

FIFTEEN ROPE FERRY ROAD
WATERFORD, CT 06385-2886



BOARD OF FINANCE
AGENDA

PHONE: 860-442-0553

www.waterfordct.org

RECEIVED FOR RECORD
WATERFORD, CT
2025 SEP - 8 A 8:56
JAMES P. O'NEILL
TOWN CLERK

Waterford Town Hall
Regular Meeting

September 10, 2025
7:00 p.m.

1. **Establishment of a quorum and call to order.**
2. **Public Comment**
3. **Approval and acceptance of minutes from August 13, 2025.**
4. Pending Board of Selectman approval, to consider and act on a request by Paige Walton, Assessor, for an appropriation in the amount of **\$378.52** from the **Line #20501-57639 (Transfers to CAP & NE Funds)**, and forward to the RTM if required.
5. Pending Board of Selectman approval, to consider and act on a request by Gary Schneider, Director of Public Works, for an additional appropriation in the amount of **\$25,000** from the **Capital and Non-recurring Line #205-31520 Undesignated CNR Fund Balance** to a **new project line (Library Electrical Project)**, and forward to the RTM if required.
6. Pending Board of Selectman approval, to consider and act on a request by Gary Schneider, Director of Public Works, for an additional appropriation in the amount of **\$1,533,283** to a **new project line within the Capital Improvements Project Fund** for the **resurfacing of roads identified in Year 1 of the three-year plan**, and forward to the RTM if required.
7. Pending Board of Selectman approval, to consider and act on a request by Jill Stevens, Director of Utility Commission, for an additional appropriation of **\$500,000** for the **line # 20531-57881 (Plastic Water Service Line Replacement)**, and forward to the RTM if required.
8. Pending Board of Selectman approval, to consider and act on a request by Jill Stevens, Director of Utility Commission, to appropriate **\$200,000** from designated **line # 20531-57881 (Plastic Water Service Line Replacement)**, and forward to the RTM if required.
9. Pending Board of Selectman approval, to consider and act on a request by Jill Stevens, Director of Utility Commission, for an appropriation in the amount of **\$200,000** from designated **line # 20531-57894 (Cross Country Sewer Main Access)**, and forward to the RTM if required.
10. Pending Board of Selectman approval, to consider and act on a request by Jill Stevens, Director of Utility Commission, for an appropriation in the amount of **\$46,222** from designated **line # 20531-57895 (Water Tank Management)**, and forward to the RTM if required.

11. Pending Board of Selectman approval, to consider and act on a request by Jill Stevens, Director of Utility Commission, for an appropriation in the amount of **\$166,950** from designated line **#20531-57896 (Bartlett Corners Water Booster)**, and forward to the RTM if required.
12. **RESOLUTION RECOMMENDING AN APPROPRIATION AND BOND AUTHORIZATION OF UP TO \$12,600,000 FOR THE CONSTRUCTION OF A NEW TOWN OF WATERFORD OSWEGATCHIE FIRE STATION**
13. **RESOLUTION RECOMMENDING AN APPROPRIATION AND FUNDING AUTHORIZATION OF \$4,600,000 FOR UPGRADES TO THE TOWN'S COMMUNICATIONS SYSTEM**
14. **Old Business:**
15. **New Business:**
16. **Liaison Reports:**
17. **Correspondence:**
 - a. Virginia Bielucki, Town Accountant, Periodic Financial Statements FY26 dated August 15, 2025.
 - b. Virginia Bielucki, Town Accountant, Status of Contingency FY26 dated August 20, 2025.
18. **Adjournment**

Glenn Patterson, Chairman

FIFTEEN ROPE FERRY ROAD
WATERFORD, CT 06385-2886



PHONE: 860-442-0553

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RECEIVED FOR RECORD
WATERFORD, CT
AUG 20 P 3:31
TOWN CLERK

Board of Finance
Regular Meeting Minutes

Wednesday, August 13, 2025
Town Hall Auditorium 7:00 pm

Present: Glenn Patterson, Robert Tuneski, Ron Fedor, Bill Sheehan, Josh Kelly, Michael Rocchetti

Absent: Joseph Filippetti

Elected: Robert Brule, First Selectman, Abbas Danesh, Treasurer

Staff: Kimberly Allen, Director of Finance; Ryan McNamara, Director of Recreation and Parks; Dani Gorman, Human Services Coordinator; Meaghan Lineburgh, Senior Services Office Assistant/Recording Secretary

1. Establishment of a quorum and call to order

A quorum was established and the Regular Meeting of the Board of Finance was called to order at 7:00pm on August 13, 2025

2. Public Comment: None

3. Approval and acceptance of minutes:

Motion by Bill Sheehan and seconded by Josh Kelly to approve the minutes of the July 16, 2025 Regular Meeting as presented.

Vote: 5-0-1

Abstain: Ron Fedor

Motion: Passed

4. To consider and act on the appointment of Clifton Larson Allen LLP as the town auditor for the fiscal years 2026, 2027, 2028

Motion by Josh Kelly and seconded by Ron Fedor to appoint Clifton Larson Allen LLP as the town auditor for the fiscal years 2026, 2027, 2028 on the condition auditors are rotated every year and stipulated in the contract with Clifton Larson Allen LLP.

Vote: 6-0-0

Motion: Passed

5. To consider and act on the request by the Director of Recreation and Parks, Ryan McNamara for an appropriation in the amount of \$20,000 from designated line #20537-57735 (Leary Park Access Road & Drainage), and forward to the RTM if required.

Motion by Bill Sheehan and seconded by Josh Kelly to appropriate \$20,000 from designated line #20537-57735 (Leary Park Access Road & Drainage), and forward to the RTM as required.

Vote: 6-0-0

Motion: Passed

6. To consider and act on a request by Director of Recreation and Parks, Ryan McNamara for an appropriation in the amount of \$25,000 from designated line #20537-57798 (Children's Playground Equipment), and forward to the RTM if required.

Motion by Bill Sheehan and seconded by Michael Rocchetti to appropriate \$25,000 from designated line #20537-57798 (Children's Playground Equipment), and forward to the RTM as required

Vote: 6-0-0

Motion: Passed

7. To consider an act on a request by Chief of Police, Marc Balestracci for an additional appropriation in the amount of \$7,113.00 to line #10129-51420 (Patrol) for an employee payout that is required under the current collective bargaining agreement, and forward to the RTM if required.

Motion made Bill Sheehan and seconded by Josh Kelly to transfer \$7,113 from Contingency 10121-59010 to line #10129-51420 (Patrol) for an employee payout that is required under the current collective bargaining agreement, and forward to the RTM as required.

Vote: 6-0-0

Motion: Passed

8. To consider and act on a FY25 Out-of-Series Transfer from the Director of Finance, Kimberly Allen, in the amount of \$68,823 for various departments as indicated in the Transfer Request Form.

Motion made by Bill Sheehan and seconded by Josh Kelly to transfer \$68,823 as follows:

TOWN OF WATERFORD
TRANSFER REQUEST FORM
Inter-Department Transfer
Out of Series Transfer Request

VARIOUS
DEPARTMENT

FY2025

Line No.	Org. Code	Object Code	Object Description	APPROVED Budget Amount	CURRENT Available Budget	ACCOUNT INCREASE	ACCOUNT DECREASE	REVISED Available Budget
1	10102 (ROV)	53020	OTHER SUPPLIES	11,913.00	(1,542.96)	1,543		0
4	10111 (BLDG MAINT)	52100	ELECTRICITY	375,000.00	(24,268.67)	24,300		31
6	10111 (BLDG MAINT)	52110	WATER	20,450.00	(2,901.69)	2,902		0
6	10111 (BLDG MAINT)	52120	SEWER	27,527.00	(3,564.05)	3,565		1
7	10135 (SENIORS)	51210	CLERICAL	215,599.00	(4,230.69)	4,235		4
8	10135 (SENIORS)	53080	AUTOMOTIVE MAINT	1,062.00	(500.00)	500		0
9	10135 (SENIORS)	53090	FUELS & LUBRICANTS	10,388.00	(1,200.00)	941		(259)
10	10135 (SENIORS)	54020	FITNESS EQUIPMENT	728.00	(564.00)	564		0
11	10135 (SENIORS)	54030	KITCHEN EQUIPMENT	1,766.00	(2,041.00)	2,041		0
12	10135 (SENIORS)	54050	AUTOMOTIVE EQUIPMENT	1,312.00	(300.00)	300		0
13	10137 (R&P)	51620	RECREATION PROGRAMS	317,672.00	(23,409.50)	23,410		1
14	10137 (R&P)	53020	OTHER SUPPLIES	36,703.00	(1,606.02)	1,607		1
16	10137 (R&P)	53080	MAINTENANCE OF VEHICLES	27,500.00	(1,413.77)	1,415		1
16	10145 (HR)	51110	ADMINISTRATION	96,819.00	(1,499.99)	1,500		0
17	10130 (DPW)	53090	FUELS & LUBRICANTS	304,713.00	92,443.05		(68,823)	23,620
TOTAL						68,823	(68,823)	

Explanation

Department Head

Date

Vote: 6-0-0

Motion: Passed

9. Discussion on a possible new project: State Radio Conversion

10. Old Business: None

11. New Business:

- a. Bill Sheehan asked First Selectman Robert Brule if Town of Waterford had considered opting into the Connecticut Municipal Development Authority, seeing as other towns in region had joined. First Selectman stated that Town was looking into options.
- b. Ron Fedor ask the First Selectman if the Town was looking into more energy efficient options for the town including solar panels. First Selectman informed the board that the towns Energy's Task Force was looking into it.

12. Liaison Reports:
No committee Reports

13. Correspondence:
None

14. Adjournment:
Motion by Ron Fedor seconded by Robert Tuneski to adjourn the Regular meeting of the Board of Finance at 7:41pm.

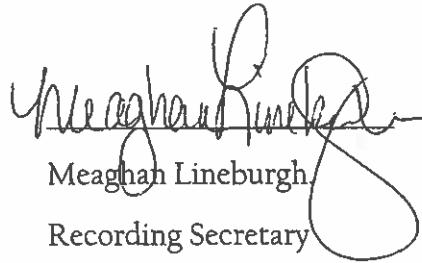
Vote: 6-0-0

Motion: Passed

Respectfully submitted,



John (Bill) W. Sheehan,
Clerk of the Board of Finance



Meaghan Lineburgh
Recording Secretary

To: First Selectman, Rob Brule
Cc: Finance Director, Kim Allen
From: Paige Walton, Waterford Assessor
Re: Funds Appropriation – 2026 Revaluation

September 2, 2025

In preparing for the 2026 state-mandated revaluation The Assessor's office has recently submitted a Request for Proposal to solicit bids from qualified vendors. As a part of the RFP process, the Town's Purchasing Agent has published the Invitation to RFP in The Day's classified ad section.

To cover this initial revaluation-related expenditure I am requesting a funds appropriation from account #10140-57639 (Transfers to CAP & NRE Funds) to the CNR revaluation account #20501-57639 in the amount of \$378.52.

Thank you for your consideration in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Paige S. Walton", with a long horizontal flourish extending to the right.

Paige S. Walton, CCMA II
Assessor
Town of Waterford

Encl: (1)



THE DAY PUBLISHING COMPANY
200 STATE ST
NEW LONDON, CT 06320

ACCOUNT NUMBER	CUSTOMER
D93036	TOWN OF WATERFORD - FINANCE DEPARTMENT

CLIENT	PAGE NUMBER	DUE DATE
	Page 1 of 1	Upon Receipt

Order Number	Amount Due
d01103731	\$378.52

TOWN OF WATERFORD - FINANCE
DEPARTMENT
15 ROPE FERRY ROAD
WATERFORD, CT 06385
United States

**MAKE CHECKS PAYABLE
TO DAY PUBLISHING
COMPANY**
Include your account # /
order # on your check
remittance

CHECK NUMBER
AMOUNT PAID

PLEASE RETURN UPPER PORTION WITH YOUR REMITTANCE

DATE	DESCRIPTION	PUBLICATION	REFERENCE #	SIZE/LINES OR QTY	GROSS AMOUNT	OTHER	NET AMOUNT
08/28/25	Invitation to RFP#26-001	The Day	Invitation to RFP#26-001	2 col	\$348.52	\$0.00	\$348.52
08/28/25	Invitation to RFP#26-001	Day Classified Webpage	Invitation to RFP#26-001	2 col	\$5.00	\$0.00	\$5.00
08/28/25	Invitation to RFP#26-001	CT Public Notices Webpage	Invitation to RFP#26-001	Not Applicable	\$25.00	\$0.00	\$25.00
Total					\$378.52	\$0.00	\$378.52

Account Number	Customer	Total Due
D93036	TOWN OF WATERFORD - FINANCE DEPARTMENT	\$378.52

Day Credit Department
Community Classifieds - Toll Free
Day Publishing Company - Toll Free

860-701-4204
800-582-8296
800-542-3354

Accounting Fax 860-437-7504
Advertising Fax 860-437-8780
Classified Fax 860-442-5443

APPROVED

VENDOR# 157

PO# _____ FY 2026

CLOSE PO Y N

ACCOUNT # 20501-57639

AMOUNT \$378.52

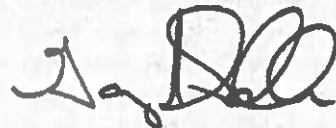
SIGN Ray S. Welt

DATE 9/2/2025

Building Maintenance

Memo

To: Robert Brule, First Selectman
From: Gary J Schneider, Director of Public Works
Date: August 26, 2025
Re: Library Electrical Project Request



Replacement of the main disconnect electrical switch and service and parking lot lighting at the Library is necessary. We are requesting an additional appropriation of \$25,000 from the Unassigned Fund Balance to a new project line within the Capital Improvements Project Fund. This will complete the design, cost estimates and bid documents for the project. The cost estimate will take into account all utility requirements and permitting costs.

The Department will request construction funds after the detailed cost estimate has been prepared. With the volatile market, cost estimates can better be prepared closer to bidding.

The existing service is hung off a wooden utility pole that holds the main electrical feed from the street, three transformers, and conduits to the building. It also holds communication utilities. Conduits from this pole to the basement of the Library are allowing water to enter the main disconnect electrical switch box. The switch is showing signs of corrosion caused by water entering the conduit at the pole and must be replaced before failure.

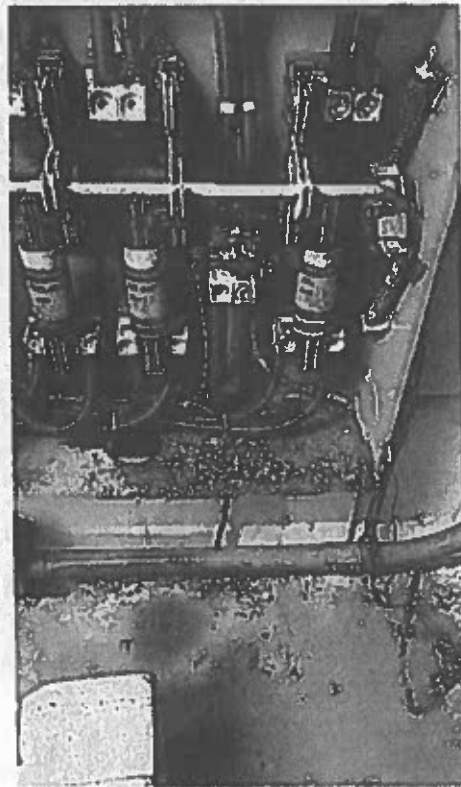
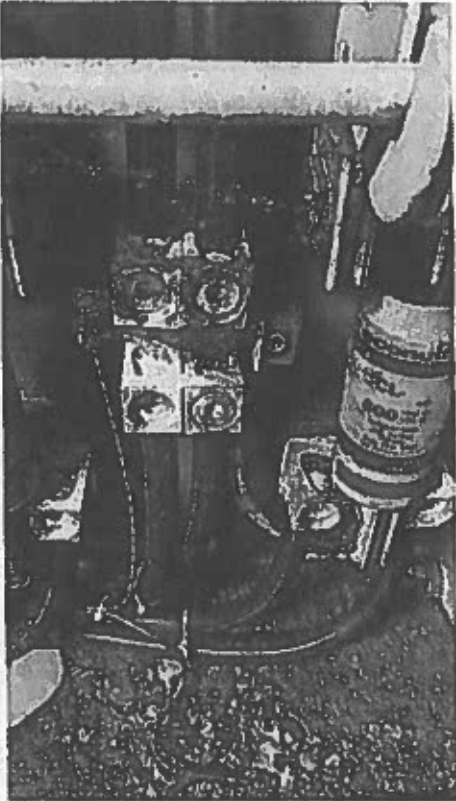
Due to the service size, we must adhere to Eversource's requirements which will require a pad mounted transformer. The new service, a 600 amp 240 volt service entrance rated main disconnect switch, will be fed from this pad-mounted transformer which Eversource will own. The existing pole is planned to be removed by undergrounding electrical and communications from an existing pole closer to the street. New conduits will be provided for electrical and communications.

The current parking lighting is powered from the Library basement back out to the pole holding the existing transformers and then by overhead wire to existing wooden poles that hold the lights. The project will include the replacement of these poles and lights. The poles have reached their life expectancy. Light fixtures and poles will match the theme of the civic green.

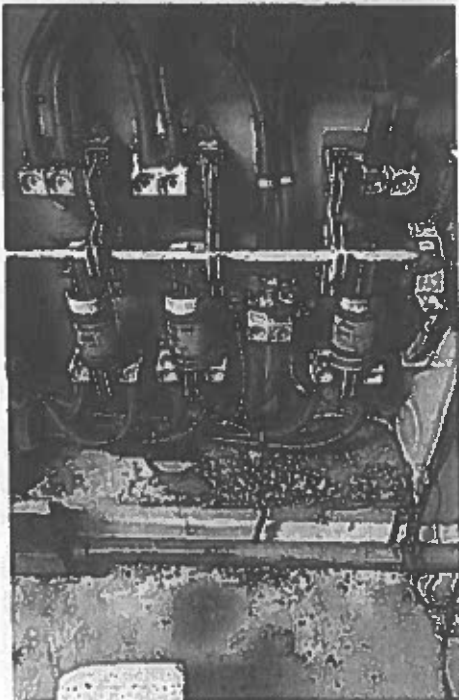
**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY Building Maintenance	CONTACT PERSON Gary J. Schneider
PROJECT NAME Library Electrical Project	DEPARTMENT PRIORITY 1

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project) The facility is currently served by overhead pole mounted transformers located at the end of a pole line into the property from Route 156. From the transformers, the cables enter conduits on the pole that then becomes a buried conduit until it enters the basement. Over the years, water has entered the conduits draining into the disconnect switch, corroding the cabinet and the electrical connections. It must be replaced. It would be cost effect to underground all utilities that are on the current pole. Communications (fiber and copper) would be moved underground from the first pole near Rt 156 to the building and the parking lot lighting would be replaced due to the age and condition of the poles.																																																																													
2	PROJECT STATUS IF IN PROGRESS Schematic design has been completed																																																																													
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST None																																																																													
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (Include cost estimate if applicable) Complete failure would close the building until repairs or temporary power could be provided.																																																																													
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available) None																																																																													
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below) Attached expanded narrative memorandum, overall plan of the site, photos.																																																																													
7	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="7" style="text-align: center;">COST/FUNDING SOURCE</th> </tr> <tr> <th style="width: 40%;">FUNDING SOURCE</th> <th style="width: 10%;">APPROVED FUNDING TO DATE</th> <th style="width: 10%;">FY2026</th> <th style="width: 10%;">FY2027</th> <th style="width: 10%;">FY2028</th> <th style="width: 10%;">FY2029</th> <th style="width: 10%;">FY2030</th> </tr> </thead> <tbody> <tr> <td>1 Current Year Capital</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2 Utility Budget/Sewer Cap Maint Fund</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 Transfer to CNR</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 Short/Long-term Bonds</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5 LoCIP (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6 CNR Undesignated Fund Balance</td> <td></td> <td style="text-align: center;">25,000</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7 Federal/State Grants (detail in section 5)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8 Other Funding (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TOTALS</td> <td style="text-align: center;">0</td> <td style="text-align: center;">25,000</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>	COST/FUNDING SOURCE							FUNDING SOURCE	APPROVED FUNDING TO DATE	FY2026	FY2027	FY2028	FY2029	FY2030	1 Current Year Capital							2 Utility Budget/Sewer Cap Maint Fund							3 Transfer to CNR							4 Short/Long-term Bonds							5 LoCIP (detail in section 5 above)							6 CNR Undesignated Fund Balance		25,000					7 Federal/State Grants (detail in section 5)							8 Other Funding (detail in section 5 above)							TOTALS	0	25,000	0	0	0	0
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**Main
disconnect
electrical
switch**





**Pole mounted transformer to
be replaced with pad
mounted ground transformer**

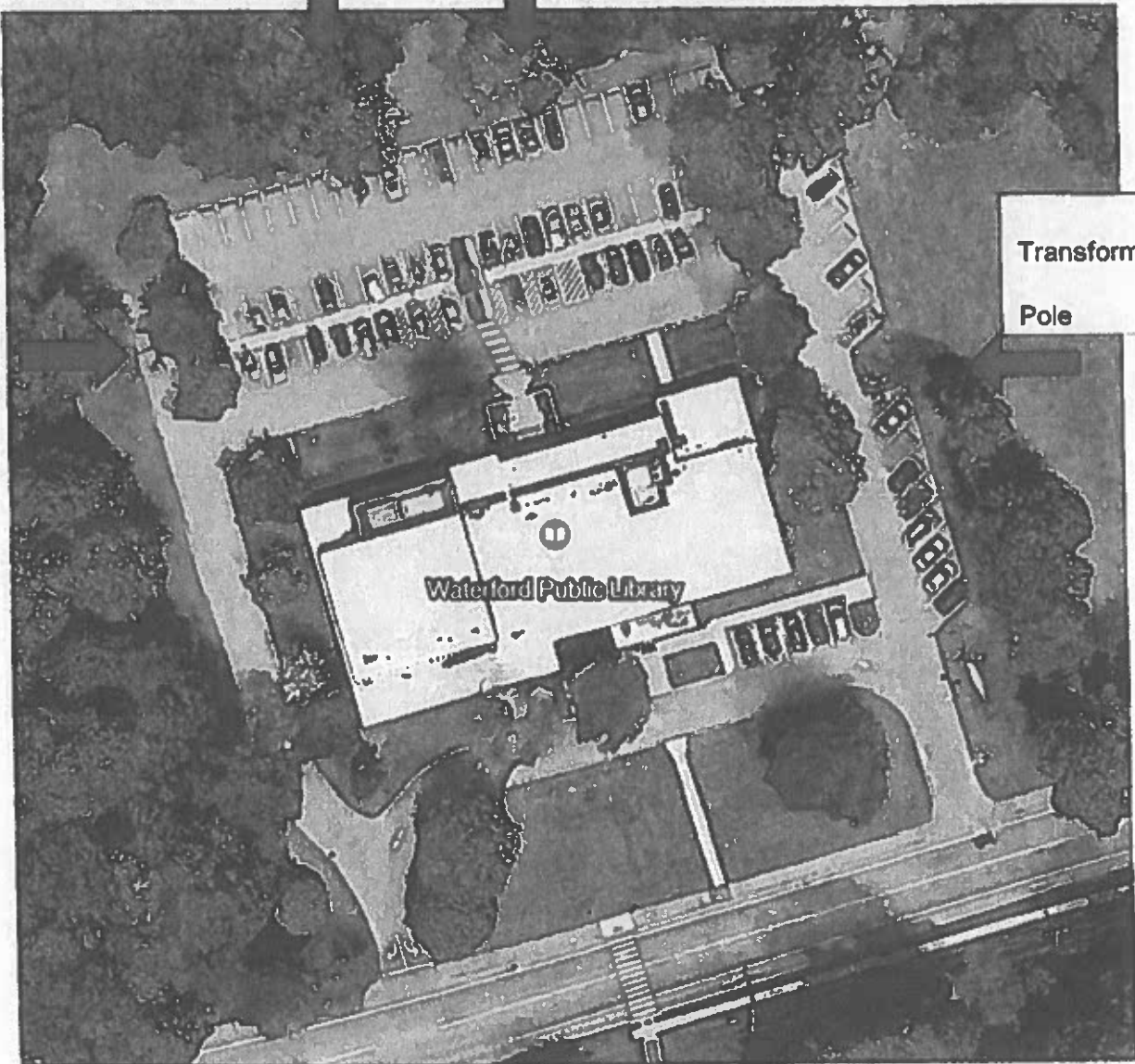


Light Pole

Light Pole

Transformer
Pole

Light
Pole



**Public Works
Department**

Memo

To: Robert Brule, First Selectman
From: Gary J Schneider, Director of Public Works
cc: Kimberly Allen, Finance Director
Date: September 2, 2025
Re: Paving Request – FY26



Request: To fund a new project, the resurfacing of roads by transferring funds from the Unassigned Balance of the General Fund to a project line to be created within the Capital Improvements Project Fund to complete the resurfacing of roads identified in Year 1 of the three-year plan.

The Department is requesting \$1,533,283 from the General Fund Balance to be used with \$539,485 (line item 33023-55890) already collected from Eversource for year 1 of the program.

Where: The roads are listed in Year 1. Year 1 will see ½ of the roads resurfaced in Quaker Hill, which were impacted by the installation of the natural gas infrastructure. In general the roads are north of Richards Grove Road to the Route 32 connection. It also includes some roads in this area that did not see the installation of gas service, but makes operational sense to complete these roads while the contractors are in the area. Year 2 addresses the remainder of those roads south of Richards Grove Road.

Discussion: I have prepared a 3-year, \$4 million resurfacing program to address the needs of road resurfacing throughout the entire Town. The plan uses our four Districts to distribute the effort throughout the entire Town. Each year identifies approximately \$1 million in resurfacing, a number that the Department can comfortably support. In the plan, Districts 2, 3 and 4 each will realize approximately \$1 million over the 3 years. District 1 will see less in this plan due to the recently completion of the resurfacing of roads off of Fog Plain Road and roads in the area of Tiffany and Vivian streets.

The request for funding will occur each fall for the next construction year. This will ensure that the Department can work with the vendors just after the New Year in scheduling the work throughout the construction season.

Resurfacing costs have been estimated from two sources, the VHB 2020 report where I have increased the cost by 15% to cover inflation and incidentals and from a Public Works estimate (increased by 9%) used in the determination of Eversource's reimbursement to resurface the roads impacted by the installation of their natural gas infrastructure.

The program includes an allowance of \$250,000 per district for items such as utility resets, asphalt cost escalation, line striping and resident notifications.

The plan will be reviewed each fall before the next years paving season to verify the roads to be completed. At the same time, the Department will add the third year to the plan.

I respectfully request to be placed on the Board of Selectman's agenda, and forwarded to the Board of Finance, if approved.

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY Public Works	CONTACT PERSON Gary J. Schneider
PROJECT NAME Paving Projects Calendar Year 2026	DEPARTMENT PRIORITY 1

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project) All roads identified in this project fall under the definition of needing structural improvement or rehabilitation. This is defined as milling the top several inches of old asphalt from the surface and replacing with new asphalt or full depth reclamation, where the asphalt is ground up and mixed with the base to establish a new base and then resurfaced with three inches of new asphalt. Year 1 will complete 1/2 of the roads in the Quaker Hill area, those being north of Richards Grove Road. It includes some roads in this area that were not affected by Eversource, but make optional sense to complete. Also include are several roads around Maple Road and several roads around Soljer Drive. Future years will follow the Three Year Plan.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST Plastic water services and catch basin replacements will be completed before paving starts.																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable) Minor impact. Current practice is just to make the road condition safe. Minor savings in pot hole patching materials																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available) Eversource deposited with the Town funds to restore the roads in lieu of performing the work themselves. See attached Plan for roads that apply to this funding.																																																																						
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below) Attached Resurfacing Program 2026-2028.																																																																						
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Resurfacing Program 2026-2028



	Year 1	Year 2	Year 3	Paving	Allowances	
District 1	\$ 0	\$ 0	\$ 529,863	\$ 529,863	\$ 250,000	\$ 779,863
District 2	\$ 698,029	\$ 424,353	\$ 0	\$ 1,122,381	\$ 250,000	\$ 1,372,381
District 3	\$ 252,004	\$ 0	\$ 492,815	\$ 744,819	\$ 250,000	\$ 994,819
District 4	\$ 249,918	\$ 510,888	\$ 0	\$ 760,806	\$ 250,000	\$ 1,010,806
Total	\$ 1,199,950	\$ 935,240	\$ 1,022,678	\$ 3,157,868	\$ 1,000,000	\$ 4,157,868

Year 1 Spring 2026 thru Fall 2026

Year 2 Spring 2027 thru Fall 2027

Year 3 Spring 2028 thru Fall 2028

YEAR 1

DISTRICT 2

EVERSOURCE IMPACTED ROADS	Estimate (T)	Town (1/2)	Town x 9%
Bolles Court	\$ 30,498	\$ 15,249	\$ 16,621
Broadview Court	\$ 80,215	\$ 40,108	\$ 43,717
Clark Place	\$ 82,103	\$ 41,051	\$ 44,746
Decab Lane	\$ 33,420	\$ 16,710	\$ 18,214
Hardwick Road	\$ 50,080	\$ 25,040	\$ 27,294
Ladley Road	\$ 65,070	\$ 32,535	\$ 35,463
Laurel Glenn Road	\$ 47,233	\$ 23,616	\$ 25,742
Pennicott Road	\$ 55,300	\$ 27,650	\$ 30,139
Tanglewylde Place	\$ 30,835	\$ 15,418	\$ 16,805
Wintergreen Drive	\$ 184,933	\$ 92,466	\$ 100,788
			\$ 359,528

DISTRICT 2

TOWN ROADS	VHB 2020		VHB x 15%
Donald Avenue	\$ 35,932		\$ 41,322
Maple Road	\$ 11,618		\$ 13,361
Red Cedar Avenue	\$ 39,021		\$ 44,874
Marguy Street	\$ 78,262		\$ 90,001
Rosemary Lane	\$ 9,316		\$ 10,713
Sunshine Drive	\$ 65,669		\$ 75,519
Schoolhouse Lane	\$ 11,962		\$ 13,756
Northwood Road	\$ 42,568		\$ 48,953
			\$ 338,500

DISTRICT 3

EVERSOURCE IMPACTED ROADS	Estimate (T)	Town (1/2)	Town x 9%
Soljer Drive	\$ 237,942	\$ 118,971	\$ 129,678
Ann Road (Non E Road)	\$ 21,554	\$ 21,554	\$ 23,494
Roseleah Drive	\$ 181,342	\$ 90,671	\$ 98,831
			\$ 252,004

DISTRICT 4

TOWN ROADS	VHB 2020		VHB x 15%
Mago Point Way	\$ 8,523		\$ 9,801
Avenue B	\$ 2,182		\$ 2,509
Second Street	\$ 1,835		\$ 2,110
Fourth Street	\$ 131,019		\$ 153,198
River Street	\$ 71,565		\$ 82,300
			\$ 249,918

YEAR 2

DISTRICT 2

EVERSOURCE IMPACTED ROADS	Estimate	Town Portion	Town x 9%
Cove View Drive	\$ 44,398	\$ 22,199	\$ 25,529
Fitzgerald Avenue	\$ 81,315	\$ 40,658	\$ 46,756
James Avenue	\$ 60,732	\$ 30,366	\$ 34,921
John Avenue	\$ 41,700	\$ 20,850	\$ 23,978
May Avenue	\$ 44,597	\$ 22,299	\$ 25,643
Miller Avenue	\$ 61,295	\$ 30,648	\$ 35,245
Porter Street	\$ 96,737	\$ 48,369	\$ 55,624
Roberts Court	\$ 36,230	\$ 18,115	\$ 20,832
Thomas Avenue	\$ 41,850	\$ 20,925	\$ 24,064
Uncas Avenue	\$ 76,181	\$ 38,091	\$ 43,804
Uncas Court	\$ 13,068	\$ 6,534	\$ 7,514
			\$ 343,909

DISTRICT 2

TOWN ROADS	VHB 2020		VHB x 15%
Totoket Road	\$ 69,951		\$ 80,444

DISTRICT 4

TOWN ROADS	VHB 2020		VHB x 15%
Third Avenue	\$ 53,025		\$ 60,979
Fourth Avenue	\$ 90,339		\$ 103,890
Middle Street	\$ 17,000		\$ 19,550
High Street	\$ 17,000		\$ 19,550
East Wharf Road	\$ 77,584		\$ 89,222
High Ridge Road	\$ 158,980		\$ 182,827
Croyden Court	\$ 30,322		\$ 34,870
			\$ 510,888

YEAR 3

DISTRICT 1

TOWN ROADS	VHB 2020		VHB x 15%
Summer Street	\$ 65,019		\$ 74,772
David Street	\$ 27,970		\$ 32,166
William Street	\$ 40,416		\$ 46,478
Norman Street	\$ 53,217		\$ 61,200
Wild Rose Place	\$ 33,839		\$ 38,915
Wild Rose Avenue	\$ 50,759		\$ 58,373
Avenue A	\$ 11,897		\$ 13,682
Sandy Hollow Road	\$ 123,830		\$ 142,405
Edgewood Avenue	\$ 13,661		\$ 15,710
Graham Street	\$ 40,142		\$ 46,163
			\$ 529,863

DISTRICT 3

TOWN ROADS	VHB 2020		VHB x 15%
Ina Boulevard	\$ 59,451		\$ 68,369
Paula Lane	\$ 204,887		\$ 235,620
Doyle Road	\$ 164,197		\$ 188,827
			\$ 492,815

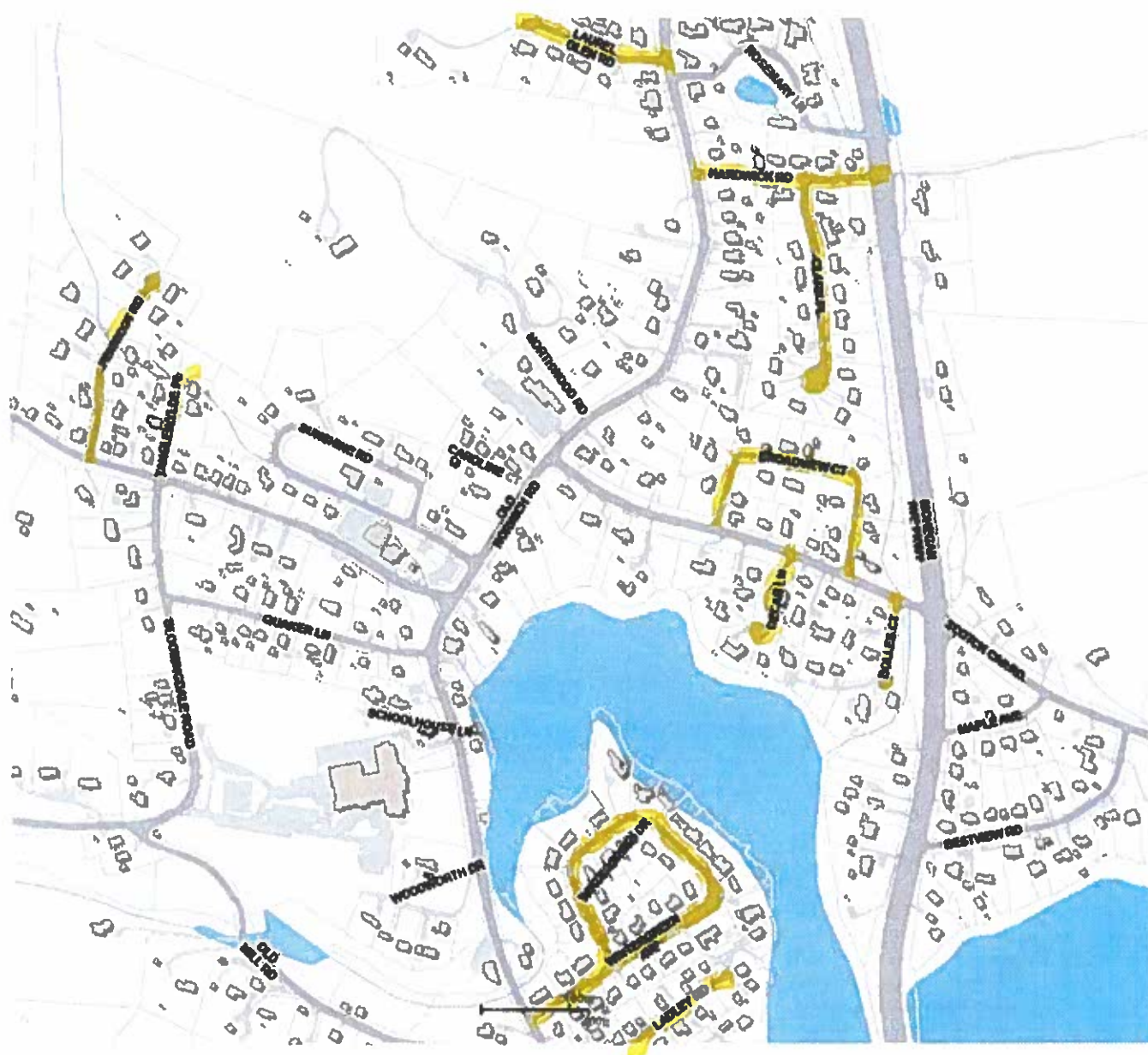
Eversource Roads: These roads were affected by the installation of gas service. Eversource has made a payment to the Town to resurface ½ of the width of the road.

Town (1/2): The Department had prepared an estimate to resurface the road. (This was also used to negotiate the EverSource payment). The Town and EverSource shared the cost equally.

Town x 9%: The estimate was prepared several years ago. The estimate was increased by 3% each year.

VHB 2020: The Town has used VHB Consulting Engineers to prepare a pavement management report. The last report was completed in 2020.

VHB x 15%: The estimate prepared in 2020 was increased by 3% each year.



Year 1 - DISTRICT 2 EVERSOURCE:

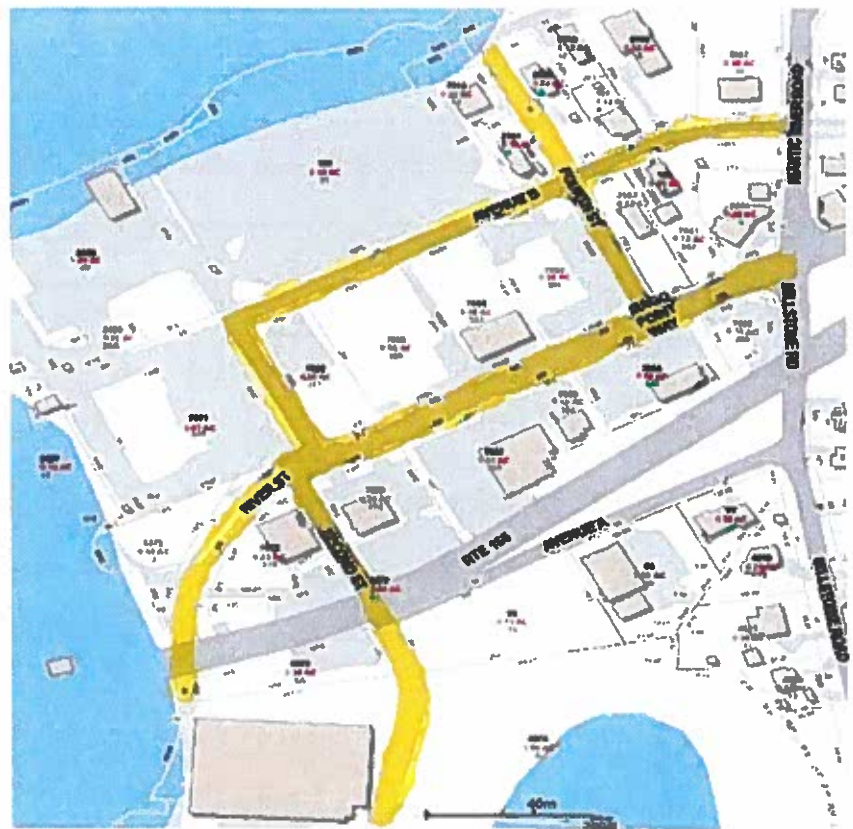
Bolles Court
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Clark Place
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Tanglewylde Place
Wintergreen Drive



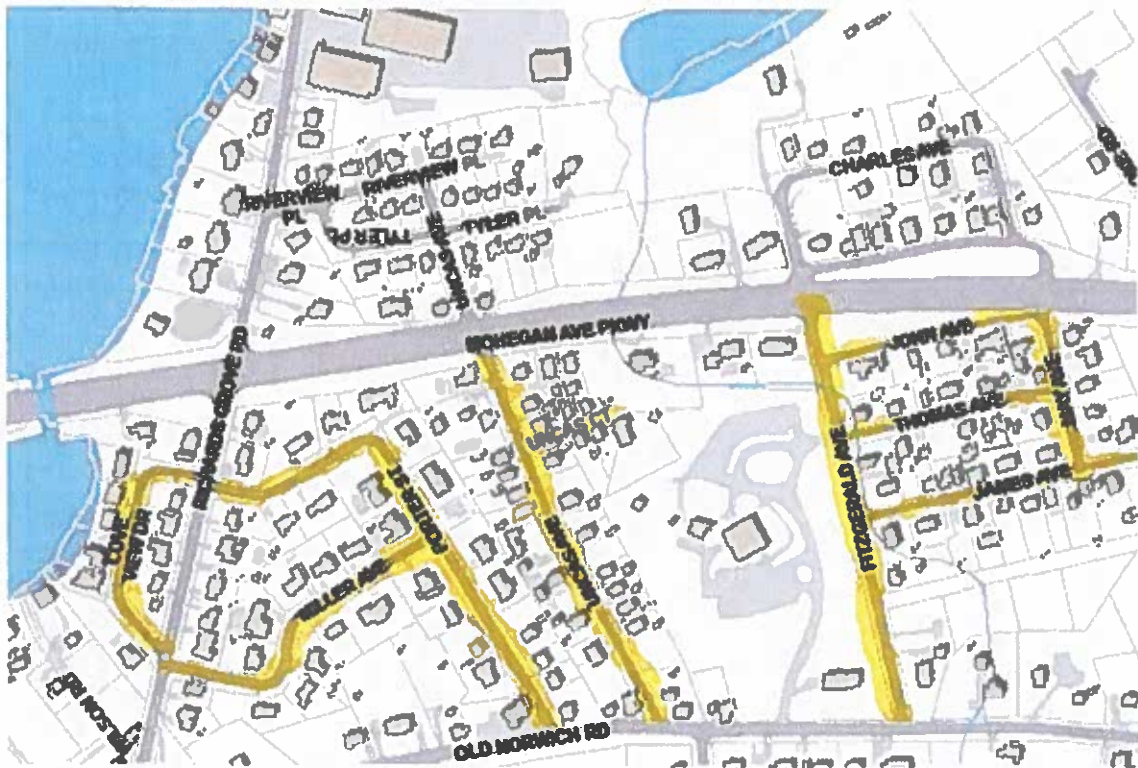
- Year 1 – DISTRICT 2 TOWN ROADS:**
- Donald Avenue
 - Maple Road
 - Red Cedar Avenue
 - Marguy Street
 - Rosemary Lane
 - Sunshine Drive
 - Schoolhouse Lane
 - Northwood Road



Year 1 – DISTRICT 3
EVERSOURCE:
 Solger Drive
 Ann Road (Non E Road)
 Roseleah Drive



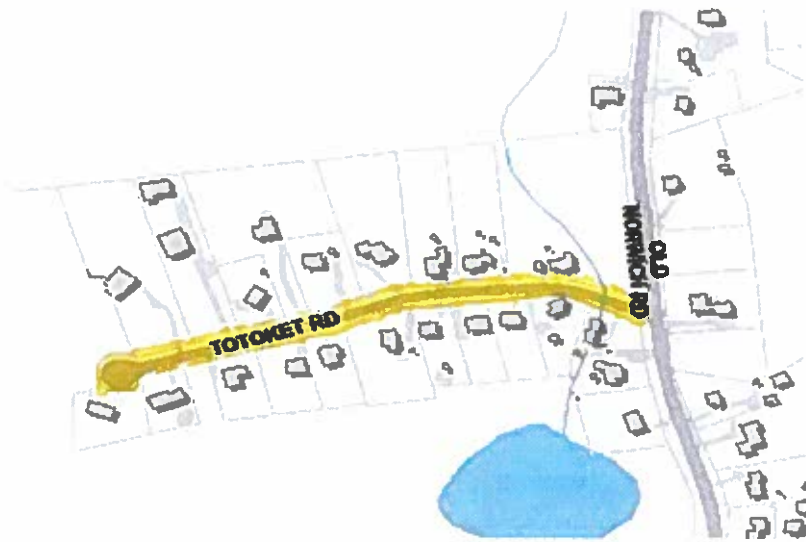
Year 1 – DISTRICT 4
TOWN ROADS:
 Mago Point Way
 Avenue B
 Second Street
 Fourth Street
 River Street



Year 2 – DISTRICT 2

EVERSOURCE:

Cove View Drive
 Fitzgerald Avenue
 James Avenue
 John Avenue
 May Avenue
 Miller Avenue
 Porter Street
 Roberts Court
 Thomas Court
 Uncas Avenue
 Uncas Court



Year 2 – DISTRICT 2
TOWN ROADS:
 Totoket Road



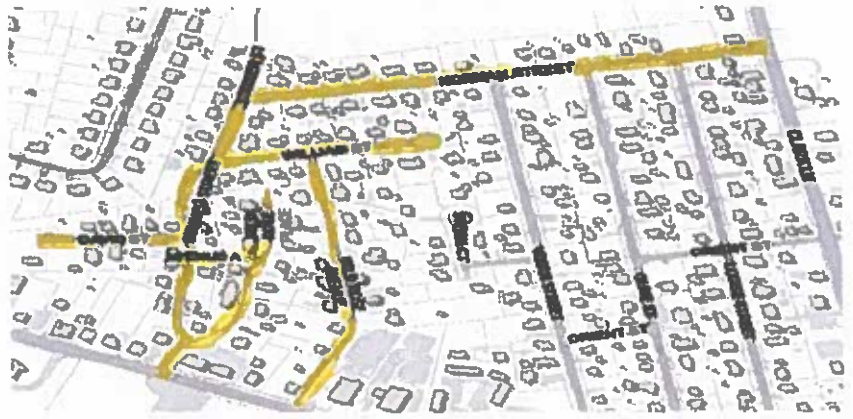
Year 2 – DISTRICT 4
TOWN ROADS:
 Third Avenue
 Fourth Avenue
 Middle Street
 High Street
 East Wharf Road
 High Ridge Road
 Croyden Court



Year 3 – DISTRICT 1 TOWN

ROADS:

Summer Street
David Street
William Street
Norman Street
Wild Rose Place
Wild Rose Avenue
Avenue A
Sandy Hollow Road
Edgewood Avenue
Graham Street





Year 3 – DISTRICT 3

TOWN ROADS:

Ina Boulevard

Paula Lane

Doyle Road

1000 HARTFORD TURNPIKE



WATERFORD, CT 06385

August 28, 2025

Mr. Rob Brule, First Selectman
Town of Waterford Town Hall
15 Rope Ferry Road
Waterford, CT 06385

Dear Mr. Brule,

The Utility Commission respectfully requests the following appropriations of funds identified within the FY26 Capital Plan:

1. The Utility Commission respectfully requests an appropriation of the funds currently designated within L.I. # 20531-57881, Plastic Water Service Line Replacement in the amount of \$200,000.
2. The Utility Commission respectfully requests a designation and appropriation of the funds identified in the First Selectman's plan for the General Fund Balance for Plastic Water Service Line Replacements for FY26 in the amount of \$500,000.

There are approximately 7900 water services in Town, many of which are plastic and have exceeded their useful life resulting in unaccounted for water loss and degradation to the Town roads. The goal of this program is to replace the aging plastic water services with copper line prior to DPW paving the roads. Since the start of this cooperative project with DPW 806 water service lines have been investigated, of those 229 water service lines were found to be plastic and replaced totaling 5,218 linear feet. In FY26 the DPW's updated paving plan has identified several roads scheduled to be repaved, within these roads lie approximately 376 water services, of those approximately 165 may need to be replaced, as the material type is unconfirmed. Service line replacement costs are on average \$4100 each depending upon the service line length and location, typically we are finding about 30 percent of the unconfirmed service material types are plastic and require replacement.

3. The Utility Commission respectfully requests an appropriation of the funds currently designated within L.I. # 20531-57894, Cross Country Sewer Main Access in the amount of \$200,000.

Sewer mains collect wastewater from our Town's parcels and convey this wastewater to downstream pumping stations via a vast network of piping and pumping stations to a point terminating at the Main pumping station, which then conveys the wastewater to the

regional treatment facility in New London. Of the Town's 150 miles of sewer piping, approximately 15.6 miles lie within cross-country easement areas, which are outside of roadways. Many of these sewer mains traverse through heavily wooded cross-country easement areas, which are becoming more challenging to access. Accessibility is crucial in order to conduct a full assessment evaluation and to provide timely access to conduct immediate or corrective repairs to the sewer main or structures. The goal of this project is to recreate the original easement access areas along all of our cross-country mains or create alternate access points.

Contract #1 was the Town's very first sewer construction project, which began in 1970. This project entailed the installation of approximately 13,000 liner feet of sewer main. A Special Appropriation in the amount of \$250,000 for engineering services was appropriated for the Contract #1 Sewer Main Access project in 2023. Survey work to identify the Contract #1 easement area, manholes, intersecting property lines, and other utilities within the easement area commenced in October of 2023 and was completed in the spring of 2024. The final design package (drawings and specifications) to be used for contractor bid solicitation and construction for Phase One of the restoration project was granted by the Utility Commission at the November 2024 meeting. Phase one encompasses the southern section of the interceptor beginning at the intersection of Great Neck Road and Rope Ferry Road to the end of the interceptor at Evergreen Avenue Pump Station. Phase two which encompasses the northern section of the interceptor from Boston Post Road to Great Neck Road requires the acquisition of additional easements to gain access to the interceptor during restoration and for the Utility Commission staff in the future. Splitting the project into two Phases allows restoration work to begin while easements are procured, so that once Phase one is complete easements will be in place and Phase two can begin shortly thereafter. Our engineering firm estimates construction costs up to \$288,600 for Contract One Restoration, there are funds available under LI # 33123-55019 for this project in the amount of \$147,200. Phase one went out to bid on August 18th and bids will be opened on September 19th, and construction will begin as soon as the designated funds are made available in October provided the bids do not exceed the available funds.

4. The Utility Commission respectfully requests an appropriation of the funds currently designated within L.I. # 20531-57895, Water Tank Management in the amount of \$46,222.00

The Town of Waterford owns three water storage tanks, the 750,000 gallon Fargo Tank, the 300,000 gallon Vauxhall tank and the 1.25 Million gallon Rogers Hill tank. In 2024 the Fargo Road Tank refurbishment project was completed; prior to this renovation, the Fargo Road water tank had its original coat of paint, which had far exceeded its useful life expectancy by approximately 10 years. This work was necessary to preserve the Town's significant investment in its infrastructure and to extend the life of its asset; if routine maintenance of infrastructure is ignored, it turns into an emergency capital investment and typically costs three times that of routine maintenance. If this tank had not undergone the recent rehabilitation, the structural integrity of the tank would have eventually failed, requiring that the tank be replaced at a significant cost to the Town. Many municipalities do not realize the financial investment they have in their water storage tanks. These key municipal water distribution system components often receive

the least attention and yet, they can potentially experience serious issues without proper tank asset management. Contamination from animals or debris, corrosion and other issues can trigger customer complaints, municipal regulatory compliance violations and costly water distribution service disruptions. A Water Tank Management Program for these valuable assets would preserve the significant investment the Town has made in water storage tanks by guaranteeing routine inspections and maintenance of the water storage tanks does not fall behind, thus improving the reliability of the system. A sustainable water tank management solution also makes budgeting easier as initial repair costs can be spread out over a few years if necessary and all future interior and exterior renovation costs are included.

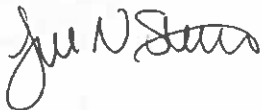
Our request is to initiate a funding schedule that would enroll the three water storage tanks in a Tank Asset Management program progressively, beginning with Fargo Road in FY26, this tank will not require any Upfront Renovation costs to enroll in the program, only annual Maintenance plan costs. A draft contract from our coating contractor is included as backup for this request.

5. The Utility Commission respectfully requests an appropriation of the funds currently designated within L.I. # 20531-57896, Bartlett Corners Water Booster in the amount of \$166,950.00

In 2006, the Town constructed water system improvements that enhanced water pressures and fire flows to the Quaker Hill area of Waterford. Included in this project were a new 2500 gpm capacity water booster pumping station near the intersection of Old Colchester and Old Norwich Roads, and a 1.5 million gallon pre-cast, pre-stressed concrete water storage tank constructed on Rogers Hill. From 1977 up to 2006, the Bartlett Corners Hydro-pneumatic Station served a small high service area on a hill in the northeast corner of Waterford consisting of approximately 20 residential customers on Lathrop Road, Lower Bartlett Road, Upper Bartlett Road, Pepperidge Road and South Bartlett Road. Once the new Quaker Hill water system improvements were activated in 2006, the Bartlett Corners Station was inactivated however not fully decommissioned. In 2009 a decommissioning report was prepared which identified costs of \$105,000 to properly decommission the station. This project has been identified within previous CIPs. Utilizing the Engineering News Record's Construction Costs Index inflation factor of 1.59 from 11/2009 to 11/2024, the current decommissioning costs estimate is \$166,950

Please see the additional back up material provided in support of each request attached to this letter.

Thank you.



Jill N. Stevens, Director
Utility Commission

Cc: Utility Commission
Kimberly Allen, Director of Finance

1000 HARTFORD TURNPIKE



WATERFORD, CT 06385

August 28, 2025

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Town of Waterford Town Hall
15 Rope Ferry Road
Waterford, CT 06385

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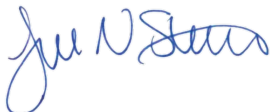
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Thank you.



Jill N. Stevens, Director
Utility Commission

Cc: Utility Commission
Kimberly Allen, Director of Finance

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

Requests 1 & 2

DEPARTMENT/AGENCY Utility Commission	CONTACT PERSON Jill N. Stevens
PROJECT NAME Plastic Water Service Replacement Project	DEPARTMENT PRIORITY 2

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	The goal of this project is to replace all of the plastic water services prior to DPW paving the roads. There are approximately 7900 water services in Town, many of which are plastic and have exceeded their useful life resulting in unaccounted for water loss and degradation to the Town roads. Within the DPW FY26 list of roads scheduled to be paved there are nearly 280 water services that require evaluation, once determined which services are plastic the Utility Commission will replace them with copper service line. A majority of this work is being conducted by Utility Commission staff.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
	To date we have replaced 162 service lines totaling 3,416LF of plastic water piping replaced with copper.																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST																																																																						
	DPW Roads Paving Project																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable)																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available)																																																																						
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below)																																																																						
	An average cost to replace these lines is \$4,100 depending upon length and location.																																																																						
7	COST/FUNDING SOURCE																																																																						
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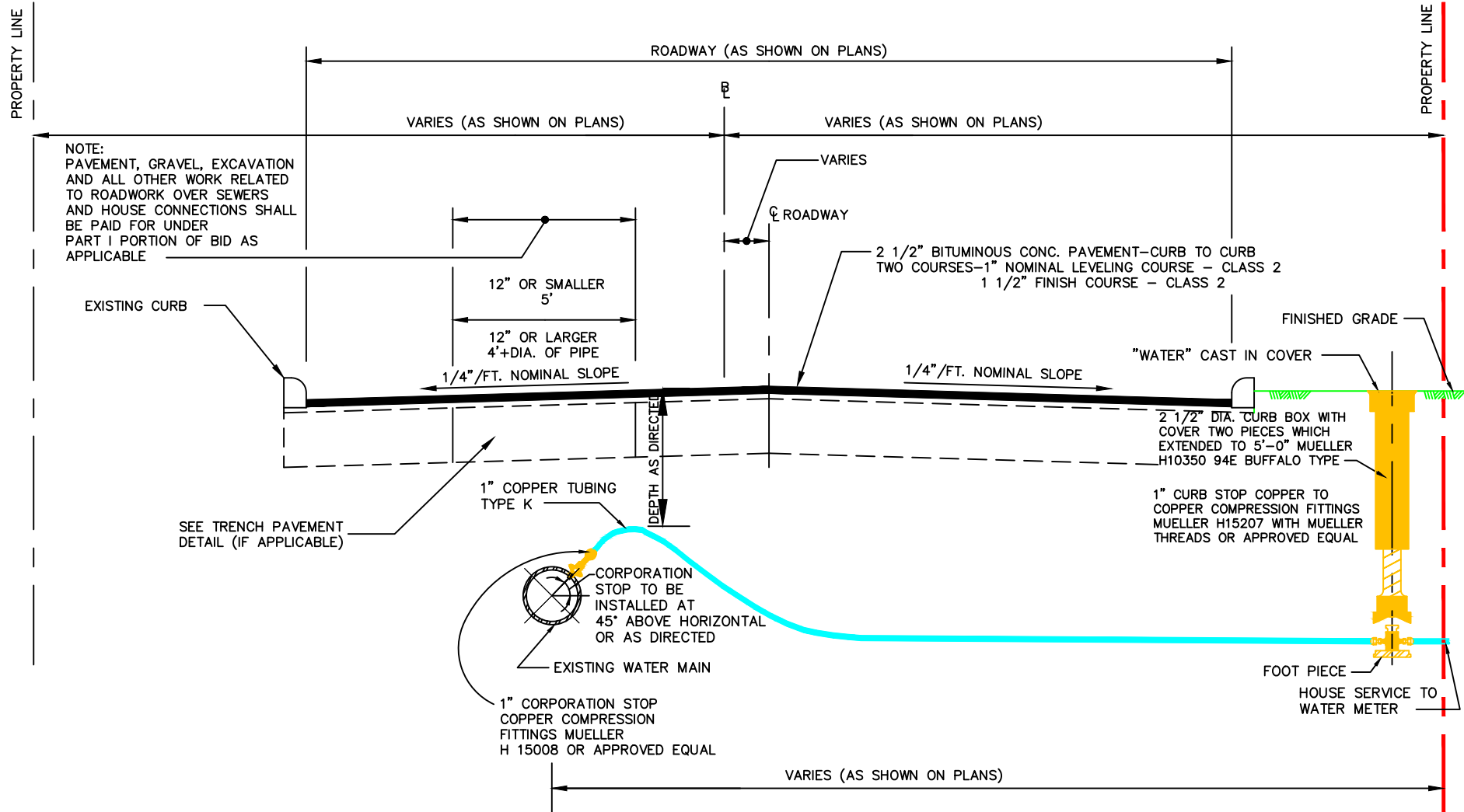
City of New London
Invoice for Waterford Pipe Replacement Program

Assumptions \$ 2,850.00 15 \$ 183.33 \$ 2.58

Address	Number	Result	Length (ft)	Material	Date	Base Fee	Length over Base	Cost over Base	Copper up charge	Total Charge
121	Shore Rd	Replaced WTFD	10	3/4 Copper						\$ -
130	Shore Rd	Replaced Veolia	20	1" Copper	6/20/2023	\$ 2,850.00	5	\$ 916.65	51.6	\$ 3,818.25
132A	Shore Rd	Replaced Veolia	21	3/4 Copper	6/20/2023	\$ 2,850.00	6	\$ 1,099.98		\$ 3,949.98
132	Shore Rd	Replaced Veolia	32	3/4 Copper	6/19/2023	\$ 2,850.00	17	\$ 3,116.61		\$ 5,966.61
161	Shore Rd	Confirmed Existing Copper								\$ -
165	Shore Rd	Confirmed Existing Copper								\$ -
169	Shore Rd	Replaced Veolia	24	3/4 Copper	6/16/2023	\$ 2,850.00	9	\$ 1,649.97		\$ 4,499.97
173	Shore Rd	Cut off at tap	32				17	\$ 3,116.61		\$ 3,116.61
179	Shore Rd	Replaced Veolia	32	3/4 Copper	6/14/2023	\$ 2,850.00	17	\$ 3,116.61		\$ 5,966.61
181	Shore Rd	Replaced WTFD								\$ -
184	Shore Rd	Confirmed Existing Copper								\$ -
191	Shore Rd	Confirmed Existing Copper								\$ -
193	Shore Rd	Confirmed Existing Copper								\$ -
194	Shore Rd	Confirmed Existing Copper								\$ -
195	Shore Rd	Confirmed Existing Copper								\$ -
196	Shore Rd	Confirmed Existing Copper								\$ -
198	Shore Rd	Replaced Veolia	22	3/4 Copper	6/6/2023	\$ 2,850.00	7	\$ 1,283.31		\$ 4,133.31
200	Shore Rd	Replaced Veolia	20	3/4 Copper	6/12/2023	\$ 2,850.00	5	\$ 916.65		\$ 3,766.65
200 F	Shore Rd	Replaced Veolia	18	3/4 Copper	6/13/2023	\$ 2,850.00	3	\$ 549.99		\$ 3,399.99
201	Shore Rd	Replaced Veolia	19	1" Copper		\$ 2,850.00	4	\$ 733.32	49.02	\$ 3,632.34
204 R	Shore Rd	Confirmed Existing Copper								\$ -
205	Shore Rd	Replaced Veolia	23	3/4 Copper	6/8/2023	\$ 2,850.00	8	\$ 1,466.64		\$ 4,316.64
206	Shore Rd	Confirmed Existing Copper								\$ -
208	Shore Rd	Replaced WTFD								\$ -
209	Shore Rd	Replaced Veolia	30	3/4 Copper	6/9/2023	\$ 2,850.00	15	\$ 2,749.95		\$ 5,599.95
211	Shore Rd	Replaced Veolia	35	1" Copper	6/12/2023	\$ 2,850.00	20	\$ 3,666.60	90.3	\$ 6,606.90
212	Shore Rd	Replaced Veolia	15	3/4 Copper	6/5/2023	\$ 2,850.00	0			\$ 2,850.00
212 R	Shore Rd	Cut off at tap								\$ -
213	Shore Rd	Replaced Veolia	27	3/4 Copper	6/1/23 ?	\$ 2,850.00	12	\$ 2,199.96		\$ 5,049.96
214	Shore Rd	Replaced WTFD								\$ -
218	Shore Rd	Replaced WTFD								\$ -
219	Shore Rd	Replaced Veolia	20	3/4 Copper	5/31/2023	\$ 2,850.00	5	\$ 916.65		\$ 3,766.65
220	Shore Rd	Replaced WTFD								\$ -
222	Shore Rd	Replaced WTFD								\$ -
224	Shore Rd	Replaced Veolia	18	3/4 Copper	5/23/2023	\$ 2,850.00	3	\$ 549.99		\$ 3,399.99
226	Shore Rd	Replaced Veolia	17	3/4 Copper	5/22/2023	\$ 2,850.00	2	\$ 366.66		\$ 3,216.66
228	Shore Rd	Replaced Veolia	30	3/4 Copper	5/24/2023	\$ 2,850.00	15	\$ 2,749.95		\$ 5,599.95
229	Shore Rd	Replaced WTFD								\$ -
230	Shore Rd	Replaced WTFD								\$ -
233	Shore Rd	Replaced Veolia	22	3/4 Copper	5/25/2023	\$ 2,850.00	7	\$ 1,283.31		\$ 4,133.31
234	Shore Rd	Replaced WTFD								
239	Shore Rd	Replaced WTFD								

WUC provided tubing

Services Replaced	21	Total	\$ 86,790.33
Cost/ Service			\$ 4,132.87
Days			18
Service / Day			1.2



WATER SERVICE CONNECTION DETAIL IN TYPICAL ROADWAY CROSS SECTION

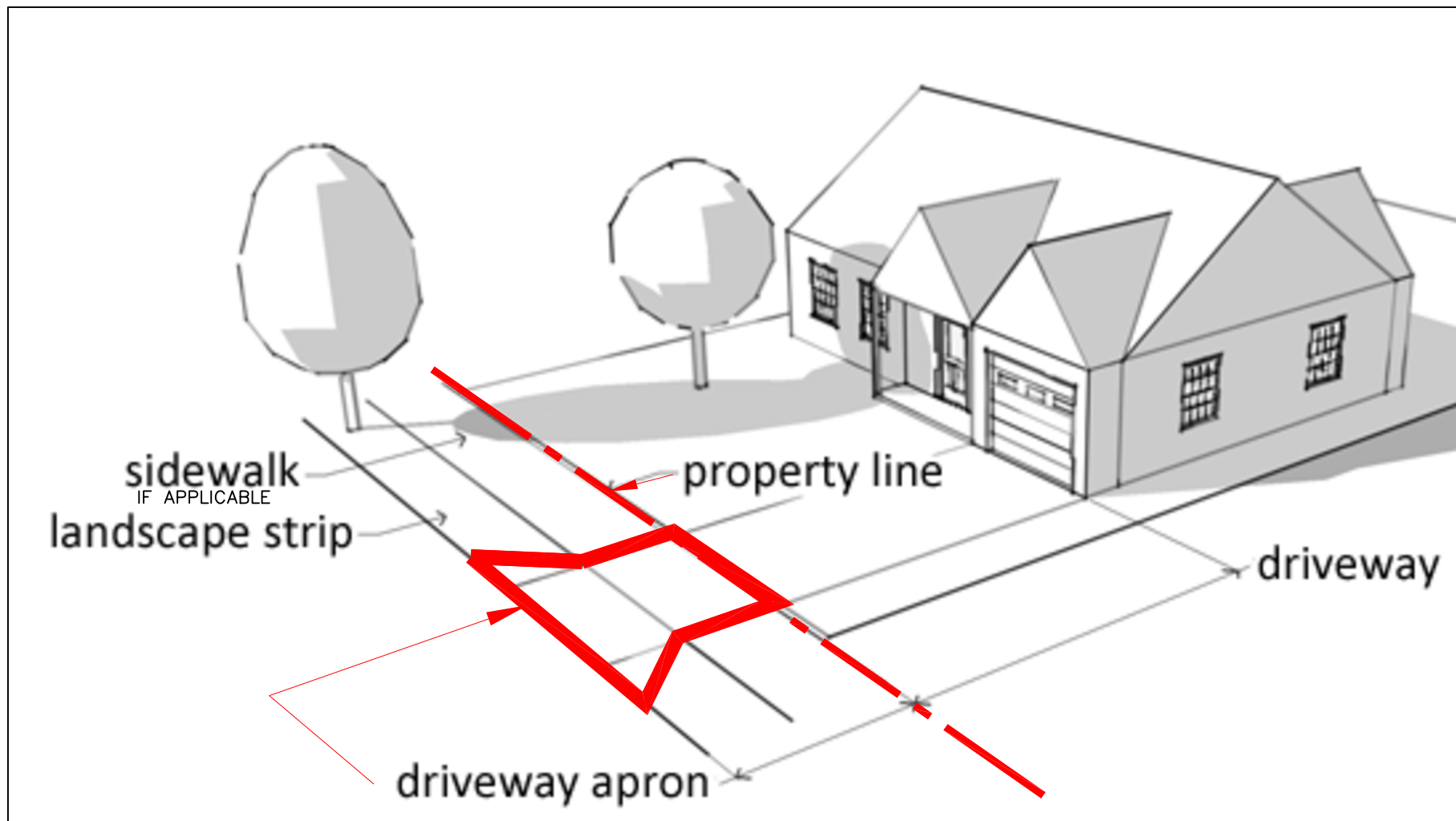
NOT TO SCALE

WATERFORD UTILITY COMMISSION
TOWN OF WATERFORD, CT



DETAIL:

DATE:
MAR 2023



TYPICAL DRIVEWAY APRON SCHEMATIC
NOT TO SCALE

WATERFORD UTILITY COMMISSION
TOWN OF WATERFORD, CT



DETAIL:

DATE:
JUN 2023



1 Plastic Water Service prior to replacement



2 Plastic Water Service Replaced with Copper Line

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

Request 3

DEPARTMENT/AGENCY Utility Commission	CONTACT PERSON Jill N. Stevens
PROJECT NAME Cross-Country Sewer Main Access	DEPARTMENT PRIORITY 1

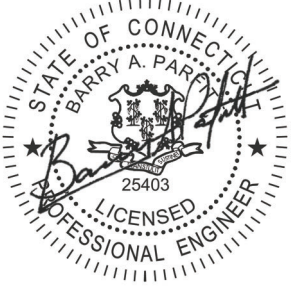
1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	The goal of this project is to obtain readily available access to all cross-country sewer mains. Accessibility is crucial in order to conduct a full assessment evaluation and to provide timely access to conduct immediate or corrective repairs to the sewer main or structures. The goal of this project is to recreate the original easement access area or create alternate access points to all areas that are not within paved roadway areas. Funds were granted for the Contract #1 easement area in 2023, this request is to continue the access program to the remaining cross country easement areas.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
	Preliminary design is complete for Contract 1, and the final design package work for Phase One of the restoration project will begin in December. A probable cost for restoration is in the range of \$250,000 - 350,000																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST																																																																						
	Accessibility will allow pipeline evaluation crew to conduct our sewer system evaluation survey and create the ability to access the pipeline and manholes in the event of an emergency																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable)																																																																						
	Minimal impact on operational budget, however, accessibility will allow staff to conduct routine and emergency repairs in a timely manner, in lieu of creating access on a emergency basis which will be far more costly and greatly reduce the potential of adverse environmental impact.																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available)																																																																						
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below)																																																																						
	See backup material																																																																						
7	COST/FUNDING SOURCE																																																																						
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KEY PLAN
SCALE: 1"=300'

0 300 600

PROJECT NO: 22039
DESIGNED: B. PARFITT
CAD COORD: R. BOURGET
CAD: R. BOURGET
CHECKED: T. MONTGOMERY
DATE: 07/25
APPROVED: B. PARFITT
DATE: 07/25
SUBMISSION: CONTRACT DRAWINGS



8/13/2025



860.343.8297 | www.wright-pierce.com
160 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

WATERFORD UTILITY COMMISSION
CROSS COUNTRY SEWER EASEMENT
CONTRACT 1 - PHASE I
WATERFORD, CONNECTICUT

KEY PLAN

DRAWING
C-2

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

Cost Estimate for
Cross Country Sewer Easement Access - Contract 1 - Phase 1
Waterford Utilities Commission
Project 22039

Description	Quantity	Unit	Unit Cost		Cost
Bonds and Insurance	1	LS	\$10,000.00	LS	\$ 10,000.00
Mobilization	1	LS	\$10,000.00	LS	\$ 10,000.00
Clearing & Grubbing	160,040	sf	\$1.00	per sf	\$ 160,040.00
Temporary S&E Controls	1	LS	\$5,000.00	LS	\$ 5,000.00
Equipment Mat Rental	1	LS	\$10,000.00	LS	\$ 10,000.00
Loam & Seeding	10,000	sf	\$0.20	LS	\$ 2,000.00
Final Cleanup	1	LS	\$ 5,000.00	LS	\$ 5,000.00

Sub-Total \$202,040.00
10% Contingency \$ 20,204.00
Rounded Total \$222,000.00

Estimate Range -20% \$ 177,600.00
 30% \$ 288,600.00

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

Request 4

DEPARTMENT/AGENCY Utility Commission	CONTACT PERSON Jill N. Stevens
PROJECT NAME Water Tank Asset Management Program	DEPARTMENT PRIORITY 6

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	A Water Tank Asset Management Program for these valuable assets would preserve the significant investment the Town has made in water storage tanks by guaranteeing routine inspections and maintenance of the water storage tanks does not fall behind, thus improving the reliability of the system. A sustainable water tank management solution also makes capital budgeting easier as initial repair costs can be spread out over a few years if necessary and all future interior and exterior renovation costs are included in the plan. The intent would be to enroll the Fargo Road & Vauxhall Street tanks first and add Rogers Hill at a later date.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable)																																																																						
	None, the operational costs are borne by the City of New London through the current Inter-local agreement.																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available)																																																																						
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below)																																																																						
	See attached tank management program and costs, the costs are based upon a phased roll out of this program starting with Fargo Road and Vauxhall Street tanks in year one and two and adding Rogers Hill in year three																																																																						
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Water Tank Asset Management Program

The Town of Waterford owns three water storage tanks, the 750,000 gallon Fargo Tank, the 300,000 gallon Vauxhall tank and the 1.25 Million gallon Rogers Hill tank. In 2024 the Fargo Road Tank refurbishment project was completed; prior to this renovation, the Fargo Road water tank had its original coat of paint, which had far exceeded its useful life expectancy by approximately 10 years. This work was necessary to preserve the Town's significant investment in its infrastructure and to extend the life of its asset; if routine maintenance of infrastructure is ignored, it turns into an emergency capital investment and typically costs three times that of routine maintenance. If this tank had not undergone the recent rehabilitation, the structural integrity of the tank would have eventually failed, requiring that the tank be replaced at a significant cost to the Town.

Many municipalities do not realize the financial investment they have in their water storage tanks. These key municipal water distribution system components often receive the least attention and yet, they can potentially experience serious issues without proper tank asset management. Contamination from animals or debris, corrosion and other issues can trigger customer complaints, municipal regulatory compliance violations and costly water distribution service disruptions. A Water Tank Management Program for these valuable assets would preserve the significant investment the Town has made in water storage tanks by guaranteeing routine inspections and maintenance of the water storage tanks does not fall behind, thus improving the reliability of the system. A sustainable water tank management solution also makes budgeting easier as initial repair costs can be spread out over a few years if necessary and all future interior and exterior renovation costs are included.

Our request is to initiate a funding schedule that would enroll the three water storage tanks in a Tank Asset Management program progressively, beginning with Fargo Road in FY26, this tank will not require any Upfront Renovation (UR) costs to enroll in the program, only annual Maintenance plan (MP) costs. The Vauxhall Tank does require UR costs, prior to enrollment, those costs have been requested under a separate CIP Project with a Department Priority of 4, upon completion of the UR work, if approved, the tank could be enrolled in the program in FY 28. The Rogers Hill Tank requires UR work as well, again these costs have been requested under a separate CIP Project with a Department Priority of 10, upon completion of the UR work, if approved, the tank could be enrolled in the program in FY31.

Tank Asset Management Program

Comprehensive water tank maintenance is more than the rehabilitation of an aging water tank. It's about indefinitely extending the life of critical assets at a cost you can control. No one else offers you the comprehensive range of services – and the peace of mind – that USG Water Solutions delivers.

The challenge



Aging infrastructure

As they age, water tanks present more maintenance and water quality concerns.



Water quality

Buildup of mineralization and biofilm can cause water quality issues.



Limited budgets

Costly tank maintenance is not often included in annual budgets, so related expenses are often paid with funds allocated to other projects.

The USG Water Solutions' Tank Asset Management Program extends service life and optimizes conditions of your storage tank so you can provide high-quality water to your customers.

Peace-of-mind for you. High-quality water for your customers.

Our Asset Management Program is a comprehensive approach designed to help you maintain your tanks and keep them compliant with safety and sanitary regulations.

The benefits

- ✓ Improve water quality
- ✓ Comply with regulations
- ✓ Extend asset life
- ✓ Predictable budget

Comprehensive condition assessment

Our experts visually inspect the interior and exterior of the tank and provide a detailed report on safety, sanitation, structure, security and coatings. We then draw up an asset condition optimization plan that's balanced with your budget needs.

Custom-tailored rehabilitation

We restore your asset to like new condition, completing all interior and exterior renovations in compliance with OSHA regulations. Heavy repairs are performed under the supervision of our in-house engineering department or partner engineering firms.

Ongoing maintenance

After the initial work is complete, we handle all future rehabilitation, annual inspection/reporting, time-based preventative cleaning and even emergency services.

The ultimate solution:

USG Water Solutions Asset Management

At USG Water Solutions, we believe you shouldn't have to choose between a capital expense that is beyond your budget and an unpredictable run-to-failure approach. Our Asset Management Program (AMP™) packages the rehabilitation and future maintenance of your assets into a single contract, with USG Water Solutions assuming all maintenance risk for a set annual cost.

Extend tank life.

Call +1 (855) 526-4413 or visit

www.usgwater.com

Utility Service Group Water Solutions

1230 Peachtree Street NE
Suite 1100 | Promenade Building
Atlanta, GA 30309



USG WATER
SOLUTIONS

An ISO 9001:2015 Quality Assured Company



BEFORE



AFTER



Tap In To Your Extended Operations Team

Asset monitoring, maintenance, and management

Who We Are

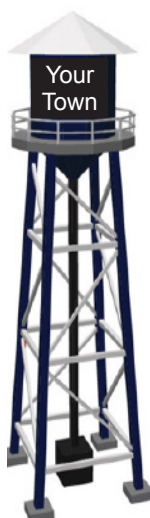
- USG Water Solutions (formerly Suez/Veolia)
- Leading provider of asset maintenance and rehabilitation services for the municipal water industry in the US
- **Our Service Center is located in Bridgewater, MA**

Why Choose Us

- **Proven:** Over 6,000 tanks on a tank asset management program nationwide.
- **Reliable:** We assume all risk of maintaining the asset to comply with regulations.
- **Low TCO** Ability to spread cost over multiple years on renovation and service for predictable budgeting.
- **Peace of Mind:** Let us take the burden of planning and managing your assets with our **warranty-guaranteed work**

We provide **one** point of contact and take **100%** responsibility. The right solution, **simplified**

Tank Owner



Services

Tank Assets: Protect your large capital assets and the health and safety of your customers.

AMI Asset & Operations: Get the benefits of AMI in small-midsize communities.

Water Quality: Meet municipal water quality standards while reducing CAPEX.

Treatment Plant Rehabilitation: Extend the lifecycle of critical assets, reduce maintenance downtime.

Pipeline Rehabilitation: Extend the life of your pipe network even on a budget.

Our tank condition assessments and maintenance plan + budgetary pricing are completely free

Kevin Martel
Local Consultant
Barrington, RI

401-209-8803

Kevin.Martel@usgwater.com

USGWater.com



WATERFORD CT

TANK ASSET MANAGEMENT PROGRAM INTRODUCTION

Kevin Martel
NACE CIP #105784



Who we are: Utility Service Co. / USG Water



6,000+
Municipal customers

8,000+
Water assets managed

**Technical & Financial
Solutions**

USG WATER

NORTH AMERICAN LEADER IN WATER ASSET MANAGEMENT SOLUTIONS

6,000+

Municipal & industrial customers

8,000+

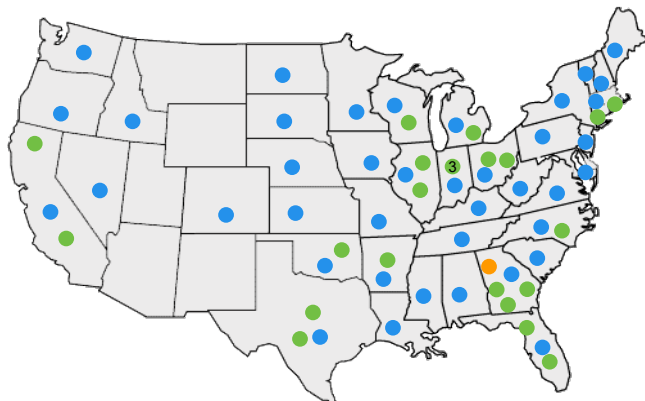
Water assets managed

1,900+

Renovations in 2022

ISO 9001 Certified

3rd party audited for Quality Assurance



- Corporate Office
- 24 Service Centers
- Water System Consultants

5

lines of business

Tank Asset Management Services

Steel Tanks

Water Quality

TRS, RCS, Mixers

Concrete and Plant Rehabilitation

Concrete Tanks, Filter Plants, MBR

Network Asset Management

SIPP, Pipe Asset Management Plan

Metering Asset Management

AMI



WHAT WE DO DIFFERENTLY

01



**SPREAD PRICE OVER
MULTIPLE YEARS**

02



**HELP SMALL UTILITIES MANAGE
THEIR ASSETS AND WORK
WITHIN THEIR BUDGETS.**

03



**PROVIDE MULTIPLE OPTIONS TO
WORK WITH YOU**

04



**BUILD LONG TERM
RELATIONSHIPS.**

TRADITIONAL APPROACH BID MODEL

Municipal customers are comfortable with the bid model, believing it's "the law", or the best way to "spend public funds" to minimize tax or water rate increases.



Reactive and NOT proactive



Lack of maintenance, repair and cleanings



Sporadic inspections



Operation to failure on coatings



Reliance on consulting engineer for recommendations



Inconsistent budget for tanks



Risks placed fully on City



Problems with Bid Projects

2019 Standpipe Near Cape Cod

Quality Specification & Oversight

- ▶ Expensive Project / Small Water District
- ▶ 2018 Rehab
- ▶ 2019 Anniversary Inspection
- ▶ Exterior Pictures 1 Year After Rehab
- ▶ Coatings Over Steel Grit
- ▶ Blistered Coatings
- ▶ Pinhole Corrosion Started



Barnstable County Project

3-4 Years after Full Rehabilitation @ \$2M+



Problems with Bid Projects

2.4MG Ground Storage

Quality Specification, Contractor & Oversight

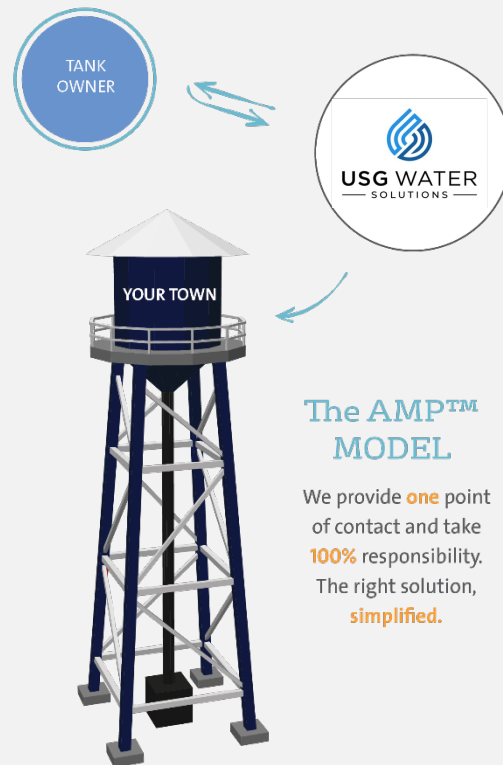
- ▶ 1M+ Project
- ▶ 2015 Full Interior/Exterior Rehab
- ▶ 2016 Warranty Period Ends, Bonds Released
- ▶ 2017 Coatings Begin to Sag / Bubble
 - ▶ Suspect Partially Cured Material Sliding Down Walls
- ▶ 2018 ROV Picture / Coatings on Floor
- ▶ 2019 Continued Annual Inspection to Observe
 - ▶ Coatings Continue to Delaminate
 - ▶ Full Extent of Damage is Unknown



NEW APPROACH

High value **sustainable solution** that ultimately saves the tank owner time and money, and limits most of the aggravation of owning a storage tank.

-  Proactive and sustainable
-  Annual inspections limit repairs or renovations
-  Lifetime warranty on coatings
-  Predictable annual fee makes budgeting simple
-  Fewer Change Orders
-  Save \$\$\$ Long Term and Short Term
-  Tank Owner shifts the risk of any future problems to USG, saving money and gaining peace of mind





BEFORE

AFTER

Tank Asset Management Program

Benefits to YOU:



A Partner with Skin in the Game: We are invested in proactive maintenance because your annual fee is capped regardless of the work needed.



Transfer of Risk: The risk of future problems with repairs and coatings is shifted to USG Water, saving you money, time and stress.



Stay in Compliance: Your inspections and cleanings are prescheduled so you never have to worry about them.



Positive Community Response: Your tanks will look great every year with our regularly scheduled power washing, overcoats, and annual inspections/repairs. Your town will know you are investing in their health



Cellular Oversight: We oversee and help coordinate all cell work on your tank to ensure they don't compromise the sanitary, structural, or coatings integrity of the tank. And we have them pay for it.



No Surprises, Easy Budgeting: With everything included in your annual fee, there are no surprises in your budget.



Cancel Anytime: We kick risk out the door. You can cancel at any time, without penalty. We cannot cancel on you!

What is included in your annual fee

Annual Inspections & Reports

Lifetime Warranty on Coatings

Predictable Annual Fee

Emergency Repair Response

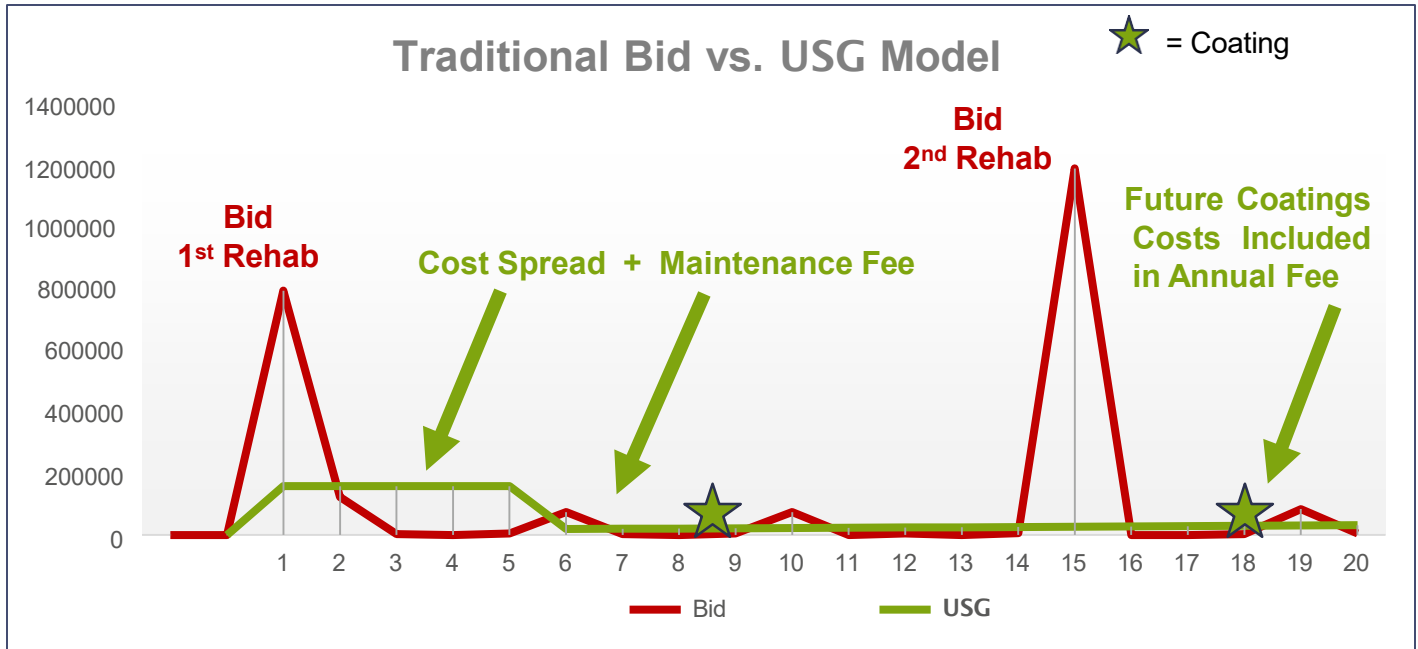
Scheduled Powerwashing
Scheduled Cleanings

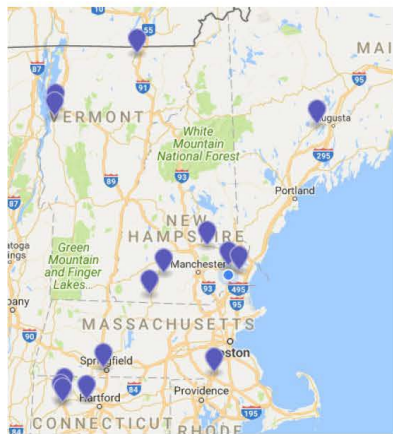
Fresh overcoat about every 10 years for steel tanks, 7 years for concrete

Engineer support

Oversight of Cell Company Work

USG Program Financial Stability





Who's Utilizing USG Tank Asset Management?

- Over 8,000 Tanks nationwide
- West Springfield MA
- Foxborough MA
- Marlborough MA
- Bedford MA
- Paxton MA
- Millis MA
- Canton MA
- Kingston MA
- Dartmouth MA
- Winthrop ME
- Bar Harbor ME
- Champlain Water District VT
- Shelburne VT
- Newport VT
- Burlington VT
- Quonset RI
- Southington CT
- Connecticut Water Company



USG WATER
— SOLUTIONS —

Utility Service Co., Inc.

Water Tank Maintenance Contract

Owner: Town of Waterford
Waterford, CT

Tank Size/Name: 750,000 Gallon Pedisphere – Fargo Road Tank

Location: 45R Fargo Road

Date Prepared: June 27, 2025

WATER TANK MAINTENANCE CONTRACT

This Water Tank Maintenance Contract (hereinafter, "the Contract") is entered into by and between the **Town of Waterford, whose business address is 15 Rope Ferry Road, Waterford, Connecticut 06385** (hereinafter, "the Owner") and Utility Service Co., Inc., whose business address is 535 General Courtney Hodges Boulevard, Post Office Box 1350, Perry, Georgia 31069 (hereinafter, "the Company"). The Owner and the Company shall be individually referred to herein as "a Party" or collectively referred to herein as "the Parties".

Therefore, in consideration of the mutual promises contained herein and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the Owner and the Company, the Parties agree as follows:

1. Company's Engagement and Responsibilities. The Owner agrees to engage the Company to provide the professional services needed to maintain its **750,000** gallon water storage tank located at **45R Fargo Road, Waterford, Connecticut 06385** (hereinafter, "the Tank"). The professional services entail the upfront renovation (hereinafter, the "Upfront Renovation") of the Tank and subsequent maintenance activities thereafter. Upfront Renovation and maintenance activities are collectively referred to as "the Services" in this Contract, and include the following:

- a. Annually, the Company will inspect the Tank to ensure that the structure is in a sound, watertight condition. The Company will provide a written inspection report to the Owner following each inspection.
- b. Biennially, after the Tank is drained by the Owner, the Company will clean the interior of the Tank and perform a condition assessment on the Tank (hereinafter "Washout Inspection"). During each Washout Inspection, the Tank will be cleaned to remove all mud, silt, and other accumulations from the interior of the Tank. After a Washout Inspection is completed, the interior of the Tank will be thoroughly inspected and disinfected prior to returning the Tank to service; however, the Owner is responsible for draining and filling the Tank and conducting any required testing of the water before returning the Tank to service. Rotate the washout inspections with ROV inspections.
- c. The Company shall provide the engineering and inspection services needed to maintain and repair the Tank during the term of this Contract. The repairs include: the Tank's expansion joints, water level indicators, sway rod adjustments, vent screens, manhole covers/gaskets, and the Tank's other steel parts not otherwise excluded hereinafter.
- d. The Company will clean and repaint the interior and/or exterior of the Tank at such time as complete repainting is needed. The need for interior painting of the Tank is to be determined by the thickness of the existing liner and its protective condition. Only materials approved for use in potable water tanks will be used on any interior surface area. The need for exterior painting of the Tank is to be determined by the appearance and protective condition of the existing paint. At the time that the exterior requires repainting, the Company agrees to paint the Tank with a coating that is the same color as the existing coating and to select a coating system which best suits the site conditions, environment, and general location of the Tank. When interior or exterior painting of the Tank is needed, all products and procedures as to coating systems will be equal to or exceed the requirements of the **State of Connecticut** and the American

Water Works Association's D102 standard in effect as of the Effective Date, defined in the signature block hereinafter.

- e. The Company will install a lock on the roof hatch of the Tank; however, the provision of such lock does not guarantee the Tank's security during the term of the Contract. For the avoidance of doubt, security of the Tank and the site where the Tank is located (hereinafter, "Tank Site") are the responsibility of the Owner.
- f. In the event of an emergency involving the Tank, the Owner shall provide written notice of such emergency to the Company via its email hotline at the following address: customerservice@usgwater.com. The Company will provide emergency services for the Tank, when needed, to perform all repairs covered under this Contract. Reasonable travel time must be allowed for the repair unit to reach the Tank Site.
- g. When the Tank is taken out of service, the Company will furnish pressure relief valves, if requested by the Owner, so that the Owner can install the valves in its water system while the Tank is being serviced. The Owner assumes all risk and liability for the installation and use of the pressure relief valves.
- h. The Company will furnish the Owner with current certificates of insurance, which will summarize the Company's insurance coverage.
- i. The Company will pressure wash the exterior once between exterior coating cycles.

2. Contract Price/Annual Fees. For the performance of the Services required by Section 1, the Owner shall pay the Company an Annual Fee (hereinafter, "Annual Fee") for each Contract Year of the Contract. The Annual Fee for Contract Year 1 shall be **\$43,496.00**. Each Contract Year thereafter, the Annual Fee shall be adjusted to reflect the current cost of service. The adjustment of the Annual Fee shall be limited to a maximum of 5% annually. All applicable taxes are the responsibility of the Owner and are in addition to the stated costs and fees in this Contract.

3. Payment Terms and Late Charges.

- a. The Annual Fee for Contract Year 1, plus all applicable taxes, shall be due and payable **within ninety (90) days of the Owner's execution of the Contract.**
- b. **Each subsequent Annual Fee, plus all applicable taxes, shall be due and payable on the first day of each Contract Year thereafter.**
- c. If the Annual Fee, plus all applicable taxes, are not paid within ninety (90) days of the date of invoice, the Company will charge the Owner a late fee on unpaid balances and may also terminate or suspend Services under this Contract without notice. Any late fee will be 1.5% per month.

4. Changes or Delays to Services. For purposes of this Section 4, "Unreasonable Delay" shall mean the Owner's delay in releasing the Tank or making the Tank available to the Company for the performance of any of the Services described herein for a period of twenty-four (24) months following the Company's written request for release or access to the Tank. In the event of Unreasonable Delay, the Company reserves the right to recover its reasonable costs related to the Unreasonable Delay, and the Owner agrees to negotiate with the Company in good faith to determine the amount of its reasonable costs caused by such Unreasonable Delay. Furthermore, the Owner hereby agrees that the Company can replace a Washout Inspection of the Tank with a visual inspection, remotely operated vehicle inspection ("ROV Inspection"), or unmanned aerial vehicle inspection ("UAV Inspection") at the Company's discretion, and such replacement does not constitute a modification of this Contract.

5. Structure of Tank, Tank Site Conditions, and Modifications.

- a. In providing the Services, the Company accepts the Tank based upon its existing structure and components as of the Effective Date.

- b. ***Any modifications to the Tank after the Effective Date, including antenna installations, shall first be approved by the Company (prior to installation) and may warrant an increase in the Annual Fees.***
- c. Changes in the condition of the Tank Site and/or any adjoining properties (e.g., construction of a mall next to the Tank Site which significantly increases the risk of overspray claims, etc.) following the Effective Date, which cause an increase in the Company's cost in delivering the Services, will be just cause for an equitable adjustment of the Annual Fees in this Contract.

6. Environmental, Health, Safety, Labor, or Industry Requirements. The Owner hereby agrees that the promulgation of, enactment of, or modification to any environmental, health, safety, or labor laws, regulations, orders, or ordinances (e.g., EPA or OSHA regulations or standards) following the Effective Date of this Contract, which cause an increase in the cost of the maintenance of the Tank, will be just cause for an equitable adjustment of the Annual Fees in this Contract. Furthermore, modifications to industry requirement(s) including, but not limited to, standard(s) or other guidance documents issued by the American Water Works Association, National Sanitary Foundation, and the Association for Materials Protection and Performance, which cause an increase in the cost of the maintenance of the Tank, will be just cause for an equitable adjustment of the Annual Fees in this Contract. Said equitable adjustment of the Annual Fees in this Contract will reasonably reflect the increased cost of the Services with newly negotiated Annual Fee(s).

The work performed under this Contract is subject to prevailing wages, and the workers who are performing work under this Contract are to be paid no less than the prevailing hourly rate of wages as set by the appropriate authority. Any future work performed by workers under this Contract will be subject to the wage determination of the appropriate authority which is in effect when the work is performed. However, the Owner and the Company hereby agree that if the prevailing wage rates for any job or trade classification increases by more than 5% per annum from the effective date of this Contract to the date in which any future work is to be performed under this Contract, then the Company reserves the right to re-negotiate the annual fee(s) with the Owner. If the Company and the Owner cannot agree on re-negotiated annual fee(s), then: (1) the Company will not be obligated to perform the work and (2) the Company will not be obligated to return past annual fee(s) received by the Company.

7. Excluded Items. This Contract does NOT include the cost for and/or liability on the part of the Company for: (i) containment of the Tank at any time during the term of the Contract; (ii) disposal of any hazardous waste materials; (iii) resolution of operational problems or structural damage due to cold weather; (iv) repair of structural damage due to antenna installations or other attachments for which the Tank was not originally designed; (v) resolution of operational problems or repair of structural damage or site damage caused by physical conditions below the surface of the ground; (vi) negligent acts of Owner's employees, agents or contractors; (vii) damages, whether foreseen or unforeseen, caused by the Owner's use of pressure relief valves; (viii) repairs to the foundation of the Tank; (ix) any latent defects or inaccessible areas of the Tank or its components (including, but not limited to, (a) corrosion from the underside of the floor plates, and (b) inaccessible areas of the Tank such as the area between the bottom of the roof plate and the top of the roof rafter); (x) the maintenance, repair or replacement of any electrical components (to include any lighting, such as aviation lights); (xi) the maintenance, repair or replacement of fill lines, insulation, and/or frost jackets; (xii) the maintenance, repair, or replacement of piping of any kind below ground level; and (xiii) other conditions which are beyond the Owner's and Company's control, including, but not limited to: acts of God and acts of terrorism. Acts of God include, but are not limited to, any damage to the Tank or Tank Site which is caused by seismic activity, hurricanes, and/or tornadoes. Acts of terrorism include, but are not limited to, any damage to the Tank or Tank Site which results from an unauthorized entry of any kind to the Tank or Tank Site.

8. Force Majeure. If the Company is prevented from performing any of its duties or obligations hereunder (other than duties or obligations with respect to payment) in a timely manner by reason of act of God or force majeure such as: (i) fire, (ii) war, (iii) earthquake, (iv) strike, (v) lock-out, (vi) labor dispute, (vii) flood, (viii) public disaster, (ix) pandemic or epidemic event (including COVID-19), (x) interruptions or delays in reasonably available means of transportation, (xi) acts of any government or its agencies or officers, or any order, regulation, or ruling thereof, to include tariffs, (xii) equipment or technical malfunctions or failures, (xiii) power failures or interruptions, (xiv) supply chain disruptions, or (xv) any other reason beyond its reasonable control, such condition shall be deemed to be a valid excuse for delay of performance or for nonperformance of any such duty or obligation for the period during which such condition exists.

9. Termination.

- a. **This Contract is an annual contract that shall automatically renew on an annual basis for successive Contract Years so long as the Owner:**
 - i. pays each Annual Fee to the Company in accordance with the terms herein, and
 - ii. does not terminate the Contract pursuant to the terms of this Section.
- b. This Contract is subject to termination by the Owner only at the end of the then-current Contract Year if written notice of intent to terminate is received by the Company at least ninety (90) days prior to the first day of the upcoming Contract Year. If the notice of intent to terminate is not received at least ninety (90) days prior to the first day of the upcoming Contract Year, this Contract shall renew for an additional Contract Year and expire at the end of the upcoming Contract Year. In such an event, the Owner agrees that it shall be responsible to pay the Annual Fee for the upcoming Contract Year. The notice of intent to terminate must be sent by certified mail, with return receipt requested, to Utility Service Co., Inc., Attention: Customer Service, Post Office Box 1350, Perry, Georgia 31069, and signed by three (3) authorized voting officials of the Owner's governing body (e.g., commission or council). Notice of intent to terminate cannot be delivered electronically or verbally (e.g., email, text, phone call, etc.).

10. Assignment. The Owner may not assign or otherwise transfer all or any of its interest under this Contract without the prior written consent of the Company. If the Company agrees to the assignment, the Owner shall remain responsible under this Contract, until its assignee assumes in full and in writing all of the obligations of the Owner under this Contract. Any attempted assignment by Owner in violation of this provision will be void and of no effect.

11. Indemnification. THE COMPANY AGREES TO INDEMNIFY THE OWNER AND HOLD THE OWNER HARMLESS FROM CLAIMS, DEMANDS, ACTIONS, DAMAGES, LIABILITY, AND EXPENSE IN CONNECTION WITH LOSS OF LIFE, PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY BY REASON OF AND TO THE EXTENT OF ANY NEGLIGENT ACT OF THE COMPANY OR ITS SUBCONTRACTORS, AGENTS, OR EMPLOYEES. IN TURN, THE OWNER AGREES TO INDEMNIFY THE COMPANY AND HOLD THE COMPANY HARMLESS FROM CLAIMS, DEMANDS, ACTIONS, DAMAGES, LIABILITY, AND EXPENSE IN CONNECTION WITH LOSS OF LIFE, PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY BY REASON OF AND TO THE EXTENT OF ANY NEGLIGENT ACT OF THE OWNER OR ITS CONTRACTORS, AGENTS, OR EMPLOYEES.

12. Assignment of Receivables. The Company reserves the right to assign any outstanding receivables from this Contract to its banking institution as collateral for any loans or lines of credit.

13. Miscellaneous Items. No modifications, amendments, or alterations of this Contract may be made, except in a writing signed by the Parties. No failure or delay on the part of any Party hereto in exercising any power or right hereunder shall operate as a waiver thereof. The Parties expressly warrant that the individuals who sign below are authorized to bind them.

14. Visual Inspection Disclaimer. This Contract is based upon a visual inspection of the Tank. The Owner and the Company hereby acknowledge and agree that a visual inspection is intended to assess the condition of the Tank for all patent defects. If latent defects are identified once the Tank has been drained and is made available to the Company, the Owner agrees and acknowledges that the Company shall not be responsible to repair the latent defects unless the Owner and the Company re-negotiate the Annual Fees. The definition of a "latent defect" shall be any defect of the Tank which is not easily discovered (e.g., corrosion of the floor plates, corrosion of the roof plates or rafters, corrosion in areas inaccessible to maintain, damage to the roof of the Tank which is not clearly discoverable during the visual inspection, etc.).

15. Excessive Inflation. In the event that the aggregate of the Annual Inflation Rates (defined herein below) established for two (2) consecutive calendar years during the term of this Contract exceeds 12% in total, the Owner and the Company agree to renegotiate the Annual Fees and increase the Annual Fees throughout the remaining term of the Contract to compensate the Company for the excessive inflation. For purposes of this provision, the Annual Inflation Rate for each calendar year shall be established by the *Engineering News Report – Construction Cost Index ("ENR-CCI")*. In the event that the ENR-CCI index is discontinued, the Owner and the Company will negotiate and agree to an alternative index or methodology to address the excessive inflation. For illustrative purposes, if a Contract is executed in 2022, the first equitable adjustment could not be made until both the 2023 inflation rate and the 2024 inflation rate have been established. If the annual inflation rates for 2023 and 2024 are 5.0% and 7.1%, respectively, the Owner and the Company agree to renegotiate the current year's Annual Fee as well as the remaining Annual Fees for the remainder of the term of the Contract to address the excessive inflation.

16. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same Agreement. The Parties may utilize electronic means (including facsimile and e-mail) to execute and transmit the Agreement and all such electronically executed and/or transmitted copies of the Agreement shall be deemed as valid as originals.

17. Entire Agreement. This Agreement constitutes the entire agreement of the Parties and supersedes all prior communications, understandings, and agreements relating to the subject matter hereof, whether oral or written.

This Contract is executed and effective as of the date ("the Effective Date") that the last Party signs this Contract below.

OWNER:

Town of Waterford

By: _____

Title: _____

Print Name: _____

Date: _____

Witness: _____

Seal:

COMPANY:

Utility Service Co., Inc.

By: _____

Title: _____

Print Name: _____

Date: _____

Witness: _____

Seal:

DRAFT

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

Request 5

DEPARTMENT/AGENCY Utility Commission	CONTACT PERSON Jill N. Stevens
PROJECT NAME Bartlett Corners Water Booster Decommissioning	DEPARTMENT PRIORITY 8

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	The purpose of this request is to fund the decommissioning of the Bartlett Corners Water booster station. As a result of other system upgrades, this station was removed from service in 2006, however not fully decommissioned. There is no use to the Utility Commission for the building or land. A report was prepared in 2009 which identified options necessary to fully decommission the station, the report is attached.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable)																																																																						
	There is no impact to the budget, operational costs were borne by the City of New London																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available)																																																																						
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below)																																																																						
	A costs estimate from a previous report is attached, the funding request was adjusted by utilizing the Construction Costs Index.																																																																						
7	COST/FUNDING SOURCE																																																																						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">FUNDING SOURCE</th> <th style="width: 10%;">APPROVED FUNDING TO DATE</th> <th style="width: 10%;">FY2026</th> <th style="width: 10%;">FY2027</th> <th style="width: 10%;">FY2028</th> <th style="width: 10%;">FY2029</th> <th style="width: 10%;">FY2030</th> </tr> </thead> <tbody> <tr> <td>1 Current Year Capital</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2 Utility Budget/Sewer Cap Maint Fund</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 Transfer to CNR</td> <td></td> <td>166,950</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 Short/Long-term Bonds</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5 LoCIP (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6 CNR Undesignated Fund Balance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7 Federal/State Grants (detail in section 5)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8 Other Funding (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr style="background-color: #e1f5fe;"> <td>TOTALS</td> <td style="text-align: center;">0</td> <td style="text-align: center;">166,950</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>	FUNDING SOURCE	APPROVED FUNDING TO DATE	FY2026	FY2027	FY2028	FY2029	FY2030	1 Current Year Capital							2 Utility Budget/Sewer Cap Maint Fund							3 Transfer to CNR		166,950					4 Short/Long-term Bonds							5 LoCIP (detail in section 5 above)							6 CNR Undesignated Fund Balance							7 Federal/State Grants (detail in section 5)							8 Other Funding (detail in section 5 above)							TOTALS	0	166,950	0	0	0	0
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PRELIMINARY ENGINEERING REPORT

**DECOMMISSIONING OF
BARTLETT CORNERS WATER BOOSTER
PUMPING STATION**

WATERFORD, CONNECTICUT

PREPARED FOR:

**TOWN OF WATERFORD UTILITY COMMISSION
WATERFORD, CONNECTICUT**

**REVISED
NOVEMBER 2009**

PREPARED BY:

**LENARD ENGINEERING, INC.
STORRS, CONNECTICUT**

I) INTRODUCTION

In 2006, the Town of Waterford Utility Commission (WUC) constructed water system improvements that enhanced water pressures and fireflows to the Quaker Hill area of Waterford. Included in this project were a new 2500 gpm capacity water booster pumping station near the intersection of Old Colchester and Old Norwich Roads, and a 1.5 million gallon pre-cast, pre-stressed concrete water storage tank constructed on Rogers Hill, accessed off of South Bartlett Road.

From 1977 up to 2006, the Bartlett Corners Hydropneumatic Station served a small high service area on a hill in the northeast corner of Waterford consisting of approximately 20 residential customers on Lathrop Road, Lower Bartlett Road, Upper Bartlett Road, Pepperidge Road and South Bartlett Road. Once the new Quaker Hill water system improvements were activated, the Bartlett Corners Station was inactivated.

The purpose of this study is to determine what long term measures are needed to permanently disconnect the Bartlett Corner water pumping station from the distribution system, as well as other steps to decommission the building properly.

LEI would like to thank Neftali Soto, Jim Bartelli and members of Veolia Water staff for their assistance with this study.

II) EXISTING CONDITIONS

The Bartlett Corners water pumping station is located on an approximate 200' deep by 85' wide Town-owned parcel on the west side of Route 32, approximately 200 feet south of Jerome Road (See **Figure 1**). The structure has approximate dimensions of 26' by 28', and has a ground floor and basement floor levels. The building has an overhanging roof across the entire front eastern face, and along portions of the north and south faces of the building. (**Photo 1, Appendix A**).

Figure 2 shows the mechanical plan for the ground floor level, which includes two 200 gpm capacity electric motor driven domestic water pumps, one 500 gpm electric motor driven fire pump, ductile iron piping and valves, an 80 kW standby diesel generator, two air compressors which provide air for the two hydropneumatic tanks in the basement, and miscellaneous electrical, control and HVAC equipment. (**Photos 2, 3, 4, 5 and 6, Appendix A**).

Immediately outside of the building is a 1000 gallon underground diesel fuel storage tank, with interconnecting piping to a diesel fuel storage day tank inside the building.

Figure 3 shows the mechanical plan for the basement floor level of the station. Two 2500 gallon hydropneumatic tanks, approximately 4.5' in diameter and 18' long, dominate the lower level. Pump station inlet and outlet piping is also present, along with a waste line collecting floor drainage, discharging to a drywell on the rear of the building. Two masonry "knock-out" walls were constructed in the rear wall of the station, which could be removed to assist in tank removal if desired. (**Photos 7, 8 and 9, Appendix A**).

The building has a 208V, 3 phase 400 amp electrical service via overhead wires to the building, along with an overhead telephone service. There are no underground gas or sanitary sewer connections shown on the design plans, or visible inside the building.

Figure 4 shows the water distribution system in the vicinity of the Bartlett Corner pump station. An 8" water main taps off of the existing 24" main adjacent to Route 32, and has an isolation valve on it, which could potentially be closed to isolate the supply side of the station. **Figure 4** also shows an 8" discharge line leaving the station, and connecting to an existing 8" water main left by a previous contract. No exterior isolation valves are shown on the design drawings. Some circular depressions are present in the pump station driveway, which may indicate the presence of a valve on the discharge piping.

Figure 4 also shows the distribution system layout in the vicinity of the station. The 8" discharge line leaving the station crosses Route 32, and continues off-pavement on the east side, northerly to the intersection of Lathrop Road, Record mapping shows the 8" main connected to a short length of existing 12" main, and then back to 8" to feed the five streets in the former isolated high pressure zone. No isolation valves are shown along this length of water main.

Appendix A provides photographs of the pumping station and interior major components.

Figure 1- Existing Site Plan

Figure 2 - Mechanical Plan – Ground Level

Figure 3- Mechanical Plan- Basement Level

Figure 4- Distribution System Layout

III TOWN PLANNING DIRECTOR COMMENTS

The Waterford Utility Commission staff contacted Mr. Thomas Wagner, Planning Director for the Town, to review and comment regarding the potential for re-use of this property, for either Town of Waterford or other parties, assuming the parcel was sold. The following is a summary of his comments:

A) ZONING COMPLIANCE

16 Norwich Road (the site) contains 0.39 acres, or 16,675 square feet +/- . It is located in an RU-120 Zoning District, which has a minimum lot size of 120,000 square feet. The fact that the lot is non-conforming does not prohibit its reuse, it just limits how it may be reused.

According to the available information, the existing building takes up about 1200 square feet ground coverage, or about 7 % of total lot area. The building is set back from Norwich Road (Route 32) 70 feet, whereas the required front yard is 75 feet on a state highway. The building is set back from the side property lines by about 20 feet, whereas the required side yards are 30 feet. The building is set back from the rear property line by 90 feet, whereas the required rear yard setback is 75 feet.

Any expansion of the existing building would have to conform to the required setbacks, which would allow for a 15 foot addition to the rear that is 30 feet from each side property line.

B) ALTERNATIVE USE CONSIDERATIONS

If the building or site were to be converted to an alternative use that would involve human occupancy the biggest issue is the need to install a septic system. If residential use is being considered, consultation with the Ledge Light Health District is suggested, to confirm the site is suitable for a house, and the number of bedrooms it could contain.

It appears the building was constructed in the late 1970's based on the deed and assessor's records. Since the site are is sub-standard in most residential districts, it was probably approved on the basis that it would remain in its current use. There are a number of uses allowed in the district which are contained in section 6 of the Zoning Regulations. Use by another utility might be the easiest depending on the level of occupancy.

Another alternative to be considered is the potential sale of the property to an abutter not as a separate lot but to be combined with their use. This presumes removal of the existing building and improvements.

IV. FUTURE RECOMMENDATIONS

A) POTENTIAL MAJOR SALVAGEABLE ITEMS INSIDE THE STATION

LEI toured the station with operators from New London's contract operations firm, Veloia Water, and conducted a preliminary assessment of the major mechanical equipment within the station. The following equipment appeared to be in good or excellent condition, and potentially could be sold or reused at another similar facility:

1) 80 kW Standby diesel generator- This generator could be removed from the station with some effort, and providing the sizing and voltage are correct, could be used at another Waterford Utility Commission site. One option would be to install this unit inside a trailer to make it portable. If no existing Waterford building or site seems compatible for this generator, it most likely can be sold.

2) Air compressors and air tanks- These air compressors and tanks maintained the air balance within the two 2500 gallon hydropneumatic tanks, and are in excellent condition. Depending on their capacity and motor size / voltage, they potentially can be used at another Waterford Utility Commission site, or sold.

3) Two- 2500 gallon painted steel hydropneumatic tanks.- These are located in the basement of the structure, and are in excellent condition, especially for their age. There are no signs of visible exterior rusting or paint failures, which is a testament to the HVAC systems effectiveness in the building.

As mentioned earlier, the basement was constructed with two masonry knock-out walls, that could be used if the rear foundation wall were exposed to remove the tanks from the building. These tanks could potentially be used by another entity, utility, farmer, etc as a functioning water storage tank, or sold as scrap.

B) ADDITIONAL NON-SALVAGEABLE MAJOR ITEMS

1) Pumping Equipment - The existing domestic pumps and fire pump, while appearing to still be in acceptable working condition, were designed for this stations specific flow and pressure (head) requirements, and therefore would not be easily transferable to another location, either in the Waterford system, or another utility system. Also, the motor phase and voltage would have to be an exact match to the system where it is installed, making reuse even more difficult.

2) Piping- The existing flanged piping may have some value as scrap, but most likely could not be reused in another active site.

3) Motor Control Center – The existing electrical panels, switchgear, transfer switch, and other items inside the motor control center are over 20 years old, and most likely could not be reused due to wear, code changes, or other factors.

- 4) Underground Diesel Fuel Storage Tank - The 1000 gallon underground tank is a liability, and needs to be properly emptied, removed and disposed of. Based on its size and use, this tank should have been registered with the Connecticut DEP. As a regulated tank, the abandonment process includes:

- a) removal of any remaining fuel in the tank,
- b) removal of the tank by a licensed contractor,
- c) preparation of a tank removal closure report, with soil samples collected and analyzed for potential contaminants by an environmental consulting firm, and
- d) submission of this tank closure report and an updated registration form to the DEP.

If soil or groundwater contamination is detected during the closure report and sampling, then additional remedial steps may be required. No mention of potential tank leakage or contamination has been communicated to LEI.

C) UTILITY DISCONNECTIONS

- 1) Water – As mentioned earlier, 8” water mains connect to the station suction and discharge piping to the active water distribution system, and would cause a major problem to the structure if there were a leak inside the building. LEI evaluated the best means to isolate the station from the water distribution system, with the options shown on **Figure 4**.

As discussed earlier, an existing 8” underground gate valve is shown on design plans and is visible near the access gate to the station. This valve should be closed, with a restrained mechanical joint cap and trust block installed between this valve and the station to isolate the suction piping to the building.

Isolating the discharge piping is more challenging. As approximately 300 feet of 8” ductile iron discharge piping is installed from the station to the intersection of Mohegan Parkway (Route 32) and Lathrop Road, it is desirable to take this entire run of dead end piping out of service. This is discussed later in Section D – Additional Considerations.

- 2) Electric and Telephone- The station is served by an overhead three phase electrical connection, as well as an overhead telephone connection, which extend to a utility pole adjacent to the building. The electrical connection supplies the motor control center, all process pumping and mechanical equipment, as well as unit heaters and HVAC equipment that maintain the heated, ventilated environment.

Disconnecting the existing telephone service to this inactive station should be implemented, to avoid recurring costs with any benefit.

The Town should evaluate the benefits of also disconnecting the electrical service, versus the potential negative effects. Disconnecting the electrical service would definitely save money. The drawbacks to disconnecting electricity is that the structure would no longer be a heated, ventilated, dehumidified space (basement only). Moisture, mold, and gradual deterioration of the structure would likely occur, which over time would require demolition of the structure.

D) ADDITIONAL CONSIDERATIONS

- 1) Hazardous Materials Inventory - LEI did not include any specific testing for the presence of regulated or hazardous materials within the building, specifically lead paint or asbestos containing materials. Prior to any demolition, renovation or potential property transfer, the Town should complete these investigations, and complete any remedial measures necessary.
- 2) Looping of Water Distribution System in Lathrop Road - The inactivation of approximately 300 feet of existing 8" water main leaving the station may eliminate an existing water distribution system loop between the new 1.5 million gallon water tank and the 24" water main in Route 32 and Lathrop Road. Current Town plans for reconstruction of the Lathrop Road intersection alignment need to also provide a means to replace the looped distribution system. One option to this is shown on **Figure 5**, which is a scan of the most recent design plans for that area, with proposed interconnecting piping shown.

By installing two tees, one 8" gate valve and approximately 20 feet of new 8" water main on sections of 8" and 24" mains scheduled to be reconstructed, the integrity of the original looped system should be maintained.

In addition, if during this construction the existing 8" water main could be capped near the intersection, it would take out of service the 300 feet of dead ended water main from the Bartlett Corner discharge piping.

E) PHASED IMPROVEMENT PROGRAM

LEI recommends the Waterford Utility Commission proceed with a two phased improvement program at this site. The first phase would minimize the potential for damage to the structure or liability within an unoccupied building. The second phase provides estimates of major equipment, which would probably be required for transfer or reuse of the building and property.

Phase I – Initial Improvements to Reduce Potential Damage/ Reduce Liability

<u>Improvement</u>	<u>Est. Cost</u>	<u>Discussion</u>
1) Remove Oil Tank	\$ 10,000	Eliminates environmental hazard
2) Disconnect Water Distribution System	\$ 30,000	Eliminates potential for burst pipes, water damage, eliminates dead ended piping.
3) Disconnect Power, Telephone Services	\$ 5,000	Eliminates electrical hazards, recurring costs.

Phase II – Additional Improvements to Prepare Building for Sale / Re-use

<u>Improvement</u>	<u>Est. Cost</u>	<u>Discussion</u>
1) Remove Salvageable Items.	\$ 20,000	Potential reuse or resale items
2) Remove remaining Mechanical, electrical Items.	\$ 40,000	Empties building for potential re-use.

Figure 5- Lathrop Road Distribution Improvements

TABLE OF CONTENTS

I. INTRODUCTION	1
II. EXISTING CONDITIONS	2
III TOWN PLANNING DIRECTOR COMMENTS	7
IV.FUTURE RECOMMENDATIONS	8

LIST OF FIGURES

Figure 1	Existing Site Plan	3
Figure 2	Mechanical Plan – Ground Level	4
Figure 3	Mechanical Plan – Basement Level	5
Figure 4	Distribution System Layout	6
Figure 5	Distribution System Improvements – Lathrop Road	12

LIST OF APPENDICES

Appendix A	Pump Station Photos
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Appendix A

Pump Station Photos



Photo 1 - Front of building.



Photo 2 - Domestic pumps on ground floor level.



Photo 3 - Diesel engine generator on ground floor level.



Photo 4 - Fire pump on ground floor level.



Photo 5 - Motor control center on ground floor level.



Photo 6 - Air compressors on ground floor level.



Photo 7 - One of two 2500 gallon pneumatic tanks in basement level.



Photo 8 - Existing sump pump in basement level.



Photo 9 - Masonry knock-out wall in basement level,

TOWN OF WATERFORD
BOARD OF FINANCE

RESOLUTION RECOMMENDING AN APPROPRIATION AND BOND
AUTHORIZATION OF UP TO \$12,600,000 FOR THE CONSTRUCTION OF A NEW
TOWN OF WATERFORD OSWEGATCHIE FIRE STATION

RESOLVED, that the Board of Finance recommends that the Town of Waterford (the "Town") appropriate up to \$12,600,000 for the demolition of the existing building and the construction of a new Town of Waterford Oswegatchie Fire Station, as described in the plans prepared by Silver Petrucelli & Associates for the Oswegatchie Fire Station Building Committee (the "Project"). The appropriation may be expended for design, demolition, construction and installation costs, engineering and professional fees, fixtures, furnishings, materials, equipment, purchase costs, legal fees, financing costs, interest expense on temporary borrowings, and other costs related to the Project. The appropriation shall include any federal, state or other grants-in-aid received for the Project. The Oswegatchie Fire Station Building Committee is authorized to determine the scope and particulars of the Project. The Oswegatchie Fire Station Building Committee may reduce or modify the scope of the Project within this appropriation and the entire appropriation may be expended on the Project as so reduced or modified.

FURTHER RESOLVED, that the Board of Finance recommends that the Town finance the appropriation by issuing the Town's bonds, notes, temporary notes or other obligations in an amount not to exceed \$12,600,000 or so much thereof as may be necessary after deducting grants to be received for the Project.

Oswegatchie Fire Station

Construction Documents Estimate



CONTENTS:

- Executive Summary
- Basis of Estimate
- General Summary
- Estimate Detail

DATE: June 20th, 2025 Rev 1

ESTIMATE LEVEL: 100% Construction Documents

ARCHITECT: Silver Petrucelli + Associates



DOWNES CONSTRUCTION



200 Stanley Street
New Britain, CT 06051
860.229.3755
downesco.com

June 23, 2025

Mr. Robert Tuneski
Building Committee Chair
Oswegatchie Fire Station Project
441 Boston Post Road
Waterford, CT 06385

Project: Oswegatchie Fire Station Project

Enclosed herein is our Construction Documents estimate reflective of Silver Petrucelli + Associates drawings and specifications dated May 16, 2025. The attached Basis of Design outlines the scope of work, assumptions and exclusions.

BUDGET

The total trade costs for this project are estimated at **\$8,963,530** with estimated indirect costs of **\$1,351,678** for a Project total of **\$10,315,208**. The drawings depict a new building 9,988 sf to be built adjacent to the existing 6,215 sf building to be demolished.

SCHEDULE:

The attached opinion of cost assumes a construction start date in Q3 of 2025. The construction duration is estimated to be fourteen (14) months followed by two (2) months of closeout.

BASIS OF ESTIMATE

Please see attached Basis of Estimate

Sincerely,

Downes Construction Company

Ryan Patrick
Estimating Manager



DOWNES CONSTRUCTION

Basis of Estimate

Oswegatchie Fire Station

441 Boston Post Rd, Waterford, CT. 06385

Documents Utilized

- Silver Petrucelli + Associates drawings dated 5/16/2025
- Silver Petrucelli + Associates specifications dated 5/16/2025
- Historical cost data and Downes estimating benchmarks

Scope of Work

- The Oswegatchie Fire Station project consists of a new 9,988 sf facility, predominantly single story, with a small mezzanine and equipped with radiant floor heated apparatus bays, to be built adjacent to the existing facility.
- The new building will include bunk rooms, a day room, training classroom, an office, exercise room, bathrooms, decon room, gear locker room and apparatus bays on the first floor. The mezzanine will house the mechanical room and additional storage.
- The existing building to be demolished is a two-story 6,215 sf structure to remain in operation during the duration of construction and will be demolished upon completion of the new building.
- The new structure will consist of steel framing on a concrete foundation, with an exterior skin combination of brick veneer, cast stone accent band and fiber cement siding.
- The roof will be constructed using architectural asphalt shingles and built solar ready. Photovoltaic panels to be by others.
- The apparatus bays will include three overhead doors along with three bi-folding doors.
- The inside of the exterior walls will consist of CMU at the apparatus bays and light gauge metal framing and drywall at the office / living quarters.
- The interior flooring consists of resilient, carpet and tile in the office / living quarters and epoxy resin at the apparatus bays.
- The ceilings will consist of hard drywall ceilings, acoustical ceiling tiles & grid and exposed to above.
- New casework will be installed with solid surface countertops.
- The day room will be equipped with a full kitchen containing residential appliances.
- The building will be full sprinklered throughout.
- The primary HVAC system is VRF with radiant floor heat at the apparatus bays.
- The electrical system will include lighting, power, P/A system, fire alarm, security system, site lighting and a new generator.
- The earthwork at the new foundation includes over excavation and backfilling with structural fill. The soil beneath the proposed foundation is assumed to be clean, but unsuitable for use below the proposed foundation, however we assumed the majority could remain on site.
- New utility lines will be installed.

- Once the new building is occupied and the existing is demolished, a rain garden, new parking lot, sidewalks, entrance will be installed and landscaping.

Exclusions

- Photovoltaic panels & supports by others.
- Contaminated and/or polluted soil.
- Land acquisition has been excluded
- Premiums for non-standard work times.
- Cost associated to tariffs, while outside of contractor control, can significantly impact total project cost if not proactively managed. Downes Construction will continue to monitor market conditions and provide updated recommendations should these risks escalate.

Assumptions

- Costs based on a GC lump sum delivery method.
- The assumed start date is Q3 2025.
- Abatement of hazardous materials was carried as an allowance, however, no specifications were included in the Design Documents.
- We recommend the Owner carry a contingency of at least 5% of the construction cost.
- The construction duration is 14 months.
- Adjacent existing building is assumed to be occupied during construction.
- The attached estimate does not include escalation, however if the project gets delayed, include an additional 5% escalation per year.

Estimating Methodology

- Quantities extracted from construction drawings and specifications.
- Pricing based on Q1 2025 market rates and historical Downes project data.
- Unit costs based on in-house historical data, and recent comparable projects.
- Unit pricing includes labor, material, equipment, and general contractor markup.
- Trade cost structured by CSI Division

Next Steps

This estimate is intended to validate the budget, and project planning efforts. It is recommended that all major scope assumptions be validated through continued coordination with the design team and Owner.



Oswegatchie Fire Station
CONSTRUCTION DOCUMENTS

Drawings Dated: 05/16/2025

Estimate Date: 06/20/2025 Rev 1

GENERAL SUMMARY

SPEC SECTION	DESCRIPTION	SD ESTIMATE 1/3/2025 9,988 sf	CD ESTIMATE 6/20/2025 9,988 sf	VARIANCES 0 sf	COST / SF
TRADE COSTS					
01 00 00	Project Requirements	\$ 388,116	\$ 399,166	\$ 11,050	39.96
01 74 00	Project Cleanliness	\$ 95,285	\$ 25,038	\$ (70,247)	2.51
02 11 00	Contaminated Soil	In Site	In Site	In Site	-
02 20 11	Hazardous Materials	\$ -	\$ 30,000	\$ 30,000	3.00
02 41 00	Building Demolition	\$ 174,086	\$ 149,980	\$ (24,106)	15.02
02 41 19	Selective Demolition	N / A	N / A	N / A	-
03 30 00	Cast-in-Place Concrete	\$ 380,643	\$ 432,476	\$ 51,833	43.30
04 20 00	Unit Masonry	\$ 295,146	\$ 557,191	\$ 262,044	55.79
05 00 00	Structural Steel	\$ 411,506	\$ 758,479	\$ 346,973	75.94
05 10 00	Miscellaneous Metals	\$ 47,838	\$ 133,200	\$ 85,362	13.34
06 00 00	Rough Carpentry	\$ 28,971	\$ 461,256	\$ 432,285	46.18
06 30 00	Finish Carpentry	\$ 48,523	\$ 115,052	\$ 66,529	11.52
07 00 00	Thermal & Moisture Protection	\$ 598,330	\$ 669,798	\$ 71,468	67.06
08 00 00	Doors, Frames & Hardware	\$ 292,254	\$ 304,455	\$ 12,201	30.48
08 41 00	Storefront & Curtain Wall	\$ 113,238	\$ 119,205	\$ 5,967	11.93
09 00 00	Drywall & Framing	\$ 335,817	\$ 244,586	\$ (91,231)	24.49
09 30 00	Tile	\$ 42,166	\$ 24,268	\$ (17,898)	2.43
09 51 00	Acoustical Ceiling Tile	\$ 44,119	\$ 46,345	\$ 2,226	4.64
09 65 00	Flooring	\$ 70,790	\$ 136,679	\$ 65,890	13.68
09 91 00	Painting	\$ 85,249	\$ 63,209	\$ (22,040)	6.33
10 00 00	Misc. Specialties	\$ 1,688	\$ 2,189	\$ 501	0.22
10 11 00	Visual Display	\$ -	\$ 1,544	\$ 1,544	0.15
10 14 00	Signage	\$ 15,449	\$ 30,757	\$ 15,308	3.08
10 21 13	Toilet Compartments	N / A	N / A	N / A	-
10 26 00	Wall & Door Protection	\$ 1,030	\$ 320	\$ (710)	0.03
10 28 00	Toilet Accessories	\$ 4,592	\$ 9,303	\$ 4,712	0.93
10 51 00	Lockers	\$ 18,252	\$ 13,600	\$ (4,652)	1.36
11 90 00	Misc. Equipment	\$ 15,154	\$ 68,335	\$ 53,181	6.84
12 00 00	Furnishings	\$ 3,811	\$ 6,000	\$ 2,189	0.60
13 00 00	Special Construction	N / A	N / A	N / A	-
14 00 00	Elevators	N / A	N / A	N / A	-
21 00 00	Fire Suppression	\$ 112,334	\$ 96,894	\$ (15,440)	9.70
22 00 00	Plumbing	\$ 386,022	\$ 369,138	\$ (16,884)	36.96
23 00 00	HVAC	\$ 1,137,261	\$ 1,077,257	\$ (60,004)	107.86
26 00 00	Electrical, T/D, FA Security	\$ 951,815	\$ 956,575	\$ 4,761	95.77
31 00 00	Sitework	\$ 906,942	\$ 1,661,237	\$ 754,295	166.32
TOTAL TRADE COST		\$ 7,006,424	\$ 8,963,530	\$ 1,957,106	897.43



**Oswegatchie Fire Station
CONSTRUCTION DOCUMENTS**

Drawings Dated: 05/16/2025

Estimate Date: 06/20/2025 Rev 1

GENERAL SUMMARY

SPEC SECTION	DESCRIPTION	SD ESTIMATE 1/3/2025 9,988 sf	CD ESTIMATE 6/20/2025 9,988 sf	VARIANCES 0 sf	COST / SF
INDIRECT CONSTRUCTION COSTS					
0.0%	Design & Estimating Contingency	\$ 700,643	\$ -	\$ (700,643)	-
0.0%	Escalation	\$ 231,212	\$ -	\$ (231,212)	-
	General Conditions & Staffing	\$ 568,282	\$ 675,832	\$ 107,550	67.66
	PreConstruction	w/ Soft Cost	w/ Soft Cost	w/ Soft Cost	-
0.80%	General Liability Insurance	\$ 68,052	w/ Below	\$ (68,052)	-
	Builder's Risk Insurance	By Owner	By Owner	By Owner	-
1.0%	Local Building Permit & State Ed	\$ 85,746	\$ 91,966	\$ 6,220	9.21
0.00%	CM Payment & Performance Bond	\$ 69,301	w/ Below	\$ (69,301)	-
0.0%	Construction Contingency	\$ 261,957	w/ Below	\$ (261,957)	-
6.00%	GC OH&P	\$ 449,693	\$ 583,880	\$ 134,186	58.46
TOTAL CONSTRUCTION COST		\$ 9,441,311	\$ 10,315,208	\$ 873,897	1,032.76
PROPOSED ALTERNATES					
1	Export Premium to Unlined Landfill if Polluted - Phase II		\$ 17,499	\$ 17,499	1.75
2	Export Premium to Lined Landfill if Contaminated - Phase II		\$ 30,331	\$ 30,331	3.04
3	Add Structural Fill - Backfill Footings to Slab Subgrade (+20% compaction) if Import Required		\$ 83,134	\$ 83,134	8.32
TOTAL COST OF ALTERNATES			\$ 130,964	\$ 130,964	13.11

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
01 50 00 - PROJECT REQUIREMENTS					
FIELD OFFICE					
Field Office Trailer	14	mos	\$ 500	\$ 7,000	
Field Office Trailer - Mobilize - In/Out	1	ea	\$ 2,000	\$ 2,000	
Field Office Trailer - Maintenance and Repair	1	mos	\$ 100	\$ 100	
Field Office Power Hook-Up				w/ Trades	
Field Office Furniture	1	ls	\$ 1,500	\$ 1,500	
Storage Trailer				NA	
COMMUNICATION & TECHNOLOGY					
Copier/Scanner Combo	14	mos	\$ 675	\$ 9,450	
Computer Equipment	1	ea	\$ 2,500	\$ 2,500	
IT Support	14	mos	\$ 300	\$ 4,200	
Internet Setup	1	ls	\$ 1,000	\$ 1,000	
Internet Service	14	mos	\$ 440	\$ 6,160	
Telephone Service - Field Office	14	mos	\$ 100	\$ 1,400	
Cell Service (1.5 people)	14	mo	\$ 240	\$ 3,360	
Management Software				Excluded	
OFFICE SUPPLIES, REPRODUCTION & REPOGRAPHICS					
Supplies - Office & Clerical	14	mos	\$ 200	\$ 2,800	
Water & Coffee	14	mos	\$ 200	\$ 2,800	
Drawing Reproduction	1	ls	\$ 5,500	\$ 5,500	
Shop Drawing Reproduction	1	ls	\$ 1,500	\$ 1,500	
Postage & Courier	1	ls	\$ 1,000	\$ 1,000	
Printing/Advertising	1	ls	\$ 1,000	\$ 1,000	
SAFETY & FIRST-AID					
Safety & First-Aid (Hard Hat Slickers & Safety Kits)	1	ls	\$ 3,500	\$ 3,500	
Safety Gear	1	ls	\$ 3,000	\$ 3,000	
Temporary Fire Extinguishers	1	ls	\$ 2,500	\$ 2,500	
Safety Inspections	14	mos	\$ 750	\$ 10,500	
COVID19 Safety & Management				NA	
Background Checks & Drug Testing				w/ Trades	
TRAVEL & VEHICLE					
Travel Expenses (Vehicles - FIELD)	14	mos	\$ 350	\$ 4,900	
TEMPORARY FACILITIES & CONTROLS					
Temporary Toilets for Workers - Service 2 days/wk - (Incls 6 x 325/ea)	14	mos	\$ 1,950	\$ 27,300	
Temp Toilets for Trailer - Serv. 2 dys/wk - (1 x 750/ea)		mos			
Clean Existing Onsite Bathrooms		mos			
Dumpsters	30	pulls	\$ 850	\$ 25,764	
Small Tools & Equipment	1	ls	\$ 250	\$ 250	
Staging Areas				w/ Trade Cost	
8' H Chain Link Fence Enclosure - Phase I (put up, maintain & remove)	800	lf	\$ 43.75	\$ 35,000	
8' H Chain Link Fence Enclosure - Phase II (put up, maintain & remove)	440	lf	\$ 43.75	\$ 19,250	
Temp Double Gate - Phase I	1	ea	\$ 3,000.00	\$ 3,000	
Temp Double Gate - Phase II	1	ea	\$ 3,000.00	\$ 3,000	
Temp Fence - Maintenance/Misc. Addl	14	mos	\$ 500	\$ 7,000	
Ladders (10')				w/ Trades	
Temporary Stairs				w/ Trades	
Temporary Roads				w/ Trades	
Temporary Enclosures				w/ Trades	
Protect Floor Openings				w/ Trades	
Protect Wall Openings				w/ Trades	
Temporary Doors				w/ Trades	
Site Grounds Maintenance				w/ Trades	
Scaffolding & Staging	1	ls	\$ 30,000.00	\$ 30,000	
TEMPORARY UTILITIES					
Temporary Electric Service				w/ Trades	
Temporary Electric Lights & Wiring				w/ Trades	
Electric Energy Consumption Allowance (trailer only)	14	mos	\$ 5,000	\$ 70,000	
Electric Energy Consumption Allowance (temp construction)	14	mos		w/ Above	
Temporary Environmental Controls - Heat & Cooling	1	yr	\$ 55,000	\$ 55,000	
WINTER CONDITIONS					
Temporary Heating & Cooling				w/ Trades	
Snow Removal				w/ Trades	
Winter Conditions (Exterior)				w/ Trades	
Hay, Canvas, Heaters				w/ Trades	
Stage & Enclose New Construction For Temp Heat				w/ Trades	

Drawings Dated: 05/16/2025
Estimate Date: 05/20/2025 Rev 1

ESTIMATE DETAIL		Base Project				2,038,511
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total	
EQUIPMENT						
Holst						w/ Trades
Concrete Base for Holst						w/ Trades
Electric Service for Holst						w/ Trades
Crane Services						w/ Trades
SIGNAGE						
Misc. Signage (Wayfinding)	1	ls	\$ 1,500	\$ 1,500		
Job Sign	1	ls	\$ 3,000	\$ 3,000		
Project Signs						NA
CONSULTANTS						
Scheduling Consultants						w/ Staffing
Certified Payroll	14	mos	\$ 1,188	\$ 16,632		
Engineering Layout						w/ Trades
Testing Laboratory						By Owner
Architect's Fee						By Owner
INSURANCE						
Builder's Risk Insurance						See Summary
Hold Harmless Insurance						By Owner
Owner's Protective Insurance						By Owner
PERMITS & FEES						
Permit Fee						See Summary
Permit Fee - ADA - State						See Summary
State Education Fee						See Summary
Stormwater Permit						NA
SECURITY						
Watchmen/Security						NA
Security Badging						NA
Camera/Alarm for Field Office	14	mo	\$ 50	\$ 700		
PROJECT RECORDS & CLOSEOUT						
Progress Photos						w/ Staffing
CHRO / MWBE Plan						w/ Staffing
Project Record Documents	1	ls	\$ 5,000	\$ 5,000		
O&M Manual	1	ls	\$ 5,000	\$ 5,000		
Training Video	1	ls	\$ 8,000	\$ 8,000		
Demonstration & Training Support	1	ls	\$ 4,000	\$ 4,000		
EXECUTION						
Establish Building Control						NA
Cutting and Patching existing condition verification allowance						NA
MISCELLANEOUS						
Ground Breaking						NA
Miscellaneous General Expenses	14	mos	\$ 150	\$ 2,100		
				TOTAL PROJECT REQ'S	\$ 399,166	
01 74 00 - PROJECT CLEANLINESS						
PROGRESS CLEANING						
Daily Clean-up (1 Part Time - 2 days/wk)						w/ Trades
Field Office Clean-up	14	mos	\$ 1,075	\$ 15,050		
FINAL CLEANING						
Final Cleaning	9,988	sf	\$ 1.00	\$ 9,988		
				TOTAL CLEANING	\$ 25,038	
02 11 00 - CONTAMINATED SOIL						
CONTAMINATED SOIL						
Contaminated Soil - transportation and disposal						
				TOTAL CONTAMINATED SOIL	In Site	
02 80 00 - HAZARDOUS ABATEMENT						
HAZARDOUS ABATEMENT						
Hazmat Allowance (referred to in table of contents - not provided)	9,988	sf	\$ 3	\$ 30,000		
				TOTAL HAZARDOUS ABATEMENT	\$ 30,000	

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
02 40 10 - BUILDING DEMOLITION					
MASS BUILDING DEMOLITION					
Remove Existing Foundation Walls/Footings at High Grade	1,668	sf			w/ Site
Remove Existing Foundation Walls/Footings at Low Grade	981	sf			w/ Site
Remove Existing Foundation Slab on Grade	6,215	sf			w/ Site
Remove Existing Two Story Building (Phase II)	6,215	sf	\$ 20.00	\$ 124,300	
Remove Overhead Doors	6	ea	\$ 200.00		w/ Above
Remove Exterior Doors (Double)	2	ea	\$ 150.00		w/ Above
Remove Exterior Doors (Single)	7	ea	\$ 100.00		w/ Above
Remove Exterior Fire Escape	1	ls	\$ 1,000.00		w/ Above
Remove Interior Doors (Double)	2	ea	\$ 150.00		w/ Above
Remove Interior Doors (Single)	13	ea	\$ 100.00		w/ Above
Remove Existing Interior Framed Walls	4,464	lf	\$ 1.50		w/ Above
Remove Existing Framed Stairwell	101	sf	\$ 30.00		w/ Above
Remove Existing Second Floor Framing	6,085	sf	\$ 5.00		w/ Above
Remove Existing Exterior Framed Walls	8,940	sf	\$ 8.00		w/ Above
Remove Existing Finish Flooring	8,651	sf	\$ 1.00		w/ Above
Remove Existing Drywall Ceilings	2,582	sf	\$ 1.00		w/ Above
Remove Existing Finished Flooring	6,109	sf	\$ 1.00		w/ Above
Remove Exterior Windows	26	ea	\$ 100.00		w/ Above
Remove Existing Sloped Shingle Roofing & Framing	2,602	sf	\$ 8.00		w/ Above
Remove Existing Flat Membrane Roofing & Framing	3,772	sf	\$ 6.00		w/ Above
Remove Existing Exterior Framed Parapet	293	lf	\$ 2.00		w/ Above
Selective Demolition: Remove Existing Exterior Railing	39	lf	\$ 10.00		w/ Above
Remove Existing Concrete Steps/Landings	70	sf	\$ 20.00		w/ Above
Demolition Dumpsters	32	loads	\$ 800.00	\$ 25,680	
Remove Compressor Shed (Phase I)	364	sf	\$ 20.00		w/ Site
Remove Existing Foundation Walls/Footings & Slabs	364	sf	\$ 5.00		w/ Site
Remove Storage Shed (Phase I)	236	sf	\$ 20.00		w/ Site
Remove Existing Foundation Walls/Footings & Slabs	236	sf	\$ 5.00		w/ Site
TOTAL BUILDING DEMOLITION				\$	149,980
02 41 10 - SELECTIVE DEMOLITION					
					N / A
TOTAL SELECTIVE DEMO					N / A
03 30 00 - CAST-IN-PLACE CONCRETE					
FOOTINGS, PIERS, & WALLS					
Spread Footings (form, place, strip)	19	cy	\$ 1,042.00	\$ 19,798	
Spread Footings (F3.0 - 3' x 3' x 12"dp)	5	ea			w/ Above
Spread Footings (F4.0 - 4' x 4' x 12"dp)	14	ea			w/ Above
Spread Footings (F6.0 - 6' x 6' x 14"dp)	3	ea			w/ Above
Spread Footings (F15.0 - 6' x 15' x 14"dp)	1	ea			w/ Above
Formwork	418	sf			w/ Above
Concrete materials - 4,500 psi (+5% Waste)	20	cy			w/ Above
Pour footings	19	cy			w/ Above
Reinforcement	0.8	ton			w/ Above
Install anchor bolts (assumed 4/plate)	92	ea			w/ Above
Set & grout base plates	23	ea			w/ Above
Continuous Footing - Exterior Walls (form, place, & strip)	45	cy	\$ 585.00	\$ 26,325	
Strip Footing - Exterior (WF3.0 - 3'w x 12"dp)	206	lf			w/ Above
Strip Footing - Exterior (WF2.0 - 2'w x 12"dp)	147	lf			w/ Above
Strip Footing - Exterior (WF2.0 - 2'w x 12"dp) at Entry Doors	148	lf			w/ Above
Formwork	1,000	sf			w/ Above
Concrete materials - 4,500 psi (+5% Waste)	47	cy			w/ Above
Pour footings	45	cy			w/ Above
Reinforcement	1.8	ton			w/ Above
Continuous Footing - Interior Walls (form, place, & strip)	24	cyd	\$ 585.00	\$ 14,040	
Strip Footing - Exterior (WF3.0 - 3'w x 12"dp)	214	lf			w/ Above
Strip Footing - Exterior (WF2.0 - 2'w x 12"dp) at Entry Doors	70	lf			w/ Above
Formwork	588	sf			w/ Above
Concrete materials - 4,000 psi	25	cy			w/ Above
Pour footings	24	cy			w/ Above
Reinforcement	1.0	ton			w/ Above

Drawings Dated: 05/16/2025
 Estimate Date 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
Pilasters & Piers	6	cyd	\$ 1,434.00	\$ 8,604	
Pilasters/Piers (CP1 - 12"x18")	14	ea		w/ Above	
Pilasters/Piers (CP2 - 12"x12")	1	ea		w/ Above	
Pilasters/Piers (CP3 - 18"x18")	1	ea		w/ Above	
Pilasters/Piers (CP4 - 20"x20")	4	ea		w/ Above	
Formwork (0'-4')	390	sf		w/ Above	
Concrete materials - 4,500 psi (+5% Waste)	7	cy		w/ Above	
Pour plaster & piers	6	cy		w/ Above	
Reinforcement	0.3	ton		w/ Above	
Exterior Walls - 0' - 4' (Form, Place, & Strip)	87	cy	\$ 945.00	\$ 82,215	
Foundation Walls - Exterior (16" w/8" Brickshelf)	282	lf		w/ Above	
Foundation Walls - Exterior (14" w/8" Brickshelf)	127	lf		w/ Above	
Foundation Walls - Exterior Frostwalls (8") at Entrances	128	lf		w/ Above	
Formwork (0'-4')	4,046	sf		w/ Above	
Form brickshelf (8"wx12"dp)	480	sf		w/ Above	
Concrete materials - 4,500 psi (+5% Waste)	91	cy		w/ Above	
Pump walls	87	cy		w/ Above	
Reinforcement	4.4	ton		w/ Above	
Interior Walls - 0' - 4' (Form, Place, & Strip)	20	cy	\$ 945.00	\$ 18,900	
Foundation Walls - Interior Walls (8") below Mezzanine Area	271	lf		w/ Above	
Formwork	1,628	sf		w/ Above	
Form brickshelf (8"wx12"dp)	-	sf		N / A	
Concrete materials - 4,500 psi (+5% Waste)	21	cy		w/ Above	
Pump walls	20	cy		w/ Above	
Reinforcement	1.0	ton		w/ Above	
Elevator Pit (formwork, concrete & rebar)				Excluded	
Formwork		sf		N / A	
Concrete materials - 3,000 psi		cy		N / A	
Concrete materials - 4,000 psi		cy		N / A	
Concrete materials - 5,000 psi		cy		N / A	
Pump walls & footings		sf		N / A	
Pour & Finish structural mat		cy		N / A	
Keyway		lf		N / A	
Install waterstop		lf		N / A	
Reinforcement		ton		N / A	
UNDERPINNING					
Under Pinning		allw		Excluded	
SLAB ON GRADE					
Slab on Grade Areas					
Slab on Grade (10" w/ #6 E.W. Epoxy Coated)	4,174	sf	\$ 13.75	\$ 57,393	
Slab on Grade (6" w/ #3 - 12"oc T&B)	5,118	sf	\$ 13.25	\$ 67,814	
Slab on Grade (4" w/ WWM 6x6-1.4/1.4) at Entrances	388	sf	\$ 11.00	\$ 4,268	
Concrete materials - 4,000 psi	235	cy		w/ Above	
Concrete materials - 5,000 psi	6	cy		w/ Above	
Concrete material - slab haunches at trench grates & apparatus doors	13	cy		w/ Above	
Moisture reducing agent	254	cy		w/ Above	
Reinforcement	12.7	ton		w/ Above	
Reinforcement - (WWM 6x6-1.4/1.4)	466	sf		w/ Above	
Place & Finish	9,680	sf		w/ Above	
Vapor Barrier	11,616	sf		w/ Above	
Perimeter joints	752	lf		w/ Above	
Control joints	650	lf		w/ Above	
SLAB ON DECK					
Slab on Deck - Material & Labor	680	sf	\$ 11.00	\$ 7,480	
Concrete material (4000 psi - Lightweight) - 5" thick	12	cy		w/ Above	
Moisture reducing agent	12	cy		w/ Above	
Reinforcement - (WWM 6x6-1.4/1.4)	816	sf		w/ Above	
Place & Finish	680	sf		w/ Above	
Perimeter joints	230	lf		w/ Above	
Control joints	160	lf		w/ Above	
STAIRS - FLATWORK					
Stair Pans & Landings	80	sf	\$ 39.00	\$ 3,120	
Stairs - Exterior - See Civil Concrete		sf		N / A	
HOLLOW CORE PLANK					
Hollow core plank		sf		N / A	

Drawings Dated: 05/16/2025

Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			Subtotal	Total
DESCRIPTIONS	Qty	Unit	Unit Price			
SITE CONCRETE						
Exterior Entrance Slabs		sf			w/ Above	
Sidewalks		sf			w/Site	
Sidewalks with monolithic curbs		sf			w/Site	
Dumpster Pads		sf			w/Site	
Generator Pads		sf			w/Site	
Signage base		ea			w/Site	
Misc. concrete pads		sf			w/Site	
Stamped concrete sidewalk/patio (premium only)		sf			w/Site	
Colored concrete sidewalk/patio (premium only)		sf			w/Site	
Stamped and colored concrete sidewalk/patio (premium only)		sf			w/Site	
Retaining wall 3' - 5'		sf			w/Site	
MISCELLANEOUS						
Set Simpson Hold Down Foundation Anchor (SSTB20)	4	ea	\$ 300.00	\$	1,200	
Set Embedded Angles (Detail 6/S004) at Apparatus Bay Doors	94	lf	\$ 12.00	\$	1,128	
Set Trench Drains (Detail 4/S300)	170	lf	\$ 12.00	\$	2,040	
Install Rigid Insulation (2") - Vertical at Foundation Walls	2,100	sf	\$ 2.00	\$	4,200	
Install Rigid Insulation (2") - Horizontal at Slab on Grade Areas	9,300	sf	\$ 2.00	\$	18,600	
Misc Housekeeping Pads	1	ls	\$ 5,000.00	\$	5,000	
Edge form depressed slabs	40	lf	\$ 15.00	\$	600	
Temp heat for concrete work	1	winter	\$ 10,000.00	\$	10,000	
Exterior Building Foundation Waterproofing (Detail 1/A510)	2,100	sf	\$ 8.12	\$	17,052	
Rigid Insulation - 2" Vertical at Conc Foundation (Detail 1/A510)	2,100	sf	\$ 5.50	\$	11,550	
Rigid Insulation - 2" Horizontal at Conc Slab-on-Grade (Detail 1/A510)	9,300	sf	\$ 5.50	\$	51,150	
Radon Pit	-	ea			Excluded	
Phasing Coordination	-	ea			N / A	
					TOTAL CIP CONCRETE	\$ 432,476
04 20 00 - MASONRY						
EXTERIOR WALLS						
Exterior Wall (8") CMU Backup at Apparatus Bays (Detail 1/A510)	5,480	sf	\$ 33.50	\$	183,580	
Exterior Wall (8") CMU Backup at Entrance Columns (Detail 6/A510)	24	sf	\$ 33.50	\$	804	
Build-in & Set Exterior Welded Door Frames - Single	3	ea	\$ 300.00	\$	900	
Build-in & Set Exterior Welded Door Frames - Double	1	ea	\$ 450.00	\$	450	
Set Loose Lintels (8'-16") at Apparatus Bay Overhead Doors	1	ls	\$ 6,000.00	\$	6,000	
Set Loose Lintels (8'-16") at Apparatus Bay Storefront	1	ls	\$ 1,000.00	\$	1,000	
Set Loose Lintels (4'-8") at Apparatus Bay Door, Louver & Window Openings	1	ls	\$ 3,000.00	\$	3,000	
Brick Veneer at Service & Apparatus Bay Areas (Elevations A300 & A301)	996	sf	\$ 40.05	\$	39,890	
Cast Stone Sill Band at Service & Apparatus Areas (Details 1/A510 & A/A610)	300	lf	\$ 125.00	\$	37,500	
Precast Cap at Entrance Columns (Detail 6/A510)	4	ea	\$ 600.00	\$	2,400	
Brick Veneer at Entrance Columns (Elevation 4/A301)	70	sf	\$ 40.05	\$	2,804	
Firestopping at Exterior Walls	368	lf	\$ 20.00	\$	7,360	
INTERIOR WALLS						
Interior Masonry Partitions - 8" STC-48 (Type 1A)	4,546	sf	\$ 33.50	\$	152,291	
Interior Masonry Partitions - 8" STC-48 (Type 1A) at Mezzanine	752	sf	\$ 33.50	\$	25,192	
Interior Masonry Partitions - 8" - 2 Hour Rated (Type 1B)	840	sf	\$ 35.00	\$	29,400	
Interior Masonry Partitions - 8" - 2 hour Rated (Type 1B) at Low Gable End	592	sf	\$ 35.00	\$	20,720	
Interior Masonry Partitions - 6" STC-45 (Type 1C)	264	sf	\$ 36.00	\$	9,504	
Bond Beam Headers (Per Drawing S102)	290	lf	\$ 50.71	\$	14,706	
Beam Pockets for Structural Steel Beams	78	ea	\$ 80.00	\$	6,240	
Build-in & Set Exterior Welded Door Frames - Single	10	ea	\$ 300.00	\$	3,000	
Build-in & Set Exterior Welded Door Frames - Double	4	ea	\$ 450.00	\$	1,800	
Build-in & Set Exterior Steel Channel Frames at Overhead Doors	6	ea	\$ 1,200.00	\$	7,200	
Firestopping at Interior Walls	70	lf	\$ 20.00	\$	1,400	
MISCELLANEOUS GENERAL REQUIREMENTS						
Scaffolding & Staging	1	ls	\$ 30,000.00		w/ Above	
Expansion Joints	1	ls	\$ 50.50	\$	51	
Phasing Coordination	-	ea			N / A	
					TOTAL UNIT MASONRY	\$ 557,191



Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			Notes
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
05 12 00 - STRUCTURAL STEEL					
STRUCTURAL STEEL COLUMNS	5.78	tons	\$ 6,325.00	\$ 36,559	15% Tariff
Steel Columns (HSS 6x6x1/2)	132	lf		w/ Above	
Steel Columns (HSS 7x7x1/2)	97	lf		w/ Above	
Steel Columns (HSS 4x4x3/8)	39	lf		w/ Above	
Steel Columns (HSS 5x5x1/2)	62	lf		w/ Above	
Steel Stub Columns (HSS 5x5x1/2)	3	lf		w/ Above	
Steel Stub Columns (HSS 4x4x3/8)	5	lf		w/ Above	
Steel Stub Columns (HSS 7x7x1/2)	6	lf		w/ Above	
STRUCTURAL STEEL - BEAMS & PURLINS	34.09	tons	\$ 6,325.00	\$ 215,619	
Steel Beams (W10 x 22) at Mezzanine	72	lf		w/ Above	
Steel Beams (W10 x 45) at Mezzanine	32	lf		w/ Above	
Steel Beam (W10 x 22) at Entrance Canopy	69	lf		w/ Above	
Steel Beam (C10 x 20) at Entrance Canopy	13	lf		w/ Above	
Steel Ridge Beam (W10 x 54) at Sloped Roof Areas	72	lf		w/ Above	
Steel Purlins (C10 x 30) at Sloped Roof Areas	1,983	lf		w/ Above	
STRUCTURAL STEEL - ROOF TRUSSES	28.81	tons	\$ 6,325.00	\$ 182,223	
Steel Roof Trusses (Truss 1 - Detail 1/S200)	1	ea		w/ Above	
Steel Roof Trusses (Truss 2 - Detail 2/S200)	2	ea		w/ Above	
Steel Roof Trusses (Truss 3.1 - Detail 3.1/S200)	2	ea		w/ Above	
Steel Roof Trusses (Truss 3.2 - Detail 3.2/S200)	1	ea		w/ Above	
STRUCTURAL STEEL - BRACING & HEADERS	6.20	tons	\$ 6,325.00	\$ 39,215	
Steel Truss Bracing (C10 x 20) for Partitions	278	lf		w/ Above	
Steel Bracing (W10 x 54) at Bottom Chord	111	lf		w/ Above	
Steel Header Beam (W18 x 35) at Large Opening Areas	24	lf		w/ Above	
MISC. FRAMING	5.73	tons	\$ 6,325.00	\$ 36,242	
Steel Angle (Note A - L3"x3"x1/4") at Mezzanine Deck	140	lf		w/ Above	
Steel Plate (Note B - TBD) at Mezzanine Deck	31	lf		w/ Above	
Steel Angle (Note A - L4"x4"x1/4") at Roof Deck	202	lf		w/ Above	
Steel "X" Bracing (L4x4x1/4") at Sloped Roof Areas	111	lf		w/ Above	
Steel Edge Support Angle (L3x3x3/8") at Ridge Beam	34	lf		w/ Above	
Structural Steel: Steel Edge Support Angle (L4x4x3/8") at Overhang	263	lf		w/ Above	
Structural Steel: Steel Edge Support Angle (L4x4x3/8") at Sloped Overhang	251	lf		w/ Above	
Structural Steel: Steel Outriggers Angle (L4x4x3/8") at Overhang	319	lf		w/ Above	
CONNECTIONS	12.09	tons	\$ 6,325.00	\$ 76,479	
Connections & Bridging - 15%	60	ea	\$ 1,224.00	\$ 73,440	
Moment Connections at Outriggers	9	ea	\$ 300.00	\$ 2,700	
Base Plates (BP1)	2	ea	\$ 300.00	\$ 600	
Base Plates (BP2)	9	ea	\$ 300.00	\$ 2,700	
Base Plates (BP3)	3	ea	\$ 300.00	\$ 900	
Anchor Bolts	92	ea	\$ 90.00	\$ 8,280	
Bearing Plates & Anchor Bolts	78	ea	\$ 190.00	\$ 14,820	
DECKING					
Steel Floor Deck (D1) 1-1/2" - 22 Gauge	680	sf	\$ 8.50	\$ 5,780	
Steel Roof Deck Sloped (D2) 1-1/2" - 22 Gauge	11,216	sf	\$ 5.61	\$ 62,922	
MISCELLANEOUS					
Crane / Rigging	2	mos	\$ 15,000.00	w/ Above	
Fire Watch				N / A	
Phasing Coordination				N / A	
TOTAL STRUCTURAL STEEL				\$ 758,479	

Drawings Dated: 05/16/2025
 Estimate Date: 08/20/2025 Rev 1

ESTIMATE DETAIL		Base Project 9,931 sf			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
05 50 00 - METAL FABRICATIONS					
INTERIOR					
Mezzanine Floor Plate Stair "L" at Work Bench Room #121 (Detail 2/A440)	1	flgt	\$ 20,000.00	\$ 20,000	
Wall Rails at Mezzanine Plate Stair (Detail 4/A440)	30	lf	\$ 150.00	\$ 4,500	
Guardrails at Mezzanine Plate Stair (Detail 4/A511)	48	lf	\$ 285.00	\$ 13,680	
Catwalk Platform (Heavy Duty) at Mechanical Mezzanine Area (Detail 4/A511)	42	sf	\$ 120.00	\$ 5,040	
Catwalk Guardrail at Mechanical Mezzanine Area (Detail 4/A511)	34	lf	\$ 150.00	\$ 5,100	
Guardrails at Mechanical Mezzanine (Detail 4/A511)	34	lf	\$ 285.00	\$ 9,690	
Galvanized (12") Steel Plates at O.H. Doors (Details 1&2/A511)	94	lf	\$ 50.00	\$ 4,700	
Steel Angle (L3"x3"x1/4") at Garage Door Slabs (Details 4&5/A510)	94	lf	\$ 30.00	\$ 2,820	
Stair Nosings at Mezzanine Pan Stair (Detail 5/A440)	60	lf	\$ 20.00	\$ 1,200	
CMU clips & angles (Detail 4/S006)	210	ea	\$ 47.00	\$ 9,870	
Steel Pipe Bollards (Detail 5/A500)	39	ea	\$ 800.00	\$ 31,200	
Trench Drain Frames & Grates (Detail 4/S300)	170	lf	\$ 120.00	\$ 20,400	
Lintels @ Openings	1	ls	\$ 5,000.00	\$ 5,000	
Mechanical Screening, Steel Frame & Post		lf		N/A	
Mechanical Screen Supports @ 8' OC		ls		N/A	
Exterior Stair Hand Railing - galv		ls		N/A	
Exterior Stair Guard Railing - galv		lf		N/A	
Roof Access Ladders		ls		N/A	
MISCELLANEOUS					
Phasing Coordination		ea		N/A	
TOTAL METAL FABRICATIONS				\$ 133,200	
06 10 00 - ROUGH CARPENTRY					
EXTERIOR ROOF PANELS & SHEATHING					
Insulated Roof Panels (Hunter Panels) at Service Area Roof (Detail 2/A520)	4,220	sf	\$ 26.00	\$ 109,720	
Insulated Roof Panels (Hunter Panels) at Apparatus Bay Area Roof (Detail 1/A520)	5,932	sf	\$ 26.00	\$ 154,232	
Exterior F.T. Plywood (5/8") at Entrance Canopy (Detail 10/A520)	200	sf	\$ 6.00	\$ 1,200	
Exterior Wall Sheathing - Zip Sheathing/Taping at Siding at Apparatus Bay (Detail 1/A420)	3,314	sf	\$ 20.00	\$ 66,280	
Exterior Wall Sheathing - Zip Sheathing/Taping at Siding at Service Area (Detail 2/A420)	2,310	sf	\$ 20.00	\$ 46,200	
BLOCKING					
Exterior Window 1x & 2x Sills	252	lf	\$ 12.12	\$ 3,054	
Exterior Wall Blocking at Fiber Cement & Azek Trimwork	2,100	lf	\$ 12.12	\$ 25,452	
Exterior Curtain Wall & Storefront (perimeter)	136	lf	\$ 15.15	\$ 2,060	
Interior Storefront (perimeter)	28	lf	\$ 12.12	\$ 339	
Interior Doors	836	lf	\$ 8.00	\$ 6,688	
Roof Perimeter Wood Blocking (assume 3 pcs)				w/ Roofing	
Miscellaneous Roof Transitions, Skylight Blocking, etc.		lf		w/ Roofing	
Roof Curb Blocking		lf		N/A	
Base Cabinet in-wall blocking (assume 2 pieces)	17	lf	\$ 9.60	\$ 163	
Upper Cabinet in-wall blocking (assume 2 pieces)	19	lf	\$ 9.60	\$ 182	
Full Height Cabinet in-wall blocking (assume 3 pieces)	3	lf	\$ 14.40	\$ 43	
Workstations/Counters in-wall blocking (assume 2 pieces)	50	lf	\$ 9.60	\$ 480	
Closet Rod & Shelf Blocking	24	lf	\$ 4.80	\$ 115	
Misc. Interior Wall Blocking (20% of wall area)	1,233	sf	\$ 3.03	\$ 3,736	
Plywood Backing Panels for Equipment	1,200	sf	\$ 3.03	\$ 3,636	
TEMPORARY PROTECTIONS					
Temporary Partitions				N/A	
Remove Temp Walls				N/A	
Temp Doors				N/A	
Relocate / Remove Temp Doors	2	ea	\$ 252.50	\$ 505	
Floor Protection					
Remove Floor Protection	3	cd	\$ 1,616.00	\$ 4,848	
ENCLOSURES					
Temp Window Enclosures	822	sf	\$ 1.25	\$ 778	
Apparatus Doors Temp Enclosures	1,200	sf	\$ 1.25	\$ 1,500	
SUBFLOORING / SLEEPERS					
Sleepers (2x4) at Depressed Floor Areas - Gym				N/A	
Plywood Subfloor (3/4") at Depressed Floor Areas - Gym				N/A	
EQUIPMENT					
Lift Rental	1	ls	\$ 5,000.00	\$ 5,000	
Scaffold Stair Towers for Roof Access	1	ls	\$ 20,000.00	\$ 20,000	

Drawings Dated: 05/16/2025
 Estimate Date: 08/20/2025 Rev 1

ESTIMATE DETAIL DESCRIPTIONS	Base Project				
	Qty	Unit	Unit Price	Subtotal	Total
SAFETY					
Wood Safety Rails, Plywood Covers, Etc	9,988	sf	\$ 0.51	\$ 5,044	
MISC.					
General Trades Primary Subcontractor GC's	1	ls	\$ 25,000.00	NA	
TOTAL ROUGH CARPENTRY				\$	461,256

06 20 00 - FINISH CARPENTRY

EXTERIOR

PVC Trim - Materials	1	ls	\$ 15,000.00	\$ 15,000	
PVC Accent Banding (8") Azek Trimwork at Apparatus Bays	160	lf			w/Above
PVC Accent Banding (6") Azek Trimwork at Apparatus Bays	90	lf			w/Above
PVC Window Header (2 Piece) Azek Trim	10	ea			w/Above
PVC Window, Door & Louver Azek Trimwork (4")	300	lf			w/Above
PVC Accent Banding (4") Azek Trimwork at Entrance Doors	200	lf			w/Above
PVC Accent Banding (4") Azek Trimwork at Service Area	170	lf			w/Above
PVC Accent Banding (4") Azek Trimwork at Apparatus Bays	130	lf			w/Above
PVC Apparatus Overhead Door (3") Azek Trimwork	300	lf			w/Above
PVC Gable, Eave & Rake (12") Fiber Cement Trimwork at Apparatus Bays	180	lf			w/Siding
PVC Gable, Eave & Rake (12") Fiber Cement Trimwork at Service Area	100	lf			w/Siding
PVC Soffit (12") Fiber Cement Trimwork at Apparatus Bays	150	lf			w/Siding
PVC Soffit (12") Fiber Cement Trimwork at Service Areas	140	lf			w/Siding
PVC Corner & Accent (6") Fiber Cement Trimwork at Service Areas	110	lf			w/Siding
Fiber Glass Column Rap (w/Base & Capital - Full - 2 piece)	40	lf	\$ 150.00	\$ 6,000	
Fiber Glass Column Rap (w/Base & Capital - Half - 1 piece)	20	lf	\$ 150.00	\$ 3,000	
PVC Trim - Labor	1	ls	\$ 40,000.00	\$ 40,000	
PVC Accent Banding (8") Azek Trimwork at Apparatus Bays	157	lf			w/Above
PVC Accent Banding (6") Azek Trimwork at Apparatus Bays	82	lf			w/Above
PVC Window Header (2 Piece) Azek Trim	10	ea			w/Above
PVC Window, Door & Louver Azek Trimwork (4")	296	lf			w/Above
PVC Accent Banding (4") Azek Trimwork at Entrance Doors	198	lf			w/Above
PVC Accent Banding (4") Azek Trimwork at Service Area	166	lf			w/Above
PVC Accent Banding (4") Azek Trimwork at Apparatus Bays	125	lf			w/Above
PVC Apparatus Overhead Door (3") Azek Trimwork	254	lf			w/Above
PVC Gable, Eave & Rake (12") Fiber Cement Trimwork at Apparatus Bays	172	lf			w/Siding
PVC Gable, Eave & Rake (12") Fiber Cement Trimwork at Service Area	98	lf			w/Siding
PVC Soffit (12") Fiber Cement Trimwork at Apparatus Bays	139	lf			w/Siding
PVC Soffit (12") Fiber Cement Trimwork at Service Areas	150	lf			w/Siding
PVC Corner & Accent (6") Fiber Cement Trimwork at Service Areas	109	lf			w/Siding
Fiber Glass Column Rap (w/Base & Capital - Full - 2 piece)	4	ea	\$ 600.00	\$ 2,400	
Fiber Glass Column Rap (w/Base & Capital - Half - 1 piece)	2	ea	\$ 600.00	\$ 1,200	

INTERIOR

Casework / Millwork - Materials					
Cabinets - Base 24"	17	lf	\$ 275.00	\$ 4,675	
Cabinets - Upper 18"	19	lf	\$ 200.00	\$ 3,800	
Cabinets - Tall Wardrobe (7 h x 18" w)					N/A
Casework - Bench PLAM					N/A
Casework - Bookshelves (5 shelves) PLAM					N/A
Casework - 6" Pull-out spice Rack	1	ea	\$ 350.00	\$ 350	
Casework - Display	3	ea	\$ 900.00	\$ 2,700	
Casework / Millwork - Labor					
Installation	100	hrs	\$ 99.77	\$ 9,977	
Countertops & Worksurfaces - Materials					
Countertops 24" - Solid Surface w/ Back Splash	55	lf	\$ 135.00	\$ 7,425	
Countertops 24" - Solid Surface Floating w/ Integral Sink	10	lf			w/ Plumbing
Countertops 24" - Stainless Steel					N/A
Countertops 24" - Epoxy Resin					N/A
Countertops 24" - Quartz					N/A
Countertops & Worksurfaces - Labor					
Installation	35	hrs	\$ 99.77	\$ 3,492	
Installation - Countertops 24" - Solid Surface Floating w/ Integral Sink (2lf/hr)	5	hrs			w/ Plumbing

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
Panels & Shelving - Materials					
Shelving - (6) Maple shelves					N/A
Shelving - 3/4" PLAM shelves	24	lf	\$ 285.00	\$	6,840
Shelving units - Industrial					N/A
Shelving - Closets w/ rod					N/A
Slatwall					N/A
Cubbies					N/A
Column Covers - Hardwood 15'					N/A
Column Covers - Hardwood 12'					N/A
Acoustical wall paneling - plywood					N/A
Elevator Surround					N/A
Phenolic Panels					N/A
PLam Panels					N/A
Panels & Shelving - Labor					
Installation	32	hrs	\$ 99.77	\$	3,193
Miscellaneous					
Misc. Millwork Allw	1	ls	\$ 5,000.00	\$	5,000
* Chain of custody and certification for FSC is excluded					Excluded
TOTAL FINISH CARPENTRY				\$	115,052
07 10 00 - DAMP / WATERPROOFING					
DAMP / WATERPROOFING					
Exterior Building Foundation Waterproofing (Detail 1/A510)	2,100	sf	\$ 8.12	w/ Concrete	
Elevator Pit				Excluded	
TOTAL DAMP / WATERPROOFING				\$	-
07 21 00 - THERMAL INSULATION					
RIGID					
Rigid Insulation - 2" Vertical at Conc Foundation (Detail 1/A510)	2,100	sf	\$ 5.50	w/ Concrete	
Rigid Insulation - 2" Horizontal at Conc Slab-on-Grade (Detail 1/A510)	9,300	sf	\$ 5.50	w/ Concrete	
Rigid Insulation - 3" at Fiber Cement Siding (Details 1&2/A510)	5,370	sf	\$ 5.50	\$	29,535
Rigid Insulation - 3" at Masonry Veneer (Details 1&2/A510)	996	sf	\$ 5.50	\$	5,478
Rigid Insulation - 5" at Vented Roofing	10,352	sf		w/Roof Panels	
Rigid Insulation - 3" at EIFS Walls	-	sf		N/A	
Rigid Insulation - 3" at Metal Panel Walls	-	sf		N/A	
SPRAY FOAM					
Spray Foam Insulation	-	sf		Excluded	
LOOSE-FILL CELLULOSE					
Loose-Fill Cellulose Insulation (10") at Light Gauge Framing Areas	-	sf		Excluded	
BATT					
Batt Insulation - In-wall Drywall Partitions				w/ Gyp Drywall	
TOTAL THERMAL INSULATION				\$	35,013
07 25 00 - AIR & VAPOR BARRIERS					
FLUID APPLIED					
Fluid Applied Air & Vapor Barriers at Masonry Veneer (Detail 1/A510)	996	sf	\$ 8.03	\$	7,996
Fluid Applied Air & Vapor Barriers at Fiber Cement Siding (Detail 2/A510)	5,370	sf	\$ 8.03	\$	43,121
Fluid Applied Air & Vapor Barriers at Foundation Walls (Details 1&2/A510)	2,510	sf	\$ 8.03	\$	20,155
Fluid Applied Air & Vapor Barriers at Sloped Roofing Areas (Details 1&2/A420)	10,352	sf	\$ 8.03	\$	83,127
Fluid Applied Air & Vapor Barriers at Metal Panels	-	sf		N/A	
Fluid Applied Air & Vapor Barriers at EIFS	-	sf		N/A	
TOTAL AIR & VAPOR BARRIERS				\$	154,401
07 30 00 - SIDING					
CEMENTITIOUS SIDING					
Materials					
Fiber Cement "HardiePanel" - Vertical Siding at Apparatus Exterior (10% waste)	3,690	sf	\$ 13.50	\$	49,815
Fiber Cement Battens (2-1/2" x 3/4")	2,530	lf		w/Above	
Fiber Cement "HardiePlank" - Select Cedar Mill Siding at Service Exterior (10% waste)	2,310	sf	\$ 13.50	\$	31,185
Fiber Cement Gable Soffit at Apparatus Bays	290	sf	\$ 12.00	\$	3,480
Fiber Cement Gable Soffit at Service Area	140	sf	\$ 12.00	\$	1,680
Fiber Cement Gable Soffit at Entrance Canopy	200	sf	\$ 12.24	\$	1,714
Strapping for Siding & Soffits	6,630	sf	\$ 1.50	\$	9,945
Labor					
Installation	8,630	sf	\$ 6.87	\$	45,548

Drawings Dated 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS		Qty	Unit	Unit Price	Total
CEMENTITIOUS TRIMWORK					
Materials		1	ls	\$ 19,607.84	\$ 19,608
PVC Gable, Eave & Rake (12") Fiber Cement Trimwork at Apparatus Bays		180	lf		w/Above
PVC Gable, Eave & Rake (12") Fiber Cement Trimwork at Service Area		100	lf		w/Above
PVC Soffit (12") Fiber Cement Trimwork at Apparatus Bays		150	lf		w/Above
PVC Soffit (12") Fiber Cement Trimwork at Service Areas		140	lf		w/Above
PVC Corner & Accent (6") Fiber Cement Trimwork at Service Areas		110	lf		w/Above
Blocking / Buildouts for Trimwork		6,630	sf	\$ 2.00	\$ 13,260
Labor					
Installation		6,630	sf	\$ 4.30	\$ 28,509
MISCELLANEOUS					
Scaffolding & Staging		1	ls	\$ 30,000.00	\$ 30,000
Phasing Coordination		-	ea		N/A
				TOTAL EIFS	\$ 234,744
07 50 00 - ROOFING					
SHINGLE ROOFING					
Roofing Asphalt Shingles (w/ice & Water Shield) at Apparatus Bay Area Roof (Detail 1/A520)		5,932	sf	\$ 18.00	\$ 106,776
Roofing Asphalt Shingles (w/ice & Water Shield) at Service Area Roof (Detail 2/A520)		4,220	sf	\$ 18.00	\$ 75,960
Roofing Asphalt Shingles (w/ice & Water Shield) at Entrance Canopy (Detail 2/A521)		200	sf	\$ 18.00	\$ 3,600
FLASHING & SHEET METAL					
Flashings, Counter Flashings & Sheet Metal at Shingle Roof		1	ls		w/Above
STANDING METAL SEAM ROOF					
Standing Seam Metal Roofing, w/ 30lb Felt, tapered insulation			sf		N/A
MEMBRANE ROOFING - SINGLE-PLY					
TPO Roofing system on coverboard - tapered			sf		N/A
PVC Roofing system on coverboard - tapered			sf		N/A
Modified Bituminous Roofing system on coverboard - tapered			sf		N/A
EPDM Roofing system on coverboard - tapered			sf		N/A
Tapered Crickets (Placed Below Coverboard)			sf		N/A
MISCELLANEOUS					
Ridge Vent at Sloped Roof Areas (Detail 9/A520)		130	lf	\$ 20.00	\$ 2,600
Metal Gutters 5" (Details 1&2/A520)		263	lf	\$ 23.00	\$ 6,049
Downspouts (14ea)		225	lf	\$ 11.00	\$ 2,475
Downspout Boots (14ea)		14	ea	\$ 160.00	\$ 2,240
Roof Blocking at Gables, Rakes, Eaves & Soffits (Details 1,2,4 & 5/A520)		489	lf	\$ 14.00	\$ 6,846
Snowguards - 150 Alpine #PD10 Copper Pad		263	lf		Exclude
Temp Roof Rails		263	lf		Exclude
Roof Pavers w/ Adjustable Pedestals			sf		N/A
Skylight			ea		N/A
Roof Hatch			ls		N/A
Roof Ladder & Safety			vlf		N/A
Roof Orans at Buildings			ea		N/A
Roof Area Dividers			lf		N/A
Set Mechanical Curbs & Flashing			lf		N/A
Temp Roof Allowance			slw		N/A
Fall Protection		1	slw	\$ 10,000.00	\$ 10,000
Phasing Coordination			ea		N/A
				TOTAL ROOFING	\$ 216,546

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project				
DESCRIPTIONS		Qty	Unit	Unit Price	Subtotal	Total
07 62 00 - SHEET MTL FLASHING & TRIM						
EXTERIOR						
Cap flashing	w/ Roofing					
		TOTAL FLASHING & TRIM \$ -				
07 81 00 - APPLIED FIREPROOFING						
INTUMESCENT						
Intumescent Coatings	Excluded					
APPLIED FIREPROOFING						
Applied Fireproofing - 1 hr at Beams & Deck	Excluded					
Applied Fireproofing - 1 hr at Columns	Excluded					
Applied Fireproofing - Patching	Excluded					
		TOTAL FIREPROOFING \$ -				
07 84 00 - PENETRATION FIRESTOPPING						
FIRESTOPPING						
Firestopping		9,988	sf	\$ 0.75	\$ 7,491	
Fire-Resistive Joint Systems - Smoke 1 Hr / 2 Hr					N/A	
		TOTAL FIRESTOPPING \$ 7,491				
07 92 00 - JOINT SEALANTS						
JOINT SEALANTS						
Door Frames		87	ea	\$ 80.00	\$ 6,960	
Windows		13	ea	\$ 275.00	\$ 3,575	
Ext. Misc Joint Sealants		8,100	sf	\$ 0.75	\$ 6,075	
Int. Misc Joint Sealants		9,988	sf	\$ 0.50	\$ 4,994	
Foundations	w/ Trades					
Mithwork / Casework	w/ Trades					
		TOTAL JOINT SEALANTS \$ 21,604				
08 10 00 - DOORS & FRAMES						
EXTERIOR DOORS & FRAMES						
Frames - Material						
FRP Frame - Double - Factory Finish		1	ea	\$ 900.00	\$ 900	
FRP Frame - Single - Factory Finish		3	ea	\$ 700.00	\$ 2,100	
Doors - Material						
FRP Doors - Factory Finish		5	lvs	\$ 950.00	\$ 4,750	
Labor						
Unload, Catalogue, Distribute		8	ea	\$ 90.00	\$ 720	
Frame Installation		13	hrs	\$ 185.00	\$ 2,145	
Door Installation		24	hrs	\$ 215.00	\$ 5,160	
INTERIOR DOORS & FRAMES						
Frames						
Frame Type A - Single		17	ea	\$ 505.00	\$ 8,585	
Frame Type B - Single		8	ea	\$ 505.00	\$ 4,040	
Frame Type D - Double		4	ea	\$ 515.00	\$ 2,060	
Doors						
Door Type - HM Flush		28	lvs	\$ 620.00	\$ 17,360	
Door Type - HM w/ Narrow Vision Lite - GL-2 (Clear, Tempered)		5	lvs	\$ 650.00	\$ 3,250	
Labor						
Unload, Catalogue, Distribute		142	ea	\$ 90.00	\$ 12,780	
Frame Installation		74	hrs	\$ 165.00	\$ 12,210	
Door Installation		116	hrs	\$ 215.00	\$ 24,940	
MISC.						
Privacy Shutter for Interior Door Vision Panels (6" x 2'-10")	N/A					
Door Hardware - See hardware section	w/ Hardware					
		TOTAL DOORS & FRAMES \$ 101,000				

Drawings Dated 05/18/2025
 Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project		0.938
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal
08 30 00 - SPECIALTY DOORS				
EXTERIOR				
Sectional Overhead (14' 0" x 14' 0") - GL-13 (Insulated Tinted, Tempered)	3	ea	\$ 15,000.00	\$ 45,000
Bi-Fold Doors (14' 0" x 14' 0") - GL-13 (Insulated, Tinted, Tempered)	3	ea	\$ 30,000.00	\$ 90,000
Overhead Door Frames	6	ea	\$ 1,515.00	\$ 9,090
INTERIOR				
Operators	3	ls	\$ 3,000.00	\$ 9,000
Access Doors	1	ls	\$ 3,000.00	\$ 3,000
Motorized rolling grille 8' with serving counter				N/A
Overhead Coiling Doors				N/A
Overhead Coiling Door Frames				N/A
Vault Entrance Door				N/A
Wire mesh partitions regular duty - material (incls doors)				N/A
Wire mesh partitions regular duty - labor (incls doors)				N/A
TOTAL SPECIALTY DOORS				\$ 156,090
08 41 00 - ENTRANCE & STOREFRONTS				
EXTERIOR				
W-1 (Door 131) - GL-13 - (Insulated Tinted, Tempered)	180	sf	\$ 140.00	\$ 25,200
W-3 (Door 115B) - GL-13 - (Insulated, Tinted, Tempered)	64	sf	\$ 140.00	\$ 8,960
W-5 (Door 100 & 118) - GL-13 (Insulated, Tinted, Tempered)	80	sf	\$ 140.00	\$ 11,200
Aluminum Door Assemblies (per leaf)	4	ea	\$ 4,600.00	\$ 18,400
Door Hardware	4	ea	\$ 3,300.00	\$ 13,200
Door Hardware - Closer Premium	4	ea	\$ 176.75	\$ 707
Door Hardware - Panic Premium	3	ea	\$ 656.50	\$ 1,970
INTERIOR				
W-5 (Door 101) - GL-10 (Insulated, Clear, Tempered)	40	sf	\$ 120.00	\$ 4,800
Aluminum Door Assemblies (per leaf)	1	ea	\$ 2,777.50	\$ 2,778
Door Hardware	1	ea	\$ 2,828.00	\$ 2,828
Sound-proof windows				N/A
MISCELLANEOUS				
Caulking & Backer Rod				w/ Sealants
TOTAL ENT. & STOREFRONT				\$ 90,042
08 44 00 - METAL FRAMED CURTAINWALL				
EXTERIOR				
Curtainwall				N/A
Curtainwall - Fire Rated				N/A
TOTAL CURTAINWALL				\$ -
08 50 00 - WINDOWS				
EXTERIOR				
W2 - with GL-13 (Insulated, Tinted, Tempered)(10ea)	190	sf	\$ 90.00	\$ 17,100
W4 - with GL-13 (Insulated, Tinted, Tempered)(3ea)	108	sf	\$ 81.00	\$ 8,748
TOTAL WINDOWS				\$ 25,848
08 71 00 - DOOR HARDWARE				
EXTERIOR				
Door Hardware - Materials				
Door Hardware	5	lvs	\$ 1,200.00	\$ 6,000
Door Hardware - Closer premium	5	lvs	\$ 176.75	\$ 884
Door Hardware - Mag hold premium				N/A
Door Hardware - Panic premium	5	lvs	\$ 656.50	\$ 3,283
Door Premium - Rated				N/A
Door Hardware - Labor				
Door Hardware installation	24	hrs	\$ 125.66	\$ 3,016
INTERIOR				
Door Hardware - Materials				
Door Hardware	33	lvs	\$ 656.50	\$ 21,685
Door Hardware - Closer premium	17	lvs	\$ 176.75	\$ 3,005
Door Hardware - Mag hold premium				N/A
Door Hardware - Panic premium	1	lvs	\$ 656.50	\$ 657
Door Premium - Rated	4	ea	\$ 297.95	\$ 1,192

Drawings Dated: 05/16/2025

Estimate Date: 08/20/2025 Rev 1

ESTIMATE DETAIL		Base Project				Subtotal	Total
DESCRIPTIONS		Qty	Unit	Unit Price			
Door Hardware - Labor							
Door Hardware Installation		61	hrs	\$ 125.66	\$	7,665	
TOTAL DOOR HARDWARE						\$	47,385
08 80 00 - GLASS & GLAZING							
GLAZING							
Interior Borrow Light Glazing						Not Applicable	
Door Glazing						w/ Doors	
Mirrors						w/ Toilet Access	
TOTAL GLASS & GLAZING						\$	-
08 90 00 - LOUVERS & VENTS							
LOUVERS							
Louvers (5ea)		39	sf	\$ 85.00	\$	3,315	
TOTAL LOUVERS						\$	3,315
09 21 00 - GYPSUM BOARD ASSEMBLIES							
EXTERIOR WALLS							
Exterior Wall - 1/2 Plywood, 5/8 Gyp, 6 Mil Stud (Detail 2/A510)		2,354	sf	\$ 16.00	\$	37,664	
Exterior Wall - 1/2 Plywood, 5/8 Gyp, 6 Mil Stud at Column 1 Gable (Detail 2/A510)		563	sf	\$ 16.00	\$	9,008	
Exterior Entrance Canopy - 1/2 Plywood, 6 Mil Stud		200	sf	\$ 14.00	\$	2,800	
CFMC Gable Soffit Framing & (5/8") Ext Plywood at Apparatus Bays (Details 1&5/A520)		290	sf	\$ 20.00	\$	5,800	
CFMC Gable Soffit Framing & (5/8") Ext Plywood Framing at Service Area (Detail 2/A520)		140	sf	\$ 20.00	\$	2,800	
CFMC Gable Soffit Framing & (5/8") Ext Plywood Framing at Ent. Canopy (Det. 10/A520)		200	sf	\$ 20.00	\$	4,000	
Drywall CFMF Headers (Per Drawing S102)		60	lf	\$ 50.00	\$	3,000	
CFMF Framing at Clearstory parapet						N/A	
CFMF Framing at Roof Parapet						N/A	
INTERIOR PARTITIONS							
Type 2A - 3 5/8 Mil Stud, 5/8 Gyp, and batt		758	sf	\$ 13.00	\$	9,854	
Type 2B - 5/8 Gyp, 3 5/8 Mil Stud, and batt, 5/8 Gyp		3,871	sf	\$ 14.00	\$	54,194	
Type 2C - 5/8 Gyp, 3 5/8 Mil Stud, and batt, 5/8 Gyp, 1/2 HR Rated		946	sf	\$ 15.00	\$	14,190	
Type 2D - 5/8 Gyp, 6 Mil Stud, and batt, 5/8 Gyp		327	sf	\$ 18.00	\$	5,886	
Type 2E - 5/8 Gyp, 6 Mil Stud, and batt, 5/8 Gyp 1/2 HR Rated		263	sf	\$ 20.00	\$	5,260	
Type 2F - 3 5/8 Mil Stud, 5/8 Gyp, and batt		216	sf	\$ 13.00	\$	2,808	
Column Enclosures						N/A	
Drywall window returns						N/A	
FLOOR FRAMING							
Floor Framing 6"						N/A	
CEILINGS							
Ceiling Framing (D3 - 3/4" T&G Plywood & 8" CFMF @ 16"o.c.) at Mezzanine		1,580	sf	\$ 12.00	\$	18,960	
GWB Ceilings		371	sf	\$ 17.50	\$	6,493	
Moisture Resistant GWB Ceilings (110, 109)		422	sf	\$ 19.50	\$	8,229	
Gypsum Soffits		30	sf	\$ 24.00	\$	720	
Recessed Drywall Light Pockets						N/A	
EQUIPMENT							
Lifts		1	ls	\$ 10,000.00	\$	10,000	
MISCELLANEOUS							
HM Frame Installation		74	ea	\$ 206.00	\$	15,244	
In-wall Blocking		10,188	sf	\$ 1.50	\$	15,282	
Misc. Joint Sealants & Firestopping		532	lf	\$ 4.50	\$	2,394	
Lifts & Equipment		1	ls	\$ 10,000.00	\$	10,000	
TOTAL GYP. BOARD ASSEM.						\$	244,586
09 30 00 - TILE							
FLOOR TILE							
PFT - Porcelain Floor Tile		228	sf	\$ 24.00	\$	5,472	
CFT - Ceramic Floor Tile						N/A	
QT - Quarry Tile						N/A	
TILE BASE							
CTB-1 Ceramic Tile Base		95	lf	\$ 19.00	\$	1,805	
PTB-1 Porcelain Tile Base						N/A	
QTB-1 Quarry Tile Base						N/A	

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project				9.432.31
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total	
WALL TILE						
PFT - Porcelain Floor Tile						N/A
CWT-1 - Ceramic Wall Tile	650	sf	\$ 23.00	\$ 14,950		
MISCELLANEOUS						
Marble Thresholds	3	ea	\$ 35.00	\$ 105		
Crack Suppression, Waterproofing Membrane	228	sf	\$ 3.03	\$ 691		
Temporary Floor Protection	228	sf	\$ 2.00	\$ 456		
Floor Prep	228	sf	\$ 0.76	\$ 173		
Attic Stock (3%)	3%	pct	\$ 20,527.00	\$ 616		
				TOTAL TILE	\$	24,268
09 51 00 - ACOUSTICAL CEILINGS						
ACOUSTICAL CEILINGS						
ACT-1 Armstrong Ultima 2x2	3,977	sf	\$ 10.00	\$ 39,770		
Moisture Resistant ACT 2x2 (106, 120, 112, 115A, 124, 119)	364	sf	\$ 12.00	\$ 4,368		
ACB 1-4 (5' panels at \$45 per LF)						N/A
ACOUSTICAL CEILING CLOUDS						
ACC-2 @ 2' diam tectum cloud						N/A
ACC-2 @ 3' diam tectum cloud						N/A
ACC-2 @ 4' diam tectum cloud						N/A
ACT Acoustibuilt cloud						N/A
ACT 4x4 cloud axiom trim (Radiused)						N/A
ACT cloud axiom trim						N/A
ACT-3 Stratawood clouds with Axiom Perimeter Trim						N/A
MISCELLANEOUS						
Attic Stock (5%)	5%	pct	\$ 44,138.00	\$ 2,207		
				TOTAL ACOUSTICAL CEILING	\$	46,345
09 01 10 - VAPOR MITIGATION						
TOPICAL MOISTURE MITIGATION						
Moisture Mitigation - Top / Skim Slabs	6,480	sf	\$ 3.50	\$ 22,680		
				TOTAL VAPOR MITIGATION	\$	22,680
09 65 00 - RESILIENT FLOORING						
STAIRS						
Sealer at Mezzane Stair	80	sf	\$ 14.83	\$ 1,186		
RST-1 - Rubber Treads / Risers						N/A
FLOORS						
Luxury Vinyl Tile	1,909	sf	\$ 6.75	\$ 12,886		
Rubber Sports Flooring	193	sf	\$ 14.09	\$ 2,719		
Sheet Flooring	89	sf	\$ 8.00	\$ 712		
Walk-off-mat	46	sf	\$ 8.00	\$ 368		
Floor Prep	2,317	sf	\$ 0.76	\$ 1,755		
Temporary Floor Protection	2,317	sf	\$ 1.00	\$ 2,317		
WALL BASE & ACCESSORIES						
Resilient Wall Base	1,134	lf	\$ 3.00	\$ 3,402		
Transition Strips, Thresholds, etc (9ea)	1	ls	\$ 1,500.00	\$ 1,500		
MISCELLANEOUS						
Attic Stock	3%	pct	\$ 26,845.30	\$ 805		
				TOTAL RESILIENT FLOORING	\$	27,651

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS		Qty	Unit	Unit Price	Total
09 67 00 - RESINOUS FLOORING					
EPOXY RESINOUS FLOORING					
Epoxy Flooring System		4,847	sf	\$ 14.09	\$ 68,292
Epoxy Base		664	lf	\$ 15.00	\$ 9,960
		TOTAL RESINOUS FLOORING \$ 78,252			
09 68 00 - CARPET					
CARPET					
Carpet Tile		948	sf	\$ 6.53	\$ 6,195
Temp Protection		948	sf	\$ 1.00	\$ 948
Floor Prep		948	sf	\$ 0.76	\$ 718
Attic Stock		3%	pct	\$ 7,861.01	\$ 236
		TOTAL CARPET \$ 8,097			
09 80 00 - ACOUSTICAL TREATMENT					
ACOUSTICAL WALL PANELS					
AWP-1					N/A
FWP - Fabric Wrapped Panels					
		TOTAL ACOUSTICAL TREAT. \$ -			
09 91 00 - PAINTING					
EXTERIOR					
Siding					
Fiber Cement Lap & Panel					Prefinished
Frames					
HM / FRP Frames					Prefinished
INTERIOR					
Doors & Frames					
HM Doors		35	lvs	\$ 85.85	\$ 3,005
HM Frames		29	ea	\$ 126.25	\$ 3,661
Stair Finishes					
Paint Stair & Rails		1	flts	\$ 2,525.00	\$ 2,525
Wall Finish					
Paint Walls		10,692	sf	\$ 1.11	\$ 12,101
Epoxy Paint Walls		12,471	sf	\$ 2.15	\$ 26,813
Floor Finish					
Sealed Concrete		624	sf	\$ 2.76	\$ 1,721
Ceilings					
Exposed Structure & Deck - Painted		4,746	sf	\$ 2.02	\$ 9,587
Gypsum Ceilings		319	sf	\$ 1.31	\$ 419
Gyp Soffits & Facia		25	sf	\$ 1.31	\$ 33
PAINTING - ALL SURFACES (BUILDING AREA)					In Above
MISC.					
Exposed steel Columns (1 rm 121)		15	sf	\$ 15.00	\$ 225
Bollards		39	ea	\$ 80.00	\$ 3,120
		TOTAL PAINTING \$ 63,209			
10 11 00 - VISUAL DISPLAY SURFACES					
TACK BOARDS					N/A
WHITE BOARDS					
White Boards 4x6		2	ea	\$ 672.00	\$ 1,344
MONITORS					See Audio Visual Equip.
Monitor brackets for Large TV's					N/A
Monitor - 70"					N/A
Monitor - 80"					N/A
SMART BOARDS					See Audio Visual Equip.
Smart Boards 60"					N/A

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
LABOR					
Installation	2	ea	\$ 99.77	\$ 200	
TOTAL VISUAL DISPLAY SURF.				\$	1,544
10 14 00 - SIGNAGE					
EXTERIOR					
Building Sign w/ Department Logo	1	slw	\$ 10,000.00	\$ 10,000	
Building Sign - Site Signage (Relocate Existing)	1	slw	\$ 15,000.00	\$ 15,000	
INTERIOR					
Interior Rm Signage	38	ea	\$ 151.50	\$ 5,757	
Interior Pin Letters				N/A	
Plaques				N/A	
Directory				N/A	
Temporary Signage				N/A	
TOTAL SIGNAGE				\$	30,757
10 21 13 - TOILET COMPARTMENTS					
TOILET COMPARTMENTS					
ADA Stalls - Ceiling Mounted				N/A	
Standard Stalls - Ceiling Mounted				N/A	
Structural Support of Partitions - See Misc Metals				N/A	
Urinal Screen				N/A	
TOTAL TOILET COMPARTMENTS				\$	-
10 22 33 - OPERABLE PARTITIONS					
OPERABLE PARTITIONS					
Folding Partition at Gym				N/A	
Skyfold Partition				N/A	
TOTAL OPERABLE PARTITIONS				\$	-
10 26 00 - WALL & DOOR PROTECTION					
WALL & DOOR PROTECTION					
Corner Guards	4	ea	\$ 80.00	\$ 320	
Wall Paneling - Marlite				Excluded	
Crash Rail (bumperguards)				Excluded	
Wall & Door Protection - Allowance				Excluded	
TOTAL WALL & DOOR PROT.				\$	320
10 28 00 - TOILET ACCESSORIES					
TOILET ACCESSORIES - MATERIALS					
36" grab bar	4	ea	\$ 55.55	\$ 222	
42" grab bar	4	ea	\$ 60.60	\$ 242	
18" grab bar	4	ea	\$ 50.50	\$ 202	
Shower Grab Bar	4	ea	\$ 45.45	\$ 182	
Shower Seat	2	ea	\$ 237.35	\$ 475	
Call for Aid Cord	2	ea	\$ 75.75	\$ 152	
Toilet Paper Dispenser	4	ea	\$ 45.45	\$ 182	
Paper towel dispenser & Trash Receptacle	4	ea	\$ 277.75	\$ 1,111	
Soap dispenser	4	ea	\$ 25.25	\$ 101	
Mirror - 1'6" x 3' (Framed)	4	ea	\$ 200.00	\$ 800	
Sanitary napkin disposal	3	ea	\$ 30.30	\$ 91	
Mop Holder/Rack	2	ea	\$ 500.00	\$ 1,000	
Diaper Changing Station - Koala KB101 Fiber (Recessed)	1	ea	\$ 353.50	\$ 354	
TOILET ACCESSORIES - LABOR					
Accessories Installation	42	ea	\$ 99.77	\$ 4,191	
TOTAL TOILET ACCESSORIES				\$	9,303
10 41 00 - EMRG ACCESS CABINETS					
EMERGENCY ACCESS CABINETS					
Knox Box - Not shown				Excluded	
TOTAL EMERG. ACCESS CABS.				\$	-

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project				9/16/2024
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total	
10 44 00 - FIRE PROTECTION SPECIALTIES						
FIRE EXTINGUISHERS						
Fire Extinguisher Cabinets (2 in-wall, 1 in cabinet island-kitchen)	3	ea	\$ 454.50	\$ 1,364		
Fire Extinguishers	3	ea	\$ 275.00	\$ 825		
				TOTAL FIRE PROT. SPEC.	\$ 2,189	
10 51 00 - LOCKERS						
LOCKERS - MATERIALS						
Wall Mounted Firefighter Lockers	17	ea	\$ 600.00	\$ 10,200		
Plastic Lockers - Flat 6"x1.25"x1.25' at Locker Rm				N/A		
Wood Bench				N/A		
Narcotic Cabinet				N/A		
Duty Bag Lockers				N/A		
Pistol Lockers				N/A		
Personal Property Lockers				N/A		
Wardrobe Lockers w/ Drawer 24" x 36"				N/A		
Wardrobe Lockers w/ Drawer 30" x 36"				N/A		
Wardrobe Lockers w/ Drawer 36" x 36"				N/A		
Evidence Lockers w/o Fridge Insert				N/A		
Evidence Lockers w/ Fridge Insert				N/A		
Key Lockers				N/A		
LOCKERS - LABOR						
Installation	17	ea	\$ 200.00	\$ 3,400		
				TOTAL LOCKERS	\$ 13,600	
11 23 26 - COMMERCIAL LAUNDRY EQUIPMENT						
COMMERCIAL LAUNDRY						
SE1 - Gear Washer	1	ea	\$ 13,485.00	\$ 13,485		
SE2 - Gear Dryer	1	ea	\$ 10,386.00	\$ 10,386		
SE6 - Washer	1	ea	\$ 2,495.00	\$ 2,495		
SE5 - Dryer	1	ea	\$ 2,196.00	\$ 2,196		
				TOTAL COMM. LAUNDRY EQUIP.	\$ 28,562	
11 30 00 - RESIDENTIAL APPLIANCES						
RESIDENTIAL APPLIANCES						
Refrigerator	1	ea	\$ 1,850.00	\$ 1,850		
Microwave	1	ea	\$ 175.00	\$ 175		
Stove	1	ea	\$ 1,250.00	\$ 1,250		
Dishwasher	1	ea	\$ 750.00	\$ 750		
Ice Machine	1	ea	\$ 5,050.00	\$ 5,050		
Exhaust Hood	1	ea	\$ 1,500.00	\$ 1,500		
Unloading and setup	6	ea	\$ 99.77	\$ 599		
				TOTAL RES. APPLIANCES	\$ 11,174	
11 52 00 - AUDIO-VISUAL EQUIPMENT						
PROJECTION SCREEN						
				N/A		
TELEVISIONS						
Flat Screen TV's - 60"	4	ea	By Owner (Install Only)			
LABOR						
Installation	4	hr	\$ 99.77	\$ 399		
				TOTAL AV EQUIPMENT	\$ 399	
11 90 00 - MISC. EQUIPMENT						
MISCELLANEOUS EQUIPMENT						
SE1 - Gear Washer	1	ea		In Above		
SE2 - Gear Dryer	1	ea		In Above		
SE3 - Air Compressor	1	ea		w/ Plumbing		
SE7 - Floor to Ceiling In-Wall Display Cabinet w/Glass Shelving (9' High)	3	ea	\$ 9,400.00	\$ 28,200		
				TOTAL MISC. EQUIPMENT	\$ 28,200	

Drawings Dated: 05/18/2025
Estimate Date: 08/20/2025 Rev 1

ESTIMATE DETAIL		Base Project				
DESCRIPTIONS		Qty	Unit	Unit Price	Subtotal	Total
12 20 00 - WINDOW TREATMENT						
WINDOW TREATMENT						
Manual Light Filtering Window/ Door Shades (7ea)		1	ls	\$ 3,000.00	\$ 3,000	
Manual Blackout Window Shades (5ea)(in bunk & training rooms)		1	ls	\$ 3,000.00	\$ 3,000	
Vertical Louver Blinds					N/A	
Privacy Shutter for Interior Door Vision Panels (6" x 2'-10")					N/A	
TOTAL WINDOW TREATMENT					\$	6,000
12 48 13 - ENTRANCE MATS & FRAMES						
ENTRY MATS						
Entrance Mat					w/ Flooring	
TOTAL ENTRY MAT & FRAME					\$	-
13 00 00 - SPECIAL CONSTRUCTION						
SPECIAL CONSTRUCTION					N/A	
TOTAL SPECIAL CONSTRUCTION					\$	-
14 20 00 - ELEVATORS						
ELEVATORS						
Hydraulic Elevator					N/A	
TOTAL ELEVATORS					\$	-
21 00 00 - FIRE PROTECTION						
FIRE PROTECTION GENERAL CONDITIONS						
Hydraulic calculations		1	ls	\$ 3,502.00	\$ 3,502	
Testing & inspection		1	ls	\$ 1,287.50	\$ 1,288	
Coordination and management		1	ls	\$ 5,974.00	\$ 5,974	
Permits and fees		1	ls	\$ 1,310.47	\$ 1,310	
Seismic Restraints and Fasteners		1	ls	\$ 1,545.00	\$ 1,545	
Coring & patching / firestopping		1	ls	\$ 2,472.00	\$ 2,472	
Shop Drawings & Engineered Drawings of Record		1	ls	\$ 3,914.00	\$ 3,914	
FIRE PROTECTION SPRINKLER SYSTEM						
6" Double Check Valve Assembly, OS&Y Valve Assembly		1	ea	\$ 7,828.00	\$ 7,828	
Fire Department Connection		1	ea	\$ 978.50	\$ 979	
Electric Bell		1	ea	\$ 978.50	\$ 979	
4" Alarm Check Valve		1	ea	\$ 4,120.00	\$ 4,120	
2" drain & inspectors test assembly		40	ea	\$ 28.84	\$ 1,154	
Misc. Fire Protection Equipment, Tamper & Flows		9,988	ea	\$ 0.26	\$ 2,572	
Sprinkler Head - Wet Recessed / Pendant		62	ea	\$ 97.85	\$ 6,067	
Sprinkler Head - Wet Upright (includes wire guard)		47	ea	\$ 87.55	\$ 4,115	
Sprinkler Head - Dry Barrel (at Vestibule 100)		1	ea	\$ 154.50	\$ 155	
Sprinkler Head - Sidewall		6	ea	\$ 118.45	\$ 711	
3"-4" Sprinkler Pipe - Mains		420	ea	\$ 51.50	\$ 21,630	
Sprinkler Branch Piping - wet		1,110	sf	\$ 23.95	\$ 26,582	
Kitchen Hood Fire Suppression Excluded (Division 23)					w/ HVAC	
TOTAL FIRE PROTECTION					\$	96,884
22 00 00 - PLUMBING						
PLUMBING GENERAL CONDITIONS						
Testing & disinfection		1	ls	\$ 3,605.00	\$ 3,605	
Coordination & management		1	ls	\$ 15,450.00	\$ 15,450	
Permits and fees		1	ls	\$ 5,326.49	\$ 5,326	
Seismic restraints / bracing		1	ls	\$ 3,329.35	\$ 3,329	
Coring & patching / firestopping		1	ls	\$ 8,116.40	\$ 8,116	
Hoisting & rigging / floor loading		1	ls	\$ 5,438.40	\$ 5,438	
Shop drawings & submittals		1	ls	\$ 1,545.00	\$ 1,545	
Record drawings / as built		1	ls	\$ 2,060.00	\$ 2,060	
Access panels - furnish only		1	ls	\$ 1,030.00	\$ 1,030	
DOMESTIC WATER PIPING						
2" Domestic water pipe (Type L Cu.) - Main		200	lf	\$ 56.65	\$ 11,330	
Domestic water supply branch (Type L Cu.)		880	lf	\$ 37.08	\$ 32,630	
Fixture Rough-in		18	ea	\$ 206.00	\$ 3,708	
Pipe insulation		1,060	lf	\$ 12.36	\$ 13,349	
Misc. valves, tags and fittings		1	ls	\$ 6,791.88	\$ 6,792	

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
SANITARY WASTE & VENT PIPE (UNDERGROUND)					
6" Sanitary Waste & Vent Pipe	80	lf	\$ 87.55	\$ 7,004	
4" Sanitary Waste & Vent Pipe	220	lf	\$ 77.25	\$ 16,995	
3" Sanitary Waste & Vent Pipe	100	lf	\$ 46.35	\$ 4,635	
SANITARY WASTE & VENT PIPE (ABOVE GROUND)					
4" Sanitary Waste & Vent Pipe	180	lf	\$ 87.55	\$ 15,759	
3" Sanitary Waste & Vent Pipe	160	lf	\$ 61.80	\$ 9,888	
2" Sanitary Waste & Vent Pipe	448	lf	\$ 58.65	\$ 25,379	
Fixture Rough-in	18	ea	\$ 208.00	\$ 3,708	
FD-1 - 4" Floor Drain	2	ea	\$ 594.83	\$ 1,190	
FD-2 - 3" Floor Drain	7	ea	\$ 498.52	\$ 3,490	
FS-1, Floor Sink	1	ea	\$ 918.61	\$ 919	
Floor Trench Drain	180	lf	\$ 135.60	\$ 24,408	
Trap Primers	1	ls	\$ 1,545.00	\$ 1,545	
Vent Through Roof	3	ea	\$ 772.50	\$ 2,318	
CONDENSATE PIPING					
Condensate Piping	300	lf	\$ 29.61	\$ 8,884	
GAS PIPING					
2" Gas Pipe (Sched 40 Black Steel)	100	lf	\$ 36.05	\$ 3,605	
1" and smaller, Gas Pipe (Sched 40 Black Steel)	80	lf	\$ 24.72	\$ 1,978	
BG TracPipe - LPG - To gas grill	40	lf	\$ 51.50	\$ 2,060	
Valves, Tags & Fittings	1	ls	\$ 1,035.01	\$ 1,035	
Gas Meter Assembly (Connection Only)	1	ea	\$ 568.50	\$ 567	
Gas Connections to Equipment, regulator vent to atmosphere	5	ea	\$ 515.00	\$ 2,575	
LPG Gas Solenoid	1	ea	\$ 772.50	\$ 773	
COMPRESSED AIR PIPING					
CA Piping (Type L Cu)	320	lf	\$ 32.96	\$ 10,547	
Valves, Tags & Fittings	1	ls	\$ 1,629.54	\$ 1,630	
AJ, Air Turret	1	ea	\$ 355.35	\$ 355	
Air Hose Reels	3	ea	\$ 1,236.00	\$ 3,708	
PLUMBING EQUIPMENT					
WH-1 - Gas Fired Water Heaters - Condensing (Model HTP-PH199-119-LP)	1	ea	\$ 14,693.98	\$ 14,694	
RP-1 - Hot Water Recirc Pump Inline Circulator	1	ea	\$ 1,776.75	\$ 1,777	
EXP-1 - Expansion Tank	1	ea	\$ 978.50	\$ 979	
Air Compressor, waffle pad, gauges & trim, based on Champion VRV5-6	1	ea	\$ 8,511.92	\$ 8,512	
2,500 Gallon Decon Tank (Set by Chvil)	1	ea	\$ 10,815.00	\$ 10,815	
GI-1 - Grease Recovery Unit (Kitchen)	1	ea	\$ 3,605.00	\$ 3,605	
TMV-1 - Thermostatic Mixing Valve (Powers LFSH1434)	1	ea	\$ 2,652.25	\$ 2,652	
Non Potable Backflow Equipment - Backflow Preventers	1	ea	\$ 2,575.00	\$ 2,575	
Heat Trace Equipment, Temperature Maintenance Cable System	1	ls	\$ 5,150.00	\$ 5,150	
Water Heater Venting	120	lf	\$ 41.20	\$ 4,944	
PLUMBING FIXTURES					
W-1 - Water Closet - Wall Hung	4	ea	\$ 1,848.85	\$ 7,395	
L-1 - Lavatory - Wall Hung (Includes mixing valve)	4	ea	\$ 1,714.95	\$ 6,860	
SH-1 - Shower	2	ea	\$ 2,909.75	\$ 5,820	
SH-2 - Decon Shower	1	ea	\$ 3,141.50	\$ 3,142	
S-1A - Decon Sink	1	ea	\$ 2,034.25	\$ 2,034	
S-2A - Kitchen Double Sink	1	ea	\$ 1,735.66	\$ 1,736	
MSK - Mop Sink w/ Integral Drain	2	ea	\$ 1,910.65	\$ 3,821	
EWC-1 - Electric Water Cooler, Bottle filling, ADA Bi-Level	1	ea	\$ 4,197.25	\$ 4,197	
ES-EW - Emergency Shower & Eye Wash (Includes mixing valve)	1	ea	\$ 3,393.85	\$ 3,394	
Washing Machine Valve Box (Laundry)	1	ea	\$ 396.55	\$ 397	
WH-1 - Freeze Proof Wall Hydrant w/ SS Hinged Lockable Cover	4	ea	\$ 602.55	\$ 2,410	
WH-2 - Interior Hydrant w/ SS Hinged Lockable Cover	1	ea	\$ 468.65	\$ 469	
HB-1 - Hose Bibb	4	ea	\$ 272.95	\$ 1,092	
Water Hose Reel	1	ea	\$ 1,238.00	\$ 1,236	
Ice Machine, Refrigerator, Coffee Maker (Convenience Connections)	3	ea	\$ 257.50	\$ 773	
TOTAL PLUMBING				\$	369,138

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
23 00 00 - HVAC					
HVAC GENERAL REQUIREMENTS					
Commissioning Support	1	ls	\$ 5,665.60	\$ 5,666	
Coordination & management	1	ls	\$ 36,050.00	\$ 36,050	
Permits and fees	1	ls	\$ 15,363.60	\$ 15,364	
Rigging / Floor Loading	1	ls	\$ 25,750.00	\$ 25,750	
Coring & patching / firestopping	1	ls	\$ 5,665.00	\$ 5,665	
Shop drawings & submittals	1	ls	\$ 3,605.00	\$ 3,605	
Record drawings / as built	1	ls	\$ 5,623.80	\$ 5,624	
Equipment start up and inspection	1	ls	\$ 9,476.00	\$ 9,476	
Seismic restraints / bracing	1	ls	\$ 9,879.03	\$ 9,879	
Access panels - furnish only	1	ls	\$ 1,030.00	\$ 1,030	
TESTING & BALANCING					
Testing & balancing (Water / Air)	9,988	sf	\$ 0.82	\$ 8,153	
INSULATION					
Insulation - Duct	3,546	sf	\$ 5.15	\$ 18,262	
Insulation - Premium for Acoustic Lined Duct	500	sf	\$ 5.15	\$ 2,575	
Insulation - Pipe	3,240	lf	\$ 10.51	\$ 34,044	
AUTOMATIC TEMPERATURE CONTROLS FOR HVAC					
Building Management System	9,988	sf	\$ 7.78	\$ 77,672	
REFRIGERANT PIPING					
Refrigerant Piping - Hard Copper	2,200	lf	\$ 46.35	\$ 101,970	
Misc. Valves, Tags & Fittings	9,988	sf	\$ 0.57	\$ 5,658	
HYDRONIC PIPING					
3" HWS&R Pipe (Schedule 40 Black Steel)	120	lf	\$ 57.94	\$ 6,953	
2" HWS&R Pipe & Smaller (Copper Type L)	920	lf	\$ 28.99	\$ 26,687	
HVAC AIR DISTRIBUTION					
Ductwork - Galvanized	7,880	lbs	\$ 18.54	\$ 146,095	
Ductwork - Stainless	1,200	lbs	\$ 23.69	\$ 28,428	
RGD's - (Registers, Grills & Diffusers)	40	ea	\$ 262.65	\$ 10,506	
Exterior Intake and Exhaust Louvers	4	ea	\$ 1,236.00	\$ 4,944	
Roof Ventilator Hoods	3	ea	\$ 3,399.00	\$ 10,197	
Dampers & Misc. Ductwork Accessories	9,988	gsf	\$ 0.88	\$ 8,744	
EXHAUST FANS					
KEF-1 - Kitchen Hood Inline Fan (500 Cfm)	1	ea	\$ 3,448.09	\$ 3,448	
EF-5 - Exhaust Fan 2,800 CFM	1	ea	\$ 8,652.00	\$ 8,652	
EF-6 - Exhaust Fan 300-350 CFM	1	ea	\$ 2,101.20	\$ 2,101	
EF-7 - Exhaust Fan 50-100 CFM	1	ea	\$ 1,260.72	\$ 1,261	
EF-8 - Exhaust Fan 280 CFM	1	ea	\$ 1,745.85	\$ 1,746	
EF-3,4,10 - Exhaust Fan 150 CFM	3	ea	\$ 1,570.75	\$ 4,712	
EF-9 - Exhaust Fan 350-450 CFM	1	ea	\$ 2,311.32	\$ 2,311	
EF-1, 2 - Exhaust Fan 650-775 CFM	2	ea	\$ 3,151.80	\$ 6,304	
EF-11 - Exhaust Fan 2,640 CFM	1	ea	\$ 8,157.60	\$ 8,158	
OF-1, OF-2, Destratification Fan	2	ea	\$ 4,635.00	\$ 9,270	
Vehicle Exhaust System Hold (similar to Phymovent)	1	ea	\$ 77,250.00	\$ 77,250	
CENTRAL HEATING EQUIPMENT					
B-1, B-2, Gas Fired Condensing Boiler (400 MBH)	2	ea	\$ 18,952.00	\$ 37,904	
Boiler Flue Pipe (AL29-4C Flue)	60	lf	\$ 61.80	\$ 3,708	
Boiler Intake Pipe (Phypro)	60	lf	\$ 46.35	\$ 2,781	
Boiler Condensate Neutralizer Kit	1	ls	\$ 1,351.88	\$ 1,352	
ET-1, Expansion Tanks	1	ea	\$ 4,712.25	\$ 4,712	
HS-1 - Hydraulic Separator (3")	1	ea	\$ 6,875.25	\$ 6,875	
Glycol Fill System & Tank	1	ea	\$ 5,463.12	\$ 5,463	
Chemical Shot Feeder	1	ea	\$ 3,466.98	\$ 3,467	
BP-1,2,- Boiler In-Line Circulation Pump	2	ea	\$ 1,922.13	\$ 3,844	
P-1,2,- HW In-Line Circulation Pump	2	ea	\$ 4,774.82	\$ 9,550	
CENTRAL COOLING EQUIPMENT					
ACCU-1, Serving AHU-1	8	ton	\$ 2,678.00	\$ 21,424	
VRF1,2,3, VRF Outdoor Units	14	ton	\$ 2,472.00	\$ 34,608	
Condenser stands & Support	1	ls	\$ 2,575.00	\$ 2,575	
CENTRAL AIR HANDLING EQUIPMENT					
AHU-1 - Outside Air Unit - 2,236 CFM, HW Heating, DX Cooling based on AAON	2,236	cfm	\$ 26.01	\$ 58,153	
Seismic Roof Curbs & Dunnage	1	ea	\$ 8,755.00	\$ 8,755	

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
HVAC TERMINAL EQUIPMENT					
AC-1 - Ductless Split AC Indoor Unit (18 MBH / 1.5 Ton)	1	ea	\$ 3,201.24	\$ 3,201	
CU-1 - Ductless Split AC Condensing Unit (18 MBH / 1.5 Ton)	1	ea	\$ 4,298.96	\$ 4,299	
Hot Water Radiant Floor Heating System Manifolds	2	ea	\$ 1,545.00	\$ 3,090	
Hot Water Radiant Floor Heating System	3,992	sf	\$ 12.88	\$ 51,397	
UH-1,2,3,4,7 (HW Unit Heater)	5	ea	\$ 2,317.50	\$ 11,588	
UH-5,6 (HW Unit Heater)	2	ea	\$ 2,034.25	\$ 4,069	
CUH-1,2, (HW Cabinet Unit Heater)	4	ea	\$ 2,311.32	\$ 9,245	
EUH-1,2, (Electric Unit Heater 3,000 W)	2	ea	\$ 2,250.55	\$ 4,501	
VRF Indoor Unit 0.75 tons	5	ea	\$ 3,074.55	\$ 15,373	
VRF Indoor Unit 1 tons	6	ea	\$ 3,218.75	\$ 19,313	
VRF Indoor Unit 1.5 tons	1	ea	\$ 3,414.45	\$ 3,414	
VRF Indoor Unit 2 tons	1	ea	\$ 3,975.80	\$ 3,976	
VRF Branch Controllers	1	ea	\$ 4,392.95	\$ 4,393	
				TOTAL HVAC	\$ 1,077,257
26 00 00 - ELECTRICAL					
ELECTRICAL GENERAL REQUIREMENTS					
Coordination and management	1	ls	\$ 20,000.00	\$ 20,000	
Permits and fees	1	ls	\$ 14,000.00	\$ 14,000	
Coring & patching / firestopping	1	ls	\$ 5,000.00	\$ 5,000	
Commissioning support	1	ls	\$ 5,000.00	\$ 5,000	
Temporary power and lighting,	1	ls	\$ 15,000.00	\$ 15,000	
SERVICE AND DISTRIBUTION					
600A main circuit breaker/CT/TVSS cabinet	1	ea	\$ 10,000.00	\$ 10,000	
600A main disconnect switch	1	ea	\$ 5,000.00	\$ 5,000	
600A main distribution panelboard	1	ea	\$ 35,000.00	\$ 35,000	
175kW diesel generator	1	ea	\$ 100,000.00	\$ 100,000	
600A ATS	1	ea	\$ 18,000.00	\$ 18,000	
400A double tub panelboard	1	ea	\$ 11,000.00	\$ 11,000	
225A double tub panelboard	1	ea	\$ 5,800.00	\$ 5,800	
125A panelboard	1	ea	\$ 1,800.00	\$ 1,800	
Meter Sockets	1	ea	\$ 500.00	\$ 500	
PV Infrastructure	1	ea	\$ 7,500.00	\$ 7,500	
SERVICE / DISTRIBUTION FEEDERS					
600A feed	80	lf	\$ 255.00	\$ 20,400	
400A feed	40	lf	\$ 160.00	\$ 6,400	
225A feed	30	lf	\$ 90.00	\$ 2,700	
100A feed	30	lf	\$ 42.00	\$ 1,260	
GROUNDING SYSTEM					
Building / Equipment Grounding System	1	ls	\$ 5,000.00	\$ 5,000	
Lightning protection system					NIC
EQUIPMENT (feeds and connections)					
Air vac controller feed and connection	1	ea	\$ 1,000.00	\$ 1,000	
BAF (big ass fan-future) feed and connection	4	ea	\$ 800.00	\$ 3,200	
DF controller feed and connection	1	ea	\$ 800.00	\$ 800	
DF feed and connection	2	ea	\$ 800.00	\$ 1,600	
Disposal feed and connection	1	ea	\$ 350.00	\$ 350	
Emergency gas off button feed and connection	1	ea	\$ 850.00	\$ 850	
EPO feed and connection	1	ea	\$ 850.00	\$ 850	
Equipment 120V feed and connection	3	ea	\$ 850.00	\$ 2,550	
Gas detection controller feed and connection	1	ea	\$ 850.00	\$ 850	
Gear dryer feed and connection	1	ea	\$ 1,200.00	\$ 1,200	
Heat trace control panel feed and connection	1	ea	\$ 1,500.00	\$ 1,500	
Hood feed and connection	2	ea	\$ 1,000.00	\$ 2,000	
OHG feed and connection	6	ea	\$ 2,500.00	\$ 15,000	
WH-1 - Gas Fired Water Heaters feed and connection	1	ea	\$ 1,200.00	\$ 1,200	
RP-1 - Hot Water Recirc Pump In-Line Circulator feed and connection	1	ea	\$ 1,200.00	\$ 1,200	
Air Compressor feed and connection	1	ea	\$ 1,500.00	\$ 1,500	
Exhaust fan feed and connection	12	ea	\$ 650.00	\$ 7,800	
Vehicle Exhaust System Hold (similar to Plymovent) feed and connection	1	ea	\$ 3,500.00	\$ 3,500	
B-1, B-2, Gas Fired Condensing Boiler (400 MBH) feed and connection	2	ea	\$ 2,000.00	\$ 4,000	
BP-1,2,- Boiler In-Line Circulation Pump feed and connection	2	ea	\$ 1,200.00	\$ 2,400	
P-1,2 - HW In-Line Circulation Pump feed and connection	2	ea	\$ 1,200.00	\$ 2,400	
ACCU-1, Serving AHU-1 feed and connection	1	ea	\$ 5,000.00	\$ 5,000	
VRF1,2,3 VRF Outdoor Units feed and connection	3	ea	\$ 3,500.00	\$ 10,500	

Drawings Dated 05/16/2025
 Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
AHU-1 - Outside Air Unit feed and connection	1	ea	\$ 4,000.00	\$ 4,000	
AC-1 - Ductless Split AC Indoor Unit feed and connection	1	ea	\$ 2,500.00	\$ 2,500	
CU-1 - Ductless Split AC Condensing Unit feed and connection	1	ea	\$ 2,500.00	\$ 2,500	
Hot Water Radiant Floor Heating System Manifolds feed and connection	1	ls	\$ 800.00	\$ 800	
Unit heater feed and connection	7	ea	\$ 650.00	\$ 4,550	
CUH-1 (HW Cabinet Unit Heater) feed and connection	4	ea	\$ 650.00	\$ 2,600	
EUH-1, (Electric Unit Heater 3,000 W) feed and connection	2	ea	\$ 700.00	\$ 1,400	
VRF Indoor Unit feed and connection	13	ea	\$ 450.00	\$ 5,850	
VRF Branch Controllers feed and connection	1	ea	\$ 850.00	\$ 850	
FSD feed and connection feed and connection	10	ea	\$ 850.00	\$ 8,500	
LIGHTING CONTROLS (allowances carried as legends/details incomplete)					
Labor:					
ASCO 917 series contactor	1	ea	\$ 85.00	\$ 85	
EMR	16	ea	\$ 85.00	\$ 1,360	
OS	17	ea	\$ 85.00	\$ 1,445	
Relay	6	ea	\$ 85.00	\$ 510	
S	11	ea	\$ 15.00	\$ 165	
S 3D	4	ea	\$ 85.00	\$ 340	
S3	5	ea	\$ 25.00	\$ 125	
S4	2	ea	\$ 30.00	\$ 60	
S4D	1	ea	\$ 85.00	\$ 85	
SD	7	ea	\$ 85.00	\$ 595	
SM	7	ea	\$ 85.00	\$ 595	
SP	3	ea	\$ 85.00	\$ 255	
ST	3	ea	\$ 85.00	\$ 255	
TORK DZS200A	1	ea	\$ 250.00	\$ 250	
Lighting controls allowance	1	ls	\$ 3,000.00	\$ 3,000	
INTERIOR LIGHTING / BRANCH WIRING					
APEX lighting quote	1	ls	\$ 77,713.62	\$ 77,714	
Labor:					
A - 2x2	42	ea	\$ 125.00	\$ 5,250	
A1 - 2x2	38	ea	\$ 125.00	\$ 4,750	
B - 8'	22	ea	\$ 180.00	\$ 3,960	
B1 - 4'	1	ea	\$ 180.00	\$ 180	
B1 - 8'	2	ea	\$ 220.00	\$ 440	
B1 EM - 4'	4	ea	\$ 125.00	\$ 500	
C - 4'	4	ea	\$ 125.00	\$ 500	
D - DL	9	ea	\$ 150.00	\$ 1,350	
Exit sign	9	ea	\$ 125.00	\$ 1,125	
F7	13	lf	\$ 35.00	\$ 455	
F8	8	lf	\$ 35.00	\$ 280	
NL	10	ea	\$ 150.00	\$ 1,500	
SD - DL	29	ea	\$ 150.00	\$ 4,350	
SW - ext sconce	3	ea	\$ 180.00	\$ 540	
U1	1	ea	\$ 120.00	\$ 120	
U2	4	ea	\$ 120.00	\$ 480	
U4	1	ea	\$ 125.00	\$ 125	
BRANCH POWER					
2 channel raceway	45	lf	\$ 40.00	\$ 1,800	
2 gang floor box	1	ea	\$ 850.00	\$ 850	
Cord reel - Reelcraft :L4545-123-3B	6	ea	\$ 850.00	\$ 5,100	
Double duplex receptacle	24	ea	\$ 54.00	\$ 1,296	
Duplex receptacle	52	ea	\$ 27.00	\$ 1,404	
Duplex receptacle in raceway	22	ea	\$ 27.00	\$ 594	
Duplex receptacle w/USB	22	ea	\$ 70.00	\$ 1,540	
GFI duplex receptacle	58	ea	\$ 38.00	\$ 2,204	
Special purpose receptacle	1	ea	\$ 75.00	\$ 75	
WP device plate	14	ea	\$ 23.00	\$ 322	
Device box	450	ea	\$ 27.00	\$ 12,150	
Device plate	240	ea	\$ 5.00	\$ 1,200	
3/4" EMT	2,250	lf	\$ 9.50	\$ 21,375	
#12 THHN	10,125	lf	\$ 1.00	\$ 10,125	
MC cable	9,000	lf	\$ 5.50	\$ 49,500	
LV cabling	1,650	lf	\$ 2.10	\$ 3,465	

Drawings Dated: 05/16/2025

Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			Subtotal	Total
DESCRIPTIONS		Qty	Unit	Unit Price		
TELECOMMUNICATIONS						
Telecommunication Infrastructure						
Main Telecommunications Room Fit-out (Cable tray, (2) Racks, Managers)		1	ls	\$ 10,000.00	\$	10,000
Device box w/ 1" conduit to ceiling		38	ea	\$ 125.00	\$	4,750
4" EMT sleeves		3	ea	\$ 225.00	\$	675
Cable tray		14	lf	\$ 70.00	\$	980
Allowance to support existing FO, data, sec etc per Note 32 T001						NIC per RFI response
Telecommunication System						
Network devices and switches furnished and installed by contractor T001, assumes NIC						Assumes NIC - RFI submitted
1 port data device		9	ea	\$ 26.00	\$	234
2 Port data device		16	ea	\$ 54.00	\$	864
3 Port data device		1	ea	\$ 78.00	\$	78
2 Port data device in floor box		1	ea	\$ 54.00	\$	54
CATV device (2 cables)		6	ea	\$ 52.00	\$	312
WAP (2 port)		5	ea	\$ 450.00	\$	2,250
CAT 6A Plenum Cable		11,000	lf	\$ 2.10	\$	23,100
Terminations and Testing		1	ls	\$ 5,000.00	\$	5,000
AUDIO VISUAL						
Audio Visual Infrastructure						
TV location rough-in allow		6	loc	\$ 550.00	\$	3,300
Audio Visual System						
Training room sound system incl 4 speakers						See Below
Active antenna AMP Shure UA834WB \$1500		2	ea	\$ 1,500.00	\$	3,000
Speaker, allow as not catalog # provided		4	ea	\$ 300.00	\$	1,200
BIAS T module Shure UABIAST \$250		4	ea	\$ 250.00	\$	1,000
CD/Media player DENON 501C \$800		1	ea	\$ 800.00	\$	800
Feedback eliminator Sabine SBX1020, allow \$500		2	ea	\$ 500.00	\$	1,000
Proco WP1004 \$40		2	ea	\$ 40.00	\$	80
Receiver Shure SLX24 \$1500		2	ea	\$ 1,500.00	\$	3,000
Sound system rack		1	ea	\$ 2,500.00	\$	2,500
Allowance including amplifiers, mixers, coax antennas, rough-in and cabling		1	ea	\$ 2,500.00	\$	2,500
TV's, screens, etc						Assumes NIC
EMERGENCY CALL SYSTEM						
Dome Light		4	ea	\$ 250.00	\$	1,000
Pull station		4	ea	\$ 180.00	\$	720
Power Supply, Transformer, Wiring		8	ea	\$ 600.00	\$	4,800
P/A SYSTEM						
PA system		1	ls	\$ 7,500.00	\$	7,500
S-assumes PA speaker, allow		49	ea	\$ 200.00	\$	9,800
LV Cabling		1,980	lf	\$ 1.95	\$	3,822
SECURITY SYSTEM						
Head end		1	ea	\$ 12,000.00	\$	12,000
CCTV camera (stationary) WP		10	ea	\$ 700.00	\$	7,000
CCTV camera (stationary)		2	ea	\$ 600.00	\$	1,200
CR/KP		8	ea	\$ 450.00	\$	3,600
DC		8	ea	\$ 250.00	\$	2,000
Intercom station		4	ea	\$ 2,500.00	\$	10,000
Device box w/ 1" conduit to ceiling		33	ea	\$ 125.00	\$	4,125
LV Cabling		4,950	lf	\$ 1.95	\$	9,653
Testing and programming		1	ls	\$ 5,000.00	\$	5,000
FIRE ALARM SYSTEM:						
(FACP)		1	ea	\$ 7,500.00	\$	7,500
(FARA)		1	ea	\$ 2,500.00	\$	2,500
Initiating device		20	ea	\$ 165.00	\$	3,300
Signaling device		32	ea	\$ 185.00	\$	5,920
Signaling device WP		4	ea	\$ 215.00	\$	860
CO detector w/dome light		1	ea	\$ 450.00	\$	450
Duct smoke detectors		2	ea	\$ 450.00	\$	900
Device box		61	ea	\$ 27.00	\$	1,647
3/4" EMT		550	lf	\$ 9.50	\$	5,225
#14 THHN		1,650	lf	\$ 0.90	\$	1,485
FA MC cable		2,900	lf	\$ 5.50	\$	15,950
Testing and programming		1	ls	\$ 3,500.00	\$	3,500
BDA/ERRC system allow		9,988	sf	\$ 1.00	\$	9,988

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS		Qty	Unit	Unit Price	Subtotal
SITE ELECTRICAL UTILITIES					
Power riser		1	ea	\$ 2,500.00	\$ 2,500
Primary duct bank, allow 2-4"		230	lf	\$ 50.00	\$ 11,500
Pad grounding		2	ea	\$ 2,500.00	\$ 5,000
Secondary duct bank		90	lf	\$ 240.00	\$ 21,600
Communication riser		1	ea	\$ 2,500.00	\$ 2,500
Telcom duct bank, allow 2-4"		270	lf	\$ 50.00	\$ 13,500
Generator duct bank - 4-3" w/4 # 350 kc M/L/ #4 G and 1" w/ 3#4/10G		80	lf	\$ 250.00	\$ 20,000
60A panelboard allowance including feeder per note		1	ls	\$ 3,500.00	\$ 3,500
Site lighting per LL100 per note					
A		3	ea	\$ 2,700.00	\$ 8,100
B		1	ea	\$ 2,700.00	\$ 2,700
C		9	ea	\$ 1,500.00	\$ 13,500
D		2	ea	\$ 750.00	\$ 1,500
E		5	ea	\$ 750.00	\$ 3,750
F		6	ea	\$ 750.00	\$ 4,500
Site lighting circuitry, allow as drawing LL100 supersedes (circuitry not shown): 2" w/2-#8's & #10 G		900	lf	\$ 16.00	\$ 14,400
EVC station allow		2	ea	\$ 12,000.00	NIC
Misc site electrical including signage illuminated...allowance		1	ls	\$ 25,000.00	NIC
				TOTAL ELECTRICAL	\$ 956,575
27 10 00 - COMMUNICATIONS SYSTEMS					
TELECOMMUNICATIONS					
Devices and cabling				See Above	
				TOTAL COMMUNICATIONS	\$ -
28 10 00 - FIRE ALARM					
FIRE ALARM				See Above	
				TOTAL FIRE ALARM	\$ -
29 20 00 - SECURITY SYSTEMS					
SECURITY SYSTEMS				See Above	
				TOTAL SECURITY	\$ -
29 50 00 - SITE ELECTRICAL					
SITE ELECTRICAL				See Above	
				TOTAL SITE ELECTRICAL	\$ -
31 00 00 - SITEWORK					
MOBILIZATION / SITE LAYOUT (PHASES I & II)					
Mobilization / Demobilization - Phase I		1	ls	\$ 15,000.00	\$ 15,000
Mobilization / Demobilization - Phase II		1	ls	\$ 15,000.00	\$ 15,000
8' H Chain Link Fence Enclosure - Phase I (put up, maintain & remove)		800	lf	\$ 43.75	w/ PR's
8' H Chain Link Fence Enclosure - Phase II (put up, maintain & remove)		440	lf	\$ 43.75	w/ PR's
Temp Double Gate - Phase I		1	ea	\$ 3,000.00	w/ PR's
Temp Double Gate - Phase II		1	ea	\$ 3,000.00	w/ PR's
Temporary Fence Maintenance - Phase I		10	mos	\$ 1,100.00	\$ 11,000
Temporary Fence Maintenance - Phase II		4	mos	\$ 1,100.00	\$ 4,400
Site Safety - Phase I		1	ls	\$ 12,000.00	\$ 12,000
Site Safety - Phase II		1	ls	\$ 4,000.00	\$ 4,000
General Dewatering (Localized Pumping Only) - Phase I		1	ls	\$ 12,000.00	\$ 12,000
General Dewatering (Localized Pumping Only) - Phase II		1	ls	\$ 4,000.00	\$ 4,000
Site Ground Maintenance - Phase I		1	ls	\$ 5,000.00	\$ 5,000
Site Ground Maintenance - Phase II		1	ls	\$ 5,000.00	\$ 5,000
Site Logistics - Phase I		1	ls	\$ 5,000.00	\$ 5,000
Site Logistics - Phase II		1	ls	\$ 5,000.00	\$ 5,000
Survey & Layout (controls) - Phase I		1	ls	\$ 10,000.00	\$ 10,000
Survey & Layout (controls) - Phase II		1	ls	\$ 8,000.00	\$ 8,000
Construction Trailer Area		2,000	sf	\$ 1.90	\$ 3,800
Staging & Laydown Area		3,000	sf	\$ 1.90	\$ 5,700
Phasing Coordination		1	ea	\$ 5,000.00	\$ 5,000

Drawings Dated: 05/16/2025
Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			5,954.51
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
EROSION CONTROL					
Silt Fence (30" high) at Site Perimeter - Phase I	670	lf	\$ 5.00	\$ 3,350	
Silt Fence (30" high) at Site Perimeter - Phase II	520	lf	\$ 5.00	\$ 2,600	
Silt Sock at Perimeter - Phase I	398	lf	\$ 25.00	\$ 9,950	
Silt Sock at Perimeter - Phase II	334	lf	\$ 25.00	\$ 8,350	
Silt Sock at Stockpile & Rain Garden Areas - Phase I	234	lf	\$ 25.00	\$ 5,850	
Silt Sock at Stockpile & Rain Garden Areas - Phase II	228	lf	\$ 25.00	\$ 5,700	
Stabilization for Stockpile Areas - Phase I	1,300	sf	\$ 2.00	\$ 2,600	
Stabilization for Stockpile Areas - Phase II	1,300	sf	\$ 3.00	\$ 3,900	
Drainage Inlet Protection at Exst. Structure - Phase I	2	ea	\$ 200.00	\$ 400	
Drainage Inlet Protection at Exst. Structure - Phase II	2	ea	\$ 200.00	\$ 400	
Drainage Inlet Protection at New Structure - Phase II	7	ea	\$ 200.00	\$ 1,400	
Maintain Erosion Control - Phase I	10	mos	\$ 303.00	\$ 3,030	
Maintain Erosion Control - Phase II	4	mos	\$ 303.00	\$ 1,212	
Tree Protection - Fencing - Phase I	-	lf			Excluded
Tree Protection - Fencing - Phase II	-	lf			Excluded
Dust Control - Water Truck - Phase I	10	mos	\$ 1,200.00		Excluded
Site Sweeping, Dust & Traffic Control - Phase I	10	mos	\$ 400.00		Excluded
Dust Control - Water Truck - Phase II	4	mos	\$ 1,200.00		Excluded
Site Sweeping, Dust & Traffic Control - Phase II	4	mos	\$ 400.00		Excluded
Anti-track pads & maintenance - Phase I	1	loc	\$ 3,000.00	\$ 3,000	
Anti-track pads & maintenance - Phase II	1	loc	\$ 3,000.00	\$ 3,000	
General - Temporary Parking Areas - Phase I	2,460	sf	\$ 5.00	\$ 12,300	
General - Temporary Parking Areas - Phase II	670	sf	\$ 5.00	\$ 3,350	
Water Source for Washout Area - Phase I	1	athw	\$ 5,000.00		NA
Concrete Washout Area - Phase I	1	ls	\$ 2,500.00		NA
GENERAL SITEWORK & REMOVALS					
Clear & Grubb Site - Phase I	12,610	sf	\$ 0.30	\$ 3,783	
Clear & Grubb Site - Phase II	6,270	sf	\$ 0.30	\$ 1,881	
Site Demolition - Remove Existing Paving - Phase I	27,682	sf	\$ 1.25	\$ 34,603	
Site Demolition - Export Paving Spoil (+20% Swell) - Phase I	824	cy	\$ 20.00	\$ 16,486	
Site Demolition - Remove Existing Paving - Phase II	16,280	sf	\$ 1.25	\$ 20,350	
Site Demolition - Export Paving Spoil (+20% Swell) - Phase II	485	cy	\$ 20.00	\$ 9,696	
Site Demolition - Remove Existing Bituminous Walks - Phase II	1,053	sf	\$ 0.75	\$ 790	
Site Demolition - Export Paving Spoil (+20% Swell) - Phase II	31	cy	\$ 19.85	\$ 622	
Site Demolition - Remove Existing Storage Shed - Phase I	228	sf	\$ 20.00	\$ 4,560	
Site Demolition - Remove Existing Compressor Shed - Phase I	352	sf	\$ 20.00	\$ 7,040	
Site Demolition - Remove Exist. Compressor Shed Slab/Fdn - Phase I	363	sf	\$ 6.00	\$ 2,178	
Site Demolition - Remove Exist. Storage Shed Slab/Fdn - Phase I	236	sf	\$ 6.00	\$ 1,416	
Site Demolition - Export Paving Spoil (+20% Swell) - Phase I	210	cy	\$ 19.85	\$ 4,168	
Site Demolition - Remove Existing Pads/Walks - Phase I	1,191	sf	\$ 1.00	\$ 1,191	
Site Demolition - Export Paving Spoil (+20% Swell) - Phase I	35	cy	\$ 20.00	\$ 709	
Site Demolition - Remove Exist. Concrete Pads & Aprons - Phase II	725	sf	\$ 1.00	\$ 725	
Site Demolition - Export Paving Spoil (+20% Swell) - Phase II	22	cy	\$ 20.00	\$ 432	
Sawcut Road for New Curbing - Phase I	100	lf	\$ 9.50	\$ 950	
Site Demolition - Remove Roadway Paving for Curbing - Phase I	570	sf	\$ 5.00	\$ 2,850	
Site Demolition - Sawcut Road for New Curbing - Phase I	100	lf	\$ 9.50	\$ 950	
Site Demolition - Remove Roadway Paving for Curbing - Phase II	570	sf	\$ 5.00	\$ 2,850	
Site Demolition - Remove Existing Curbing - Phase I	531	lf	\$ 6.50	\$ 3,452	
Site Demolition - Remove Existing Curbing - Phase II	911	lf	\$ 6.50	\$ 5,922	
Site Demolition - Remove Existing Sign/Post - Phase I	1	ea	\$ 100.00	\$ 100	
Relocate Existing Utility Pole - Phase I	1	ea	\$ 4,000.00	\$ 4,000	
Relocate Existing Utility Pole - Phase II	1	ea	\$ 4,000.00	\$ 4,000	
Export Concrete / Granite Curb (16 lf/cy) - Phase I	45	cy	\$ 20.00	\$ 900	
Export Concrete / Granite Curb (16 lf/cy) - Phase II	68	cy	\$ 20.00	\$ 1,360	

Drawings Dated 05/16/2025
Estimate Date 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
EARTH MOVING (MASS EARTHWORK)					
General Grading - for Parking, Roadways & Sidewalks					
Cut to Fill for Rain Garden & Level Spreader Subgrade (Stockpile) - Phase I	280	cy	\$ 8.08	\$ 2,262	
Cut to Fill for Concrete Apron Subgrade (Stockpile) - Phase I	29	cy	\$ 8.24	\$ 239	
Fills for Rain Garden & Level Spreader Subgrade (Stockpile) - Phase I	119	cy	\$ 8.08	\$ 962	
Fills for Paving Subgrade (Stockpile) - Phase I	157	cy	\$ 8.08	\$ 1,269	
Fills for Sidewalk Subgrade (Stockpile) - Phase I	82	cy	\$ 8.08	\$ 663	
Fills for General Loam Areas Subgrade (Stockpile) - Phase I	444	cy	\$ 8.08	\$ 3,588	
Fall from Building Over Excavation (1,909cy - assumed clean fill) - Phase I	667	cy	\$ 8.08	\$ 5,389	
Stockpile for Phase II Subgrade Reuse	1,243	cy	\$ 7.25	\$ 9,012	
Cut to Fill for Rain Garden & Level Spreader Subgrade (Stockpile) - Phase II	73	cy	\$ 8.08	\$ 590	
Cut to Fill for Paving Subgrade (Stockpile) - Phase II	117	cy	\$ 8.08	\$ 945	
Fills for Rain Garden Subgrade (Stockpile) - Phase II	116	cy	\$ 8.24	\$ 961	
Fills for Pretreatment Swale Subgrade (Stockpile) - Phase II	105	cy	\$ 8.24	\$ 861	
Fills for Existing Demolished Building Subgrade (Stockpile) - Phase II	54	cy	\$ 8.08	\$ 436	
Fills for Paving Subgrade (Stockpile) - Phase II	316	cy	\$ 8.08	\$ 2,553	
Fills for Sidewalk Subgrade (Stockpile) - Phase II	19	cy	\$ 8.08	\$ 154	
Fills for General Loam Areas Subgrade (Stockpile) - Phase II	389	cy	\$ 8.08	\$ 3,143	
Rework Grades at No Elevation Change Areas - Phase I	3,666	sf	\$ 2.00	\$ 7,332	
Fall from Building Over Excavation (assumed clean fill) - Phase II	809	cy	\$ 12.00	\$ 9,708	
Export Excess Fill (Assumed Clean) - Phase II	521	cy	\$ 20.00	\$ 10,416	
Rough Grade Site - Phase I	42,020	sf	\$ 0.10	\$ 4,244	
Rough Grade Site - Phase I	28,610	sf	\$ 0.10	\$ 2,890	
Proof-roll Site - Phase I	42,020	sf	\$ 0.20	\$ 8,488	
Proof-roll Site - Phase I	28,610	sf	\$ 0.20	\$ 5,779	
I	227	cy	\$ 30.30	\$ 6,872	
II	336	cy	\$ 30.30	\$ 10,181	
Fine Grading at Parking & Roadways - Phase I	7,636	sf	\$ 0.51	\$ 3,856	
Fine Grading at Parking & Roadways - Phase II	11,332	sf	\$ 0.51	\$ 5,723	
Gravel Base (6" + 20% Compaction) at Sidewalks & Pads - Phase I	38	cy	\$ 30.30	\$ 1,164	
Gravel Base (6" + 20% Compaction) at Sidewalks & Pads - Phase II	23	cy	\$ 30.30	\$ 691	
Fine Grading & Compaction at Sidewalks - Phase I	1,726	sf	\$ 0.51	\$ 872	
Fine Grading & Compaction at Sidewalks - Phase II	1,013	sf	\$ 0.51	\$ 512	
Gravel Base (12" + 20% Compaction) at Heavy Duty Concrete Paving - (Phase I)	35	cy	\$ 30.30	\$ 1,054	
Gravel Base (12" + 20% Compaction) at Heavy Duty Concrete Paving - (Phase II)	19	cy	\$ 30.00	\$ 576	
Fine Grading & Compaction at Heavy Duty Concrete Paving - Phase I	1,180	sf	\$ 0.51	\$ 596	
Fine Grading & Compaction at Heavy Duty Concrete Paving - Phase II	442	sf	\$ 0.51	\$ 223	
Building Pad for Ground Improvements					Excluded
Cut to Common Fill					Excluded
Cut to Fill - Stockpile					Excluded
Cut to Waste - Stockpile					Excluded
Place Stockpiled Material					Excluded
Proof-roll					Excluded
Stone Working Pad for Ground Improvements (20% compaction)					Excluded
Fine Grading for Working Pad					Excluded
Building Foundation & Slab Excavation					
Cut to Fill at SOG (Stockpile) to Subgrade Elevation 34.25 - Phase I	27	cy	\$ 8.08	\$ 218	
Cut to Waste at SOG (Stockpile) to Subgrade Elevation 34.25 - Phase I	200	cy	\$ 8.08	\$ 1,616	
Overexcavation for Unsuitable Soil per Borings (Avg 4'-6") at Slab w/1:1-5 - Phase I	1,910	cy	\$ 12.00	\$ 22,920	
Phase I	2,292	cy	\$ 38.00	\$ 87,096	
Cut Interior Footings, Piers & Walls - Stockpile	20	cy	\$ 12.63	\$ 253	
Common Fill - Backfill Footings & Interior Walls	1,934	cy	\$ 16.25	\$ 31,428	
Required	1,934	cy	\$ 38.38	\$ 74,043	w/ Alternate
Crushed Stone (12") below Footings, Piers & P1 (+20% compaction)	91	cy	\$ 55.00	\$ 5,005	
Excavate Elevator Pit		cy			N/A
Excavate Haunched Footings	170	lf	\$ 7.75	\$ 1,318	
Fine Grading & Compaction (8" Lifts) - Phase I	11,452	sf	\$ 3.06	\$ 35,043	
Crushed Stone (12") below SOG (+20% compaction) - Phase I	412	cy	\$ 45.45	\$ 18,707	
Crushed Stone (12") below Footings (+20% compaction) - Phase I	109	cy	\$ 45.45	\$ 4,963	
Crushed Stone (12") below Elevator Pit		cy			N/A
Fine Grading for Slab on Grade - Phase I	9,264	sf	\$ 0.30	\$ 2,807	
Fine Grading for Footings - Phase I	2,464	sf	\$ 0.30	\$ 747	

Drawings Dated: 05/16/2025

Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
Miscellaneous					
Soils Testing	1	allow			w/ Earthwork
Soils Monitoring & Testing	1	allow			w/Earthwork
Ledge/Boulder Removal Allowance	1	allow			Excluded
EXTERIOR IMPROVEMENTS					
Asphalt Paving					
Heavy Duty Bituminous Roadway Patch for Utility Tie-ins - Phase I	300	sf	\$ 8.00	\$ 2,400	
Heavy Duty Bituminous Roadway Patch at Curbing - Phase I	570	sf	\$ 8.00	\$ 4,560	
Heavy Duty Bituminous Roadway Patch at Curbing - Phase II	570	sf	\$ 8.00	\$ 4,560	
Heavy Duty Bituminous (Parking & Drives) - Phase I	7,790	sf	\$ 8.00	\$ 62,320	
Heavy Duty Bituminous (Parking & Drives) - Phase II	11,100	sf	\$ 8.00	\$ 88,800	
Line Striping (Parking, Directional & Symbols) - Phase I	1	ls	\$ 2,000.00	\$ 2,000	
Line Striping (Parking, Directional & Symbols) - Phase II	1	ls	\$ 10,000.00	\$ 10,000	
Curbing					
Precast Concrete Curb (Straight) - Phase I	510	lf	\$ 32.42	\$ 16,535	
Precast Concrete Curb (Radius) - Phase I	90	lf	\$ 48.00	\$ 4,320	
Precast Concrete Curb (Straight) - Phase II	450	lf	\$ 32.42	\$ 14,589	
Precast Concrete Curb (Radius) - Phase II	70	lf	\$ 48.00	\$ 3,360	
Concrete Curb (mono) - Phase I		lf			w/Site Concrete
Concrete Curb (mono) - Phase II		lf			w/Site Concrete
Tactile Warning Strips - Phase I	1	ls	\$ 1,500.00	\$ 1,500	
Tactile Warning Strips - Phase II	1	ls	\$ 1,500.00	\$ 1,500	
Granite Curb		lf			Excluded
Granite Curb radiused at aprons		lf			Excluded
Wheel Stops	2	ea	\$ 160.00	\$ 320	
Site Concrete					
Heavy Duty Concrete Aprons at Apparatus Bays - Phase I	1,163	sf	\$ 18.18	\$ 21,143	
Heavy Duty Concrete Aprons at Handicap Parking - Phase II	442	sf	\$ 18.18	\$ 8,036	
Concrete Sidewalks 5" - Phase I	1,043	sf	\$ 14.00	\$ 14,602	
Concrete Integral Curb at Sidewalks - Phase II	129	lf	\$ 17.50	\$ 2,258	
Concrete Integral Curb at Sidewalks - Phase I	107	lf	\$ 17.50	\$ 1,873	
Concrete Sidewalks 5" - Phase II	1,012	sf	\$ 14.00	\$ 14,168	
Concrete Entrance Pads - Phase I	265	sf	\$ 16.00	\$ 4,240	
Concrete Mechanical Pads - Phase I	243	sf	\$ 16.00	\$ 3,888	
Concrete Dumpster Pad - Phase I	178	sf	\$ 16.00	\$ 2,848	
Concrete Pad at Propane Tank - Phase I	153	sf	\$ 16.00	\$ 2,448	
Concrete Site Signage Bases - Phase I	6	ea	\$ 200.00	\$ 1,200	
Relocated Flagpole Bases - Phase I	2	ea	\$ 600.00	\$ 1,200	
Relocated Monument Sign Base - Phase I	1	ea	\$ 1,500.00	\$ 1,500	
Relocated Decorative Hydrant Base - Phase I	1	ea	\$ 500.00	\$ 500	
Relocated Memorial Bench Base - Phase I	1	ea	\$ 1,500.00	\$ 1,500	
Relocated Memorial Monument Base - Phase I	1	ea	\$ 3,000.00	\$ 3,000	
Pipe Bollards Base - Phase I	41	ea	\$ 200.00	\$ 8,200	
Lightpole (Type A & B) Bases - Phase II	4	ea	\$ 600.00	\$ 2,400	
Light Bollard (Type C) Bases - Phase II	9	ea	\$ 300.00	\$ 2,700	
Lightpole (Relocated) Bases - Phase II	2	ea	\$ 600.00	\$ 1,200	
Unit Pavers					
Brick Pavers @ main entrance	200	sf	\$ 30.00	\$ 6,000	
Athletic & Recreational Surfaces					
Synthetic Athletic Surfaces		sf			N / A
Synthetic Playground Surfaces		sf			N / A
Rough Loam (Reuse & Import)					
Existing Loam					
Respread Existing Loam from Stockpile - Phase I	233	cy	\$ 10.00	\$ 2,330	
Screen top soil	233	cy	\$ 7.99	\$ 1,861	
Respread Existing Loam from Stockpile - Phase II	116	cy	\$ 10.00	\$ 1,160	
Screen top soil	116	cy	\$ 7.99	\$ 927	
Import Loam					
Loam (6") at SOD Areas	530	cy	\$ 35.00	\$ 18,550	
Plant Bed Loam (18")	144	cy	\$ 45.00	\$ 6,480	

Drawings Dated: 05/16/2025
 Estimate Date: 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
Landscaping					
Shade Tree					
Shade Tree (AROG) - "October Glory Red Maple"	1	ea	\$ 1,768.00	\$ 1,768	
Evergreen Trees					
Evergreen Tree (JV) - "Eastern Red Cedar"	13	ea	\$ 1,000.00	\$ 13,000	
Evergreen Tree (PGL) - "White Spruce"	14	ea	\$ 1,000.00	\$ 14,000	
Evergreen Shrubs					
Evergreen Shrub (IGC) - "Dwarf Inkberry Holly"	4	ea	\$ 50.00	\$ 200	
Deciduous Shrubs					
Deciduous Shrub (AAB) - "Red Chokeberry"	22	ea	\$ 15.00	\$ 330	
Deciduous Shrub (CA) - "Summersweet Clethra"	27	ea	\$ 15.00	\$ 405	
Ornamental Grasses					
Ornamental Grasses (PVI) - "Switch Grass"	16	ea	\$ 10.00	\$ 160	
Ornamental Grasses (SSCO) - "Little Bluestem"	34	ea	\$ 10.00	\$ 340	
Lawn Areas					
Meadow Mix "A" at Rain Garden	4,577	sf	\$ 1.00	\$ 4,577	
Sodded Lawn Areas	28,643	sf	\$ 1.50	\$ 42,965	
Gravel Drip Edge					
Mow Strip (8" Op x 2' Wide)	400	sf	\$ 5.00	\$ 2,000	
Gravel Base (8")	12	cy	\$ 30.00	\$ 360	
Filterfabric	400	sf	\$ 2.00	\$ 800	
Steel Edge Restraint	190	lf	\$ 10.00	\$ 1,900	
Site Specialties					
Bollards	39	ea			w/ Misc Metals
Signage - Traffic & Directional (HC Parking, Stop Signs, Wetland Protection)	1	ls	\$ 7,575.00	\$ 7,575	
Signage - Site (Relocate Existing)	1	allow	\$ 7,500.00	\$ 7,500	
Relocate Existing Site Improvements from Existing Fire Station	1	allow	\$ 20,000.00	\$ 20,000	
Relocated Flagpole Bases - Phase I	2	ea	\$ 600.00		w/Above
Relocated Monument Sign Base - Phase I	1	ea	\$ 1,500.00		w/Above
Relocated Decorative Hydrant Base - Phase I	1	ea	\$ 500.00		w/Above
Relocated Memorial Bench Base - Phase I	1	ea	\$ 1,500.00		w/Above
Relocated Memorial Monument Base - Phase I	1	ea	\$ 3,000.00		w/Above
Fencing - Wood Framed Dumpster Enclosure 6' H	36	lf	\$ 150.00	\$ 5,400	
Gate - 18' Wide Wood at Dumpster Enclosure 6' H	1	ea	\$ 1,500.00	\$ 1,500	
Bike Racks	-	ea			Excluded
Fencing - Chain Link	-	lf			Excluded
Fencing - Ornamental Metal	-	lf			Excluded
Radiused concrete benches - Rubbed finish	-	cy			Excluded
Bench 6'	-	ea			Excluded
Railings @ Site Stairs & HC Ramps	-	lf			Excluded
Courtyard Allowance	-	ls			Excluded
Canopy - Foundation	-	ls			Excluded
Canopy - Structure	-	sf			Excluded
SITE UTILITIES					
Water Systems (Phase I)					
Domestic Service: Street Connection to Existing	1	ea	\$ 6,817.50	\$ 6,818	
Fire Service: Street Connection to Existing	1	ea	\$ 12,625.00	\$ 12,625	
Domestic Service: Gate Valve	2	ea	\$ 3,030.00	\$ 6,060	
Fire Service: Gate Valve	2	ea	\$ 3,030.00	\$ 6,060	
Fire Service: Service Piping (6") Ductile Iron Pipe	255	lf	\$ 80.80	\$ 20,604	
Domestic Service: Service Piping (2") Type K Copper	242	lf	\$ 50.50	\$ 12,221	
Domestic/Fire Trench - Excav, Bkfil & Bedding	288	lf	\$ 60.00	\$ 17,280	
Trench Box for Road Tie in	2	ea	\$ 3,000.00	\$ 6,000	
Val & Cap Existing Water & Fire Lines at Existing Building - Phase II	2	ea	\$ 1,212.00	\$ 2,424	
Remove Existing Water & Fire Lines at Existing Building - Phase II	140	lf	\$ 40.40	\$ 5,656	

Drawings Dated: 05/16/2025
 Estimate Date 06/20/2025 Rev 1

ESTIMATE DETAIL		Base Project			
DESCRIPTIONS	Qty	Unit	Unit Price	Subtotal	Total
Sanitary System (Phase I)					
Sanitary System: Street Connection to Existing	1	ea	\$ 6,817.50	\$ 6,818	
Sanitary System: Install Precast Oil/Water Separator (7'x13'x8'dp)	1	ea	\$ 10,000.00	\$ 10,000	
Sanitary System: Install Decontamination Tank (6'Dia x14') w/Deadman & Hold Downs	1	ea	\$ 15,000.00	\$ 15,000	
Sanitary System: Sanitary Piping (8") Line	140	lf	\$ 24.00	\$ 3,360	
Sanitary System: Sanitary Piping (4") HDPE Line	20	lf	\$ 20.00	\$ 400	
Sanitary System: Sanitary Piping (3") Oil Separator Vent	30	lf	\$ 18.00	\$ 540	
Sanitary System: Sanitary Piping (2") Decontamination Vent	30	lf	\$ 16.00	\$ 480	
Sanitary System: Sanitary Manhole (SMH-01) - 6' Deep	1	ea	\$ 6,820.00	\$ 6,820	
Sanitary System: Sanitary Cleanout	2	ea	\$ 2,800.00	\$ 5,600	
Sanitary System: Sanitary Trench - Excav., Bkfl & Bedding (4'-8' deep)	40	lf	\$ 60.00	\$ 2,400	
Sanitary System: Sanitary Trench - Excav., Bkfl & Bedding (8'-12' deep)	110	lf	\$ 100.00	\$ 11,000	
Sanitary System: Sanitary Trench at Roadway (8'-12' deep)	40	lf	\$ 100.00	\$ 4,000	
Sanitary System: Trench Box for Road Tie in	1	ea	\$ 3,000.00	\$ 3,000	
Cut & Cap Existing Sanitary Line at Existing Building - Phase II	2	ea	\$ 1,212.00	\$ 2,424	
Remove Existing Sanitary Line at Existing Building - Phase II	140	lf	\$ 40.40	\$ 5,656	
Storm Drainage					
Drainage System: Perimeter Drains (4") Perf w/Stone/Fabric - Phase I	410	lf	\$ 45.45	\$ 18,635	
Drainage System: Yard Drain - 4'-6' Deep (YD-202) - Phase I	1	ea	\$ 3,711.75	\$ 3,712	
Drainage System: Yard Drain - 2'-4' Deep (YD-203,204 & 205) - Phase I	3	ea	\$ 2,208.85	\$ 6,621	
Drainage System: Double Catch Basin - 2'-4' Deep (CLCB-206) - Phase I	1	ea	\$ 5,711.75	\$ 5,712	
Drainage System: Roof Drains (8") HDPE Line - Phase I	150	lf	\$ 60.00	\$ 9,000	
Drainage System: Drainage Cleanout - Phase I	1	ea	\$ 972.62	\$ 973	
Drainage System: Drain Line (8") HDPE Pipe - Phase I	350	lf	\$ 60.00	\$ 21,000	
Drainage System: Drain Line (12") HDPE Pipe - Phase I	70	lf	\$ 70.00	\$ 4,900	
Drainage System: Drainage Cleanout at Rain Garden - Phase I	2	ea	\$ 972.63	\$ 1,945	
Drainage System: Drain Line (8") Perf. HDPE Pipe at Rain Garden - Phase I	130	lf	\$ 56.00	\$ 7,280	
Drainage System: Rain Drain w/Beehive - 2'-4' Deep (BH-201) - Phase I	1	ea	\$ 1,500.00	\$ 1,500	
Drainage System: Drain Line (6") HDPE Pipe at Rain Garden - Phase I	60	lf	\$ 54.00	\$ 3,240	
Drainage System: Flared End w/Endwall @ Rain Garden Rip Rap - Phase I	2	ea	\$ 600.00	\$ 1,200	
Drainage System: Curb Leakoff 5' @ Rain Garden Rip Rap - Phase I	4	ea	\$ 200.00	\$ 800	
Drainage System - Riprap (12") + Gravel Base (6") + Geotext - Phase I	90	sf	\$ 130.00	\$ 11,700	
Drainage Spillway - Riprap (12") + Filter Fabric-Marfil 600X - Phase I	110	sf	\$ 130.00	\$ 14,300	
Drainage System: Drainage Trench - Excav., Bkfl & Bedding - Phase I	480	lf	\$ 80.00	\$ 38,400	
Drainage System: Roof Drain Trench - Excav., Bkfl & Bedding - Phase I	300	lf	\$ 80.00	\$ 24,000	
Drainage System - Rain Garden Bio-Retention Soil (24") - Phase I	260	cy	\$ 100.00	\$ 26,040	
Drainage System - Fine Grade & Compaction at Rain Garden Bio-Retention Soil - Phase	2,930	sf	\$ 2.00	\$ 5,860	
Drainage System: Remove Existing Catch Basin - Phase II	4	ea	\$ 600.00	\$ 2,400	
Drainage System: Remove Existing (4") Drain Line - Phase II	90	lf	\$ 40.40	\$ 3,636	
Drainage System: Remove Existing (8") Drain Line - Phase II	80	lf	\$ 40.40	\$ 3,232	
Drainage System - Riprap (12") + Gravel Base (6") + Geotext - Phase II	82	sf	\$ 130.00	\$ 10,660	
Drainage Spillway - Riprap (12") + Filter Fabric-Marfil 600X - Phase II	110	sf	\$ 130.00	\$ 14,300	
Drainage System - Rain Garden Bio-Retention Soil (24") - Phase II	148	cy	\$ 100.00	\$ 14,760	
Drainage System - Fine Grade & Compaction at Rain Garden Bio-Retention Soil - Phase	1,658	sf	\$ 2.00	\$ 3,316	
Gas					
Site Utilities: Gas: Propane Tank/Service Trench - Excav., Bkfl & Bedding	65	lf	\$ 80.00	\$ 5,200	
Site Utilities: Gas: Propane Tank/Service Bulk Tank - Excav., Bkfl & Bedding	97	cy	\$ 50.00	\$ 4,850	
Underground Propane Tank (1,000 Gallon) w/Hold down Pad	1	ts	\$ 10,000.00	\$ 10,000	
Propane Service (2") Gas Line (Sched 40 Black Steel) to Building	70	lf	\$ 35.00	\$ 2,450	
Propane Feed (1") Gas Line (Sched 40 Black Steel) to Grill	20	lf	\$ 24.00	\$ 480	
Site Electrical					
Primary service T&B with bedding & Free pour concrete	230	lf	\$ 33.33	\$ 7,666	
Secondary service T&B with bedding & Free pour concrete	50	lf	\$ 33.33	\$ 1,667	
Generator service T&B with bedding & Free pour concrete	40	lf	\$ 33.33	\$ 1,333	
Communications service T&B with bedding & Free pour concrete	250	lf	\$ 33.33	\$ 8,333	
Site Lighting - E/B with bedding (Conduit & Conductors in Electric)	860	lf	\$ 12.12	\$ 10,423	
Miscellaneous Utility Work					
Interior Plumbing Trench Excavation, Backfill & Bedding	840	lf	\$ 40.00	\$ 33,600	
TOTAL SITEWORK				\$ 1,661,237	
TOTAL TRADE COST				\$ 8,983,530	

Summary Info

Oswegatchie Fire Station Design

July 22, 2025

General Features

- First Floor
 - Bunk rooms, a day room, a kitchen, training room, offices, exercise room, bathrooms, decon room, gear locker room, and apparatus bays on the first floor
 - Small Mezzanine
 - Mechanical room and storage
- Basis of Construction
 - Steel framing on concrete foundation
 - Fiber cement siding, with brick veneer and a cast stone accent band
 - Architectural asphalt shingles, solar ready
 - Floors-epoxy coated concrete, tile, and carpet covered
 - Electric System-lighting, power, P/A system, fire alarm, security system, site lighting, and a back-up generator
 - HVAC is primarily VRF (variable refrigerant flow) with radiant floors in the bays

Energy Efficient Features

- The VRF HVAC system- high efficiency, 10-50% less energy
- Hot water system uses temperature maintenance cable in lieu of hot water return
- Low flow plumbing fixtures
- Radiant floor in the bays
- Energy efficient windows-thermally broken
- Insulation in the walls is “continuous”, no breaks. Limits heat transfer. Moves dew point outside, moisture less likely to have an effect on the overall building
- Solar capable roof in the event that the Town wants to explore in the future
- Occupancy sensors and dimmer lighting controls throughout to modulate the use of electricity
- LED Lighting

Size and Shape

- Total Size of the Fire Station-9,988 sq.ft.
- Estimated Cost (Downes Construction) Based upon construction drawings-\$10,323,413
- Estimated Soft Costs- \$2,228,980 (including \$500K, traffic light)
- Total Estimated Costs to Build and Outfit-\$12,552,393
- Estimated Cost to Renovate as New-\$11,092,735 (including soft costs and contingencies)
- Undetermined Cost- Traffic Light
 - Under need may not be required pending trimming trees adjacent to the property and follow-on discussion between the Director of Fire Services and Director of Traffic

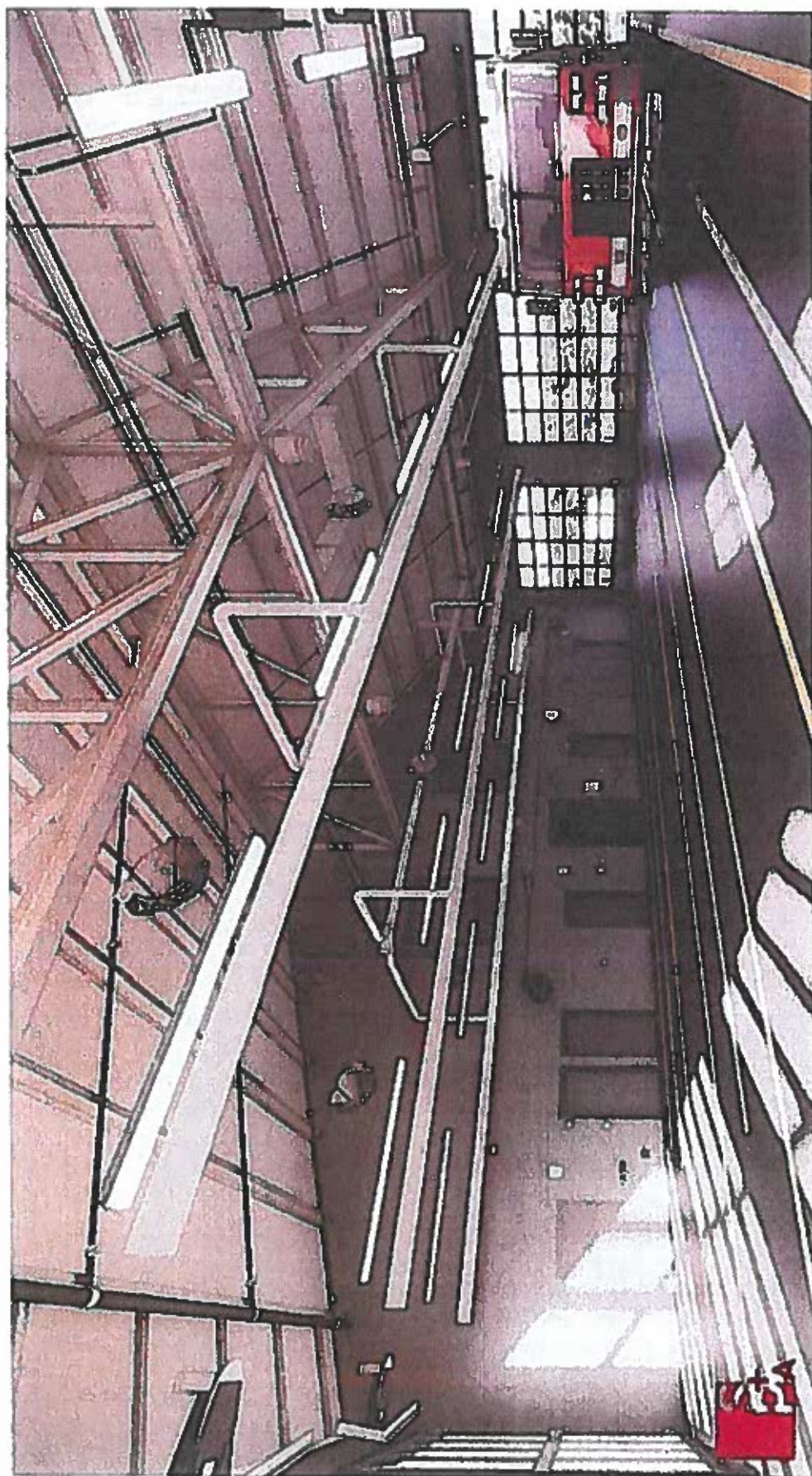


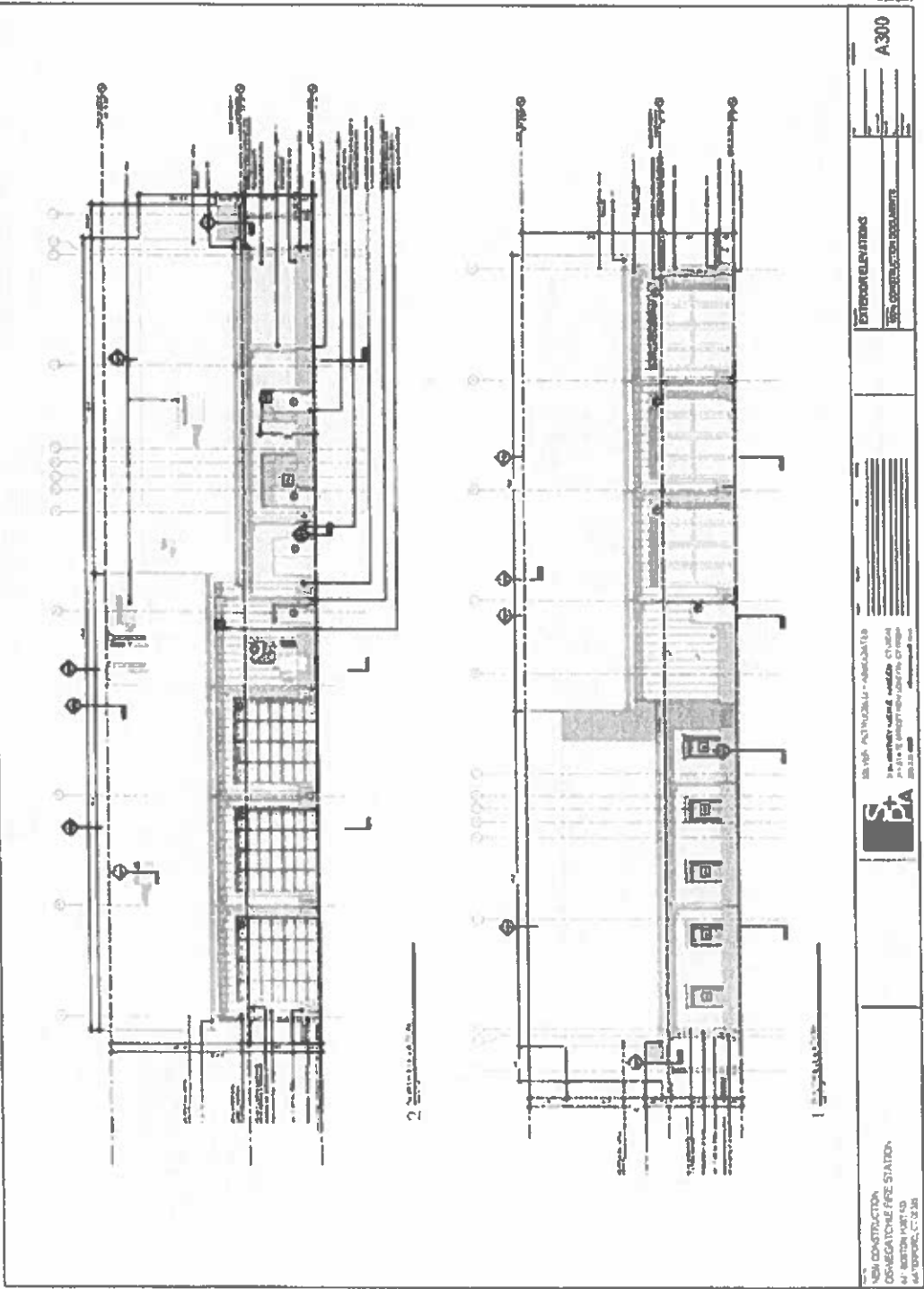
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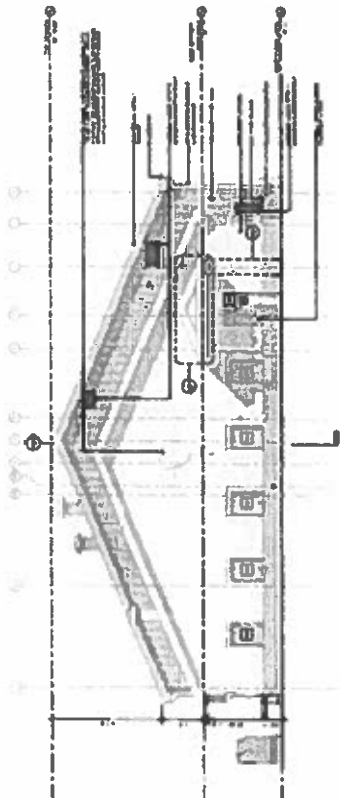
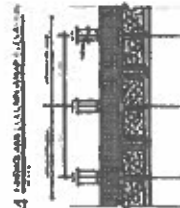
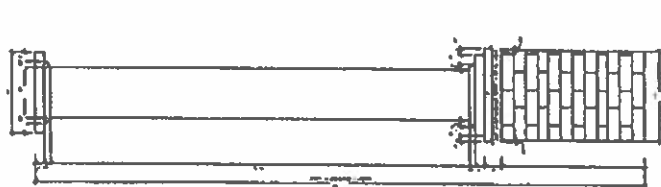
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EXTERIOR ELEVATIONS

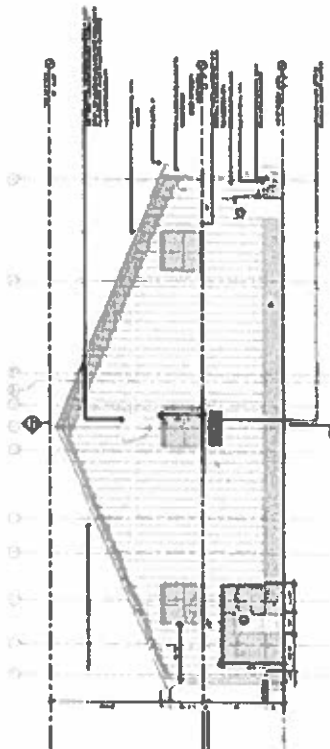
100' HIGH - 100' WIDE - 100' DEEP



NEW CONSTRUCTION
CONCRETE FIRE STATION
100' HIGH - 100' WIDE - 100' DEEP



2



1

NEW CONSTRUCTION GENERATOR FIRE STATION 411 BROAD ST. N. ANN ARBOR, MI 48106	NO. 1000 ARCHITECTURAL - AMERICAN also serving residential projects. 21 years experience in design and construction. 21 years experience in construction.	EXTERIOR ELEVATIONS VIEW FROM SOUTH EAST	A301
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6.0 Five Fire Stations - History and Structure of Waterford's Fire Stations

Waterford has a long-standing tradition of volunteer fire service, dating back to the early 20th century. The Town's five volunteer fire stations emerged as a direct response to growing local needs, with each station strategically located in areas experiencing population development. Notably, all five stations were constructed by volunteers, using funds they independently raised.

To formalize and distribute responsibilities, a series of fire districts were created, providing an organized framework for managing the growing fire services system.

Since 1942, Waterford has maintained five fire stations, all incorporated within a span of 19 years. These five stations remain operational today.

Waterford's population continues to grow steadily, and the current infrastructure of fire stations remains largely supportive of existing development patterns. According to the most recent census, Waterford's population stands at 19,554.

While census projections suggest the population may stabilize or even decline slightly in the future, recent development activity—as illustrated in Table 2—indicates the potential for continued population growth, which could influence future demand for fire services.

Waterford's proud tradition of volunteer fire service has evolved over decades to meet the needs of a growing and changing community. Originally founded around local volunteer efforts, the Town's five fire stations—established through a historic agreement (Appendix E)—provided critical coverage and protection. This agreement, whereby volunteers deliver fire protection services in exchange for maintaining stations, equipment, and training, remains foundational today, granting Waterford access to a network of five strategically located stations.

As Waterford grows, the Town has a unique opportunity to honor its rich legacy while thoughtfully planning the next generation of emergency services—services designed not only for today's challenges but for tomorrow's vision.

While census projections suggest that Waterford's overall population (currently 19,554) may remain stable or decline slightly, other trends paint a more dynamic picture:

- **Growth in the Senior Population:**
An increasing proportion of older residents will drive greater demand for emergency medical services.
- **Recent Development Activity (Table 2):**
Despite broader forecasts, recent residential and commercial building activity suggests a blossoming population.

- **Town Size and Diversity:**
Spanning 37 square miles, Waterford features a mix of rural, suburban, and commercial properties, each requiring thoughtful, responsive fire and emergency service coverage.

Several factors are shaping the evolving mission of Waterford's Fire Services:

- **Significant Commercial Entities:**
 - Dominion Energy's Nuclear Power facility
 - The proposed Data Center
 - The Crystal Mall complex

These assets represent critical infrastructure requiring specialized response capabilities.
- **Changing Building Patterns:**
Newer construction often features:
 - Higher population densities
 - Multi-story structures
 - Fire-resistant materials

These improvements enhance safety but also introduce new challenges, such as greater exposure to hazardous synthetic materials in fires.
- **Expanded Scope of Emergency Responses:**
Today, structural fires represent a small fraction of calls. Firefighters are now routinely responding to:
 - Hazardous material incidents
 - Severe weather events
 - Service calls
 - Medical emergencies
 - False alarms
- **Distribution of Service:**
Analysis of call data indicates that emergency call volume is distributed across the Town, reinforcing the critical value of maintaining all five fire stations.

6.1 Why Five Stations Matter

Maintaining a five-station model continues to provide tangible, town-wide benefits:

- 1. Response Times**
The current station locations enable fast, reliable service delivery in alignment with National Fire Protection Association (NFPA) standards.
- 2. Volunteer Retention**
Reducing or closing stations could diminish volunteer participation and necessitate more career staff, increasing costs.
- 3. Strategic Coverage**
Stations are located near high-density neighborhoods and key assets such as the Crystal Mall, Dominion Nuclear Power Station, Interstate 95, Interstate 395, Route 85 and Waterford's schools, Town Hall, Community Center, Beaches, Niantic River, and Thames River all spread over 37 square miles.
- 4. Insurance Rates and ISO Ratings**
Maintaining five stations helps preserve Waterford's favorable Insurance Services Office (ISO) rating, protecting residents from higher insurance premiums.
- 5. Resiliency and Emergency Sheltering**
Each station provides a critical location for resident sheltering during townwide emergencies and supports Waterford's integrated Task Force emergency management approach.
- 6. Infrastructure Readiness**
Except for Oswegatchie (which requires replacement), the other stations are maintainable through repair.
- 7. Emergency Operations**
As Waterford's Fire Services evolve into a broader Emergency Services Organization, each station will play a key role in housing resources, personnel, and shelter facilities across the community.
- 8. A Proven, Successful Model**
The five-station approach has effectively served Waterford for over 100 years—providing life-saving protection, community reassurance, and continuity.

Looking Forward: Waterford's Vision for Emergency Services

As Waterford embraces the future, its fire services must continue to evolve and potentially into a modern Emergency Services and First Responder Organization, ready to address a broader range of public safety needs. As noted earlier, such a change may warrant a charter update. A suitable name could be Waterford Fire and Rescue.

Key elements of this future vision should include:

- Investing smartly in facility upgrades, apparatus modernization, and training.
- Expanding partnerships with local and regional agencies.
- Applying for grants (such as SAFER grants) to enhance staffing and resilience.
- Adapting tactics to meet the challenges of changing construction patterns, population shifts, and evolving threats.

By recognizing the value of its current infrastructure and proactively planning for the future, Waterford is charting an exciting and responsible course—one that builds on its proud past while preparing for a bright, resilient future.

The future of Waterford's fire services is not about standing still. It's about growing, adapting, and leading—and the Town is ready.

6.2 The Case for a New Oswegatchie Fire Station

In January 2023, the Ad Hoc Fire Services Committee released an interim report recommending the replacement of the Oswegatchie Fire Station due to extensive structural and mechanical deficiencies. At the same time, the Committee strongly reaffirmed the Town's five-station fire service delivery model as the most effective and strategic approach for meeting Waterford's emergency response needs.

In addition to the broader reasons supporting the five-station model, the following specific points highlight why replacing the Oswegatchie Fire Station is critical to Waterford's future:

1. Strengthens Public Safety

- Ensures continued fire and emergency support for the Oswegatchie Elementary School and surrounding neighborhoods.
- Provides a modern, safe, and secure facility for housing part of the Town's paid firefighter workforce.
- Creates an ideal location for a future command center for Waterford's growing team of career firefighters.

2. Supports the Town's Vision for a Combination Fire Department

- Advances Waterford's transition toward a combination fire services model, blending career firefighters and volunteer support—consistent with national best practices and Waterford's evolving needs.
- Positions the Town for a stronger, more resilient fire service well into the 21st century.

3. Enhances Recruitment and Retention

- A new, state-of-the-art station will boost the recruitment and retention of both career and volunteer firefighters.
- A modern facility focused on firefighter safety, training, and well-being demonstrates the Town's serious commitment to public safety services.

4. Protects Waterford's Long-Term Financial Interests

- Repairing and renovating the existing station is not cost-effective according to the Town's architect and construction project manager. The construction program manager provided an estimate of \$11.3 million to renovate the building as new, while a new building could cost \$10.4 million.
- Delaying construction would significantly escalate costs—potentially requiring \$15–20 million within 7–10 years for new construction and interim repairs.
- Building the new station now is the fiscally responsible choice for taxpayers.

5. Continues a Century-Long Success Story

- Oswegatchie Fire Company has served Waterford from its current location for over 94 years.
- Maintaining a station at this location honors a proven, historic model that effectively covers all 37 square miles of the Town.
- Every major study and both recent Directors of Fire Services have strongly supported the five-station model for Waterford.

6. Enhances Townwide Emergency Preparedness

- Provides a local shelter for residents during emergencies.
- Maintains a strategic outpost for the staging of apparatus and personnel for rapid, effective responses to any emergency.

7. Aligns with Town Plans and Community Values

- Building a new station at Oswegatchie is consistent with both the existing and proposed draft Plan of Conservation and Development (POCD).
- Reflects the Town's values of community investment, public safety, and smart growth.

8. Reinforces Waterford's Commitment to Public Safety

- Waterford protects a community of 19,554 residents and a \$4.4 billion grand list of residential, commercial, and industrial property.
- A new, centrally located fire station will significantly strengthen life and property protection across the Town.

9. Demonstrates Strong Community Leadership

- In February 2022, the Representative Town Meeting (RTM) took decisive action:
 - Established a Building Committee charged with constructing a new Oswegatchie Fire Station.
 - Committed to maintaining the old station only as necessary until a replacement is built.

The preservation and modernization of Waterford's five-station fire services model is critical to meeting current and future community needs.

Building a new Oswegatchie Fire Station is more than a construction project—it is a clear investment in:

- Public safety
- Community resilience
- Long-term financial responsibility
- Waterford's future growth and success

Waterford's vision is bold, responsible, and clear: continuing to invest in the systems that protect its people, its property, and its proud tradition of excellence.

7.0 A Strategic Vision

Evolution of Waterford's Fire Services

Like many small towns, Waterford's fire services have evolved over time—shifting from a fully volunteer model to today's combination fire department and moving steadily toward greater professionalization.

In the early 1900s, fire protection was provided by a network of privately owned, independently operated stations. Over time, these private companies were managed collectively by a Board of Fire Commissioners. Today, Waterford benefits from a centralized management model, led by a Director of Fire Services, ensuring professional oversight and strategic coordination.

CURRENT DEBT SCHEDULE

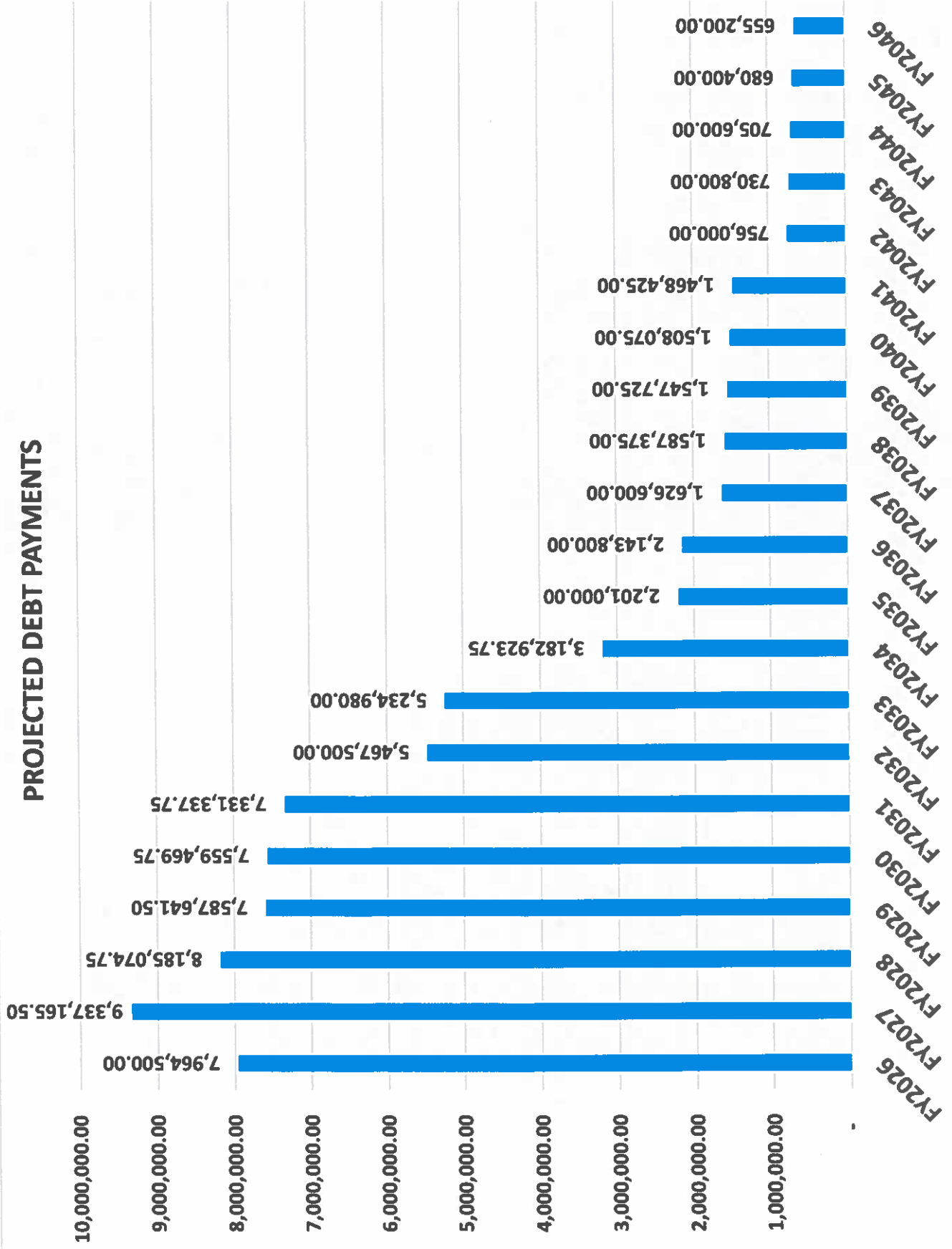
YEAR	SCHOOL REFUNDING	SCHOOL REFUNDING	SCHOOL REFUNDING	SCHOOL REFUNDING		MUNI COMPLEX		TOTAL	Budget
				2017	2019	2020	2020		Decrease
FY2026	903,250.00	1,476,650.00	1,094,250.00	3,484,375.00	1,005,975.00	7,964,500.00	(145,246.00)	Debt Retired	
FY2027	866,125.00	3,139,150.00	1,065,375.00	1,436,050.50	971,725.00	7,478,425.50	(486,074.50)		
FY2028	-	2,987,900.00	1,040,625.00	1,408,374.75	937,475.00	6,374,374.75	(1,104,050.75)		
FY2029	-	1,146,000.00	1,009,700.00	3,343,836.50	903,225.00	6,402,761.50	28,386.75		
FY2030	-	725,900.00	1,007,400.00	3,252,069.75	872,400.00	5,857,769.75	(544,991.75)	Debt Retired	
FY2031	-	693,600.00	979,200.00	3,162,912.75	848,425.00	5,684,137.75	(173,632.00)		
FY2032	-	-	-	3,046,925.00	827,875.00	3,874,800.00	(1,809,337.75)		
FY2033	-	-	-	2,934,380.00	802,400.00	3,736,780.00	(138,020.00)		
FY2034	-	-	-	913,823.75	785,400.00	1,699,223.75	(2,037,556.25)	Debt Retired	
FY2035	-	-	-	-	771,800.00	771,800.00	(927,423.75)		
FY2036	-	-	-	-	758,200.00	758,200.00	(13,600.00)		
FY2037	-	-	-	-	744,600.00	744,600.00	(13,600.00)		
FY2038	-	-	-	-	730,575.00	730,575.00	(14,025.00)	Debt Retired	
FY2039	-	-	-	-	716,125.00	716,125.00	(14,450.00)		
FY2040	-	-	-	-	701,675.00	701,675.00	(14,450.00)		
FY2041	-	-	-	-	687,225.00	687,225.00	(14,450.00)		

PROJECTED DEBT SCHEDULE

YEAR	SCHOOL REFUNDING 2014	SCHOOL REFUNDING 2017	SCHOOL REFUNDING 2019	SCHOOL REFUNDING 2020	MUNI COMPLEX	STATE RADIO PROJECT PROJECTION (\$4.6)	OSWEGATCHIE FIREHOUSE PROJECTION (\$12.6)	TOTAL	Budget Decrease
FY2026	903,250.00	1,476,650.00	1,094,250.00	3,484,375.00	1,005,975.00	-	-	7,964,500.00	(145,246.00)
FY2027	866,125.00	3,139,150.00	1,065,375.00	1,436,050.50	971,725.00	678,960.00	1,179,780.00	9,337,165.50	1,372,665.50
FY2028	-	2,987,900.00	1,040,625.00	1,408,374.75	937,475.00	657,800.00	1,152,900.00	8,185,074.75	(1,152,090.75) 1 Bond Retired
FY2029	-	1,146,000.00	1,009,700.00	3,343,836.50	903,225.00	63,480.00	1,121,400.00	7,587,641.50	(597,433.25)
FY2030	-	725,900.00	1,007,400.00	3,252,069.75	872,400.00	611,800.00	1,089,900.00	7,559,469.75	(28,171.75)
FY2031	-	693,600.00	979,200.00	3,162,912.75	848,425.00	588,800.00	1,058,400.00	7,331,337.75	(228,132.00)
FY2032	-	-	-	3,046,925.00	827,875.00	565,800.00	1,026,900.00	5,467,500.00	(1,863,837.75) 2 Bonds Retired
FY2033	-	-	-	2,934,380.00	802,400.00	542,800.00	955,400.00	5,234,980.00	(232,520.00)
FY2034	-	-	-	913,823.75	785,400.00	519,800.00	963,900.00	3,182,923.75	(2,052,056.25)
FY2035	-	-	-	-	771,800.00	496,800.00	932,400.00	2,201,000.00	(981,923.75) 1 Bond Retired
FY2036	-	-	-	-	758,200.00	478,400.00	907,200.00	2,143,800.00	(57,200.00)
FY2037	-	-	-	-	744,600.00	-	882,000.00	1,626,600.00	(517,200.00)
FY2038	-	-	-	-	730,575.00	-	856,800.00	1,587,375.00	(39,225.00)
FY2039	-	-	-	-	716,125.00	-	831,600.00	1,547,725.00	(39,650.00)
FY2040	-	-	-	-	701,675.00	-	806,400.00	1,508,075.00	(39,650.00)
FY2041	-	-	-	-	687,225.00	-	781,200.00	1,468,425.00	(39,650.00)
FY2042	-	-	-	-	-	-	756,000.00	756,000.00	(712,425.00)
FY2043	-	-	-	-	-	-	730,800.00	730,800.00	(25,200.00)
FY2044	-	-	-	-	-	-	705,600.00	705,600.00	(25,200.00)
FY2045	-	-	-	-	-	-	680,400.00	680,400.00	(25,200.00)
FY2046	-	-	-	-	-	-	655,200.00	655,200.00	(25,200.00)

* Annual Payment based on current interest rates as of 8/11/2025 of 3.38 (radio project) and 3.68 (fire station)

PROJECTED DEBT PAYMENTS



WHY NOW IS A GOOD TIME FOR WATERFORD TO BOND

Waterford

- 1 First payment due in FY2027
- 2 One Board of Education bond retires in FY2027
- 3 Two Board of Education bonds are eligible for refunding in August 2027
- 4 Interest rates are expected to drop in September 2025
- 5 Waterford's Bond Rating is Excellent which makes our bonds a desirable investment
- 6 Waterford's General Obligation bond will be tax-exempt from both state and federal taxes
- 7 FY2026/2027 tax revenue is projected to increase with the following additions:
 - * Waterford Woods Development
 - * Ivy Hills Development
 - * Clark Lane Development
 - * Electric Boat purchase of 1 division of the Crystal mall

Connecticut

- 8 Connecticut's overall financial health is viewed positively by major rating agencies, which influences the risk profile of municipal bonds throughout the state.
- 9 These strong ratings are supported by the state's healthy budgetary reserves, consistent pension contributions, and strong financial policies.

**TOWN OF WATERFORD
BOARD OF FINANCE**

**RESOLUTION RECOMMENDING AN APPROPRIATION AND FUNDING
AUTHORIZATION OF \$4,600,000 FOR UPGRADES TO THE TOWN'S
COMMUNICATIONS SYSTEM**

RESOLVED, that the Board of Finance recommends that the Town of Waterford (the "Town") appropriate \$4,600,000 for upgrades to the Town's communications system to provide portable radio coverage within the Town's jurisdictional area for public safety and public service users and enhance interoperability between other local, State and federal agencies (the "Project"). The appropriation may be expended on renovation and installation costs, engineering, design and professional fees, radios, materials, equipment, purchase costs, legal fees, financing costs, interest expense on temporary borrowings, and other costs related to the Project. The appropriation shall include any federal, state or other grants-in-aid received for the Project. The Board of Selectmen is authorized to determine the scope and particulars of the Project. The Board of Selectmen may reduce or modify the scope of the Project and the entire appropriation may be expended on the Project as so reduced or modified.

FURTHER RESOLVED, that the Board of Finance recommends that the Town finance the appropriation by issuing the Town's bonds, notes, temporary notes or other obligations in an amount not to exceed \$4,600,000 or so much thereof as may be necessary after deducting grants to be received for the Project.

CONVERSION TO THE STATE RADIO SYSTEM PROJECT

WHAT:

Replace the Town of Waterford's end-of-life public safety radio system. Purchase and installation of fixed network equipment for the public safety answering point (PSAP)/dispatch center and four tower sites. This equipment will allow the Town of Waterford to operate on the State of Connecticut Land Mobile Radio Network (CLMRN) and will enhance the system for several federal, state and local agencies operating on the CLMRN in the region.

WHY:

This system will provide much needed interoperability to public safety communications in southeastern Connecticut. Interoperable communication for all agencies is critical for our region and more specifically, for the City of New London and Town of Waterford. We are mutual aid partners with miles of coastline and rivers, Millstone Nuclear Power Station, the U.S. Coast Guard Academy, Lawrence & Memorial Hospital, Amtrak, Groton-New London Airport and ferries. We must be able to communicate with one another during natural disasters, large and small scale incidents and routine mutual aid calls.

The City of New London has purchased equipment through various funding sources to connect to the State of Connecticut Land Mobile Radio Network and is currently prepared to do so. They are delayed as they rely on Waterford's radio antenna towers and infrastructure for radio communication, and cannot connect to the CLMRN until Waterford is connected to the system.

COST:

Equipment & Freight	\$3,691,959
Implementation Services	<u>\$2,245,581</u>
Subtotal	\$5,937,540
Project Incentive	<u>\$ 831,000</u>
Subtotal	\$5,106,540
Discounted Maintenance Services	<u>\$1,036,374</u>
Total Investment	\$6,142,914

FUNDING:

Project	\$6,142,914
Less State Approved Bonding	<u>\$1,500,000</u>
	\$4,642,914

ADDITIONAL INFORMATION:

1. The town is also requesting an additional \$1,000,000 through the State's Nuclear Power Safety Grant to reduce the total investment of the town to \$3,642,914. However, the grant is not awarded until late Spring 2026. If received, any approved funding request would be reduced by the amount awarded through the grant.
2. New London will continue to be invoiced for their usage of Waterford's infrastructure which would provide additional revenue to the town. Current estimate is \$100,000 annually.



MOTOROLA SOLUTIONS

Firm Priced Proposal

Town of Waterford, CT

Communications System Upgrade

3-Site CLMRN Integration

August 13, 2025

The design, technical, and price information furnished with this proposal is proprietary information of Motorola Solutions, Inc. (Motorola). Such information is submitted with the restriction that it is to be used only for the evaluation of the proposal, and is not to be disclosed publicly or in any manner to anyone other than those required to evaluate the proposal, without the express written permission of Motorola Solutions, Inc.

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Motorola Solutions, Inc.
500 W Monroe Street, Ste 4400
Chicago, IL 60661-3781
USA

August 13, 2025

Mr. Steven Sinagra
Emergency Management Director
Town of Waterford, CT
204 Boston Post Road
Waterford, CT 06385

Subject: Communications System Upgrade (3 Sites)

Dear Mr. Sinagra:

Motorola Solutions, Inc. ("Motorola Solutions") is pleased to have the opportunity to provide Town of Waterford, CT with a firm proposal for a communication system upgrade. The Motorola Solutions project team has developed this firm proposal through feedback of previous proposals, customer provided site documentation and site visits of the proposed RF and console sites to capture current existing conditions.

Our proposed solution includes:

- One (1) Virtual Prime Site (VPS) connected to the CLMRN
- Three (3) 6-channel trunked simulcast remote sites connected to the VPS
- A four (4) position Dispatch Console
- A five (5) site Microwave System
- Mobile Subscribers for Seven (7) of the Town's Agencies

All equipment and services are offered with the State of Connecticut's Master Contract #A-99-001 for Two-Way Radio Equipment, Contract #967-A-23-0338C and are subject to its terms and conditions. This proposal is valid through November 7, 2025. Waterford may accept this proposal by issuing a purchase order with reference to this contract.

Please contact your Motorola Account Executive Mark Ambrosone at 617-733-5894 or mark.ambrosone@motorolasolutions.com with any questions that you have regarding this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'Roy Kirchner'.

Roy Kirchner
MSSSI Vice President
Motorola Solutions, Inc.

Table of Contents

Section 1

System Description	1-3
1.1 Introduction	1-3
1.2 Overview – Current System.....	1-3
1.3 Proposed Solution	1-3
1.4 Proposed Equipment	1-5
1.4.1 Core Site.....	1-5
1.4.2 ASTRO 25 Simulcast Subsystem.....	1-5
1.4.3 Dispatch Console Subsystem	1-8
1.4.4 Backhaul Network	1-10
1.4.5 Project 25 (P25) User Radios.....	1-14
1.5 System Block Diagrams	1-19

Section 2

Statement of Work.....	2-21
2.1 Overview	2-21
2.2 Civil Work – Site development	2-29
2.2.1 Site Development at Bartlett Road Site.....	2-29
2.2.2 Site Development at Cohanzie Fire Station Site	2-30
2.2.3 Site Development at Daniels Ave Site	2-32
2.2.4 Site Development at Miner Lane Site.....	2-34
2.2.5 Site Development at DESPP Vinegar Hill-54 Site.....	2-35
2.2.6 Customer Responsibilities Related to Site Development (Project Wide).....	2-36
2.2.7 General Site Development Assumption/Clarifications.....	2-37
2.2.8 Site Development Completion Criteria	2-39
2.3 Assumptions.....	2-39

Section 3

Acceptance Test Plan.....	3-41
3.1 Preliminary Functional Acceptance Test Plan	3-41
3.1.1 Wide Area Trunking - TDMA Only Sites.....	3-42
3.1.2 Site Trunking - TDMA Only Sites	3-45
3.1.3 CommandCentral AXS Console Features	3-49
3.1.4 Analog Conventional Tests	3-64
3.1.5 Over the Ethernet Keying (OTEK).....	3-70
3.1.6 Signoff Certificate	3-73
3.2 Coverage Acceptance Test Plan.....	3-75
3.2.1 Overview.....	3-75
3.2.2 CATP Definitions	3-75
3.2.3 Responsibilities and Preparation.....	3-86
3.2.4 CATP Procedures	3-87

3.2.5	CATP Documentation and Coverage Acceptance	3-89
3.2.6	Test Radio Setup Diagram	3-90
3.2.7	Coverage Maps	3-92

Section 4

Service/Warranty	4-93
4.1 Essentials Plus Overview	4-93
4.2 Essential Plus Element Descriptions	4-93
4.2.1 Remote Technical Support	4-93
4.2.2 Network Hardware Repair	4-94
4.2.3 Security Update Service	4-94
4.2.4 On-site Infrastructure Response	4-94
4.2.5 Annual Preventive Maintenance	4-94
4.2.6 Network Event Monitoring	4-94
4.2.7 Remote Security Update Service	4-94
4.3 Motorola Solutions Service Delivery Ecosystem	4-94
4.3.1 Centralized Managed Support Operations	4-95
4.3.2 Field Service	4-95
4.3.3 Repair Depot	4-95
4.3.4 Customer Support Manager	4-95
4.4 Network Updates (SUAll)	4-96
4.4.1 Description of Service	4-96
4.4.2 Scope	4-96
4.5 Third Party Solution Services	4-98
4.6 Post Warranty Services	4-99
4.7 Summary	4-99

Section 5

Pricing Summary	5-101
5.1 Pricing Summary	5-101
5.1.1 Post Warranty Services	5-102
5.2 Terms and Conditions	5-102
5.3 Price Validity	5-102
5.4 Milestone Payment Schedule	5-102
5.5 Detailed Pricing	5-105
5.5.1 Infrastructure Equipment	5-105
5.5.2 Subscriber Equipment	5-122

Section 1

System Description

1.1 Introduction

The Town of Waterford (hereinafter The Town) has requested a proposal to replace the existing Waterford P25 FDMA trunked radio system with a Project 25, standards-based Internet Protocol (IP) trunking simulcast subsystem connected to the existing CT Land Mobile Radio Network (CLMRN) to provide portable radio coverage within the Town of Waterford jurisdictional area for public safety and public service users and enhance interoperability between other Local, State and Federal agencies.

The Town has also requested the existing Harris dispatch console system at the Emergency Communications Center (ECC) be replaced with an Internet Protocol (IP) dispatch console with P25 compliant interfaces that will interface directly with the existing CLMRN to provide mission critical voice communications with Waterford public safety and public service users and enhance interoperability between other Local, State and Federal agencies.

The Town requested the existing Police, Fire, EMS, Public Works, Social Services, Board of Education and Emergency Management mobile and mobile control station subscribers be replaced with Motorola APX Project 25 mobile and mobile control station subscribers to provide mission critical voice communications with Waterford public safety and public service users and enhance interoperability between other Local, State and Federal agencies.

1.2 Overview – Current System

The Town's current radio system consists of an L3Harris P25 FDMA 7-channel, 5-site, 800 MHz trunked simulcast system.

The current shared radio system is used by the Police Department, Fire Department, EMS, Public Works, Utilities, Rec & Parks and Senior Services as well as the City of New London.

A mixture of mobile and portable subscriber radios capable of operating on the present system are used by the Police, Fire, EMS, Public Works, Utilities, Rec & Parks and Senior Services users.

The ECC, located in the Waterford Public Safety Building, serves as the Town's 911 PSAP and dispatch point for public safety and public service using a Harris dispatch console system.

Based on discussions with current Waterford officials, the current Town of Waterford radio system provides sufficient portable radio coverage for the Town of Waterford public safety and public service users, but does not provide seamless interoperability between other Local, State and Federal agencies.

1.3 Proposed Solution

Motorola Solutions, Inc. (hereinafter Motorola Solutions) has worked closely with both the Town of Waterford and the State Department of Emergency Services and Public Protection (DESPP), CTS Unit

to create a design that maximizes coverage within the Town of Waterford jurisdictional area while minimizing the overall cost. In these discussions, several key design elements became clear:

- Maintain the in-building coverage within the Town of Waterford jurisdictional area.
- Provide increased user capacity and interagency interoperability.
- Provide coverage for select user groups beyond the Town of Waterford jurisdictional area.
- Increase critical system component redundancy.
- Eliminate recurring costs related to the existing trunk radio system.

To provide a solution which maximizes the in-building portable radio coverage within the Town of Waterford, provides increased user capacity and provides interagency interoperability, Motorola Solutions' offered solution will replace the existing L3Harris P25 FDMA simulcast subsystem and integrate it into the existing CLMRN.

Motorola Solutions ASTRO 25 (APCO Project 25 compliant technology) is a trunked radio system that operates on IP (Internet Protocol) packet-based architecture. The term "packet based" primarily references the capability of transporting digitized voice and data via IP packets through the system infrastructure. The Internet Protocol standard is utilized to establish a responsive connection between system components. Motorola Solutions ASTRO 25 is just one of the RF platforms that are supported in Motorola Solutions' packet switched IP backbone. This infrastructure uses the strength of IP to be able to implement any current or future RF IP-based technology, regardless of its "over-the-air" RF protocol.

An ASTRO 25 3-site, 6-channel 800 MHz trunked simulcast subsystem will be integrated with the existing CLMRN ASTRO 25 Core. All voice channels will be configured as TDMA.

The ASTRO 25 trunked simulcast prime site will be located at the Cohanzie Fire Station site on Dayton Road. The simulcast prime site equipment will be installed in the existing equipment room above the apparatus bays. A DC rectifier system will be installed in the existing equipment room to provide backup power for the simulcast prime site equipment.

A 6-channel 800 MHz ASTRO 25 trunked simulcast remote site will be connected to the Waterford ASTRO 25 simulcast subsystem. The ASTRO 25 simulcast remote site will be co-located with the Waterford simulcast prime site equipment at the Cohanzie Fire Station site on Dayton Road. The simulcast remote site equipment will be installed in the existing equipment room. The DC rectifier system will provide backup power for the simulcast remote site equipment. The simulcast remote site antennas will be installed on the existing communications tower.

Another 6-channel 800 MHz ASTRO 25 trunked simulcast remote site will be connected to the Waterford ASTRO 25 simulcast subsystem. This ASTRO 25 simulcast remote site will be located at the Bartlett Road site. The simulcast remote site equipment will be installed in an existing equipment shelter. A DC rectifier system will be installed in the existing equipment shelter to provide backup power for the simulcast remote site equipment. The simulcast remote site antennas will be installed on the existing communications tower.

A 3rd 6-channel 800 MHz ASTRO 25 trunked simulcast remote site will be connected to the Waterford ASTRO 25 simulcast subsystem. This ASTRO 25 simulcast remote site will be located at the Daniels Avenue site. The simulcast remote site equipment will be installed in an existing equipment shelter. A DC rectifier system will be installed in the existing equipment shelter to provide backup power for the simulcast remote site equipment. The simulcast remote site antennas will be installed on the existing communications tower.

A six (6) operator position CommandCentral AXS IP-based dispatch console subsystem will be integrated with the existing CLMRN ASTRO 25 Core. The dispatch console subsystem will be installed in the existing Waterford ECC, utilizing the existing dispatch furniture and the existing equipment room, providing mission critical voice communications with the Waterford public safety and public service users.

The backhaul network will consist of a proposed Aviat Networks microwave network and the existing Town of Waterford-provided single mode fiber. The proposed network will connect the Waterford Simulcast Prime site to the Waterford simulcast remote sites. The proposed network will also interface to the existing CLMRN microwave network to provide the primary network backhaul to connect the simulcast prime site and the dispatch console subsystem to the CLMRN ASTRO 25 Core sites. The existing Public Safety Data Network (PSDN) will be used as the secondary network backhaul to connect the simulcast prime site and the dispatch console subsystem to the CLMRN ASTRO 25 Cores.

Mobile and mobile control station user radios will be added to the system to provide mission critical voice communications between the Waterford Police, Fire, EMS, Public Works, Social Services, Board of Education and Emergency Management users, Waterford dispatch operators and other Local, State and Federal agencies.

1.4 Proposed Equipment

The following sections describe the equipment configurations, by site, that will be provided/upgraded as part of this proposal.

1.4.1 Core Site

All of the equipment at the CLMRN Primary Core and Dynamic System Resilience (DSR) Core sites required to support the proposed equipment has been provided as part of other procurements and is not included as part of this offering.

The following licenses will be added to the CLMRN Primary Core and the DSR Core Sites:

- Project 25 Phase 2 TDMA Trunking Site.
- Unified Network Configurator (UNC) Device.
- Radio User.
- Radio Authentication User.
- Radio Alias Update.
- Console User.

Advanced Power Monitor licenses will be added to the Genesis GenWatch server.

The subscriber Radio Management (RM) licenses will be added to the RM server.

The subscriber Group Management and Presence licenses will be added to the Intelligent Middleware (IMW) server.

1.4.2 ASTRO 25 Simulcast Subsystem

An ASTRO 25 3-site, 6-channel 800 MHz trunked simulcast subsystem will be integrated with the existing CLMRN ASTRO 25 Core. All voice channels will be configured as TDMA.

The trunked simulcast subsystem will use the following simulcast remote sites:

- Cohanzie Fire Station (Co-Located Prime Site)
- Bartlett Road
- Daniels Avenue

The following sections describe the equipment that will be provided at the proposed simulcast prime site and the proposed simulcast remote sites.

1.4.2.1 Cohanzie Fire Station Simulcast Prime and Co-Located Simulcast Remote Site

The trunked simulcast prime site is responsible for providing call processing, channel assignments, synchronization of transmissions, and comparison of received signals within the simulcast network. It communicates with the CLMRN ASTRO 25 Core and is a key component in managing mobility and providing seamless communications.

The Virtualized Prime Site (VPS) is the next generation Simulcast/Voting Prime Site for ASTRO 25 trunking systems. Site Controller and Comparator voting applications are virtualized onto a common hardware platform, consolidating Fault Management and Configuration capabilities into a centralized location and allowing for easier implementation and maintenance.

The VPS components provided will include:

- Redundant DSC 8000's.
 - Redundant IP Comparators (Virtualized on DSC 8000), configured for six (6) channels.
 - Redundant Site Controllers (Virtualized on DSC 8000).
 - LAN Switches (Integrated into the DSC 8000).
 - GNSS Time and Frequency Reference with Rubidium modules (Integrated into the DSC 8000).
- Redundant Juniper SRX1500 Prime Access Routers.
- Channel Voting Status for 6 Channels.

The following equipment will be provided, in addition to the VPS equipment described above, at the proposed trunked simulcast remote site.

- An ASTRO 25 D-Series Multicarrier Base Radio site (DBR M12) containing six (6) 800 MHz transceivers, three (3) multicarrier power amplifiers (MCPA) and RFDS equipment to support receive diversity.
- Two (2) DSC 8500 Site Processors running Site Controller and Base Radio software, each containing integrated GNSS Time and Frequency Reference with Rubidium modules.
- Two (2) Juniper SRX 345 Site Routers/Firewalls.
- A transmit antenna network consisting of:
 - A dbSpectra DS7C09P36U-D 764-869 MHz, 8.8 dBd gain omni-directional antenna.
 - An RFI APM7487K248 Advanced Power Monitor (APM).
- A diversity-receive antenna network consisting of:
 - Two (2) dbSpectra DSDS7C14PPTU-D 764-869 MHz, 13.5 dBd gain, directional antennas.
 - A TX/RX Systems 442-035483 Dual Diversity Tower Top Amplifier (TTA).
 - A TX/RX Systems 442-035464 Dual Diversity TTA Control Unit (CU).

- An RFI PF7982-1018-31-N2 Dual 18 MHz Band Pass Receive Filter panel.
- An MC-Edge RTU.
- An Eltek Trilogy -48V DC Power System with 8 hours of full-load runtime consisting of:
 - Smartpack S Controller.
 - Four (4) Flatpack2 HE rectifiers in an N+1 redundant configuration.
 - Redundant 1500VA, 120VAC DC-AC Inverters.
 - Three (3), 48VDC, SBS190F Front-Terminal, 190AH Battery Sets.
 - Twenty-four (24) position DC breaker panel.

The proposed backhaul network, described below, will connect the Cohanzie simulcast prime site to the simulcast remote sites. The proposed network will also provide the primary network backhaul to connect the simulcast prime site to the CLMRN ASTRO 25 Core sites. The existing PSDN will be used as the secondary network backhaul to connect the simulcast prime site to the CLMRN ASTRO 25 Cores.

1.4.2.2 Bartlett Road Simulcast Remote Site

The following equipment will be provided at the proposed trunked simulcast remote site.

- An ASTRO 25 D-Series Multicarrier Base Radio site (DBR M12) containing six (6) 800 MHz transceivers, three (3) multicarrier power amplifiers (MCPA) and RFDS equipment to support receive diversity.
- Two (2) DSC 8500 Site Processors running Site Controller and Base Radio software, each containing integrated GNSS Time and Frequency Reference with Rubidium modules.
- Two (2) Juniper SRX 345 Site Routers/Firewalls.
- A transmit antenna network consisting of:
 - A dbSpectra DS7C09P36U-D 764-869 MHz, 8.8 dBd gain, omni-directional antenna.
 - An RFI APM7487K248 Advanced Power Monitor (APM).
- A diversity-receive antenna network consisting of:
 - Two (2) dbSpectra DSDS7C14PPTU-D 764-869 MHz, 13.5 dBd gain, directional antennas.
 - A TX/RX Systems 442-035483 Dual Diversity Tower Top Amplifier (TTA).
 - A TX/RX Systems 442-035464 Dual Diversity TTA Control Unit (CU).
 - An RFI PF7982-1018-31-N2 Dual 18 MHz Band Pass Receive Filter panel.
- An MC-Edge RTU.
- An Eltek Trilogy -48V DC Power System with 8 hours of full-load runtime consisting of:
 - Smartpack S Controller.
 - Four (4) Flatpack2 HE rectifiers in an N+1 redundant configuration.
 - Three (3), 48VDC, SBS190F Front-Terminal, 190AH Battery Sets.
 - Twenty-four (24) position DC breaker panel.

The proposed backhaul network, described below, will connect the Bartlett Road simulcast remote site to the Cohanzie simulcast prime site.

1.4.2.3 Daniels Avenue Simulcast Remote Site

The following equipment will be provided at the proposed trunked simulcast remote site.

- An ASTRO 25 D-Series Multicarrier Base Radio site (DBR M12) containing six (6) 800 MHz transceivers, three (3) multicarrier power amplifiers (MCPA) and RFDS equipment to support receive diversity.
- Two (2) DSC 8500 Site Processors running Site Controller and Base Radio software, each containing integrated GNSS Time and Frequency Reference with Rubidium modules.
- Two (2) Juniper SRX 345 Site Routers/Firewalls.
- A transmit antenna network consisting of:
 - A dbSpectra DS7C09P36U-D 764-869 MHz, 8.8 dBd gain, omni-directional antenna.
 - An RFI APM7487K248 Advanced Power Monitor (APM).
- A diversity-receive antenna network consisting of:
 - Two (2) RFI CC807-11-T1 746-870 MHz, 10.5 dBd gain with 1° of electrical downtilt, omni-directional antennas.
 - A TX/RX Systems 442-035483 Dual Diversity Tower Top Amplifier (TTA).
 - A TX/RX Systems 442-035464 Dual Diversity TTA Control Unit (CU).
 - An RFI PF7982-1018-31-N2 Dual 18 MHz Band Pass Receive Filter panel.
- An MC-Edge RTU.
- An Eltek Trilogy -48V DC Power System with 8 hours of full-load runtime consisting of:
 - Smartpack S Controller.
 - Four (4) Flatpack2 HE rectifiers in an N+1 redundant configuration.
 - Three (3), 48VDC, SBS190F Front-Terminal, 190AH Battery Sets.
 - Twenty-four (24) position DC breaker panel.

The proposed backhaul network, described below, will connect the Daniels Avenue simulcast remote site to the Cohanzie simulcast prime site.

1.4.3 Dispatch Console Subsystem

A four (4) operator position CommandCentral AXS IP-based dispatch console subsystem will be integrated with the existing CLMRN ASTRO 25 Core. The dispatch console subsystem will be installed in the existing Waterford ECC, utilizing the existing dispatch furniture and the existing equipment room.

The following sections list the equipment that will be provided at the proposed Waterford dispatch console site.

1.4.3.1 Waterford ECC Equipment Room

The following equipment will be provided in the existing equipment room:

- One (1) 7½-foot equipment rack.
- Two (2) AC Edge 120/240V Power Distribution Unit with twelve (12) 15A circuit breakers each.
- One (1) Juniper EX 4100 24-port Backhaul LAN Switch.
- Two (2) Juniper SRX 345 Site Router and Firewalls.
- Two (2) Juniper EX 4100 24-port Dispatch Site LAN Switches.
- A DSC 8000 Conventional Site Controller (CSC).
- Three (3) MCG 8000 8 Port Conventional Channel Gateways (CCGW).
- One (1) MC-Edge Aux I/O Controller with thirty-two (32) outputs and sixty-four (64) inputs.
- One (1) Juniper Control Room Firewall.

- An Archiving Interface Server (AIS)/Motorola Voice Processing Module (VPM) to integrate with a Waterford provided IP Logging Recorder.
 - The AIS will include the following:
 - ◆ An HP Z2-Mini workstation with Windows® 10 IoT Enterprise LTSC 21H2 operating system..
 - ◆ Redundant Ethernet port.
 - ◆ A 19 inch LCD Monitor.
 - The VPM will be configured for:
 - ◆ MCC 7500 AIS Software.
 - ◆ Secure operation.
 - ◆ AES encryption.
 - ◆ Over-the-Ethernet encryption rekeying (OTEK).

The proposed equipment in the equipment room will utilize the existing Waterford ECC UPS for backup power.

The proposed backhaul network, described below, will provide the primary network backhaul to connect the dispatch console subsystem to the CLMRN ASTRO 25 Core sites. The existing PSDN will be used as the secondary network backhaul to connect the dispatch console subsystem to the CLMRN ASTRO 25 Cores.

1.4.3.2 Waterford ECC

The following equipment will be provided in the dispatch center:

- Four (4) dispatch console operator positions. Each dispatch console operator position will include the following:
 - An HP Z2-Mini workstation with Windows® 10 IoT Enterprise LTSC 21H2 operating system.
 - Standard keyboard.
 - Standard Mouse.
 - A 22-inch LCD non-touchscreen monitor.
 - A CommandCentral Hub (CC Hub) containing an integral USB Hub.
- Each dispatch console operator position workstation will be configured for:
 - AXS basic dispatch console operation.
 - ASTRO 25 trunking operation.
 - Advanced conventional operation.
 - One hundred sixty (160) radio resources.
 - Secure operation.
 - AES/DES-OFB encryption.
 - Over-the-Ethernet encryption rekeying (OTEK).
 - Enhanced integrated recall recorder (IRR).
- Each dispatch console operator position will include the following accessories:
 - Four (4) purpose-built USB desktop speakers.
 - One (1) purpose-built USB desktop gooseneck microphone.
 - One (1) MCC series dual pedal footswitch.
 - Two (2) MCC series headset jacks.
 - One (1) 6-outlet AC power strip.

The proposed equipment in the dispatch center will utilize the existing Waterford ECC UPS for backup power.

1.4.4 Backhaul Network

The backhaul network will consist of a proposed Aviat Networks microwave network. The proposed microwave links will consist of:

- DESPP Vinegar Hill-54 and Bartlett Road
- Bartlett Road and Cohanzie Fire Station
- DESPP Vinegar Hill-54 and Miner Lane
- Miner Lane and Daniels Avenue

The backhaul network will also consist of the existing Town of Waterford-provided single mode fiber. The single mode fiber links will consist of:

- Cohanzie Fire Station and Fargo Road
- Daniels Avenue and Fargo Road
- Waterford ECC and Fargo Road

The resulting ring network topology will be configured as a dual-ring, providing redundancy and resiliency to connect the Cohanzie simulcast prime site to the Bartlett Road and Daniels Avenue simulcast remote sites. The proposed network will also interface to the existing CLMRN microwave network to provide the primary network backhaul to connect the Cohanzie simulcast prime site and the Waterford ECC dispatch console subsystem to the CLMRN ASTRO 25 Core sites. The existing PSDN will be used as the secondary network backhaul to connect the Cohanzie simulcast prime site and the Waterford ECC dispatch console subsystem to the CLMRN ASTRO 25 Cores.

The following sections describe the equipment that will be provided at the backhaul network sites.

1.4.4.1 DESPP Vinegar Hill-54

The following equipment will be provided at the backhaul network site.

- An 11 GHz microwave link between the DESPP Vinegar Hill-54 site and the Bartlett Road site consisting of an IRU600v4 indoor RF unit and associated waveguide extension kits.
- An 11 GHz microwave link between the DESPP Vinegar Hill-54 site and the Miner Lane site consisting of an IRU600v4 high power indoor RF unit and associated waveguide extension kits.
- An INUe Intelligent Node Units with Ethernet user interface modules.
- One (1) 3-foot high performance antennas and all associated mounting hardware.
- One (1) 4-foot high performance antennas and all associated mounting hardware.
- EW90 elliptical waveguide and all associated mounting hardware.
- Two (2) Nokia 7705 SAR-Ax Service Access Routers.

The proposed equipment will utilize the existing DESPP microwave DC plant for power and the existing DESPP dehydrator for elliptical waveguide pressurization.

1.4.4.2 Bartlett Road Site

The following equipment will be provided, in addition to the simulcast remote site equipment described above, at the backhaul network site.

- An 11 GHz microwave link between the Bartlett Road site and the DESPP Vinegar Hill-54 site consisting of an IRU600v4 indoor RF unit and associated waveguide extension kits.
- An 11 GHz microwave link between the Bartlett Road site and the Cohanzie Fire Station site consisting of an IRU600v4 indoor RF unit and associated waveguide extension kits.
- An INUe Intelligent Node Units with Ethernet user interface modules.
- Two (2) 3-foot high performance antennas and all associated mounting hardware.
- EW90 elliptical waveguide and all associated mounting hardware.
- An automatic dehydrator and all associated manifolds and tubing.
- Two (2) Nokia 7705 SAR-Ax Service Access Routers.

The proposed equipment will utilize the proposed Eltek DC Power System for power.

1.4.4.3 Cohanzie Fire Station Site

The following equipment will be provided, in addition to the simulcast prime and remote site equipment described above, at the backhaul network site.

- An 11 GHz microwave link between the Cohanzie Fire Station site and the Bartlett Road site consisting of an IRU600v4 indoor RF unit and associated waveguide extension kits.
- An INUe Intelligent Node Units with Ethernet user interface modules.
- One (1) 3-foot high performance antenna and all associated mounting hardware.
- EW90 elliptical waveguide and all associated mounting hardware.
- An automatic dehydrator and all associated manifolds and tubing.
- Two (2) Nokia 7705 SAR-Ax Service Access Routers.

The proposed equipment will utilize the proposed Eltek DC Power System for power.

The existing Town of Waterford-provided single mode fiber link between Cohanzie Fire Station and Fargo Road will be used as primary network backhaul to connect the Waterford ECC dispatch console subsystem to the CLMRN ASTRO 25 Cores and as secondary network backhaul to connect the Bartlett Road and Daniels Avenue simulcast remote sites to the Cohanzie simulcast prime site. The following outlines the requirements of the Waterford-provided single mode fiber link between Cohanzie Fire Station and Fargo Road:

- The minimum throughput required for the backhaul link is 7 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

The existing PSDN will be used as the secondary network backhaul between the Cohanzie simulcast prime site and the CLMRN ASTRO 25 Core sites. The following outlines the requirements of the IP backhaul between the Cohanzie simulcast prime site and the CLMRN ASTRO 25 Core sites:

- The site link must be an Ethernet (IP) site link.
- A 10/100/1000BaseT Ethernet physical interface is required for the backhaul link.

- The minimum throughput required for the backhaul link is 4 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

1.4.4.4 Miner Lane Site

The following equipment will be provided at the backhaul network site.

- An 11 GHz microwave link between the Miner Lane site and the DESPP Vinegar Hill-54 site consisting of an IRU600v4 high power indoor RF unit and associated waveguide extension kits.
- An 11 GHz microwave link between the Miner Lane site and the Daniels Avenue site consisting of an IRU600v4 indoor RF unit and associated waveguide extension kits.
- An INUe Intelligent Node Units with Ethernet user interface modules.
- One (1) 3-foot high performance antennas and all associated mounting hardware.
- One (1) 4-foot high performance antennas and all associated mounting hardware.
- EW90 elliptical waveguide and all associated mounting hardware.
- An automatic dehydrator and all associated manifolds and tubing.
- Two (2) Nokia 7705 SAR-Ax Service Access Routers.

The proposed equipment will utilize the previously-purchased DC Power System contributed by the DESPP CTS Unit for power.

1.4.4.5 Daniels Avenue Site

The following equipment will be provided, in addition to the simulcast remote site equipment described above, at the backhaul network site.

- An 11 GHz microwave link between the Daniels Avenue site and the Miner Lane site consisting of an IRU600v4 indoor RF unit and associated waveguide extension kits.
- An INUe Intelligent Node Units with Ethernet user interface modules.
- One (1) 3-foot high performance antennas and all associated mounting hardware.
- EW90 elliptical waveguide and all associated mounting hardware.
- An automatic dehydrator and all associated manifolds and tubing.
- Two (2) Nokia 7705 SAR-Ax Service Access Routers.

The proposed equipment will utilize the proposed Eltek DC Power System for power.

The existing Town of Waterford-provided single mode fiber link between Daniels Avenue and Fargo Road will be used as primary network backhaul to connect the Waterford ECC dispatch console subsystem to the CLMRN ASTRO 25 Cores and as secondary network backhaul to connect the Bartlett Road and Daniels Avenue simulcast remote sites to the Cohanzie simulcast prime site. The following outlines the requirements of the Waterford-provided single mode fiber link between Daniels Avenue and Fargo Road:

- The minimum throughput required for the backhaul link is 7 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.

- The backhaul network packet loss should not exceed 0.02%.

1.4.4.6 Waterford ECC Equipment Room

The following equipment will be provided, in addition to the dispatch console site equipment described above, at the backhaul network site.

- Two (2) Nokia 7705 SAR-Ax Service Access Routers.

The proposed equipment in the equipment room will utilize the existing Waterford ECC UPS for backup power.

The existing Town of Waterford-provided single mode fiber link between Waterford ECC and Fargo Road will be used as primary network backhaul to connect the Waterford ECC dispatch console subsystem to the CLMRN ASTRO 25 Cores. The following outlines the requirements of the Waterford-provided single mode fiber link between Waterford ECC and Fargo Road:

- The minimum throughput required for the backhaul link is 3 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

The existing PSDN will be used as the secondary network backhaul between the Waterford ECC dispatch console subsystem and the CLMRN ASTRO 25 Core sites. The following outlines the requirements of the IP backhaul between the Waterford ECC dispatch console subsystem and the CLMRN ASTRO 25 Core sites:

- The site link must be an Ethernet (IP) site link.
- A 10/100/1000BaseT Ethernet physical interface is required for the backhaul link.
- The minimum throughput required for the backhaul link is 3 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

1.4.4.7 Fargo Road Fiber Site

The following equipment will be provided at the backhaul network site.

- An Eltek Trilogy -48V DC Power System with 8 hours of full-load runtime consisting of:
 - Flatpack S 2U DC power system.
 - Smartpack S Controller.
 - Two (2) Flatpack2 HE rectifiers in an N+1 redundant configuration.
 - Two (2), 48VDC, SBS40F Front-Terminal, 40AH Battery Sets.
 - Six (6) position DC breaker panel with A/B input feed.
- Three (3) Nokia 7705 SAR-Ax Service Access Routers.

The existing Town of Waterford-provided single mode fiber links between Fargo Road and Cohanzie Fire Station, Fargo Road and Daniels Avenue and Fargo Road and Waterford ECC will be used as primary network backhaul to connect the Waterford ECC dispatch console subsystem to the CLMRN

ASTRO 25 Cores and as secondary network backhaul to connect the Bartlett Road and Daniels Avenue simulcast remote sites to the Cohanzie simulcast prime site.

The following outlines the requirements of the Waterford-provided single mode fiber link between Fargo Road and Cohanzie Fire Station:

- The minimum throughput required for the backhaul link is 7 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

The following outlines the requirements of the Waterford-provided single mode fiber link between Fargo Road and Daniels Avenue:

- The minimum throughput required for the backhaul link is 7 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

The following outlines the requirements of the Waterford-provided single mode fiber link between Fargo Road and Waterford ECC:

- The minimum throughput required for the backhaul link is 4 Mbps Full Duplex.
- The latency should not exceed 40 milliseconds.
- The backhaul is required to meet a minimum of 99.999% link availability.
- The jitter introduced by the backhaul network should be less than 20 milliseconds.
- The backhaul network packet loss should not exceed 0.02%.

1.4.5 Project 25 (P25) User Radios

The following is a brief description of the P25 user radios that will be provided for the Police, Fire, EMS, Public Works, Social Services, Board of Education and Emergency Management users.

1.4.5.1 Waterford ECC Equipment Room

The following equipment will be provided, in addition to the dispatch console site and backhaul network equipment described above, in the Waterford ECC equipment room.

- One (1) 7½-foot equipment rack.
- One (1) AC Edge 120/240V Power Distribution Unit with twelve (12) 15A circuit breakers.

Five (5) All-Band APX Consolettes will be provided for trunking system backup. The consolettes will utilize a single 7/800 MHz control station antenna through a control station duplexer and an existing 8-port control station combiner. Each APX Consolette will include the following options/accessories:

- 7/800 MHz Operation Only.
- Full Front Panel Keypad/Clock/VU.
- AC Line Cord.
- P25 Trunking with TDMA.

- Advanced System Key – Hardware Key.
- Radio Authentication
- Programming over P25 (OTAP).
- Group Services.
- AES Encryption.
- Over-the-air re-keying (OTAR) and Multikey.
- 7-Year Essential Service Plan.
- APX Console Rack Mount Kit.

All control stations will utilize the existing Waterford ECC UPS for backup power.

1.4.5.2 Police Department

Thirty-three (33) APX 6500 7/800 MHz remote mount mobile radios will be provided. Each mobile radio will include the following options:

- E5 Control Head.
- Standard 17-Foot Control Cable.
- P25 Trunking with TDMA.
- Advanced System Key – Hardware Key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- AES Encryption.
- Over-the-air re-keying (OTAR) and Multikey.
- Water Resistant Hand Microphone.
- 15-Watt Water Resistant Speaker.
- 7-Year Essential Services Plan.
- 3 dB Low-Profile Roof Mount Antenna w/low-loss cable.

1.4.5.3 Fire Department

Twenty-nine (29) APX 8500 All-Band remote mount mobile radios will be provided. Each mobile radio will include the following options:

- E5 Control Head.
- 30-Foot Control Cable.
- P25 Trunking with TDMA.
- Advanced System Key – Hardware Key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Water Resistant Hand Microphone.
- 15-Watt Water Resistant Speaker.
- 7-Year Essential Services Plan.
- Tri-Band Roof Mount Antenna.

Six (6) APX 1500 7/800 MHz mobile control stations will be provided. Each control station will include the following options:

- Dash Mount.
- O2 Control Head.
- Control Station Operation.
- Control Station Power Supply.
- P25 Trunking with TDMA.
- Advanced System Key – hardware key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Palm Microphone.
- 7-Year Essential Service Plan.

The control stations will be connected to existing control station antenna networks.

1.4.5.4 EMS

Seven (7) APX 8500 7/800 MHz and VHF remote mount mobile radios will be provided. Each mobile radio will include the following options:

- E5 Control Head.
- Standard 17-Foot Control Cable.
- P25 Trunking with TDMA.
- Advanced System Key – Hardware Key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Water Resistant Hand Microphone.
- 15-Watt Water Resistant Speaker.
- 7-Year Essential Services Plan.
- Tri-Band Roof Mount Antenna.

One (1) APX 1500 7/800 MHz mobile control station will be provided. The control station will include the following options:

- Dash Mount.
- O2 Control Head.
- Control Station Operation.
- Control Station Power Supply.
- P25 Trunking with TDMA.
- Advanced System Key – hardware key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Palm Microphone.
- 7-Year Essential Service Plan.

The control station will be connected to an existing control station antenna network.

1.4.5.5 Public Works

Thirty (30) APX 4500 7/800 MHz remote mount mobile radios will be provided. Each mobile radio will include the following options:

- 02 Control Head.
- Standard 17-Foot Control Cable.
- P25 Trunking with TDMA.
- Advanced System Key – Hardware Key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Enhancement Level 1
- Water Resistant Hand Microphone.
- 15-Watt Water Resistant Speaker.
- 7-Year Essential Service Plan.
- 3 dB Low-Profile Antenna w/low-loss cable.

Two (2) APX 1500 7/800 MHz mobile control stations will be provided. Each control station will include the following options:

- Dash Mount.
- 02 Control Head.
- Control Station Operation.
- Control Station Power Supply.
- P25 Trunking with TDMA.
- Advanced System Key – hardware key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Palm Microphone.
- 7-Year Essential Service Plan.

The control stations will be connected to existing control station antenna networks.

1.4.5.6 Social Services

Three (3) APX 4500 7/800 MHz remote mount mobile radios will be provided. Each mobile radio will include the following options:

- 02 Control Head.
- Standard 17-Foot Control Cable.
- P25 Trunking with TDMA.
- Advanced System Key – Hardware Key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Enhancement Level 1
- Water Resistant Hand Microphone.
- 15-Watt Water Resistant Speaker.

- 7-Year Essential Service Plan.
- 3 dB Low-Profile Antenna w/low-loss cable.

One (1) APX 1500 7/800 MHz mobile control station will be provided. The control station will include the following options:

- Dash Mount.
- O2 Control Head.
- Control Station Operation.
- Control Station Power Supply.
- P25 Trunking with TDMA.
- Advanced System Key – hardware key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Palm Microphone.
- 7-Year Essential Service Plan.

The control station will be connected to an existing control station antenna network.

1.4.5.7 Board of Education (BOE)

Five (5) APX 1500 7/800 MHz mobile control stations will be provided. Each control station will include the following options:

- Dash Mount.
- O2 Control Head.
- Control Station Operation.
- Control Station Power Supply.
- P25 Trunking with TDMA.
- Advanced System Key – hardware key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.
- Palm Microphone.
- 7-Year Essential Service Plan.

The control stations will be connected to existing control station antenna networks.

1.4.5.8 Emergency Management

One (1) APX 8500 All-Band remote mount mobile radio will be provided. The mobile radio will include the following options:

- E5 Control Head.
- Standard 17-Foot Control Cable.
- P25 Trunking with TDMA.
- Advanced System Key – Hardware Key.
- Radio Authentication.
- Programming over P25 (OTAP).
- Group Services.

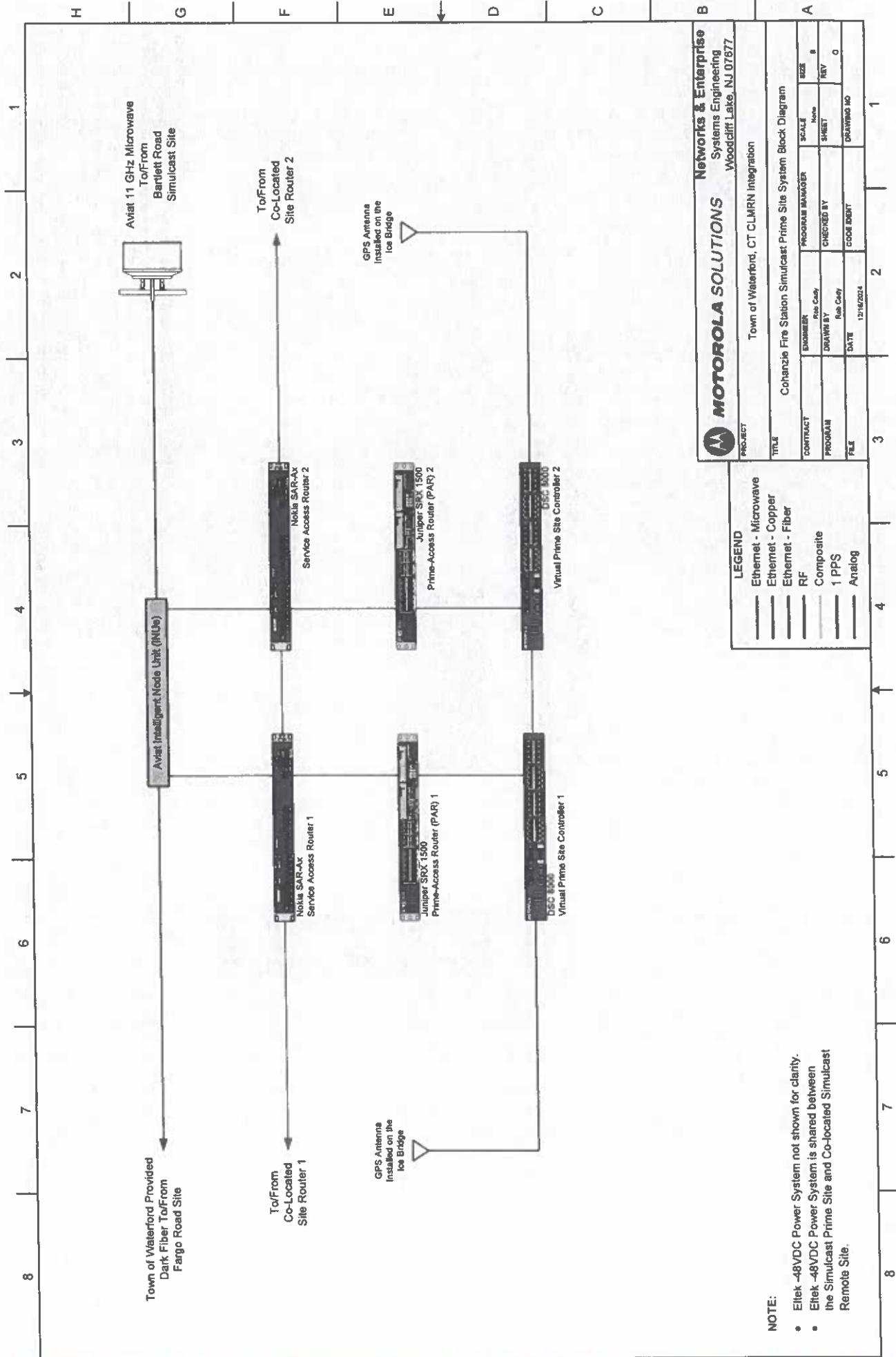
- Water Resistant Hand Microphone.
- 15-Watt Water Resistant Speaker.
- 7-Year Essential Services Plan.
- Tri-Band Roof Mount Antenna.

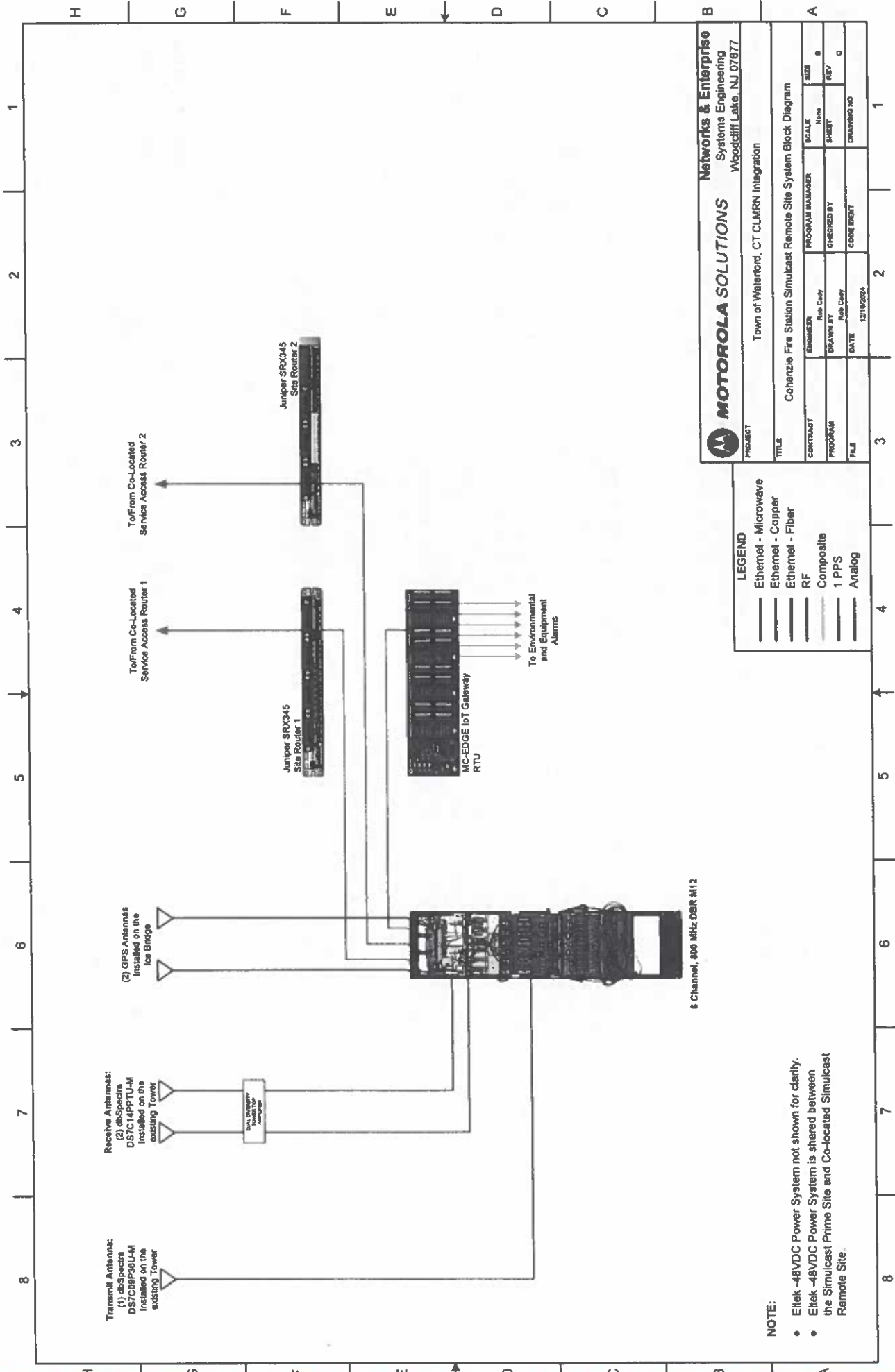
1.5 System Block Diagrams

The following are system block diagrams of the proposed equipment:

- Cohanzie Fire Station Simulcast Prime Site
- Cohanzie Fire Station Simulcast Remote Site
- Bartlett Road Simulcast Remote Site
- Daniels Avenue Simulcast Remote Site
- Miner Lane Microwave Site
- Fargo Road Fiber Site
- DESPP Vinegar Hill-54 Microwave Site
- Waterford ECC Dispatch Console Site
- High-Level Backhaul Network

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NOTE:

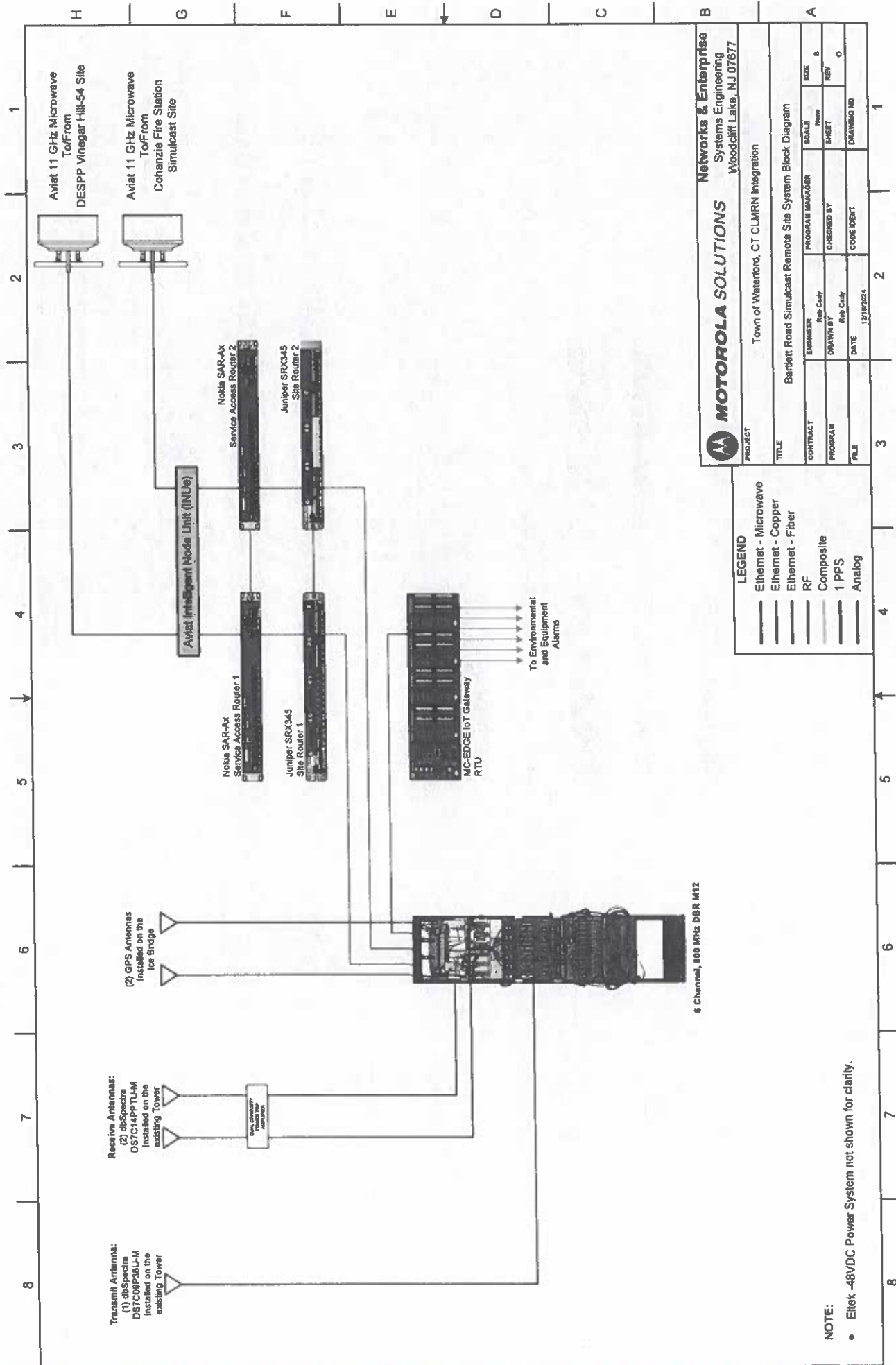
- Etek -48VDC Power System not shown for clarity.
- Etek -48VDC Power System is shared between the Simulcast Prime Site and Co-located Simulcast Remote Site.

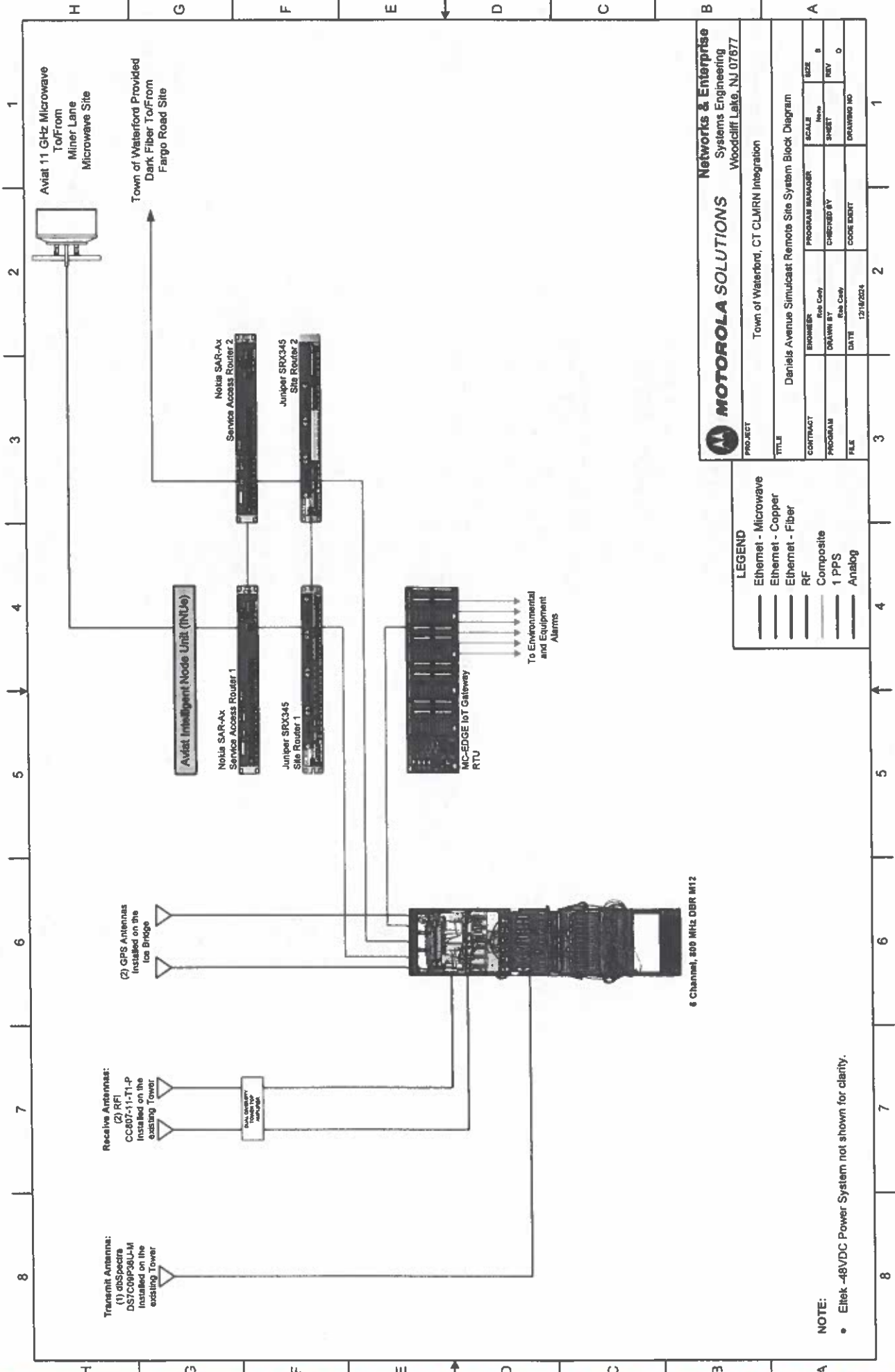
MOTOROLA SOLUTIONS

Networks & Enterprise
 Systems Engineering
 Woodcliff Lake, NJ 07877

PROJECT				Town of Waterford, CT CLMRN Integration			
TITLE				Cohasset Fire Station Simulcast Remote Site System Block Diagram			
CONTRACT	ENGINEER	DESIGNED BY	CHECKED BY	SCALE	SIZE		
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					1218/2024		

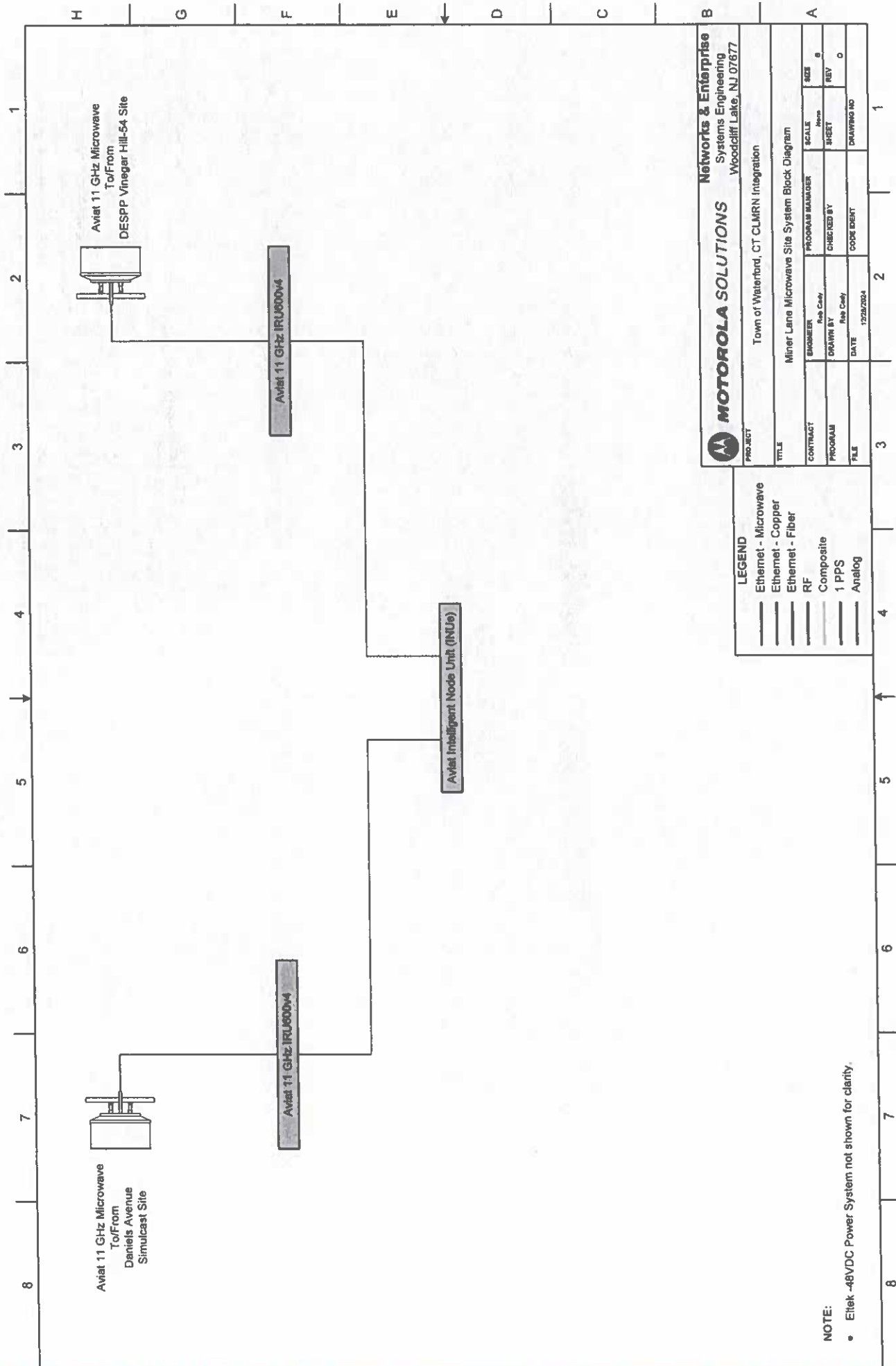
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—	Ethernet - Copper
—	Ethernet - Fiber
—	RF
—	Composite
—	1 PPS
—	Analog

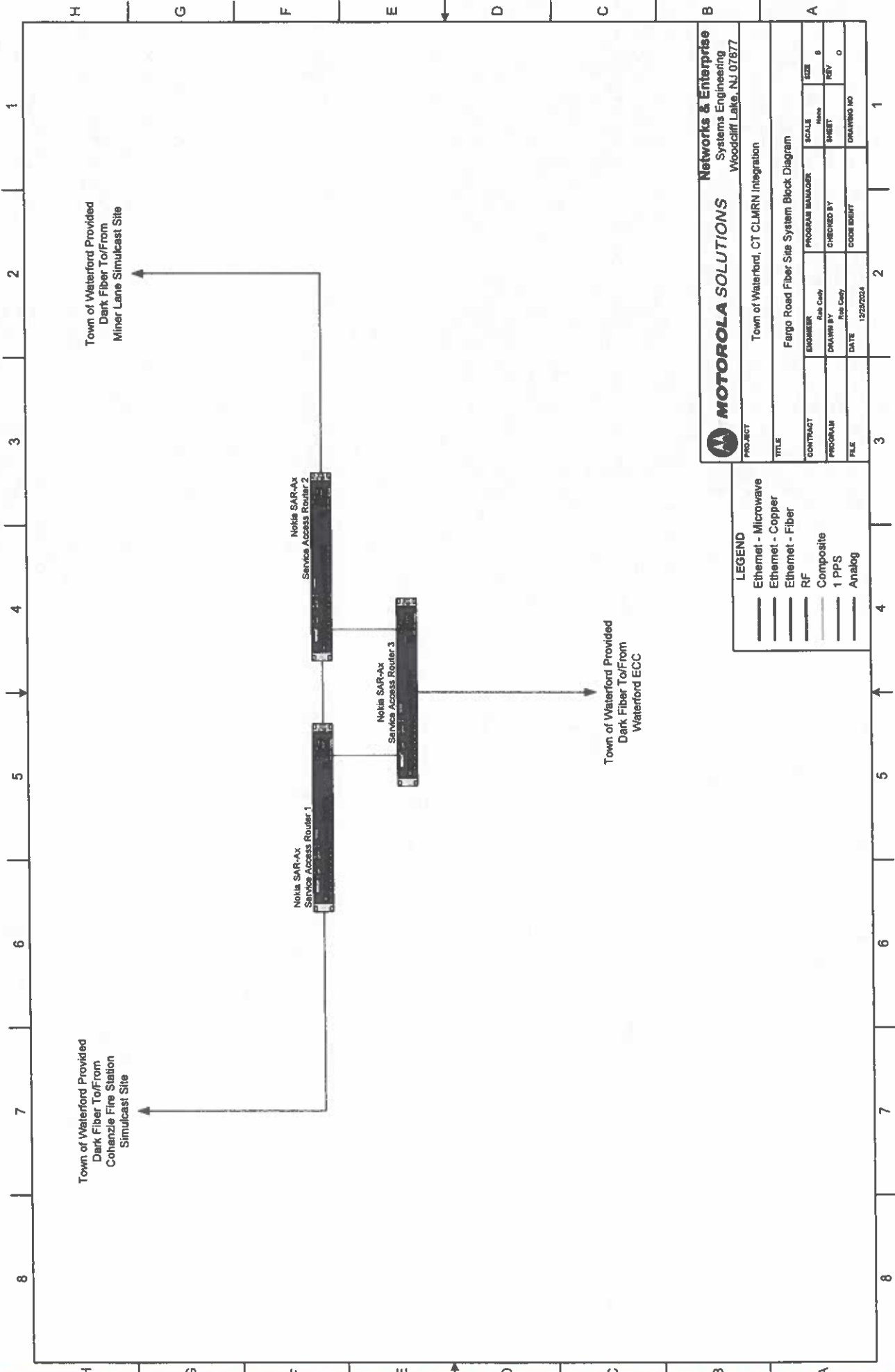




MOTOROLA SOLUTIONS
Networks & Enterprise Systems Engineering
 Woodcliff Lake, NJ 07677

PROJECT	Town of Waterford, CT CLMRN Integration			
TITLE	Daniels Avenue Simulcast Remote Site System Block Diagram			
CONTRACT	ENGINEER	PROGRAM MANAGER	SCALE	SIZE
PROGRAM	Rob Carly	Rob Carly	None	B
FILE	DRAWN BY	CHECKED BY	SHEET	REV
	Rob Carly	Rob Carly		D
	DATE	CODE ENDT	DRAWING NO	
	12/16/2024		1	

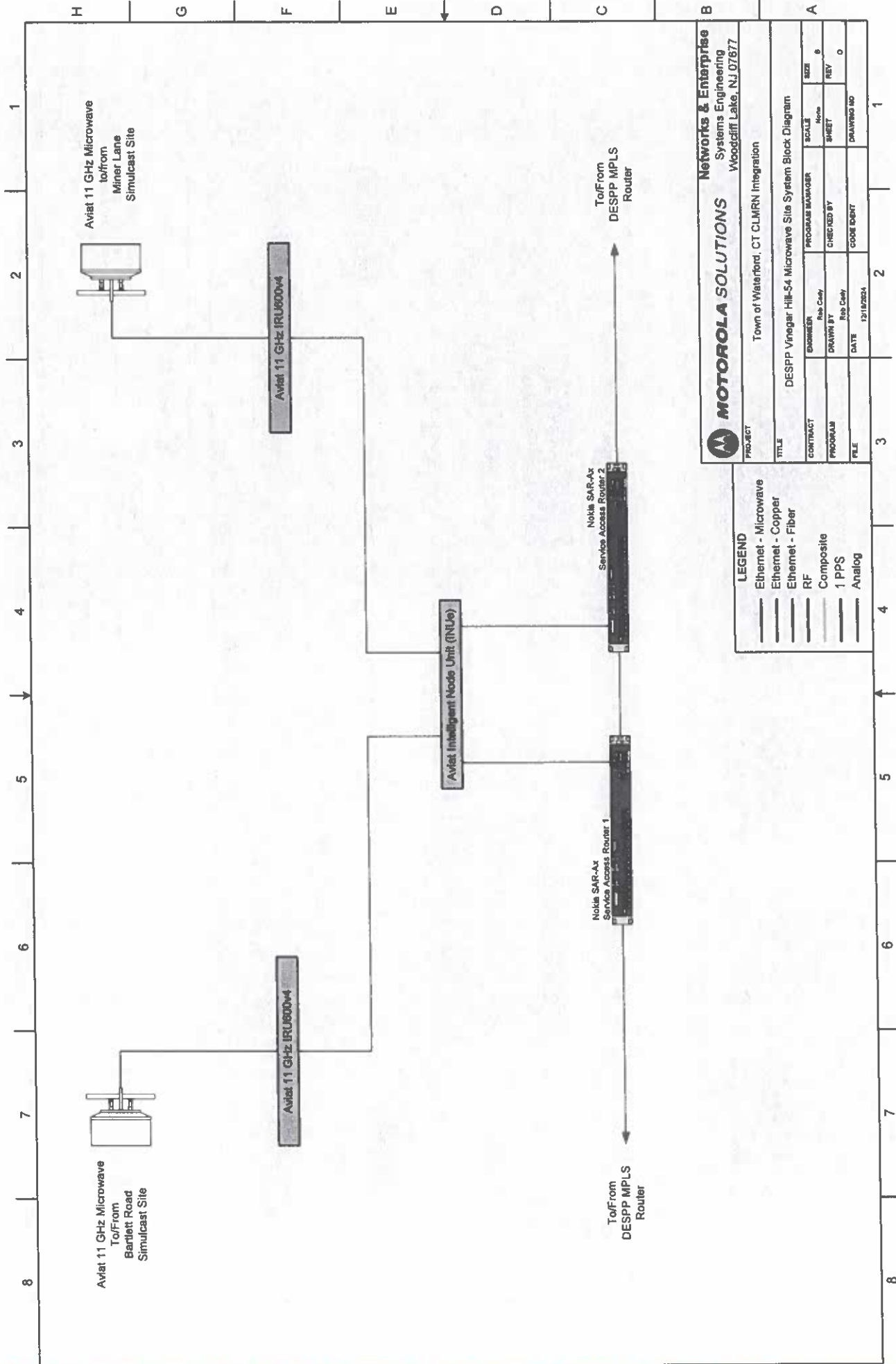




MOTOROLA SOLUTIONS Networks & Enterprise Systems Engineering
Woodcliff Lake, NJ 07877

PROJECT				Town of Waterford, CT CLMRN Integration			
TITLE				Fargo Road Fiber Site System Block Diagram			
CONTRACT	ENGINEER	PROGRAM MANAGER	SCALE	SIZE		REV	O
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PROGRAM	DRAWN BY	CHECKED BY	DATE	SHEET		DRAWING NO	
				None			
PLZ							

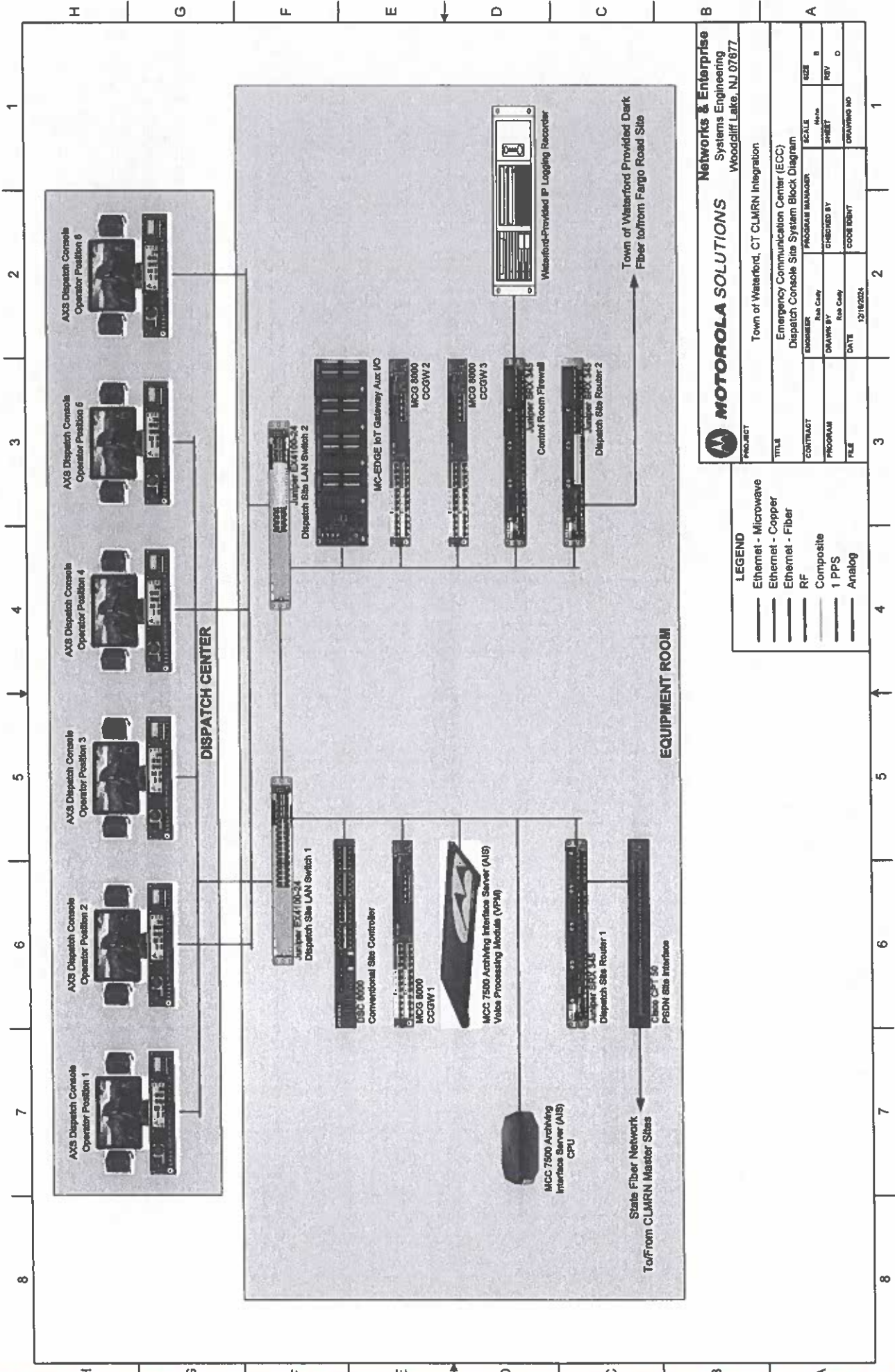
LEGEND	
——	Ethernet - Microwave
——	Ethernet - Copper
——	Ethernet - Fiber
——	RF
——	Composite
——	1 PPS
——	Analog



MOTOROLA SOLUTIONS Networks & Enterprise Systems Engineering
 Woodcliff Lake, NJ 07877

PROJECT			
Town of Waterford, CT CLMRN Integration			
TITLE			
DESPP Vinegar Hill-S4 Microwave Site System Block Diagram			
CONTRACT		ENGINEER	SCALE
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FILE		CHECKED BY	None
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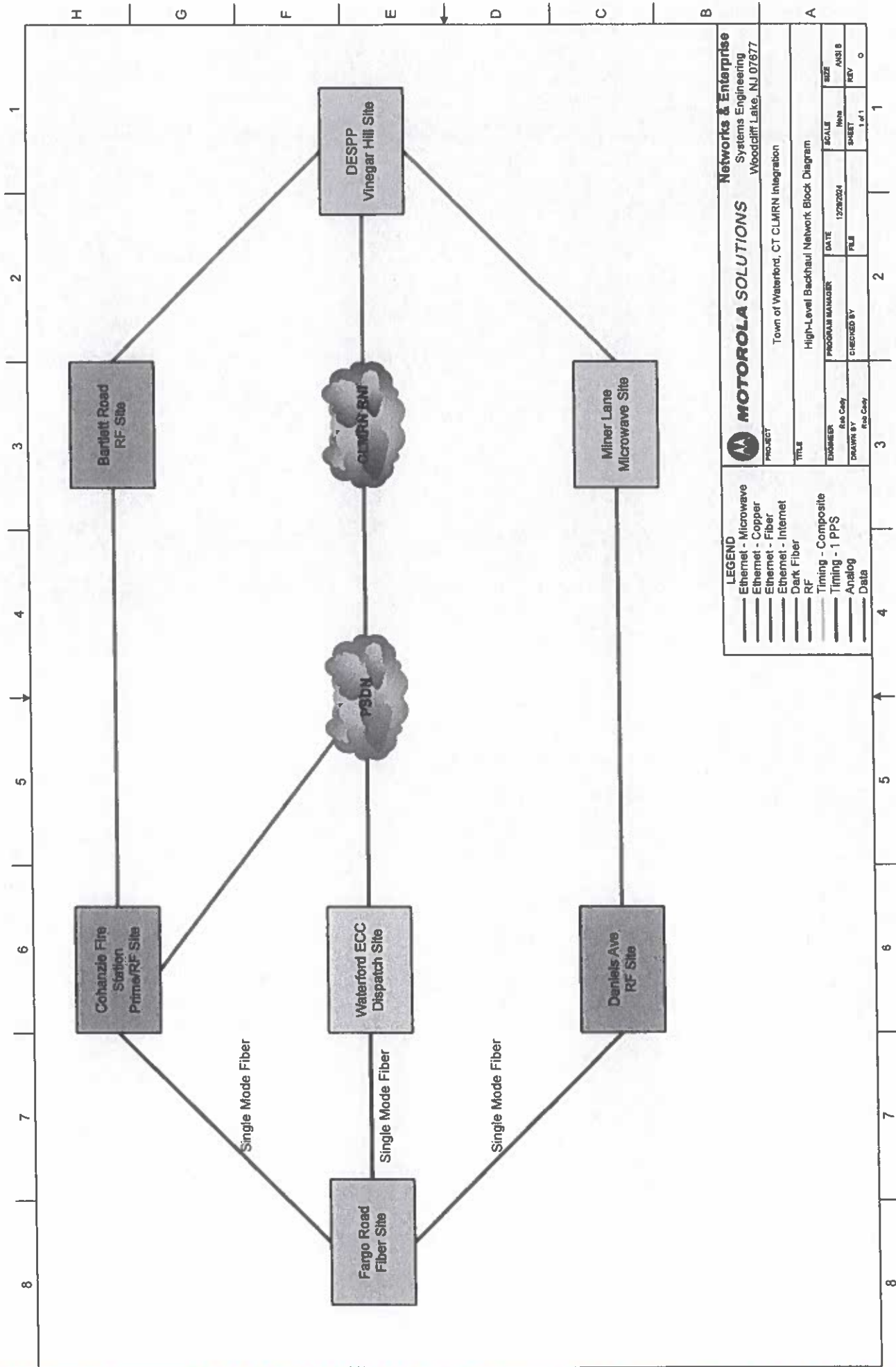
LEGEND	
—	Ethernet - Microwave
—	Ethernet - Copper
—	Ethernet - Fiber
—	RF
—	Composite
—	1 PPS
—	Analog



MOTOROLA SOLUTIONS Networks & Enterprise Systems Engineering
Woodcliff Lake, NJ 07877

PROJECT				Town of Waterford, CT CLMNRN Integration			
TITLE				Emergency Communication Center (ECC) Dispatch Console Site System Block Diagram			
CONTRACT		ENGINEER		PROGRAM MANAGER		SCALE	
DRAWN BY		CHECKED BY		DATE		SHEET	
FILE		CODE IDENT		DRAWING NO		REV	
				12/18/2024		D	

LEGEND	
—	Ethernet - Microwave
—	Ethernet - Copper
—	Ethernet - Fiber
—	RF
—	Composite
—	1 pps
—	Analog



Section 2

Statement of Work

2.1 Overview

This Statement of Work (SOW) describes the deliverables to be furnished to the Town of Waterford (the Town) and CT Department of Emergency Services and Public Protection (DESPP). The tasks described herein will be performed by Motorola Solutions, its subcontractors, DESPP, and the Town to implement the solution described in the System Description. It describes the actual work involved in installation, identifies the installation standards to be followed, and clarifies the responsibilities for Motorola Solutions, DESPP, and the Town during the project implementation. Specifically, this SOW provides:

- A description of the responsibilities for Motorola Solutions, DESPP, and the Town.
- The assumptions taken into consideration during the development of this project.

This SOW provides the most current understanding of the work required by all parties to ensure a successful project implementation. In particular, Motorola Solutions has made assumptions of the sites to be used for the new system. Should any of the sites change, a revision to the SOW and associated pricing will be required. It is understood that this SOW is a working document, and that it will be revised as needed to incorporate any changes associated with contract negotiations, and any other change orders that may occur during the execution of the project.

Motorola Solutions will install and configure the proposed equipment. Table 2-1 describes the tasks involved with installation and configuration.

Table 2-1: Installation Tasks

Tasks	Motorola Solutions	Town of Waterford	DESPP
PROJECT INITIATION			
Contract Finalization and Team Creation			
Execute contract and distribute contract documents.	X	X	
Assign a Project Manager as a single point of contact.	X	X	X
Assign resources.	X	X	X
Schedule project kickoff meeting.	X	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.			
Project Kickoff			
Introduce team, review roles, and decision authority.	X	X	X
Present project scope and objectives.	X		
Review SOW responsibilities and project schedule.	X	X	X
Schedule Design Review.	X	X	X
Deliverable: Completed project kickoff and scheduled Design Review.			
Design Review			

Tasks	Motorola Solutions	Town of Waterford	DESPP
Present the system design and operational requirements for the solution.	X		
Present installation plan.	X		
Present preliminary cutover plan and methods to document final cutover process (as required).	X		
Present configuration and details of site required by system design.	X		
Validate that Customer site can accommodate proposed equipment.	X	X	
Provide approvals required to add equipment to proposed existing sites.		X	X
Review safety, security, and site access procedures.	X		
Present equipment layout plans and system design drawings.	X		
Provide heat load and power requirements for new equipment.	X		
Complete the required forms required for frequency coordination and licensing.		X	X
Pay for frequency coordination costs. Only APCO fees per channel are included with this proposal.	X		
Assume liability and responsibility for providing all necessary Motorola Solutions' requested information for complete installation.		X	
Assume responsibility for issues outside of Motorola Solutions' control such as but not limited to, frequency coordination and backhaul.		X	X
Ensure that frequency availability and licensing meet project requirements.	X	X	X
Review and update design documents, including System Description, Statement of Work, and Acceptance Test Plan, based on Design Review agreements.	X		
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X		
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.			
SYSTEM INSTALLATION			
Equipment Order and Manufacturing			
Create equipment order and reconcile to contract.	X		
Manufacture Motorola Solutions-provided equipment necessary for system based on equipment order.	X		
Procure non-Motorola Solutions equipment necessary for the system.	X		
Deliverable: Equipment procured and ready for shipment.			
System Staging			
Ship equipment needed for staging (field staging).	X		
Provide information on room layouts, or other information necessary for the assembly to meet field conditions.		X	X
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X		
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X		

Tasks	Motorola Solutions	Town of Waterford	DESPP
Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).	X		
Assemble required subsystems to assure system functionality.	X		
Power up, load application parameters, program, and test all staged equipment.	X		
Confirm system configuration and software compatibility with the existing system.	X		
Inventory the equipment with serial numbers and installation references.	X		
Perform factory functional acceptance tests of system features.	X		
Conduct site and system level testing.	X		
Deliverable: System staged and ready for shipment.			
Equipment Shipment and Storage			
Provide secure location for solution equipment (up to 3 months).	X		
Pack and ship solution equipment to the identified, or site location(s).	X		
Receive solution equipment.	X		
Inventory solution equipment.	X		
Deliverable: Solution equipment received and ready for installation.			
General Installation			
Deliver solution equipment to installation location.	X		
Coordinate receipt of and inventory solution equipment with designated contact.	X		
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	X		
Provide system interconnections that are identified as the responsibility of the Town or alternatives to the proposed transport. Motorola has identified a transport plan using MSI proposed microwave between the RF sites, prime site and the DESPP Vinegar Hill site and for the use of the existing DESPP transport network to the core along with Town fiber and the existing PSDN network for console site and prime site transport as detailed in Section 1.4 Proposed Equipment. If any of the proposed or existing site links are not viable (due to structural failure, path issues, or inability to deliver the link specifications etc.), it is the Town's responsibility for interconnectivity. The use of PSDN requires an application for service as well as an SFP module for the circuit which are the responsibility of the Town of Waterford		X	
Connect installed equipment to the provided ground system.	X		
Label equipment, racks, and cables.	X		
Note any required changes to the installation for inclusion in the "as-built" system documentation.	X		

Tasks	Motorola Solutions	Town of Waterford	DESPP
Remove, and transport of old equipment from existing Dispatch Center. This includes console and associated rack equipment only.	X		
Remove, transport and dispose of old fixed equipment from RF sites.	X		
Install Microwave links: This includes license application, network engineering, surveys, MW dish, Waveguide and associated accessories installs for these links. Note: Preliminary path studies have been conducted, however physical path studies will need to be conducted to confirm the viability of the links.	X		
Deliverable: Equipment installed.			
Remote Site Installation and Configuration			
Install fixed equipment contained in the equipment list and system description.	X		
Configure DESPP ASTRO 25 system to support the new RF sites.	X		
Verify site link performance, prior to the interconnection of the solution equipment to the link equipment.	X		
Integrate the RF sites into the system to ensure proper operation.	X		
Deliverable: ASTRO 25 Remote sites equipment installation completed.			
Console Installation and Configuration – Dispatch Center			
Identify circuits for connection to console and a demarcation point located within 25 feet of the console interface.		X	
Configure DESPP ASTRO 25 system to support the new console site.	X		
Verify site link performance, prior to the interconnection of the solution equipment to the link equipment.	X		
Connect console to circuit demarcation points.	X		
Install non-plenum Cat-6 network cable.	X		
Install PC keyboard, mouse and monitor on existing furniture.	X		
Install Command Central Hub with Standalone PC and purchased peripheral console equipment in accordance with R56 standards and state/local codes.	X		
Develop templates for console programming.	X	X	X
Perform console programming and configuration.	X		
Deliverable: Console equipment installation completed at existing Dispatch Center.			
Logging Recorder			

Tasks	Motorola Solutions	Town of Waterford	DESPP
Supply voice logging equipment for IP recording including any required hardware, software and implementation services to interface to the MSI furnished AIS. Purchase and include the API cost for the Waterford provided Logger.		X	
Provide AIS to interface to Waterford furnished logging equipment.	X		
Deliverable: Logging equipment installation completed.			
Develop User Radio Fleetmap			
Review and determine modifications to existing fleetmap.		X	X
Review fleetmapping requirements with Customer, including user ID and talkgroup structures.		X	X
Designate user group representatives for the user groups, to make timely decisions on their behalf.		X	X
Develop templates.	X	X	X
Participate in a meeting to finalize any changes among user groups.		X	X
Review and approve fleetmap templates.		X	X
Program approved templates into radios.	X		
Deliverable: Fleetmap plan completed and approved by Customer.			
ASTRO 25 Core Configuration			
Provide list of subscriber serial numbers for subscriber ID assignment.	X		
Provide list of subscriber IDs for loading into the Zone Controller.		X	X
Load subscriber IDs in the Zone Controller.			X
Provide required radio ID and alias information to enable alias database setup for interface to consoles.		X	X
Deliverable: ASTRO 25 Core configuration completed.			
Control Station Installation and Configuration			
Provide the locations of control stations at the location.		X	
Survey mounting locations and develop control station installation plan.	X		
Provide adequate space, grounding, and power for the control station installation. A clear 2' x 2' horizontal surface allowing for the installation of the control station and access by its intended user. A ground point within 15' of the control station and power within 6' of the control station power supply.		X	
Install RF local control stations identified in the equipment list.	X		
Perform control station programming.	X		
Deliverable: Control station equipment installation completed.			
Mobile Radio Installation and Programming			

Tasks	Motorola Solutions	Town of Waterford	DESPP
Develop and approve prototypes for each type of mobile installation.		X	X
Test features and functionalities of the mobile templates.		X	
Program the mobile radios identified in the equipment list in accordance with the programming templates, client software, and fleetmap. A "one-time only" programming is included in the project pricing with both existing and trunked system programmed.	X		
Provide vehicle list and work with Motorola Solutions to develop mobile equipment requirements.		X	
Provide adequate number of vehicles for installations according to the project/installation schedule.		X	
Remove the existing mobiles from the vehicle at the same time of installation of the new radios.	X		
Install all the mobiles in the vehicles (in same location as existing one), as identified in the equipment list, and according to the installation schedule.	X		
Provide suitable installation location (indoor facility with electrical power).		X	
Permanently mount the antennas on each vehicle appropriate for the vehicle type. Install the antennas close to the same location as the existing antennas in vehicles that already have antennas installed. If applicable, plug the old antenna hole with an appropriate rubber plug.	X		
Install the antennas on the roof, where practical, on the new antenna installations. If mobile antenna cannot be installed on the roof, determine an alternative location.	X		
Deliverable: Mobile radios installed and accepted.			
SYSTEM OPTIMIZATION AND TESTING			
R56 Site Audit			
Perform R56 site-installation quality-audits, verifying proper physical installation and operational configurations.	X		
Create site evaluation report to verify site meets or exceeds requirements, as defined in Motorola Solutions' R56 Standards and Guidelines for Communication Sites.	X		
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.			
Interference			
Performance degradation of the System due to on-site RFI-EMI shall be promptly investigated and corrected by Motorola Solutions during the Warranty Term and, if exercised, any Maintenance Term of this Contract (A-99-001) at Motorola Solutions' expense, if the interference is due to a defect of any Product installed by Motorola Solutions.	X		
Resolve any interference caused by equipment not supplied by Motorola Solutions.		X	
Solution Optimization			

Tasks	Motorola Solutions	Town of Waterford	DESPP
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X		
Verify that all audio and data levels are at optimized settings.	X		
Verify communication interfaces between devices for proper operation.	X		
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X		
Deliverable: Completion of System Optimization.			
Functional Acceptance Testing			
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X		
Witness the functional testing (if desired).		X	X
Document all issues that arise during the acceptance tests.	X		
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X		
Resolve any minor task failures before Final System Acceptance.	X		
Document the results of the acceptance tests and present for review.	X		
Review and approve final acceptance test results.		X	
Deliverable: Completion of functional testing and approval by Customer.			
Coverage Testing			
Determine the required number of test vehicles for simultaneous testing of multiple service areas.	X	X	
Perform coverage testing according to the Coverage Acceptance Test Plan (CATP), Submit test reports within the agreed period.	X		
For any area that fails, take corrective action.	X		
Retest any areas for which corrective action has been taken.	X		
Document all issues that arise during the coverage testing.	X		
Submit final test reports, according to the agreed period.	X		
Provide the required number of test vehicles, drivers, and resources to witness the coverage testing.		X	
Review and approve test results.		X	X
Deliverable: Completion of coverage testing and approval by Customer.			
PROJECT TRANSITION			
Training			
Schedule console training to coincide with console staging functional acceptance testing	X	X	
Provide training facility.	X		

Tasks	Motorola Solutions	Town of Waterford	DESPP
Train-the-Trainer Training for 4 People - 2hr of Administration/Console Configuration Training - 2hr of Operator Training	X	X	
Attend proposed training classes.		X	
Deliverable: Training coursework completed.			
Cutover			
Finalize Cutover Plan.	X	X	X
Input user radio information into the system database and activation, as required.			X
Conduct cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	X		
Notify the personnel affected by the cutover of the date and time planned for cutover.		X	X
Provide ongoing communication with users regarding the project and schedule.	X	X	X
Cut over users and ensure that RF sites are operating on ASTRO 25 system.	X		
Resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	X		
Assist Motorola Solutions with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist items.	X	X	X
Deliverable: Migration to new system completed, and punchlist items resolved.			
Transition to Warranty			
Review the items necessary for transitioning the project to warranty support and service.	X		
Motorola Solutions to provide services during year 1 warranty which align with the proposed services.	X		
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	X		
Participate in the Transition Service/Project Transition Certificate (PTC) process.		X	X
Deliverable: Service information delivered and approved by Customer.			
Finalize Documentation and System Acceptance			
Provide manufacturer's installation material, part list and other related material to Customer upon project completion.	X		

Tasks	Motorola Solutions	Town of Waterford	DESPP
Provide an electronic as-built system manual on CD or other Customer preferred electronic media. The documentation will include the following: - Site Block Diagrams. - Site Floor Plans. - Site Equipment Rack Configurations. - Antenna Network Drawings for RF Sites (where applicable). - ATP Test Checklists. - Functional Acceptance Test Plan Test Sheets and Results. - Equipment Inventory List. Documents will be delivered in Adobe PDF format.	X		
Receive and approve documentation.		X	X
Execute Final Project Acceptance.	X	X	X

2.2 Civil Work – Site development

2.2.1 Site Development at Bartlett Road Site

Motorola Solutions is proposing to install three (3) LMR antenna, two (2) GPS, one (1) tower top amplifier (TTA), transmission lines, and AC electrical circuits for DC power plants.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included.
- Existing structure to be used for antennas – 180 ' Self-supported tower.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare a lease exhibit, sketch of the site to communicate to the property owner the proposed lease space, and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Perform National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the

proposed communication facility "may have a significant environmental impact" and thus require additional documentation, submittals, or work.

- Provide for a structural analysis performed by SBA.
- Perform a TIA/EIA 222 Rev-H mount analysis for three (3) different mounts.

Site Zoning and Permitting

- Preparation, submission and tracking of application for local permit fees (zoning, electrical, building etc.) and procurement of information necessary for filing.
- Obtain the building permits, and coordinate any inspections with local authorities that may be needed to complete site development work.

Site Mobilization

- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Site Ground Test

- Conduct one (1) clamp on ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Town of Waterford, CT.

Antenna and Transmission Line Installation

- Install one (1) omni antenna for the RF system.
- Install two (2) directional panels for the RF system.
- Supply and install one (1) HS6-K or equivalent heavy-duty mount for omni antenna.
- Supply and install one (1) PM1 or equivalent panel antenna stand-off mount(s) for panel antenna.
- Install two (2) GPS antennas.
- Install one (1) tower top amplifier.
- Install up to 230 linear feet of 1/2-inch transmission line.
- Install up to 690 linear feet of 1-5/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Supply and install 24-inch-wide cable ladder to support RF transmission lines (180 linear feet).
- Supply and install one (1) ground buss bar at the bottom of the antenna support structure and one (1) at the cable entrance for grounding RF cables before they make horizontal transition.

Existing Facility Improvement Work

- Supply and install one (1) 20-amp breaker in the distribution panel and wire to DC/AC inverter located on an average within 35 cable feet.
- Supply and install one (1) 20-amp breaker in the distribution panel and duplex outlet for the dehydrator located on an average within 35 cable feet.
- Supply and install (2) 30-amp breakers in the distribution panel and wire to DC power plant rectifiers located on an average within 35 cable feet.

2.2.2 Site Development at Cohanzie Fire Station Site

Motorola Solutions is proposing to install three (3) LMR antenna, two (2) GPS, one (1) TTA, transmission lines, and AC electrical circuits for DC Power Plants.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included.
- Existing structure to be used for antennas – 170 ' Self-supported tower.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare a lease exhibit, sketch of the site to communicate to the property owner the proposed lease space, and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Perform National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility "may have a significant environmental impact" and thus require additional documentation, submittals, or work.
- Provide for a structural analysis performed by American Tower Corporation
- Perform a TIA/EIA 222 Rev-H mount analysis for three (3) different mounts.

Site Zoning and Permitting

- Preparation, submission and tracking of application for local permit fees (zoning, electrical, building etc.) and procurement of information necessary for filing.
- Obtain the building permits, and coordinate any inspections with local authorities that may be needed to complete site development work.

Site Mobilization

- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Site Ground Test

- Conduct one (1) clamp on ground resistance tests of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of the Town of Waterford, CT.

Site Components Installation

- Supply and install one (1) cable ice bridge extension from the existing cable bridge to the new proposed cable entry panel to support the new proposed cables (up to 15 linear feet).

Antenna and Transmission Line Installation

- Install one (1) omni antenna for the RF system.

- Install two (2) directional panels for the RF system.
- Supply and install one (1) HS6-K or equivalent heavy-duty mount for omni antenna.
- Supply and install two (2) PM1 or equivalent panel antenna stand-off mounts for panel antenna.
- Install two (2) GPS antennas.
- Install one (1) tower top amplifier.
- Install up to 220 linear feet of 1/2-inch transmission line.
- Install up to 660 linear feet of 1-5/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Supply and install 24-inch-wide cable ladder to support RF transmission lines (170 linear feet).
- Supply and install two (2) ground buss bars at the bottom of the antenna support structure and at the cable entry panel for grounding RF cables before they make horizontal transition.
- Supply and install one (1) external 6-port cable entry panel.

Existing Facility Improvement Work

- Supply and install one (1) 6-port internal cable entry port in ceiling.
- Supply and install one (1) copper ground buss bar at new internal cable entry panel and ground to equipment room primary ground bar.
- Supply and install one (1) 20-amp breaker in the distribution panel and wire to DC/AC inverter located on an average within 35 cable feet.
- Supply and install one (1) 20-amp breaker in the distribution panel and duplex outlet for the dehydrator located on an average within 35 cable feet.
- Supply and install (2) 30-amp breakers in the distribution panel and wire to DC power plant rectifiers located on an average within 35 cable feet.

Site Assumptions (Specific to Cohanzie Fire Station)

- There is access above the ceiling to route RF cables to the proposed internal cable entry port. Removal of drywall (Sheet Rock) to access above the ceiling is excluded from the proposal.
- Concrete drilling/coring of the wall for the new cable entry port is excluded from the proposal, based on a standard wooden wall construction.

2.2.3 Site Development at Daniels Ave Site

Motorola Solutions is proposing to install three (3) LMR antennas, two (2) GPS antennas, one (1) TTA, transmission lines, and AC electrical circuits for DC power plants.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included
- Existing structure to be used for antennas – 180' Self-supported tower.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).

- Prepare a lease exhibit, sketch of the site to communicate to the property owner the proposed lease space, and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail.
- Prepare record drawings of the site showing the as-built information.
- Perform National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility "may have a significant environmental impact" and thus require additional documentation, submittals, or work.
- Provide for a structural analysis performed by SBA.
- Perform a TIA/EIA 222 Rev-H mount analysis for two (2) different mounts.

Site Zoning and Permitting

- Preparation, submission and tracking of application for local permit fees (zoning, electrical, building etc.) and procurement of information necessary for filing.
- Obtain the building permits, and coordinate any inspections with local authorities that may be needed to complete site development work.

Site Mobilization

- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Site Ground Test

- Conduct one (1) clamp on ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of the Town of Waterford, CT.

Antenna and Transmission Line Installation

- Install three (3) omni antennas for the RF system.
- Supply and install three (3) HS6-K or equivalent heavy-duty mount for omni antenna.
- Install two (2) GPS antennas.
- Install one (1) tower top amplifier.
- Install up to 230 linear feet of 1/2-inch transmission line.
- Install up to 690 linear feet of 1-5/8-inch transmission line.
- Perform sweep tests on transmission lines.

Existing Facility Improvement Work

- Supply and install one (1) 20-amp breaker in the distribution panel and wire to DC/AC Inverter located on an average within 35 cable feet.
- Supply and install one (1) 20-amp breaker in the distribution panel and duplex outlet for the dehydrator located on an average within 35 cable feet.
- Supply and install (2) 30-amp breakers in the distribution panel and wire to DC power plant rectifiers located on an average within 35 cable feet.

2.2.4 Site Development at Miner Lane Site

Motorola Solutions is proposing to provide Architectural and Engineering Services to support the microwave installation.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included
- Existing structure to be used for antennas – 160 ' Monopole.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare a lease exhibit, sketch of the site to communicate to the property owner the proposed lease space, and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail
- Prepare record drawings of the site showing the as-built information.
- Perform National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility "may have a significant environmental impact" and thus require additional documentation, submittals, or work. Perform a cultural resource study, as needed to identify sensitive historical and archaeological monuments that might be impacted by propose construction.
- Provide for a structural analysis performed by American Tower Corporation.
- Perform a TIA/EIA 222 Rev-H mount analysis for one (1) mount.

Site Zoning and Permitting

- Preparation, submission and tracking of application for local permit fees (zoning, electrical, building etc.) and procurement of information necessary for filing.
- Obtain the building permits, and coordinate any inspections with local authorities that may be needed to complete site development work.

Site Ground Test

- Conduct one (1) clamp on ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Waterford, CT.

2.2.5 Site Development at DESPP Vinegar Hill-54 Site

Motorola Solutions is proposing to provide Architectural and Engineering Services to support the microwave installation.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included
- Existing structure to be used for antennas – 180' Self-supported tower.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare a lease exhibit, sketch of the site to communicate to the property owner the proposed lease space, and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail
- Prepare record drawings of the site showing the as-built information.
- Perform National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility "may have a significant environmental impact" and thus require additional documentation, submittals, or work. Perform a cultural resource study, as needed to identify sensitive historical and archaeological monuments that might be impacted by proposed construction.
- Provide for a structural analysis performed by American Tower Corporation
- Perform a TIA/EIA 222 Rev-H mount analysis for one (1) mount.

Site Zoning and Permitting

- Preparation, submission and tracking of application for local permit fees (zoning, electrical, building etc.) and procurement of information necessary for filing.
- Obtain the building permits, and coordinate any inspections with local authorities that may be needed to complete site development work.

Site Ground Test

- Conduct one (1) clamp on ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Waterford, CT.

2.2.6 Customer Responsibilities Related to Site Development (Project Wide)

- If required, prepare and submit Electromagnetic Energy (EME) plans for the site (as a licensee) to demonstrate compliance with FCC RF Exposure guidelines.
- All required site acquisition, lease negotiations and associated fees. Includes taxes and reoccurring lease payments. Includes securing approvals for proposed antenna mounting in the locations and heights required to ensure system performance. Includes all proposed antennas mounting structures.
- Provide as-built structural and foundation drawings of the existing towers along with geotechnical report(s) for Motorola to conduct a structural analysis.
- Pay for the usage costs of power, leased lines and generator fueling both during the construction/installation effort and on an on-going basis.
- As applicable (based on local jurisdictional authority), the Customer will be responsible for any installation or up-grades of the electrical system in order to comply with NFPA 70, Article 708
- Provide a right of entry letter from the site owner for Motorola Solutions to perform the work that is noted as being the responsibility of Motorola Solutions.
- Ensure that there is clear and stable access to the site for the delivery of equipment and materials. Existing roadway access must be available at the site for these vehicles to maneuver under their own power, without assistance from other equipment. Includes providing space for set-up and staging of equipment and storage of materials unless noted as being the responsibility of Motorola in the detailed SOW provided for each site proposed.
- Arrange for space on the proposed antenna mounting structures (i.e. towers) for installation of new antennas at the heights proposed.
- If not identified in the statement of work, provide support facilities for the antenna cables (includes cable ladder, entry ports, waveguide bridge, etc.) to facilitate routing and mounting of antenna cabling from the shelters/equipment rooms to the mounting locations on the proposed antenna mounting structures.
- Provide space, HVAC, backup power (generator), outlets, grounding, surge suppression, lighting, and cabling facilities as required to support the new equipment and antennas to be installed by Motorola's and for compliance with the most current version of R56 specifications and guidelines. Ceiling and cable tray heights in the equipment rooms should be such as to accommodate 7-1/2-foot equipment racks, and the ceiling should be 9 feet or greater.
- Confirm that there is adequate utility service (electric) to support the new equipment and ancillary equipment.
- Confirm that there are existing generators to support the electrical loading of the new equipment is sufficient to support the new equipment and ancillary equipment loads.
- If required, remove or relocate any existing facilities, equipment, and utilities to create space for new site facilities and equipment.
- If required, provide any physical improvements (walls, roofing, flooring, painting, etc.) necessary to house the equipment in the existing rooms or shelters.
- Upgrade the existing site grounding and transient voltage suppression systems to Motorola's most current version of the R56 Standards, and supply a single point system ground, of ten (10) ohms or less, to allow for grounding of all new equipment to be installed by Motorola Solutions. Supply a grounding tie point within ten (10) feet of the-Motorola-supplied equipment.
- Pay for any structural upgrades or extensions of the antenna support structure necessary to accommodate the proposed antennas loading.
- Review and approve site design drawings within seven (7) calendar days of submission by Motorola or its subcontractor(s). Should a re-submission be required, the Customer shall review and approve the re-submitted plans within seven (7) calendar days from the date of submittal.

Review and approve site design drawings within seven (7) calendar days of submission by Motorola or its subcontractor(s). Should a re-submission be required, the Customer shall review and approve the re-submitted plans within 7 calendar days from the date of submittal.

- Customer is responsible for any construction management, special vendor/installation fees at proposed third party owned towers.
- Customer is responsible for any actions or requirements directed by the State of Connecticut Siting Council as a result of the initial Motorola Solutions submitted CSC application.

2.2.7 General Site Development Assumption/Clarifications

The following is a list of the assumptions made by Motorola Solutions in developing our proposed site development scope of work and pricing.

- All clarifications and exceptions contained in this Section (General Site Development Assumptions/Clarifications) take precedence over any other section of this Contract
- Pricing based on local prevailing wages. No mandatory union workers or mandatory minority workers are required for the work proposed.
- All work performed during normal business hours as dictated by time zone (Monday thru Friday, 7:30 a.m. to 5:00 p.m.).
- All work noted as being the responsibility of Motorola is to be completed utilizing Motorola preferred contractors.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation is excluded from Motorola's proposal.
- Upgrades/structural improvements to existing antenna support structures (towers, rooftops, water tanks, etc.) and their foundations necessary to accommodate the new antennas proposed are excluded.
- A maximum of 30 days will be required for obtaining approved building permits and 60 days for zoning approvals from time of submission.
- The restoration of the site surroundings by fertilizing, seeding and strawing the disturbed areas will be adequate.
- If as a result of NEPA studies, any jurisdictional authority should determine that a proposed communications facility "may have a significant environmental impact", the environmental impact studies or field-testing and evaluation related to such determination have not been included.
- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.
- The existing ground system and soil resistivity at the proposed sites is sufficient to achieve resistance of 10 ohms or less. Soil enhancements, grounding system design enhancements or upgrades to existing site grounding systems that might be required to achieve the 10 Ohms resistivity are excluded. Communications site grounding will be designed and installed per Motorola's Standards and Guidelines for Communications Sites (R56) based on normal soils and adequate soil resistivity.
- Structural and foundation as-built drawings of the proposed antenna support structures (i.e. towers, rooftops, monopoles, etc.) will be made available to preclude the need for ultrasonic testing, dispersive wave testing geotechnical borings or exploratory excavation.
- Installations or up-grades of existing site electrical systems in order to comply with NFPA 70, Article 708 are excluded.

- Underground utilities are not present in the construction areas. The cost for repairing, relocating or replacing existing utilities is not included in this proposal.
- Structural analyses for towers or other structures that have not been performed by Motorola will relinquish Motorola from any responsibility for the analysis report contents and/or recommendation therein.
- Protective grating over communications shelters, generators, fuel tanks or outdoor cabinets has not been included in this proposal.
- Customer review and approval of site design drawings will occur within seven (7) calendar days of submission by Motorola or its subcontractor(s). Should a re-submission be required, the Customer shall review and approve the re-submitted plans within seven (7) calendar days from the date of submittal. Motorola Solutions has included up to two (2) revisions of drawings and any additional revisions will be handled in accordance with the formal change order process.
- Cranes, lifts, and specialty access equipment are considered outside of standard project scope unless otherwise declared in the detailed statement of work provided for each site. Assumes all towers are climbable and antennas can be installed without the need of cranes and/or lifts.
- Winter conditions (snow, ice, freezing) are excluded.
- Where Motorola is proposing to install new equipment in existing rooms/shelters, new antennas on existing towers and where existing equipment has been proposed to be reutilized. It has been assumed unless noted otherwise in the statement of work provided that.
 - Existing electrical service to these rooms/shelters has sufficient capacity to support the loading of the new equipment proposed pending a formal load study to be conducted post-contract award.
 - Where existing generators are proposed to be reutilized, they have sufficient capacity to handle the electric load of the new equipment proposed to be installed by MSI.
 - Where existing HVAC systems are proposed to be reutilized they have sufficient capacity to support the heat loading of the new equipment proposed by MSI.
 - Where existing UPS systems are proposed to be reutilized, they have sufficient capacity to support the electrical loading of the new equipment proposed.
 - The existing room/shelter floors have sufficient structural capacity to support the weight loading of the new equipment proposed by Motorola. Structural improvements to floors or to any structures are excluded.
 - The proposed/existing antenna support structures (i.e. towers, rooftops, monopoles, etc.) are structurally capable of supporting the new antenna, cables, and ancillary equipment proposed and will not need to be removed or rebuilt at the existing site. The towers or supporting structures meet all applicable EIA/TIA-222 structural, foundation, ice, wind, and twist and sway requirements. Motorola has not included any cost for structural or foundation upgrades to the antenna support structure.
 - Lead paint testing of existing painted towers has not been included.
 - If not identified in the statement of work, there is existing cable management infrastructure (i.e. cable ladder, cable ports, etc.) available at the proposed sites to support the new equipment/antenna cabling proposed.
 - Proposed antenna heights on existing towers will be available at the time of installation.
 - Third party (Site Owner) consultant fees will not be required and are excluded.
 - Pricing has been based on National codes such as IBC or BOCA. Local codes or jurisdictional requirements have not been considered in this proposal.

Motorola Solutions Clarifications

- Motorola's proposal is conditioned upon the ability of Motorola to complete the project at the prices set forth herein. Due to significant market volatility and material price fluctuations in raw materials such as steel, copper, finished wood and concrete, Motorola reserves the right to review all material

pricing prior to placing any order for materials or equipment required for new towers or shelters and related civil work at each site in order to verify price validity. In the event of a cost increase in material, equipment or energy occurring during performance of the project through no fault of Motorola, the contract price, time of completion and/or contract requirements shall be equitably adjusted by Change Order in accordance with the procedures of the contract documents.

- The freight rates are estimated. Motorola reserves the right to apply a fuel surcharge to the quoted freight rates on all shipments based on the cost of diesel at the time of shipment.

2.2.8 Site Development Completion Criteria

- Site development completed per issued for construction (IFC) construction drawings, project requirements, contractual obligations (including any customer/Motorola approved changes) and approved by the Town of Waterford, CT.

2.3 Assumptions

The following assumptions were made for the fixed equipment:

Dispatch Console

- Assumes one time installation of console dispatch positions on customer provided furniture.
- All cable extensions (for keyboard / video / mouse) etc. to be provided by customer.
- Does not include integration to intercoms or panic buttons.
- Console training will consist of train-the-trainer session for up to four (4) individuals for four (4) hours to include console administrator and console operator training only.

RF Sites

- Customer to make ample space for equipment at sites.
- Removed equipment will be transported to NorcomCT for disposal.
- Additional alarming points outside of Motorola proposed equipment (sensors, etc.) will be Waterford's responsibility to furnish and install.

The following assumptions were made for the subscriber services:

Control Station Installations

- Assumes workspaces are free of all environmental, chemical, biologic, and other hazards. These include but are not limited to, asbestos, lead, hazardous chemical, hazardous building materials, radiologic hazards, rodent or animal droppings, mold and/or any other hazards that will create a hazardous workspace.
- Costs for hazard testing or remediation have not been included.
- The customer is responsible for providing a hazard free workspace for all on site work.
- Assumes use of existing antenna and antenna systems including jumpers.
- Assumes customer provides power for control stations.
- Does not include the cost of permits or permit fees or any costs associated to permit requests or inspections.
- R56 audit is not included.
- Work to be completed during normal business hours.

Mobile Installations

- Customer will furnish a vehicle inventory.
- Mobile installation price assumes installation of new radio in the same configuration (remote mount or dash mount), location and antenna location as the radio being removed.
 - Any relocation or special mounting of radio and/or antenna will require customer/Motorola authorization and may incur additional charges.
- Assumes all vehicles have a 12VDC or existing converter and a negative ground electrical system. Vehicles with other electrical systems may require a converter (not included in price shown).
- Standard installation assumes a vehicle under one ton (including but not limited to sedan, pickup, SUV) requiring standard equipment and antenna mounting.
 - Vehicles with consoles, partitions, prisoner compartments, speciality vehicles, hybrid vehicles, fire apparatus, command vehicles, EMS vehicles, ambulances, vehicles with electrical system other than 12VDC-negative ground, and other non-standard vehicles are not considered to be "standard".
- Heavy duty installation assumes vehicle over one ton (including but not limited to dump body, plow trucks).
- Specialty vehicle is a non-standard vehicle or machine (including but not limited to mower, tractor, sweeper, backhoe, loader).
- Price assumes ground exists for antenna installation in all vehicles. Ground plates, if needed, will be quoted and billed as extra.
- All vehicles are assumed to have a 12VDC, negative ground electrical system. Vehicles with other electrical systems require a converter for an additional charge.
- Radio installation does not include interface to ancillary equipment unless otherwise noted. Ancillary equipment includes but is not limited to Knox Box, headset system, intercom system, additional mic and speaker, vehicle repeater, AVL system.
- Customer to provide a steady flow of vehicles for installation work to be completed. The quantity of vehicle installations per day will be communicated during installation coordination. Excessive wait time may incur additional cost.
- Assumes work is completed during normal business hours.
- Customer to provide location for installation work to be completed that is protected from the weather and has electrical power available.

Section 3

Acceptance Test Plan

3.1 Preliminary Functional Acceptance Test Plan

The following is a preliminary Functional Acceptance Test Plan for the proposed Simulcast Subsystem Add-On and Console Subsystem Add-On Site.

3.1.1 Wide Area Trunking - TDMA Only Sites

3.1.1.1 Talkgroup Call

DESCRIPTION

The Talkgroup is the primary level of organization for communications on a trunked radio system. Radios with Talkgroup call capability will be able to communicate with other members of the same Talkgroup. This provides the effect of a private channel down to the Talkgroup level.

This test will demonstrate that a Talkgroup transmission initiated by a radio user will only be heard by system users, which have, the same Talkgroup selected. As with other types of calls, Talkgroup calls can take place from anywhere in the system.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1
RADIO-2 - SITE 2 - TALKGROUP 1
RADIO-3 - SITE 1 - TALKGROUP 2
RADIO-4 - SITE 2 - TALKGROUP 2

TEST PROCEDURE

- Step 1.** Initiate a Wide Area Call with RADIO-1 in TALKGROUP 1.
- Step 2.** Observe that only RADIO-2 will be able to monitor and respond to the call.
- Step 3.** Initiate a Wide Area Call with RADIO-3 in TALKGROUP 2.
- Step 4.** Observe that only RADIO-4 will be able to monitor and respond the call.

Pass_____ Fail_____

3.1.1.2 Continuous Assignment Updating

DESCRIPTION

When a talkgroup is assigned a voice channel, the site controller continues to transmit the channel assignment on the control channel for the duration of the talkgroup call. Radios coming into use on the system are automatically sent to voice channels with conversations in progress involving their selected talkgroups.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1
RADIO-3 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Turn OFF RADIO-1.
- Step 2.** Initiate a Talkgroup Call using RADIO-2 and verify RADIO-3 hears the audio.
- Step 3.** While the Talkgroup Call is in progress, turn ON RADIO-1.
- Step 4.** Observe RADIO-1, which was just brought back into service, joins the Talkgroup Call already in progress.
- Step 5.** End the talkgroup call.
- Step 6.** Switch RADIO-1 to another talkgroup.
- Step 7.** Initiate a Talkgroup Call from RADIO-2 to RADIO-3.
- Step 8.** While the Talkgroup Call is in progress, set RADIO-1 back to TALKGROUP 1.
- Step 9.** Observe that RADIO-1 joins the Talkgroup Call already in progress.

Pass_____ Fail_____

3.1.1.3 Audio Interrupt / Interrupt Never Mode

DESCRIPTION

A radio PTT request may be received for a group already active and currently being sourced by another radio unit. The talkgroup can be flagged to either allow or disallow the new PTT. If allowed, the latest PTT request will be granted and become the source of the call.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1
RADIO-3 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Verify TALKGROUP 1's template is set up as Audio Interrupt Never.
- Step 2.** Using RADIO-1, initiate a call on TALKGROUP 1.
- Step 3.** Verify both RADIO-2 and RADIO-3 monitor the audio.
- Step 4.** Using RADIO-3, initiate a call on TALKGROUP 1.
- Step 5.** Verify that RADIO-3 receives a reject and that RADIO-2 continues to listen to RADIO-1.
- Step 6.** Dekey both Radios.

Pass_____ Fail_____

3.1.2 Site Trunking - TDMA Only Sites

3.1.2.1 Site Trunking Indication

DESCRIPTION

When a remote site loses its link or does not have a link to the Zone Controller, the affected site will enter "Site Trunking" mode of operation. Radios locked onto this site will be serviced locally within this site's coverage area.

NOTE: If the subscriber does not have the Display option, the "Site Trunking" indication will not be displayed.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1
RADIO-2 - SITE 1 - TALKGROUP 2

Lock the subscribers to SITE 1 if more than one site exists on the system.

TEST PROCEDURE

- Step 1.** Place SITE1 into the Site Trunking mode.
- Step 2.** Verify that RADIO-1 and RADIO-2 are displaying the "Site Trunking" indication.
- Step 3.** Return the site to Wide Area Trunking unless the next test requires Site Trunking.

Pass_____ Fail_____

3.1.2.2 Talkgroup Call

DESCRIPTION

When a site goes into Site Trunking, radios with Talkgroup Call capability will be able to communicate with other members of the same talkgroup at that same site. Members of the same talkgroup at other sites will not be able to monitor those conversations.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1
RADIO-2 - SITE 1 - TALKGROUP 1
RADIO-3 - SITE 2 - TALKGROUP 1
RADIO-4 - SITE 2 - TALKGROUP 1

Note: All Radios should be "Site Locked".

TEST PROCEDURE

- Step 1.** Place SITE1 into the Site Trunking mode.
- Step 2.** Initiate a Talkgroup Call with RADIO-1 on TALKGROUP1 at SITE1.
- Step 3.** Observe that only RADIO-2 will be able to monitor and respond to the call. Note that RADIO-3 and RADIO-4 are not able to monitor the call since the site is not in wide area operation.
- Step 4.** Initiate a Talkgroup Call with RADIO-3 on TALKGROUP1 at SITE2.
- Step 5.** Observe that only RADIO-4 will be able to monitor and respond to the call.

Pass_____ Fail_____

3.1.2.3 Continuous Assignment Updating

DESCRIPTION

When a talkgroup is assigned a voice channel, the site controller continues to transmit the channel assignment on the control channel for the duration of the talkgroup call. Radios coming into use on the system are automatically sent to voice channels with conversations in progress involving their selected talkgroups.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1
RADIO-2 - SITE 1 - TALKGROUP 1
RADIO-3 - SITE 1 - TALKGROUP 1

Note: All Radios should be "Site Locked".

TEST PROCEDURE

- Step 1.** Place SITE 1 into the Site Trunking mode.
- Step 2.** Turn OFF RADIO-1.
- Step 3.** Initiate a Talkgroup Call using RADIO-2.
- Step 4.** While the Talkgroup Call is in progress, turn on RADIO-1.
- Step 5.** Observe that RADIO-1, which was just brought back into service, joins the Talkgroup Call already in progress.
- Step 6.** Release the PTT of RADIO-2. Switch RADIO-1 to TALKGROUP 2.
- Step 7.** Initiate a Talkgroup Call using RADIO-2.
- Step 8.** While the Talkgroup Call is in progress, turn RADIO-1 back to TALKGROUP 1.
- Step 9.** Observe that RADIO-1, which was just set back to TALKGROUP 1, joins the Talkgroup Call already in progress.
- Step 10.** Return the site to Wide Area Trunking unless the next test requires Site Trunking.

Pass_____ Fail_____

3.1.2.4 Wide Area Recovery

DESCRIPTION

A site in Site Trunking will transition to Wide Area Trunking when all failures have been cleared. All subscribers should transition from Site Trunking to Wide Area Trunking and continue to process calls.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1
RADIO-2 - SITE 1 - TALKGROUP 1
RADIO-3 - SITE 2 - TALKGROUP 1
RADIO-4 - SITE 2 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

Note: All Radios should be "Site Locked".

TEST PROCEDURE

- Step 1.** Set the status of SITE 1 to Wide Area and clear any system errors that may have placed SITE 1 into Site Trunking.
- Step 2.** Verify that the status of SITE 1 has transitioned into Wide Area Trunking.
- Step 3.** Verify that RADIO-1 and RADIO-2 no longer display Site Trunking.
- Step 4.** Verify Wide Area communications between RADIO-1, RADIO-2, RADIO-3, RADIO-4 and CONSOLE-1.

Pass_____ Fail_____

3.1.3 CommandCentral AXS Console Features

3.1.3.1 Talkgroup Selection and Call

DESCRIPTION

The Talkgroup Call is the primary level of organization for communications on a trunked radio system. Dispatchers with Talkgroup Call capability will be able to communicate with other members of the same talkgroup. This provides the effect of an assigned channel down to the talkgroup level. When a Talkgroup Call is initiated from a subscriber unit, the call is indicated on each dispatch operator position that has a channel control resource associated with the unit's channel/talkgroup.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
RADIO-3 - TALKGROUP 1
RADIO-4 - TALKGROUP 2

CONSOLE-1 - TALKGROUP 1
CONSOLE-2 - TALKGROUP 2

TEST PROCEDURE

- Step 1.** Initiate a wide area call from CONSOLE-1 on TALKGROUP 1.
- Step 2.** Observe that RADIO-1 and RADIO-3 will be able to monitor the call. Dekey the console and have either radio respond to the call.
- Step 3.** Observe that all consoles with TALKGROUP 1 can monitor both sides of the conversation.
- Step 4.** Initiate a wide area call from CONSOLE-2 on TALKGROUP 2.
- Step 5.** Observe that RADIO-2 and RADIO-4 will be able to monitor the call. Dekey the console and have either radio respond to the call.
- Step 6.** Observe that all consoles with TALKGROUP 2 can monitor both sides of the conversation.

Pass_____ Fail_____

3.1.3.2 Talkgroup Selection and Call - Secure

DESCRIPTION

The Talkgroup Call is the primary level of organization for communications on a trunked radio system. Dispatchers with Talkgroup Call capability will be able to communicate with other members of the same talkgroup. This provides the effect of an assigned channel down to the talkgroup level. When a Talkgroup Call is initiated from a subscriber unit, the call is indicated on each dispatch operator position that has a channel control resource associated with the unit's channel/talkgroup.

Digital encryption is used so only properly equipped and configured subscribers can monitor the conversation. A "Key" is used to encrypt the transmit audio. Only radios and Consoles with the same "Key" can decrypt the audio and listen to it.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1 (Secure TX Mode)
RADIO-2 - SITE 1 - TALKGROUP 2 (Secure TX Mode)
RADIO-3 - SITE 1 - TALKGROUP 2 (No Keys)
RADIO-4 - SITE 1 - TALKGROUP 1 (Clear TX Mode with Keys Loaded)
CONSOLE-1 - TALKGROUP 1 and TALKGROUP 2 (Secure TX Mode)

TEST PROCEDURE

- Step 7.** Initiate a Secure Call from CONSOLE-1 on TALKGGROUP 1.
- Step 8.** Verify RADIO-1 can monitor and respond to the secure call.
- Step 9.** Verify RADIO-4 can monitor and respond to the secure call because even though it is in clear mode the correct encryption keys are loaded for the secure call.
- Step 10.** Initiate a wide area secure call from CONSOLE-1 on TALKGGROUP 2.
- Step 11.** Verify that RADIO-2 can monitor and respond to the secure call. Note that RADIO-3 cannot monitor the call.

Pass_____ Fail_____

3.1.3.3 Secure / Clear Cross-Mode Indication

DESCRIPTION

This test validates the ability of the console to show a visual indication of a Secure and Clear mode mismatch during the following conditions:

1. Talkgroup on the Console is in secure transmit mode but receiving clear audio.
2. Talkgroup on the Console is in clear transmit mode but receiving secure audio.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1 (Secure TX Mode)
CONSOLE-1 - TALKGROUP 1 (Secure TX Mode)

TEST PROCEDURE

- Step 12.** Initiate a secure call on RADIO-1.
- Step 13.** Verify CONSOLE-1 is able to receive audio from RADIO-1.
- Step 14.** Place RADIO-1 in clear TX mode.
- Step 15.** Initiate a call on RADIO-1.
- Step 16.** Verify CONSOLE-1 is able to receive audio from RADIO-1 and displays a secure mode mismatch indication.
- Step 17.** Place RADIO-1 in secure transmit mode and place CONSOLE-1 in clear transmit mode.
- Step 18.** Initiate a secure call on RADIO-1.
- Step 19.** Verify CONSOLE-1 is able to receive audio from RADIO-1 and displays a secure Cross-Mode Indication.

Pass_____ Fail_____

3.1.3.4 Instant Transmit

DESCRIPTION

The instant transmit switch provides immediate operator access to a channel, independent of its select status (selected or unselected). It provides priority over other dispatcher transmit bars or optional footswitches.

SET UP

RADIO-1 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1 (Selected), TALKGROUP 2 (Unselect mode)

TEST PROCEDURE

- Step 1.** Using CONSOLE-1, press the Instant Transmit button on TALKGROUP 1.
- Step 2.** Verify that the Transmit indicator is lit.
- Step 3.** Verify RADIO-1 can monitor and respond to the call on TALKGROUP 1.
- Step 4.** On RADIO-1 change to TALKGROUP 2.
- Step 5.** Using CONSOLE-1, press the Instant Transmit button on the TALKGROUP 2 radio resource.
- Step 6.** Verify RADIO-1 can monitor and respond to the call on TALKGROUP 2.

Pass_____ Fail_____

3.1.3.5 Emergency Alarm and Call Display Description

DESCRIPTION

Users in life threatening situations can use the emergency button on the radio to send an audible alarm and a visual alarm signal to a console operator in order to request immediate system access to a voice channel for an emergency call.

An emergency alarm begins after the radio user presses the radio's emergency button. Pressing the emergency button places the radio in "emergency mode". To begin an emergency call, the radio user must press the radio's PTT button while in "emergency mode." The assigned voice channel will be dedicated to the emergency caller's talkgroup for an extended period of time, equal to the Message Hang Time plus the Emergency Hang Time. As with other call types, emergency calls can operate across sites as well as within the same site.

SET UP

RADIO-1 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

CONSOLE-2 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Initiate an Emergency Alarm from RADIO-1.
- Step 2.** Observe the Emergency from RADIO-1 is received at CONSOLE-1 for TALKGROUP 1.
- Step 3.** Acknowledge the Emergency at the operator position. Verify CONSOLE-2 receives notification that the call has been acknowledged.
- Step 4.** Initiate a call with RADIO-1 to initiate an Emergency call.
- Step 5.** Observe CONSOLE-1 and CONSOLE-2 can monitor RADIO-1.
- Step 6.** Clear the Emergency from CONSOLE-1 on TALKGROUP 1.
- Step 7.** End the Emergency Alarm from RADIO-1.

Pass_____ Fail_____

3.1.3.6 Multigroup Call

DESCRIPTION

This trunking feature allows an equipped console operator position to transmit an announcement to several different talkgroups simultaneously. As with Talkgroup Calls, multigroup calls operate across sites as well as within the same site.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
RADIO-3 - RANDOM

CONSOLE-1 - ATG 1

Note: TALKGROUP 1 and TALKGROUP 2 are members of ATG 1. RANDOM is any talkgroup not a member of ATG 1.

TEST PROCEDURE

- Step 1.** Using CONSOLE-1, select the ATG 1 resource.
- Step 2.** Initiate the Multigroup Call from CONSOLE-1.
- Step 3.** Observe that RADIO-1 and RADIO-2 receive the Multigroup Call.
- Step 4.** Verify that RADIO-3 does not receive the Multigroup Call because it is not a member of ATG 1.
- Step 5.** Answer the Multigroup Call using RADIO-1 and observe CONSOLE-1 receives the response.
- Step 6.** Verify that if the call is answered within the repeater hang time, the console will receive the call on the ATG 1 resource tile, otherwise the console will receive the call on the TALKGROUP 1 tile.
- Step 7.** Verify that if the call is answered within the repeater hang time, RADIO-2 will monitor the call.

Pass_____ Fail_____

3.1.3.7 Multi-Select Operation

DESCRIPTION

Multi-Select (Msel) allows the console operator to group a number of channels/talkgroups together such that when the general transmit bar is depressed, all of the multi-selected channels/talkgroups will transmit at the same time with the same information. Multi-Select is one way communication call. If a radio user responds to a Multi-Select call the talkgroup the user is affiliated to will be the only one to hear the call. There is no super-group formed, so radio communication is still at the single talkgroup level. Multi-Select is utilized to send an APB to several channels/talkgroups. A Multi-Select has a limit of twenty (20) trunking/conventional resources

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2

CONSOLE-1 - TALKGROUP 1, TALKGROUP 2

TEST PROCEDURE

- Step 1.** From CONSOLE-1, create an Msel group with TALKGROUP 1 and TALKGROUP 2.
- Step 2.** Transmit on the Msel using the Msel instant transmit button.
- Step 3.** Verify that RADIO-1 and RADIO-2 hear the call.
- Step 4.** Initiate a call with RADIO-1.
- Step 5.** Verify the call is heard on CONSOLE-1 but not on RADIO-2.
- Step 6.** Initiate a call with RADIO-2.
- Step 7.** Verify the call is heard on CONSOLE-1 but not on RADIO-1.
- Step 8.** On CONSOLE-1 dissolve the Msel.

Pass_____ Fail_____

3.1.3.8 Multi-Select Operation – Secure

DESCRIPTION

Multi-Select (Msel) allows the console operator to group a number of channels/talkgroups together such that when the general transmit bar is depressed, all of the multi-selected channels/talkgroups will transmit at the same time with the same information.

Multi-Select is a one-way communication call. If a radio user responds to a Multi-Select call the talkgroup the user is affiliated to will be the only one to hear the call.

There is no super-group formed, so radio communication is still at the single talkgroup level. Multi-Select is utilized to send an APB to several channels/talkgroups. A Multi-Select has a limit of twenty (20) trunking/conventional resources.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1 (Secure TX Mode)
RADIO-2 - SITE 1 - TALKGROUP 2 (Secure TX Mode)
RADIO-3 - SITE 1 - TALKGROUP 1 (No Secure Keys Loaded)
RADIO-4 - SITE 1 - TALKGROUP 2 (Clear TX Mode with Keys Loaded)
CONSOLE-1 - TALKGROUP 1 & TALKGROUP 2 (Secure TX Mode)

TEST PROCEDURE

- Step 9.** From CONSOLE-1, create an Msel group with TALKGROUP 1 and TALKGROUP 2.
- Step 10.** Transmit on the Msel using the Msel instant transmit button.
- Step 11.** Verify that RADIO-1, RADIO-2 and RADIO-4 hear the call and RADIO-3 cannot hear the call.
- Step 12.** Initiate a call with RADIO-1.
- Step 13.** Verify the call is heard on CONSOLE-1 but not on RADIO-2.
- Step 14.** Initiate a call with RADIO-2.
- Step 15.** Verify the call is heard on CONSOLE-1 but not on RADIO-1.
- Step 16.** On CONSOLE-1, dissolve the Msel.

Pass _____ Fail _____

3.1.3.9 Talkgroup Patch

DESCRIPTION

Talkgroup Patch allows a dispatcher to merge several talkgroups together on one voice channel to participate in a single conversation. This can be used for situations involving two or more talkgroups that need to communicate with each other.

Using the Patch feature, the console operator can talk and listen to all of the selected talkgroups grouped; in addition, the members of the individual talkgroups can also talk or listen to members of other talkgroups. Patched talkgroups can communicate with the console dispatcher and other members of different talkgroups because of the "supergroup" nature of the Patch feature.

NOTE : If "secure" and "clear" resources are patched together, one repeater for each mode may be assigned per site.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
RADIO-3 - TALKGROUP 1
RADIO-4 - TALKGROUP 2

CONSOLE-1 - TALKGROUP 1 and TALKGROUP 2

Note: All 4 Radios must have the same home zone.

TEST PROCEDURE

- Step 1.** Using CONSOLE-1 create a patch between TALKGROUP 1 and TALKGROUP 2.
- Step 2.** Initiate a patch call from CONSOLE-1.
- Step 3.** Verify RADIO-1, RADIO-2, RADIO-3, and RADIO-4 can monitor the call.
- Step 4.** Initiate several calls between the radios and verify successful communication.
- Step 5.** Dissolve the patch created in step 1.

Pass_____ Fail_____

3.1.3.10 Talkgroup Patch - Secure

DESCRIPTION

Talkgroup Patch allows a dispatcher to merge several talkgroups together on one voice channel to participate in a single conversation. This can be used for situations involving two or more talkgroups that need to communicate with each other. Using the Patch feature, the console operator can talk and listen to all of the selected talkgroups grouped; in addition, the members of the individual talkgroups can also talk or listen to members of other talkgroups. Patched talkgroups can communicate with the console dispatcher and other members of different talkgroups because of the "supergroup" nature of the Patch feature.

SET UP

RADIO-1 - SITE 1 - TALKGROUP 1 (Secure TX Mode)
RADIO-2 - SITE 1 - TALKGROUP 2 (Secure TX Mode)
RADIO-3 - SITE 1 - TALKGROUP 1 (No Secure Keys Loaded)
RADIO-4 - SITE 1 - TALKGROUP 2 (Clear TX Mode with Keys Loaded)
CONSOLE-1 - TALKGROUP 1 & TALKGROUP 2 (Secure TX Mode)

TEST PROCEDURE

- Step 6.** Using CONSOLE-1 create a secure patch between TALKGROUP 1 and TALKGROUP 2.
- Step 7.** Initiate a patch call from CONSOLE-1.
- Step 8.** Verify RADIO-1, RADIO-2 and RADIO-4 can monitor the call.
- Step 9.** Initiate a talkgroup call on TG1 from RADIO-1.
- Step 10.** Observe that all radios are able to hear RADIO-1 except RADIO-3.
- Step 11.** On CONSOLE-1, dissolve the patch.

Pass_____ Fail_____

3.1.3.11 Alert Tones - Talkgroup

DESCRIPTION

Pre-defined alert tones can be transmitted on the selected Radio Resource to subscribers which can alert members of a channel / talkgroup to a particular event or signify to radio users special instructions are to follow. The Console has the ability to send an Alert-Tone signal on selected conventional or talkgroup resources.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Select TALKGROUP 1 on CONSOLE-1.
- Step 2.** Select Alert Tone 1 and depress the Alert Tone button.
- Step 3.** Verify that RADIO-1 and RADIO-2 hear Alert Tone 1.
- Step 4.** Repeat Steps 2-3 for Alert Tone 2 and 3.

Pass_____ Fail_____

3.1.3.12 Call Alert

DESCRIPTION

Call Alert Page allows a subscriber/dispatcher to selectively alert another radio unit. The initiating subscriber/console will receive notification as to whether or not the call alert was received. Units receiving a Call Alert will sound an alert tone and show a visual alert indication. The display will also show the individual ID of the initiating subscriber/console unit.

SET UP

RADIO-1 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Using CONSOLE-1, select the call alert button in the "Private Call" resource window.
- Step 2.** Enter the ID of RADIO-1 and send the call alert to RADIO-1.
- Step 3.** Verify that RADIO-1 receives the alert and that the ID or alias of the console is shown.
- Step 4.** Turn off RADIO-1.
- Step 5.** Using CONSOLE-1, send the call alert to RADIO-1 again.
- Step 6.** Verify that after trying to page RADIO-1, the console displays "Can not send call alert - target not found" in the summary/status list.

Pass _____ Fail _____

3.1.3.13 Console Priority

DESCRIPTION

Console Operator Positions have ultimate control of transmitted audio on an assigned voice channel resource. The Console Position has the capability to take control of an assigned voice channel for a talkgroup call so that the operator's audio overrides any subscriber audio. Console priority is a feature that enables dispatchers to gain immediate access to an assigned voice channel so that a central point of audio control exists.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Initiate a Talkgroup call from RADIO-1 on TALKGROUP 1. Keep this call in progress until the test has completed.
- Step 2.** Observe that RADIO-2 receives the call.
- Step 3.** While the call is in progress, key up CONSOLE-1 on TALKGROUP 1.
- Step 4.** Observe that RADIO-2 is now receiving audio from CONSOLE-1 on TALKGROUP 1.
- Step 5.** De-key CONSOLE-1.
- Step 6.** Verify RADIO-2 now receives RADIO-1 audio.
- Step 7.** End the TALKGROUP 1 call from RADIO-1.

Pass_____ Fail_____

3.1.3.14 PTT Unit ID/Alias Display

DESCRIPTION

Console operator positions contain various resources such as talkgroup, multigroup, Private Call which enables the dispatcher to communicate with the subscriber units. If activity occurs on one of these operator position resources, the unit ID or associated alias of the initiating radio appears at the console resource.

SET UP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1
CONSOLE-2 - TALKGROUP 1

TEST PROCEDURE

- Step 1.** Select the resource for TALKGROUP 1 on CONSOLE-1.
- Step 2.** Initiate a call on TALKGROUP 1 from RADIO-2 and observe that the alias is seen at CONSOLE-1 in the resource window as well as in the Activity Log window.
- Step 3.** Initiate a call from RADIO-1 and observe that the alias of RADIO-1 is seen at CONSOLE-1 in the resource window as well as in the Activity Log window.
- Step 4.** Modify RADIO-2's alias. Make sure to give enough time for the alias change to propagate to the Zone Controller.
- Step 5.** Initiate a call from RADIO-2 and observe the new alias of RADIO-2 is seen at CONSOLE-1 in the list in the resource window as well as in the Activity Log window.
- Step 6.** Return RADIO-2's alias to its original state.

Pass_____ Fail_____

3.1.3.15 AXS PC Redundant Network Interface Operation

DESCRIPTION

This test will demonstrate the AXS dispatch console's ability to maintain its networking capability and transmit/receive audio when individual network interfaces within the redundant network interface pair are disconnected at the console.

SET UP

RADIO-1 – TALKGROUP 1

CONSOLE-1 –TALKGROUP 1

TEST PROCEDURE

- Step 1.** Verify CONSOLE-1 active network status via Windows Control Panel.
- Step 2.** Disconnect primary NIC interface at CONSOLE-1
- Step 3.** Initiate a talkgroup call from CONSOLE-1 on TALKGROUP 1.
- Step 4.** Observe that RADIO-1 is able to monitor the call. Dekey the console and have RADIO-1 respond to the call.
- Step 5.** Observe that the radio transmission on TALKGROUP 1 can be monitored at CONSOLE-1. Dekey RADIO-1.
- Step 6.** Reconnect primary NIC interface at CONSOLE-1. Disconnect redundant NIC interface at CONSOLE-1.
- Step 7.** Initiate a talkgroup call from CONSOLE-1 on TALKGROUP 1.
- Step 8.** Observe that RADIO-1 is able to monitor the call. Dekey the console and have RADIO-1 respond to the call.
- Step 9.** Observe that the radio transmission on TALKGROUP 1 can be monitored at CONSOLE-1. Dekey RADIO-1.
- Step 10.** Reconnect redundant NIC interface at CONSOLE-1.

Pass_____ Fail_____

3.1.4 Analog Conventional Tests

3.1.4.1 Console Site Entering Site Conventional Mode

DESCRIPTION

The Console site will enter site conventional mode when the Zone Controller (ZC)-Console Site Control Path fails and Conventional Site Controller-Console Site Control Path is established.

The console site will re-enter wide area conventional mode when ZC-Console Site Control Path is re-established.

SET UP

RADIO-1- CONVENTIONAL SITE-1 - CONVENTIONAL CHANNEL 1
RADIO-1 - SITE - CONVSITE 1

CONSOLE-1 - CONSOLE SITE-1 - CONVENTIONAL CHANNEL 1
CONSOLE-2 - CONSOLE SITE-1 - CONVENTIONAL CHANNEL 1

CSC - CONVENTIONAL SITE-1

CCGW-1 - CONVENTIONAL SITE-1 - CONVENTIONAL CHANNEL 1

CONVENTIONAL SITE-1 is co-located with CONSOLE SITE-1

Note: Configure the method to detect inbound radio transmission to VOX.

TEST PROCEDURE

- Step 1.** Initiate a call on CONVENTIONAL CHANNEL 1 at CONSOLE-1. Keep this call established for the duration of the test.
- Step 2.** Verify that RADIO-1 and CONSOLE-2 hear CONSOLE-1
- Step 3.** Disconnect the CONSOLE SITE-1 WAN link
- Step 4.** Verify that CONSOLE-1 and CONSOLE-2 provide an indication that CONSOLE SITE-1 has entered into site conventional mode.
- Step 5.** Verify that after a short time, RADIO-1 and CONSOLE-2 continue to hear CONSOLE-1.
- Step 6.** Reconnect the CONSOLE SITE-1 WAN link.
- Step 7.** Verify that CONSOLE-1 no longer provides an indication that CONSOLE SITE-1 is in site conventional mode.
- Step 8.** Verify that after a short time, RADIO-1 and CONSOLE-2 hear CONSOLE-1, then end the CONVENTIONAL CHANNEL 1 call.

Pass _____ Fail _____

3.1.4.2 Active Conventional Call During Transition to, and in Site Conventional Mode

DESCRIPTION

The Conventional Site Controller is an optional device that is installed at a console site. The CSC provides fallback capability for the console site and conventional channels collocated with this site when the link between a console site and the zone controller is lost. Such way of operating is called Site Conventional mode.

This test will demonstrate that the active conventional calls are transferred to the Conventional Site Controller (CSC) during Wide area to site conventional transition.

SET UP

RADIO-1 - CONVENTIONAL SITE-1 - CONVENTIONAL CHANNEL 1

CONSOLE-1 - CONSOLE SITE-1 - CONVENTIONAL CHANNEL 1

CONSOLE-2 - CONSOLE SITE-1 - CONVENTIONAL CHANNEL 1

CSC - CONVENTIONAL SITE-1

CCGW-1 - CONVENTIONAL SITE-1 - CONVENTIONAL CHANNEL 1

CONVENTIONAL SITE-1 is co-located with CONSOLE SITE-1

Note: Configure the method to detect inbound radio transmission to VOX.

TEST PROCEDURE

- Step 1.** Initiate a call with RADIO-1 on CONVENTIONAL CHANNEL 1. Continue to transmit this call until the completion of the test.
- Step 2.** Verify that CONSOLE-1 and CONSOLE-2 hear RADIO-1 audio.
- Step 3.** Put CONVENTIONAL SITE-1 into site conventional mode by disconnecting the site link.
- Step 4.** CONVENTIONAL SITE-1 transitions to site conventional mode. For a short period of time CONSOLE-1 and CONSOLE-2 stop hearing RADIO-1 audio. Verify that CONSOLE-1 and CONSOLE-2 join the call again and continue to hear audio from RADIO-1.
- Step 5.** End the CONVENTIONAL CHANNEL 1 call on RADIO-1.
- Step 6.** Verify from CONSOLE-1 or CONSOLE-2 that site conventional mode is active.
- Step 7.** Initiate a call on CONVENTIONAL CHANNEL 1 from CONSOLE-1.
- Step 8.** Verify that RADIO-1, RADIO-2 and CONSOLE-2 hear audio from CONSOLE-1 on CONVENTIONAL CHANNEL 1.
- Step 9.** De-key CONSOLE-1 and key-up CONSOLE-2 on CONVENTIONAL CHANNEL 1. Verify that RADIO-1, RADIO-2 and CONSOLE-1 hear audio from CONSOLE-2 on CONVENTIONAL CHANNEL 1.
- Step 10.** Return the system to normal operation by connecting the site link.

Pass_____ Fail_____

3.1.4.3 Active Call During Transition to Wide Area Conventional Mode

DESCRIPTION

The Conventional Site Controller (CSC) is an optional device that is installed at a console site. The CSC provides fallback capability for the console site and conventional channels collocated with this site when the link between a console site and the zone controller is lost. Such way of operating is called Site Conventional mode.

This test demonstrates the ability for an active site conventional call to transition to wide conventional with minimal interruption. The active call will be interrupted for a short period.

SET UP

RADIO-1 - CONVENTIONAL SITE-1 - CONVENTIONAL CHANNEL 1

CONSOLE-1 - CONSOLE SITE-1 - CONVENTIONAL CHANNEL 1

CONSOLE-2 - CONSOLE SITE-1 - CONVENTIONAL CHANNEL 1

CSC – CONVENTIONAL SITE-1

CCGW-1 - CONVENTIONAL SITE-1 - CONVENTIONAL CHANNEL 1

CONVENTIONAL SITE-1 is co-located with CONSOLE SITE-1

Note: Configure the method to detect inbound radio transmission to VOX.

TEST PROCEDURE

- Step 1.** Disconnect the CONSITE 1 link and verify that CONSOLE-1 provides an indication that the CONVSITE-1 has entered into site conventional mode.
- Step 2.** Initiate a conventional call on CONVENTIONAL CHANNEL 1 with RADIO-1.
- Step 3.** Verify that CONSOLE-1 hears RADIO-1. Continue to transmit the call through the duration of the test.
- Step 4.** Put CONVSITE 1 into wide area conventional mode by connecting the CONSITE 1 link.
- Step 5.** Verify that the RADIO-1 call continues with a brief interruption while the CONVSITE 1 transitions into wide area conventional mode. (Note: CONSOLE-1 will briefly stop hearing RADIO-1, but then the call will resume once back into wide area conventional mode).
- Step 6.** Verify that CONSOLE-1 continues to hear RADIO-1 after transitioning to wide area conventional mode.
- Step 7.** End the CONVENTIONAL CHANNEL 1 call.

Pass_____ Fail_____

3.1.5 Over the Ethernet Keying (OTEK)

3.1.5.1 Clear Hello using over the Ethernet Keying (OTEK)

DESCRIPTION

The KMF operator can send a message to any console to confirm that console is on the system.

Note: If the console has just been powered up, make sure to let it stabilize and to login via the console user interface to make sure the console registers with the KMF. Verify KMF registration by observing the KMF's Operations Status page to see that the test console has registered.

SET UP

This test will require one console (CONSOLE-1).

TEST PROCEDURE

- Step 1.** Go to the Console Management page of the KMF.
- Step 2.** Select CONSOLE-1 from the list
- Step 3.** Initiate a Clear Hello operation.
- Step 4.** Go to the Operation Status page of KMF, verify that CONSOLE-1's Clear Hello operation is shown. The operation is completed successfully when the Operation Status is "Completed" without warnings or errors.

Pass_____ Fail_____

3.1.5.2 Encrypted Hello using over the Ethernet Keying (OTEK)

DESCRIPTION

The KMF operator can send an encrypted message to any console to confirm that console is on the system and that its encryption services are functioning.

Note: If the console has just been powered up, make sure to let it stabilize and to login via the console user interface to make sure the console registers with the KMF. Verify KMF registration by observing the KMF's Operations Status page to see that the test console has registered.

SET UP

CONSOLE-1 - TALKGROUP 1

Note: The console must be current in the KMF.

TEST PROCEDURE

- Step 1.** Go to the Console Management page of the KMF.
- Step 2.** Select CONSOLE-1 from the list.
- Step 3.** Initiate an Encrypted Hello operation.
- Step 4.** Go to the Operation Status page of KMF, verify that CONSOLE-1's Encrypted Hello operation is shown. The operation is completed successfully when the Operation Status is "Completed" without warnings or errors.

Pass_____ Fail_____

3.1.5.3 Full Update to Console using Over The Ethernet Keying (OTЕК)

DESCRIPTION

The entire set of encryption keys (in addition to other state parameters) are sent to a console using the Full Unit Update command.

Note: If the console has just been powered up, make sure to let it stabilize and to login via the console user interface to make sure the console registers with the KMF. Verify KMF registration by observing the KMF event viewer to see that the test console has registered.

SET UP

CONSOLE-1 - TALKGROUP 3 (Reference console)

CONSOLE-2 - TALKGROUP 3 (Test console that will be used for OTEK operation)

It is assumed that CONSOLE-2 initially does not have any traffic keys but does have a UKEK.

Note: It is assumed that this test will occur after all OTEK configurations are completed.

TEST PROCEDURE

- Step 1.** Initiate a secure call on TALKGROUP 3 from CONSOLE-1 to CONSOLE-2.
- Step 2.** Verify that no audio is received on CONSOLE-2 because the console does not have a key or has the incorrect key. The console will display "Cannot receive audio on TALKGROUP 3, Unable to process secure audio".
- Step 3.** Go to the Console Management page of the KMF.
- Step 4.** Select CONSOLE-2 from the list.
- Step 5.** Initiate a Full Update operation.
- Step 6.** Go to the Operation Status page of KMF, verify that CONSOLE-2's Full Update operation is shown. The operation is completed successfully when the Operation Status is "Completed" without warnings or errors.
- Step 7.** The console will now have the current keys. Go to the Console Management page of the KMF and verify that CONSOLE-2's currency state is marked as "Current."
- Step 8.** Now that CONSOLE-2 is current, verify secure communications between CONSOLE-1 and CONSOLE-2.

Pass_____ Fail_____

3.1.6 Signoff Certificate

By their signatures below, the following witnesses certify they have observed the system Acceptance Test Procedures.

Signatures

WITNESS:

Date: _____

Please Print Name: _____

Initials:

Please Print Title: _____

WITNESS:

Date: _____

Please Print Name: _____

Initials:

Please Print Title: _____

WITNESS:

Date: _____

Please Print Name: _____

Initials:

Please Print Title: _____

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3.2 Coverage Acceptance Test Plan

3.2.1 Overview

This Coverage Acceptance Test Plan (CATP) is designed to verify that the voice radio system implemented by Motorola Solutions for the Town of Waterford meets or exceeds the required reliability as shown on Motorola Solutions' map. The CATP defines the coverage testing method and procedure, the coverage acceptance criterion, the test documentation, and the responsibilities of Motorola Solutions, the Town of Waterford, and DESPP.

Coverage Acceptance Testing is based upon a coverage prediction that accurately represents the implemented infrastructure and parameters that are consistent with the contract agreements. Motorola Solutions' coverage design and coverage guarantee is based on the use of Motorola Solutions APX subscribers. The Coverage Acceptance Test will be performed using Motorola Solutions APX subscribers.

Subsequent sections define the coverage acceptance test configurations and test criteria.

3.2.2 CATP Definitions

Several definitions are needed to accurately describe the coverage acceptance test method and criteria. Where cited, these terms or methods are defined in TIA TSB 88.1-F¹ or TSB-88.3-G².

3.2.2.1 Defined Test Area

The defined test area is the geographical area in which communications will be provided that meet or exceed the specified Channel Performance Criterion (CPC) at the specified reliability for the specified equipment configuration. The defined test area is listed in Table 3-2: Town of Waterford Coverage Acceptance Test Summary, along with the name of the corresponding Motorola Solutions map which shows the defined test area. Please see Reference 1 in Section 3.2.7 for the APX 8000 Portable with an additional 10 dB loss applied for building penetration coverage prediction and Reference 2 in Section 3.2.7 for the APX 6500 Mobile coverage prediction.

For coverage testing, the defined test area will be divided into a grid pattern by Motorola Solutions to produce at least the number of uniformly sized test locations (or tiles) required by the Estimate of Proportions formula. {TSB-88.3-G, §5.2.1, equation 2} The minimum number of test tiles required varies, from a hundred to many thousands, depending on the size of the defined test area, desired confidence in results, type of coverage test, and the predicted versus required reliability.

¹ *Wireless Communications Systems --- Performance in Noise- and Interference-Limited Situations --- Part 1: Recommended Methods for Technology Independent Performance Modeling*, Technical Service Bulletin TSB-88.1-F, Telecommunications Industry Association (TIA), Arlington VA, 2022.

² *Wireless Communications Systems --- Performance in Noise- and Interference-Limited Situations --- Part 3: Recommended Methods for Technology Independent Performance Verification*, Technical Service Bulletin TSB-88.3-G, Telecommunications Industry Association (TIA), Arlington VA, 2024.

3.2.2.2 Channel Performance Criterion (CPC)

The CPC is the specified minimum design performance level in a faded channel. {TSB 88.1-F, §5.2} For this system, the CPC is the Delivered Audio Quality (DAQ) as stated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary. The DAQ definitions are provided below in Table 3-1: DAQ Definitions. {TSB-88.1-F, §5.4.2, Table 3}

Table 3-1: DAQ Definitions

DAQ	Subjective Performance Description
1	Unusable, speech present but unreadable.
2	Understandable with considerable effort. Frequent repetition due to noise/distortion.
3	Speech understandable with slight effort. Occasional repetition required due to noise/distortion.
3.4	Speech understandable with repetition only rarely required. Some noise/distortion.
4	Speech easily understood. Occasional noise/distortion.
4.5	Speech easily understood. Infrequent noise/distortion.
5	Speech easily understood.

The CPC pass/fail criterion is the faded performance threshold, plus any adjustments for antenna performance, external noise, and in-building or in-vehicle losses. {TSB-88.1-F, §5.4.2, Figure 6} The faded performance threshold for the specified CPC is determined using the receiver's static reference sensitivity adjusted by the projected CPC parameters for the applicable Modulation Type and DAQ as listed in the current version of TSB-88.1, Annex A, Table A-1. For coverage testing of digital voice radio systems, the faded performance threshold is the applicable Bit Error Rate (BER) from the projected CPC parameters.

3.2.2.3 Reliability

The Service Area Reliability is the percentage of locations within the defined test area that are predicted to meet or exceed the specified CPC. The Motorola Solutions' map indicates the Service Area within which this system is predicted to provide at least the reliability of meeting or exceeding the CPC as stated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary.

After all accessible tiles in the defined test area have been tested, the Service Area Reliability will be determined by dividing the number of tiles tested that meet or exceed the CPC pass/fail criterion by the total number of tiles tested. {TSB-88.3-G, §5.1, equation 1} Please see Reference 1 in Section 3.2.7 for the APX 8000 Portable with an additional 10 dB loss applied for building penetration coverage prediction and Reference 2 in Section 3.2.7 for the APX 6500 Mobile service area reliability coverage prediction.

3.2.2.4 Direction of Test

The direction of test in Table 3-2: Town of Waterford Coverage Acceptance Test Summary defines the direction which will be tested for coverage acceptance. Outbound (also called forward link, downlink, or talk-out) is the path from the fixed equipment outward to the mobile or portable radios. Inbound (also called reverse link, uplink, or talk-in) is the path from the mobile or portable radios inward to the fixed equipment. Round Trip means both Outbound and Inbound are required to pass for a test tile to pass.

3.2.2.5 Equipment Configurations

This section defines the equipment configurations and infrastructure design parameters upon which the coverage guarantee and the coverage acceptance test are based. The equipment configurations are defined in Table 3-2: Town of Waterford Coverage Acceptance Test Summary, and includes user equipment, outdoor/in-building definition, defined test area, number of test tiles, reliability, CPC, CPC pass/fail, and direction(s) of test. The infrastructure design parameters are defined in Table 3-3: Town of Waterford Infrastructure Design Parameters, and include site names, site locations, and antenna system parameters. If the implemented system equipment configurations and/or infrastructure design parameters vary from these configurations and/or parameters, a revised coverage map will be used to define the test configuration and potential areas from which test tiles will be included in the revised coverage acceptance test.

Coverage testing will be conducted with equipment installed per the configuration in Table 3-2: Town of Waterford Coverage Acceptance Test Summary, and with the mobile antenna in an unobstructed location that is not adjacent to other large objects or metallic items which would distort the antenna pattern.

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Table 3-2: Town of Waterford Coverage Acceptance Test Summary

User Equipment	Outdoor / In-Building	Defined Test Area & Map Name	Number of Test Tiles	Reliability	CPC	CPC Pass/Fail	Direction(s) of Test
Guaranteed Coverage							
2.5 watt APX 8000 Portable with the standard XE all-band antenna in a swivel case on the hip with a remote speaker microphone for transmit and receive	10 dB loss applied for building penetration coverage. In-vehicle attenuated drive test (simulating portable antenna performance and 10 dB loss applied for building penetration). Please see Figure 3-1: Portable CATP Test Radio Setup Diagram for the subjective DAQ roundtrip configuration.	Service Area within the Town of Waterford, CT Jurisdictional Boundary as shown in Section 3.2.7 Reference 1 - Town of Waterford, CT 3-Site ASTRO 25 800 MHz TDMA Simulcast Subsystem, 95% Service Area Reliability, Roundtrip, DAQ 3.4, APX 8000 Portable with an additional 10 dB loss applied for building penetration	523 (0.25 x 0.25 mile tiles) with approximately 453 accessible by roads	95%	DAQ-3.4	Subjective DAQ	Round Trip
APX 6500 Mobile in a standard vehicle with a unity gain antenna mounted in the center of the roof at least 5-feet high with 17-feet or less of Larson RG-58/U low loss dual shield coax or Times Microwave Systems LMR-240 coax installed according to prescribed installation standards	Outdoor	Service Area within the Town of Waterford, CT Jurisdictional Boundary as shown in Section 3.2.7 Reference 2 - Town of Waterford, CT 3-Site ASTRO 25 800 MHz TDMA Simulcast Subsystem, 98% Service Area Reliability, Outbound, DAQ 3.0, APX 6500 Mobile	339 (0.3 x 0.3 mile tiles) with approximately 320 accessible by roads	98%	DAQ-3.0	3.1% BER Outbound with Subjective DAQ Re-Test Allowed	Outbound Only

User Equipment	Outdoor / In-Building	Defined Test Area & Map Name	Number of Test Tiles	Reliability	CPC	CPC Pass/Fail	Direction(s) of Test
Informational Only							
2.5 watt APX 8000 Portable with the standard XE all-band antenna in a swivel case on the hip with a remote speaker microphone for transmit and receive	10 dB loss applied for building penetration coverage. In-vehicle attenuated drive test (simulating portable antenna performance and 10 dB loss applied for building penetration). Please see Figure 3-1: Portable CATP Test Radio Setup Diagram for the outbound objective BER configuration.	Service Area within the Town of Waterford, CT Jurisdictional Boundary as shown in Section 3.2.7 Reference 1 - Town of Waterford, CT 3-Site ASTRO 25 800 MHz TDMA Simulcast Subsystem, 95% Service Area Reliability, Roundtrip, DAQ 3.4, APX 8000 Portable with an additional 10 dB loss applied for building penetration	523 (0.25 x 0.25 mile tiles) with approximately 453 accessible by roads	N/A	N/A	Objective BER. Informational only data collection. Not used for Pass/Fail.	Outbound Only

Table 3-3: Town of Waterford Infrastructure Design Parameters

Site Name	Latitude	Longitude	Transmit Antenna System			Receive Antenna System				
			Mount Height (Feet)	Antenna Model	Azimuth (Degrees)	ERP (Watts)	Mount Height (Feet)	Antenna Model	Azimuth (Degrees)	EFS (dBm)
Waterford 800 MHz P25 Phase II TDMA Simulcast Subsystem										
Bartlett Road	41°25'4.0" N	72°6'25.0" W	180	dbSpectra DS7C09P36U-M	N/A	152	180	dbSpectra DS7C14PPTU-M	225	-129.13
Cohanzie Fire Station	41°22'39.0" N	72°8'25.0" W	170	dbSpectra DS7C09P36U-M	N/A	155	170	dbSpectra DS7C14PPTU-M	270	-129.13
Daniels Avenue	41°19'48.0" N	72°9'59.0" W	180	dbSpectra DS7C09P36U-M	N/A	152	180	RFI CC807-11-T1-P	N/A	-126.13

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3.2.2.6 In-Building Coverage

Motorola Solutions' coverage prediction for the portable equipment configuration includes additional loss to accommodate in-building coverage as stated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary.

Since building loss varies significantly depending on the construction of buildings, Motorola Solutions' coverage map does not predict coverage within any specific building. Rather, the in-building coverage map indicates the area within which this system is predicted to provide the required reliability of meeting or exceeding the required CPC within buildings that have up to the in-building loss as stated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary.

The in-building coverage map applies only to the above ground portions of buildings. The coverage map does not apply to in-building locations that are shielded from radio penetration, such as elevators, basements below ground level, tunnels, bank vaults, jails, x-ray rooms, nuclear facilities, and other locations shielded by metal walls or with heavy construction and with no external windows or doors.

Please see Reference 1 in Section 3.2.7 for the APX 8000 Portable with an additional 10 dB loss applied for building penetration coverage prediction.

3.2.2.7 Outdoor Only Mobile Coverage

Motorola Solutions' mobile coverage prediction is for outdoor locations only. Mobile coverage inside buildings, such as parking garages, or in tunnels is not a design requirement of this system and is, therefore, not guaranteed.

Please see Reference 2 in Section 3.2.7 for the APX 6500 Mobile coverage prediction.

3.2.2.8 CPC Pass/Fail Criterion for a Test Tile

For the defined equipment configurations, the CPC pass/fail criterion for a test tile is stated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary. The defined equipment configurations will have only one CPC pass/fail criterion for a test tile.

Coverage for the APX 8000 Portable with an additional 10 dB loss applied for building penetration equipment configuration will be verified for acceptance by attenuation of the test radio for Subjective DAQ tests. The attenuation will be the difference between the test radio's antenna system and the additional loss used in Motorola Solutions' coverage prediction to account for portable antenna performance and in-building penetration. The attenuator value is provided in Table 3-4: Attenuator Value to Evaluate Portable Equipment Configuration. Please see Figure 3-1: Portable CATP Test Radio Setup Diagram for the subjective DAQ roundtrip configuration.

This provides a method of verifying that the radio system provides the required Subjective DAQ for the specified CPC for the defined APX 8000 portable equipment configurations.

To obtain the informational BER values, sampling will be performed with the appropriate attenuator value installed in the test radio antenna line to establish an equivalent signal level performance for the defined equipment configuration. Please see Figure 3-1: Portable CATP Test Radio Setup Diagram for the objective BER outbound configuration.

Below is the attenuator value required to evaluate the portable equipment configuration. The methodology to determine the attenuator value is demonstrated in TSB-88.1-F §5.4.2, Figure 6. The

attenuator value includes the proper values for the equipment configuration requirement plus adjustments for the test equipment setup. Should the test equipment setup losses (e.g., cable length) vary, an adjustment to the attenuator value may be required to represent the required equipment configuration accurately.

Table 3-4: Attenuator Value to Evaluate Portable Equipment Configuration

User Equipment Configuration and Outdoor / In-Building	Attenuator Value
APX 8000 Portable with an additional 10 dB loss applied for building penetration	15 dB

To measure BER for the APX 6500 mobile equipment configuration, the coverage test will be performed with an APX 6500 mobile radio connected to a unity gain antenna mounted in the center of the roof at least 5 feet high with 17-foot or less of Larson RG-58/U low loss dual shield coax or Times Microwave Systems LMR-240 coax installed according to prescribed installation standards to establish an equivalent signal level performance for the defined equipment configuration. Please see Figure 3-2: Mobile CATP Test Radio Setup Diagram for the objective BER outbound configuration.

Any test tile that fails the objective BER test described above will be re-tested using a subjective DAQ test. Any test tile that fails the objective BER test, but passes a subjective DAQ re-test will be declared passed.

This provides a method of verifying that the radio system provides the required BER for the specified CPC for the defined APX 6500 mobile equipment configuration.

3.2.2.9 Required Number of Test Tiles in the Defined Test Area

The method used to test coverage is a statistical sampling of the defined test area to verify that the CPC is met or exceeded at the required reliability for the defined equipment configuration. It is impossible to verify every point within a defined test area, because there are infinite points; therefore, coverage reliability will be verified by sampling a statistically significant number of randomly selected locations, quasi-uniformly distributed throughout the defined test area. There is one test sample per test tile, where a sample consists of multiple sub-samples.

Coverage acceptance testing will be performed in the defined test area as indicated on Motorola Solutions-provided map (See Reference 1 and Reference 2 in Section 3.2.7). To verify that the reliability requirement is met, the defined test area indicated on Motorola Solutions' maps will be divided into uniformly sized test tiles, with at least the number of test tiles indicated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary. The number of test tiles indicated in Table 3-2 is at least the minimum required by the Estimate of Proportions formula as stated in section 3.2.2.1 (Defined Test Area) of this document.

Per TSB-88.3-G, the stated minimum outdoor test tile size is 100 by 100 wavelengths; however, the minimum practical test tile size is typically about 400 by 400 meters (about 0.25 by 0.25 miles). The minimum practical test tile size for any system is determined by the distance traveled at the speed of the test vehicle while sampling, GPS error margin, and availability of road access within very small test tiles. A related consideration is the time, resources, and cost involved in testing very large numbers of very small tiles. For a given defined test area, all test tiles must be of equal size. The maximum test tile size is 2 by 2 km (1.24 by 1.24 miles) {TSB 88.3-G, §5.5.1}. In some wide-area systems, this constraint on maximum tile size may dictate a greater number of test tiles than the minimum number required by the Estimate of Proportions formula.

No acceptance testing will be performed in locations outside the defined test area as indicated on the Motorola Solutions-provided maps. Motorola Solutions, the Town of Waterford, and DESPP may agree to perform "information only" tests in locations outside the defined test area; however, these "information only" test results will not be used for coverage acceptance. Any "information only" test locations must be defined before starting the test. If the added locations require significant additional time and resources to test, a change order will be required and Motorola Solutions may charge the Town of Waterford on a time-and-materials basis.

3.2.2.10 Accessibility to Test Tiles

Prior to testing, Motorola Solutions, the Town of Waterford, and DESPP will plan the route for the test vehicle through the defined test area, to ensure that at least the minimum required number of tiles is tested. While planning the route (if possible) or during the test, Motorola Solutions, the Town of Waterford and DESPP will identify any test tiles that are inaccessible for the coverage test (due to lack of roads, restricted land, etc.). Inaccessible tiles will be eliminated from the acceptance test calculation. {TSB-88.3-G, §5.5.4}

If elimination of inaccessible test tiles results in less than a statistically significant number of test tiles or substantially alters the defined test area, Motorola Solutions reserves the right to adjust the committed reliability based on the reduced number of accessible test tiles within the altered test area and the Estimate of Proportions formula. {TSB 88.3-G, §5.2.1, equation 2}

3.2.2.11 Random Selection of a Test Location in Each Tile

This CATP provides an objective method of randomly selecting and tracking test locations using Motorola Solutions' VoyagerSM coverage testing tool. The method follows TIA TSB-88.3-G §5.0, "Performance Confirmation", and has direct correlation with Motorola Solutions' coverage prediction methodology.

Using Voyager, the actual test location within each test tile will be randomly selected by the test vehicle crossing into the tile at an arbitrary point, with an arbitrary speed and direction. If the selected test location is in a shielded area such as a tunnel or underground parking garage, the data from that test location must be eliminated and a replacement test location must be used.

3.2.2.12 CPC Measurements in Each Tile

For the APX 8000 Portable with an additional 10 dB loss applied for building penetration equipment configuration, a voice test exchange will be initiated in each test tile using predetermined text typical of a common voice exchange between the fixed location and the portable location. The person conducting the test at the portable will be moving at a typical speed for the surrounding conditions.

For the Informational Outbound BER samples in each test tile, a series of sequential measurements (subsamples) will be made while the test vehicle is moving at a typical speed for the surrounding environment. This test tile measurement, containing a number of subsamples, constitutes the test sample for this location. The test sample will establish the mean BER within the test tile. The BER subsamples will typically be measured for at least 1 second for BER. A mean of multiple BER subsamples is used rather than a single measurement to ensure that the measurement is not biased by taking a single sample that might be at a peak or null point on the radio wave.

For the APX 6500 mobile equipment configuration outbound BER test, a series of sequential measurements (subsamples) will be made in each test tile while the test vehicle is moving at a typical

speed for the surrounding environment. This test tile measurement, containing a number of subsamples, constitutes the test sample for this location. The test sample will establish the mean BER within the test tile. The BER subsamples will typically be measured for at least 1 second. A mean of multiple BER subsamples is used rather than a single measurement to ensure that the measurement is not biased by taking a single sample that might be at a peak or null point on the radio wave.

3.2.3 Responsibilities and Preparation

This section identifies the responsibilities of the Town of Waterford, DESPP, and Motorola Solutions regarding requirements for equipment, personnel, and time during the coverage test.

The Town of Waterford and/or DESPP will provide the following for the duration of the coverage test:

- One (1) test vehicle and a driver for each test vehicle.
- Exclusive use of the test channels required by Motorola Solutions during the test.
- Facility with one (1) console operator position for the fixed end subjective audio test.
- One (1) field test team with three or more representatives designated by the Town of Waterford and/or DESPP per test team to evaluate and record the pass/fail result of each subjective audio transmission. The required quantity of test participants shall be available a minimum of 8 hours per day.
- One (1) fixed end test team with two or more representatives designated by the Town of Waterford and/or DESPP per test team to evaluate and record the pass/fail result of each subjective audio transmission. The required quantity of test participants shall be available a minimum of 8 hours per day.
- Two (2) APX 8000 portable user radios per test team for the test. One (1) portable user radio will be used for the subjective DAQ voice test and one (1) portable user radio will be used for informational BER measurements.
- Two (2) APX 6500 mobile user radios per test team for the test vehicle. One (1) mobile user radio will be used for the objective BER test and one (1) mobile user radio will be used for the subjective DAQ voice re-test, if needed.

Motorola Solutions will provide the following for the duration of the coverage test:

- One (1) Motorola Solutions Voyager coverage testing tool.
- Two (2) 7/800 MHz mobile antennas with magnetic mounts, mounted in the center of the vehicle roof at least 18-inches apart, free of obstructions and not adjacent to other large objects or metallic items which would distort the antenna pattern. One (1) antenna will be used for the APX 8000 portable user radio that will be used for the subjective DAQ voice test or the APX 6500 mobile user radio that will be used for the objective BER test and one (1) antenna will be used for the APX 8000 portable user radio that will be used for informational BER measurements or the APX 6500 mobile user radio that will be used for the subjective DAQ voice re-test, if needed.
- One (1) field test team with one fewer Motorola Solutions representatives than those designated by the Town of Waterford and/or DESPP to navigate and to operate Voyager, operate the portable radio, and to evaluate and record the pass/fail result of each subjective audio transmission. One fewer Motorola Solutions representatives per test team than those designated by the Town of Waterford and/or DESPP will ensure an odd number of team members to avoid ties for the pass/fail majority vote.
- One (1) fixed end test team with one fewer Motorola Solutions representatives than those designated by the Town of Waterford and/or DESPP to operate the fixed end

equipment and to evaluate and record the pass/fail result of each subjective audio transmission.

Before starting the test, the Town of Waterford, DESPP, and Motorola Solutions will agree upon the time frame for Motorola Solutions' submission of a report containing the coverage test results.

3.2.4 CATP Procedures

A coverage acceptance test will be performed using Motorola Solutions' Voyager tool to randomly select test locations, and to manage BER and SSI data collection.

Voyager consists of the following:

- A Global Positioning System (GPS) receiver, which will provide the computer with the location and speed of the test vehicle.
- A laptop computer with Voyager software and a mapping database, which includes highways and local streets.
- A test radio connected to an external antenna mounted in the center of the test vehicle roof, free of obstructions and not adjacent to other large objects or metallic items which would distort the antenna pattern. The test radio will monitor transmissions from the fixed network radio sites.

The procedure for the APX 8000 Portable with an additional 10 dB loss applied for building penetration subjective DAQ coverage test will be as follows:

- A subjective listening test will be performed for coverage acceptance testing, to verify talk-in and talk-out DAQ performance of the system. Please see Figure 3-1: Portable CATP Test Radio Setup Diagram for the subjective DAQ roundtrip configuration.
- Talk-out and talk-in will both be required to pass for a test tile to pass.
- A fixed dispatch location will be established.
- To perform a statistically valid subjective DAQ test, a large group of people is required to ensure high confidence in the results. However, obtaining a large group of people for a subjective listening test is usually impractical; therefore, several (three to seven) people in a car or van must be used for the test. Since a group this small cannot provide statistically significant results, it is very important that the personnel participating in the subjective test be familiar with the sound of radio conversations. Before subjectively testing, all personnel who will evaluate audio quality must be "calibrated" by listening to examples of audio that pass and fail the subjective DAQ test.
- Prior to testing, the Town of Waterford, DESPP, and Motorola Solutions will agree upon a procedure to allow each audio transmission, consisting of defined sentences that will be repeated for each outbound and inbound audio transmission, to be evaluated for approximately 5 seconds.
- The test participants will be divided into teams, each consisting of personnel from the Town of Waterford, DESPP, and Motorola Solutions. Each team will have members that operate a portable radio in the field, and members that are stationed at the fixed dispatch location.
- The Voyager tool will be installed in the test vehicle, which will be driven over a route planned to cover the accessible tiles within the defined test area.
- During the coverage test, the Voyager laptop computer screen will display the vehicle's location on a map of the defined test area overlaid with the grid of test tiles. As the field test team(s) drive through the defined test area, test locations within each test tile will be

- selected randomly by Voyager's GPS location indication. Voyager will be used to log the talk-in and talk-out pass/fail result as well as any pertinent notes for the location.
- At each test tile location, each field test team will initiate a talk-in voice call to the fixed dispatch location. Team members stationed at the fixed dispatch location will evaluate the talk-in audio quality of transmissions from each field test team, and will record his or her subjective pass/fail evaluation of the DAQ for the test tile. Team members stationed at the fixed dispatch location will respond to the field test team with a talk-out voice call. The field test team members will evaluate the talk-out audio quality of the transmission, and will record his or her subjective pass/fail evaluation of the DAQ for the test tile. Each team member will maintain a test log to record date, time, test tile reference and subjective pass/fail evaluation for each test tile location. Subjective pass/fail evaluation will be based on the DAQ descriptions in Table 3-1: DAQ Definitions. The determination of whether each test tile passes or fails the required DAQ value will be the majority vote of all team members' pass/fail subjective evaluations for that test tile. An odd number of team members is required to avoid ties for the pass/fail majority vote.
 - Should any subjective DAQ test tile fail, a retry of the transmission will occur. Should the retry pass, the test tile will be considered a pass. If a retry should occur, it will be noted in the test log notes for that test tile. All failed test tiles will be eligible for one retry from a different location within that test tile. If the retry passes, then that test tile will be considered a pass.

The procedure for concurrently collecting the APX 8000 portable with an additional 10 dB loss applied for building penetration informational-only outbound objective BER measurements will be as follows:

- Informational-only objective BER measurements will be collected. Please see Figure 3-1: Portable CATP Test Radio Setup Diagram for the objective BER outbound configuration.
- Outbound-only will be evaluated.
- The Voyager tool will be installed in the test vehicle, which will be driven over a route planned to cover the accessible tiles within the defined test area.
- The TDMA outbound-only BER test will use the 1031 Hz test pattern initiated on the TDMA logical channel. The outbound test pattern, once initiated, will send a continuous test pattern over the air to allow the radio in the Voyager test vehicle to gather signal statistics whenever a test is initiated.
- During the coverage test, the Voyager laptop computer screen will display the vehicle's location on a map of the defined test area overlaid with the grid of test tiles. Voyager will automatically initiate measurements when the GPS receiver indicates that a test tile has been entered. The computer will provide a visual indication that a measurement has been completed in a test tile. Voyager will manage the coverage test data collection, and will store the outbound measurements for each tested tile for later analysis.

The procedure for the mobile objective BER coverage test will be as follows:

- The Voyager tool will be installed in the test vehicle, which will be driven over a route planned to cover the accessible test tiles within the defined test area. Please see Figure 3-2: Mobile CATP Test Radio Setup Diagram for the objective BER outbound configuration.
- During the coverage test, the laptop computer screen will display the vehicle's location on a map of the defined test area overlaid with the grid of test tiles. Voyager will automatically initiate measurements when the GPS receiver indicates that a test tile has been entered. The computer will provide a visual indication that a measurement has

been completed in a test tile. Voyager will manage the coverage test data collection, and will store the outbound measurements for each tested tile for later analysis.

- Any test tile that fails the objective BER test described above will be re-tested using a subjective DAQ voice test. Any test tile that fails the objective BER test, but passes the subjective DAQ voice re-test will be declared passed.

The procedure for the mobile subjective DAQ voice re-test of failed BER test tiles (if needed) will be as follows:

- A subjective listening re-test will be performed on test tiles that fail the objective BER test, to verify talk-out DAQ performance of those test tiles.
- Talk-out will be evaluated.
- The radio system will be configured to continuously play a pre-recorded audio file containing male and female sentences connected to a CCGW patched to a dedicated TDMA talkgroup.
- A subjective DAQ voice re-test mobile radio installed in a representative location in each test vehicle, connected to a mobile antenna installed per the User Equipment Configuration Table 3-2: Town of Waterford Coverage Acceptance Test Summary, free of obstructions and not adjacent to other large objects or metallic items which would distort the antenna pattern, will monitor TDMA voice transmissions from the fixed network radio sites. Figure 3-2: Mobile CATP Test Radio Setup Diagram for the subjective DAQ outbound configuration.
- Each test team will consist of personnel from the Town of Waterford, DESPP, and Motorola Solutions. Each test team will have a member that operates the subjective DAQ voice re-test mobile radio.
- When a test team observes that a test tile fails the objective BER test described above, the test team will increase the volume on the subjective DAQ voice re-test mobile radio and listen to the continuous talk-out audio transmission in the failed test tile for the duration of time necessary to hear the two (2) pre-recorded phrases (approximately 5-7 seconds) while moving. Depending on where the roads lie within the test tile, it may be necessary for the test team to stop or turn around before performing the subjective DAQ voice re-test in order to ensure that the test is performed while in the failed BER test tile.
- The test team will evaluate the talk-out audio transmission to a minimum of DAQ 3.0, as described in Table 3-1: DAQ Definitions. The test team will record the subjective pass/fail evaluation of the talk-out audio transmission for the failed BER test tile.
- Should any subjective DAQ voice re-test tile fail, the talk-out audio transmission will be reevaluated within the failed BER test tile. Should the reevaluation pass, the subjective DAQ voice re-test tile will be considered a pass. If a reevaluation should occur, it will be noted in the test log notes for that test tile.

3.2.5 CATP Documentation and Coverage Acceptance

During the coverage acceptance test, Voyager generates computer files that include the raw test data. A copy of this data will be provided to the Town of Waterford and DESPP at the conclusion of the coverage test. Motorola Solutions will process this data to produce a map detailing the coverage test results, and to determine whether the coverage test was passed for the defined equipment configurations.

The coverage acceptance criterion for the defined equipment configuration will be that the voice radio system implemented by Motorola Solutions for the Town of Waterford meets or exceeds the reliability stated in Table 3-2: Town of Waterford Coverage Acceptance Test Summary for the defined equipment

configuration. The system coverage acceptance criterion will be the successful passing of the defined equipment configurations defined in Table 3-2: Town of Waterford Coverage Acceptance Test Summary.

Motorola Solutions reserves the right to review any test tiles that fail the mobile objective BER coverage test and the mobile subjective DAQ voice re-test. If a coverage test, or a portion thereof, is suspected by Motorola Solutions to have failed due to external interference, those test tiles suspected of being affected by an interferer may be re-tested using the external Bird P/N JFCB0762T0860UF 762-860.5 MHz mobile filter installed between the BER test mobile radio and associated antenna and between the DAQ re-test mobile radio and associated antenna. If the test tiles re-tested are confirmed to have failed due to interference or external noise, those test tiles will be excluded from all acceptance calculations and Motorola Solutions will work with the Town of Waterford and DESPP to identify potential solutions to the interference issues.

Motorola Solutions will conduct this Coverage Acceptance Test only once. If any portion of the test is determined to be affected by proven equipment malfunctions or failures, Motorola Solutions will repeat the portion of the test affected by the equipment malfunction or failure. The Town of Waterford and DESPP will have the option to accept the coverage at any time prior to completion of the coverage test or documentation process.

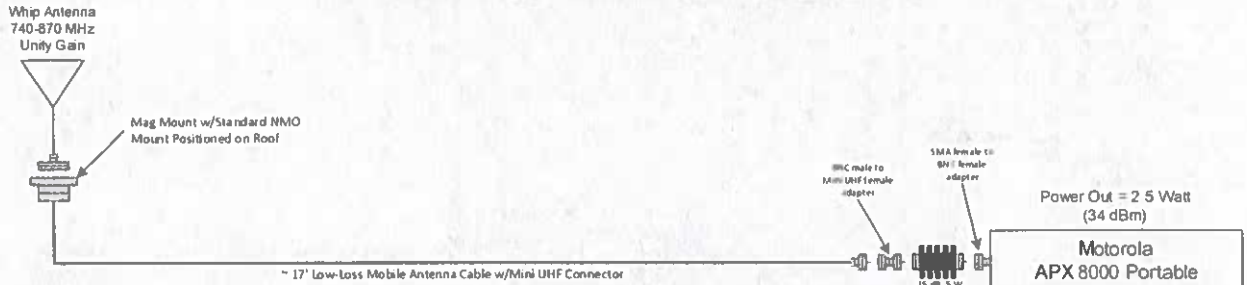
Motorola Solutions will submit to the Town of Waterford and DESPP a report detailing the coverage test results. This report will include a document, which is to be signed by both the Town of Waterford and Motorola Solutions, indicating the test was performed in accordance with this CATP and the results of the test indicate the acceptance or non-acceptance of the coverage portion of the system.

3.2.6 Test Radio Setup Diagram

Figure 3-1: Portable CATP Test Radio Setup Diagram shows the subjective DAQ round trip and objective BER/SSI outbound configuration for the portable test radio.

Figure 3-2: Mobile CATP Test Radio Setup Diagram shows the objective BER/SSI outbound configuration for the mobile test radio and the subjective DAQ outbound configuration.

Subjective DAQ Round Trip Configuration



Objective BER/SSI Outbound Configuration

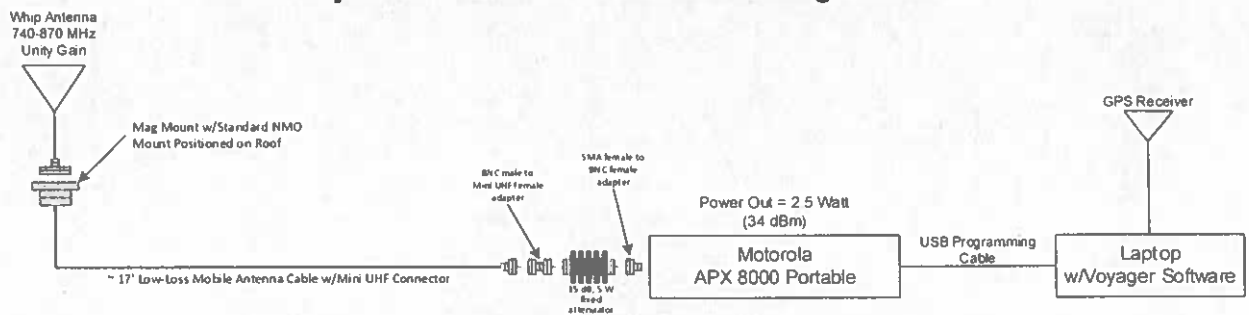
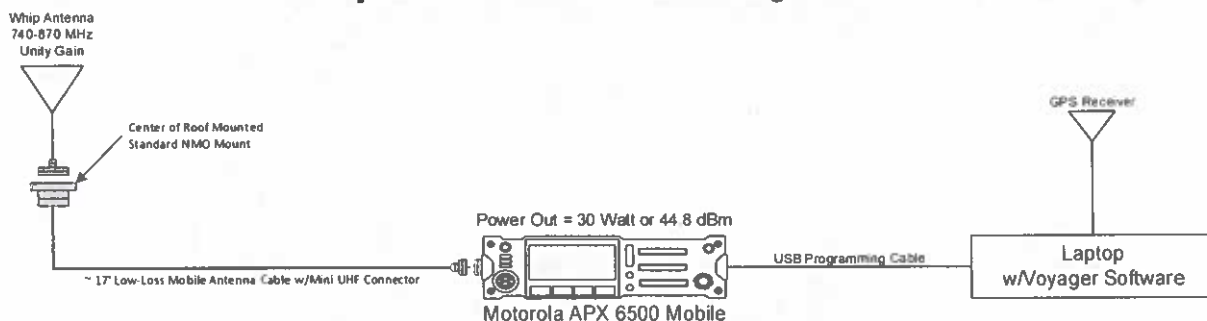


Figure 3-1: Portable CATP Test Radio Setup Diagram

Objective BER Outbound Configuration



Subjective DAQ Outbound Configuration

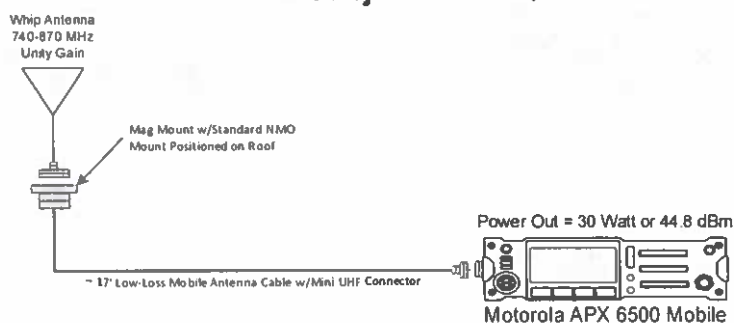


Figure 3-2: Mobile CATP Test Radio Setup Diagram

3.2.7 Coverage Maps

Motorola Solutions has provided coverage maps on the following pages in the order listed below:

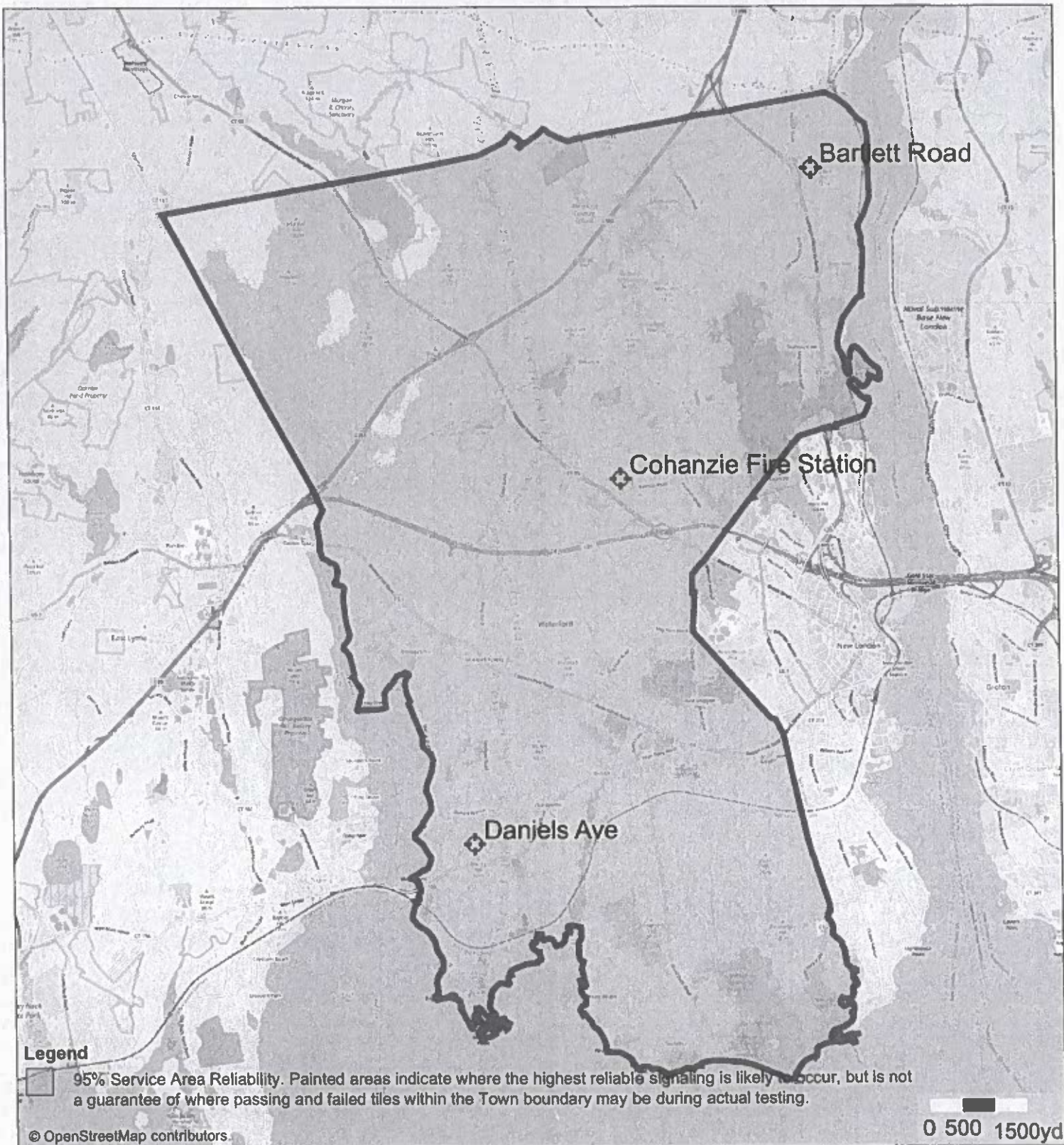
- REFERENCE 1 – Town of Waterford, CT, 3-Site ASTRO 25 800 MHz TDMA Simulcast Subsystem, 95% Service Area Reliability, Roundtrip, DAQ 3.4, APX 8000 Portable with an additional 10 dB loss applied for building penetration.
- REFERENCE 2 – Town of Waterford, CT, 3-Site ASTRO 25 800 MHz TDMA Simulcast Subsystem, 98% Service Area Reliability, Outbound, DAQ 3.0, APX 6500 Mobile.



MOTOROLA
SOLUTIONS

TOWN OF WATERFORD, CT

3 Site ASTRO 25 800 MHz TDMA Simulcast Subsystem. Shaded Area Represents Roundtrip 95%
Covered Area Reliability at DAQ 3.4.



Printed: 12/24/2024
System version: 3.1.12

2.5 Watt APX 8000 Portable with an Additional 10 dB Loss applied for
Building Penetration with the Standard XE All-Band Antenna in a Swivel
Case on the Hip with a Remote Speaker Microphone for Transmit and
Receive.

Solution: Waterford, CT
Project: CLMRN Simulcast Subsystem Add-
Design: Design 145
C13924

This map is intended solely for the equipment configuration stated above.
Coverage can vary significantly if different configurations are used.

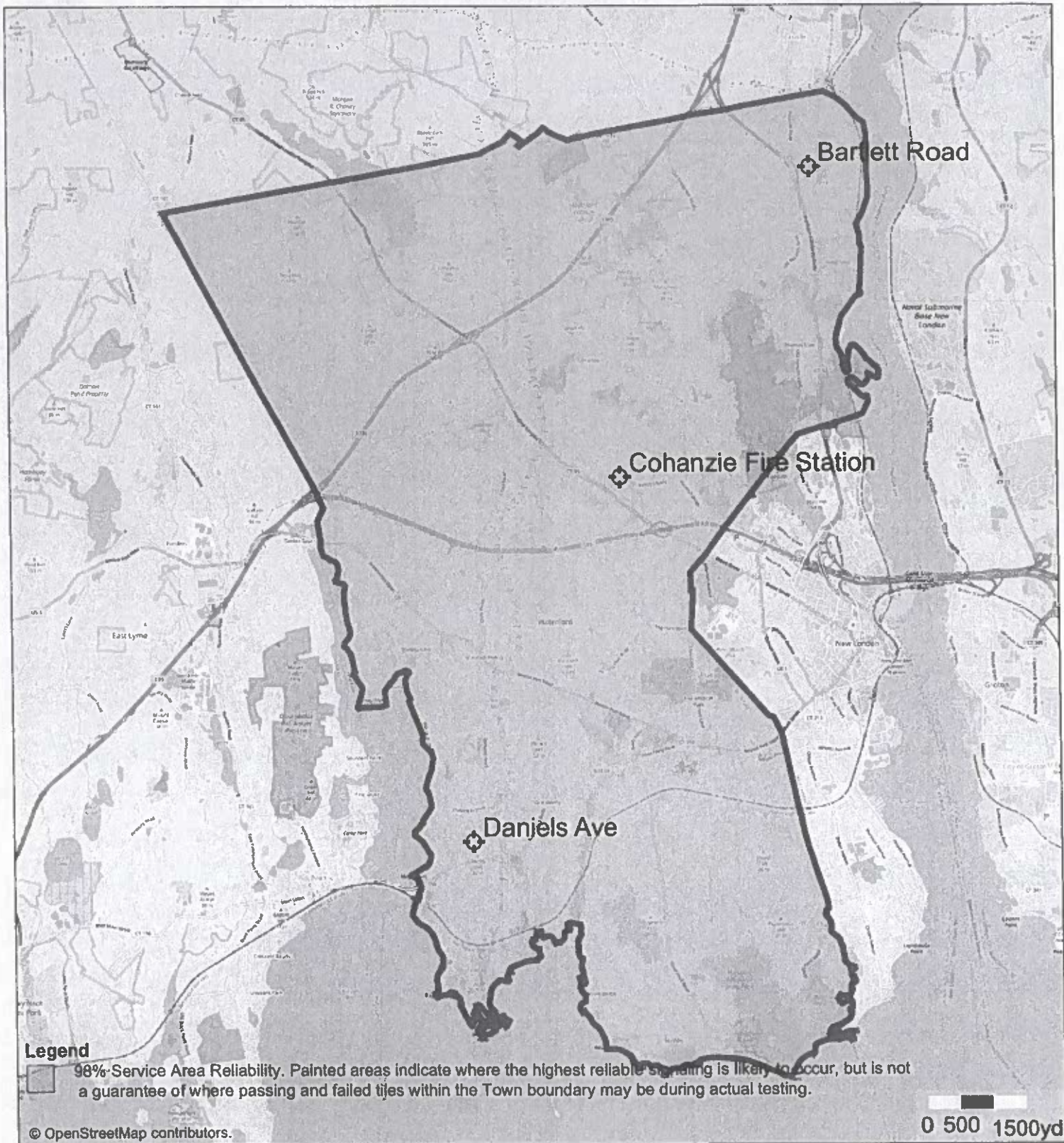
REFERENCE 1



MOTOROLA
SOLUTIONS

TOWN OF WATERFORD, CT

3-Site ASTRO 25 800 MHz TDMA Simulcast Subsystem. Shaded Area Represents Outbound 95%
Covered Area Reliability at DAQ 3.0.



Printed: 12/24/2024
System version: 3.1.12

30W APX 6500 Mobile with a Center Roof Mount Antenna installed
according to prescribed installation standards.

Solution: Waterford, CT
Project: CLMRN Simulcast Subsystem Add-
Design: Design 147
C13924

This map is intended solely for the equipment configuration stated above.
Coverage can vary significantly if different configurations are used.

REFERENCE :

Section 4

Service/Warranty

Motorola Solutions has over 90 years of experience supporting mission critical communications for public safety and public service agencies. Motorola Solutions' technical and service professionals use a structured approach to lifecycle service delivery and provide comprehensive maintenance and support throughout the life of the system. The value of support is measured by system availability, which is optimized through the use of proactive processes, such as preventive maintenance, fault monitoring and active response management. System availability is a function of having in place a support plan delivered by highly skilled support professionals, backed by proven processes, tools, and continuous training.

4.1 Essentials Plus Overview

Essential Plus Services for ASTRO® 25 infrastructure will provide Waterford with the support needed to detect and resolve unforeseen issues. Essential Plus Services consist of the following elements:

- Remote Technical Support
- Network Hardware Repair
- Security Update Service (SUS)
- On-site Infrastructure Response
- Annual Preventive Maintenance
- Network Event Monitoring
- Remote Security Update Services

Together, these elements will help to avoid operational disruptions and maintain the value of Waterford's communications investment.

4.2 Essential Plus Element Descriptions

The following sections describe the elements proposed for Waterford's ASTRO 25 infrastructure.

4.2.1 Remote Technical Support

Motorola Solutions' Centralized Managed Support Operations (CMSO) will provide Remote Technical Support for infrastructure issues that require specific technical expertise. Experienced technical support specialists will be available to help diagnose, troubleshoot and resolve infrastructure issues. Service Desk maintenance procedures and incident resolution techniques are based on ISO 9001 and TL 9000 standards.

4.2.2 Network Hardware Repair

To restore Waterford's ASTRO 25 network components if they malfunction, Motorola Solutions will repair Motorola Solutions-provided infrastructure equipment. This includes select third-party infrastructure equipment supplied by Motorola Solutions. Motorola Solutions will ship and return repaired equipment, and will coordinate the repair of third-party solution components.

4.2.3 Security Update Service

Commercial security software updates are often designed without consideration for specialized systems like radio communications networks. Therefore, they may at sometimes inadvertently disrupt ASTRO 25 networks such as the one proposed to Waterford. Motorola Solutions will test anti-virus, operating system and other software patches to check their compatibility with ASTRO 25.

4.2.4 On-site Infrastructure Response

Motorola Solutions will provide repair service from trained and qualified technicians. Once dispatched, technicians will travel to Waterford's ASTRO 25 network location to diagnose issues and restore functionality. These technicians will run diagnostics on hardware to identify defective components, and repair or replace them as appropriate. Infrastructure Response times are based on a given issue's impact on overall system function as outlined in the Master Agreement.

4.2.5 Annual Preventive Maintenance

Motorola Solutions will annually test and service network components. Qualified field technicians will perform routine hands-on examination and diagnostics of network equipment to keep them operating according to original manufacturer specifications.

4.2.6 Network Event Monitoring

Real-time, continuous ASTRO® 25 radio communications network monitoring and event management. Using sophisticated tools for remote monitoring and event characterization, Motorola will assess events, determine the appropriate response and initiate that response. Possible responses include remotely addressing the issue, escalation to product technical support groups, and dispatch of designated field technical resources.

4.2.7 Remote Security Update Service

Motorola Solutions will pre-test third-party security updates to verify they are compatible with the ASTRO 25 network, and remotely push the updates to the Customer's network.

4.3 Motorola Solutions Service Delivery Ecosystem

Essential Plus Services are delivered through a tailored combination of field service personnel, centralized teams, product repair depots and Customer Hub. These service resources will collaborate to swiftly analyze network issues, accurately diagnose root causes, and efficiently resolve issues to return the network to normal operation.

Motorola Solutions services will be delivered by staff experienced in servicing mission-critical networks. Motorola Solutions uses the Information Technology Infrastructure Library (ITIL) framework to define service tasks based on industry-recognized best practices. As staff perform tasks, service incident information will be available to Waterford's administrators and personnel through Customer Hub.

Service activities and Motorola Solutions' service team are described in more detail below.

4.3.1 Centralized Managed Support Operations

The cornerstone of Motorola Solutions' support process is the Centralized Managed Support Operations (CMSO) organization. This TL 9000/ISO 9001-certified organization is staffed 24x7x365 by experienced service desk specialists, security analysts and operations managers. The CMSO houses critical central functions, including the Service Desk.

The CMSO Service Desk will serve as a single point of contact for services. It processes service requests, service incidents, change requests, and dispatching. The Service Desk communicates necessary information to stakeholders, bridging communications among Waterford, Motorola Solutions, and third-party subcontractors.

Service Desk teams record, track, and update incidents through the Motorola Solutions Customer Relationship Management (CRM) system. They document and respond to inquiries, requests, concerns and service tickets. When an incident is initiated, the CMSO will engage with teams to resolve that incident. The CMSO will escalate to new teams when needed. Depending on the incident, the CMSO will coordinate incident resolution with local field service and authorized repair depots.

4.3.2 Field Service

Motorola Solutions authorized and qualified field service technicians will perform the On-site Infrastructure Response service, repair malfunctioning hardware in the field, and conduct preventive maintenance tasks. These technicians will coordinate with the Service Desk, technical support teams, and product engineering as needed to resolve incidents.

4.3.3 Repair Depot

The Motorola Solutions Repair Depot will provide Waterford with a central repair location. This will eliminate the need to send network equipment to multiple vendor locations for repair. Motorola Solutions tracks products sent to the Depot via a case management system throughout the repair process. This system will enable Waterford's representatives to check repair status, from inbound shipment to return.

4.3.4 Customer Support Manager

A Motorola Solutions Customer Support Manager (CSM) and System Manager (SM) will be Waterford's key points of contact for the definition and administration of services. The CSM will work with SM and Waterford to define service delivery details to address Waterford's specific priorities.

4.4 Network Updates (SUAll)

4.4.1 Description of Service

The ASTRO 25 Network Updates periodically provides updates to system software with associated implementation services and hardware changes, to keep the overall ASTRO 25 system in a supportable state for maintenance, repair, overall network health, and security.

Network updates with post-warranty services are included for a duration of four (4) years in order to provide for system wide maintenance of all sites and components. Up to one (1) upgrade every two (2) years has been included.

4.4.2 Scope

As system releases become available, Motorola Solutions agrees to provide the Customer with the software, hardware and implementation services required to execute up to one system infrastructure update in each eligible update window over the term of this agreement. The term of the support agreement is listed in Table 4-1: Network Updates Term. The eligible update windows and their duration are illustrated in Table 4-2: Eligible Update Windows.

If needed to perform the software updates, Motorola Solutions will provide updated and/or replacement hardware for covered infrastructure components. System release updates, when executed, will provide an equivalent level of functionality as that originally purchased and deployed by the Customer. At Motorola Solutions' option, new system releases may introduce new features or enhancements that Motorola Solutions may offer for purchase. These new features, available separately for purchase, are not part of the Network Updates.

Table 4-1: Network Updates Term

Duration:	Four Years
------------------	------------

Table 4-2: Eligible Update Windows

First Eligible Upgrade Window	Second Eligible Upgrade Window
Duration: 2 Years	Duration: 2 Years
1/1/2027 – 12/31/2028	1/1/2029 – 12/31/2030

ASTRO 25 Network Updates pricing is based on the system configuration as-proposed. This configuration is to be reviewed annually from the contract effective date. Any change in system configuration may require an ASTRO 25 Network Updates price adjustment.

The ASTRO 25 Network Updates annualized price is based on the fulfillment of the system release update in each eligible update window. If the Customer terminates, except if Motorola Solutions is the defaulting party, the Customer will be required to pay for the balance of payments owed in that eligible update window if a system release update has been taken prior to the point of termination.

Any updates to hardware versions and/or replacement hardware required to support new features or those not specifically required to maintain existing functionality are not included. Platform migrations are the replacement of a product with the next generation of that product. Unless otherwise stated, platform migrations such as, but not limited to, stations, comparators, site controllers, consoles, backhaul, and network changes are not included.

4.4.2.1 Inclusions

The ASTRO 25 Network Updates only covers the applicable products that are outlined in this section and does not cover all products.

The ASTRO 25 Network Updates covers ASTRO 25 certified software releases for the following applicable products provided they were present at the time of contract execution and provided as part of the ASTRO 25 certified solution:

- Firewalls.
- Routers.
- LAN switches.
- Workstations.
- CommandCentral Hub.
- DBR Base Stations.
- DSC Site Controllers.
- MCG 8000 Conventional Channel Gateways (CCGWs).
- McEdge Aux I/O
- McEdge RTUs.
- Motorola Solutions logging interface equipment (AIS).
- MCC7500 Voice Processing Module (VPM)

The following applicable hardware components, if originally provided by Motorola Solutions as part of the certified ASTRO 25 release, are eligible for full product replacement when necessary to support the system release update:

- Firewalls.
- Routers.
- LAN switches.
- Workstations.
- CommandCentral Hub.
- McEdge Aux I/O.
- DSC Site Controllers.
- MCG 8000 CCGWs.
- Motorola Solutions logging interface equipment (AIS).

The following applicable hardware components, if originally provided by Motorola Solutions, are eligible for board-level replacement when necessary to support the system release update. A "board-level replacement" is defined as any Field Replaceable Unit ("FRU") for the products listed below:

- DBR Base Stations.
- McEdge RTUs.
- MCC7500 Voice Processing Module (VPM)

4.4.2.2 Exclusions

ASTRO® SUA does not cover the all products proposed as part of the solution including:

- Customer furnished voice logging solutions or associated MSI API licensing.
- Backhaul network equipment – MPLS & Microwave products.
- Subscriber equipment – APX, N Series, MCD5000 desktop remotes or associated services.
- Peripheral equipment – monitors, microphones, keyboards & speakers.
- Radio frequency distribution systems & transmission mediums – antennas, transmission line, filters/preselectors, combiners, multicouplers and tower top amplifier equipment.
- Customer provided transport.
- DC power systems, UPS units, power distribution units (PDUs) and surge protection devices (SPDs).

4.5 Third Party Solution Services

Motorola has included third party solutions with its proposal to the Town of Waterford. Support services differ from the Essential Plus package of services for Motorola infrastructure and are summarized as follows.

The following third party solution(s) have been included in Motorola's proposal to the Town of Waterford:

- Aviat Microwave.

The following support services have been included with the proposed third party solution(s) during the Motorola warranty term and post-warranty term.

Aviat Microwave

A combination of local field services and Aviat manufacturer services have been included:

- Microwave hardware monitoring.
- Local Teir 1 onsite services.
- 24x7 access to Aviat Networks online Technical Support website.
- 24x7 access to the AviatCare Online Customer Support site.
- Remote access to regional Technical Assistance Centers.
- 7x24x365 Priority Technical Support.
- Repair Logistics and Advanced Replacement.
- Expedited Repair.

Exclusions

- *Network Updates (SUAII) are not included.*

Nokia MPLS Backhaul Equipment

A combination of local field services and Nokia manufacturer services have been included:

- 24 x 7 Remote Technical Support (RTS).
- Repair for Return (RFR).
- Local Teir 1 onsite services.

Exclusions

- *Network Updates (SUA II) are not included.*

4.6 Post Warranty Services

As Motorola Solutions' continuing commitment to supporting your system, post-warranty services have been included for a term of four (4) years to provide maintenance and service support in future years. All of the services detailed in Section 4.1 are included for the duration of the proposed support term - the warranty year and the four (4) post-warranty years. These system support services significantly benefit the Town of Waterford because the system can be effectively supported after the warranty period, thereby maximizing the operational capabilities and useful life of the system and protecting your investment in the system.

Post-warranty support is an optional cost concurrent with system purchase, however post warranty services whether contracted with system purchase, or on a year-to-year basis, are required for CLMRN connected equipment in order to provide for system wide maintenance of all sites and components.

4.7 Summary

Whether it's a routine service call, or a disaster situation, Motorola Solutions understands its responsibility and takes pride in its commitment to deliver proven response service to the public safety community. Motorola Solutions has the capability to provide the technical, administrative, consultative, and maintenance repair services needed to support, enhance, and maintain the effectiveness of your communications network. Motorola Solutions' goal is to provide the Town of Waterford with the qualified resources, to maintain and improve system operation and availability, and to deliver world-class service support.

Warranty and Post Warranty Service support services to be delivered are outlined in Table 4-3.

Table 4-3: Warranty and Post Warranty Service Overview

Warranty and Post Warranty Service Overview	Warranty Year	Post Warranty Years 2-5
Network Event Monitoring	✓	✓
Remote Technical Support	✓	✓
Network Hardware Repair	✓	✓
Remote Security Update Service	✓	✓
On-site Infrastructure Response	✓	✓
Annual Preventive Maintenance	✓	✓
Network Updates (SUA II)		✓

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Section 5

Pricing Summary

5.1 Pricing Summary

Solution Component	Value
Discounted Equipment & Freight, Itemized Below:	\$3,691,959
Fixed Network Equipment & Freight	\$2,867,584
Subscribers (User Equipment)	\$824,375
Implementation Services, Itemized Below:	\$2,245,581
System Staging & Field Installation Services	\$258,421
Site Development Services	\$537,171
Microwave Installation Services	\$506,123
Motorola Project Management, Engineering & System Technologist	\$383,729
Coverage Acceptance Test Kits & Coverage Acceptance Testing Services	\$19,934
Box Level Warranty to State Services Upgrade	\$150,369
Prevailing Wage Adder for Field Installation Services	\$55,029
APCO Coordination Costs	\$5,580
Subscriber (User Equipment) Services	\$329,225
CT A-99-001 Equipment & Services Pricing	\$5,937,540
¹ Project Incentive	(\$831,000)
Total Investment with Incentives	\$5,106,540
Years 2-5 of Maintenance & Lifecycle Services	\$1,036,374
Total Investment with Discount & Post-Warranty Services	\$6,142,914

¹ The Project Incentive is contingent on receipt of a PO valued at \$6,142,914 by November 7, 2025 for all of the equipment, implementation services, and post warranty services specified in this proposal.

Pricing summarized is based on the scope as detailed and proposed. Adjustments to the scope, deliverables, quantities and configuration of the proposed equipment will require a revision to the proposal and will impact pricing and incentives.

5.1.1 Post Warranty Services

Post warranty services as priced below include years 2-5 of Essential + support and System Upgrade Agreement II (SUA II). Pricing as summarized is based on purchase of the post-warranty services at the time of system order for the full term as proposed. Purchase of post-warranty services after system purchase and year to year services renewal pricing will reflect current support pricing at the time of support services purchase.

Service	Year 1	Year 2	Year 3	Year 4	Year 5
Maintenance Services	Included	\$176,905	\$184,817	\$198,947	\$208,047
Lifecycle (SUA) Services	N/A	\$64,536	\$66,080	\$67,686	\$69,356
Total Services	Included	\$241,441	\$250,897	\$266,633	\$277,403

5.2 Terms and Conditions

The terms and conditions are based upon the State of Connecticut's DAS Master Contract A-99-001.

5.3 Price Validity

This proposal is valid through November 7, 2025.

5.4 Milestone Payment Schedule

The payment schedule as shown is based on the A-99-001 Master Agreement. The total contract value is \$5,106,540 with discount, exclusive of post-warranty services and \$6,142,914 inclusive of post-warranty services years 2-5. Customer will make payment when due in the form of a check, cashier's check or wire transfer drawn on a U.S. financial institution and in accordance with the following milestone payment schedule.

Table 5-1: Payment Milestones

Milestone		Milestone Details	Payment (no post warranty)	Payment (with post warranty)
1	Factory Testing, Certification and Delivery to the State	Aggregate payments upon completion of Delivery to the State shall be in an amount equal to 48% of the Contract Price of the System, payable upon delivery of equipment. The aggregate payment upon completion of this Delivery Milestone shall not exceed the amount presented.	\$2,451,139	\$2,948,599
2	System Installation	Aggregate payments upon receipt of equipment in an amount equal to 20% of the Contract Price of the System, payable on a site or troop basis. The aggregate payment upon completion of this Installation Milestone shall not exceed the amount presented.	\$1,021,308	\$1,228,583
3	Acceptance Testing	Aggregate payments upon completion of Equipment Testing as defined in Acceptance Test Plan Proposal Section 4 shall be in an amount equal to 18% of the Contract Price of the System, payable on a site-by-site basis. The aggregate payment upon completion of this system equipment testing Milestone shall not exceed the amount presented.	\$919,177	\$1,105,725
4	Final System Acceptance	Payments of all "hold back" funds upon Final System Acceptance. An amount equal to 14% of the Contract Price of the System. The payment upon completion of this system testing Milestone shall not exceed the amount presented.	\$714,916	\$860,007

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5.5 Detailed Pricing

The equipment, software and features for the proposed solution is as follows.

5.5.1 Infrastructure Equipment

SUB SYS	BLOCK	LIM	O	APC	QTY	NOMENCLATURE	DESCRIPTION	UNIT LIST (USD)	EXT LIST (USD)	Contract Disc	Contract Unit	Contract Extended
Equip Rm	RACK	1	-	509	1	TRN7343A	RACK 7.5'	\$495.00	\$495.00	20%	\$396.00	\$396.00
Equip Rm	Rack Hrdwr	2	-	454	4	0784469Y02	BRACKET,BRKT, CBL SUPPORT	\$109.73	\$438.92	25%	\$82.30	\$329.19
Equip Rm	Rack Hrdwr	3	-	454	1	3182602Y06	GROUNDING BUS BAR	\$107.25	\$107.25	25%	\$80.44	\$80.44
Equip Rm	Rack Hrdwr	4	-	744	10	0309660A01	SCREW 12-24X5/8 SLTXW CRS ZINC	\$15.40	\$154.00	15%	\$13.09	\$130.90
Equip Rm	AC Edge	5	-	207	2	DS11011188	PDU, 120/240 SPLIT PH OR N+1 REDUNDANT, 60A MAX PER PHASE, SIX DEDICAT	\$3,439.00	\$6,878.00	10%	\$3,095.10	\$6,190.20
Equip Rm	AC Edge	6	-	207	24	DS3750297	BREAKER, 15 AMP, CB UL 489 LISTED FOR AC EDGE II (1101-1188)	\$74.71	\$1,793.04	10%	\$67.24	\$1,613.74
Equip Rm	BACKHAUL	7	-	708	1	DSMW3HE18861AB	BNDL-MOTOROLA 7705 SAR-AX ENET-REDUNDANT	\$8,400.00	\$8,400.00	15%	\$7,140.00	\$7,140.00
Equip Rm	BACKHAUL	8	-	708	4	DSMW3HE06972AB	ROUTER,PSE CERTIFIED 100W HIGH VOLTAGE POWER SUPPLY	\$551.25	\$2,205.00	15%	\$468.56	\$1,874.25
Equip Rm	BACKHAUL	9	-	708	4	DSMW3HE10040AA	ROUTER,AC POWER CABLE, LOCKING, 6FT, NA	\$202.13	\$808.52	15%	\$171.81	\$687.24
Equip Rm	BACKHAUL	10	-	708	2	DSMW3HE09095AA	7705 SAR-A/AX REAR ATTACHABLE TRAY	\$551.25	\$1,102.50	15%	\$468.56	\$937.13
Equip Rm	BACKHAUL	11	-	708	4	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	\$242.55	\$970.20	15%	\$206.17	\$824.67
Equip Rm	BACKHAUL	12	-	708	4	DSMW3HE00028CA1	SFP - GIGE LX - LC ROHS 6/6 DDM -40/85C	\$731.33	\$2,925.32	15%	\$621.63	\$2,486.52
Equip Rm	Site Rtr	13	-	147	2	T8492A	SITE ROUTER & FIREWALL- AC	\$2,091.00	\$4,182.00	15%	\$1,777.35	\$3,554.70
Equip Rm	Site Rtr	13	a	147	2	CA03445AA	ADD: MISSION CRITICAL HARDENING	\$3,300.00	\$6,600.00	15%	\$2,805.00	\$5,610.00
Equip Rm	Site Rtr	13	b	147	2	CA03448AA	ADD: STATEFUL FIREWALL	\$1,000.00	\$2,000.00	15%	\$850.00	\$1,700.00
Equip Rm	Site LANSW	14	-	147	2	CLN9066A	NETWORK SWITCH, JUNIPER EX4100 24-PORT NON TAA	\$5,205.88	\$10,411.76	15%	\$4,425.00	\$8,850.00
Equip Rm	Site LANSW	15	-	147	2	CLN9105A	FRU: JUNIPER 1M DAC CABLE	\$49.00	\$98.00	15%	\$41.65	\$83.30
Equip Rm	CSC	16	-	677	1	T8810A	STANDALONE DSC 8000 CONTROLLER	\$0.00	\$0.00	20%	\$0.00	\$0.00
Equip Rm	CSC	16	a	677	1	CA04079AA	ADD: ASTRO NEXT SYSTEM RELEASE 2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
Equip Rm	CSC	16	b	677	1	CA03801AA	ADD: DSC 8000 CONVENTIONAL SITE CONTROLLER	\$5,500.00	\$5,500.00	20%	\$4,400.00	\$4,400.00
Equip Rm	CSC	16	c	677	1	UA00787AA	ADD: DSC 8000 CONVENTIONAL SITE CONTROLLER SW	\$8,000.00	\$8,000.00	20%	\$6,400.00	\$6,400.00
Equip Rm	CSC	16	d	677	1	CA03832AA	ADD: NM--DISPATCH SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
Equip Rm	CSC AC PS	17	-	677	1	T8811A	DSC AC POWER SUPPLY CHASSIS	\$1,700.00	\$1,700.00	20%	\$1,360.00	\$1,360.00
Equip Rm	CSC AC PS	17	a	677	1	CA03800AA	ADD: SINGLE POWER SUPPLY FOR DSC	\$1,100.00	\$1,100.00	20%	\$880.00	\$880.00
Equip Rm	CSC AC PS	17	b	677	1	CA03533AA	ADD: DSC AC POWER CABLE - US, 12 FT	\$0.00	\$0.00	20%	\$0.00	\$0.00
Equip Rm	CCGW 1	18	-	147	1	SQM01SUM0333A	MCG 8000 CONVENTIONAL GATEWAY	\$5,000.00	\$5,000.00	15%	\$4,250.00	\$4,250.00
Equip Rm	CCGW 1	18	a	147	1	CA03714AA	ADD: AC POWER	\$0.00	\$0.00	15%	\$0.00	\$0.00
Equip Rm	CCGW 1	18	b	147	8	CA03717AA	ADD: ACIM INTERFACE	\$750.00	\$6,000.00	15%	\$637.50	\$5,100.00
Equip Rm	CCGW 2	19	-	147	1	SQM01SUM0333A	MCG 8000 CONVENTIONAL GATEWAY	\$5,000.00	\$5,000.00	15%	\$4,250.00	\$4,250.00
Equip Rm	CCGW 2	19	a	147	1	CA03714AA	ADD: AC POWER	\$0.00	\$0.00	15%	\$0.00	\$0.00

Pricing Summary

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Town of Waterford, CT
Communications System Upgrade

Equip Rm	CCGW 2	19	b	147	8	CA03717AA	ADD: ACIM INTERFACE	\$750.00	\$6,000.00	15%	\$637.50	\$5,100.00
Equip Rm	CCGW 3	20	-	147	1	SQM01SUM0333A	MCG 8000 CONVENTIONAL GATEWAY	\$5,000.00	\$5,000.00	15%	\$4,250.00	\$4,250.00
Equip Rm	CCGW 3	20	a	147	1	CA03714AA	ADD: AC POWER	\$0.00	\$0.00	15%	\$0.00	\$0.00
Equip Rm	CCGW 3	20	b	147	8	CA03717AA	ADD: ACIM INTERFACE	\$750.00	\$6,000.00	15%	\$637.50	\$5,100.00
Equip Rm	Aux I/O	21	-	275	1	F0016A	MC IOT MAIN MODEL	\$1,119.00	\$1,119.00	10%	\$1,007.10	\$1,007.10
Equip Rm	Aux I/O	22	-	275	1	VA01945AA	ADD: MC EDGE AS AUX I-O SERVER	\$0.00	\$0.00	10%	\$0.00	\$0.00
Equip Rm	Aux I/O	23	-	275	1	VA00973AA	ADD: IOT MC-EDGE ENHANCED COMM PLUG-IN BOARD	\$177.00	\$177.00	10%	\$159.30	\$159.30
Equip Rm	Aux I/O	24	-	275	3	VA00989AA	ADD: MIXED DIGITAL _8DO EE 16DI 5-18 V --DRY	\$642.00	\$1,926.00	10%	\$577.80	\$1,733.40
Equip Rm	Aux I/O	25	-	275	1	VA00130AA	ADD: AC POWER, SUPPLY 24V -- 120W DC OUTPUT (LIMITED TEMP. -25 -- +70)	\$354.00	\$354.00	10%	\$318.60	\$318.60
Equip Rm	Aux I/O	26	-	275	1	VA00155AA	ADD:DC POWER CABLE SA	\$59.00	\$59.00	10%	\$53.10	\$53.10
Equip Rm	Aux I/O	27	-	275	1	VA00153AA	ADD:I-O MODULE EXTRACTOR TOOL	\$12.00	\$12.00	10%	\$10.80	\$10.80
Equip Rm	Aux I/O	28	-	275	1	VA00341AA	INC:MC-EDGE MAIN FILE SYSTEM	\$0.00	\$0.00	10%	\$0.00	\$0.00
Equip Rm	Aux I/O	29	-	275	1	VA00974AA	INC: IOT MC-EDGE CPU PACKAGE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Equip Rm	Aux I/O	30	-	275	1	VA00442AA	INC:MC-EDGE SYSTEM SW FILES	\$0.00	\$0.00	10%	\$0.00	\$0.00
Equip Rm	Aux I/O	31	-	275	1	VA00967AA	INC: CPU PACKING	\$0.00	\$0.00	10%	\$0.00	\$0.00
Equip Rm	Aux I/O	32	-	275	1	VA00142AA	INC:EXTREMDB LICENSE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Equip Rm	Aux I/O	33	-	275	2	FHN0057A	DIN RAIL STOPPER	\$17.00	\$34.00	10%	\$15.30	\$30.60
Equip Rm	Aux I/O	34	-	499	1	DSIABDIN4	PANDUIT IABDIN4 4 RACK UNIT DIN RAIL FOR EIA 19" MOUNT	\$308.00	\$308.00	10%	\$277.20	\$277.20
Equip Rm	AIS Sftwr	35	-	443	1	B1905A	MCC7500 SOFTWARE	\$250.00	\$250.00	20%	\$200.00	\$200.00
Equip Rm	AIS	36	-	443	1	B1933A	MOTOROLA VOICE PROCESSOR MODULE	\$11,920.00	\$11,920.00	20%	\$9,536.00	\$9,536.00
Equip Rm	AIS	36	a	443	1	CA00147AF	ADD: MCC 7500 SECURE OPERATION	\$4,290.00	\$4,290.00	20%	\$3,432.00	\$3,432.00
Equip Rm	AIS	36	b	443	1	CA01220AA	ADD: MCC 7500 -- MCC 7100 OTEK OPERATION	\$4,422.00	\$4,422.00	20%	\$3,537.60	\$3,537.60
Equip Rm	AIS	36	c	443	1	CA00288AB	ADD: MCC 7500 AIS SOFTWARE LICENSE	\$19,880.00	\$19,880.00	20%	\$15,904.00	\$15,904.00
Equip Rm	AIS	36	d	443	1	CA00182AB	ADD: AES ALGORITHM	\$990.00	\$990.00	20%	\$792.00	\$792.00
Equip Rm	AIS	36	e	443	1	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN	\$0.00	\$0.00	20%	\$0.00	\$0.00
Equip Rm	AIS	37	-	277	1	BLN1297A	VPM POWER SUPPLY MOUNTING KIT	\$250.00	\$250.00	0%	\$250.00	\$250.00
Equip Rm	AIS CPU	38	-	708	1	TT4270B	Z2 MINI G9 WORKSTATION GEN14 PROCESSOR	\$2,857.00	\$2,857.00	15%	\$2,428.45	\$2,428.45
Equip Rm	AIS CPU Shelf	39	-	229	1	DDN9748A	19 INCH BLACK SHELF	\$565.25	\$565.25	10%	\$508.73	\$508.73
Equip Rm	AIS Mon	40	-	178	1	TT4579A	MONITOR, 19", LCD HD, SXGA	\$325.00	\$325.00	10%	\$292.50	\$292.50
Equip Rm	Cntrl Rm FW	41	-	147	1	T8639A	JUNIPER CONTROL ROOM FIREWALL	\$4,182.00	\$4,182.00	15%	\$3,554.70	\$3,554.70
Dispatch	IA Sftwr	42	-	708	5	T8742A	MCAFFEE FOR WINDOWS CLIENT, A2019.2 +PLUS	\$165.00	\$825.00	15%	\$140.25	\$701.25
Dispatch	IA Sftwr	43	-	877	1	T8806A	WINDOWS SUPP. TRANSPARENT, A2022.1	\$0.00	\$0.00	20%	\$0.00	\$0.00
Dispatch	Op Sftwr	44	-	504	4	HKVN4729A	AXS DISPATCH CONSOLE LICENSE	\$7,900.00	\$31,600.00	20%	\$6,320.00	\$25,280.00
Dispatch	Op Sftwr	45	-	504	4	HKVN4730A	LICENSE,AXS TRUNKING SERVICES LICENSE	\$6,600.00	\$26,400.00	20%	\$5,280.00	\$21,120.00
Dispatch	Op Sftwr	46	-	504	4	HKVN4731A	LICENSE,AXS ADVANCED CONVENTIONAL SERVICES LICENSE	\$3,960.00	\$15,840.00	20%	\$3,168.00	\$12,672.00
Dispatch	Op Sftwr	47	-	504	4	HKVN4732A	LICENSE,AXS SECURE VOICE SERVICES LICENSE	\$6,681.00	\$26,724.00	20%	\$5,344.80	\$21,379.20
Dispatch	Op Sftwr	48	-	504	4	HKVN4733A	LICENSE,AXS INTEGRATED IRR	\$3,200.00	\$12,800.00	20%	\$2,560.00	\$10,240.00

Phasing Summary

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Town of Waterville, CT
Communications System Upgrade

Dispatch	Op Sftwr	49	-	504	4	HRVN4736A	LICENSE, AXS AMBE+2 VOCODER ROYALTY AND LICENSE	\$50.00	\$200.00	20%	\$40.00	\$160.00
Dispatch	Op Sftwr	50	-	504	4	HRVN4739A	LICENSE, AXS SECURE OTEK SERVICES LICENSE	\$4,420.00	\$17,680.00	20%	\$3,536.00	\$14,144.00
Dispatch	Op Sftwr	51	-	504	4	HRVN4737A	LICENSE, AXS STANDARD LEVEL RADIO RESOURCE CAPACITY LICENSE	\$20,700.00	\$82,800.00	20%	\$16,560.00	\$66,240.00
Dispatch	Op Sftwr	52	-	504	1	B1957A	AXS SOFTWARE DVD	\$250.00	\$250.00	20%	\$200.00	\$200.00
Dispatch	Op CPU	53	-	708	4	T42720B	Z2 MINI G9 WORKSTATION GEN14 PROCESSOR	\$2,857.00	\$11,428.00	15%	\$2,428.45	\$9,713.80
Dispatch	Op CPU	54	-	708	1	DSF2856AA	USB EXTERNAL DVD DRIVE	\$172.00	\$172.00	15%	\$146.20	\$146.20
Dispatch	Op Mon	55	-	708	4	DSTG221B	TECH GLOBAL EVOLUTION SERIES 22INCH NON TOUCH	\$1,998.00	\$7,992.00	15%	\$1,698.30	\$6,793.20
Dispatch	Op CC Hub	56	-	754	4	B1955A	COMMANDCENTRAL HUB, BASIC MODEL	\$3,300.00	\$13,200.00	20%	\$2,640.00	\$10,560.00
Dispatch	Op CC Hub	56	a	754	4	CA03553AA	ADD: AC LINE CORD, NORTH AMERICA	\$13.00	\$52.00	20%	\$10.40	\$41.60
Dispatch	Op CC Hub	56	b	754	4	CA03547AA	ADD: BRACKET, MOUNTING 2RU	\$75.00	\$300.00	20%	\$60.00	\$240.00
Dispatch	Op CC Hub	56	c	754	4	CA03583AA	ADD: FOUR CABLES, POWER 24VDC	\$150.00	\$600.00	20%	\$120.00	\$480.00
Dispatch	Op CC Hub	56	d	754	4	CA03572AA	ADD: CABLE RETENTION BRACKET	\$65.00	\$260.00	20%	\$52.00	\$208.00
Dispatch	Op Periph	57	-	443	8	B1913A	MCC SERIES HEADSET JACK	\$200.00	\$1,600.00	20%	\$160.00	\$1,280.00
Dispatch	Op Periph	58	-	754	4	B1951B	MICROPHONE, DESKTOP, USB	\$561.35	\$2,245.40	20%	\$449.08	\$1,796.32
Dispatch	Op Periph	58	a	754	4	CA03413AA	ADD: USB CABLE, TYPE A TO TYPE C, 4.5M	\$29.87	\$119.48	20%	\$23.90	\$95.58
Dispatch	Op Periph	59	-	754	16	B1952B	SPEAKER, DESKTOP, USB	\$602.55	\$9,640.80	20%	\$482.04	\$7,712.64
Dispatch	Op Periph	59	a	754	16	CA03413AA	ADD: USB CABLE, TYPE A TO TYPE C, 4.5M	\$29.87	\$477.92	20%	\$23.90	\$382.34
Dispatch	Op Periph	60	-	708	6	DSTWIN6328A	PROVIDES ONE DUAL PEDAL FOOTSWITCH	\$547.00	\$3,282.00	15%	\$464.95	\$2,789.70
Dispatch	Op AC Surge	61	-	207	4	DSACPDU6N120S21T	AC PDU, RACKMOUNT, 6 OUTLETS, SASD PROTECTED, UL1449/R56, 12FT CORD	\$312.18	\$1,248.72	10%	\$280.96	\$1,123.85
Spare	Site Rtr	62	-	147	1	T8492A	SITE ROUTER & FIREWALL- AC	\$2,091.00	\$2,091.00	15%	\$1,777.35	\$1,777.35
Spare	Site Rtr	62	a	147	1	CA03445AA	ADD: MISSION CRITICAL HARDENING	\$3,300.00	\$3,300.00	15%	\$2,805.00	\$2,805.00
Spare	Site Rtr	62	b	147	1	CA03448AA	ADD: STATEFUL FIREWALL	\$1,000.00	\$1,000.00	15%	\$850.00	\$850.00
Spare	Site LANSW	63	-	147	1	CLN9066A	NETWORK SWITCH, JUNIPER EX4100 24-PORT NON TAA	\$5,205.88	\$5,205.88	15%	\$4,425.00	\$4,425.00
Spare	CSC	64	-	677	1	DLN1444A	FRE: DSC 8000	\$10,500.00	\$10,500.00	20%	\$8,400.00	\$8,400.00
Spare	CSC AC PS	65	-	677	1	DLN8001A	FRU: DSC 8000 AC POWER SUPPLY	\$1,100.00	\$1,100.00	20%	\$880.00	\$880.00
Spare	CCGW	66	-	147	1	SQM01SUM0333A	MCG 8000 CONVENTIONAL GATEWAY	\$5,000.00	\$5,000.00	15%	\$4,250.00	\$4,250.00
Spare	CCGW	66	a	147	1	CA03714AA	ADD: AC POWER	\$0.00	\$0.00	15%	\$0.00	\$0.00
Spare	CCGW	66	b	147	8	CA03717AA	ADD: ACIM INTERFACE	\$750.00	\$6,000.00	15%	\$637.50	\$5,100.00
Spare	Aux I/O	67	-	275	1	F0016A	MC IOT MAIN MODEL	\$1,119.00	\$1,119.00	10%	\$1,007.10	\$1,007.10
Spare	Aux I/O	68	-	275	1	VA01945AA	ADD: MC EDGE AS AUX I-O SERVER	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	Aux I/O	69	-	275	1	VA00973AA	ADD: IOT MC-EDGE ENHANCED COMM PLUG-IN BOARD	\$177.00	\$177.00	10%	\$159.30	\$159.30
Spare	Aux I/O	70	-	275	1	VA00341AA	INC: MC-EDGE MAIN FILE SYSTEM	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	Aux I/O	71	-	275	1	VA00974AA	INC: IOT MC-EDGE CPU PACKAGE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	Aux I/O	72	-	275	1	VA00442AA	INC: MC-EDGE SYSTEM SW FILES	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	Aux I/O	73	-	275	1	VA00967AA	INC: CPU PACKING	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	Aux I/O	74	-	275	1	VA00142AA	INC: EXTREMDB LICENSE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	Aux I/O	75	-	275	1	FLN0101A	AC POWER SUPPLY 24V/120W DC OUT	\$330.00	\$330.00	10%	\$297.00	\$297.00
Spare	Aux I/O	76	-	275	1	FLN9985A	8DO EE 16DI 5-18 V /DRY	\$650.00	\$650.00	10%	\$585.00	\$585.00

Pricing Summary

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Town of Waterville, CT
Communications System Upgrade

Spare	Op CPU	77	-	708	1	TT42708	Z2 MINI G9 WORKSTATION GEN14 PROCESSOR	\$2,857.00	\$2,857.00	15%	\$2,428.45	\$2,428.45
Spare	Op Mon	78	-	708	1	DSTS221A	TECH GLOBAL 22IN COMMERCIAL TOUCH MONITOR	\$1,208.00	\$1,208.00	15%	\$1,026.80	\$1,026.80
Spare	Op CC Hub	79	-	754	1	B1955A	COMMANDCENTRAL HUB, BASIC MODEL	\$3,300.00	\$3,300.00	20%	\$2,640.00	\$2,640.00
Spare	Op CC Hub	79	a	754	1	CA03553AA	ADD: AC LINE CORD, NORTH AMERICA	\$13.00	\$13.00	20%	\$10.40	\$10.40
Spare	Op Periph	80	-	443	1	B1913A	MCC SERIES HEADSET JACK	\$200.00	\$200.00	20%	\$160.00	\$160.00
Spare	Op Periph	81	-	754	1	B1951B	MICROPHONE, DESKTOP, USB	\$561.35	\$561.35	20%	\$449.08	\$449.08
Spare	Op Periph	81	a	754	1	CA03413AA	ADD: USB CABLE, TYPE A TO TYPE C, 4.5M	\$29.87	\$29.87	20%	\$23.90	\$23.90
Spare	Op Periph	82	-	754	1	B1952B	SPEAKER, DESKTOP, USB	\$602.55	\$602.55	20%	\$482.04	\$482.04
Spare	Op Periph	82	a	754	1	CA03413AA	ADD: USB CABLE, TYPE A TO TYPE C, 4.5M	\$29.87	\$29.87	20%	\$23.90	\$23.90
Spare	Op Periph	83	-	708	1	DSTWING328A	PROVIDES ONE DUAL PEDAL FOOTSWITCH	\$547.00	\$547.00	15%	\$464.95	\$464.95
Spare	Op Periph	84	-	754	1	BKN2002A	FRU: POWER CABLE, 24VDC	\$75.00	\$75.00	20%	\$60.00	\$60.00
License	CORE	85	-	877	1	SQM01SUM0323A	ASTRO MASTER SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
License	CORE	85	a	877	1	CA03517AF	ASTRO CORE EXPANSION, AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
License	CORE	85	b	877	1	UA00156AA	ADD: 5 CONSOLE OPS: AXS, MCC7500/E AND AIS	\$5,000.00	\$5,000.00	20%	\$4,000.00	\$4,000.00
License	CORE	85	c	877	1	CA01316AA	ADD: UNC ADDTL DEVICE LIC (QTY 10)	\$1,500.00	\$1,500.00	20%	\$1,200.00	\$1,200.00
Cohanzie	VPS	1	-	677	1	SQM01SUM0320A	VIRTUALIZED PRIME SITE	\$9,500.00	\$9,500.00	20%	\$7,600.00	\$7,600.00
FS												
Cohanzie	VPS	1	a	677	1	CA03524AA	ADD: NEW PRIME SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
FS												
Cohanzie	VPS	1	b	677	1	CA03525AA	ADD: HW SUPPORT UP TO 18 CARRIERS	\$21,000.00	\$21,000.00	20%	\$16,800.00	\$16,800.00
FS												
Cohanzie	VPS	1	c	677	1	CA03529AA	ADD: INT. GPS TIMING REFERENCE W/ RUBIDIUM	\$24,000.00	\$24,000.00	20%	\$19,200.00	\$19,200.00
FS												
Cohanzie	VPS	1	d	677	1	CA03532AA	ADD: PRIME SITE DC POWER	\$0.00	\$0.00	20%	\$0.00	\$0.00
FS												
Cohanzie	VPS	1	e	677	1	CA03873AA	ADD: SYSTEM RELEASE AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
FS												
Cohanzie	VPS	1	f	677	6	CA03858AA	ADD: CARRIERS FOR CHANNEL VOTING STATUS	\$500.00	\$3,000.00	20%	\$400.00	\$2,400.00
FS												
Cohanzie	VPS	1	g	677	6	UA00702AA	ADD: TRUNKING MULTISITE VOTING LICENSE, PER CARRIER	\$18,500.00	\$111,000.00	20%	\$14,800.00	\$88,800.00
FS												
Cohanzie	VPS	1	h	677	1	UA00704AA	ADD: MULTISITE PRIME TRUNKING LICENSE	\$125,000.00	\$125,000.00	20%	\$100,000.00	\$100,000.00
FS												
Cohanzie	VPS	1	i	677	5	UA00706AA	ADD: TDMA VOTING LICENSE, PER CARRIER	\$16,000.00	\$80,000.00	20%	\$12,800.00	\$64,000.00
FS												
Cohanzie	VPS	1	j	677	1	UA00707AA	ADD: DSC INTERNAL RUBIDIUM LICENSE	\$9,000.00	\$9,000.00	20%	\$7,200.00	\$7,200.00
FS												
Cohanzie	VPS	1	k	677	1	UA00795AA	ADD: CHANNEL VOTING STATUS	\$6,500.00	\$6,500.00	20%	\$5,200.00	\$5,200.00
FS												
Cohanzie	VPS	1	l	677	1	CA03545AA	ADD: REDUNDANT JUNIPER SRX1500 ROUTERS	\$0.00	\$0.00	20%	\$0.00	\$0.00
FS												

Town of Watford, CT
Communications System Upgrade

Cohanzie	VPS	1	m	677	1	CA03545AA-P	ADD: REDUNDANT JUNIPER SRX1500 ROUTERS PRICE	\$30,400.00	\$30,400.00	20%	\$24,320.00	\$24,320.00
FS												
Cohanzie	VPS	2	-	207	2	DSIX2L1M1DC48IG	SITE EQUIPMENT,PD, HPD GPS DATA LINE, 48VDC, HARD WIRE WITH ISOLATED GROUNDING	\$247.00	\$494.00	10%	\$222.30	\$444.60
FS												
Cohanzie	VPS	3	-	291	2	DSP04268	ALUMINIUM 6061-T6, PIPE 1 INCH SCHED 40	\$15.25	\$30.50	25%	\$11.44	\$22.88
FS												
Cohanzie	VPS	4	-	291	2	DSWM4	HEAVY DUTY W STYLE WALL MOUNT WITH 4 INCH STAND-OFF	\$86.00	\$172.00	25%	\$64.50	\$129.00
FS												
Cohanzie	VPS	5	-	780	2	CB001133A05	CABLE,ASTRO: 125' REMOTE GPS CABLE	\$810.00	\$1,620.00	0%	\$810.00	\$1,620.00
FS												
Cohanzie	VPS	6	-	895	2	PMUG1018A	GNSS REMOTE RECEIVER ASSY	\$900.00	\$1,800.00	10%	\$810.00	\$1,620.00
FS												
Cohanzie	800 DBR M12	7	-	675	1	SQM015UM0338A	7/800 DBR M12 MULTI-CARRIER SITE	\$8,000.00	\$8,000.00	20%	\$6,400.00	\$6,400.00
FS												
Cohanzie	800 DBR M12	7	a	675	1	CA04069AA	ADD: NEW DBR SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
FS												
Cohanzie	800 DBR M12	7	b	675	1	CA03873AA	ADD: SYSTEM RELEASE AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
FS												
Cohanzie	800 DBR M12	7	c	675	1	CA03875AA	ADD: DBR M12 PRIMARY RACK	\$7,000.00	\$7,000.00	20%	\$5,600.00	\$5,600.00
FS												
Cohanzie	800 DBR M12	7	d	675	6	CA03887AA	ADD: ANTENNA 1 CHANNELS	\$6,100.00	\$36,600.00	20%	\$4,880.00	\$29,280.00
FS												
Cohanzie	800 DBR M12	7	e	675	3	CA03891AA	ADD: 800 MHZ POWER AMPLIFIER	\$7,000.00	\$21,000.00	20%	\$5,600.00	\$16,800.00
FS												
Cohanzie	800 DBR M12	7	f	675	2	CA03895AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	\$12,000.00	\$24,000.00	20%	\$9,600.00	\$19,200.00
FS												
Cohanzie	800 DBR M12	7	g	675	1	CA03905AA	ADD: 7.0 FOOT OPEN RACK	\$1,500.00	\$1,500.00	20%	\$1,200.00	\$1,200.00
FS												
Cohanzie	800 DBR M12	7	h	675	1	CA03879AA	ADD: 800 MHZ TX ANTENNA 1 FILTER	\$3,000.00	\$3,000.00	20%	\$2,400.00	\$2,400.00
FS												
Cohanzie	800 DBR M12	7	i	675	1	CA03893AA	ADD: P25 TDMA 2ND BRANCH RX DIVERSITY	\$2,000.00	\$2,000.00	20%	\$1,600.00	\$1,600.00
FS												
Cohanzie	800 DBR M12	7	j	675	2	CA03899AA	ADD: RMC EXPANSION PRE-WIRE	\$1,800.00	\$3,600.00	20%	\$1,440.00	\$2,880.00
FS												
Cohanzie	800 DBR M12	7	k	675	2	UA00866AA	ADD: SIMULCAST SUB-SITE CONTROLLER SW	\$8,200.00	\$16,400.00	20%	\$6,560.00	\$13,120.00
FS												
Cohanzie	800 DBR M12	7	l	675	6	UA00868AA	ADD: SIMULCAST SUB-SITE BR SOFTWARE	\$34,500.00	\$207,000.00	20%	\$27,600.00	\$165,600.00
FS												
Cohanzie	800 DBR M12	7	m	675	5	UA00869AA	ADD: P25 TDMA SOFTWARE	\$16,000.00	\$80,000.00	20%	\$12,800.00	\$64,000.00
FS												
Cohanzie	800 DBR M12	7	n	675	2	UA00871AA	ADD: DSC 8500 RUBIDIUM SW LICENSE	\$4,500.00	\$9,000.00	20%	\$3,600.00	\$7,200.00
FS												

Pricing Summary

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Cohanzie FS	800 DBR M12	7	0	675	2	CA03902AA	ADD: SRX345 SITE ROUTER	\$0.00	\$0.00	20%	\$0.00	\$0.00
Cohanzie FS	800 DBR M12	7	P	675	2	CA03902AA-P	ADD: SRX345 SITE ROUTER PRICE	\$7,390.00	\$14,780.00	20%	\$5,912.00	\$11,824.00
Cohanzie FS	800 DBR M12	8	-	207	2	DSIX211M1DC48G	SITE EQUIPMENT,PD, HPD GPS DATA LINE, 48VDC, HARD WIRE WITH ISOLATED GROUNDING	\$247.00	\$494.00	10%	\$222.30	\$444.60
Cohanzie FS	800 DBR M12	9	-	291	2	DSP04268	ALUMINUM 6061-T6, PIPE 1 INCH SCHED 40	\$15.25	\$30.50	25%	\$11.44	\$22.88
Cohanzie FS	800 DBR M12	10	-	291	2	DSWM4	HEAVY DUTY W STYLE WALL MOUNT WITH 4 INCH STAND-OFF	\$86.00	\$172.00	25%	\$64.50	\$129.00
Cohanzie FS	800 DBR M12	11	-	780	2	CB001133A05	CABLE,ASTRO: 125' REMOTE GPS CABLE	\$810.00	\$1,620.00	0%	\$810.00	\$1,620.00
Cohanzie FS	800 DBR M12	12	-	895	2	PMUG1018A	GNSS REMOTE RECEIVER ASSY	\$900.00	\$1,800.00	10%	\$810.00	\$1,620.00
Cohanzie FS	RTU	13	-	275	1	F0016A	MC IOT MAIN MODEL	\$1,119.00	\$1,119.00	10%	\$1,007.10	\$1,007.10
Cohanzie FS	RTU	14	-	275	1	VA01946AA	ADD: MC EDGE AS NFM	\$535.00	\$535.00	10%	\$481.50	\$481.50
Cohanzie FS	RTU	15	-	275	1	VA00973AA	ADD: IOT MC-EDGE ENHANCED COMM PLUG-IN BOARD	\$177.00	\$177.00	10%	\$159.30	\$159.30
Cohanzie FS	RTU	16	-	275	3	VA00989AA	ADD: MIXED DIGITAL _ 8DO EE 16DI 5-18 V --DRY	\$642.00	\$1,926.00	10%	\$577.80	\$1,733.40
Cohanzie FS	RTU	17	-	275	1	VA00991AA	ADD: DC-DC - [48 >>24] PS W--O HOUSING	\$530.00	\$530.00	10%	\$477.00	\$477.00
Cohanzie FS	RTU	18	-	275	1	VA00155AA	ADD:DC POWER CABLE 5A	\$59.00	\$59.00	10%	\$53.10	\$53.10
Cohanzie FS	RTU	19	-	275	1	VA00153AA	ADD:I--O MODULE EXTRACTOR TOOL	\$12.00	\$12.00	10%	\$10.80	\$10.80
Cohanzie FS	RTU	20	-	275	1	VA00341AA	INC:MC-EDGE MAIN FILE SYSTEM	\$0.00	\$0.00	10%	\$0.00	\$0.00
Cohanzie FS	RTU	21	-	275	1	VA00974AA	INC: IOT MC-EDGE CPU PACKAGE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Cohanzie FS	RTU	22	-	275	1	VA00442AA	INC:MC-EDGE SYSTEM SW FILES	\$0.00	\$0.00	10%	\$0.00	\$0.00
Cohanzie FS	RTU	23	-	275	1	VA00967AA	INC: CPU PACKING	\$0.00	\$0.00	10%	\$0.00	\$0.00
Cohanzie FS	RTU	24	-	275	1	VA00142AA	INC:EXTREMDB LICENSE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Cohanzie FS	RTU	25	-	275	2	FHN0057A	DIN RAIL STOPPER	\$17.00	\$34.00	10%	\$15.30	\$30.60
Cohanzie FS	RTU	26	-	499	1	DSIABDIN4	PAN/DUIT IABDIN4 4 RACK UNIT DIN RAIL FOR EIA 19" MOUNT	\$308.00	\$308.00	10%	\$277.20	\$277.20

Town of Waterford, CT
Communications System Upgrade

Cohanzie FS	RTU	27	-	469	3	FHN1668A	TERM BLOCK & CONN WIRED M25T68L	\$99.00	\$297.00	10%	\$89.10	\$267.30
Cohanzie FS	BACKHAUL	28	-	708	1	DSMW3HE18861AB	BNDL-MOTOROLA 7705 SAR-AX ENET-REDUNDANT	\$8,400.00	\$8,400.00	15%	\$7,140.00	\$7,140.00
Cohanzie FS	BACKHAUL	29	-	708	8	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	\$242.55	\$1,940.40	15%	\$206.17	\$1,649.34
Cohanzie FS	BACKHAUL	30	-	708	4	DSMW3HE00028CA1	SFP - GIGE LX - LC ROHS 6/6 DDM -40/85C	\$731.33	\$2,925.32	15%	\$621.63	\$2,486.52
Cohanzie FS	TXAnt	31	-	351	1	DSDS7C09P36UM	764-869MHZ 9DB GAIN ANTENNA, OMNIDIRECTIONAL, LOW-PIM/HI-PIP, 4.3-10 FEMALE	\$4,624.00	\$4,624.00	10%	\$4,161.60	\$4,161.60
Cohanzie FS	RXAnt1	32	-	351	1	DSDS7C14PPTUM	764-869 MHZ 120 DEGREE 14 DB GAIN PANEL 4.3-10 CONNECTOR	\$4,004.00	\$4,004.00	10%	\$3,603.60	\$3,603.60
Cohanzie FS	RXAnt2	33	-	351	1	DSDS7C14PPTUM	764-869 MHZ 120 DEGREE 14 DB GAIN PANEL 4.3-10 CONNECTOR	\$4,004.00	\$4,004.00	10%	\$3,603.60	\$3,603.60
Cohanzie FS	APM	34	-	457	1	DSAPM7487K24843	ADVANCED POWER MONITOR 740-870MHZ 36-60VDC, W/COUPLER, 4.3 CONN	\$6,380.00	\$6,380.00	10%	\$5,742.00	\$5,742.00
Cohanzie FS	TTA	35	-	457	1	DS442035483	TTA MOTOROLA TOWER TOP UNIT, 794-824 MHZ 4.3-10 CONNS, DUAL DIVERSITY	\$16,598.00	\$16,598.00	10%	\$14,938.20	\$14,938.20
Cohanzie FS	TTA CU	36	-	457	1	DS442037464	TTA, MOTOROLA CU (ESS), 794-824 MHZ, 1DC, DUAL DIVERSITY, 4.3-10 TTA CONNECTORS	\$9,975.00	\$9,975.00	10%	\$8,977.50	\$8,977.50
Cohanzie FS	PreSelect	37	-	457	1	DSPF7982101831N2	BANDPASS FILTERS, TWO ON 1RU PANEL, RX, 18MHZ BW, RANGE 796-824MHZ	\$2,243.00	\$2,243.00	10%	\$2,018.70	\$2,018.70
Cohanzie FS	TXSurge	38	-	207	1	DSTSXA310FMP	4.3-10 M/F BULKHEAD COAX RF SURGE PROTECTOR, 698MHZ - 2.7GHZ PIM	\$229.88	\$229.88	10%	\$206.89	\$206.89
Cohanzie FS	RXSurge	39	-	207	3	DSTSXD4310FM	DC PASS, BIDIRECTIONAL FEMALE/MALE 698MHZ - 2.7GHZ, PIM RATED	\$266.20	\$798.60	10%	\$239.58	\$718.74
Cohanzie FS	1-4H Cable	40	-	351	65	DSEC150HF	COAXIAL CABLE, 1/4" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$2.74	\$178.10	10%	\$2.47	\$160.29
Cohanzie FS	1-4H N M	41	-	351	8	DSNM50B14X	CONNECTOR, N MALE INTERFACE FOR EC1-50-HF	\$40.00	\$320.00	10%	\$36.00	\$288.00
Cohanzie FS	1-4H 43 M	42	-	351	6	DS4310M50B14X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC1-50-HF	\$45.28	\$271.68	10%	\$40.75	\$244.51
Cohanzie FS	1-2H Cable	43	-	351	60	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$4.28	\$256.80	10%	\$3.85	\$231.12
Cohanzie FS	1-2H 43 M	44	-	351	6	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF	\$49.83	\$298.98	10%	\$44.85	\$269.08
Cohanzie FS	1-2 Cable	45	-	351	320	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET	\$4.00	\$1,280.00	10%	\$3.60	\$1,152.00
Cohanzie FS	1-2 43 F	46	-	351	1	DS4310F50V12N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC4-50	\$33.65	\$33.65	10%	\$30.29	\$30.29
Cohanzie FS	1-2 43 M	47	-	351	13	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50	\$33.65	\$437.45	10%	\$30.29	\$393.71

Pricing Summary

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Cohanzie FS	1-58 Cable	48	-	351	690	DSEC750A	COAXIAL CABLE, "A" SERIES 1-5/8" 50 OHM CORRUGATED COPPER	\$14.05	\$9,694.50	10%	\$12.65	\$8,725.05
Cohanzie FS	1-58 43 F	49	-	351	6	DS4310F50V158N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC7-50-A	\$182.45	\$1,094.70	10%	\$164.21	\$985.23
Cohanzie FS	DCPowerSys	50	-	207	1	DST252084500007	TRILOGY POWER SYSTEM WITH SMARTPACK S, 48V, 500A	\$15,527.60	\$15,527.60	10%	\$13,974.84	\$13,974.84
Cohanzie FS	DCPowerSys	51	-	207	4	DS241115105	FLATPACK 2.48/2000 HE RECTIFIER	\$785.40	\$3,141.60	10%	\$706.86	\$2,827.44
Cohanzie FS	DCPowerSys	52	-	207	4	DS331E23640800	BLIND PANEL FP2 HE BLACK G1	\$29.04	\$116.16	10%	\$26.14	\$104.54
Cohanzie FS	DCPowerSys	53	-	207	1	DS3672495500	ALARM CABLE 50F FOR TRILOGY S POWER SYSTEMS	\$198.00	\$198.00	10%	\$178.20	\$178.20
Cohanzie FS	DCPowerSys	54	-	207	3	DS0991072458	ENERSYS POWERSAFE SBS BATTERY MODEL # SBS190F, 48V BATTERY STRING, 190 AH, FRONT TERM	\$4,400.00	\$13,200.00	10%	\$3,960.00	\$11,880.00
Cohanzie FS	DCPowerSys	55	-	207	6	DSCB8003E	CIRCUIT BREAKER, 3 AMP PLUG-IN BULLET, ELECTRO-MECHANICAL	\$46.20	\$277.20	10%	\$41.58	\$249.48
Cohanzie FS	DCPowerSys	56	-	207	1	DSCB8005E	BREAKER, 5 AMP DC BULLET BREAKER	\$46.20	\$46.20	10%	\$41.58	\$41.58
Cohanzie FS	DCPowerSys	57	-	207	2	DSCB8010E	CIRCUIT BREAKER, 10 AMP PLUG-IN BULLET, ELECTRO-MECHANICAL	\$46.20	\$92.40	10%	\$41.58	\$83.16
Cohanzie FS	DCPowerSys	58	-	207	2	DSCB8020E	CIRCUIT BREAKER, 20 AMP, E TRIP	\$46.20	\$92.40	10%	\$41.58	\$83.16
Cohanzie FS	DCPowerSys	59	-	207	2	DSCB8080E	80A BATTERY BREAKER	\$46.20	\$92.40	10%	\$41.58	\$83.16
Cohanzie FS	ACSurge	60	-	207	1	DSAPEXIMAX808	SPD, TYPE 2A, 120/240VAC 1-PHASE NEMA 4X ENCLOSURE, SAD/MOV	\$1,789.61	\$1,789.61	10%	\$1,610.65	\$1,610.65
Bartlett	800 DBR M12	61	-	675	1	SQM01SUM0338A	7/800 DBR M12 MULTI-CARRIER SITE	\$8,000.00	\$8,000.00	20%	\$6,400.00	\$6,400.00
Bartlett	800 DBR M12	61	a	675	1	CA04069AA	ADD: NEW DBR SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
Bartlett	800 DBR M12	61	b	675	1	CA03873AA	ADD: SYSTEM RELEASE AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
Bartlett	800 DBR M12	61	c	675	1	CA03875AA	ADD: DBR M12 PRIMARY RACK	\$7,000.00	\$7,000.00	20%	\$5,600.00	\$5,600.00
Bartlett	800 DBR M12	61	d	675	6	CA03887AA	ADD: ANTENNA 1 CHANNELS	\$6,100.00	\$36,600.00	20%	\$4,880.00	\$29,280.00
Bartlett	800 DBR M12	61	e	675	3	CA03891AA	ADD: 800 MHZ POWER AMPLIFIER	\$7,000.00	\$21,000.00	20%	\$5,600.00	\$16,800.00
Bartlett	800 DBR M12	61	f	675	2	CA03895AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	\$12,000.00	\$24,000.00	20%	\$9,600.00	\$19,200.00
Bartlett	800 DBR M12	61	g	675	1	CA03905AA	ADD: 7.0 FOOT OPEN RACK	\$1,500.00	\$1,500.00	20%	\$1,200.00	\$1,200.00

Town of Waterford, CT
Communications System Upgrade

Bartlett	800 DBR M12	61	h	675	1	CA03879AA	ADD: 800 MHZ TX ANTENNA 1 FILTER	\$3,000.00	\$3,000.00	20%	\$2,400.00	\$2,400.00
Bartlett	800 DBR M12	61	i	675	1	CA03893AA	ADD: P25 TDMA 2ND BRANCH RX DIVERSITY	\$2,000.00	\$2,000.00	20%	\$1,600.00	\$1,600.00
Bartlett	800 DBR M12	61	j	675	2	CA03899AA	ADD: RMC EXPANSION PRE-WIRE	\$1,800.00	\$3,600.00	20%	\$1,440.00	\$2,880.00
Bartlett	800 DBR M12	61	k	675	2	UA00866AA	ADD: SIMULCAST SUB-SITE CONTROLLER SW	\$8,200.00	\$16,400.00	20%	\$6,560.00	\$13,120.00
Bartlett	800 DBR M12	61	l	675	6	UA00868AA	ADD: SIMULCAST SUB-SITE BR SOFTWARE	\$34,500.00	\$207,000.00	20%	\$27,600.00	\$165,600.00
Bartlett	800 DBR M12	61	m	675	5	UA00869AA	ADD: P25 TDMA SOFTWARE	\$16,000.00	\$80,000.00	20%	\$12,800.00	\$64,000.00
Bartlett	800 DBR M12	61	n	675	2	UA00871AA	ADD: DSC 8500 RUBIDIUM SW LICENSE	\$4,500.00	\$9,000.00	20%	\$3,600.00	\$7,200.00
Bartlett	800 DBR M12	61	o	675	2	CA03902AA	ADD: SRX345 SITE ROUTER	\$0.00	\$0.00	20%	\$0.00	\$0.00
Bartlett	800 DBR M12	61	p	675	2	CA03902AA-P	ADD: SRX345 SITE ROUTER PRICE	\$7,390.00	\$14,780.00	20%	\$5,912.00	\$11,824.00
Bartlett	800 DBR M12	62	-	207	2	DSIX211M1DC48IG	SITE EQUIPMENT,PD, HPD GPS DATA LINE, 48VDC, HARD WIRE WITH ISOLATED GROUNDING	\$247.00	\$494.00	10%	\$222.30	\$444.60
Bartlett	800 DBR M12	63	-	291	2	DSP04268	ALUMINUM 6061-T6, PIPE 1 INCH SCHED 40	\$15.25	\$30.50	25%	\$11.44	\$22.88
Bartlett	800 DBR M12	64	-	291	2	DSWM4	HEAVY DUTY W STYLE WALL MOUNT WITH 4 INCH STAND-OFF	\$86.00	\$172.00	25%	\$64.50	\$129.00
Bartlett	800 DBR M12	65	-	780	2	CB001133A05	CABLE,ASTRO: 125' REMOTE GPS CABLE	\$810.00	\$1,620.00	0%	\$810.00	\$1,620.00
Bartlett	800 DBR M12	66	-	895	2	PMUG1018A	GNSS REMOTE RECEIVER ASSY	\$900.00	\$1,800.00	10%	\$810.00	\$1,620.00
Bartlett	RTU	67	-	275	1	F0016A	MC IOT MAIN MODEL	\$1,119.00	\$1,119.00	10%	\$1,007.10	\$1,007.10
Bartlett	RTU	68	-	275	1	VA01946AA	ADD: MC EDGE AS NFM	\$535.00	\$535.00	10%	\$481.50	\$481.50
Bartlett	RTU	69	-	275	1	VA00973AA	ADD: IOT MC-EDGE ENHANCED COMM PLUG-IN BOARD	\$177.00	\$177.00	10%	\$159.30	\$159.30
Bartlett	RTU	70	-	275	3	VA00989AA	ADD: MIXED DIGITAL 8DO EE 16DI 5-18 V --DRY	\$642.00	\$1,926.00	10%	\$577.80	\$1,733.40
Bartlett	RTU	71	-	275	1	VA00991AA	ADD: DC-DC - [48 >>24] PS W--O HOUSING	\$530.00	\$530.00	10%	\$477.00	\$477.00
Bartlett	RTU	72	-	275	1	VA00155AA	ADD:DC POWER CABLE 5A	\$59.00	\$59.00	10%	\$53.10	\$53.10
Bartlett	RTU	73	-	275	1	VA00153AA	ADD:I--O MODULE EXTRACTOR TOOL	\$12.00	\$12.00	10%	\$10.80	\$10.80
Bartlett	RTU	74	-	275	1	VA00341AA	INC:MC-EDGE MAIN FILE SYSTEM	\$0.00	\$0.00	10%	\$0.00	\$0.00
Bartlett	RTU	75	-	275	1	VA00974AA	INC: IOT MC-EDGE CPU PACKAGE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Bartlett	RTU	76	-	275	1	VA00442AA	INC:MC-EDGE SYSTEM SW FILES	\$0.00	\$0.00	10%	\$0.00	\$0.00
Bartlett	RTU	77	-	275	1	VA00967AA	INC: CPU PACKING	\$0.00	\$0.00	10%	\$0.00	\$0.00
Bartlett	RTU	78	-	275	1	VA00142AA	INC:EXTREMDB LICENSE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Bartlett	RTU	79	-	275	2	FHN0057A	DIN RAIL STOPPER	\$17.00	\$34.00	10%	\$15.30	\$30.60

Pricing Summary

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Town of Waterville, CT
Communications System Upgrade

Bartlett	RTU	80	-	499	1	DSABDIN4	PANDUIT IABDIN4 4 RACK UNIT DIN RAIL FOR EIA 19" MOUNT	\$308.00	\$308.00	10%	\$277.20	\$277.20
Bartlett	RTU	81	-	469	3	FHN168A	TERM BLOCK & CONN WIRED M25T68L	\$99.00	\$297.00	10%	\$89.10	\$267.30
Bartlett	BACKHAUL	82	-	708	1	DSMW3HE18861AB	BNDL-MOTOROLA 7705 SAR-AX ENET-REDUNDANT	\$8,400.00	\$8,400.00	15%	\$7,140.00	\$7,140.00
Bartlett	BACKHAUL	83	-	708	4	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 RG/5 DDM -40/85C	\$242.55	\$970.20	15%	\$206.17	\$824.67
Bartlett	BACKHAUL	84	-	708	2	DSMW3HE00028CA1	SFP - GIGE LX - LC ROHS 6/6 DDM -40/85C	\$731.33	\$1,462.66	15%	\$621.63	\$1,243.26
Bartlett	TXAnt	85	-	351	1	DS057C09P36UM	764-869MHZ 9DB GAIN ANTENNA, OMNIDIRECTIONAL, LOW-PIM/JH-PIP, 4.3-10 FEMALE	\$4,624.00	\$4,624.00	10%	\$4,161.60	\$4,161.60
Bartlett	RXAnt1	86	-	351	1	DS057C14PPTUM	764-869 MHZ 120 DEGREE 14 DB GAIN PANEL 4.3-10 CONNECTOR	\$4,004.00	\$4,004.00	10%	\$3,603.60	\$3,603.60
Bartlett	RXAnt2	87	-	351	1	DS057C14PPTUM	764-869 MHZ 120 DEGREE 14 DB GAIN PANEL 4.3-10 CONNECTOR	\$4,004.00	\$4,004.00	10%	\$3,603.60	\$3,603.60
Bartlett	APM	88	-	457	1	DSAPM7487K24843	ADVANCED POWER MONITOR 740-870MHZ 36-60VDC, W/COUPLER, 4.3 CONN	\$6,380.00	\$6,380.00	10%	\$5,742.00	\$5,742.00
Bartlett	TIA	89	-	457	1	DS442035483	TTA MOTOROLA TOWER TOP UNIT, 794-824 MHZ 4.3-10 CONNS, DUAL DIVERSITY	\$16,598.00	\$16,598.00	10%	\$14,938.20	\$14,938.20
Bartlett	TIA CU	90	-	457	1	DS442037464	TTA, MOTOROLA CU (ESS), 794-824 MHZ, 1DC, DUAL DIVERSITY, 4.3-10 TTA CONNECTORS	\$9,975.00	\$9,975.00	10%	\$8,977.50	\$8,977.50
Bartlett	PreSelect	91	-	457	1	DSPF7982101831N2	BANDPASS FILTERS, TWO ON 1RU PANEL, RX, 18MHZ BW, RANGE 796-824MHZ	\$2,243.00	\$2,243.00	10%	\$2,018.70	\$2,018.70
Bartlett	TXSurge	92	-	207	1	DSTX4310FMP	4.3-10 M/F BULKHEAD COAX RF SURGE PROTECTOR, 698MHZ - 2.7GHZ PIM	\$229.88	\$229.88	10%	\$206.89	\$206.89
Bartlett	RXSurge	93	-	207	3	DSTXDC4310FM	DC PASS, BIDIRECTIONAL FEMALE/MALE 698MHZ - 2.7GHZ, PIM RATED	\$266.20	\$798.60	10%	\$239.58	\$718.74
Bartlett	1-4H Cable	94	-	351	65	DSEC150HF	COAXIAL CABLE, 1/4" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$2.74	\$178.10	10%	\$2.47	\$160.29
Bartlett	1-4H N M	95	-	351	8	DSNM50814X	CONNECTOR, N MALE INTERFACE FOR EC1-50-HF	\$40.00	\$320.00	10%	\$36.00	\$288.00
Bartlett	1-4H 43 M	96	-	351	6	DS4310M50814X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC1-50-HF	\$45.28	\$271.68	10%	\$40.75	\$244.51
Bartlett	1-2H Cable	97	-	351	60	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$4.28	\$256.80	10%	\$3.85	\$231.12
Bartlett	1-2H 43 M	98	-	351	6	DS4310M50812X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF	\$49.83	\$298.98	10%	\$44.85	\$269.08
Bartlett	1-2 Cable	99	-	351	330	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET	\$4.00	\$1,320.00	10%	\$3.60	\$1,188.00
Bartlett	1-2 43 F	100	-	351	1	DS4310F50V12N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC4-50	\$33.65	\$33.65	10%	\$30.29	\$30.29
Bartlett	1-2 43 M	101	-	351	13	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50	\$33.65	\$437.45	10%	\$30.29	\$393.71
Bartlett	1-58 Cable	102	-	351	720	DSEC750A	COAXIAL CABLE, "A" SERIES 1-5/8" 50 OHM CORRUGATED COPPER	\$14.05	\$10,116.00	10%	\$12.65	\$9,104.40
Bartlett	1-58 43 F	103	-	351	6	DS4310F50V158N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC7-50-A	\$182.45	\$1,094.70	10%	\$164.21	\$985.23
Bartlett	DCPowerSys	104	-	207	1	DST252084500007	TRILOGY POWER SYSTEM WITH SMARTPACK 5, 48V, 500A	\$15,527.60	\$15,527.60	10%	\$13,974.84	\$13,974.84
Bartlett	DCPowerSys	105	-	207	4	DS241115105	FLATPACK 2 48/2000 HE RECTIFIER	\$785.40	\$3,141.60	10%	\$706.86	\$2,827.44
Bartlett	DCPowerSys	106	-	207	4	DS331E23640800	BLIND PANEL FP2 HE BLACK G1	\$29.04	\$116.16	10%	\$26.14	\$104.54

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Town of Watford, CT
Communications System Upgrade

Bartlett	DCPowerSys	107	-	207	1	DS3672495500	ALARM CABLE 50F. FOR TRILOGY S POWER SYSTEMS	\$198.00	\$198.00	10%	\$178.20	\$178.20
Bartlett	DCPowerSys	108	-	207	3	DS0991072458	ENERSYS POWERSAFE S85 BATTERY MODEL # S85190F, 48V BATTERY STRING, 190 AH, FRONT TERM	\$4,400.00	\$13,200.00	10%	\$3,960.00	\$11,880.00
Bartlett	DCPowerSys	109	-	207	6	DSCB8003E	CIRCUIT BREAKER, 3 AMP PLUG-IN BULLET, ELECTRO-MECHANICAL	\$46.20	\$277.20	10%	\$41.58	\$249.48
Bartlett	DCPowerSys	110	-	207	1	DSCB8005E	BREAKER, 5 AMP DC BULLET BREAKER	\$46.20	\$46.20	10%	\$41.58	\$41.58
Bartlett	DCPowerSys	111	-	207	2	DSCB8020E	CIRCUIT BREAKER, 20 AMP, E TRIP	\$46.20	\$92.40	10%	\$41.58	\$83.16
Bartlett	DCPowerSys	112	-	207	2	DSCB8080E	80A BATTERY BREAKER	\$46.20	\$92.40	10%	\$41.58	\$83.16
Bartlett	ACSurge	113	-	207	1	DSAPEXIMAX808	SPD, TYPE 2A, 120/240VAC 1-PHASE NEMA 4X ENCLOSURE, SAD/MOV	\$1,789.61	\$1,789.61	10%	\$1,610.65	\$1,610.65
Daniels	800 DBR M12	114	-	675	1	SQM01SUM0338A	7/800 DBR M12 MULTI-CARRIER SITE	\$8,000.00	\$8,000.00	20%	\$6,400.00	\$6,400.00
Daniels	800 DBR M12	114	a	675	1	CA04069AA	ADD: NEW DBR SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
Daniels	800 DBR M12	114	b	675	1	CA03873AA	ADD: SYSTEM RELEASE AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
Daniels	800 DBR M12	114	c	675	1	CA03875AA	ADD: DBR M12 PRIMARY RACK	\$7,000.00	\$7,000.00	20%	\$5,600.00	\$5,600.00
Daniels	800 DBR M12	114	d	675	6	CA03887AA	ADD: ANTENNA 1 CHANNELS	\$6,100.00	\$36,600.00	20%	\$4,880.00	\$29,720.00
Daniels	800 DBR M12	114	e	675	3	CA03891AA	ADD: 800 MHZ POWER AMPLIFIER	\$7,000.00	\$21,000.00	20%	\$5,600.00	\$16,800.00
Daniels	800 DBR M12	114	f	675	2	CA03895AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	\$12,000.00	\$24,000.00	20%	\$9,600.00	\$19,200.00
Daniels	800 DBR M12	114	g	675	1	CA03905AA	ADD: 7.0 FOOT OPEN RACK	\$1,500.00	\$1,500.00	20%	\$1,200.00	\$1,200.00
Daniels	800 DBR M12	114	h	675	1	CA03879AA	ADD: 800 MHZ TX ANTENNA 1 FILTER	\$3,000.00	\$3,000.00	20%	\$2,400.00	\$2,400.00
Daniels	800 DBR M12	114	i	675	1	CA03893AA	ADD: P25 TDMA 2ND BRANCH RX DIVERSITY	\$2,000.00	\$2,000.00	20%	\$1,600.00	\$1,600.00
Daniels	800 DBR M12	114	j	675	2	CA03899AA	ADD: RMC EXPANSION PRE-WIRE	\$1,800.00	\$3,600.00	20%	\$1,440.00	\$2,880.00
Daniels	800 DBR M12	114	k	675	2	UA00866AA	ADD: SIMULCAST SUB-SITE CONTROLLER SW	\$8,200.00	\$16,400.00	20%	\$6,560.00	\$13,120.00
Daniels	800 DBR M12	114	l	675	6	UA00868AA	ADD: SIMULCAST SUB-SITE BR SOFTWARE	\$34,500.00	\$207,000.00	20%	\$27,600.00	\$165,600.00
Daniels	800 DBR M12	114	m	675	5	UA00869AA	ADD: P25 TDMA SOFTWARE	\$16,000.00	\$80,000.00	20%	\$12,800.00	\$64,000.00
Daniels	800 DBR M12	114	n	675	2	UA00871AA	ADD: DSC 8500 RU8IDIDIUM SW LICENSE	\$4,500.00	\$9,000.00	20%	\$3,600.00	\$7,200.00
Daniels	800 DBR M12	114	o	675	2	CA03902AA	ADD: SRX345 SITE ROUTER	\$0.00	\$0.00	20%	\$0.00	\$0.00

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Daniels	800 DBR M12	114	P	675	2	CA03902AA-P	ADD: SRX345 SITE ROUTER PRICE	\$7,390.00	\$14,780.00	20%	\$5,912.00	\$11,824.00
Daniels	800 DBR M12	115	-	207	2	DSIX2L1M1DC48IG	SITE EQUIPMENT, PD, HPD GPS DATA LINE, 48VDC, HARD WIRE WITH ISOLATED GROUNDING	\$247.00	\$494.00	10%	\$222.30	\$444.60
Daniels	800 DBR M12	116	-	291	2	DSP04268	ALUMINUM 6061-T6, PIPE 1 INCH SCHED 40	\$15.25	\$30.50	25%	\$11.44	\$22.88
Daniels	800 DBR M12	117	-	291	2	DSWM4	HEAVY DUTY W STYLE WALL MOUNT WITH 4 INCH STAND-OFF	\$86.00	\$172.00	25%	\$64.50	\$129.00
Daniels	800 DBR M12	118	-	780	2	CB001133A05	CABLE, ASTRO: 125' REMOTE GPS CABLE	\$810.00	\$1,620.00	0%	\$810.00	\$1,620.00
Daniels	800 DBR M12	119	-	895	2	PMUG1018A	GNSS REMOTE RECEIVER ASSY	\$900.00	\$1,800.00	10%	\$810.00	\$1,620.00
Daniels	RTU	120	-	275	1	F0016A	MC IOT MAIN MODEL	\$1,119.00	\$1,119.00	10%	\$1,007.10	\$1,007.10
Daniels	RTU	121	-	275	1	VA01946AA	ADD: MC EDGE AS NFM	\$535.00	\$535.00	10%	\$481.50	\$481.50
Daniels	RTU	122	-	275	1	VA00973AA	ADD: IOT MC-EDGE ENHANCED COMM PLUG-IN BOARD	\$177.00	\$177.00	10%	\$159.30	\$159.30
Daniels	RTU	123	-	275	3	VA00989AA	ADD: MIXED DIGITAL 8DO EE 16DI 5-18 V--DRY	\$642.00	\$1,926.00	10%	\$577.80	\$1,733.40
Daniels	RTU	124	-	275	1	VA00991AA	ADD: DC-DC - (48 >>24) PS W--O HOUSING	\$530.00	\$530.00	10%	\$477.00	\$477.00
Daniels	RTU	125	-	275	1	VA00155AA	ADD: DC POWER CABLE 5A	\$59.00	\$59.00	10%	\$53.10	\$53.10
Daniels	RTU	126	-	275	1	VA00153AA	ADD: I-O MODULE EXTRACTOR TOOL	\$12.00	\$12.00	10%	\$10.80	\$10.80
Daniels	RTU	127	-	275	1	VA00341AA	INC: MC-EDGE MAIN FILE SYSTEM	\$0.00	\$0.00	10%	\$0.00	\$0.00
Daniels	RTU	128	-	275	1	VA00974AA	INC: IOT MC-EDGE CPU PACKAGE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Daniels	RTU	129	-	275	1	VA00442AA	INC: MC-EDGE SYSTEM SW FILES	\$0.00	\$0.00	10%	\$0.00	\$0.00
Daniels	RTU	130	-	275	1	VA00967AA	INC: CPU PACKING	\$0.00	\$0.00	10%	\$0.00	\$0.00
Daniels	RTU	131	-	275	1	VA00142AA	INC: EXTREMDB LICENSE	\$0.00	\$0.00	10%	\$0.00	\$0.00
Daniels	RTU	132	-	275	2	FHN0057A	DIN RAIL STOPPER	\$17.00	\$34.00	10%	\$15.30	\$30.60
Daniels	RTU	133	-	499	1	DSIABDIN4	PANUIT IABDIN4 4 RACK UNIT DIN RAIL FOR EIA 19" MOUNT	\$308.00	\$308.00	10%	\$277.20	\$277.20
Daniels	RTU	134	-	469	3	FHN168A	TERM BLOCK & CONN WIRED M25T68L	\$99.00	\$297.00	10%	\$89.10	\$267.30
Daniels	BACKHAUL	135	-	708	1	DSMW3HE18861A8	BNDL-MOTOROLA 7705 SAR-AX ENET-REDUNDANT	\$8,400.00	\$8,400.00	15%	\$7,140.00	\$7,140.00
Daniels	BACKHAUL	136	-	708	4	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	\$242.55	\$970.20	15%	\$206.17	\$824.67
Daniels	BACKHAUL	137	-	708	2	DSMW3HE00028CA1	SFP - GIGE LX - LC R0HS 6/6 DDM -40/85C	\$731.33	\$1,462.66	15%	\$621.63	\$1,243.26
Daniels	TXAnt	138	-	351	1	DSDS7C09P36UM	764-869MHZ 9DB GAIN ANTENNA, OMNIDIRECTIONAL, LOW-PIM/HI-PIP, 4.3-10 FEMALE	\$4,624.00	\$4,624.00	10%	\$4,161.60	\$4,161.60
Daniels	RXAnt1	139	-	351	1	DSCC80711T1P	OMNI, CORP COLLINER, 10.5DBD, 746-870MHZ, 1DEG DT, PIM & 25KW PIP RAT	\$7,209.00	\$7,209.00	10%	\$6,488.10	\$6,488.10
Daniels	RXAnt2	140	-	351	1	DSCC80711T1P	OMNI, CORP COLLINER, 10.5DBD, 746-870MHZ, 1DEG DT, PIM & 25KW PIP RAT	\$7,209.00	\$7,209.00	10%	\$6,488.10	\$6,488.10
Daniels	APM	141	-	457	1	DSAPM7487K24843	ADVANCED POWER MONITOR 740-870MHZ 36-60VDC, W/COUPLER, 4.3 CONN	\$6,380.00	\$6,380.00	10%	\$5,742.00	\$5,742.00
Daniels	TTA	142	-	457	1	DS442035483	TTA MOTOROLA TOWER TOP UNIT, 794-824 MHZ 4.3-10 CONNS, DUAL DIVERSITY	\$16,598.00	\$16,598.00	10%	\$14,938.20	\$14,938.20

Town of Waterville, CT
Communications System Upgrade

Daniels	TTA CU	143	-	457	1	DS442037464	TTA, MOTOROLA CU (ESS), 794-824 MHz, 1DC, DUAL DIVERSITY, 4.3-10 TTA CONNECTORS	\$9,975.00	\$9,975.00	10%	\$8,977.50	\$8,977.50
Daniels	PreSelect	144	-	457	1	DSPF7982101831N2	BANDPASS FILTERS, TWO ON 1RU PANEL, RX, 18MHZ BW, RANGE 796-824MHZ	\$2,243.00	\$2,243.00	10%	\$2,018.70	\$2,018.70
Daniels	TXSurge	145	-	207	1	DSTS4310FMP	4.3-10 M/F BULKHEAD COAX RF SURGE PROTECTOR, 698MHZ, 2.7GHZ PIM	\$229.88	\$229.88	10%	\$206.89	\$206.89
Daniels	RXSurge	146	-	207	3	DSTS4310FMP	DC PASS, BIDIRECTIONAL FEMALE/MALE 698MHZ - 2.7GHZ, PIM RATED	\$266.20	\$266.20	10%	\$239.58	\$239.58
Daniels	1-4H Cable	147	-	351	65	DSEC150HF	COAXIAL CABLE, 1/4" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$2.74	\$178.10	10%	\$2.47	\$160.29
Daniels	1-4H N M	148	-	351	8	DSNM50814X	CONNECTOR, N MALE INTERFACE FOR EC1-50-HF	\$40.00	\$320.00	10%	\$36.00	\$288.00
Daniels	1-4H 43 M	149	-	351	6	DS4310M50B14X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC1-50-HF	\$45.28	\$271.68	10%	\$40.75	\$244.51
Daniels	1-2H Cable	150	-	351	60	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$4.28	\$256.80	10%	\$3.85	\$231.12
Daniels	1-2H 43 M	151	-	351	6	DS4310M50B12X	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50-HF	\$49.83	\$298.98	10%	\$44.85	\$269.08
Daniels	1-2 Cable	152	-	351	330	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET	\$4.00	\$1,320.00	10%	\$3.60	\$1,188.00
Daniels	1-2 43 F	153	-	351	1	DS4310F50V12N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC4-50	\$33.65	\$33.65	10%	\$30.29	\$30.29
Daniels	1-2 43 M	154	-	351	13	DS4310M50V12N1	CONNECTOR, 4.3-10 MALE INTERFACE FOR EC4-50	\$33.65	\$437.45	10%	\$30.29	\$393.71
Daniels	1-58 Cable	155	-	351	720	DSEC750A	COAXIAL CABLE, "A" SERIES 1-5/8" 50 OHM CORRUGATED COPPER	\$14.05	\$10,116.00	10%	\$12.65	\$9,104.40
Daniels	1-58 43 F	156	-	351	6	DS4310F50V158N1	CONNECTOR, 4.3-10 FEMALE INTERFACE FOR EC7-50-A	\$182.45	\$1,094.70	10%	\$164.21	\$985.23
Daniels	DCPowerSys	157	-	207	1	DST252084500007	TRILOGY POWER SYSTEM WITH SMARTPACK 5, 48V, 500A	\$15,527.60	\$15,527.60	10%	\$13,974.84	\$13,974.84
Daniels	DCPowerSys	158	-	207	4	DS241115105	FLATPACK 2 48/2000 HE RECTIFIER	\$785.40	\$3,141.60	10%	\$706.86	\$2,827.44
Daniels	DCPowerSys	159	-	207	4	DS331E23640800	BLIND PANEL FP2 HE BLACK G1	\$29.04	\$116.16	10%	\$26.14	\$104.54
Daniels	DCPowerSys	160	-	207	1	DS3672495500	ALARM CABLE 50F FOR TRILOGY S POWER SYSTEMS	\$198.00	\$198.00	10%	\$178.20	\$178.20
Daniels	DCPowerSys	161	-	207	3	DS0991072458	ENERSYS POWERSAFE SBS BATTERY MODEL # S85190F, 48V BATTERY STRING, 190 AH, FRONT TERM	\$4,400.00	\$13,200.00	10%	\$3,960.00	\$11,880.00
Daniels	DCPowerSys	162	-	207	6	DSCB8003E	CIRCUIT BREAKER, 3 AMP PLUG-IN BULLET, ELECTRO-MECHANICAL	\$46.20	\$277.20	10%	\$41.58	\$249.48
Daniels	DCPowerSys	163	-	207	1	DSCB8005E	BREAKER, 5 AMP DC BULLET BREAKER	\$46.20	\$46.20	10%	\$41.58	\$41.58
Daniels	DCPowerSys	164	-	207	2	DSCB8020E	CIRCUIT BREAKER, 20 AMP, E TRIP	\$46.20	\$92.40	10%	\$41.58	\$83.16
Daniels	DCPowerSys	165	-	207	2	DSCB8080E	80A BATTERY BREAKER	\$46.20	\$92.40	10%	\$41.58	\$83.16
Daniels	ACSurge	166	-	207	1	DSAPEXIMAX808	SPD, TYPE 2A, 120/240VAC 1-PHASE NEMA 4X ENCLOSURE, SAD/MOV	\$1,789.61	\$1,789.61	10%	\$1,610.65	\$1,610.65
Fargo	Backhaul	167	-	708	1	DSMW3HE18861AB	BNDL-MOTOROLA 7705 SAR-AX ENET-REDUNDANT	\$8,400.00	\$8,400.00	15%	\$7,140.00	\$7,140.00
Fargo	Backhaul	168	-	708	1	DSMW3HE18861AA	BNDL-MOTOROLA 7705 SAR-AX ENET-SIMPLEX	\$4,200.00	\$4,200.00	15%	\$3,570.00	\$3,570.00
Fargo	Backhaul	169	-	708	4	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	\$242.55	\$970.20	15%	\$206.17	\$824.67
Fargo	Backhaul	170	-	708	3	DSMW3HE00028CA1	SFP - GIGE LX - LC ROHS 6/6 DDM -40/85C	\$731.33	\$2,193.99	15%	\$621.63	\$1,864.89
Fargo	DCPowerSys	171	-	207	1	DSFSS030100017	FPSK591-ANL-VC, FPS 2U, REAR WIRE, -48V/200A OUTPUT, REAR WIRE, LVBD	\$6,919.00	\$6,919.00	10%	\$6,227.10	\$6,227.10

Pricing Summary

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Town of Waterford, CT
Communications System Upgrade

Fargo	DCPowerSys	172	-	207	1	DSPSPSP200A01VV	SMARTPACK S CONTROLLER WITH A01 PROFILE, 48V FPS 2U STD CONFIG	\$844.80	\$844.80	\$760.32	10%	\$760.32	\$760.32
Fargo	DCPowerSys	173	-	207	2	DS241122105	RECTIFIER, FLATPACK 5 48/1000 HE 1000W, 85-300 VAC INPUT RANGE	\$638.00	\$1,276.00	\$574.20	10%	\$574.20	\$1,148.40
Fargo	DCPowerSys	174	-	207	4	DS331E00116500	FLATPACK S BLANK PANEL FOR EMPTY RECTIFIER SLOTS	\$29.04	\$116.16	\$26.14	10%	\$26.14	\$104.54
Fargo	DCPowerSys	175	-	207	1	DS3672694300	ALARM CABLE FOR SMARTPACK S CONTROLLER, 50FT, 6X OUTLET ALARMS	\$208.56	\$208.56	\$187.70	10%	\$187.70	\$187.70
Fargo	DCPowerSys	176	-	207	2	DS502909	BATTERY, 48V 38AH BATTERY SET # SBS40	\$1,793.00	\$3,586.00	\$1,613.70	10%	\$1,613.70	\$3,227.40
Fargo	DCPowerSys	177	-	207	2	DS230700	KIT: BATTERY MONITOR 10M G1, BATTERY MONITOR CAN BUS NODE	\$274.56	\$549.12	\$247.10	10%	\$247.10	\$494.21
Fargo	DCPowerSys	178	-	207	1	DSDD10005ABC	DISTRIBUTION PANEL W/ OPTIONAL A/B INPUT FEED	\$1,628.00	\$1,628.00	\$1,465.20	10%	\$1,465.20	\$1,465.20
Fargo	DCPowerSys	179	-	207	2	DSCB8050E	CIRCUIT BREAKER, 50 AMP, E TRIP	\$46.20	\$92.40	\$41.58	10%	\$41.58	\$83.16
Fargo	DCPowerSys	180	-	207	6	DSCB8003E	CIRCUIT BREAKER, 3 AMP PLUG-IN BULLET, ELECTRO- MECHANICAL	\$46.20	\$277.20	\$41.58	10%	\$41.58	\$249.48
Vinegar Hill	Backhaul	181	-	708	1	DSMW3HE18861AB	BNDL-MOTOROLA 7705 SAR-AX ENET-REDUNDANT	\$8,400.00	\$8,400.00	\$7,140.00	15%	\$7,140.00	\$7,140.00
Vinegar Hill	Backhaul	182	-	708	4	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 RG/6 DDM -40/85C	\$242.55	\$970.20	\$206.17	15%	\$206.17	\$824.67
Vinegar Hill	Backhaul	183	-	708	4	DSMW3HE00028CA1	SFP - GIGE LX - LC ROHS 6/6 DDM -40/85C	\$731.33	\$2,925.32	\$621.63	15%	\$621.63	\$2,486.52
Vinegar Hill	Backhaul	184	-	708	2	DSMW3HE00027CA	SFP - GIGE SX - LC ROHS 6/6 DDM -40/85C	\$253.58	\$507.16	\$215.54	15%	\$215.54	\$431.09
Common	Microwave	185	-	131	1	DQ-TEMP- MICROWAVE1	TEMPORARY PLACEHOLDER FOR SITE STRUCTURE: BACKHAUL: MICROWAVE VENDORS - NOKIA & AVIAT	\$504,849.00	\$504,849.00	\$429,121.65	15%	\$429,121.65	\$429,121.65
Spare	Site Rtr	186	-	147	1	T8547A	SITE ROUTER & FIREWALL, DC POWER	\$3,090.00	\$3,090.00	\$2,626.50	15%	\$2,626.50	\$2,626.50
Spare	Site Rtr	186	a	147	1	CA03445AA	ADD: MISSION CRITICAL HARDENING	\$3,300.00	\$3,300.00	\$2,805.00	15%	\$2,805.00	\$2,805.00
Spare	Site Rtr	186	b	147	1	CA03448AA	ADD: STATEFUL FIREWALL	\$1,000.00	\$1,000.00	\$850.00	15%	\$850.00	\$850.00
Spare	PAR Rtr	187	-	147	1	T8555A	EDGE & HUB ROUTER & FIREWALL - DC	\$16,965.00	\$16,965.00	\$14,420.25	15%	\$14,420.25	\$14,420.25
Spare	PAR Rtr	187	a	147	1	CA03445AA	ADD: MISSION CRITICAL HARDENING	\$3,300.00	\$3,300.00	\$2,805.00	15%	\$2,805.00	\$2,805.00
Spare	PAR Rtr	187	b	147	1	CA03448AA	ADD: STATEFUL FIREWALL	\$1,000.00	\$1,000.00	\$850.00	15%	\$850.00	\$850.00
Spare	RTU	188	-	275	1	F0016A	MC IOT MAIN MODEL	\$1,119.00	\$1,119.00	\$1,007.10	10%	\$1,007.10	\$1,007.10
Spare	RTU	189	-	275	1	VA01946AA	ADD: MC EDGE AS NFM	\$535.00	\$535.00	\$481.50	10%	\$481.50	\$481.50
Spare	RTU	190	-	275	1	VA00973AA	ADD: IOT MC-EDGE ENHANCED COMM PLUG-IN BOARD	\$177.00	\$177.00	\$159.30	10%	\$159.30	\$159.30
Spare	RTU	191	-	275	1	VA00341AA	INC:MC-EDGE MAIN FILE SYSTEM	\$0.00	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	RTU	192	-	275	1	VA00974AA	INC: IOT MC-EDGE CPU PACKAGE	\$0.00	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	RTU	193	-	275	1	VA00442AA	INC:MC-EDGE SYSTEM SW FILES	\$0.00	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	RTU	194	-	275	1	VA00967AA	INC: CPU PACKING	\$0.00	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	RTU	195	-	275	1	VA00142AA	INC:EXTREMEDB LICENSE	\$0.00	\$0.00	\$0.00	10%	\$0.00	\$0.00
Spare	RTU	196	-	275	1	FHN9067A	DC/DC - [48 >>24]	\$685.00	\$685.00	\$616.50	10%	\$616.50	\$616.50
Spare	RTU	197	-	275	1	FLN9985A	8DO EE 1601 5-18 V /DRY	\$650.00	\$650.00	\$585.00	10%	\$585.00	\$585.00
Spare	Backhaul	198	-	708	1	DSMW3HE18861AA	BNDL-MOTOROLA 7705 SAR-AX ENET-SIMPLEX	\$4,200.00	\$4,200.00	\$3,570.00	15%	\$3,570.00	\$3,570.00

Town of Waterford, CT
Communications System Upgrade

Spare	Backhaul	199	-	708	3	DSMW3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	\$242.55	\$727.65	15%	\$206.17	\$618.50
Spare	Backhaul	200	-	708	1	DSMW3HE00028CA1	SFP - GIGE LX - LC ROHS 6/6 DDM -40/85C	\$731.33	\$731.33	15%	\$621.63	\$621.63
Spare	DBR 800	201	-	675	2	DLN8061A	FRU: DBR MCPA 800 MHZ	\$15,000.00	\$30,000.00	20%	\$12,000.00	\$24,000.00
Spare	MCPA	202	-	675	2	DLN8032A	FRU: DBR MCPA FAN KIT	\$800.00	\$1,600.00	20%	\$640.00	\$1,280.00
Spare	FAN	203	-	675	2	DLN8042A	FRU: DBR FAN FILTER REPLACEMENT KIT	\$250.00	\$500.00	20%	\$200.00	\$400.00
Spare	FLTR	204	-	675	2	DLN8065A	FRU: XCVR 7/800 MHZ	\$2,800.00	\$5,600.00	20%	\$2,240.00	\$4,480.00
Spare	SITE RMC	205	-	675	1	DLN8063A	FRU: SITE RMC 7/800 MHZ	\$600.00	\$600.00	20%	\$480.00	\$480.00
Spare	CABINET	206	-	675	1	DLN8064A	FRU: CABINET RMC 7/800 MHZ	\$400.00	\$400.00	20%	\$320.00	\$320.00
Spare	RMC	207	-	675	1	DLN1446A	FRU: DSC 8500 SITE PROCESSOR	\$14,000.00	\$14,000.00	20%	\$11,200.00	\$11,200.00
Spare	DSC 8500	208	-	677	1	DLN1445B	FRU: DSC 8000, W/ RUBIDIUM 28-60V	\$22,500.00	\$22,500.00	20%	\$18,000.00	\$18,000.00
Spare	GNSS ANT	209	-	895	1	PMUG1018A	GNSS REMOTE RECEIVER ASSY	\$900.00	\$900.00	10%	\$810.00	\$810.00
Spare	Ant	210	-	351	1	DSC80711T1P	OMNI, CORP COLLINER, 10.5DBD, 746-870MHZ, 1DEG DT, PIM & 25KW PIP RAT	\$7,209.00	\$7,209.00	10%	\$6,488.10	\$6,488.10
Spare	Ant	211	-	351	1	DSC80712T2P	OMNI, CORP COLLINER, 11.5DBD, 746-870MHZ, 2DEG DT, PIM & 25KW PIP RAT	\$7,491.00	\$7,491.00	10%	\$6,741.90	\$6,741.90
Spare	Ant	212	-	351	1	DS057C09P36UM	764-869MHZ 9DB GAIN ANTENNA, OMNIDIRECTIONAL, LOW-PIM/HI-PIP, 4.3-10 FEMALE	\$4,624.00	\$4,624.00	10%	\$4,161.60	\$4,161.60
Spare	Ant	213	-	351	1	DS057C14PPTUM	764-869 MHZ 120 DEGREE 14 DB GAIN PANEL 4.3-10 CONNECTOR	\$4,004.00	\$4,004.00	10%	\$3,603.60	\$3,603.60
Spare	APM	214	-	457	1	DSAPM7487K24843	ADVANCED POWER MONITOR 740-870MHZ 36-60VDC, W/COUPLER, 4.3 CONN	\$6,380.00	\$6,380.00	10%	\$5,742.00	\$5,742.00
Spare	TTA	215	-	457	1	DS442035483	TTA MOTOROLA TOWER TOP UNIT, 794-824 MHZ 4.3- 10 CONNS, DUAL DIVERSITY	\$16,598.00	\$16,598.00	10%	\$14,938.20	\$14,938.20
Spare	TTA CU	216	-	457	1	DS442037464	TTA, MOTOROLA CU (ESS), 794-824 MHZ, 1DC, DUAL DIVERSITY, 4.3-10 TTA CONNECTORS	\$9,975.00	\$9,975.00	10%	\$8,977.50	\$8,977.50
License	CORE	217	-	877	1	SQM01SUM0323A	ASTRO MASTER SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
License	CORE	217	a	877	1	CA03517AF	ASTRO CORE EXPANSION, AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
License	CORE	217	b	877	3	UA00159A8	ADD: P25 PHASE 2 TDMA TRNG OP SITE LIC	\$30,000.00	\$90,000.00	20%	\$24,000.00	\$72,000.00
License	CORE	217	c	877	1	UA00152AA	ADD:500 RADIO USER LICENSES	\$7,500.00	\$7,500.00	20%	\$6,000.00	\$6,000.00
License	CORE	217	d	877	3	CA01316AA	ADD:UNC ADDTL DEVICE LIC (QTY 10)	\$1,500.00	\$4,500.00	20%	\$1,200.00	\$3,600.00
License	CORE	217	e	877	1	UA00165AA	ADD: RADIO AUTH 500 USER LIC	\$5,500.00	\$5,500.00	20%	\$4,400.00	\$4,400.00
Equip Rm	BU CS	1	a	681	5	L37TS59PW1AN	ALL BAND CONSOLETTTE	\$10,330.00	\$51,650.00	25%	\$7,747.50	\$38,737.50
Equip Rm	BU CS	1	b	681	5	GA05508AA	DEL: DELETE VHF BAND	(\$800.00)	(\$4,000.00)	25%	(\$600.00)	(\$3,000.00)
Equip Rm	BU CS	1	c	681	5	GA05509AA	DEL: DELETE UHF BAND	(\$800.00)	(\$4,000.00)	25%	(\$600.00)	(\$3,000.00)
Equip Rm	BU CS	1	d	681	5	L999AG	ADD: FULL FP W/ES/KEYPAD/CLOCK/VU	\$968.00	\$4,340.00	25%	\$651.00	\$3,255.00
Equip Rm	BU CS	1	e	681	5	CA01598AB	ADD: AC LINE CORD US	\$0.00	\$0.00	25%	\$0.00	\$0.00
Equip Rm	BU CS	1	f	681	5	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Equip Rm	BU CS	1	f	681	5	G8068L	ENH: ASTRO DIGITAL CAI OP APX	\$567.00	\$2,835.00	25%	\$425.25	\$2,126.25

Pricing Summary

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Equip Rm	BU CS	1	g	681	5	G51AT	ENH:SMARTZONE	\$1,650.00	\$8,250.00	25%	\$1,237.50	\$6,187.50
Equip Rm	BU CS	1	h	681	5	G361AH	ENH: P25 TRUNKING SOFTWARE APX	\$330.00	\$1,650.00	25%	\$247.50	\$1,237.50
Equip Rm	BU CS	1	i	681	5	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$30.00	25%	\$4.50	\$22.50
Equip Rm	BU CS	1	j	681	5	GAD1767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$550.00	25%	\$82.50	\$412.50
Equip Rm	BU CS	1	k	681	5	GAD0580AA	ADD: TDMA OPERATION	\$495.00	\$2,475.00	25%	\$371.25	\$1,856.25
Equip Rm	BU CS	1	l	681	5	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$550.00	25%	\$82.50	\$412.50
Equip Rm	BU CS	1	m	681	5	GAD9008AA	ADD: GROUP SERVICES	\$165.00	\$825.00	25%	\$123.75	\$618.75
Equip Rm	BU CS	1	n	681	5	G843AH	ADD: AES ENCRYPTION AND ADP	\$523.00	\$2,615.00	25%	\$392.25	\$1,961.25
Equip Rm	BU CS	1	o	681	5	G298AS	ENH: ASTRO 25 OTAR W/ MULTKEY	\$814.00	\$4,070.00	25%	\$610.50	\$3,052.50
Equip Rm	BU CS	1	p	681	5	G90AC	ADD: NO MICROPHONE NEEDED APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Equip Rm	BU CS	1	q	185	5	HA00694AA	ADD: 7V ESSENTIAL SERVICE HTM	\$604.80	\$3,024.00	0%	\$604.80	\$3,024.00
Equip Rm	BU CS	2	r	761	6	HKN6233C	APX CONSOLETTET RACK MOUNT KIT	\$200.00	\$1,200.00	25%	\$150.00	\$900.00
Equip Rm	Rack	3	s	687	1	0787871B48	RACK RELAY	\$799.70	\$799.70	0%	\$799.70	\$799.70
Equip Rm	Rack Hrdwr	4	t	454	4	0784469Y02	BRACKET, BRKT, CBL SUPPORT	\$109.73	\$438.92	25%	\$82.30	\$329.19
Equip Rm	Rack Hrdwr	5	u	454	1	3182602Y06	GROUNDING BUS BAR	\$107.25	\$107.25	25%	\$80.44	\$80.44
Equip Rm	Rack Hrdwr	6	v	744	10	0309660A01	SCREW 12-24X5/8 SLTXW CRS ZINC	\$15.40	\$154.00	15%	\$13.09	\$130.90
Equip Rm	AC Edge	7	w	207	1	DS110111188	PDU, 120/240 SPLIT PH OR N+1 REDUNDANT, 60A MAX PER PHASE, SIX DEDICAT	\$3,439.00	\$3,439.00	10%	\$3,095.10	\$3,095.10
Equip Rm	AC Edge	8	x	207	12	DS3750297	BREAKER, 15 AMP, CB UL 489 LISTED FOR AC EDGE II (1101-1188)	\$74.71	\$896.52	10%	\$67.24	\$806.87
Equip Rm	800 CS Ant	9	y	351	1	DSSP7C03CS36UN	764-869MHZ 30BD GAIN CONTROL STATION ANTENNA W/N-TYPE CONNECTOR.	\$1,226.00	\$1,226.00	10%	\$1,103.40	\$1,103.40
Equip Rm	CS Surge	10	z	207	1	DSISB50LNC2MA	RF SPD, 125-1000MHZ DC BLOCK BROADBAND BULKHEAD MT, NM ANT, NF EQUIP	\$84.00	\$84.00	10%	\$75.60	\$75.60
Equip Rm	800 CS Dup	11	aa	457	1	DSMWFD78CMCSN	8700/800 MHZ CONTROL STATION COMBINER MILLED WINDOW FILTER DUPLEXERTX:	\$6,108.00	\$6,108.00	10%	\$5,497.20	\$5,497.20
Equip Rm	800 CS Comb	12	ab	457	1	DSBCH11008	8 CHANNEL CONTROL STATION COMBINER (PASSIVE), CSC02, 764-869MHZ	\$12,911.00	\$12,911.00	10%	\$11,619.90	\$11,619.90
Equip Rm	CS Ant Sys	13	ac	351	60	DSEC150HF	COAXIAL CABLE, 1/4" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$2.74	\$164.40	10%	\$2.47	\$147.96
Equip Rm	CS Ant Sys	14	ad	351	12	DSNM50B14X	CONNECTOR, N MALE INTERFACE FOR EC1-50-HF	\$40.00	\$480.00	10%	\$36.00	\$432.00
Equip Rm	CS Ant Sys	15	ae	351	35	DSEC450HF	COAXIAL CABLE, 1/2" HIFLEX, 50 OHM WITH BLACK PE JACKET	\$4.28	\$149.80	10%	\$3.85	\$134.82
Equip Rm	CS Ant Sys	16	af	351	6	DSNM50B12X	CONNECTOR, N MALE INTERFACE FOR EC4-50-HF	\$55.00	\$330.00	10%	\$49.50	\$297.00
Equip Rm	CS Ant Sys	17	ag	351	125	DSEC450	COAXIAL CABLE, 1/2" 50 OHM CORRUGATED COPPER WITH BLACK PE JACKET	\$4.00	\$500.00	10%	\$3.60	\$450.00
Equip Rm	CS Ant Sys	18	ah	351	1	DSNF50V12	CONNECTOR, N FEMALE INTERFACE FOR EC4-50	\$36.00	\$36.00	10%	\$32.40	\$32.40
Equip Rm	CS Ant Sys	19	ai	351	1	DSNM50V12	CONNECTOR, N MALE INTERFACE FOR EC4-50	\$36.00	\$36.00	10%	\$32.40	\$32.40
License	Core	20	aj	877	1	SQM015UM0323A	ASTRO MASTER SITE	\$0.00	\$0.00	20%	\$0.00	\$0.00
License	Core	20	ak	877	1	CA03517AF	ASTRO CORE EXPANSION, AN2024.X	\$0.00	\$0.00	20%	\$0.00	\$0.00
License	Core	20	al	877	5	UA00789AA	TRUNKED RADIO USER, PER USER (HKVN4913)	\$20.00	\$100.00	20%	\$16.00	\$80.00

Town of Waterford, CT
Communications System Upgrade

License	Core	20	c	877	5	UA00790AA	RADIO ALIAS UPDATE, PER USER (HKVN4915)	\$12.00	\$60.00	20%	\$9.60	\$48.00
License	RM	21		430	1	T7914A	SOFTWARE LICENSE RADIO MANAGEMENT ONLINE	\$0.00	\$0.00	15%	\$0.00	\$0.00
License	RM	21	a	430	5	UA00049AA	ADD: RADIO MANAGEMENT LICENSES ONLINE	\$110.00	\$550.00	15%	\$93.50	\$467.50

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Page 5-121

5.5.2 Subscriber Equipment

SUB SYS	BLOCK	LIM	O	APC	QTY	NOMENCLATURE	DESCRIPTION	UNIT LIST (USD)	EXT LIST (USD)	Contract Disc	Contract Unit	Contract Extended
PD	65RemE530	1	a	527	33	M25URS9PW1BN	APX6500 ENHANCED 7/800 MHZ MOBILE	\$3,383.00	\$111,639.00	25%	\$2,537.25	\$83,729.25
PD	65RemE530	1	a	527	33	G67DT	ADD: REMOTE MOUNT ES APXM	\$327.00	\$10,791.00	25%	\$245.25	\$8,093.25
PD	65RemE530	1	b	527	33	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
PD	65RemE530	1	c	527	33	GA01670AA	ADD: APX E5 CONTROL HEAD	\$717.00	\$23,661.00	25%	\$537.75	\$17,745.75
PD	65RemE530	1	d	527	33	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
PD	65RemE530	1	e	527	33	G806BL	ENH: ASTRO DIGITAL CAI OP APX	\$567.00	\$18,711.00	25%	\$425.25	\$14,033.25
PD	65RemE530	1	f	527	33	G51AU	ENH: SMARTZONE OPERATION APX6500	\$1,320.00	\$43,560.00	25%	\$990.00	\$32,670.00
PD	65RemE530	1	g	527	33	G361AH	ENH: P25 TRUNKING SOFTWARE APX	\$330.00	\$10,890.00	25%	\$247.50	\$8,167.50
PD	65RemE530	1	h	527	33	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$198.00	25%	\$4.50	\$148.50
PD	65RemE530	1	i	527	33	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$3,630.00	25%	\$82.50	\$2,722.50
PD	65RemE530	1	j	527	33	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$16,335.00	25%	\$371.25	\$12,251.25
PD	65RemE530	1	k	527	33	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$3,630.00	25%	\$82.50	\$2,722.50
PD	65RemE530	1	l	527	33	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$5,445.00	25%	\$123.75	\$4,083.75
PD	65RemE530	1	m	527	33	G843AH	ADD: AES ENCRYPTION AND ADP	\$523.00	\$17,259.00	25%	\$392.25	\$12,944.25
PD	65RemE530	1	n	527	33	G298AS	ENH: ASTRO 25 OTAR W/ MULTIKEY	\$814.00	\$26,862.00	25%	\$610.50	\$20,146.50
PD	65RemE530	1	o	527	33	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
PD	65RemE530	1	p	527	33	GA01606AA	ADD: NO BLUETOOTH/WIFI/GPS ANTENNA NEEDED	\$79.00	\$2,607.00	25%	\$59.25	\$1,955.25
PD	65RemE530	1	q	527	33	G892AB	ENH: HAND MIC, GCAI WTR RESISTANT APX	\$66.00	\$2,178.00	25%	\$49.50	\$1,633.50
PD	65RemE530	1	r	527	33	G831AD	ADD: SPKR 15W WATER RESISTANT	\$604.80	\$19,958.40	0%	\$604.80	\$19,958.40
PD	65RemE530	1	s	185	33	HA00694AA	ADD: 7Y ESSENTIAL SERVICE HTM	\$74.00	\$2,442.00	25%	\$55.50	\$1,831.50
PD	6500 Acc	2		291	33	DSMLP20204MIN	MLFML240C MOUNT, 17 FT 0 IN PFP240, MINI-UHF MALE					
PD	6500 Acc	3		291	33	DSBMLPV700	ANTENNA 740-870 LOW PROFILE, BLACK	\$41.00	\$1,353.00	25%	\$30.75	\$1,014.75
FD	85RemE530	4		681	29	M37TSS9PW1CN	APX8500 ALL BAND MP MOBILE	\$6,558.00	\$190,182.00	25%	\$4,918.50	\$142,636.50
FD	85RemE530	4	a	681	29	G67EH	ADD: REMOTE MOUNT ES MP	\$327.00	\$9,483.00	25%	\$245.25	\$7,112.25
FD	85RemE530	4	b	681	29	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	85RemE530	4	c	681	29	GA01670AA	ADD: APX E5 CONTROL HEAD	\$717.00	\$20,793.00	25%	\$537.75	\$15,594.75
FD	85RemE530	4	d	681	29	G610AC	ADD: REMOTE MOUNT CABLE 30 FT APX	\$28.00	\$812.00	25%	\$21.00	\$609.00
FD	85RemE530	4	e	681	29	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	85RemE530	4	f	681	29	G806BL	SOFTWARE LICENSE ENH: ASTRO DIGITAL CAI OP APX	\$567.00	\$16,443.00	25%	\$425.25	\$12,332.25
FD	85RemE530	4	g	681	29	G51AT	SOFTWARE LICENSE ENH: SMARTZONE	\$1,650.00	\$47,850.00	25%	\$1,237.50	\$35,887.50
FD	85RemE530	4	h	681	29	G361AH	SOFTWARE LICENSE ENH: P25 TRUNKING SOFTWARE	\$330.00	\$9,570.00	25%	\$247.50	\$7,177.50
FD	85RemE530	4	i	681	29	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$174.00	25%	\$4.50	\$130.50
FD	85RemE530	4	j	681	29	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$3,190.00	25%	\$82.50	\$2,392.50
FD	85RemE530	4	k	681	29	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$14,355.00	25%	\$371.25	\$10,766.25
FD	85RemE530	4	l	681	29	G996AS	SOFTWARE LICENSE ENH: OVER THE AIR PROVISIONING	\$110.00	\$3,190.00	25%	\$82.50	\$2,392.50

Town of Watford CT
Communications System Upgrade

FD	85RemE530	4	m	681	29	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$4,785.00	25%	\$123.75	\$3,588.75
FD	85RemE530	4	n	681	29	GA01517AA	DEL: NO J600 ADAPTER CABLE NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	85RemE530	4	o	681	29	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	85RemE530	4	p	681	29	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	85RemE530	4	q	681	29	GA01606AA	ADD: NO BLUETOOTH/WIFI/GPS ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	85RemE530	4	r	681	29	G892AB	ENH: HAND MIC, GCAI WTR RESISTANT APX	\$79.00	\$2,291.00	25%	\$59.25	\$1,718.25
FD	85RemE530	4	s	681	29	G831AD	ADD: SPKR 15W WATER RESISTANT	\$66.00	\$1,914.00	25%	\$49.50	\$1,435.50
FD	85RemE530	4	t	185	29	HA00694AA	ADD: 7Y ESSENTIAL SERVICE HTM	\$604.80	\$17,539.20	0%	\$604.80	\$17,539.20
FD	8500 Acc	5		291	29	DSRFMTNTVUCQMA	RFMT-NT TRIBAND ANT WITH QMA ANTENNA	\$333.00	\$9,657.00	25%	\$249.75	\$7,242.75
FD	15DashO2CS	6		466	6	M36URS9PW1BN	APX1500 ENHANCED 7/800 MHZ MOBILE	\$1,932.32	\$11,593.92	25%	\$1,449.24	\$8,695.44
FD	15DashO2CS	6	a	466	6	G66BF	ADD: DASH MOUNT O2 APXM	\$138.00	\$828.00	25%	\$103.50	\$621.00
FD	15DashO2CS	6	b	466	6	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	15DashO2CS	6	c	466	6	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$3,246.00	25%	\$405.75	\$2,434.50
FD	15DashO2CS	6	d	466	6	W665BF	ADD: BASE STATION OP APX	\$77.00	\$462.00	25%	\$57.75	\$346.50
FD	15DashO2CS	6	e	466	6	G91AF	ADD: CNTRL STATION PWR SUPPLY	\$296.00	\$1,776.00	25%	\$222.00	\$1,332.00
FD	15DashO2CS	6	f	466	6	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	15DashO2CS	6	g	466	6	QA02756AD	ADD: 3600 OR 9600 TRUNKING BAUD SINGLE SYSTEM	\$1,727.00	\$10,362.00	25%	\$1,295.25	\$7,771.50
FD	15DashO2CS	6	h	466	6	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$36.00	25%	\$4.50	\$27.00
FD	15DashO2CS	6	i	466	6	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$660.00	25%	\$82.50	\$495.00
FD	15DashO2CS	6	j	466	6	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$2,970.00	25%	\$371.25	\$2,227.50
FD	15DashO2CS	6	k	466	6	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$660.00	25%	\$82.50	\$495.00
FD	15DashO2CS	6	l	466	6	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$990.00	25%	\$123.75	\$742.50
FD	15DashO2CS	6	m	466	6	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	15DashO2CS	6	n	466	6	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	15DashO2CS	6	o	466	6	GA00235AA	ADD: NO GPS ANTENNA NEEDED APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	15DashO2CS	6	p	466	6	W228A	ADD: STD PALM MICROPHONE APX	\$79.00	\$474.00	25%	\$59.25	\$355.50
FD	15DashO2CS	6	q	466	6	G142AD	ADD: NO SPEAKER APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
FD	15DashO2CS	6	r	185	6	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$2,724.00	0%	\$454.00	\$2,724.00
Emer Mgmt	85RemE5	7		681	1	M37TSS9PW1CN	APX8500 ALL BAND MP MOBILE	\$6,558.00	\$6,558.00	25%	\$4,918.50	\$4,918.50
Emer Mgmt	85RemE5	7	a	681	1	G67EH	ADD: REMOTE MOUNT E5 MP	\$327.00	\$327.00	25%	\$245.25	\$245.25
Emer Mgmt	85RemE5	7	b	681	1	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Emer Mgmt	85RemE5	7	c	681	1	QA01670AA	ADD: APX E5 CONTROL HEAD	\$717.00	\$717.00	25%	\$537.75	\$537.75
Emer Mgmt	85RemE5	7	d	681	1	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Emer Mgmt	85RemE5	7	e	681	1	G806BL	SOFTWARE LICENSE ENH: ASTRO DIGITAL CAI OP APX	\$567.00	\$567.00	25%	\$425.25	\$425.25
Emer Mgmt	85RemE5	7	f	681	1	G51AT	SOFTWARE LICENSE ENH: SMARTZONE	\$1,650.00	\$1,650.00	25%	\$1,237.50	\$1,237.50
Emer Mgmt	85RemE5	7	g	681	1	G361AH	SOFTWARE LICENSE ENH: P25 TRUNKING SOFTWARE APX	\$330.00	\$330.00	25%	\$247.50	\$247.50
Emer Mgmt	85RemE5	7	h	681	1	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$6.00	25%	\$4.50	\$4.50
Emer Mgmt	85RemE5	7	i	681	1	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$110.00	25%	\$82.50	\$82.50
Emer Mgmt	85RemE5	7	j	681	1	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$495.00	25%	\$371.25	\$371.25

Pricing Summary

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Emer Mgmt	85RemE5	7	k	681	1	G996AS	SOFTWARE LICENSE ENH: OVER THE AIR PROVISIONING	\$110.00	\$110.00	25%	\$82.50	\$82.50
Emer Mgmt	85RemE5	7	l	681	1	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$165.00	25%	\$123.75	\$123.75
Emer Mgmt	85RemE5	7	m	681	1	GA01517AA	DEL: NO J600 ADAPTER CABLE NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Emer Mgmt	85RemE5	7	n	681	1	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
Emer Mgmt	85RemE5	7	o	681	1	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Emer Mgmt	85RemE5	7	p	681	1	GA01606AA	ADD: NO BLUETOOTH/WIFI/GPS ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Emer Mgmt	85RemE5	7	q	681	1	G892AB	ENH:HAND MIC,GCAI WTR RESISTANT APX	\$79.00	\$79.00	25%	\$59.25	\$59.25
Emer Mgmt	85RemE5	7	r	681	1	G831AD	ADD: SPKR 15W WATER RESISTANT	\$66.00	\$66.00	25%	\$49.50	\$49.50
Emer Mgmt	85RemE5	7	s	185	1	HA00694AA	ADD: 7Y ESSENTIAL SERVICE HTM	\$604.80	\$604.80	0%	\$604.80	\$604.80
Emer Mgmt	8500 Acc	8		291	1	DSRFMTNTVUCQMA	RFMT-NT TRIBAND ANT WITH QMA ANTENNA	\$333.00	\$333.00	25%	\$249.75	\$249.75
Public Works	45RemO2	9	g	471	30	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$3,300.00	25%	\$82.50	\$2,475.00
Public Works	45RemO2	9	h	471	30	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$14,850.00	25%	\$371.25	\$11,137.50
Public Works	45RemO2	9	i	471	30	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$3,300.00	25%	\$82.50	\$2,475.00
Public Works	45RemO2	9	j	471	30	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$4,950.00	25%	\$123.75	\$3,712.50
Public Works	45RemO2	9	k	471	30	GA01770AA	ENH: ENHANCEMENT LEVEL 1	\$220.00	\$6,600.00	25%	\$165.00	\$4,950.00
Public Works	45RemO2	9	l	471	30	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	45RemO2	9	m	471	30	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	45RemO2	9	n	471	30	GA01606AA	ADD: NO BLUETOOTH/WIFI/GPS ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	45RemO2	9	o	471	30	G892AB	ENH:HAND MIC,GCAI WTR RESISTANT APX	\$79.00	\$2,370.00	25%	\$59.25	\$1,777.50
Public Works	45RemO2	9	p	471	30	G831AD	ADD: SPKR 15W WATER RESISTANT	\$66.00	\$1,980.00	25%	\$49.50	\$1,485.00
Public Works	45RemO2	9	q	185	30	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$13,620.00	0%	\$454.00	\$13,620.00
Public Works	45RemO2	9	r	471	30	M22URS9PW1BN	APX4500 ENHANCED 7/800 MHZ MOBILE	\$2,202.00	\$66,060.00	25%	\$1,651.50	\$49,545.00
Public Works	45RemO2	9	a	471	30	G67DQ	ADD: REMOTE MOUNT O2 APXM	\$327.00	\$9,810.00	25%	\$245.25	\$7,357.50
Public Works	45RemO2	9	b	471	30	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	45RemO2	9	c	471	30	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$16,230.00	25%	\$405.75	\$12,172.50
Public Works	45RemO2	9	d	471	30	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	45RemO2	9	e	471	30	QA02812AE	ADD: P25 9600 TRUNKING W/ INTEROPERABILITY	\$2,277.00	\$68,310.00	25%	\$1,707.75	\$51,232.50
Public Works	45RemO2	9	f	471	30	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$180.00	25%	\$4.50	\$135.00
Public Works	4500 Acc	10		554	30	RAF4227A	762-870 MHZ 308 LOW PROFILE MOBILE ANTENNA W/ 20' LOW LOSS CABLE	\$90.72	\$2,721.60	25%	\$68.04	\$2,041.20
Public Works	15DashO2CS	11		466	2	M36URS9PW1BN	APX1500 ENHANCED 7/800 MHZ MOBILE	\$1,932.32	\$3,864.64	25%	\$1,449.24	\$2,898.48
Public Works	15DashO2CS	11	a	466	2	G668F	ADD: DASH MOUNT O2 APXM	\$138.00	\$276.00	25%	\$103.50	\$207.00
Public Works	15DashO2CS	11	b	466	2	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	15DashO2CS	11	c	466	2	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$1,082.00	25%	\$405.75	\$811.50
Public Works	15DashO2CS	11	d	466	2	W665BF	ADD: BASE STATION OP APX	\$77.00	\$154.00	25%	\$57.75	\$115.50
Public Works	15DashO2CS	11	e	466	2	G91AF	ADD: CNTRL STATION PWR SUPPLY	\$296.00	\$592.00	25%	\$222.00	\$444.00
Public Works	15DashO2CS	11	f	466	2	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	15DashO2CS	11	g	466	2	QA02756AD	ADD: 3600 OR 9600 TRUNKING BAUD SINGLE SYSTEM	\$1,727.00	\$3,454.00	25%	\$1,295.25	\$2,590.50
Public Works	15DashO2CS	11	h	466	2	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$12.00	25%	\$4.50	\$9.00

Town of Watford, CT
Communications System Upgrade

Public Works	15Dash02CS	11	i	466	2	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$220.00	25%	\$82.50	\$165.00
Public Works	15Dash02CS	11	j	466	2	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$990.00	25%	\$371.25	\$742.50
Public Works	15Dash02CS	11	k	466	2	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$220.00	25%	\$82.50	\$165.00
Public Works	15Dash02CS	11	l	466	2	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$330.00	25%	\$123.75	\$247.50
Public Works	15Dash02CS	11	m	466	2	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	15Dash02CS	11	n	466	2	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	15Dash02CS	11	o	466	2	GA00235AA	ADD: NO GPS ANTENNA NEEDED APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	15Dash02CS	11	p	466	2	W22BA	ADD: STD PALM MICROPHONE APX	\$79.00	\$158.00	25%	\$59.25	\$118.50
Public Works	15Dash02CS	11	q	466	2	G142AD	ADD: NO SPEAKER APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Public Works	15Dash02CS	11	r	185	2	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$908.00	0%	\$454.00	\$908.00
BOE	15Dash02CS	12	a	466	5	M36LURS9PW1BN	APX1500 ENHANCED 7/800 MHZ MOBILE	\$1,932.32	\$9,661.60	25%	\$1,449.24	\$7,246.20
BOE	15Dash02CS	12	b	466	5	G66BF	ADD: DASH MOUNT O2 APXM	\$138.00	\$690.00	25%	\$103.50	\$517.50
BOE	15Dash02CS	12	c	466	5	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
BOE	15Dash02CS	12	d	466	5	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$2,705.00	25%	\$405.75	\$2,028.75
BOE	15Dash02CS	12	e	466	5	W665BF	ADD: BASE STATION OP APX	\$77.00	\$385.00	25%	\$57.75	\$288.75
BOE	15Dash02CS	12	f	466	5	G91AF	ADD: CNTRL STATION PWR SUPPLY	\$296.00	\$1,480.00	25%	\$222.00	\$1,110.00
BOE	15Dash02CS	12	g	466	5	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
BOE	15Dash02CS	12	h	466	5	QA02756AD	ADD: 3600 OR 9600 TRUNKING BAUD SINGLE SYSTEM	\$1,727.00	\$8,635.00	25%	\$1,295.25	\$6,476.25
BOE	15Dash02CS	12	i	466	5	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$30.00	25%	\$4.50	\$22.50
BOE	15Dash02CS	12	j	466	5	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$550.00	25%	\$82.50	\$412.50
BOE	15Dash02CS	12	k	466	5	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$2,475.00	25%	\$371.25	\$1,856.25
BOE	15Dash02CS	12	l	466	5	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$550.00	25%	\$82.50	\$412.50
BOE	15Dash02CS	12	m	466	5	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$825.00	25%	\$123.75	\$618.75
BOE	15Dash02CS	12	n	466	5	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
BOE	15Dash02CS	12	o	466	5	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
BOE	15Dash02CS	12	p	466	5	GA00235AA	ADD: NO GPS ANTENNA NEEDED APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
BOE	15Dash02CS	12	q	466	5	W22BA	ADD: STD PALM MICROPHONE APX	\$79.00	\$395.00	25%	\$59.25	\$296.25
BOE	15Dash02CS	12	r	466	5	G142AD	ADD: NO SPEAKER APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
BOE	15Dash02CS	12	s	185	5	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$2,270.00	0%	\$454.00	\$2,270.00
Social Serv	45Rem02	13	a	471	3	M22LURS9PW1BN	APX4500 ENHANCED 7/800 MHZ MOBILE	\$2,202.00	\$6,606.00	25%	\$1,651.50	\$4,954.50
Social Serv	45Rem02	13	b	471	3	G67DQ	ADD: REMOTE MOUNT O2 APXM	\$327.00	\$981.00	25%	\$245.25	\$735.75
Social Serv	45Rem02	13	c	471	3	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	45Rem02	13	d	471	3	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$1,623.00	25%	\$405.75	\$1,217.25
Social Serv	45Rem02	13	e	471	3	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	45Rem02	13	f	471	3	QA02812AE	ADD: P25 9600 TRUNKING W/ INTEROPERABILITY	\$2,277.00	\$6,831.00	25%	\$1,707.75	\$5,123.25
Social Serv	45Rem02	13	g	471	3	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$18.00	25%	\$4.50	\$13.50
Social Serv	45Rem02	13	h	471	3	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$330.00	25%	\$82.50	\$247.50
Social Serv	45Rem02	13	i	471	3	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$1,485.00	25%	\$371.25	\$1,113.75
Social Serv	45Rem02	13	j	471	3	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$330.00	25%	\$82.50	\$247.50
Social Serv	45Rem02	13	k	471	3	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$495.00	25%	\$123.75	\$371.25

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Social Serv	45Rem02	13	k	471	3	GA0177DAA	ENH: ENHANCEMENT LEVEL 1 ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$220.00	\$660.00	25%	\$165.00	\$495.00
	Social Serv	45Rem02	13	l	471	3						
Social Serv	45Rem02	13	m	471	3	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	45Rem02	13	n	471	3	GA01606AA	ADD: NO BLUETOOTH/WIFI/GPS ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	45Rem02	13	o	471	3	G892AB	ENH: HAND MIC, GCAI WTR RESISTANT APX	\$79.00	\$237.00	25%	\$59.25	\$177.75
Social Serv	45Rem02	13	p	471	3	G831AD	ADD: SPKR 15W WATER RESISTANT	\$66.00	\$198.00	25%	\$49.50	\$148.50
Social Serv	45Rem02	13	q	185	3	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$1,362.00	0%	\$454.00	\$1,362.00
Social Serv	15Dash02CS	14		466	1	M36URS9PW1BN	APX1500 ENHANCED 7/800 MHZ MOBILE	\$1,932.32	\$1,932.32	25%	\$1,449.24	\$1,449.24
Social Serv	15Dash02CS	14	a	466	1	G66BF	ADD: DASH MOUNT O2 APXM	\$138.00	\$138.00	25%	\$103.50	\$103.50
Social Serv	15Dash02CS	14	b	466	1	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	15Dash02CS	14	c	466	1	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$541.00	25%	\$405.75	\$405.75
Social Serv	15Dash02CS	14	d	466	1	W665BF	ADD: BASE STATION OP APX	\$77.00	\$77.00	25%	\$57.75	\$57.75
Social Serv	15Dash02CS	14	e	466	1	G91AF	ADD: CNTRL STATION PWVR SUPPLY	\$296.00	\$296.00	25%	\$222.00	\$222.00
Social Serv	15Dash02CS	14	f	466	1	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	15Dash02CS	14	g	466	1	QA02756AD	ADD: 3600 OR 9600 TRUNKING BAUD SINGLE SYSTEM	\$1,727.00	\$1,727.00	25%	\$1,295.25	\$1,295.25
Social Serv	15Dash02CS	14	h	466	1	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$6.00	25%	\$4.50	\$4.50
Social Serv	15Dash02CS	14	i	466	1	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$110.00	25%	\$82.50	\$82.50
Social Serv	15Dash02CS	14	j	466	1	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$495.00	25%	\$371.25	\$371.25
Social Serv	15Dash02CS	14	k	466	1	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$110.00	25%	\$82.50	\$82.50
Social Serv	15Dash02CS	14	l	466	1	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$165.00	25%	\$123.75	\$123.75
Social Serv	15Dash02CS	14	m	466	1	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	15Dash02CS	14	n	466	1	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	15Dash02CS	14	o	466	1	GA00235AA	ADD: NO GPS ANTENNA NEEDED APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	15Dash02CS	14	p	466	1	W228A	ADD: STD PALM MICROPHONE APX	\$79.00	\$79.00	25%	\$59.25	\$59.25
Social Serv	15Dash02CS	14	q	466	1	G142AD	ADD: NO SPEAKER APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Social Serv	15Dash02CS	14	r	185	1	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$454.00	0%	\$454.00	\$454.00
Ambulance	85RemE5NoU	15		681	7	M37T559PW1CN	APX8500 ALL BAND MP MOBILE	\$6,558.00	\$45,906.00	25%	\$4,918.50	\$34,429.50
Ambulance	85RemE5NoU	15	a	681	7	G67EH	ADD: REMOTE MOUNT E5 MP	\$327.00	\$2,289.00	25%	\$245.25	\$1,716.75
Ambulance	85RemE5NoU	15	b	681	7	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	85RemE5NoU	15	c	681	7	GA01670AA	ADD: APX E5 CONTROL HEAD	\$717.00	\$5,019.00	25%	\$537.75	\$3,764.25
Ambulance	85RemE5NoU	15	d	681	7	GA05509AA	DEL: DELETE UHF BAND	(\$800.00)	(\$5,600.00)	25%	(\$600.00)	(\$4,200.00)
Ambulance	85RemE5NoU	15	e	681	7	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	85RemE5NoU	15	f	681	7	G806BL	SOFTWARE LICENSE ENH: ASTRO DIGITAL CAI OP APX	\$567.00	\$3,969.00	25%	\$425.25	\$2,976.75
Ambulance	85RemE5NoU	15	g	681	7	G51AT	SOFTWARE LICENSE ENH: SMARTZONE	\$1,650.00	\$11,550.00	25%	\$1,237.50	\$8,662.50
Ambulance	85RemE5NoU	15	h	681	7	G361AH	SOFTWARE LICENSE ENH: P25 TRUNKING SOFTWARE APX	\$330.00	\$2,310.00	25%	\$247.50	\$1,732.50
Ambulance	85RemE5NoU	15	i	681	7	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$42.00	25%	\$4.50	\$31.50
Ambulance	85RemE5NoU	15	j	681	7	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$770.00	25%	\$82.50	\$577.50
Ambulance	85RemE5NoU	15	k	681	7	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$3,465.00	25%	\$371.25	\$2,598.75

Ambulance	85RemE5NoU	15	I	681	7	G996AS	SOFTWARE LICENSE ENH: OVER THE AIR PROVISIONING	\$110.00	\$770.00	25%	\$82.50	\$577.50
Ambulance	85RemE5NoU	15	m	681	7	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$1,155.00	25%	\$123.75	\$866.25
Ambulance	85RemE5NoU	15	n	681	7	GA01517AA	DEL: NO 1600 ADAPTER CABLE NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	85RemE5NoU	15	o	681	7	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	85RemE5NoU	15	p	681	7	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	85RemE5NoU	15	q	681	7	GA01606AA	ADD: NO BLUETOOTH/WIFI/GPS ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	85RemE5NoU	15	r	681	7	G892AB	ENH: HAND MIC, GAI WTR RESISTANT APX	\$79.00	\$553.00	25%	\$59.25	\$414.75
Ambulance	85RemE5NoU	15	s	681	7	G831AD	ADD: SPKR 15W WATER RESISTANT	\$66.00	\$462.00	25%	\$49.50	\$346.50
Ambulance	85RemE5NoU	15	t	185	7	HA00694AA	ADD: 7Y ESSENTIAL SERVICE HTM	\$604.80	\$4,233.60	0%	\$604.80	\$4,233.60
Ambulance	85RemE5NoU	16		291	7	DSRFMTNTVUCQMA	RFMT-NT TRIBAND ANT WITH QMA ANTENNA	\$333.00	\$2,331.00	25%	\$249.75	\$1,748.25
Ambulance	15Dash02CS	17		466	1	M36URS9PW1BN	APX1500 ENHANCED 7/800 MHZ MOBILE	\$1,932.32	\$1,932.32	25%	\$1,449.24	\$1,449.24
Ambulance	15Dash02CS	17	a	466	1	G66BF	ADD: DASH MOUNT O2 APXM	\$138.00	\$138.00	25%	\$103.50	\$103.50
Ambulance	15Dash02CS	17	b	466	1	G444AH	ADD: APX CONTROL HEAD SOFTWARE	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	15Dash02CS	17	c	466	1	GA00804AA	ADD: APX O2 CH (GREY)	\$541.00	\$541.00	25%	\$405.75	\$405.75
Ambulance	15Dash02CS	17	d	466	1	W665BF	ADD: BASE STATION OP APX	\$77.00	\$77.00	25%	\$57.75	\$57.75
Ambulance	15Dash02CS	17	e	466	1	G91AF	ADD: CNTRL STATION PWR SUPPLY	\$296.00	\$296.00	25%	\$222.00	\$222.00
Ambulance	15Dash02CS	17	f	466	1	QA09113AB	ADD: BASELINE RELEASE SW	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	15Dash02CS	17	g	466	1	QA02756AD	ADD: 3600 OR 9600 TRUNKING BAUD SINGLE SYSTEM	\$1,727.00	\$1,727.00	25%	\$1,295.25	\$1,295.25
Ambulance	15Dash02CS	17	h	466	1	QA01648AA	ADD: HW KEY SUPPLEMENTAL DATA	\$6.00	\$6.00	25%	\$4.50	\$4.50
Ambulance	15Dash02CS	17	i	466	1	GA01767AG	ADD: RADIO AUTHENTICATION	\$110.00	\$110.00	25%	\$82.50	\$82.50
Ambulance	15Dash02CS	17	j	466	1	GA00580AA	ADD: TDMA OPERATION	\$495.00	\$495.00	25%	\$371.25	\$371.25
Ambulance	15Dash02CS	17	k	466	1	G996AS	ENH: OVER THE AIR PROVISIONING	\$110.00	\$110.00	25%	\$82.50	\$82.50
Ambulance	15Dash02CS	17	l	466	1	GA09008AA	ADD: GROUP SERVICES	\$165.00	\$165.00	25%	\$123.75	\$123.75
Ambulance	15Dash02CS	17	m	466	1	G193AK	ADD: ADP ONLY (NON-P25 CAP COMPLIANT) (US ONLY)	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	15Dash02CS	17	n	466	1	G89AC	ADD: NO RF ANTENNA NEEDED	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	15Dash02CS	17	o	466	1	GA00235AA	ADD: NO GPS ANTENNA NEEDED APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	15Dash02CS	17	p	466	1	W22BA	ADD: STD PALM MICROPHONE APX	\$79.00	\$79.00	25%	\$59.25	\$59.25
Ambulance	15Dash02CS	17	q	466	1	G142AD	ADD: NO SPEAKER APX	\$0.00	\$0.00	25%	\$0.00	\$0.00
Ambulance	15Dash02CS	17	r	185	1	HA00692AA	ADD: 7Y ESSENTIAL SERVICE LTM	\$454.00	\$454.00	0%	\$454.00	\$454.00
License	Radio Management	18		430	1	T7914A	RADIO MANAGEMENT ONLINE	\$0.00	\$0.00	15%	\$0.00	\$0.00
License	Radio Management	18	a	430	118	UA00049AA	ADD: RADIO MANAGEMENT LICENSES ONLINE	\$110.00	\$12,980.00	15%	\$93.50	\$11,033.00
License	Radio User	19		877	118	HKVN4913A	LICENSE LICENSE, TRUNKED RADIO USER (PER USER)	\$20.00	\$2,360.00	20%	\$16.00	\$1,888.00
License	Alias Update	20		877	118	HKVN4915A	LICENSE LICENSE, RADIO ALIAS UPDATE (PER USER)	\$12.00	\$1,416.00	20%	\$9.60	\$1,132.80
License	IMW Presence	21		232	118	HKVN4912A	LICENSE LICENSE, IMW PRESENCE (PER USER)	\$22.00	\$2,596.00	10%	\$19.80	\$2,336.40
License	IMW Management	22		232	118	HKVN4914A	LICENSE LICENSE, IMW GROUP MANAGEMENT	\$24.00	\$2,832.00	10%	\$21.60	\$2,548.80

Contributed Gifts Fund
July 31, 2025

FISCAL YEAR 2026	R&P HELMET RODEO DONATIONS	R&P GENERAL DONATIONS	R&P MEMORIAL TREES & BENCHES DONATIONS	R&P FRANCES X. SWEENEY MEMORIAL DONATIONS	R&P DOG PARK DONATIONS	R&P PLAYGROUND DONATIONS	R&P CIVIC TRIANGLE MEMORIAL DONATIONS	R&P TOY BOX DONATIONS	R&P DEIDRICK FIELD PRESS BOX DONATIONS	R&P CEMETERY DONATIONS	R&P GOLF CART DONATIONS	FINANCE DEPT. AUDITORIUM A/V UPGRADE	POLICE AUSTISM TRAINING	POLICE DEPT. VEHICLE CHALLENGE	POLICE DEPT. K-9 PROGRAM	POLICE DEPT. GENERAL DONATIONS	POLICE PUBLIC SAFETY DOCK	TOTAL
REVENUES REC & PARKS MEMORIAL TREES & BENCHES DONATIONS POLICE DEPT. GENERAL DONATIONS			\$785.00													\$250.00		
TOTAL REVENUES	\$0.00	\$0.00	\$785.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$250.00	\$0.00	\$1,035.00
EXPENDITURES 07/26/2025 U.S. BANK 07/26/2025 U.S. BANK 07/26/2025 U.S. BANK												\$151.00			\$37.99	\$296.90		
TOTAL EXPENDITURES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$151.00	\$0.00	\$0.00	\$37.99	\$296.90	\$0.00	\$485.89
NET CURRENT YEAR ACTIVITY	\$0.00	\$0.00	\$785.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	(\$151.00)	\$0.00	\$0.00	(\$37.99)	(\$46.90)	\$0.00	\$549.11
PRIOR YEAR BALANCE	\$594.72	\$129.60	(\$73.61)	\$65.00	\$987.97	\$71,486.32	\$1,140.00	\$220.00	\$2,910.00	\$100.00	\$2,440.00	\$151.00	\$1,700.00	\$780.11	\$9,427.35	\$13,700.20	\$7.04	\$105,765.70
CURRENT YEAR BALANCE	\$594.72	\$129.60	\$711.39	\$65.00	\$987.97	\$71,486.32	\$1,140.00	\$220.00	\$2,910.00	\$100.00	\$2,440.00	\$0.00	\$1,700.00	\$780.11	\$9,389.36	\$13,653.30	\$7.04	\$106,314.81

GENERAL FUND
STATEMENT OF EXPENDITURES COMPARED TO BUDGET
FOR FISCAL YEAR 2025-2025, THROUGH JULY 31, 2025
WITH COMPARATIVE ACTUAL AMOUNTS
FOR FISCAL YEAR 2024-2025, THROUGH JULY 31, 2024

			FISCAL YEAR 2026 VARIANCE FAVORABLE (UNFAVORABLE)	FISCAL YEAR 2024-2025 ACTUAL
	FISCAL YEAR 2026 APPROPRIATED	FISCAL YEAR 2026 ACTUAL		
GENERAL GOVERNMENT				
Board of Selectmen	206,402	\$12,553	193,849	\$12,214
Registrar of Voters	121,255	\$6,324	114,931	\$7,763
Board of Finance	83,608	\$79,990	3,618	\$77,037
Assessor	319,641	\$17,085	302,556	\$17,745
Board of Assessment Appeals	1,829	\$0	1,829	\$2
Tax Collector	227,817	\$42,640	185,177	\$40,771
Finance Department	784,326	\$164,232	620,094	\$153,695
Legal Department	295,000	(\$2,267)	297,267	(\$454)
Town Clerk	272,301	\$12,816	259,485	\$39,426
Planning and Zoning	695,016	\$34,688	660,328	\$43,394
Building Maintenance	1,020,000	\$218,038	801,962	\$319,450
Insurance	5,604,561	\$1,365,475	4,239,086	\$1,763,093
Economic Development Commission	25,352	\$9,207	16,145	\$9,428
Conservation Commission	18,250	\$9,755	8,495	\$1,219
Zoning Board of Appeals	4,310	2,960	1,350	2,960
Retirement Commission	7,200,257	\$1,775,381	5,424,876	\$1,989,602
R.T.M.	17,403	\$12,852	4,551	\$12,852
Building Department	321,515	\$17,544	303,971	\$19,394
Youth Service Bureau	307,435	\$19,803	287,632	\$17,677
Social Service Grants/Miscellaneous	101,481	\$99,580	1,901	\$89,759
Contingency Fund	265,000	0	265,000	0
Emergency Management	1,230,035	\$64,838	1,165,197	\$81,421
Fire Services	3,958,130	\$270,414	3,687,716	\$1,103,401
Police Department	7,115,097	\$400,217	6,714,880	\$469,522
Public Works Department	5,154,902	\$1,673,418	3,481,484	\$1,648,954
Conservation of Health	155,063	155,063	0	0
Public Health Nursing	21,600	0	21,600	26,297

GENERAL FUND
STATEMENT OF EXPENDITURES COMPARED TO BUDGET
FOR FISCAL YEAR 2025-2025, THROUGH JULY 31, 2025
WITH COMPARATIVE ACTUAL AMOUNTS
FOR FISCAL YEAR 2024-2025, THROUGH JULY 31, 2024

	FISCAL YEAR 2026	FISCAL YEAR 2026	FISCAL YEAR 2026 VARIANCE FAVORABLE (UNFAVORABLE)	FISCAL YEAR 2024-2025 ACTUAL
	APPROPRIATED	ACTUAL		
Senior Citizens Commission	523,586	30,343	493,243	27,166
Waterford Public Library	1,012,780	\$58,146	954,634	\$65,409
Recreation and Parks	1,535,328	\$158,552	1,376,776	\$187,797
Flood and Erosion Control Bd.	1,109	0	1,109	0
Ethics Commission	900	34	866	65
Human Resources	244,204	\$10,969	233,235	\$95,664
Information Technology	1,214,796	\$650,274	564,522	\$300,534
Transfer to Waterford Special Activity Fund	0	\$4,750	(4,750)	\$4,750
Transfer to Waterford Shellfish Fund	2,029	\$2,029	0	\$1,290
Transfer to Capital Improvement Fund	1,101,089	\$1,101,089	0	\$1,312,527
Transfer to Capital & Non-Recurring Fund	773,264	\$773,264	0	\$938,399
Transfer to Dog Fund	100,000	\$100,000	0	\$100,000
Debt Service	7,964,500	\$2,279,700	5,684,800	\$2,328,200
Total General Government	\$50,001,171	\$11,631,756	\$38,369,415	\$13,308,424
 Board of Education	 59,828,308	 \$2,028,383	 57,799,925	 \$3,412,560
 Total General Fund	 \$109,829,479	 \$13,660,139	 \$96,169,340	 \$16,720,984

TOWN OF WATERFORD
STATEMENT OF REVENUES COMPARED TO ANTICIPATED
FOR FISCAL YEAR 2025-2025, THROUGH JULY 31, 2025
WITH COMPARATIVE ACTUAL AMOUNTS
FOR FISCAL YEAR 2024-2025, THROUGH JULY 31, 2024

FISCAL YEAR	FISCAL YEAR	FISCAL YEAR	FAVORABLE (UNFAVORABLE)		FISCAL YEAR
			FISCAL 2025-2026 PERCENT RECEIVED	FISCAL YEAR 2025-2026 VARIANCE	
BUDGET	ACTUAL				ACTUAL
STATE OF CONNECTICUT					
EDUCATION					
EQUALIZED COST SHARING	\$326,617	\$0	0.00%	(326,617)	\$0
HEALTH & WELFARE	\$6,359	\$0	0.00%	(6,359)	\$0
SUB TOTAL	332,976	0	0.00%	(332,976)	0
GENERAL GOVERNMENT					
PILOT-DISABLED	1,200	0	0.00%	(1,200)	\$0
TIERED PILOT	367,422	0	0.00%	(367,422)	\$0
TAX RELIEF-VETERANS	5,000	0	0.00%	(5,000)	\$0
CIVIL PREPAREDNESS	35,444	0	0.00%	(35,444)	\$0
TELECOMMUNICATIONS PROPERTY TAX	58,071	0	0.00%	(58,071)	\$0
TOWN AID ROADS-IMPROVED	321,360	0	0.00%	(321,360)	\$160,680
LOCAL CAPITAL IMPROVEMENT (LOCIP)	177,241	0	0.00%	(177,241)	\$0
SDE STATE GRANT	14,103	0	0.00%	(14,103)	\$0
ENHANCEMENT 911	23,000	5,642	24.53%	(17,358)	\$5,649
MUNICIPAL REVENUE SHARE GRANT	315,978	0	0.00%	(315,978)	\$0
GRANTS FOR MUNICIPAL PROJECTS	34,255	0	0.00%	(34,255)	\$0
TOTAL GENERAL GOVERNMENT	1,353,074	5,642	0.42%	(1,347,432)	166,329
TOTAL STATE OF CONNECTICUT	1,686,050	5,642	0.33%	(1,680,408)	166,329
OTHER SOURCES					
EDUCATION					
TUITION	57,585	0	0.00%	(57,585)	0
RENT & MISCELLANEOUS	1,500	0	0.00%	(1,500)	0
SUB TOTAL	59,085	0	0.00%	(59,085)	0
GENERAL GOVERNMENT					
INTEREST & LIENS	413,060	20,326	4.92%	(392,734)	29,515
INTEREST ON INVESTMENTS	2,000,000	79,158	3.96%	(1,920,842)	177,910
RECREATION & PARKS	150,000	133,876	89.25%	(16,124)	74,059
FIRE SERVICES INSPECTIONS & PLAN FEES	8,875	300	3.38%	(8,575)	3,620
BUILDING INSPECTOR	589,155	28,738	4.88%	(560,417)	55,618
LICENSE, FEE, PERMIT, FINE	73,566	1,619	2.20%	(71,947)	1,508
LIBRARY	1,598	136	8.49%	(1,462)	135

TOWN OF WATERFORD
STATEMENT OF REVENUES COMPARED TO ANTICIPATED
FOR FISCAL YEAR 2025-2025, THROUGH JULY 31, 2025
WITH COMPARATIVE ACTUAL AMOUNTS
FOR FISCAL YEAR 2024-2025, THROUGH JULY 31, 2024

FISCAL YEAR 2025-2026 BUDGET	FISCAL YEAR 2025-2026 ACTUAL	FAVORABLE (UNFAVORABLE)			
		FISCAL YEAR 2025-2026 PERCENT RECEIVED	FISCAL YEAR 2025-2026 VARIANCE	FISCAL YEAR 2024-2025 ACTUAL	
SALE OF EQUIPMENT	1,000	0	0.00%	(1,000)	0
SCRRRA REBATE	1,500	0	0.00%	(1,500)	0
NL RADIO COMM. NETWORK USE FEE	85,000	0	0.00%	(85,000)	0
BULKY WASTE FEES	112,000	10,818	9.66%	(101,182)	12,264
MISCELLANEOUS	26,572	2,847	10.71%	(23,725)	1,972
CONVEYANCE TAX	225,000	53,315	23.70%	(171,686)	37,764
EMS-REG COMM CTR FEES	6,000	0	0.00%	(6,000)	0
PLANNING& ZONING, ZBA, CONSRV COMM	55,121	2,990	5.42%	(52,131)	3,376
TOWN CLERK FEES	175,000	16,445	9.40%	(158,555)	13,647
TIPPING FEES	275,000	0	0.00%	(275,000)	0
RECYCLING	50,000	0	0.00%	(50,000)	0
EUGENE O'NEILL GATE/LEASE REVENUE	22,000	0	0.00%	(22,000)	0
YSB BOE CLERICAL STIPEND	5,000	0	0.00%	(5,000)	0
RENTAL OF BUILDINGS	50,000	10,167	20.33%	(39,833)	9,779
SENIOR SERVICES	15,552	449	2.89%	(15,103)	4,563
VERSA KART/BLUE BOXES	8,000	850	10.63%	(7,150)	750
BOE SCHOOL RESOURCE OFFICERS	90,000	0	0.00%	(90,000)	0
PUBLIC WORKS BOE CUSTODIAL SUBSIDY	78,357	0	0.00%	(78,357)	75,927
SUB TOTAL	4,517,356	362,034	8.01%	(4,155,322)	502,407
TOTAL OTHER SOURCES	4,576,441	362,034	7.91%	(4,214,407)	502,407
PROPERTY TAXATION					
CURRENT PROPERTY TAX	103,023,460	73,656,086	71.49%	(29,367,375)	65,461,654
PRIOR YEAR TAXES	543,528	91,206	16.78%	(452,322)	12,856
TOTAL PROPERTY TAXATION	103,566,988	73,747,291	71.21%	(29,819,697)	65,474,510
TOTAL REVENUES	109,829,479	74,114,967	67.48%	(35,714,512)	66,143,246

**TOWN OF WATERFORD
CAPITAL PROJECTS FUNDS
JULY 31, 2025**

<u>FUND</u>	<u>DESCRIPTION</u>	<u>APPROPRIATION</u>	<u>EXPENDED</u>	<u>REMAINING BALANCE</u>	<u>PCT EXP</u>	<u>BALANCE RETURNED</u>
424	DISTRICT MAGNET SCHOOL/EARLY CHLDHD LRN CT	21,248,892.00	21,248,807.19	84.81	100.00%	
432	WATERFORD HIGH SCHOOL BUILDING PROJECT	68,362,787.00	67,786,416.66	576,370.34	99.16%	
TOTALS		89,611,679.00	89,035,223.85	576,455.15	99.36%	0.00
PRIOR YEAR EXPENDITURES			<u>89,035,223.85</u>			
CURRENT YEAR EXPENDITURES			<u>0.00</u>			

TOWN OF WATERFORD
STATEMENT OF REVENUES, EXPENDITURES,
AND CHANGES IN FUND BALANCE
FLEET MANAGEMENT FUND
AS OF JULY 31, 2025

Revenues:

Investment Income	11,057
Vehicle Rentals	2,400
Total Revenues	<u>13,457</u>

Expenditures:

Equipment Replacement	182,882
Vehicle Replacement	1,140,856
Total Expenditures	<u>1,323,739</u>
Excess (Deficiency) of Revenues Over Expenditures	(1,310,282)

Other Financing Sources (Uses):

Transfers from other funds	1,000,000
Total Other Financing Sources (Uses)	<u>1,000,000</u>

Net Change in Fund Balances	(310,282)
Fund Balances - Beginning	2,649,340
Fund Balances - Ending	<u><u>2,339,058</u></u>

**TOWN OF WATERFORD
CAPITAL IMPROVEMENT FUND
JULY 31, 2025**

ACCOUNT	DEPT/YEAR	DESCRIPTION	APPROPRIATED	EXPENDED/	BALANCE	PERCENT	TRANSFERS
				ENCUMBERED		EXPENDED	OUT
30126-55738	BOS FY26	FLEET MANAGEMENT PLAN	1,000,000.00	1,000,000.00	0.00	100.0%	1,000,000.00 TO FLEET MANAGEMENT FUND
31117-55803	BLDG MAINT FY17	PARKING LOT -YOUTH SERVICES	300,000.00	73,000.00	227,000.00	24.3%	
31118-55803	BLDG MAINT FY18	PARKING LOT -YSB/POLICE	195,320.00	57,000.00	138,320.00	29.2%	
31120-55851	BLDG MAINT FY20	ADA IMPROVEMENTS YSB/PD	87,000.00	38,364.40	48,635.60	44.1%	
31120-55852	BLDG MAINT FY20	TOWN HALL BATHROOMS	87,500.00	87,500.00	0.00	100.0%	
31121-55851	BLDG MAINT FY21	ADA IMPROVEMENTS YSB/PD	80,700.00	4,639.00	76,061.00	5.7%	
31122-55819	BLDG MAINT FY22	UST REPLACEMENT	250,000.00	250,010.00	(10.00)	100.0%	
31123-55904	BLDG MAINT FY23	UST REPLACEMENT EUGENE O'NEILL	260,000.00	150,353.41	109,646.59	57.8%	
31123-55905	BLDG MAINT FY23	UST REPLACEMENT LIBRARY&PUBLIC SAFETY	420,000.00	419,129.24	870.76	99.8%	
31124-55912	BLDG MAINT FY24	TOWN DOCK REPLACEMENT	40,000.00	25,000.00	15,000.00	62.5%	
31124-55913	BLDG MAINT FY24	JORDAN PARKHOUSE REPAIRS	31,583.00	29,402.24	2,180.76	93.1%	
31124-55915	BLDG MAINT FY24	SEPTIC REPLMT (EUGENE O'NEILL)	43,500.00	35,154.00	8,346.00	80.8%	
31125-55904	BLDG MAINT FY25	UST REPLACEMENT EUGENE O'NEILL	153,000.00	89,471.59	63,528.41	58.5%	
32224-55908	EMERGENCY MANAGEMENT FY24	APCO INTELICOM GUIDECARD SYST	40,000.00	20,000.00	20,000.00	50.0%	
32224-55909	EMERGENCY MANAGEMENT FY24	EVENTIDE NEXLOGDX RECORDER	88,701.00	0.00	88,701.00	0.0%	
32325-55916	FIRE SERVICES FY25	COHANZIE SKYLIGHT REPLACEMENT	30,000.00	27,100.00	2,900.00	90.3%	
32326-55923	FIRE SERVICES FY26	COHANZIE AIR CONDITIONING	15,000.00	0.00	15,000.00	0.0%	
32926-55924	POLICE DEPT FY26	MARINE UNIT UPDATES	31,089.00	15,329.74	15,759.26	49.3%	
33023-55890	PUBLIC WORKS FY23	ROAD RESURFACING EVERSOURCE AF	315,951.00	(449,026.83)	764,977.83	-142.1%	
33025-55920	PUBLIC WORKS FY25	NIANTIC RIVER ROAD SIDEWALK RE	25,000.00	15,000.00	10,000.00	60.0%	
33026-55925	PUBLIC WORKS FY26	ROAD RISK ASSESSMENT	55,000.00	0.00	55,000.00	0.0%	
33123-55019	UTILITY COMM FY23	CONTRACT #1 SEWER INTERCEPTOR EASEMENT ACCESS	250,000.00	102,800.00	147,200.00	41.1%	
33123-55895	UTILITY COMM FY23	ROOF & SIDING REPLACEMENT	50,000.00	33,280.52	16,719.48	66.6%	
33720-55855	REC & PARKS FY20	TOWN COURT REPAIRS	1,447,058.00	1,446,250.00	808.00	99.9%	
33722-55896	REC & PARKS FY22	EQUIPMENT STORAGE PLAN	21,000.00	16,750.00	4,250.00	79.8%	
33723-55838	REC & PARKS FY23	CHILDREN'S PLAYGROUND	40,000.00	0.00	40,000.00	0.0%	
33725-55838	REC & PARKS FY25	STENGER PARK BATHROOM & WALKWAY	10,500.00	7,200.00	3,300.00	68.6%	
34723-55021	INFORMATION TECHNOLOGY FY23	AUDITORIUM MEETING ROOM UPDATES	272,000.00	207,641.54	64,358.46	76.3%	
TOTALS			5,639,902.00	3,701,348.85	1,938,553.15	65.6%	1,000,000.00
PRIOR YEAR EXPENDITURES				2,393,747.77			
CURRENT YEAR EXPENDITURES				<u>1,307,601.08</u>			

**TOWN OF WATERFORD
CAPITAL AND NON-RECURRING EXPENDITURE FUND
FUND BALANCE AND APPROPRIATION
AS OF JULY 31, 2025**

	APPROPRIATED	DESIGNATED	UNDESIGNATED	TOTAL
20501-57639 REVALUATION	\$0.00	\$657,700.00	\$0.00	\$657,700.00
20510-57897 28 INDUSTRIAL DRIVE IMPROVEMENTS	\$85,000.00	\$0.00	\$0.00	\$85,000.00
20511-57740 COHANZIE SCHOOL REMEDIATION &	\$0.00	\$40,000.00	\$0.00	\$40,000.00
20511-57767 NEVINS COTTAGE REPAIRS	\$32,513.89	\$0.00	\$0.00	\$32,513.89
20511-57840 PLAN OF CONSERVATION DEVELOPMENT	\$10,914.86	\$0.00	\$0.00	\$10,914.86
20511-57870 MAGO POINT IMPROVEMENTS	(\$27,888.69)	\$0.00	\$0.00	(\$27,888.69)
20511-57871 PUBLIC SAFETY BLDG HVAC	(\$48,000.00)	\$0.00	\$0.00	(\$48,000.00)
20511-57872 ROOF & HVAC REPLACEMENT PUBLIC SAFETY BUILDING	\$52,769.20	\$0.00	\$0.00	\$52,769.20
20511-57879 TOWN HALL BATHROOM REFURBISHMENT	\$2,581.60	\$0.00	\$0.00	\$2,581.60
20511-57889 PUBLIC SAFETY COMPLEX HVAC	\$0.00	\$100,000.00	\$0.00	\$100,000.00
20522-57794 MOBILE & PORTABLE RADIO REPLACEMENT PROGRAM	\$21,510.50	\$3,683.00	\$0.00	\$25,193.50
20523-57777 FIRE SERVICES -SCBA UPGRADE PROGRAM	\$4,168.56	\$50,000.00	\$0.00	\$54,168.56
20523-57791 JORDAN-TRAFFIC LIGHT UPGRADE	\$0.00	\$0.00	\$0.00	\$0.00
20523-57792 OSWEGATCHIE-BUILDING RENOVATIONS	\$265,097.97	\$0.00	\$0.00	\$265,097.97
20523-57836 FIRE SERVICES CARPET REPLACEMENT	\$0.00	\$30,000.00	\$0.00	\$30,000.00
20523-57888 GOSHEN ROOF REPLACEMENT	\$0.00	\$60,000.00	\$0.00	\$60,000.00
20530-57695 MUNICIPAL COMPLEX RENOVATION	\$317,087.81	\$6,100,833.00	\$0.00	\$6,417,920.81
20507-59205 FUNDING OFFSETS DEBT SERVICE-MUNICIPAL COMPLEX	(\$1,251,500.00)	(\$6,000,000.00)	\$0.00	(\$7,251,500.00)
20529-57871 POLICE DEPT BLDG HVAC	\$0.00	\$25,000.00	\$0.00	\$25,000.00
20530-57696 MUNICIPAL COMPLEX CLEAN UP	\$4,370.23	\$0.00	\$0.00	\$4,370.23
20530-57880 MAJOR/MINOR COLLECTOR ROAD PAVING	\$98,792.61	\$0.00	\$0.00	\$98,792.61
20530-57886 OLD NORWICH ROAD PAVING	\$1,053,000.00	\$0.00	\$0.00	\$1,053,000.00
20531-57685 I/I MITIGATION & CONTROL	\$228,365.56	\$0.00	\$0.00	\$228,365.56
20531-57816 OLD NORWICH/EVERGREEN/HARVEY AVE PUMP STATION REHAB	\$160,595.91	\$0.00	\$0.00	\$160,595.91
20531-57881 PLASTIC WATER SERVICE LINE REPLACEMENT	\$202,887.81	\$200,000.00	\$0.00	\$402,887.81
20531-57895 CROSS COUNTRY SEWER MAIN ACCES	\$0.00	\$200,000.00	\$0.00	\$200,000.00
20531-57896 WATER TANK MANAGEMENT	\$0.00	\$46,222.00	\$0.00	\$46,222.00
20531-57898 BARTLETT CORNER WATER BOOSTER	\$0.00	\$166,950.00	\$0.00	\$166,950.00
20536-57848 LIBRARY HVAC UPGRADE	(\$157,578.76)	\$0.00	\$0.00	(\$157,578.76)
20500-49000 CT PUBLIC LIBRARY CONSTRUCTION GRANT	\$0.00	(\$250,000.00)	\$0.00	(\$250,000.00)
20537-57735 LEARY PARK ROAD /PARKING LOT	\$0.00	\$20,000.00	\$0.00	\$20,000.00
20537-57798 CHILDREN'S PLAYGROUNG-CIVIC TR	\$0.00	\$25,000.00	\$0.00	\$25,000.00
20537-57878 REPAIR OF PLEASURE BEACH SIDEWALK/PATH	\$0.00	\$145,000.00	\$0.00	\$145,000.00
20547-57775 VIRTUAL SERVER REPLACEMENT	\$0.00	\$88,500.00	\$0.00	\$88,500.00
20547-57861 SWITCHES	\$0.00	\$2,258.00	\$0.00	\$2,258.00
20547-57882 COMPUTER REPLACEMENTS	\$0.65	\$74,925.00	\$0.00	\$74,925.65
20500-43600 TURF FIELD RENTAL REVENUES	\$0.00	\$4,815.00	\$0.00	\$4,815.00
20560-55020 CLMS CHILLER REPLACEMENTS	\$70,229.04	\$0.00	\$0.00	\$70,229.04
20560-57820 WHS TRACK & FIELD REPLACEMENT	\$0.00	\$53,000.00	\$0.00	\$53,000.00

**TOWN OF WATERFORD
CAPITAL AND NON-RECURRING EXPENDITURE FUND
FUND BALANCE AND APPROPRIATION
AS OF JULY 31, 2025**

	<u>APPROPRIATED</u>	<u>DESIGNATED</u>	<u>UNDESIGNATED</u>	<u>TOTAL</u>
20560-57822 IT LEARNING BOARDS -END OF LIFE	\$6.10	\$27,319.88	\$0.00	\$27,325.98
20560-57828 QH 10-YR RETRO COMMISSIONING	\$0.00	\$30,000.00	\$0.00	\$30,000.00
20560-57833 TENNIS COURTS	\$0.00	\$104,200.00	\$0.00	\$104,200.00
20560-57841 BUS LOT OFFICE	\$0.00	\$150,000.00	\$0.00	\$150,000.00
20560-57842 SCHOOL SECURITY	\$81,109.40	\$0.00	\$0.00	\$81,109.40
20560-57883 FINANCING ENERGY EFFICIENT EQUIPMENT	\$243,335.00	\$0.00	\$0.00	\$243,335.00
20560-57884 CHROMEBOOK & IPAD EQUIPMENT	\$197,608.00	\$0.00	\$0.00	\$197,608.00
20560-57892 HVAC EVALUATION/REMIDATION	\$0.00	\$85,000.00	\$0.00	\$85,000.00
20560-57893 GREAT NECK SCHOOL FIELD DRAINAGE	\$0.00	\$278,750.00	\$0.00	\$278,750.00
205-31520 UNDESIGNATED FUND BALANCE	\$0.00	\$0.00	\$895,184.49	\$895,184.49
TOTAL	\$1,646,977.25	\$2,519,155.88	\$895,184.49	\$5,061,317.62

TOWN OF WATERFORD
CAPITAL AND NON-RECURRING EXPENDITURE FUND
FUND BALANCE DESIGNATION AND APPROPRIATION
JULY 1,2024 TO JUNE 30,2025
AS OF JULY 31,2025

		BEGINNING			FY26 RTM		FISCAL YEAR 2025-2026				CLOSED	INTEREST INC	OTHER REVENUES	AVAILABLE		
		APPROPRIATIONS	BALANCE DESIGNATED 0.00	UNDESIGNATED 0.00	XFER IN DESIGNATED		APPROPRIATED	DESIGNATED	UNDESIGNATED	ENCUMBERED/ EXPENDED	BAL (REVERTS TO FUND)			APPROPRIATED	DESIGNATED	UNDESIGNATED
20501-57639	REVALUATION	\$0.00	\$532,700.00	\$0.00	\$125,000.00									\$0.00	\$657,700.00	\$0.00
20510-57897	28 INDUSTRIAL DRIVE IMPROVEMENTS	\$85,000.00	\$0.00	\$0.00										\$85,000.00	\$0.00	\$0.00
20511-57740	COHANZIE SCHOOL REMEDIATION &	\$0.00	\$40,000.00	\$0.00										\$0.00	\$40,000.00	\$0.00
20511-57767	NEVINS COTTAGE REPAIRS	\$32,513.89	\$0.00	\$0.00										\$32,513.89	\$0.00	\$0.00
20511-57840	PLAN OF CONSERVATION DEVELOPMENT	\$10,914.86	\$0.00	\$0.00										\$10,914.86	\$0.00	\$0.00
20511-57870	MAGO POINT IMPROVEMENTS	\$36,347.34	\$0.00	\$0.00						\$64,236.03				(\$27,888.69)	\$0.00	\$0.00
20511-57871	PUBLIC SAFETY BLDG HVAC	\$0.00	\$0.00	\$0.00						\$48,000.00				(\$48,000.00)	\$0.00	\$0.00
20511-57872	ROOF & HVAC REPLACEMENT PUBLIC SAFETY BUILDING	\$52,769.20	\$0.00	\$0.00										\$52,769.20	\$0.00	\$0.00
20511-57879	TOWN HALL BATHROOM REFURBISHMENT	\$8,026.89	\$0.00	\$0.00						\$5,445.29				\$2,581.60	\$0.00	\$0.00
20511-57889	PUBLIC SAFETY COMPLEX HVAC	\$0.00	\$100,000.00	\$0.00										\$0.00	\$100,000.00	\$0.00
20522-57794	MOBILE & PORTABLE RADIO REPLACEMENT PROGRAM	\$21,510.50	\$3,683.00	\$0.00										\$21,510.50	\$3,683.00	\$0.00
20523-57777	FIRE SERVICES -SCBA UPGRADE PROGRAM	\$4,168.56	\$0.00	\$0.00	\$50,000.00									\$4,168.56	\$50,000.00	\$0.00
20523-57791	JORDAN-TRAFFIC LIGHT UPGRADE	\$35,460.00	\$0.00	\$0.00						\$35,460.00				\$0.00	\$0.00	\$0.00
20523-57792	OSWEGATCHIE-BUILDING RENOVATIONS	\$304,097.97	\$0.00	\$0.00						\$39,000.00				\$265,097.97	\$0.00	\$0.00
20523-57836	FIRE SERVICES CARPET REPLACEMENT	\$0.00	\$30,000.00	\$0.00										\$0.00	\$30,000.00	\$0.00
20523-57888	GOSHEN ROOF REPLACEMENT	\$0.00	\$60,000.00	\$0.00										\$0.00	\$60,000.00	\$0.00
20530-57695	MUNICIPAL COMPLEX RENOVATION	\$326,502.39	\$6,100,833.00	\$0.00						\$9,414.58				\$317,087.81	\$6,100,833.00	\$0.00
20507-59205	FUNDING OFFSETS DEBT SERVICE-MUNICIPAL COMPLEX	(\$1,251,500.00)	(\$6,000,000.00)	\$0.00										(\$1,251,500.00)	(\$6,000,000.00)	\$0.00
20529-57871	POLICE DEPT BLDG HVAC	\$0.00	\$0.00	\$0.00	\$25,000.00									\$0.00	\$25,000.00	\$0.00
20530-57696	MUNICIPAL COMPLEX CLEAN UP	\$4,370.23	\$0.00	\$0.00										\$4,370.23	\$0.00	\$0.00
20530-57880	MAJOR/MINOR COLLECTOR ROAD PAVING	\$223,392.42	\$0.00	\$0.00						\$124,599.81				\$98,792.61	\$0.00	\$0.00
20530-57886	OLD NORWICH ROAD PAVING	\$1,053,000.00	\$0.00	\$0.00										\$1,053,000.00	\$0.00	\$0.00
20531-57685	I/I MITIGATION & CONTROL	\$235,865.56	\$0.00	\$0.00						\$7,500.00				\$228,365.56	\$0.00	\$0.00
20531-57816	OLD NORWICH/EVERGREEN/HARVEY AVE PUMP STATION REHA	\$1,259,606.68	\$0.00	\$0.00						\$1,099,010.77				\$160,595.91	\$0.00	\$0.00
20531-57881	PLASTIC WATER SERVICE LINE REPLACEMENT	\$411,454.08	\$200,000.00	\$0.00						\$208,566.27				\$202,887.81	\$200,000.00	\$0.00
20531-57890	WEIMES & MARILYN EJECTOR REPLACEMENT	\$8,047.17	\$0.00	\$0.00						\$8,047.17				\$0.00	\$0.00	\$0.00
20531-57895	CROSS COUNTRY SEWER MAIN ACCES	\$0.00	\$0.00	\$0.00	\$200,000.00									\$0.00	\$200,000.00	\$0.00
20531-57896	WATER TANK MANAGEMENT	\$0.00	\$0.00	\$0.00	\$46,222.00									\$0.00	\$46,222.00	\$0.00
20531-57898	BARTLETT CORNER WATER BOOSTER	\$0.00	\$0.00	\$0.00	\$166,950.00									\$0.00	\$166,950.00	\$0.00

TOWN OF WATERFORD
CAPITAL AND NON-RECURRING EXPENDITURE FUND
FUND BALANCE DESIGNATION AND APPROPRIATION
JULY 1,2024 TO JUNE 30,2025
AS OF JULY 31,2025

		BEGINNING			FY26 RTM		CLOSED			AVAILABLE					
		BALANCE		XFER IN		FISCAL YEAR 2025-2026			ENCUMBERED/	BAL (REVERTS	INTEREST	OTHER	TO DATE		
		APPROPRIATIONS	DESIGNATED	UNDESIGNATED	DESIGNATED	APPROPRIATED	DESIGNATED	UNDESIGNATED	EXPENDED	TO FUND)	INC	REVENUES	APPROPRIATED	DESIGNATED	UNDESIGNATED
			0.00	0.00											
20536-57848	LIBRARY HVAC UPGRADE	\$1,425,212.24	\$0.00	\$0.00	\$0.00				\$1,582,791.00				(\$157,578.76)	\$0.00	\$0.00
20500-49000	CT PUBLIC LIBRARY CONSTRUCTION GRANT	\$0.00	(\$250,000.00)	\$0.00									\$0.00	(\$250,000.00)	\$0.00
20537-57735	LEARY PARK ROAD /PARKING LOT	\$0.00	\$20,000.00	\$0.00									\$0.00	\$20,000.00	\$0.00
20537-57798	CHILDREN'S PLAYGROUNG-CIVIC TR	\$0.00	\$0.00	\$0.00	\$25,000.00								\$0.00	\$25,000.00	\$0.00
20537-57878	REPAIR OF PLEASURE BEACH SIDEWALK/PATH	\$0.00	\$145,000.00	\$0.00									\$0.00	\$145,000.00	\$0.00
20547-57775	VIRTUAL SERVER REPLACEMENT	\$0.00	\$0.00	\$0.00	\$88,500.00								\$0.00	\$88,500.00	\$0.00
20547-57861	SWITCHES	\$0.00	\$2,258.00	\$0.00									\$0.00	\$2,258.00	\$0.00
20547-57882	COMPUTER REPLACEMENTS	\$0.65	\$28,333.00	\$0.00	\$46,592.00								\$0.65	\$74,925.00	\$0.00
20500-43600	TURF FIELD RENTAL REVENUES	\$0.00	\$4,815.00	\$0.00									\$0.00	\$4,815.00	\$0.00
20560-55020	CLMS CHILLER REPLACEMENTS	\$929,774.04	\$0.00	\$0.00					\$859,545.00				\$70,229.04	\$0.00	\$0.00
20560-57820	WHS TRACK & FIELD REPLACEMENT	\$466,600.00	\$53,000.00	\$0.00					\$466,600.00				\$0.00	\$53,000.00	\$0.00
20560-57822	IT LEARNING BOARDS -END OF LIFE	\$6.10	\$27,319.88	\$0.00									\$6.10	\$27,319.88	\$0.00
20560-57828	QH 10-YR RETRO COMMISSIONING	\$0.00	\$30,000.00	\$0.00									\$0.00	\$30,000.00	\$0.00
20560-57833	TENNIS COURTS	\$856,601.25	\$104,200.00	\$0.00					\$856,601.25				\$0.00	\$104,200.00	\$0.00
20560-57841	BUS LOT OFFICE	\$0.00	\$150,000.00	\$0.00									\$0.00	\$150,000.00	\$0.00
20560-57842	SCHOOL SECURITY	\$662,920.18	\$0.00	\$0.00					\$581,810.78				\$81,109.40	\$0.00	\$0.00
20560-57883	FINANCING ENERGY EFFICIENT EQUIPMENT	\$243,335.00	\$0.00	\$0.00									\$243,335.00	\$0.00	\$0.00
20560-57884	CHROMEBOOK & IPAD EQUIPMENT	\$197,608.00	\$0.00	\$0.00									\$197,608.00	\$0.00	\$0.00
20560-57892	HVAC EVALUATION/REMIDATION	\$0.00	\$85,000.00	\$0.00									\$0.00	\$85,000.00	\$0.00
20560-57893	GREAT NECK SCHOOL FIELD DRAINAGE	\$0.00	\$278,750.00	\$0.00									\$0.00	\$278,750.00	\$0.00
20500-49000	TRANSFERS IN	\$0.00	\$0.00	\$0.00									\$0.00	\$0.00	\$0.00
205-31520	UNDESIGNATED FUND BALANCE	\$0.00	\$0.00	\$851,970.58							\$43,213.91		\$0.00	\$0.00	\$895,184.49
		\$7,643,605.20	\$1,745,891.88	\$851,970.58	\$773,264.00	\$0.00	\$0.00	\$0.00	\$5,996,627.95	\$0.00	\$43,213.91	\$0.00	\$1,646,977.25	\$2,519,155.88	\$895,184.49

FIFTEEN ROPE FERRY ROAD
WATERFORD, CT 06385-2886



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Date: August 20, 2025
To: Members of the Board of Finance
From: Accountant II
Subject: Status of Contingency Fiscal Year 2026

Contingency Fund, Line item 10121-59010:

07/01/25 Appropriation	265,000
Transferred through 08/13/25	(7,113)
Balance	<u>257,887</u>


Virginia Bielucki

FISCAL YEAR 2025-2026
CONTINGENCY TRANSFERS & BALANCE

ORG	OBJECT	DESCRIPTION	BOARD OF FINANCE	RTM	TRANSFER AMOUNT	BALANCE
10129	51420	POLICE PATROL	8/13/2025	N/A	\$7,113.00 (\$7,113.00)	\$265,000.00 \$257,887.00 \$257,887.00

**Insurance
Administration Fund
Balance Sheet
July 31, 2025**

Assets

Cash and Cash Equivalents	3,494,999
Due From Other Funds	476,073
Total Assets	<u>3,971,072</u>

Liabilities

Accrued Liabilities (IBNR)	864,000
Advance Payments	20,258
Total Liabilities	<u>884,258</u>

Net Assets

Unrestricted	\$3,086,815
Total Net Assets	<u><u>\$ 3,086,815</u></u>

Note: IBNR is not adjusted for FY25 yet/July billing was posted in August

\$0.00