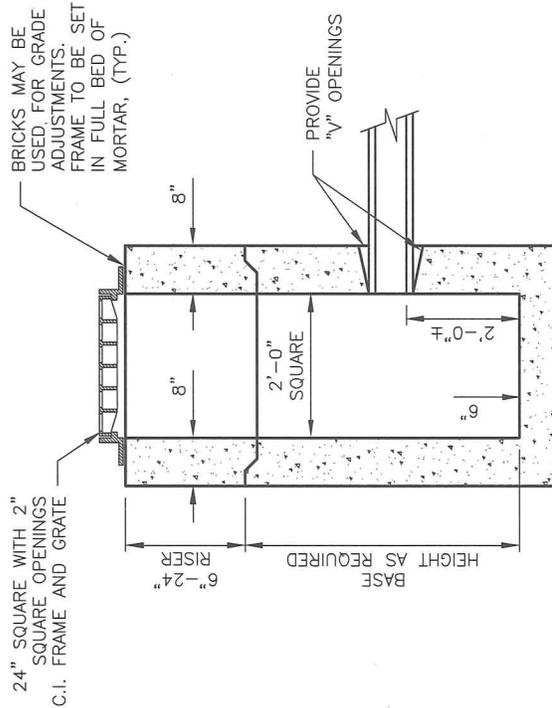
Project #	7140022
Project Mgr.	CMH
Design	CMH
Drawn	CMH
Checked by	CMH
Date	MAY 2015
Scale	AS SHOWN
Approved by	CMH

FOR CHANGES FOR THIS PROJECT SHALL NOT BE INCURRED BY THE CLIENT UNLESS THEY ARE SPECIFICALLY APPROVED AND INITIALED BY THE DESIGNER OR ANY OTHER AUTHORITY.
DUFRESNE GROUP ©

MANCHESTER, VERMONT
**MAIN STREET DRAINAGE
DETAILS**

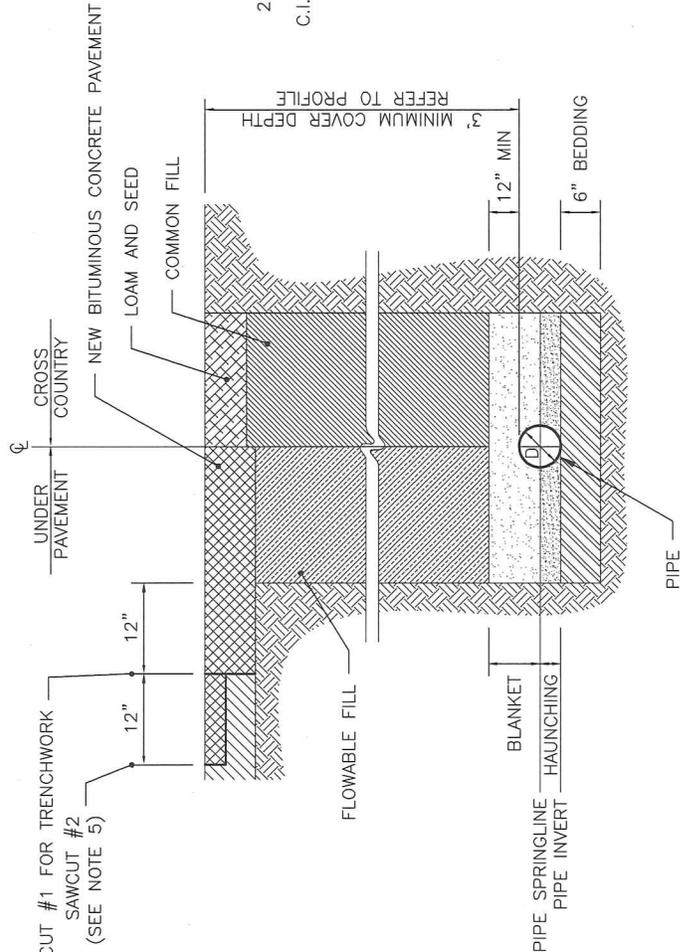
FIG 4

DWG. NO. Figures.dwg
SHEET 1 OF 1



- NOTES:**
1. CONCRETE MINIMUM STRENGTH 5000PSI @ 28 DAYS
 2. STEEL REINFORCEMENT GRADE 60 - H-20 DESIGN
 3. JOINTS SEALED WITH BUTYL SEALANT
 4. MONOLITHIC CONSTRUCTION
 5. PIPE PENETRATIONS SUPPLIED PER SPECIFICATIONS

**PRECAST CONCRETE
CATCH BASIN**
NOT TO SCALE



STORM SEWER MAIN TYPICAL TRENCH DETAIL
NOT TO SCALE

- NOTES:**
1. TYPICAL TRENCH DETAILS SHOWN HEREIN ARE BASED ON THE USE OF PVC OR HDPE PIPE.
 2. PAVEMENT SHALL BE RESTORED WITH 2 1/2" OF TYPE II BASE COURSE AND 1 1/2" OF TYPE III WEARING COURSE, FOR A TOTAL OF 4".
 3. TRENCH SHALL BE BACKFILLED FROM THE TOP OF THE BLANKET TO THE BOTTOM OF THE PAVEMENT WITH FLOWABLE FILL.
 4. BEDDING, HAUNCHING AND BLANKET SHALL BE CRUSHED GRAVEL FOR PIPE, COMPACTED IN 6" LIFTS TO 95% STANDARD PROCTOR DENSITY. REFER TO THE SPECIFICATIONS FOR CRUSHED GRAVEL FOR PIPE DETAILS.
 5. SAWCUT #2 FOR PERMANENT TRENCH PAVEMENT: CUT EXISTING PAVEMENT IN A STRAIGHT LINE TO A DEPTH EQUAL TO NEW WEARING COURSE PAVEMENT THICKNESS AND REMOVE EXISTING PAVEMENT. CLEAN SURFACES AND TACK COAT ALL EDGES OF EXISTING PAVEMENT.
 6. TRENCH WIDTH SHALL BE SUFFICIENT TO ALLOW PIPE TO BE LAID AND JOINED PROPERLY AND FOR PLACEMENT AND COMPACTION OF BEDDING. TRENCH SUPPORT SHALL BE ADEQUATE TO PERMIT SAFE ACCESS BY INSPECTOR FOR COMPACTION SAMPLES.



DUFRESNE GROUP
CONSULTING ENGINEERS

1001 Chapel Street
Manchester, Vermont 05265
Tel: (802) 768-8291 Fax: (802) 768-8315
E-mail: info@dufresnegroup.com
Web site: www.dufresnegroup.com

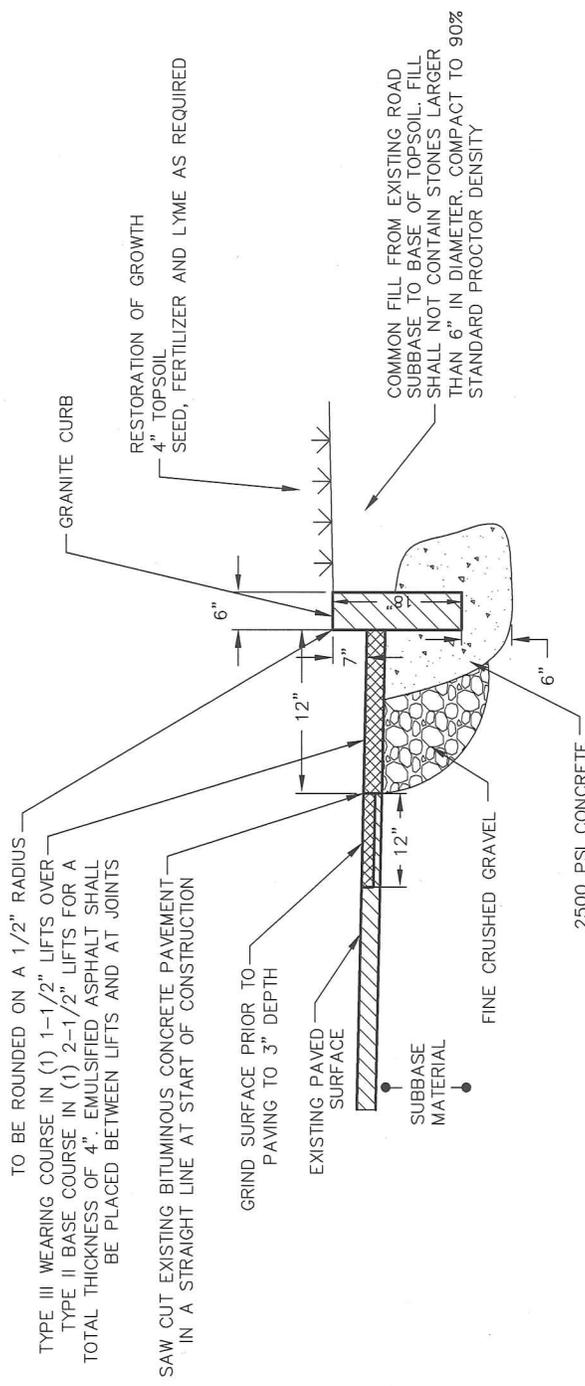
Project #	7140022
Project Mgr.	CMH
Design	CMH
Drawn	CMH
Checked by	CMH
Date	MAY 2015
Scale	AS SHOWN
Approved by	CMH

THE DRAWINGS FOR THIS PROJECT SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF DUFRESNE GROUP ©
DUFRESNE GROUP ©

JUNCTION IMPROVEMENTS
FACTORY POINT TOWN GREEN
CURB DETAILS
MANCHESTER, VERMONT

FIG 5

DWG. NO. Figures.dwg
SHEET 1 OF 1



GRANITE CURB DETAIL

NOT TO SCALE

NOTES:

1. TWO SECTIONS OF FINE CRUSHED GRAVEL ARE ACCEPTABLE FOR INITIAL CURB INSTALLATION AND LEVELING PRIOR TO THE CONCRETE PROVIDED THE TWO SECTIONS OF GRAVEL DO NOT EXCEED 10% OF THE CURB LENGTH.
2. CLEAN SURFACES AND TACK COAT EDGES OF EXISTING PAVEMENT PRIOR TO PLACING NEW PAVEMENT.

