MANTOLOKING BUILDING ANALYSIS REPORT

The Borough of Mantoloking

Mantoloking Municipal Building
202 Downer Avenue
Mantoloking, NJ

January 6, 2015

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Building Sound Relationships & Structures

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Additional Attachments:

- Response letter from daniel Lynch @ BLDG Architecture
- Modular strategy sketch provided by Kenneth George @ Steel River Modular

Building Analysis & Report

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BUILDING ANALYSIS AND REPORT
Re: Mantoloking Municipal Building

1. INTRODUCTION:

a. Preface:

The purpose of this analysis is to review the design process, final construction document set/ building solution tendered, and the subsequent public bid process for the construction of The Mantoloking Municipal Building.

The goal of this analysis is to evaluate the final building product as a means to identify potential efficiencies and provide guidance for the town council in furthering their decision to proceed; for the purposes of this review, an emphasis has been placed on "up-front" construction cost efficiencies through review of the following:

- Program development and planning approach.
- Tectonic building systems approach/final design.

This report did not, in any way, seek to compare costs and conditions of the Mantoloking Municipal Building to any neighboring municipal buildings, previously completed, upcoming, or ongoing. Our only basis of comparison is against current industry standards and unique context, and it is based upon our experience of industry standard building practices as construction professionals.

b. Approach:

Following an in-depth review of the construction document set including specifications and geotechnical reports, we identified tectonic design decisions which we believed had the potential for economy through alternate approach.

Understanding that the design process for a public work such as this endures an often long, well participated, and highly informed development, we presented our preliminary observations and building questions to the lead architect for comment. His responses further informed this analysis as a means to substantiate any recommendations made herein.

2. INTIAL ANALYSIS:

a. Bid Results - Analysis and Pricing:

Our initial analysis of the General Contractor pricing received (respective of the entire work scope outlined in the construction document set) is sound and commensurate with both industry standards and current material cost indexes.

The price of the building on a square foot basis[1] is high, but it is in-line with the prevailing wage requirements and the tectonic breadth of the building resulting from unique project conditions as described below.

[1] **(See SF cost analysis – Exhibit A)**
Exhibit A reflects the value of contractor bids received and an industry standard cost interpolation of the lump sum price submitted. This schedule is based upon our take-offs, plan review, and knowledge of industry standard pricing.

The project budget estimate provided by the architect (prior to the submission of sealed public bids) was also sound and consistent with the building scope, and proven accurate by the level bids received.

b. Municipal Building Program and Design Analysis:

Our review of the municipal building program[2] is that is it exceedingly ambitious given the following limitations:

- Narrow rectangular site:
- End-User imposed building height limitation:
  - (Maximum height allowed by zoning has not been utilized in alleviating structural challenges.)
- Floodplain elevation of the locale:

The foundation for the programmatic design of the new building was based upon recreation of the spaces found in the previous Municipal Building. This previous Municipal Building was not subject to current ADA requirements, floodplain elevations, and most importantly, an A-3/S-2 non-separated mixed use-group building code stipulation set; IBC 2009. (International Building Code).

Utilizing the former Municipal building and its complete program as a starting point on the same site, while requiring newly introduced and complicated life-safety/circulation (ADA), flood plain elevation restrictions is bound to incur costly tectonic resolutions.

While the architect has successfully resolved the ambitious program goals within the context of the constraints reviewed in this analysis, the introduction of the ambitious mixed uses required the following costly accommodations:

- Vertical circulation inefficiencies driven by the following factors:
  - Three rated stair-towers (146 person exit capacity each at 30% of remote point travel limit) and two rated elevators towers in a building whose base footprint is 5,134 SF and maximum occupancy is 140.
    - Full height extension of two rated CMU stair towers to facilitate access to an attic storage space. (Costly concession to facilitate storage space.)
  - Separate police/detainee secure access requirements; subject to ADA requirements.
  - The narrowness of the site, requiring the fulfillment of a "two-means-of-egress requirement" at great inefficiency to the overall building area and occupant load.
  - High ratio of circulation space/buffer space to program space due to variety of spaces required; dense program resulting in dense partitioning.
    - **Re: First and Second Floor Analysis:[3]**
      - Total building interior floor area: 10,258 SF
      - Total area dedicated to vertical circulation: 1,537 SF

[2] **(See attached SF building program analysis – Exhibit B)**
[3] **(See Building Circulation Analysis – Exhibit C)**

        - (Includes elevators, stairs, mechanical chases, elevator rooms, and dumb-waiter shaft)
    - Of the usable interior spaces on Floor 1 and Floor 2, 36% of the area is dedicated to vertical/horizontal circulation space.
        - This is dictated not by design decision, rather mandated by the program and the site footprint.
        - This high ratio drives costs for complexity of HVAC, drywall and carpentry, doors, frames, hardware, electrical.
    - There are approximately 62 separate usable spaces; over 50% of these spaces are less than 100 SF in size.
        - This high ratio drives costs for complexity of HVAC, drywall and carpentry, doors, frames, hardware, electrical, etc.
  - The building serves a public user and employee user. Building employee path of movement separate from public building occupant path of movement within a narrow building footprint.

- Mechanical system inefficiencies driven by the following factors:
  - Courtroom spaces (largest single occupancy A-3 building classification) experiencing the least use requires redundant zoning of treated air.
  - Inability to efficiently introduce industry standard packaged RTU's driven by complexity of program mix.
  - Site restrictions whose limits are so maximized that a ground surface is not available to mount HVAC equipment at grade:

- Structural Building System Inefficiencies driven, in part, by the following factors:
  - Self-imposed height limitation requiring steel purlin system.
    - Current zoning regulations allow for a building height of 60'-0" above grade.
    - Current building utilizes 46'-0" to top of ridge; highest point.
  - Roof mounted HVAC equipment driven by maximized building footprint at grade.

3. POTENTIAL ECONOMIC EFFICIENCIES:

Two major courses of action seem reasonable to significantly reduce up-front building costs.
One option is to value engineer the current building as designed, the other is to revisit a town-planning approach as means to annex program spaces and relieve the building of its programming burden.

Our initial impression is that the building, which satisfies the needs of the program, ought to be retained. This is also reasonable as a means to retain current town investment in a valuable, and highly successful design initiative whose cost may have approached $325,000.00.

For your consideration, we will below describe a summation of those strategies:

a. Value Engineering Based Upon Existing Structure:[4]

i. Structural Recommendations:

We recommend the following:

- Utilizing a small surplus of building height allowed by zoning[5] to facilitate increased floor to floor clearances, adding approximately 5'-0" of additional height to the overall building, the following cost savings can then be realized.
    - Utilize open-web joists in lieu of steel purlins.
    - Increase main girder sizes to reduce the number of steel posts throughout the building.
    - Reduce steel frame supplements at attic space and implement additional pre-engineered cold-formed trusses and hurricane tie-down system.
    - Remove concrete fill at the attic space decking:

ii. HVAC Recommendations:

The heating and cooling system designed for this project is well designed, agile, and responsive to complex building user needs, dense program, harsh climate, and multiple conditions of exposure.
It displays none of the cost related user concessions that we typically encounter in more budget conscious design settings.

We recommend the following:

- Remove both hot water heating loops and related boilers.
    - Concede absolute continuous user comfort on 1st floor by removing the fin tube radiator system – retain cabinet heaters in stair towers only.
        - Redundancy in heating an inaccessible plenum in an exterior garage with a dry fire-sprinkler and insulated piping.
    - Provide electric reheat feature in VAV boxes in lieu of hot water coils.
        - (Predicated upon 51 degree return air recirculation on 0 degree "design-day" resulting in an approximate 31 kilowatt electrical load demand.)
- Concede storage space at ground floor for an HVAC unit and rezone accordingly.
    - Alleviate structural requirements at rooftop.
    - Simplify and reduce duct-work, VAV layout, and distribution.

iii. Program Concessions:

- Concede the requirement for storage space in the attic.
    - Eliminate two stair towers at the attic level:
    - Eliminate the HVAC components:
        - Split Systems:
        - Unit Heaters:
    - Eliminate dumb-waiter mechanism and related shaft.

iv. Miscellaneous Value Engineering Opportunities:

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[4] **(See Conceptual VE Target Schedule For Existing Design – Exhibit D)**

[5] Current zoning regulations allow for a building height of 60'-0" above grade. Current building utilizes 46'-0" to top of ridge; highest point.

- We have provided a conceptual menu of pricing concessions related to value engineering design changes to the existing building.
    - We have targeted reduction in up-front construction costs.
    - We have sought to retain spirit of design and level of finishes in almost all cases.

v. Modular Approach:

Typically, modular construction is catered towards the off-site manufacture of large, repetitive structures. In the case of the Mantoloking Municipal Building proposed, no factor lends itself to use of modular construction except the reduction in the prevailing wage cost burden.

NJ State Law does not require that prevailing wages are paid to workers on applicable projects when components intended for said project are fabricated beyond state lines. (Only on-site work and off-site fabrication of components assembled in the state.)

Modular Intent:

Contrary to the architect's concerns (see attachment response letter), our suggestion to utilize modular construction is based upon complete adherence to the complete specification and materiality designated by the architect. We would not recommend concession of the layout, finishes, etc. to cater to the modular process.

We have spoken with and consulted Mr. Kenneth George of Steel River Modular who offered the following conceptual modular approach specific to the Mantoloking Municipal Building:

- GC to deliver ground floor structure and decking as "transfer level."
- Modular builder to fabricate (off-site), deliver, and install 22 pre-fabricated building modules (matching the current floor plan) to constitute the 2nd and 3rd floor.
- Pre-fabricated roofing components including pre-engineered cold-formed trusses, would be delivered and erected in place.
- Remaining details related to the "Dutch-Colonial" type roof lines will be supplemented on site.
- Portions of the building frame would be left open to facilitate framing inspections, MEPS rough-in by NJ State Licensed tradesmen, etc.
- The benefit of this method, commonly used in NJ, would alleviate a portion of prevailing wage costs and potential for weather related delays for approximately 5 trades.
    -

b. Value Engineering Based Upon Town Planning Approach:

Understanding that the adjacent Fire-House is slated for demolition and reconstruction, a town planning approach along a 10-15 year timeline could allow for tremendous efficiencies given the post-Sandy climate of reconstruction and town-wide rehabilitation.

i. Land Use Strategies:

1. Two Simplified Buildings in Close Proximity, etc:

ii. Dilution of Program:

1. Annex town services:

2. Off-site storage concession:
3. Separate police program building dramatically simplifies existing building:

iii. Incorporation of Protections Afforded by Recently Completed Sea-Wall and Beach Front Construction:

1. Evaluate ability to downgrade "design-day" extremities afforded by town infrastructure upgrades:

4. CONCLUSION:

Our summary conclusion of the final building design is as follows:

- The planning component may have been underutilized respective of a town planning approach of resolving all Municipal Program requirements over several sites.
- The architect was successful in resolving a very ambitious owner program within a very challenging site and geography which drove costs.
- The self-imposed height restriction (beneath that allowed by zoning) has resulted in a series of inefficiencies structurally and mechanically.
- The building design is responsible and responsive to adjacent buildings and material types. It reflects Mantoloking's unique town fabric, and contextual sense of place.
- The structural design from conceptual level to detail level is excessive and requires engineering review for the potential redundancies noted above in conjunction with alleviation of the building height restriction.
- The bidding process was sound, and the receipt of level (industry standard pricing) proposals indicates a clear understanding of the work scope by all prospective builders.
- The high cost of the building is directly driven by an overly ambitious building program within a restrictive site footprint, located within an environmentally harsh geographic setting.
- Approximately $785,000.00 can be made available through value engineering and design modifications.
    - This savings does not include professional design fees incurred resulting from changes to the construction document set.

5. PROFESSIONAL RECOMMENDATIONS:

It is our professional recommendation that the existing building design be retained and the project proceed as follows:

- Termination of the current bid process to allow for a collaborative value engineering process:
    - **This does not take into account any time sensitive funding sources, if any.**
- Establish and identify building amenities concessions and building program concessions during value engineering.
- Engage the architect and an independent building consultant in a value engineering process as per the scheduled budget target.[5]
- Utilize the additional building height of approximately 5'-0" (permitted by zoning) and use this additional floor-to-floor clear space to implement an alternate structural system.

- Engage a Pennsylvania State based modular builder for 2nd floor, 3rd floor, and roof structure as a means to reduce prevailing wage labor costs and general conditions cost burden.[6]
    - Current NJ State Prevailing Wage Law requires enforcement of prevailing wages for off-site fabrication of prevailing wage building components **only** when those components are fabricated within the State lines.
- Rebid the project inclusive of VE revisions and updated construction document set.

[6] In response to the design teams concerns regarding the use of modular construction, the intent of its implementation would be completely informed by the existing design and material selections. It is not the intent of this strategy that the use of modular construction would inform the design in any way; rather the design of the existing building inform the modular construction process.

Exhibit A, Schedule of Values (SF Analysis)

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EXHIBIT A

ESTIMATE SCHEDULE OF VALUES

Project: Mantoloking Municipal Building
202 Downer Avenue
Mantoloking, NJ
Project #: 15-xxx
Date: 01/07/16
Project SF: 15,111
Conditioned Interior SF: 10,196

ESTIMATED COST BREAKDOWN					
CSI Code	Trade	Estimated Trade Value	SF COST	SF COST	Comment
			(Reflects Conditioned Interior Space)	(Reflects Overall Building Area)	
2-000	SITE WORK	$ 144,976	$ 14.22	$ 9.59	
2-150	TIMBER PILES	$ 152,000	$ 14.91	$ 10.06	
2-830	FENCES AND GATES	$ 31,415	$ 3.08	$ 2.08	
2-900	LANDSCAPING	$ 19,800	$ 1.94	$ 1.31	
3-000	CONCRETE	$ 324,180	$ 31.79	$ 21.45	
4-000	MASONRY	$ 317,889	$ 31.18	$ 21.04	
5-100	STRUCTURAL STEEL	$ 361,438	$ 35.45	$ 23.92	
5-400	COLD FORMED FRAMING	$ 198,164	$ 19.44	$ 13.11	
5-500	MISCELLANEOUS METALS	$ 59,677	$ 5.85	$ 3.95	
6-220	MILLWORK AND FINISH CARPENTRY	$ 257,466	$ 25.25	$ 17.04	
7-100	FIRE-PROOFING WORK	$ 17,400	$ 1.71	$ 1.15	
7-460	EXTERIOR SIDING	$ 99,600	$ 9.77	$ 6.59	
7-500	ROOFING AND SHEET-METAL FLASHING	$ 44,850	$ 4.40	$ 2.97	
7-900	JOINT SEALANTS	$ 8,100	$ 0.79	$ 0.54	
8-100	DOORS, FRAMES, AND HARDWARE	$ 108,790	$ 10.67	$ 7.20	
8-300	WINDOWS	$ 48,400	$ 4.75	$ 3.20	
8-800	ALUMINUM, GLASS, AND GLAZING	$ 24,000	$ 2.35	$ 1.59	
9-250	DRYWALL AND GENERAL CARPENTRY	$ 362,900	$ 35.59	$ 24.02	
9-300	CERAMIC TILE AND STONE	$ 26,744	$ 2.62	$ 1.77	
9-500	ACOUSTIC CEILINGS	$ 71,300	$ 6.99	$ 4.72	
9-650	FLOORING WORK	$ 141,610	$ 13.89	$ 9.37	
9-900	PAINTING AND WALLCOVERING	$ 79,440	$ 7.79	$ 5.26	
10-200	SIGNAGE	$ 7,300	$ 0.72	$ 0.48	
10-500	FIRE-EXTINGUISHERS	$ 1,640	$ 0.16	$ 0.11	
10-510	LOCKERS	$ 7,100	$ 0.70	$ 0.47	
10-800	TOILET AND BATHROOM ACCESSORIES	$ 2,300	$ 0.23	$ 0.15	
10-900	MISCELLANEOUS SPECIALTIES	$ 6,500	$ 0.64	$ 0.43	
11-452	APPLIANCES	$ 3,100	$ 0.30	$ 0.21	
12-000	FURNISHINGS	$ 14,216	$ 1.39	$ 0.94	
14-200	ELEVATORS	$ 238,590	$ 23.40	$ 15.79	
15-300	FIRE-PROTECTION	$ 63,816	$ 6.26	$ 4.22	
15-400	PLUMBING	$ 184,318	$ 18.08	$ 12.20	
15-500	HVAC	$ 451,000	$ 44.23	$ 29.85	
16-000	ELECTRICAL	$ 571,000	$ 56.00	$ 37.79	
16-700	DATA/TEL	$ 38,110	$ 3.74	$ 2.52	
17-001	BOND	$ 39,953	$ 3.92	$ 2.64	
	SUBTOTAL	$ 4,529,082	$ 299.72	$ 444.20	
	General Conditions	$ 184,900	$ 18.13	$ 12.24	
	Fee	$ 188,559	$ 18.49	$ 12.48	
	Contractors Liability Insurance	$ 58,830	$ 5.77	$ 3.89	
	GRAND TOTAL	**$ 4,961,372**	**$ 328.33**	**$ 486.60**	
			(Excludes Understory and Attic)	(Reflects Overall Building Area)	

Exhibit B, Building Program Analysis

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EXHIBIT B

BUILDING PROGRAM ANALYSIS

Project: Mantoloking Municipal Building
202 Downer Avenue
Mantoloking, NJ
Project #: 15-xxx
Date: 01/07/16
Project SF: 15,111
Conditioned Interior SF: 11,731

REF #	Room #	Space Designation	SF Area	Comment
1				
2		**GRADE LEVEL ENTRY**	192	
3		**GARAGE**	EXCLUDED	
4		**SALLYPORT**	EXCLUDED	
5		**GARAGE**	EXCLUDED	
6		**SECURE POLICE ENTRY**	61	*LESS THAN 100 SF*
7		**WATER SERVICE ROOM**	83	*LESS THAN 100 SF*
8				
9		**LOBBY**	360	
10		**HALL**	156	
11		**CONSTRUCTION OFFICE**	1,004	
12		**MENS ROOM**	49	*LESS THAN 100 SF*
13		**WOMENS ROOM**	49	*LESS THAN 100 SF*
14		**JANITOR CLOSET**	18	*LESS THAN 100 SF*
15		**MENS ROOM**	68	*LESS THAN 100 SF*
16		**MEN'S LOCKER ROOM**	105	
17		**ELECTRICAL ROOM**	22	*LESS THAN 100 SF*
18		**WOMEN**	105	
19		**WOMEN'S LOCKER ROOM**	75	*LESS THAN 100 SF*
20		**ADMINISTRATIVE**	88	*LESS THAN 100 SF*
21		**HALL**	192	
22		**STORAGE / FILE ROOM**	100	*LESS THAN 100 SF*
23		**LOBBY**	147	
24		**WORK ROOM**	99	*LESS THAN 100 SF*
25		**MDF ROOM**	47	*LESS THAN 100 SF*
26		**CELL**	71	*LESS THAN 100 SF*
27		**CONFERENCE ROOM**	81	*LESS THAN 100 SF*
28		**VESTIBULE**	154	
29		**LAVATORY**	52	*LESS THAN 100 SF*
30		**CORRIDOR**	169	
31		**MEETING ROOM**	140	
32		**OFFICE**	147	
33		**OFFICE**	114	
34		**OFFICE**	114	
35		**HALL**	247	
36		**STORAGE**	37	*LESS THAN 100 SF*
37		**STORAGE**	37	*LESS THAN 100 SF*
38				
39		**LOBBY**	492	
40		**HALL**	179	
41		**CFO ASSISTANT**	210	
42		**CFO OFFICE**	203	
43		**MAYOR'S OFFICE**	152	
44		**DEPUTY CLERK**	86	*LESS THAN 100 SF*
45		**MUNICIPAL CLERK**	158	
46		**FILE ROOM**	75	*LESS THAN 100 SF*
47		**COPY AREA**	170	
48		**MEN**	48	*LESS THAN 100 SF*
49		**WOMEN**	48	*LESS THAN 100 SF*
50		**JANITOR CLOSET**	22	*LESS THAN 100 SF*
51		**COURT / COUNCIL ROOM**	1,136	
52		**JUDGE'S CHAMBERS**	147	
53		**HALL**	33	*LESS THAN 100 SF*
54		**LAVATORY**	48	*LESS THAN 100 SF*
55		**STORAGE/MECHANICAL**	142	
56		**EMPLOYEE BREAK ROOM**	192	
57		**MAIL/FILE ROOM**	100	*LESS THAN 100 SF*
58		**COURT CLERK**	138	
59		**HALL**	190	
60		**ELECTRIC ROOM**	109	
61		**ELEVATOR EQUIPMENT**	55	*LESS THAN 100 SF*
62				
62		**UNFINISHED ATTIC SPACE**	EXCLUDED	
63		**MECHANICAL ROOM**	219	
64		**ELEVATOR MACHINE ROOM**	91	*LESS THAN 100 SF*
65				
66				
67				
68				

Exhibit C, Building Circulation Area Analysis

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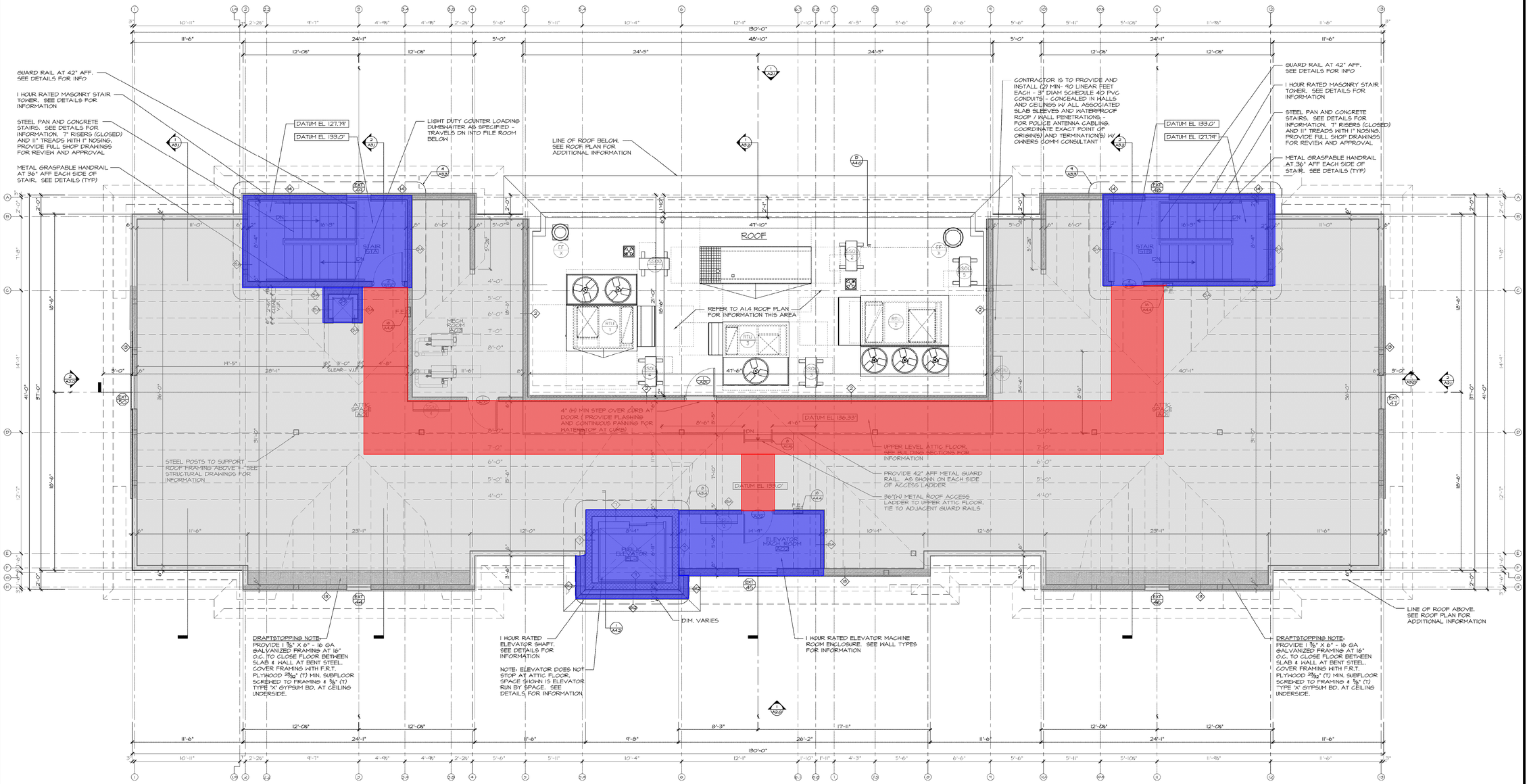
EXHIBIT C (1 OF 4)



1 A1.3 ATTIC FLOOR PLAN
SCALE: 1/4" = 1'-0"

Overall Area 4,122 SF

Vertical Circulation 551 SF

Horizontal Circulation 603 SF

Do Not Scale The Drawings
- The contractor is to Field Verify all dimensions prior to start of any work or construction.

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- These documents have been reviewed with the client prior to being signed and sealed by BLDG Architecture, LLC to insure conformance with clients scope of work.

B.L.D.G Architecture, LLC

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N.Y. Architect No. 033641-1
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BRIELLE NEW JERSEY 08730
TEL: 1.732.223.1135
EMAIL: INFO@BLDGLLC.COM
WEB: WWW.BLDGLLC.COM

Original Raised Seal

Signature Date

Project Date
April 21, 2014

Revisions	By	Date
N.J.L.G/DOC SCHEM	DL	09.09.14
N.J.L.G/DOC REVIEW	DL	05.20.15
ISSUED FOR BID	DL	09.01.15

Project

Proposed New

Mantoloking Municipal Building
202 Downer Avenue

Lots: 20, 30.01 & 30.02 Block: 27

Mantoloking New Jersey

Sheet Title
Attic Floor Plan

Scale
AS NOTED

Drawn By
LL / DL

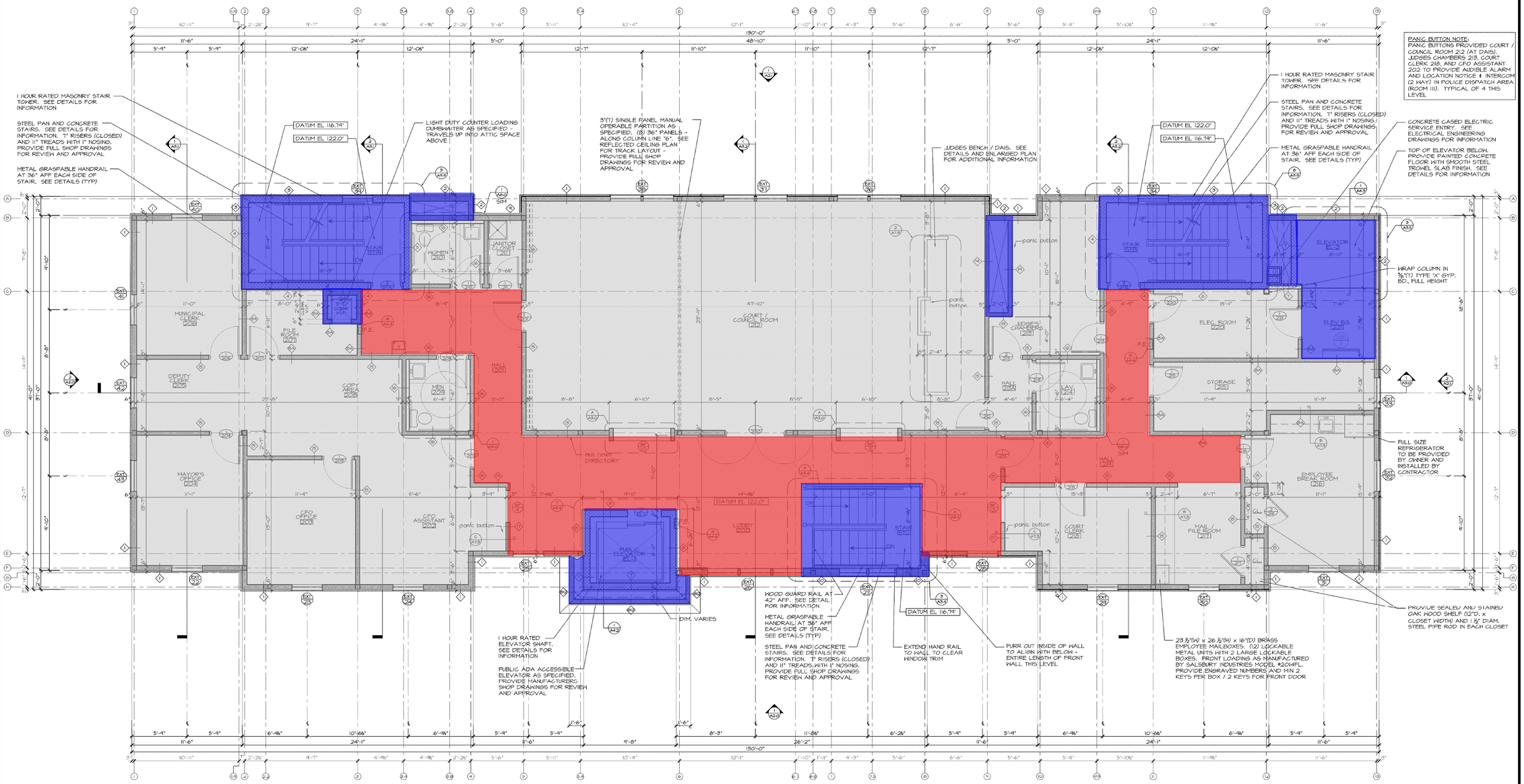
Ck'd By
DL

Sheet No.
A1.3

10 OF 40

Project No.
14-006

EXHIBIT C (2 OF 4)



SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

Overall Area 5,124 SF

Vertical Circulation 776 SF

Horizontal Circulation 875 SF

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Original Raised Seal

Signature Date

Project Date
April 21, 2014

Revisions	By	Date
N.J.L.G/DOG SCHEM	DL	09.09.14
N.J.L.G/DOG REVIEW	DL	05.20.15
ISSUED FOR BID	DL	09.01.15

Project

Proposed New

Mantoloking Municipal Building
202 Downer Avenue

Lots: 20, 30.01 & 30.02 Block: 27

Mantoloking New Jersey

Sheet Title
Second Floor Plan

Scale
AS NOTED

Drawn By
LL / DL

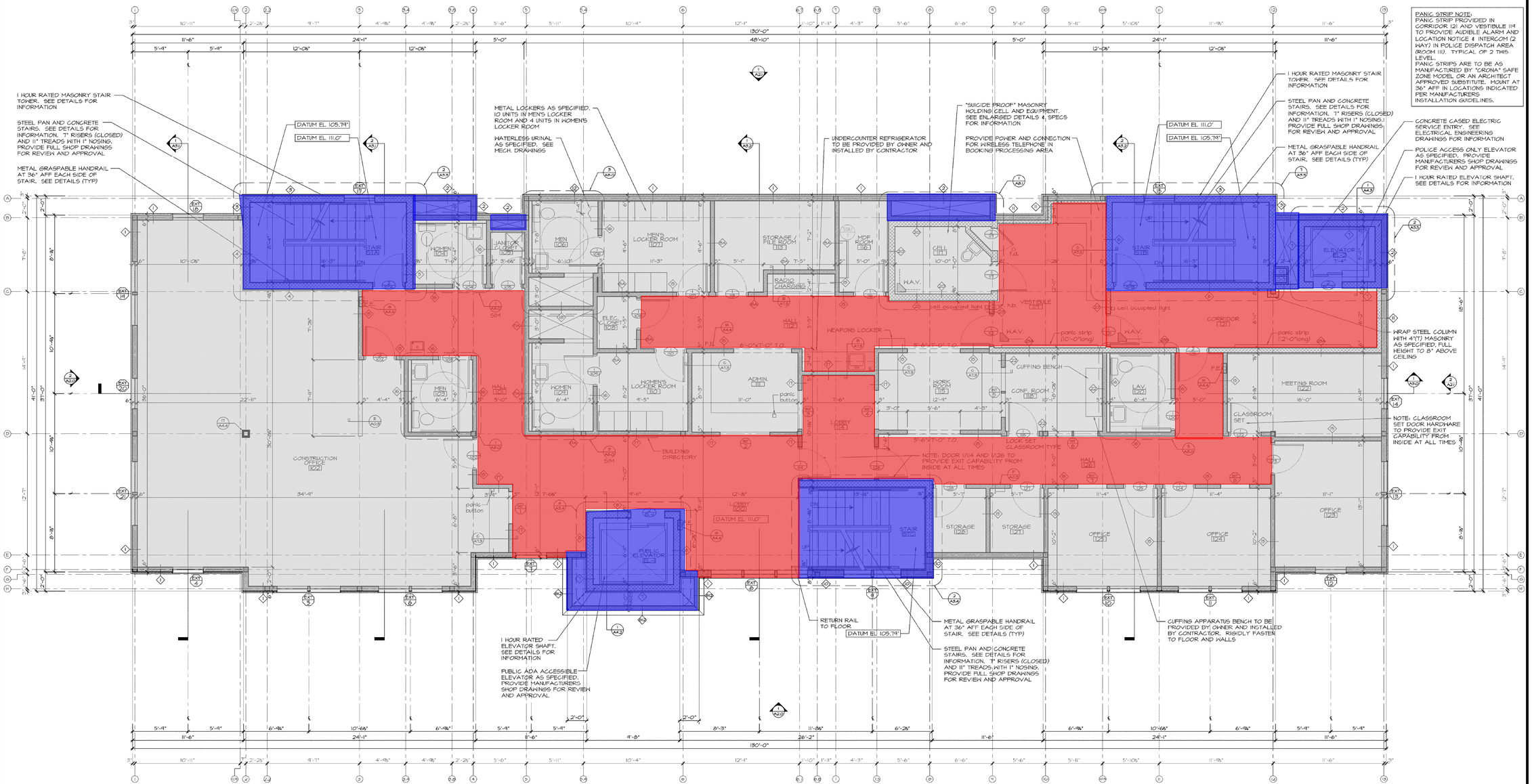
Chk'd By
DL

Sheet No.
A1.2

9 OF 40

Project No.
14-006

EXHIBIT C (3 OF 4)



1 / A1.1 FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

ABBREVIATIONS

T.O.	TRIMMED OPENING
V.R.H.B.	VANDAL RESISTANT HOSE BIBB
W.A.V.	WIDE ANGLE VIEW (CAMERA HOUSING ONLY, OWNERS SECURITY & TECHNOLOGY CONTRACTOR TO PROVIDE CAMERA & MONITORING)

Overall Area 5,134 SF

Vertical Circulation 761 SF

Horizontal Circulation 1,358 SF

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Daniel Lynch, R.A
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N.Y. Architect No. 033641-1
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CERT OF AUTH. No. 21AC00061000

617 UNION AVE, BUILDING 3, STE 14
BRIELLE, NEW JERSEY 08730
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Original Raised Seal

Signature Date

Project Date
April 21, 2014

Revisions	By	Date
N.J.L.G/DOG SCHEM	DL	09.09.14
N.J.L.G/DOG REVIEW	DL	05.20.15
ISSUED FOR BID	DL	09.01.15

Proposed New

Mantoloking Municipal Building
202 Downer Avenue

Lots: 20, 30.01 & 30.02 Block: 27

Mantoloking New Jersey

Project

Sheet Title
First Floor Plan

Scale
AS NOTED

Drawn By
LL / DL

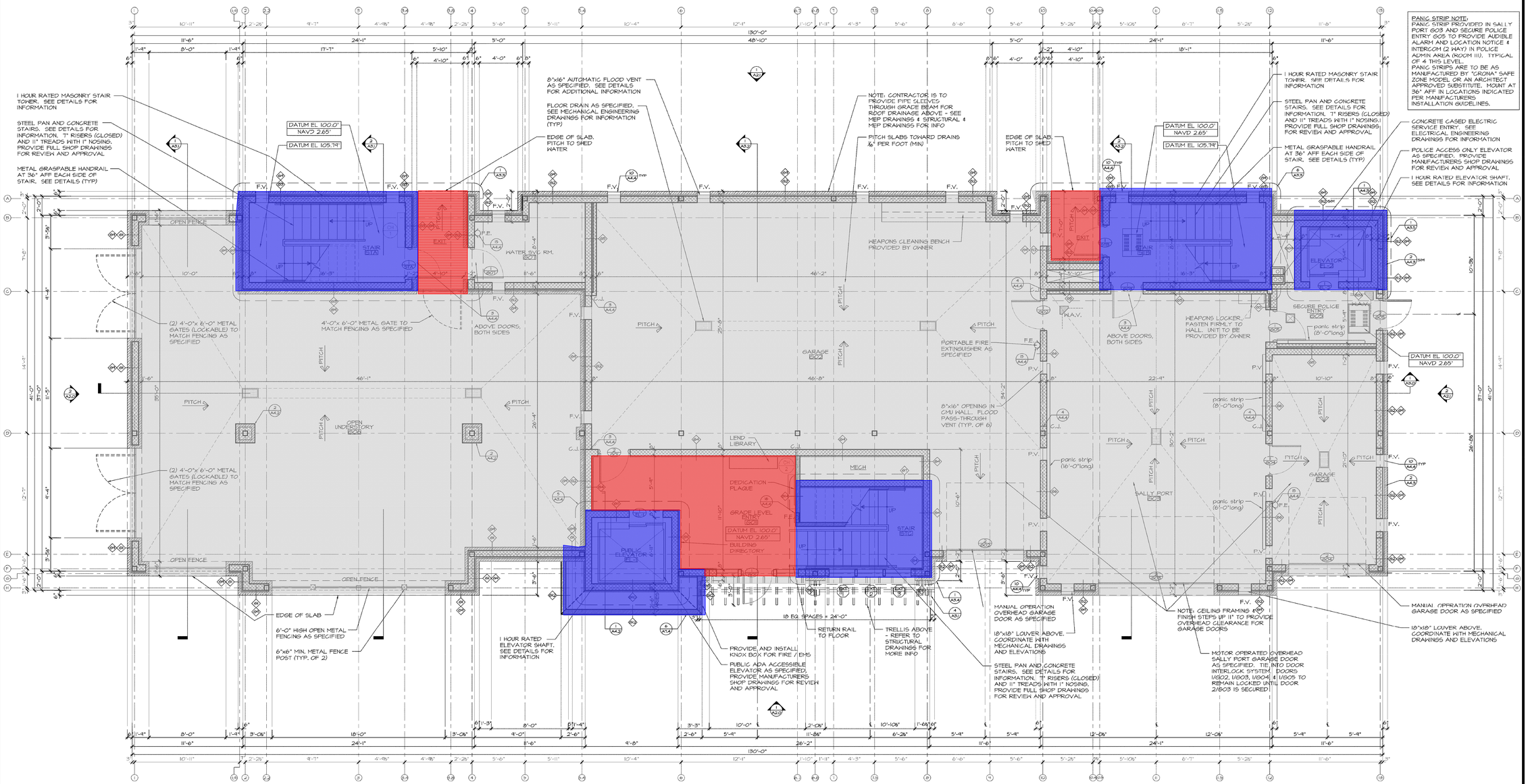
Ck'd By
DL

Sheet No.
A1.1

8 OF 40

Project No.
14-006

EXHIBIT C (4 OF 4)



1 / A1.0 UNDERSTORY FLOOR PLAN
SCALE: 1/4" = 1'-0"

N

ABBREVIATIONS

F.V.	FLOOD VENT
P.V.	FLOOD PASS-THRU VENT
W.A.V.	WIDE ANGLE VIEW (CAMERA HOUSING ONLY, OWNERS SECURITY & TECHNOLOGY CONTRACTOR TO PROVIDE CAMERA & MONITORING)

Overall Area 5,280 SF

Vertical Circulation 742 SF

Horizontal Circulation 291 SF

Do Not Scale The Drawings
- The contractor is to Field Verify all dimensions prior to start of any work or construction.

- OWNERSHIP OF THE DOCUMENTS: The Documents, Designs, Details, and Ideas incorporated herein, are instruments of professional service and are the exclusive property of BLDG Architecture, LLC. These Documents, Designs, Details, and Ideas are not to be used, copied or reproduced in whole or in any part without the written consent and approval of BLDG Architecture, LLC.

- These documents have been reviewed with the client prior to being signed and sealed by BLDG Architecture, LLC to insure conformance with clients scope of work.

B.L.D.G Architecture, LLC

Daniel Lynch, R.A
N.J. Architect No. AI 17862
N.Y. Architect No. 035641-1
NCARB Reg. No. 86227
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Original Raised Seal

Signature Date

Project Date
April 21, 2014

Revisions	By	Date
N.J.L.U.C/DOC SCHEM	DL	04.09.14
N.J.L.U.C/DOC REVIEW	DL	05.20.15
ISSUED FOR BID	DL	09.01.15

Project

Proposed New

Mantoloking Municipal Building
202 Downer Avenue

Lots: 20, 30.01 & 30.02 Block: 27

Mantoloking New Jersey

Sheet Title
Understory Floor Plan

Scale
AS NOTED

Drawn By
LL / DL

Ck'd By
DL

Sheet No.
A1.0

7 OF 40

Project No.
14-006

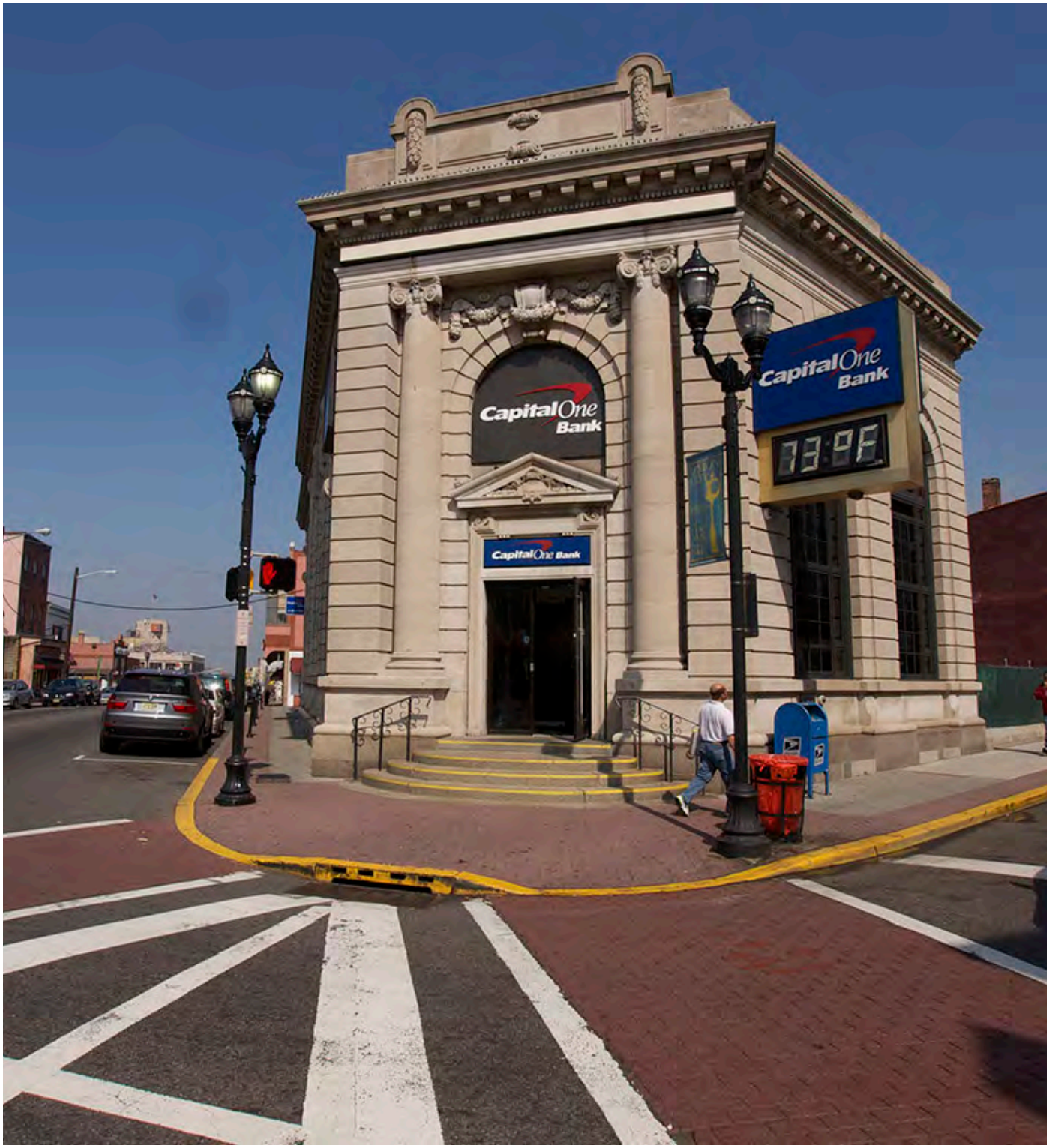

Exhibit D, Conceptual Value Engineering Target Schedule

PARSIPPANY | NEWARK | TRENTON | NEW YORK
hollistercs.com

HOLLISTER CONSTRUCTION SERVICES
Building Sound Relationships & Structures

VALUE ENGINEERING TARGET SCHEDULE

EXHIBIT D

Project: Mantoloking Municipal Building
202 Downer Avenue
Mantoloking, NJ
Project #: 15-xxx
Date: 01/07/16
Project SF: 15,111
Conditioned Interior SF: 11,731

VALUE ENGINEERING TARGET SCHEDULE

REF #	CSI Code	Trade	Estimated Value	Estimated VE Target	Modular Component Savings	Comment
1						
2	**2-000**	**SITE WORK**	**$ 144,976**			
3	**2-150**	**TIMBER PILES**	**$ 152,000**			
4	**2-830**	**FENCES AND GATES**	**$ 31,415**			
5	**2-900**	**LANDSCAPING**	**$ 19,800**			
6	**3-000**	**CONCRETE**	**$ 324,180**			
7		Reduction in Poured Decking @ Attic		*(24,923)*		
		(Modular Off-Site Construction)			*(13,745)*	Considers Concrete Decking Only
8	**4-000**	**MASONRY**	**$ 317,889**			
9		Reduce CMU and Brick Scope @ Understory S06		*(40,000)*		
10		Remove Full Height Stair Tower Enclosures @ Attic		*(27,500)*		
11		Remove Veneer Brick @ Garage Interior Face		*(18,000)*		
12	**5-100**	**STRUCTURAL STEEL**	**$ 361,438**			
13		Siwtch to Bar Joist System		*(58,500)*		
14		Reduce Structural Steel Scope @ Roof Trusses		*(29,000)*		
15		Reduce Stair-Tread Count to Attic		*(8,000)*		
16		Reduced Post Count (Increased Girder/Post)		*(6,500)*		
17		(Modular Off-Site Construction)			*(49,220)*	
18	**5-400**	**COLD FORMED FRAMING**	**$ 198,164**			
19		(Modular Off-Site Construction)			*(68,500)*	
20	**5-500**	**MISCELLANEOUS METALS**	**$ 59,677**			
21		Reduced Stair Railings @ Attic		*(4,000)*		
22	**6-220**	**MILLWORK AND FINISH CARPENTRY**	**$ 257,466**			
23	**7-100**	**FIRE-PROOFING WORK**	**$ 17,400**			
24		Reduced Steel Scope/Reduced Fire-Proofing Scope		*(3,700)*		
25	**7-460**	**EXTERIOR SIDING**	**$ 99,600**			
26		(Modular Off-Site Construction)			*(7,750)*	
27	**7-500**	**ROOFING AND SHEET-METAL FLASHING**	**$ 44,850**			
28	**7-900**	**JOINT SEALANTS**	**$ 8,100**			
29	**8-100**	**DOORS, FRAMES, AND HARDWARE**	**$ 108,790**			
30	**8-300**	**WINDOWS**	**$ 48,400**			
31	**8-800**	**ALUMINUM, GLASS, AND GLAZING**	**$ 24,000**			
32	**9-250**	**DRYWALL AND GENERAL CARPENTRY**	**$ 362,900**			
33		Reduce Understory Ceiling Frame from 20 Gauge to 25 Gauge		*(6,250)*		
34		(Modular Off-Site Construction)			*(96,000)*	
35	**9-300**	**CERAMIC TILE AND STONE**	**$ 26,744**			
36	**9-500**	**ACOUSTIC CEILINGS**	**$ 71,300**			
37	**9-650**	**FLOORING WORK**	**$ 141,610**			
38	**9-900**	**PAINTING AND WALLCOVERING**	**$ 79,440**			
39	**10-200**	**SIGNAGE**	**$ 7,300**			
40	**10-500**	**FIRE-EXTINGUISHERS**	**$ 1,640**			
41	**10-510**	**LOCKERS**	**$ 7,100**			
42	**10-800**	**TOILET AND BATHROOM ACCESSORIES**	**$ 2,300**			
43	**10-900**	**MISCELLANEOUS SPECIALTIES**	**$ 6,500**			
44	**11-452**	**APPLIANCES**	**$ 3,100**			
45	**12-000**	**FURNISHINGS**	**$ 14,216**			
46	**14-200**	**ELEVATORS**	**$ 238,590**			
47		Switch to MRL Elevator Cars		*(32,500)*		
48		Remove Dumbwaiter		*(4,000)*		
49	**15-300**	**FIRE-PROTECTION**	**$ 63,816**			
50	**15-400**	**PLUMBING**	**$ 184,318**			
51	**15-500**	**HVAC**	**$ 451,000**			
52		Combining RTU Units RTU-2 and RTU-3		*(22,500)*		
53		Electric Reheat Coils @ VAV Boxes in Lieu of Boiler and Loop		*(74,000)*		Prelim Calculation of 31 Kilowatt Demand
54		Remove Fin Tube Radiator System @ Garage Plenum		*(48,500)*		
55		Combine Exhaust Fans G1 and G2		*(5,700)*		
56		Reduce VAV Count Through Redesign (Target of 4)		*(14,223)*		
57		Ground Mount RTU-1 @ Garage Space (Ductwork Reduction)		*(28,500)*		
58	**16-000**	**ELECTRICAL**	**$ 571,000**			
59		Lighting Fixture Package Assessment (As Equal Alternate)		*(22,500)*		
60	**16-700**	**DATA/TEL**	**$ 38,110**			
61	**17-001**	**BOND**	**$ 39,953**			
62		Impact Reduction		*(4,788)*	*(2,352)*	
63						
64		SUBTOTAL	$ 4,529,082	*$ (483,583.96)*	*$ (237,567.15)*	
65						
66		**General Conditions**	$ 184,900			
67		(Off-Site Modular Construction Impact Reduction)			*$ (22,500.00)*	
68		**Fee**	$ 188,559			
69		Impact Reduction		*$ (19,343.36)*	*$ (10,402.69)*	
70		**Contractors Liability Insurance**	$ 58,830			
71		Impact Reduction		*$ (6,035.13)*	*$ (3,245.64)*	
72						
73		ORIGINAL PROJECT COST:	$ 4,961,372			
74		**Estimated VE Totals:**	**$ (782,678)**	**$ (508,962)**	**$ (273,715)**	
75		**REVISED BUILDING COST :**	**$ 4,178,694**			
77						

B.L.D.G. Architecture, LLC

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Certificate of Authorization 21AC00061000

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Date: December 18, 2015

Mr. Andrew Devennie, Senior Estimator,
c/o Ms. Beth Nelson & Mr. Donald Ness
Borough of Mantoloking
Po Box 4391
Brick, N.J. 08723

Re: Assistance and Response for:
Hollister Construction Services Letter dated 12.10.15
GC Bid Review and Value Engineering Analysis

To: Mr. Andrew Devennie, Senior Estimator, c/o Mrs. Nelson & Mr. Ness,

Thank You for your letter dated December, 10, 2015. Your correspondence was forwarded to my office by representatives of Mantoloking Borough for review and comment. We look forward to assisting you with the task that you have been asked to perform. Per our conversation the other day, I am following up with this letter outlining our responses to your questions. I will identify your initial review points in italics and provide our responses immediately following.

Item 1 a. *The following items were noted in our review of the bidding documents and we would like to bring to the team's collective attention for feedback:*
No Specific response required

Item 1 b. *Currently the RFP requests single lumps sum line item cost for construction (common for public works lumps sum projects.) However, as a means to gain insight and inform value based changes, requiring a cost breakdown of trade divisions, and general contracting costs may be helpful to include as part of a revised RFP process. i. General conditions clauses allow for the owner's cancellation of the bid for convenience. Due to the owner's desire to value engineer the project, we recommend that the project rebid utilizing a bid form that requires all bidders to complete a comprehensive schedule of values and an expanded unit price schedule (section 012200) and alternate schedule (012300).*

We agree with the statement above and agree that if the project is to be rebid, that the contractors could be required to provide detailed pricing information. There is the possibility that a contractor could opt not to provide the data, and only provide what is required by NJ Public bidding laws. If

this contractor was an apparent low bidder, it could leave the bids open to challenges from other bidders who did provide the requested information. Also, more time would be recommended for the bidding period to allow for detailed cost reporting. The specifications do include provisions for the owner to reject all bids if necessary in compliance with New Jersey Public Bidding regulations where bids received are in excess of 10% of the project budget estimate.

Item 1 c. *The following unknown conditions present a liability to the township for costly change orders during the course of planned work. It may be worth including alternate pricing in the event that the following items are encountered:*
i. *Dewatering: currently the geotechnical report indicates that the water table is 4'-0" below grade and there is no dewatering plan or associated competitive pricing associated with this likely requirement. (it may be helpful to include a note which transfers entire ownership to the GC for all dewatering work associated with the site work, utility trenching, excavation for grade beams, grading, etc.)*

Notes are included in the Site Civil drawings prepared by the Borough's Municipal Engineer, indicating that all required dewatering is the responsibility of the Contractor. This is further noted in the language in the Geotechnical Report, which is part of the project documents.

ii. *Below Grade Obstructions: two of the test borings hit concrete structures and required a new boring locations to achieve depth. it may be worth having the GC's bid (as part of their competitive bid submission) a unit price for exhuming and removing below grade structures and slabs encountered during the course of planned work.*

We expect that these occurrences were anomalous, and do not expect significant materials to exist sub grade. The prior building was demolished and removed by Ocean County Buildings and Grounds working on behalf of Mantoloking Borough. It is expected that the vast majority of underground structures have been properly removed and disposed. The geotechnical report provides language that makes the contractor aware of the potential for subgrade obstructions.

iii. *Timber Piles: Establish a unit cost requirement for pre-augering of piles. The pre-drilling requirements are referred to in the geotech report as per "locations indicated" but are not shown on the plan or indicated in the specification. (this may be viewed by bidding GC's as an opportunity to secure a significant front end change order.)*

I believe this verbiage in the geotechnical report is included if pre-augering is a requirement of the design documents. Pre-augering is generally not common with our local soil conditions, is not a specific design requirement, and falls as a methods and means component at the Contractors discretion. It would be difficult to convince the Borough selected Construction Manager and myself that this would be a valid change order request.

iv. *Earthwork: Currently there is no specification section for earthwork. It may benefit the owner to establish unit costs for importing structural fill and exporting unsuitable materials.*

The project site is nearly dead level. The proposed understory slab is set at approximately the existing grade. The Site Civil Engineering drawings and documents were prepared by the Borough's Municipal Engineer.

Item 2 a. Timber Piles

i. *There approximately 182 piles to facilitate this 3390 SF slab on Grade. Is it possible to utilize load bearing grade beams at the building center (column lines5.4-1,lines A-H) to eliminate the need for intermediary piles?*

The approximate pile count as stated above is accurate. The understory and upper level footprint is 5098 sf. The pilings typically support grade beams, and matt slabs for the elevator shafts. The understory floor slabs are bearing on ground and are generally not supported by the grade beams or pilings. The number of required pilings was determined by the Structural Engineer in coordination with the geotechnical report. This number is required to support the design axial and lateral loads, inclusive of seismic, wind, gravity, and uplift / flotation resistance. Piles could be removed, but in do such, the grade beams and reinforcing steel would need to be increased. Timber pilings when compared to concrete reinforced grade beams are relatively economical. We anticipate that if we were to reduce the number of pilings, the increase in grade beam construction would result in a net change of zero dollars, or would be potentially more costly.

Item 2 b. Structural Steel

i. *Review the requirement for the 6x6HSS post up locations throughout the floor, There are large occurrence of very close spacings which could potentially be reduced.*

Beams could be made larger, but we were trying to keep them shallow to allow for ductwork to pass below where necessary. The shallower beams provide less span, and require a lesser column spacing. The shape of the building also dictated column placements. Columns could be designed differently, but we anticipate that the spanning steel elements would need to increase in either weight or depth resulting in a potential increase in height and no net dollar savings.

ii. *Can open web steel joists be used in lieu of the closely spaced W-Beam purlins across the 1st, 2nd , and attic floor framing plans? It was noted that the steel beams were the smallest available weights for the web-depth specified. It is possible to substitute an open web joist decking with corrugated metal decking and concrete fill?*

Overall building height is a concern; we were trying to keep the floor to floor dimensions and ceiling cavities to a minimum. This was the main reason to use the wide flange steel beam and concrete composite system for floors. Using Open Web Joists would have increased the building height as the Bar Joists would have been deeper. I believe the space required to pass ductwork through the "web" of the bar joists, as opposed to below, would not be sufficient, therefore

increasing the floor to floor height. For example, a 14 inch deep bar joist will only pass a 6 inch diameter insulated duct. This would only accommodate piping and branch supply ducts, but not the main supplies and returns. Also, open web steel joists increase vibrations throughout a structure. This structure and its site constraints, requires significant mechanical equipment to be placed in / on the building. Even with vibration isolation, the floors would feel loose and would be uncomfortable for many occupants. The design team does not believe that this strategy is appropriate for this building.

iii. *The ground floor, solid grouted masonry walls are not being utilized to facilitate steel bearing at points which could eliminate HSS columns. Is there a reason this was avoided?*

Steel columns are being directly attached to grade beams and pile caps to support the building and to resist lateral and other loads. Overturning moment of a long "skinny" building, in a high wind zone, can be great, and is most efficiently resisted by columns tied to a sufficient foundation system. The mass of the masonry is utilized as a flood resistant material, but also to aid in the moment resistance of the structural frame. Also, having personally witnessed the destructive nature of recent hurricanes and flood inundation, an exclusively masonry bearing structure at the lower level could experience structural damage at a "catastrophic" level should a future hurricane breach the seawall and cut through the barrier island as it did in 2012 at Herbert and Lyman Street. Continuous steel columns, along with the masonry walls, provide redundancy that would be desirable should this level of storm occur again.

In addition to load resistance, we were concerned about construction sequence in order to reduce the total construction period. Many load bearing masonry buildings have had delays due to cold / inclement weather. The continuous steel frame will allow a contractor to proceed with simultaneous construction of many components of the building in both the upper and lower levels. This workflow could be interrupted by weather and temperature while waiting for masonry and concrete work to cure, or to be installed under the required conditions. After discussing this item with the Structural Engineer, we believe the potential savings of switching to a masonry bearing lower level is only in the range of three to five thousand dollars; and the potential risk exposure is not worth the small "possible" savings.

iv. *Is there a reason that the curved top door / window are spanned with custom curved W-Beam steel lintels and not composite cold formed frames?*

The locations that have the structural steel lintels are areas where the lintels are supporting masonry. The entire enclosed understory space has interior masonry walls behind the siding. Where we were able to utilize cold formed light metal framing for openings, it was provided.

v. *Can the centerline beam along column line D be upsized as a means to reduce the amount of posts below? This could also translate to a reduction of piles and concrete Piers below.*

Similarly to the discussion points above, the beams could be made larger, but we were trying to keep them shallow to allow for larger ductwork to cross where necessary. Overall building height

is a concern; we were trying to keep the floor to floor dimensions and ceiling cavities to a minimum. This was an additional reason to use the wide flange steel beam and concrete composite system for floors.

Item 2 c. Fire Protection

i. *Can the amount of 1" risers be condensed on the project to simplify the piping requirements on the project? Currently there are 6 risers at the ground floor.*

After reviewing and discussing this question we believe you are identifying some branch piping and the differences between conditioned and un-conditioned suppression system areas. The FPS design must satisfy code required coverage areas for the entire building. The stairs, water service room, and entry spaces are conditioned spaces and have a wet FPS. The remainder of the understory is unconditioned space and has a dry FPS. This separation of environmental conditions requires a separation of systems and adds piping. We believe the system is designed appropriately for the conditions of the project.

ii. *If the insulated ceiling on the ground floor is heater with fin tube radiators, can the dry pipe system be eliminated and the RPZ assembly and pre-action systems be reduced*

There is no pre-action system in our design. The understory FPS is a dry system. To change to a wet system would introduce significant risk of freezing due to thermal transfer from pipe drops and pendants; and if an occupant should ever leave an access panel into the ceiling space open during winter months. If we were to use dry pipe valves and dry pendants, in a wet system, we anticipate no real savings due to the cost of the dry pendants. It is our opinion that in this environment, the risk of this change is not worth the very minimal potential savings.

Item 2 d. HVAC

i. *Can RTU-1 be upsized in tonnage to encompass the zone serviced by RTU-3 (6 ceiling mounted diffusers) currently serving the courtroom? This could eliminate the requirement for RTU-3 (6.5 ton unit) Could an upsized RTU-1 have independent controls and a CAV/VAV box for the courtroom feeds when RTU-3 is removed? (We understand the outside air requirement may be a factor but if the modified unit can be upsized to include increased capacity of outside air.) 1. Does the outside air need to be treated for moisture reduction as per program / code requirements?*

These units could be combined but with drawbacks. First, the second RTU supplies the court / council area spaces. We understand from programming that these spaces are used infrequently. To eliminate the second system would present a possible initial savings, but would require a larger single unit that would have to run nearly continuously. It would also need to accommodate for the differences in the occupancy driven outside air changes, and heating / cooling loads for larger meetings, which is vastly different than the remainder of the buildings regular operating conditions. This single system would introduce higher long term operating lifetime costs.

Also, one larger system would change the size / weight and type of cabinet it is contained within. This system would have much larger supply and return ducts at the unit. This again affects the total height of the building. Additional depth in the floor to floor dimensions would be required to provide adequate space for ducts and turns in the duct runs, as well as increased steel capacity to support the concentrated load of one larger unit.

ii. *Can a small in-wall PTAC unit be used on outside wall of the IDF room in lieu of an interior split system with roof mounted condenser and related refrigerant piping?*

This is possible, but the system as depicted in our design does not require any through wall penetrations in this location. The PTAC unit would require a penetration of approximately 20"x 42" in a wall that by code, has a limit to the number of unprotected openings for fire protection purposes. This would require the PTAC unit to have a fire damper system which would negate any savings from a reduction of refrigerant piping.

iii. *Can the DX units be splits to include forced hot air as well? This could eliminate the need for one of the hot water loops, valves, and boilers.*

The Mechanical Engineer is of the opinion that this is not a practical or economical solution. DX units would not be capable to efficiently serve the needs of the varying types of spaces included in this building. There are too many differences in loading requirements, occupancies, interior and exterior spaces, corner spaces, different solar exposures, etc., for this to be a practical system.

iv. *Is there any redundancy in specifying fin-tube radiators on a hot water loop located within the insulated ceiling space on the lower level? Can this be offset with pipe insulation and jacketing of utility piping in that cavity or is another factor driving this requirement? 1. The fire protection calls for dry-pipe system in this heated cavity which may be redundant if the hot water fin-tube radiators are retained.*

While it is the opinion of this office that more insulation is generally desirable, additional insulation only slows hat transfer, it does not replace heat. The local environmental conditions, being adjacent to the ocean and bay, present many challenges. The added heat in the understory ceiling space provides a number of functions. First it will help protect pipes from freezing. (Please see above discussion of wet vs dry FPS). Also, it will keep the floors slightly warmed. If this is not adequately provided the floor materials will always fell cold regardless of the interior air temperature. Occupants and furnishings will radiantly "connect" with the floor which will result in an uncomfortable interior environment. The Borough will be left with the occupants regularly complaining that the building is "cold"

v. *Can the fin-tube radiators in the ceiling spaces be switched for electric units heaters? this could eliminate all of the piping and boiler.*

The boilers are required to provide efficient heat to multiple systems in the current design. One of the reasons that the fin tube radiators are provided in the understory ceiling plenum is for design simplicity and to reduce risk. If we were to substitute electric radiant units in this plenum space we would be required by code to provide many additional openings for access to the fixtures. This would increase the likelihood that an access panel would be left open which could create a multitude of issues. The current design does not require any access to the fin tube units; all of the controls are located in the water service room. Also, the electric units have more "moving parts" that are subject to corrosion than the copper fin-tube piping. Additional openings and panels increases the ability for salt-laden air to reach the units and promote corrosion
A change to an all-electric system would potentially have a negative effect on overall energy conservation and costs over the life of the building. Currently, electricity in this area is fairly expensive relative to gas heat. If other systems in our design require gas heated water, it makes sense to use heat and systems that are already present to temper the floor space.

Item 3. Preliminary Conclusions:
Item 3a *Based on our preliminary review of the bid process, incoming pricing, and design documentation, the bids are sound and level and proportionally commensurate with the scale of the building project scope as outlined in the construction bid documents.*
Item 3b *Based on our preliminary review (pending comments and feedback from the design team) we would (conceptually) recommend the following system as a means to economize the project:*
i. *The base building remains as timber piles, grade beams, fully grouted CMU construction with independent structural steel frame. This would facilitate a 2" corrugated metal deck and concrete fill transfer deck as designed. (established as a "transfer deck")*
ii. *Retain full height CMU shaft walls for 3 stair towers and elevator shafts.*
iii. *Atop the transfer deck we would recommend installing a pre-fabricated structure in 8 components:(4 per floor) Each component would be approximately 60' long 12.5' wide- This is the maximum delivery constraint for prefab modules and works with the structure.*
iv. *The construction of the modular system could be 16 gauge cold-formed metal frames (batt insulation) with PT plywood sheathing, exterior rigid insulation board, fluid applied vapor barrier system, and a combination of brick facing and shake / shingle siding as designed. The interior walls would serve as load bearing walls to facilitate the installation of cold-formed metal floor joists and T&G plywood decking. The structural cold-formed frame would be field modified with additional straps, ties, tension rods embedded into base building's full grouted CMU walls, etc.*

Regarding Modular construction:
1. When my firm was initially approached to provide a proposal for the project, we were informed that the Borough had discussed modular buildings with a number of manufacturers and other Architects, and was not inclined to pursue a modular building. If the project "required" the design of modular construction, my firm would have declined to provide a proposal, as it is not our specific area of expertise, and we do not believe it is an appropriate option for a building with little repetition in its layout.

2. A certain economy can be achieved with modular construction. This is particularly true with very repetitive space buildings like schools, labs, office buildings, and correctional facilities. It is my opinion that our current design is not particularly suited to modular construction and would not see a significant reduction in cost or savings in time that one would expect from prefabrication.

3. It has been the experience of the Design Team that many of the construction components of modular buildings, like plumbing, hvac, and electrical is potentially performed by non-licensed tradesmen. There may be a requirement for oversight by a licensed tradesperson, but a majority of the actual work is by lesser qualified workers. We have also experienced that modular companies prefer to use their proprietary products and materials over traditionally specified materials. This leaves the overall quality of the project to the modular contractor and his profitability, and not necessarily the best interest of the owner.

v. *The roof structure, trusses, dormers, and gables could be framed in place with pre-fabricated engineered trusses, sheathed and roofed as designed.*

It was conveyed to the design team that on-site attic storage in the project was required. One separate space would be for required on-hand Municipal records and another would be for required on-hand Police records. Because the Borough desired a building with a traditional and contextual appearance, a pitched roof was to be part of the design. Also, lack of space on the site, compounded by the flood zone elevation requirements, required the design solution to include accessible roof top mechanical equipment. The substitution of roof trusses for "stick framing" would not facilitate the use of the desired attic space, or accessible rooftop mechanical equipment. The space that mechanical and storage bays in pre-engineered light metal or wood trusses can provide is limited and would not be able to provide the service areas required for this project.

In developing this project, we were working to provide the Borough with a design that would provide similar sized spaces that housed the required municipal services. We only added space for municipal services where the previously existing spaces were inadequate for the users to effectively perform their job functions or where coder requirements dictated. We used spaces that were present in the prior building as a beginning. We utilized existing conditions drawings of the prior building and use information provided by the Building Committee and Borough Employees to confirm spaces. We measured the Borough's existing furniture (to be used in this building) and storage containers for additional information which helped inform the layout.

We also needed to work within the conditions of the small site, very high FEMA Base Flood Elevation and Design Flood Elevation relative to grade, and new building code requirements that were not in effect when the original building was constructed. (A few issues of note that drove the design are, ADA Accessibility Guidelines, Means of Egress codes, Plumbing Codes, NJ Department of Corrections and NJ Juvenile Justice Codes, ASCE & wind loading and flood protection requirements.) With the assistance of the Building Committee and Borough Employees,

we reduced the initial program where possible, and looked at size and configuration alternates, but in the current concept believe we have provided a sound design that satisfies the required functional needs of the Municipal Services the Borough provides.

Can the building be designed differently and the scope reduced? Yes, but not without a significant effect on the services that the Borough needs to provide for its residents and daily operations. These would be operational decisions that the Borough would need to make and were not part of the design problem at the onset of this project.

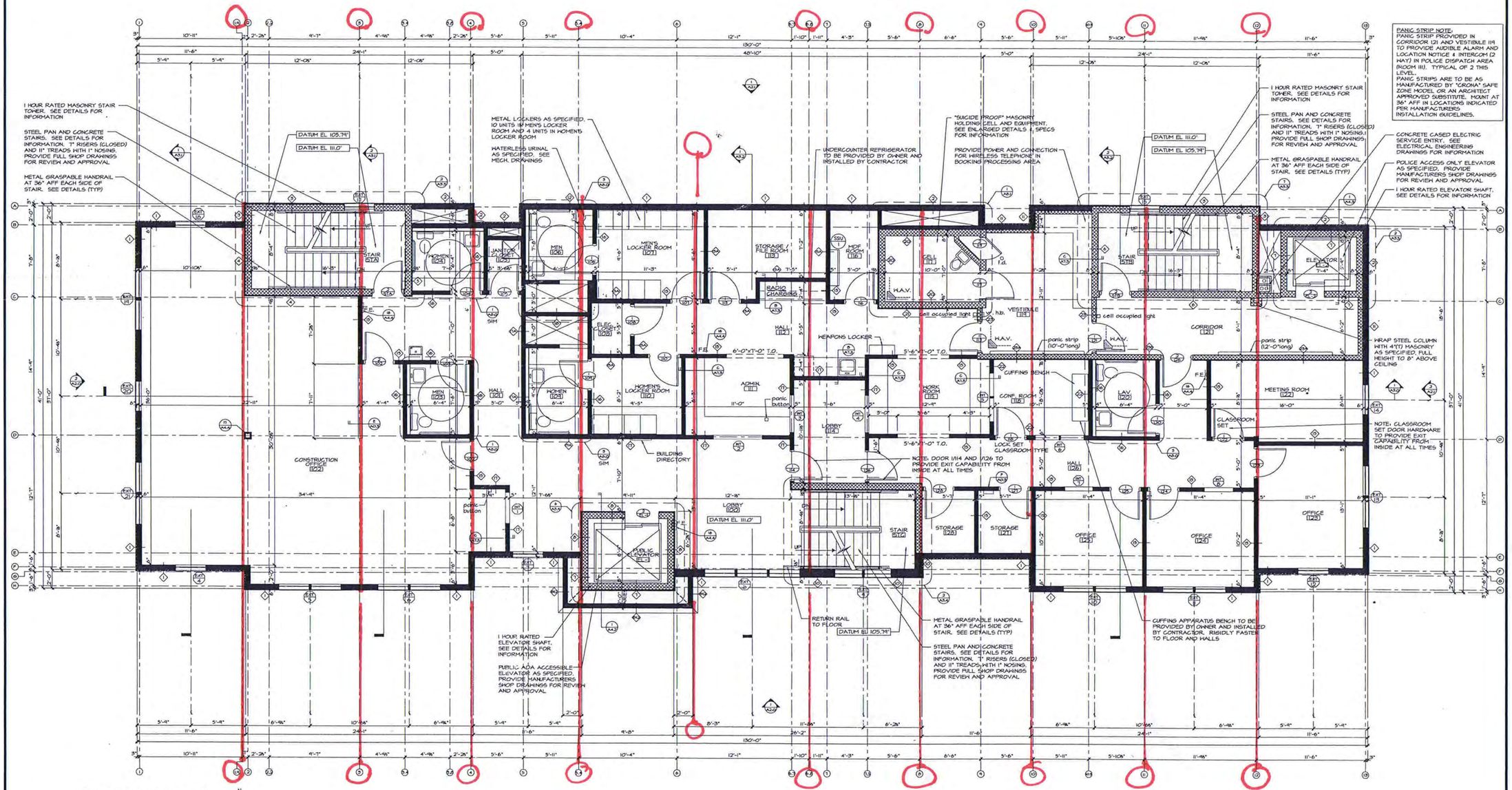
I hope that our conversation and these responses to your questions assist you in your task of reviewing the project for the Borough. I am happy to discuss any additional questions or concerns you may have.

Regards,

Daniel Lynch, RA, NCARB

Cc:file, , A Devennie, B. Nelson, D. Ness, R. Sibilia

ATTACHMENT 2 (MODULAR STRATEGY SKETCH)



1 / A1.1 FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

ABBREVIATIONS:

T.O. TRIMMED OPENING

V.R.H.B. VANDAL RESISTANT HOSE BIBB

H.A.V. WIDE ANGLE VIEW (CAMERA HOUSING ONLY, OWNERS SECURITY & TECHNOLOGY CONTRACTOR TO PROVIDE CAMERA & MONITORING)

Do Not Scale The Drawings
- The contractor is to Field Verify all dimensions prior to start of any work or construction.

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- These documents have been reviewed with the client prior to being signed and sealed by BLDG Architecture, LLC to insure conformance with clients scope of work.

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Original Raised Seal

Signature Date

Project Date
April 21, 2014

Revisions	By	Date
N.J.L.C/DOC SCHEM	DL	09.09.14
N.J.L.C/DOC REVIEW	DL	09.20.15
ISSUED FOR BID	DL	09.01.15

Project

Proposed New
Mantoloking Municipal Building
202 Downer Avenue
Lots: 20, 30.01 & 30.02 Block: 27
Mantoloking New Jersey

Sheet Title
First Floor Plan

Scale
AS NOTED

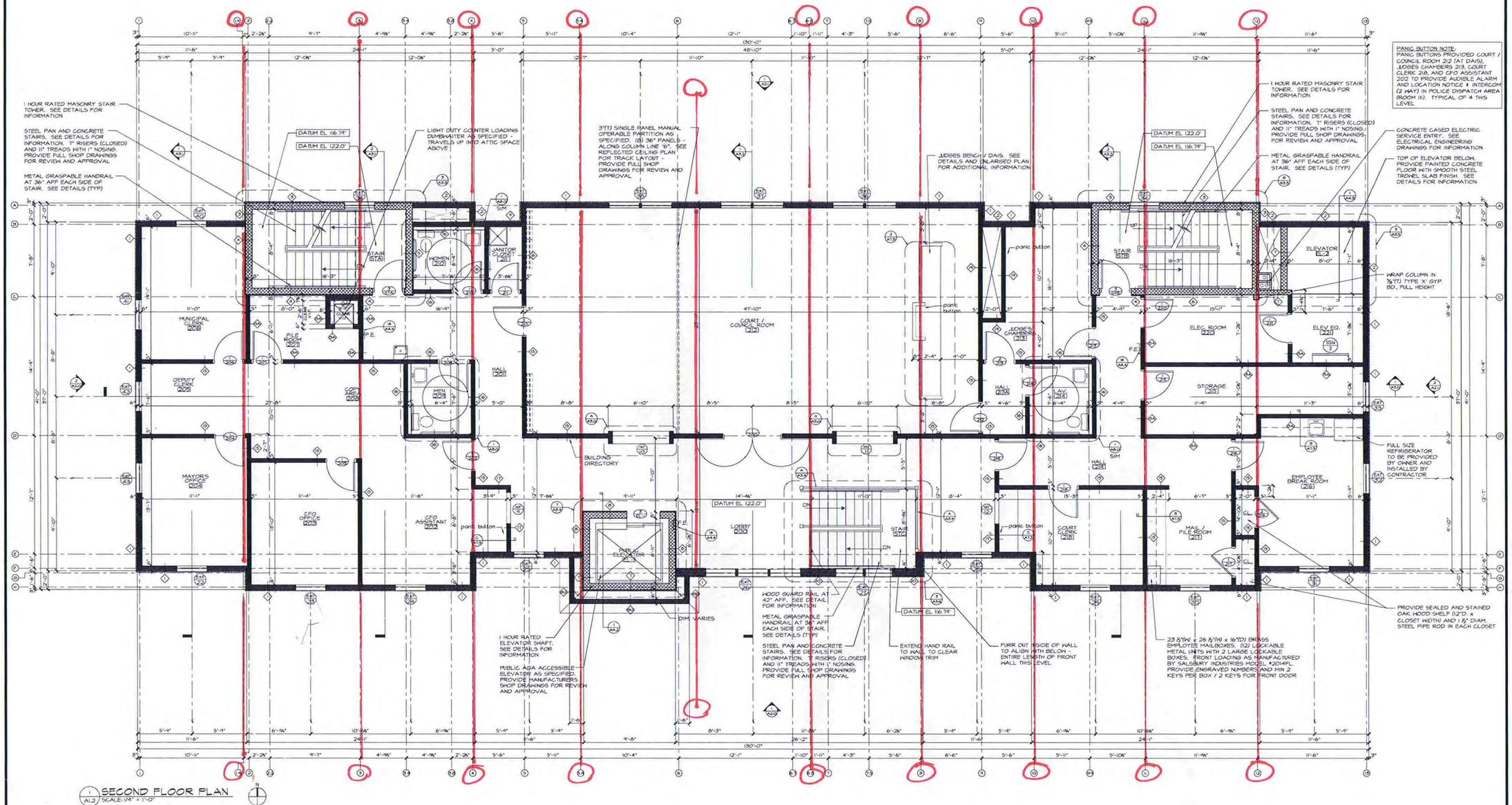
Drawn By
LL / DL

Chk'd By
DL

Sheet No.
A1.1
8 OF 40

Project No.
14-006

ATTACHMENT 2 (MODULAR STRATEGY SKETCH)



A1.2 SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

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N.J.J.G/DOG SCHEM	DL	09.09.14
N.J.J.G/DOG REVIEW	DL	05.20.15
ISSUED FOR BID	DL	09.01.15

Proposed New
Mantoloking Municipal Building
202 Downer Avenue
Lots: 20, 30.01 & 30.02 Block: 27
Mantoloking New Jersey
Project

Sheet Title: Second Floor Plan
Scale: AS NOTED
Drawn By: LL / DL
Ck'd By: DL
Sheet No. A1.2
9 OF 40
Project No. 14-006