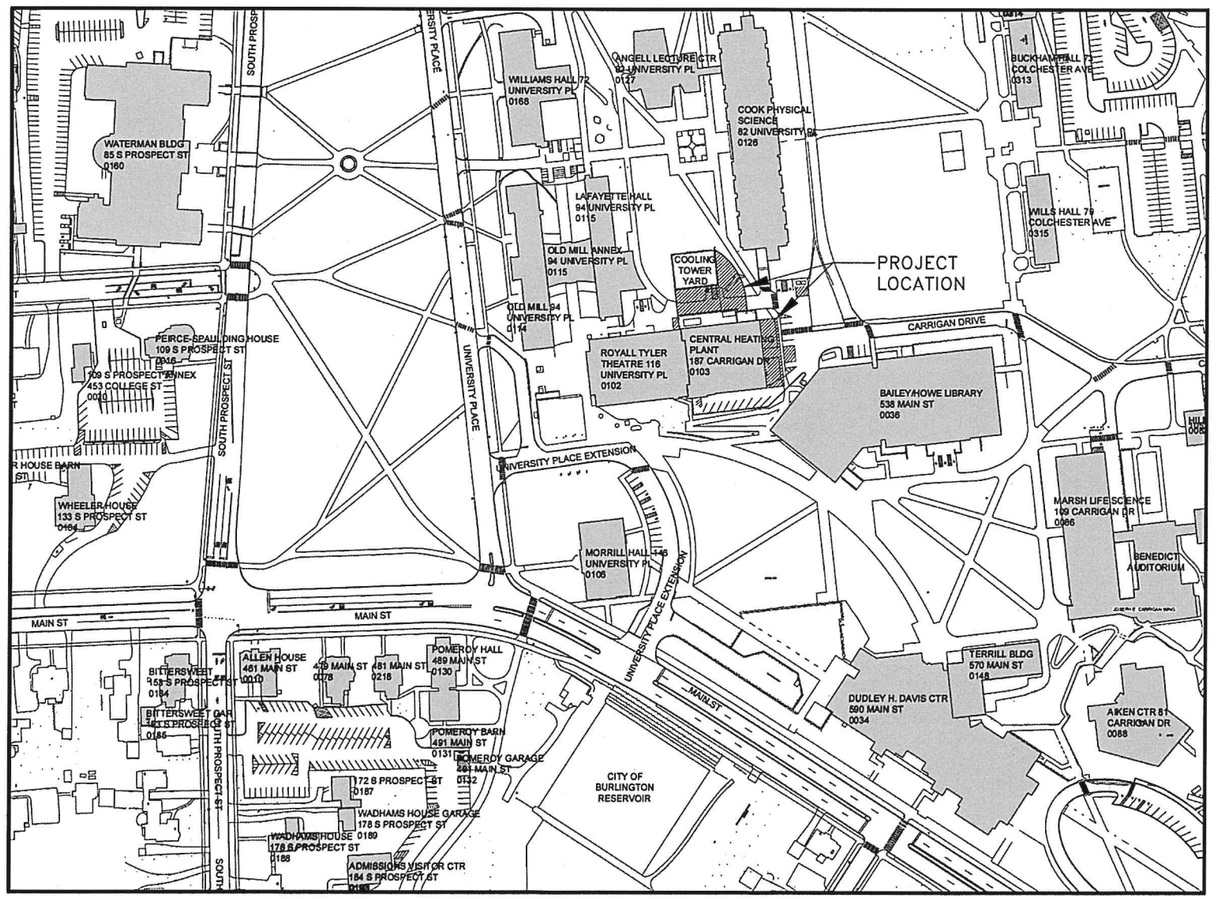
UNIVERSITY OF VERMONT
CENTRAL PLANT CHILLER EXPANSION

PERMITTING DOCUMENTS



LOCATION MAP

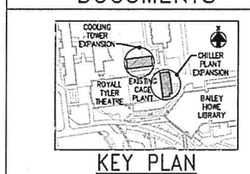
NTS

REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING

PERMITTING
DOCUMENTS



KEY PLAN

SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	NONE	DATE:	05/28/15
DRAWN BY:	KEC	RMF JOB #:	114253.A0
DESIGNED BY:		CLIENT JOB #:	XXXXXX.XX
PROJ. MANAGER:		STATE JOB #:	XXXXXX.XX

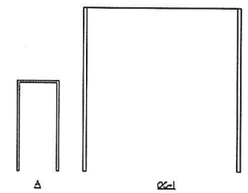
CENTRAL PLANT CHILLER
EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

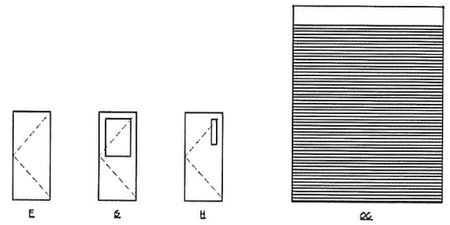
TITLE SHEET

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

T0.01



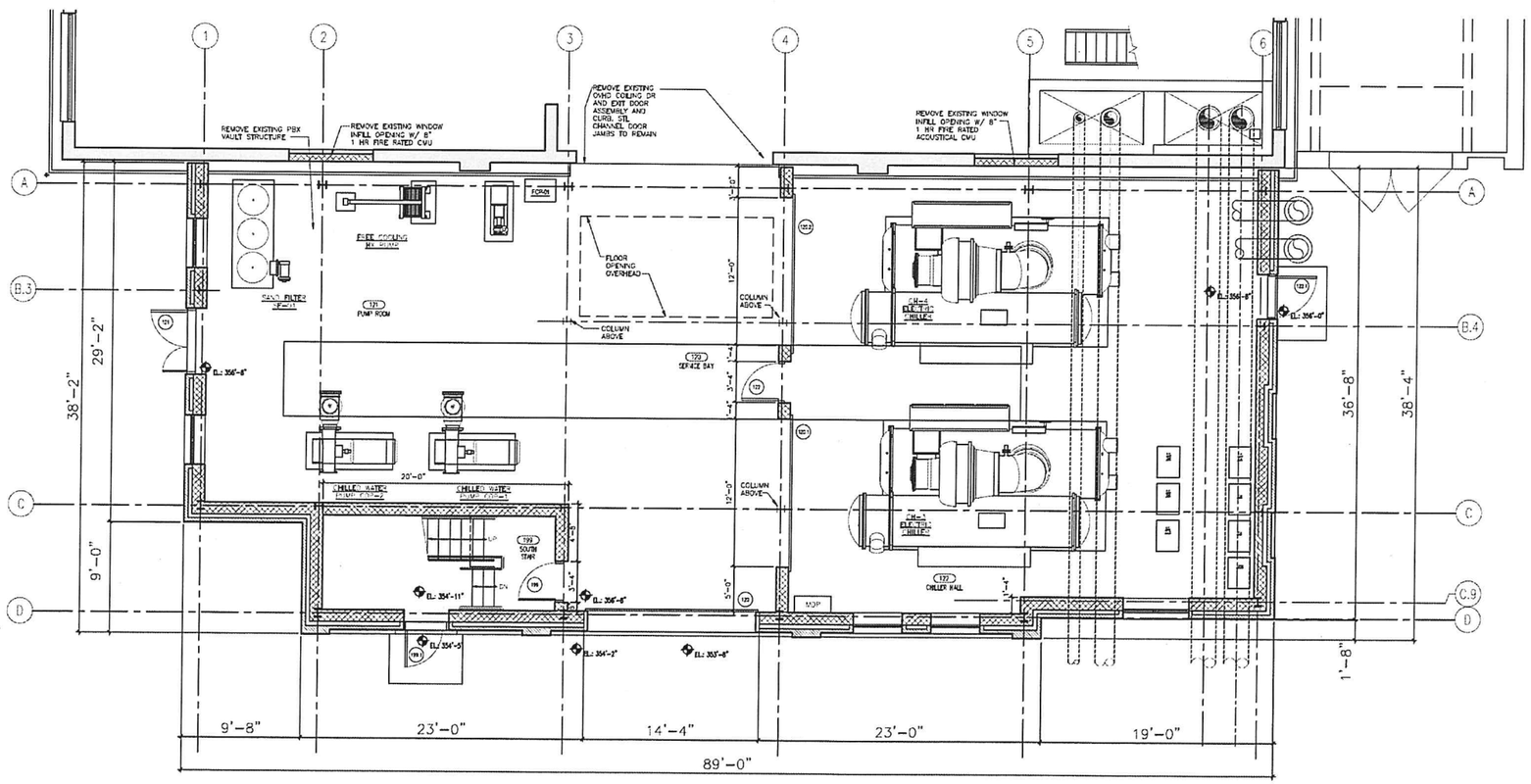
DOOR FRAME TYPES
A101 1/4" = 1'-0"



DOOR TYPES
A101 1/4" = 1'-0"

DOOR & FRAME SCHEDULE

MARK	DOOR TYPE	DOOR MAT'L	DOOR FIN	DOOR SIZE	FIRE RATING	HDWR. SET NO.	STC RATING	GLASS	FRAME TYPE	FRAME MAT'L	FRAME FIN	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
OPERATING LEVEL															
100	DC	STL	PT	13'-0" x 8'-0"		7			DC-1	STL	PT				
101	DC	STL	PT	10'-6" x 14'-0"	60 HR.	7			DC-1	STL	PT				
102	DC	STL	PT	10'-6" x 14'-0"	60 HR.	7			DC-1	STL	PT				
13	H	HM	PT	9'-0"12'-0" x 7'-2" x 1 3/4"		2		T6	A	HM	PT				
112	H	HM	PT	9'-0" x 7'-2" x 1 3/4"	60 HR.	4		T6-TR	A	HM	PT				
122	H	HM	PT	9'-0" x 7'-2" x 1 3/4"		5		T6	A	HM	PT				
114	H	HM	PT	9'-0" x 7'-2" x 1 3/4"		1		T6	A	HM	PT				
114.1	G	HM	PT	3'-6" x 7'-2" x 1 3/4"		5		T6	A	HM	PT				
MEZZANINE LEVEL															
232	F	HM	PT	9'-0" x 7'-0" x 1 3/4"		8			A	HM	PT				
244	H	HM	PT	9'-0" x 7'-2" x 1 3/4"		1		T6	A	HM	PT				
COOLING TOWER															
G1001	F	HM	PT	8'-0" x 7'-0" x 1 3/4"		6			A	HM	PT				
G1002	DC	STL	PT	10'-6" x 12'-6"		7			DC-1	STL	PT				
G1003	F	HM	PT	8'-0" x 7'-0" x 1 3/4"		6			A	HM	PT				
G1004	DC	STL	PT	10'-6" x 12'-6"		7			DC-1	STL	PT				



OPERATING LEVEL PLAN
A1.01 1/4" = 1'-0"

N

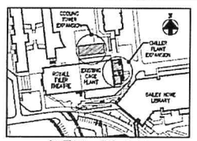
GRAPHIC SCALE
SCALE: 1/4"=1'-0"
UNIT OF MEASURE: FEET

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL CONTENTS THEREOF IS THE PROPERTY OF RMF ENGINEERING INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING INC.

SCALE:	DATE: 05/26/15
DRAWN BY:	RMF JOB #: 1142540
DESIGNED BY:	CLIENT JOB #: XXXXXX-XX
PROJ. MANAGER:	TRIRE JOB #: XXXXXX-XX

CENTRAL PLANT CHILLER EXPANSION

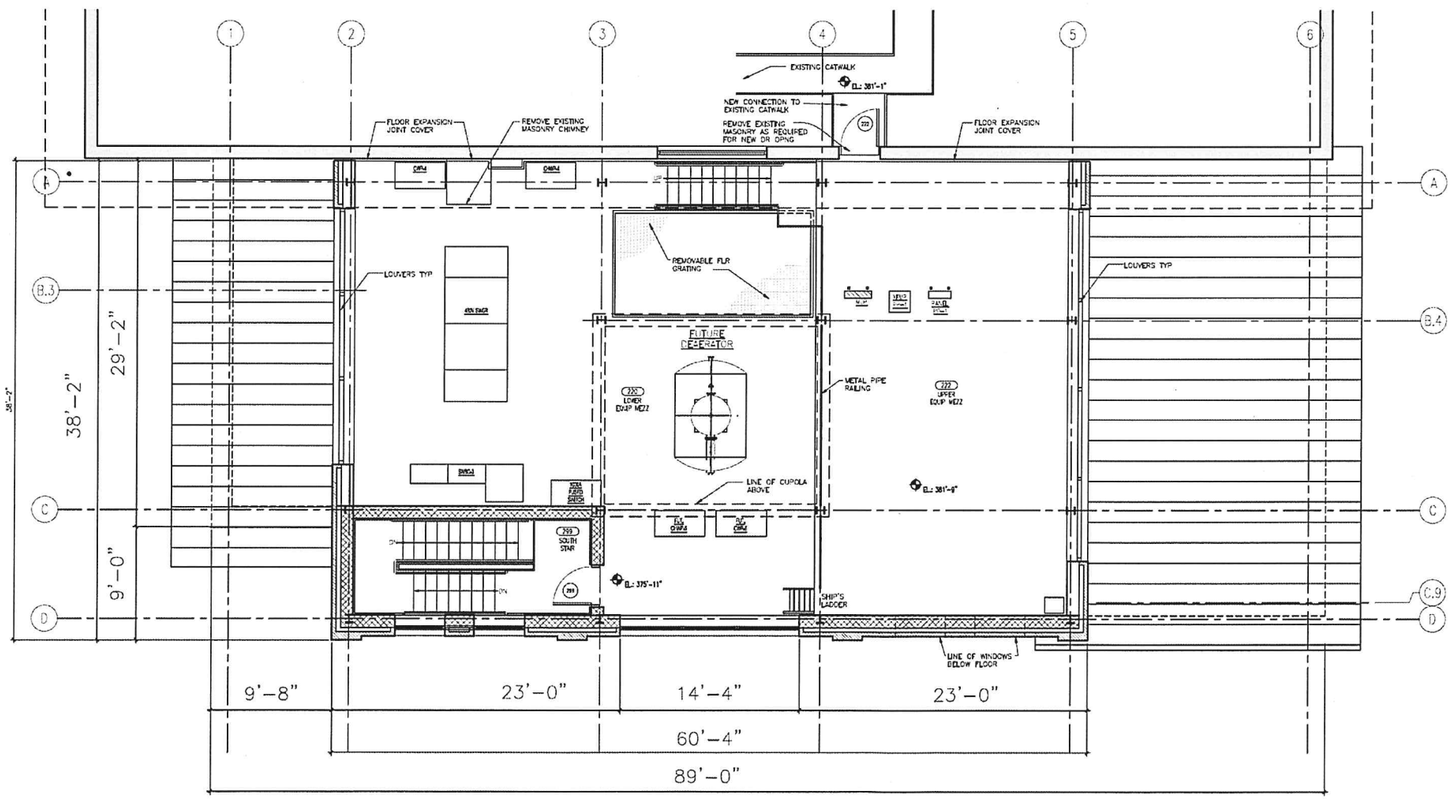
UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

OPERATING LEVEL PLAN

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

A1.01

P:\UVM Chiller\Drawings\Planning Permit\UVM CP Expansion - Floorplan.dwg



1 A1.02 MEZZANINE LEVEL PLAN
1/4" = 1'-0"

N

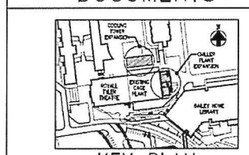
GRAPHIC SCALE
SCALE: 1/4"=1'-0"
UNIT OF MEASURE: FEET

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY OTHER ENVIRONMENT OR BY ANY PARTY WHATSOEVER WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 1142514.0
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

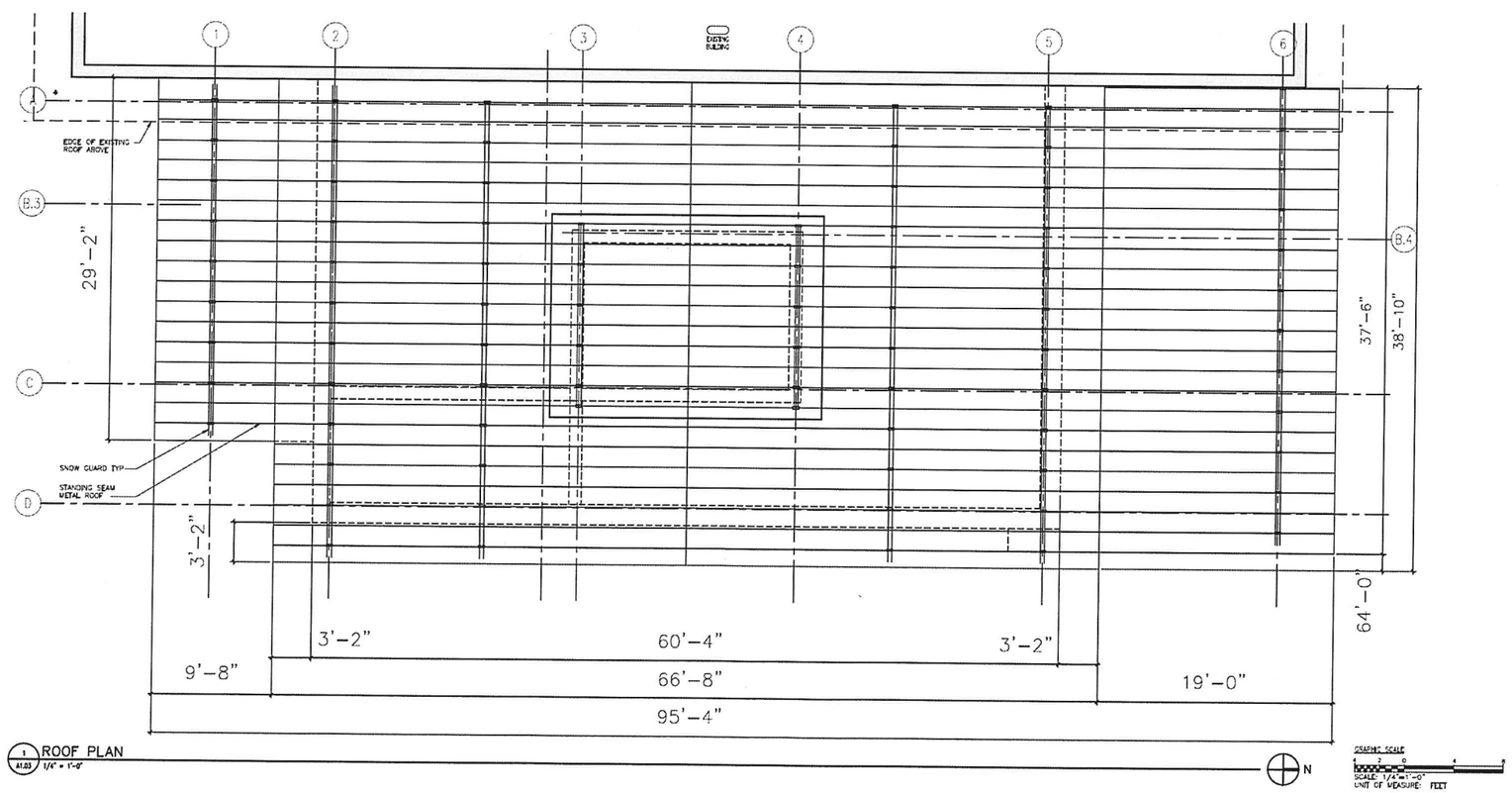
UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

MEZZANINE LEVEL PLAN

RMF ENGINEERING, INC.
5500 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385-0327

A1.02

P:\UVM Dally\Energy\Energy Permit\UVM CP Expansion - Bonghardy



1 ROOF PLAN
A1.03 1/4" = 1'-0"

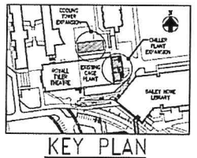
GRAPHIC SCALE
SCALE: 1/4"=1'-0"
UNIT OF MEASURE: FEET

REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF
SUPERVISOR ZONING

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED EITHER ANY COMPUTER DOCUMENT OR BY ANY PRINT MEDIA WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 1425143
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

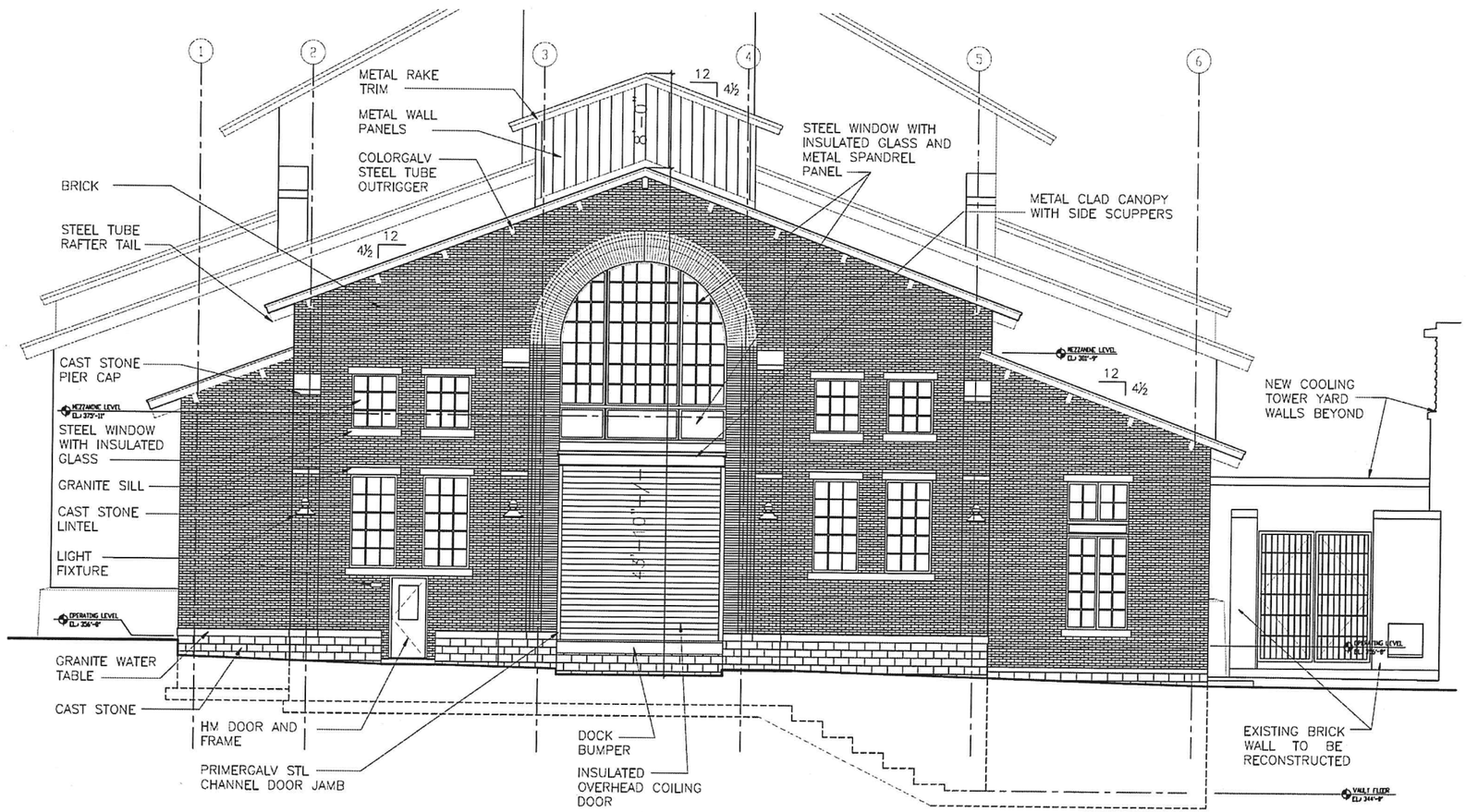
UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

ROOF AND VAULT PLANS

RMF ENGINEERING, INC.
5500 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

A1.03

P:\UVM Chiller\Drawings\Permit Permit\UVM CP Expansion - Baseplate.dwg



1 A3.01 EAST ELEVATION
1/4" = 1'-0"

GRAPHIC SCALE
SCALE: 1/4"=1'-0"
UNIT OF MEASURE: FEET

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

PERMITTING DOCUMENTS

KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHOUT ANY COMPLETE OR PARTIAL OR BY ANY PART VIEW PRIOR WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.00
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

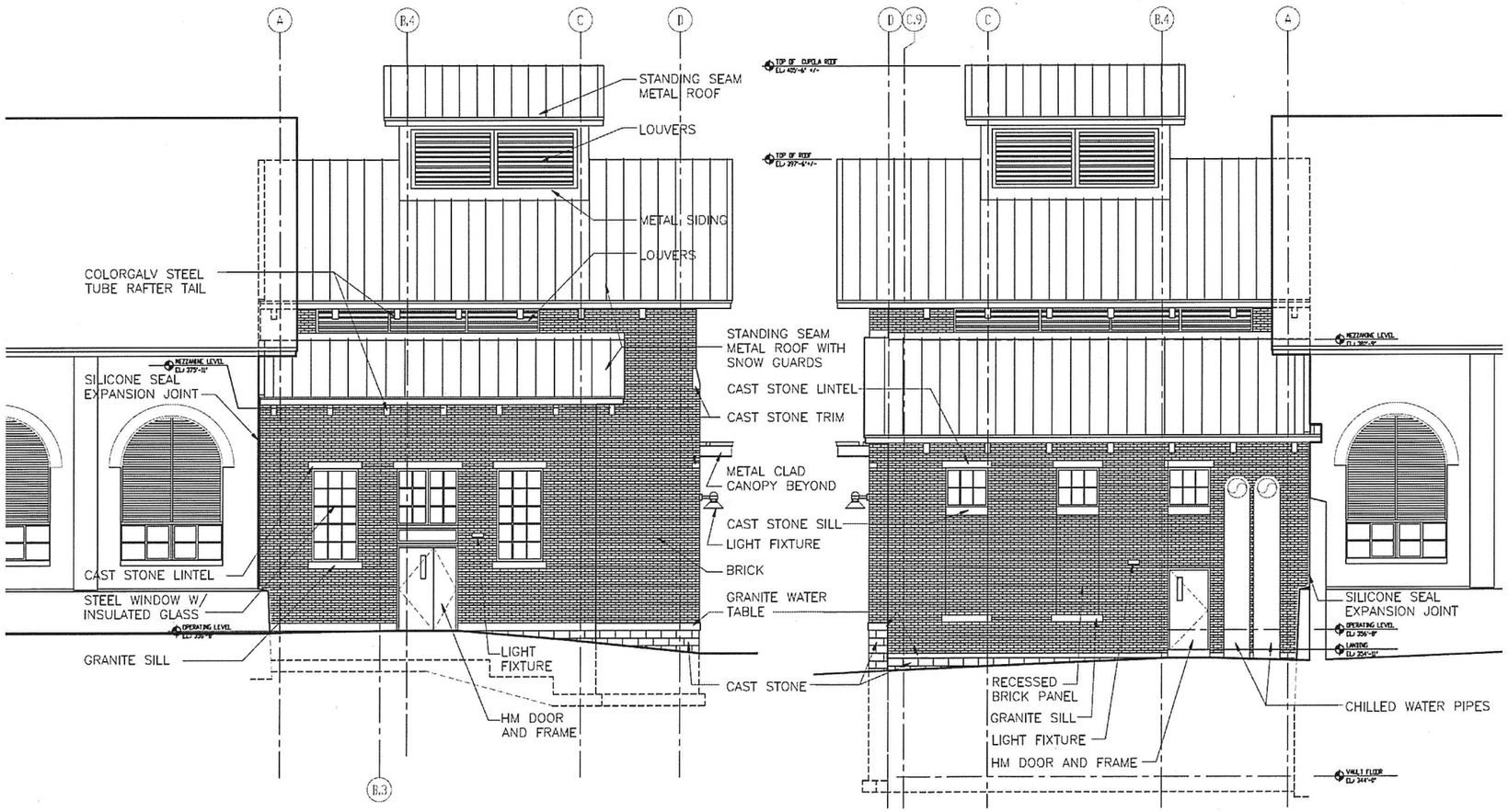
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EAST ELEVATION

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P:410.576.0505 F:410.385.0327

A3.01



2 A3.02 SOUTH ELEVATION 1/4" = 1'-0"

1 A3.02 NORTH ELEVATION 1/4" = 1'-0"

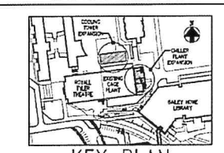
GRAPHIC SCALE
SCALE: 1/4"=1'-0"
UNIT OF MEASURE: FEET

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR IN ANY FORM WHATSOEVER WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 11425143
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

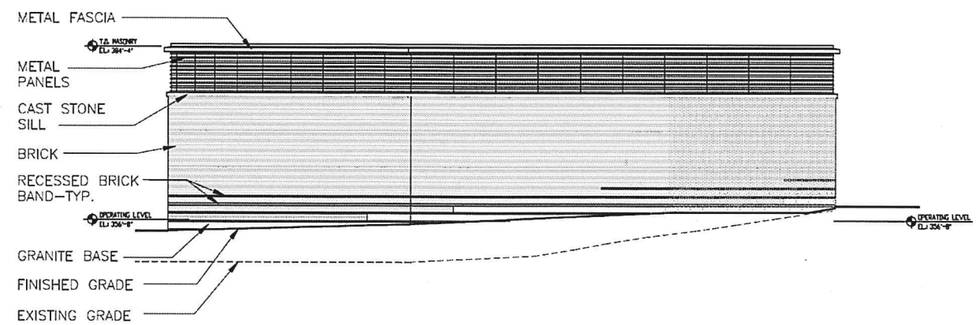
UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

NORTH AND SOUTH ELEVATIONS

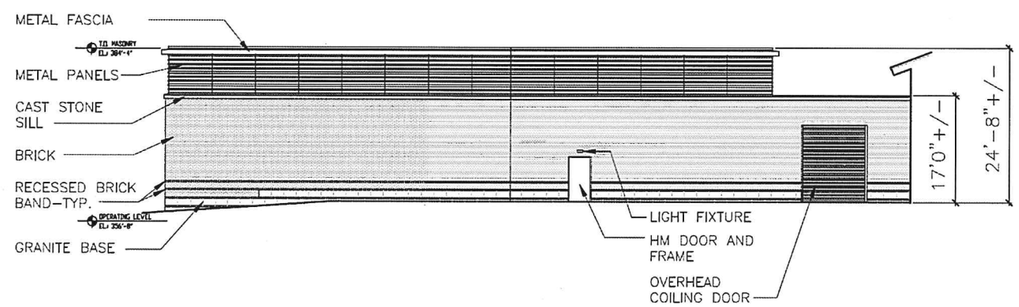
RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P:410.576.0505 F:410.385.0327

A3.02

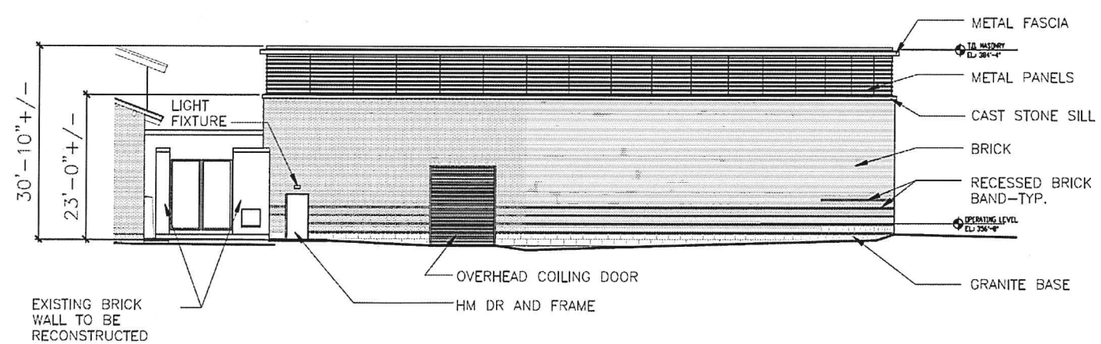
GRAPHIC SCALE
SCALE: 1/8"=1'-0"
UNIT OF MEASURE: FEET



3 A3.03 NORTH ELEVATION
1/8" = 1'-0"



2 A3.03 WEST ELEVATION
1/8" = 1'-0"



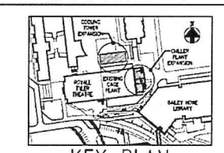
1 A3.03 EAST ELEVATION
1/8" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED EITHER ANY COMPUTER EQUIPMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114251.A3
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

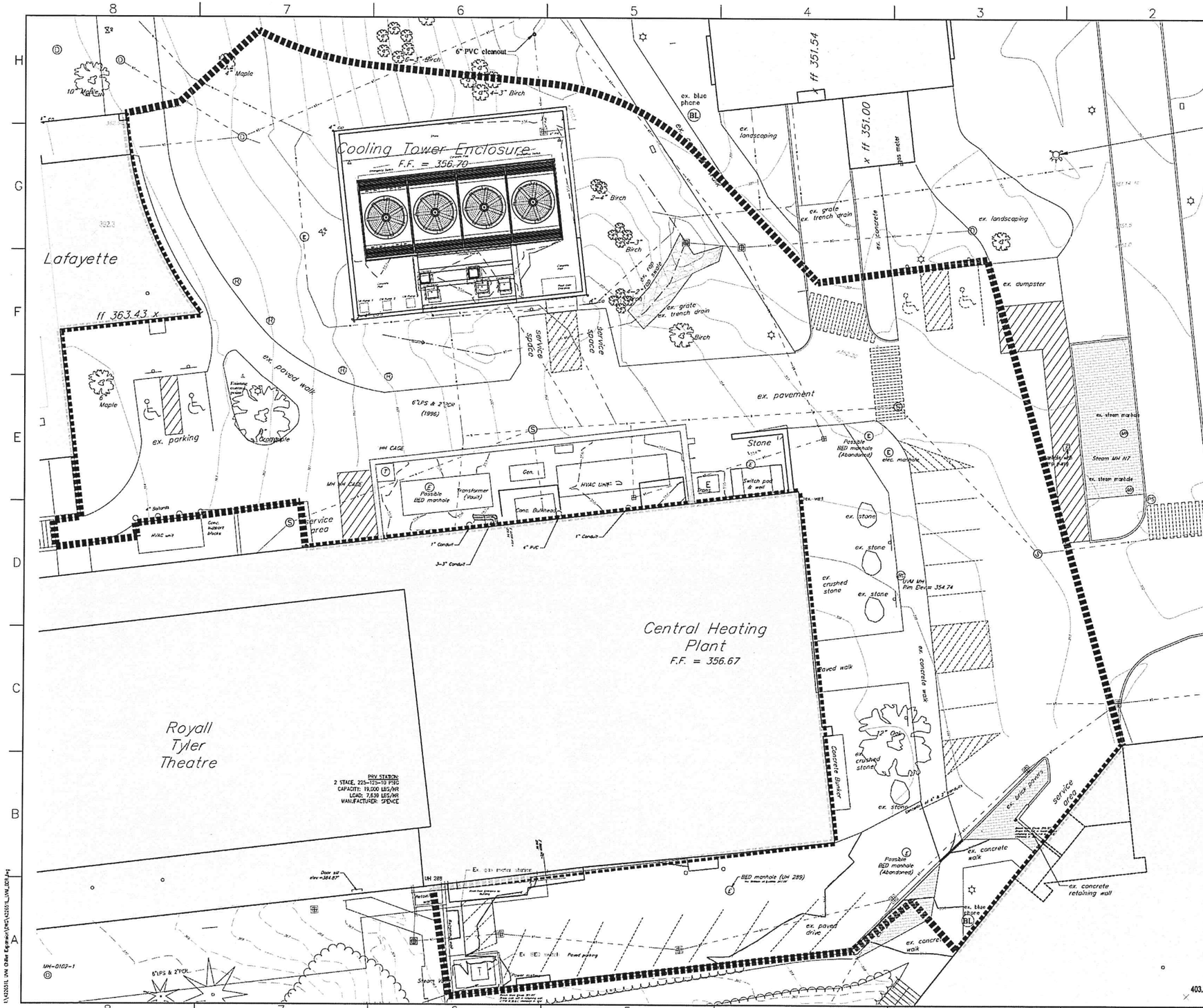
UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

SCREEN WALL ELEVATIONS

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P:410.576.0505 F:410.385.0327

A3.03

P:\UVM Dalley\Drawings\Permit Permit\UVM CP Expansion – Screen Wall Elevations.dwg



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

NOTES:
1. EXISTING CONDITIONS WERE COMPILED FROM A COMBINATION OF SOURCES INCLUDING THE TOPOGRAPHIC SURVEY BY KREBS AND LANSING CONSULTING ENGINEERS FOR THE STEM PROJECT, AS-BUILT DRAWINGS FOR THE CENTRAL CHILLER PLANT PROJECT BY THE WM GROUP IN 2006, AND SUPPLEMENTARY TOPOGRAPHIC SURVEY BY DUBOIS & KING IN 2015.

10 0 5 10 20 40
SCALE IN FEET

DuBois & King INC.
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS

KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.XX
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

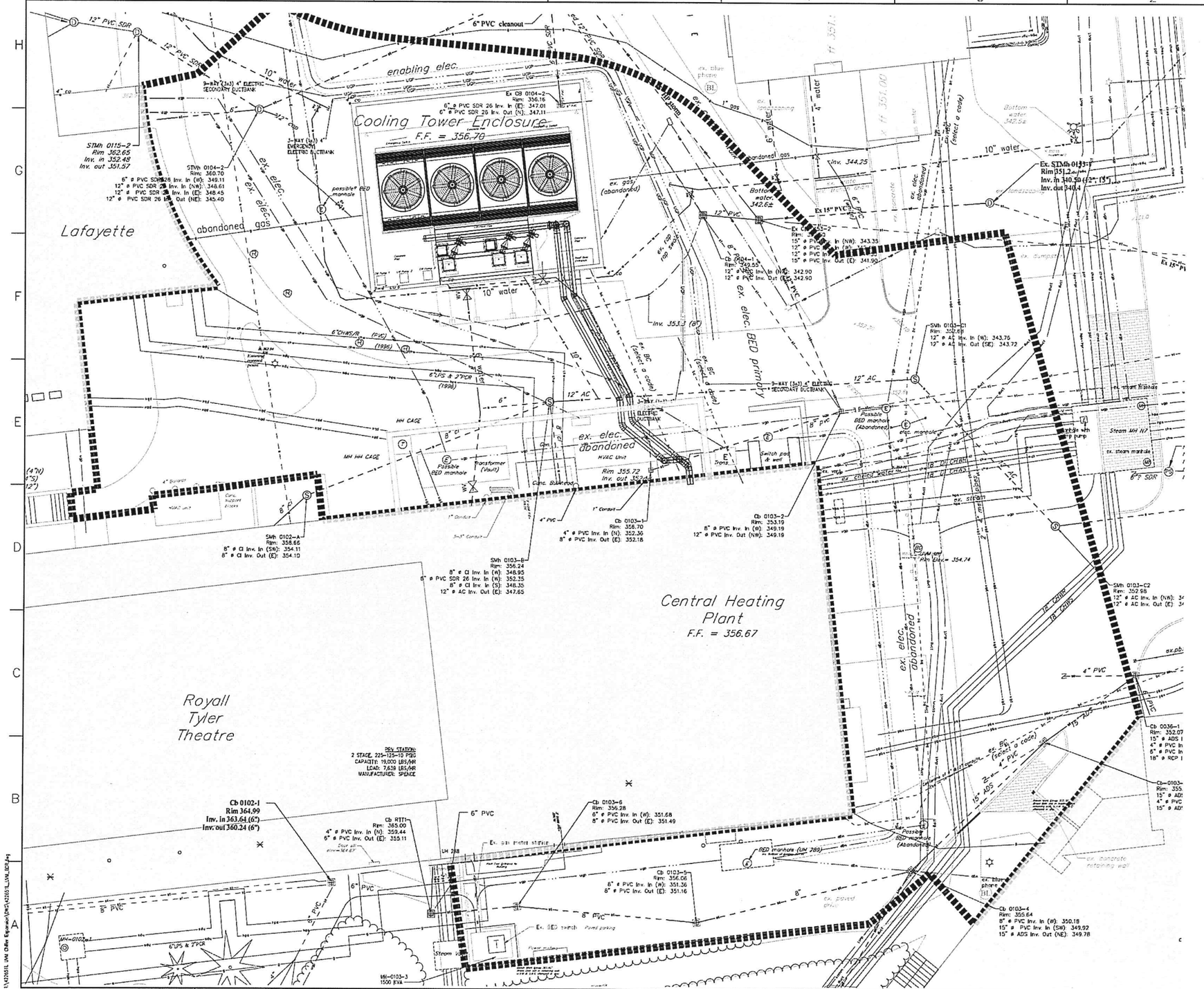
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EXISTING CONDITIONS SITE PLAN

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

C-1.01



REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

NOTES:
1. EXISTING CONDITIONS WERE COMPILED FROM A COMBINATION OF SOURCES INCLUDING THE TOPOGRAPHIC SURVEY BY KREBS AND LANSING CONSULTING ENGINEERS FOR THE STEM PROJECT, AS-BUILT DRAWINGS FOR THE CENTRAL CHILLER PLANT PROJECT BY THE WM GROUP IN 2006, AND SUPPLEMENTARY TOPOGRAPHIC SURVEY BY DUBOIS & KING IN 2015.

10 0 5 10 20 40
SCALE IN FEET

DuBois & King inc.
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney Architects LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS

KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER EQUIPMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15	
DRAWN BY:	RMF JOB #: 114253.A3	
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX	
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX	

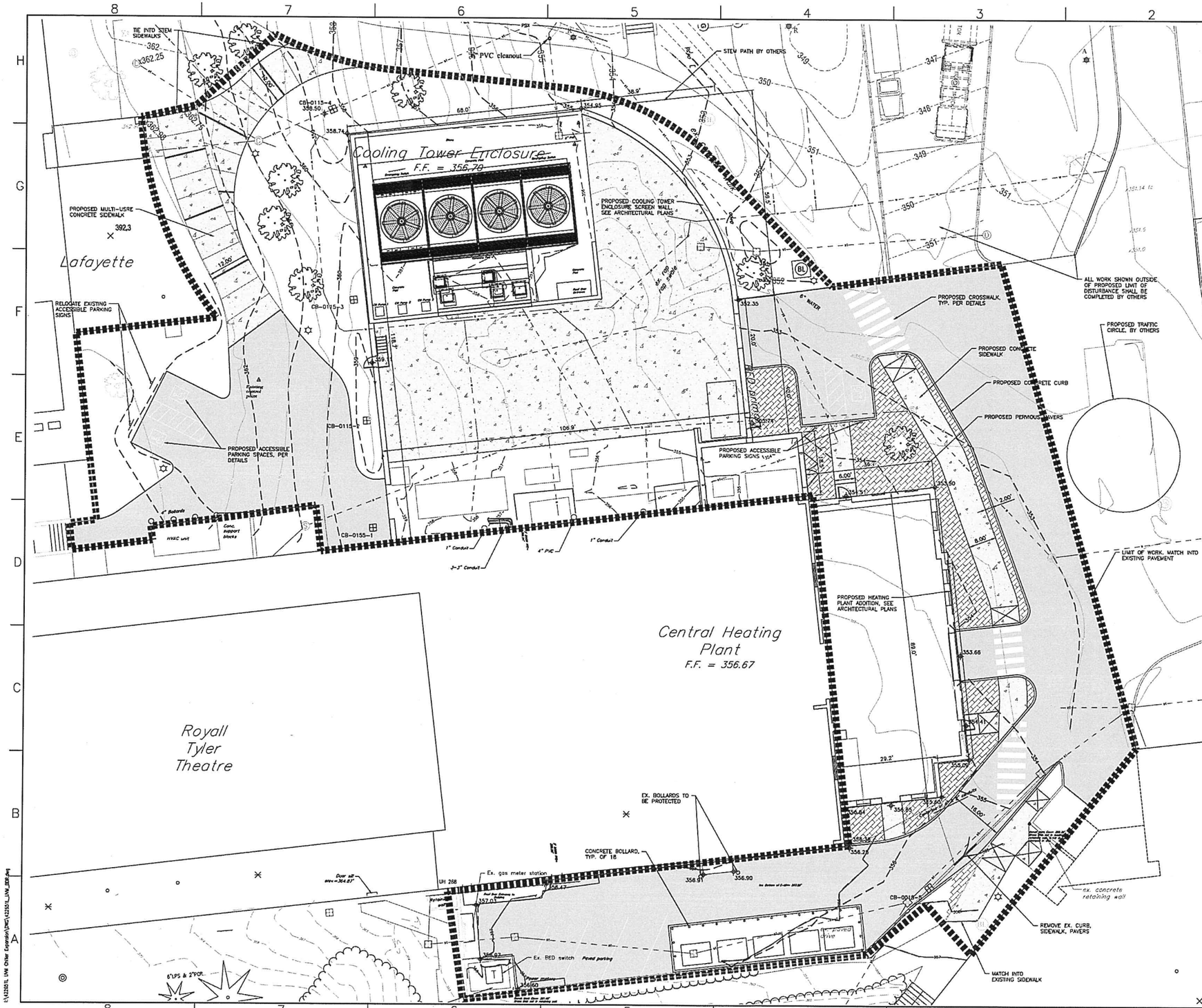
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EXISTING UTILITIES PLAN

RMF ENGINEERING, INC.
5500 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385-0327

C-1.02



REVISIONS

REV	DESCRIPTION	DATE	APPROVED

N

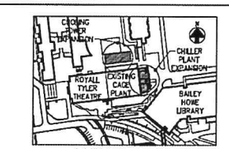
10 0 5 10 20 40
SCALE IN FEET

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

DuBois & King inc
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.A0
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

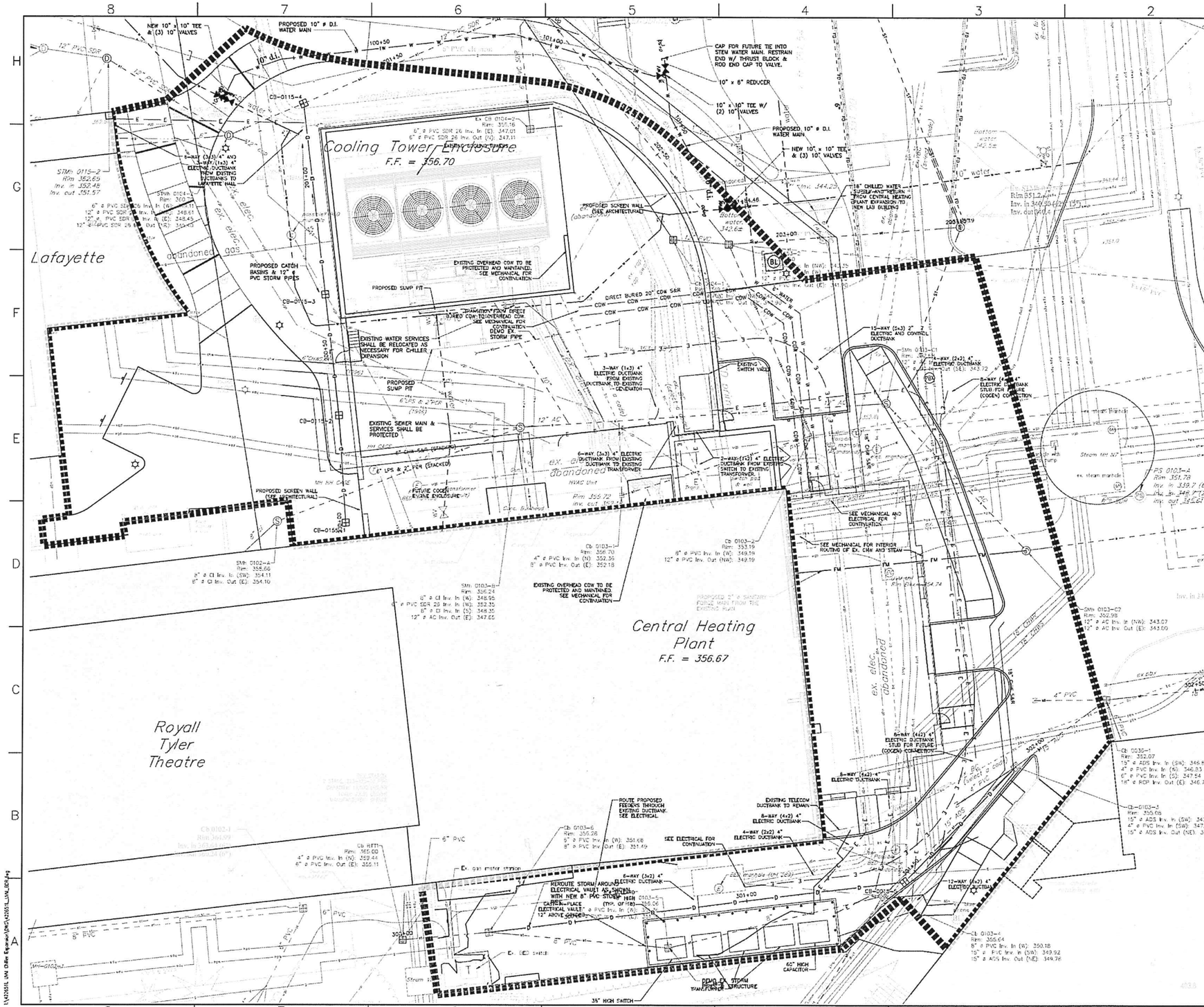
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

PROPOSED SITE PLAN

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385-0327

C-1.03



REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

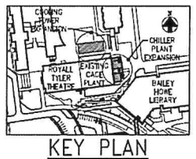
N

SCALE IN FEET: 10 0 5 10 20 40

DuBois & King inc.
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.03
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

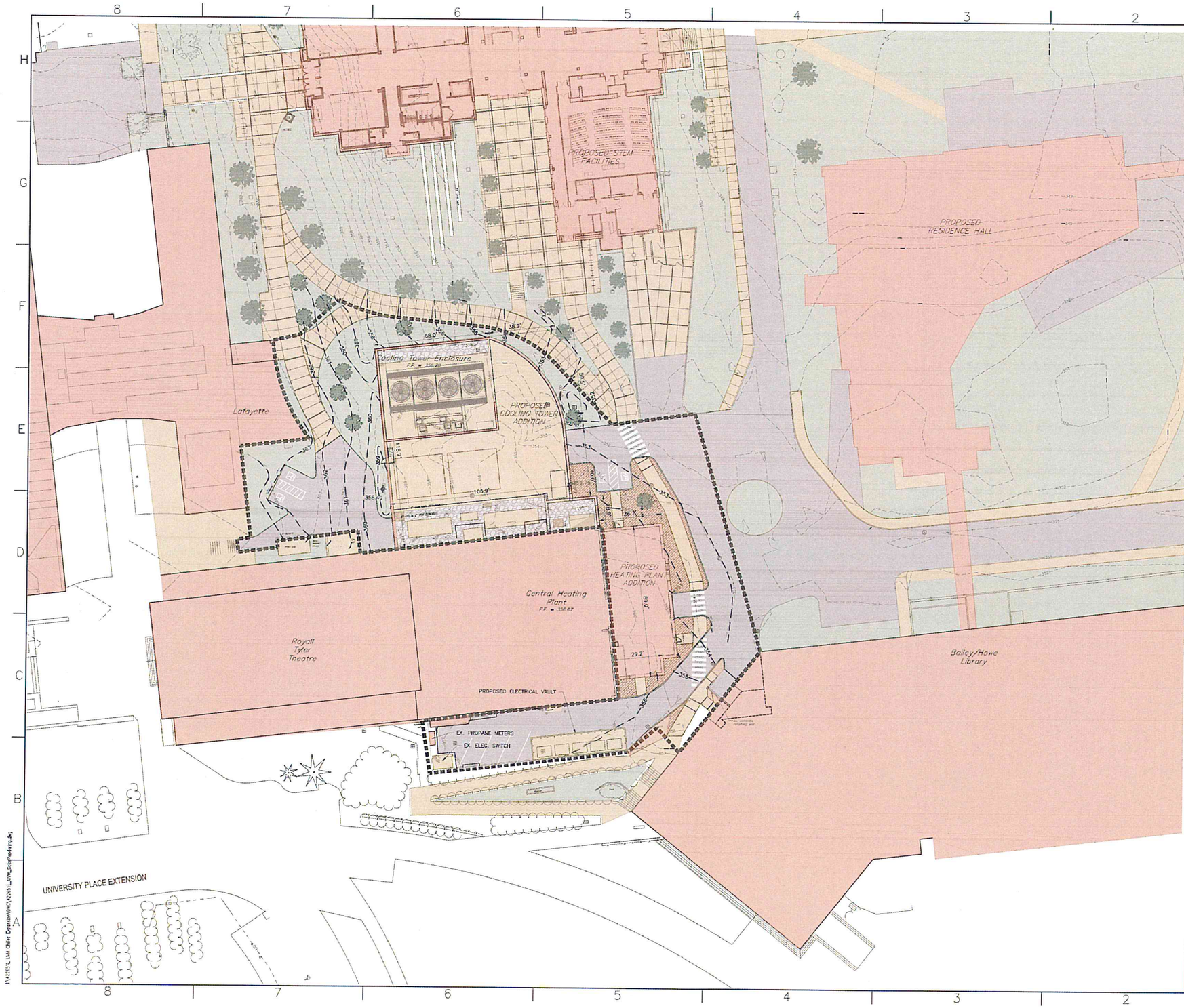
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

PROPOSED UTILITY PLAN

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

C-1.04



REVISIONS

REV	DESCRIPTION	DATE	APPROVED

N

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

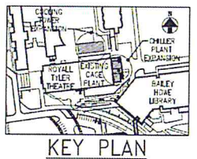
NOTES:
1. EXISTING CONDITIONS WERE COMPILED FROM A COMBINATION OF SOURCES INCLUDING THE TOPOGRAPHIC SURVEY BY KREBS AND LANSING CONSULTING ENGINEERS FOR THE STEM PROJECT, AS-BUILT DRAWINGS FOR THE CENTRAL CHILLER PLANT PROJECT BY THE WM GROUP IN 2006, AND SUPPLEMENTARY TOPOGRAPHIC SURVEY BY DUBOIS & KING IN 2015.

20 0 10 20 40 80
SCALE IN FEET

DuBois & King LLC
6 GREEN TREE DRIVE
S.O. BURLINGTON, VT 05403
TEL: (802) 879-7661
FAX: (866) 789-7101
www.dubois-king.com

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED TO REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114283.A3
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

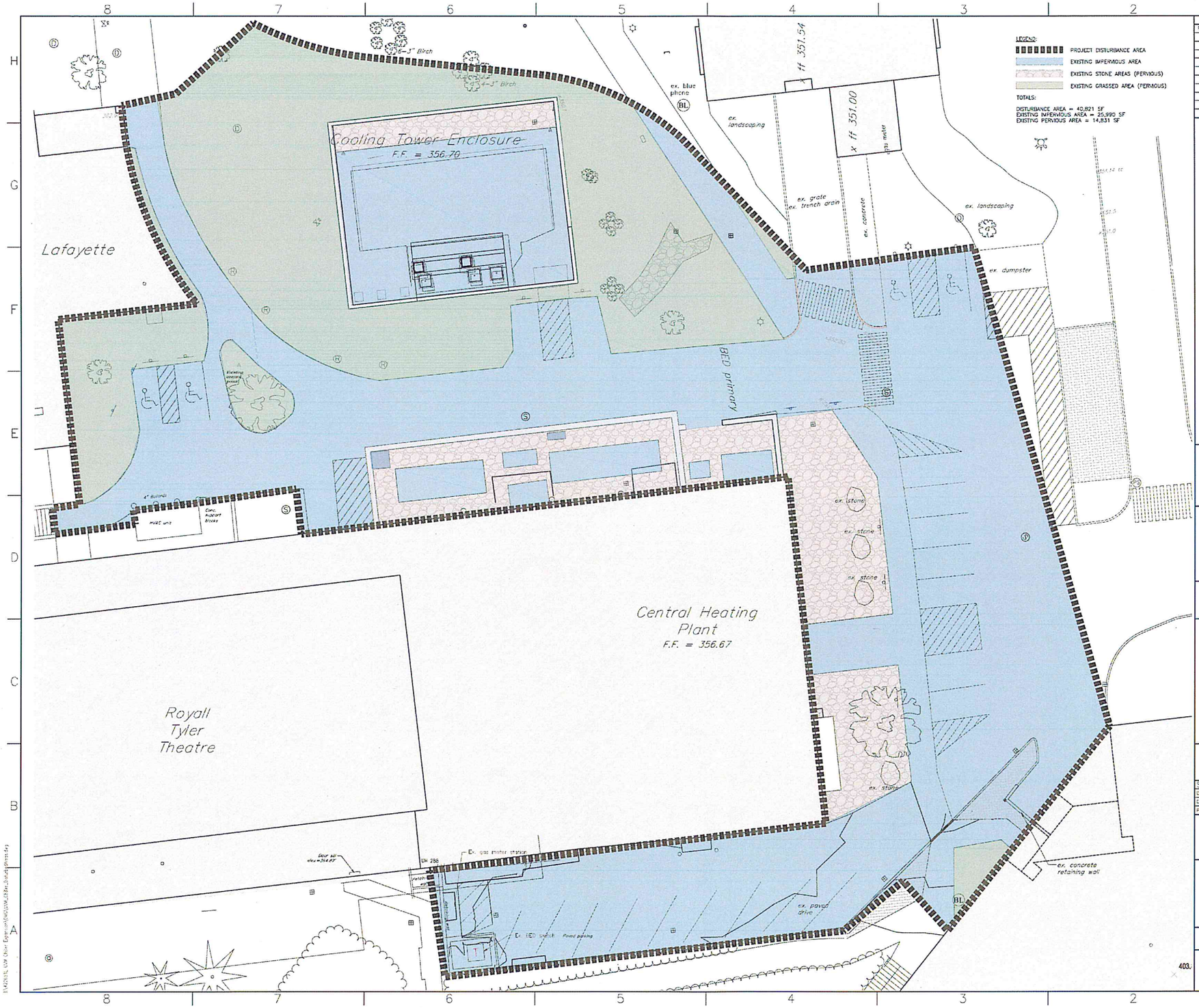
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

OVERALL SITE RENDERING

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385-0327

C-1.05



REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

PARKING NOTE:
EXISTING NUMBER OF PARKING SPACES BEFORE DEVELOPMENT = 22

10 0 5 10 20 40
SCALE IN FEET

DuBois & King inc.
6 GREEN TREE DRIVE
S.O. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney Architects LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS

KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.A2
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

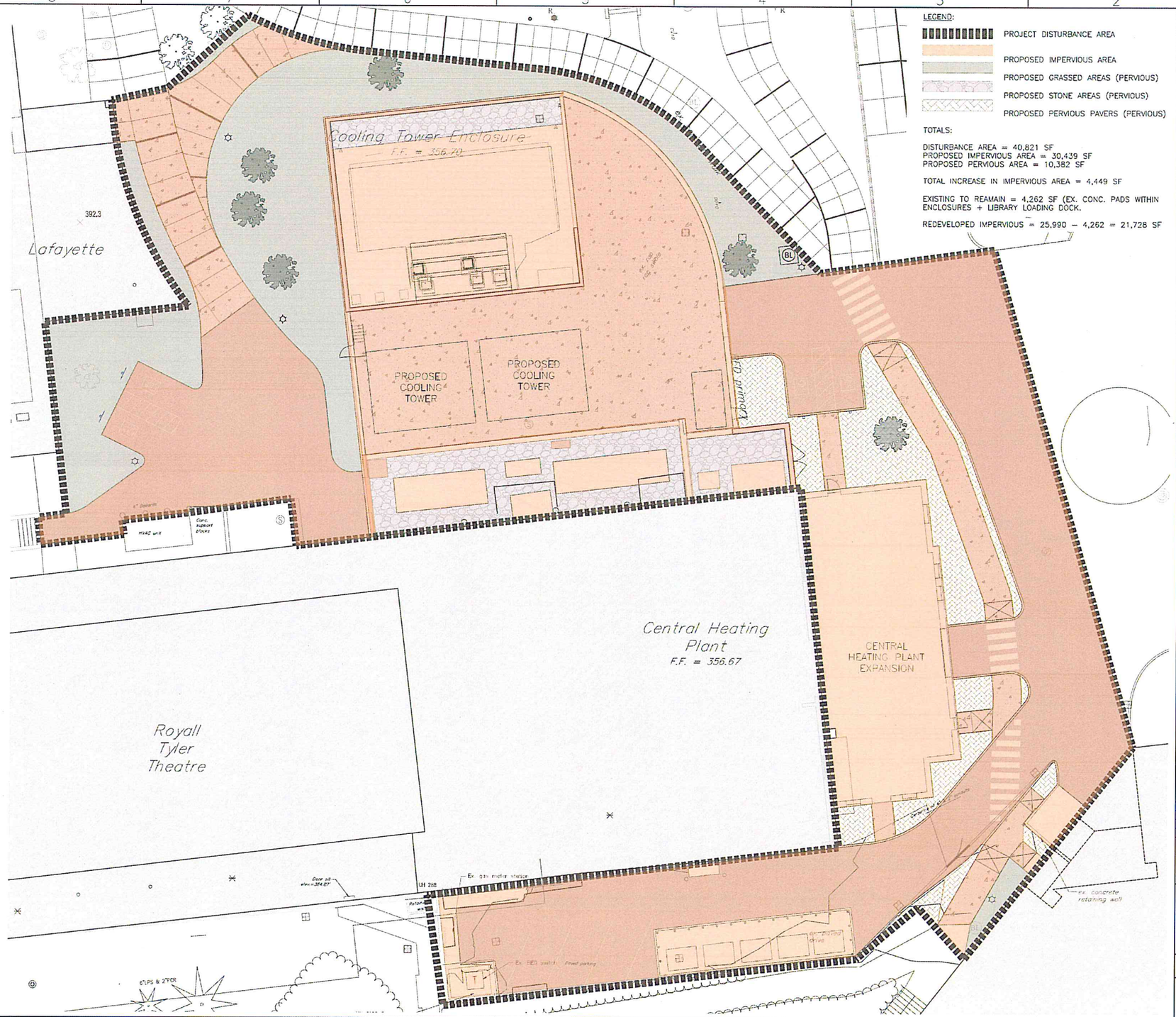
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EXISTING IMPERVIOUS AREA

RMF ENGINEERING, INC.
5500 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.335.0327

C-1.06



LEGEND:

- PROJECT DISTURBANCE AREA
- PROPOSED IMPERVIOUS AREA
- PROPOSED GRASSED AREAS (PERVIOUS)
- PROPOSED STONE AREAS (PERVIOUS)
- PROPOSED PERVIOUS PAVERS (PERVIOUS)

TOTALS:

DISTURBANCE AREA = 40,821 SF
PROPOSED IMPERVIOUS AREA = 30,439 SF
PROPOSED PERVIOUS AREA = 10,382 SF

TOTAL INCREASE IN IMPERVIOUS AREA = 4,449 SF

EXISTING TO REAMAIN = 4,262 SF (EX. CONC. PADS WITHIN ENCLOSURES + LIBRARY LOADING DOCK.

REDEVELOPED IMPERVIOUS = 25,990 – 4,262 = 21,728 SF

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

N

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

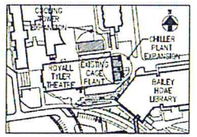
PARKING NOTE:
PROPOSED NUMBER OF PARKING SPACES AFTER DEVELOPMENT = 7

10 0 5 10 20 40
SCALE IN FEET

DuBois & King inc.
6 GREEN TREE DRIVE
S.O. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney Architects LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.A0
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

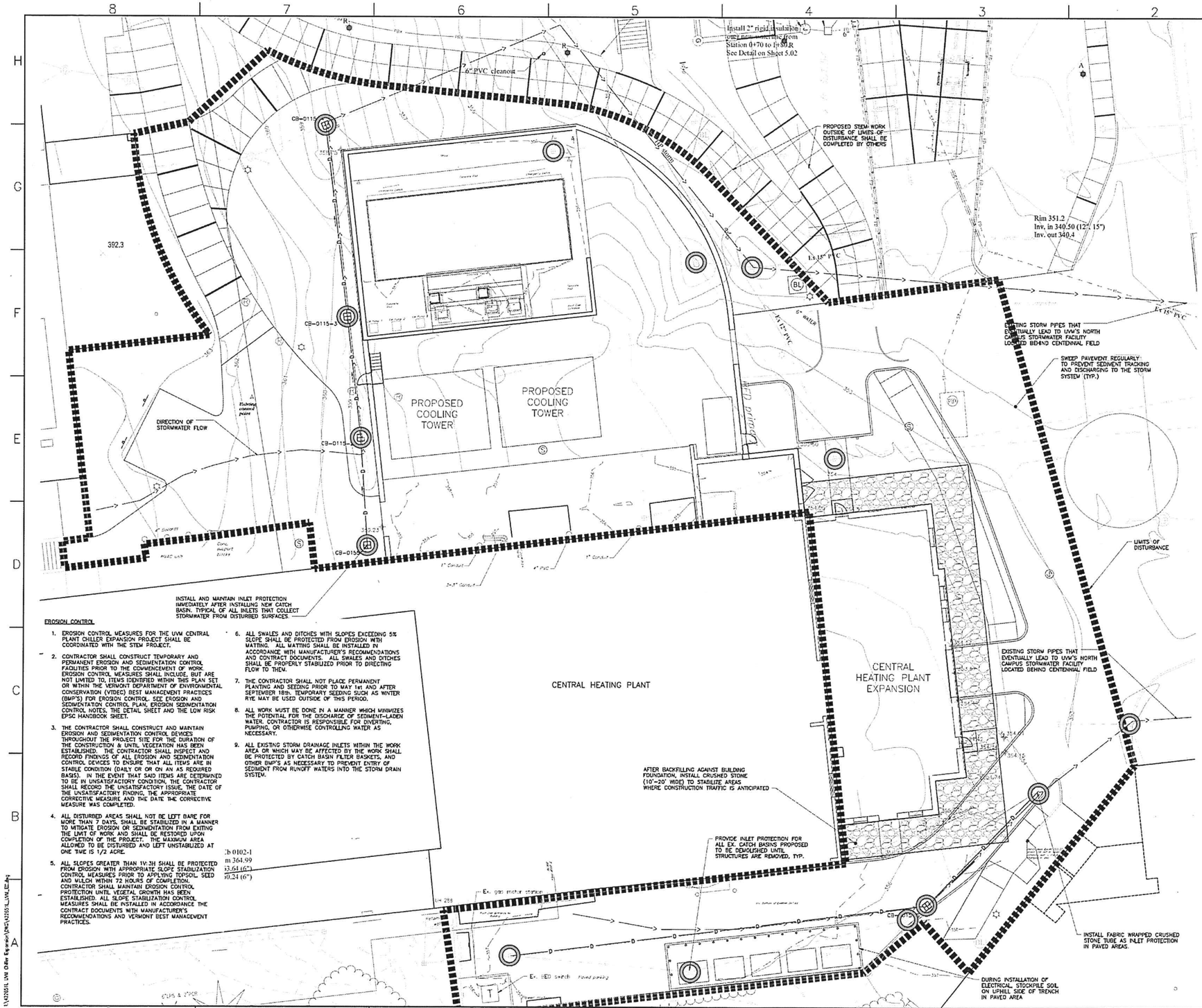
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

PROPOSED IMPERVIOUS AREA

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

C-1.07



EROSION CONTROL

1. EROSION CONTROL MEASURES FOR THE UVM CENTRAL PLANT CHILLER EXPANSION PROJECT SHALL BE COORDINATED WITH THE STEM PROJECT.
2. CONTRACTOR SHALL CONSTRUCT TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL FACILITIES PRIOR TO THE COMMENCEMENT OF WORK. EROSION CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, ITEMS IDENTIFIED WITHIN THIS PLAN SET OR WITHIN THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION (VTDEC) BEST MANAGEMENT PRACTICES (BMP'S) FOR EROSION CONTROL, SEE EROSION AND SEDIMENTATION CONTROL PLAN, EROSION SEDIMENTATION CONTROL NOTES, THE DETAIL SHEET AND THE LOW RISK EPSC HANDBOOK SHEET.
3. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EROSION AND SEDIMENTATION CONTROL DEVICES THROUGHOUT THE PROJECT SITE FOR THE DURATION OF THE CONSTRUCTION & UNTIL VEGETATION HAS BEEN ESTABLISHED. THE CONTRACTOR SHALL INSPECT AND RECORD FINDINGS OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES TO ENSURE THAT ALL ITEMS ARE IN STABLE CONDITION (DAILY OR OR ON AN AS REQUIRED BASIS). IN THE EVENT THAT SAID ITEMS ARE DETERMINED TO BE IN UNSATISFACTORY CONDITION, THE CONTRACTOR SHALL RECORD THE UNSATISFACTORY ISSUE, THE DATE OF THE UNSATISFACTORY FINDING, THE APPROPRIATE CORRECTIVE MEASURE AND THE DATE THE CORRECTIVE MEASURE WAS COMPLETED.
4. ALL DISTURBED AREAS SHALL NOT BE LEFT BARE FOR MORE THAN 7 DAYS, SHALL BE STABILIZED IN A MANNER TO MITIGATE EROSION OR SEDIMENTATION FROM EXITING THE LIMIT OF WORK AND SHALL BE RESTORED UPON COMPLETION OF THE PROJECT. THE MAXIMUM AREA ALLOWED TO BE DISTURBED AND LEFT UNSTABILIZED AT ONE TIME IS 1/2 ACRE.
5. ALL SLOPES GREATER THAN 1V:3H SHALL BE PROTECTED FROM EROSION WITH APPROPRIATE SLOPE STABILIZATION CONTROL MEASURES PRIOR TO APPLYING TOPSOIL, SEED AND MULCH WITHIN 72 HOURS OF COMPLETION. CONTRACTOR SHALL MAINTAIN EROSION CONTROL PROTECTION UNTIL VEGETAL GROWTH HAS BEEN ESTABLISHED. ALL SLOPE STABILIZATION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE THE CONTRACT DOCUMENTS WITH MANUFACTURER'S RECOMMENDATIONS AND VERMONT BEST MANAGEMENT PRACTICES.
6. ALL SWALES AND DITCHES WITH SLOPES EXCEEDING 5% SLOPE SHALL BE PROTECTED FROM EROSION WITH MATTING. ALL MATTING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND CONTRACT DOCUMENTS. ALL SWALES AND DITCHES SHALL BE PROPERLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
7. THE CONTRACTOR SHALL NOT PLACE PERMANENT PLANTING AND SEEDING PRIOR TO MAY 1st AND AFTER SEPTEMBER 18th. TEMPORARY SEEDING SUCH AS WINTER RYE MAY BE USED OUTSIDE OF THIS PERIOD.
8. ALL WORK MUST BE DONE IN A MANNER WHICH MINIMIZES THE POTENTIAL FOR THE DISCHARGE OF SEDIMENT-LADEN WATER. CONTRACTOR IS RESPONSIBLE FOR DIVERTING, PUMPING, OR OTHERWISE CONTROLLING WATER AS NECESSARY.
9. ALL EXISTING STORM DRAINAGE INLETS WITHIN THE WORK AREA OR WHICH MAY BE AFFECTED BY THE WORK SHALL BE PROTECTED BY CATCH BASIN FILTER BASKETS, AND OTHER BMP'S AS NECESSARY TO PREVENT ENTRY OF SEDIMENT FROM RUNOFF WATERS INTO THE STORM DRAIN SYSTEM.

REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

SCALE IN FEET

DuBois & King inc.
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney Architects LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS

KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.A0
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

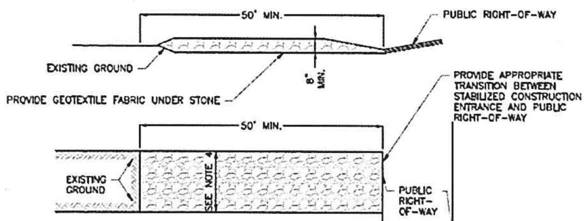
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EROSION CONTROL PLAN

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P:410.376.6505 F:410.385.0327

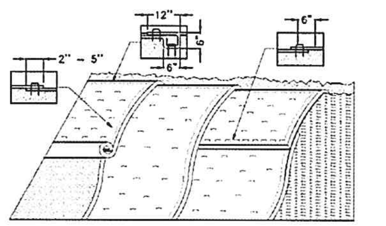
C-1.08



CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE SHALL BE 3 TO 4 INCHES.
2. LENGTH SHALL NOT BE LESS THAN 50 FEET.
3. THICKNESS SHALL NOT BE LESS THAN 8 INCHES.
4. WIDTH SHALL NOT BE LESS THAN 10' WIDER THAN THE LARGEST VEHICLE ENTERING OR EXITING THE SITE.
5. WASHING. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL BOARDS, OR OTHER APPROVED METHODS.
6. MAINTENANCE. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



APPLICATION NOTES:

1. THE PURPOSE OF MATTING ON SIDE SLOPES IS TO REDUCE EROSION AND AID THE STABLISHMENT OF VEGETATION.
2. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:
   A. SIDE SLOPES > 3:1 (H:V)
   B. AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
   C. WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

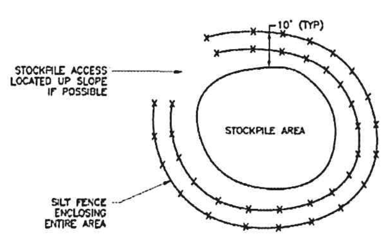
GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS MINIMUM AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES.

EROSION PREVENTION FOR SIDE SLOPES
NOT TO SCALE

DEWATERING PROCEDURE

DEWATERING WILL BE ACCOMPLISHED BY PLACEMENT OF CRUSHED STONE FILLED SUMPS IN LOW AREAS OF THE EXCAVATION. WATER WILL BE PUMPED FROM THESE SUMPS THROUGH A SEDIMENTATION DEVICE AND DISCHARGE INTO THE SUBSURFACE STORMWATER SYSTEM.
THE DETAILS OF DEWATERING, INCLUDING THE NUMBER AND LOCATION OF SUMPS; THE TYPE, NUMBER AND LOCATION OF THE SEDIMENTATION DEVICE(S) AND THE ASSOCIATED DISCHARGE POINTS AND OPERATING PROCEDURES WILL DEPEND ON THE CONDITIONS ENCOUNTERED DURING CONSTRUCTION, AS WELL AS THE SEASONAL WEATHER CONDITIONS. A PLAN WHICH DETAILS THE DEWATERING SYSTEM AND PROCEDURES WILL BE PROVIDED FOR REVIEW AND APPROVAL BY THE ON-SITE COORDINATOR PRIOR TO ITS IMPLEMENTATION.



NOTES:

1. ALL AREAS NOT TO BE WORKED FOR 7 DAYS OR MORE SHALL BE TEMPORARILY STABILIZED WITH MULCH, MATTING, OR OTHER MEASURES SUITABLE TO THE LOCATION.

STOCKPILE AREA ISOLATION DETAIL
NOT TO SCALE

WINTER CONSTRUCTION

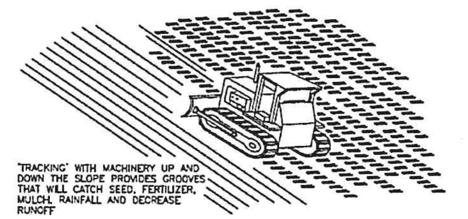
SITE CONSTRUCTION MAY CONTINUE THROUGH THE WINTER MONTHS ON THIS PROJECT. IT IS IMPERATIVE THAT ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES BE IN PLACE AND FUNCTIONING TO ENSURE THEIR EFFECTIVENESS THROUGH THE WINTER AND SPRING SEASON. WINTER IN VERMONT CAN DIMINISH THE EFFECTIVENESS OF CONTROLS AND PREDISPOSE A SITE TO SEVERE EROSION AND SEDIMENTATION. DISTURBED AND BARE SOIL THAT IS WELL-FROZEN IS QUITE RESISTANT TO EROSION. HOWEVER, SEVERE EROSION OCCURS DURING THE MIDWINTER AND SPRING THAWS WHEN MELTING SNOW, THAWING SOILS AND HEAVY RAINS PRODUCE INTENSE RUNOFF OVER SATURATED UNSTABLE SOILS. FOR THESE REASONS, SOIL DISTURBANCES SHALL BE STABILIZED BY PRIOR TO THE START OF THE WINTER CONSTRUCTION SEASON (OCTOBER, 15TH). ALL EARTHWORK CONTINUING DURING THE WINTER CONSTRUCTION SEASON SHALL BE STABILIZED IN ACCORDANCE WITH THE STATE OF VERMONT EROSION PREVENTION AND SEDIMENT CONTROL REQUIREMENTS FOR WINTER CONSTRUCTION.

INSPECTION AND MAINTENANCE

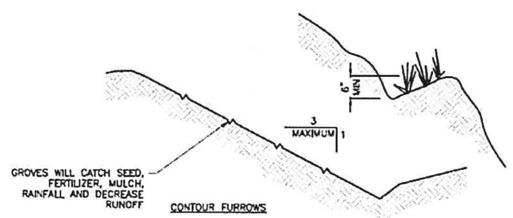
INSPECT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MORE FREQUENTLY IN THE WINTER AND SPRING THAN IN THE SUMMER. PAY CAREFUL ATTENTION TO WEATHER PREDICTIONS. WATCH FOR PREDICTED THAWS OR HEAVY RAINS. BEFORE SUCH EVENTS, CHECK ALL CONTROL MEASURES TO BE SURE THAT STRUCTURES WILL MANAGE THE POTENTIALLY HEAVY AND INTENSE RUNOFF AND SEDIMENT. PRACTICALLY CONSTANT MAINTENANCE OF CRITICAL CONTROL MEASURES MAY BE NECESSARY DURING THE WINTER AND EARLY SPRING TO PREVENT FAILURE OR OVERLOADING OF CONTROL MEASURES. BE PREPARED TO QUICKLY INSTALL A SECOND LINE OF DEFENSE IF PROBLEMS OCCUR. BE PREPARED TO DEVOTE A SUBSTANTIAL AMOUNT OF TIME, EQUIPMENT AND MANPOWER TO EROSION PREVENTION AND SEDIMENT CONTROL.

FOLLOW-UP

AS EARLY AS IS PRACTICAL, AT THE BEGINNING OF THE NEXT GROWING SEASON, INSTALL PERMANENT VEGETATIVE CONTROLS AS SPECIFIED IN THIS EPSC PLAN.

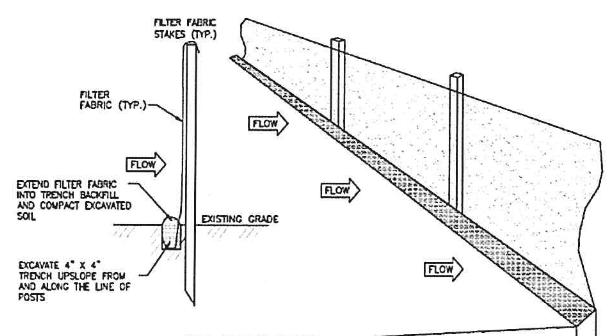


TRACKING



CONTOUR FURROWS

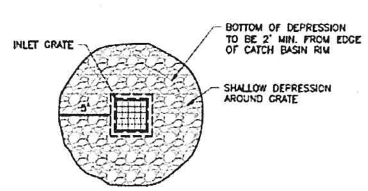
SURFACE ROUGHENING
NOT TO SCALE



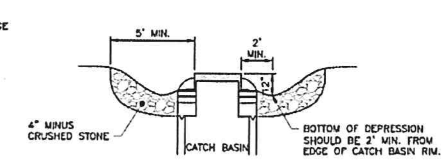
SILT FENCE DETAIL
NOT TO SCALE

NOTES:

1. SEED AND MULCH ALL EXPOSED SOILS AS SOON AS FEASIBLE.
2. CONTRACTOR TO FOLLOW STATE OF VERMONT LOW RISK HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL.



PLAN



SECTION

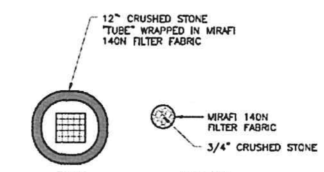
CATCH BASIN INLET PROTECTION
NOT TO SCALE

NOTE:

MAINTAIN SHALLOW DEPRESSION AROUND GRATE UNTIL PAVING AND/OR FINAL STABILIZATION BEEN COMPLETED.

EROSION CONTROL SCHEDULE

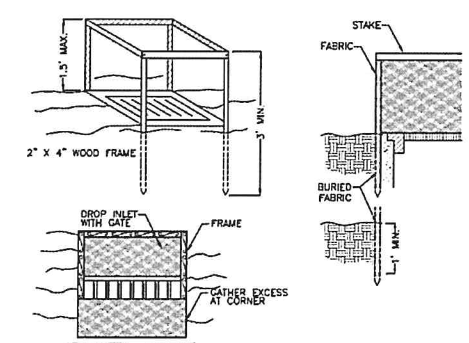
FOR SITE CONDITIONS TYPE	USE
AREAS FLATTER THAN 1:5 (20%)	STRAW MULCH
AREAS 1:5 (20%) OR STEEPER	MATTING/BLANKETS
ALL DISTURBED AREAS	SEED AND MULCH OR SOD
ACROSS SLOPES AROUND CATCH BASINS AROUND STOCK PILE AND BORROW AREAS TOES OF SLOPE ALONG STREAMS AND WATER BODIES	SILT FENCES
AS SHOWN OB DRAWINGS ACROSS SLOPES AROUND CATCH BASINS IN DRAINAGE DITCHES 9% SLOPE OR LESS – PLACE 100 FT. APART 10% TO 19% – PLACE 50 FT. APART 20% OR GREATER – PLACE 25 FT. APART	CHECK DAMS
AS SHOWN ON DRAWINGS IN DITCHES PRIOR TO DISCHARGE TO BODIES OF WATER	SEDIMENT BASINS
AS SHOWN ON DRAWINGS STABILIZED CONST. ENTRANCE AS SHOWN ON DRAWINGS	STABILIZED CONST. ENTRANCE



INLET PROTECTION (PAVED AREAS)
NOT TO SCALE

NOTE:

IF CATCH BASIN IS IN PAVED AREA, WRAP 12"ø CLEAN CRUSHED STONE TUBE IN MIRAFI 140N FILTER FABRIC AND ENCIRCLE THE CATCH BASIN. OVERLAP FABRIC 12" MIN. AND PLACE OVERLAP UNDER CRUSHED STONE.



FILTER FABRIC DROP INLET PROTECTION
NOT TO SCALE

NOTES:

1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"X4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND THE INLET 3 FEET APART AND DRIVE A MINIMUM OF 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"X4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRES

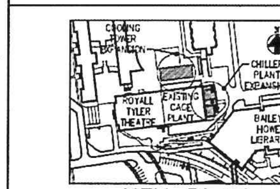
REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

DuBois & King inc.
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney Architects LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.A3
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EROSION CONTROL DETAILS

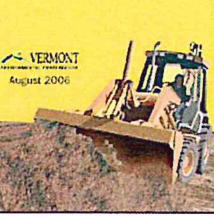
RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385-0327

C-1.09

I:\422651L UVM Chiller Expansion\DWG\422651L_UVM_ED.dwg

The Low Risk Site Handbook for Erosion Prevention and Sediment Control

VERMONT
August 2006



The Low Risk Site Handbook for Erosion Prevention and Sediment Control

Any construction activity that disturbs 1 or more acres of land, or is part of a larger development plan that will disturb 1 or more acres, requires a Vermont state permit for stormwater discharges from construction sites.

Construction General Permit 3-9020 guides an applicant in the determination of the potential risk to water quality from the construction activity and categorizes the applicant's activity as Low Risk, Moderate Risk, or that which requires an Individual Permit.

The standards in this handbook serve as the required Erosion Prevention and Sediment Control Plan for construction sites determined to be "Low Risk" under GP 3-9020.

Contact Information

VT DEC - Water Quality Division
Stormwater Section
103 South Main Street, Building 10 North
Waterbury, VT 05671-0408
Tel: 802 241 3770 or 4320

www.vtwaterquality.org/stormwater.htm

Table of Contents

Section 1: Introduction
What is erosion prevention and sediment control? ... 1
Do I need a permit? ... 2
Application Process ... 2

Section 2: The Requirements
1. Mark Site Boundaries ... 3
2. Limit Disturbance Area ... 5
3. Stabilize Construction Exit ... 7
4. Install Silt Fence ... 11
5. Divert Upland Runoff ... 15
6. Slow Down Channelized Runoff ... 19
7. Construct Permanent Controls ... 23
8. Stabilize Exposed Soil ... 25
9. Winter Stabilization ... 29
10. Stabilize Soil at Final Grade ... 33
11. Dewatering Activities ... 35
12. Inspect Your Site ... 37

Section 3 Additional Resources
How to calculate slope ... 39
How to estimate area ... 39

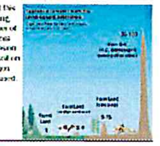
Section 1 Introduction

What is erosion prevention and sediment control?

Sediment washing into streams is one of the largest water quality problems in Vermont. Sediment can kill or weaken fish and other organisms and adversely impact aquatic habitat.

On most construction sites, vegetation that holds the soil in place and protects it from erosive forces of rain and runoff is removed, leaving large areas of soil exposed to the elements. During rainfall or snowmelt, the exposed soil may be easily eroded and transported to nearby streams, lakes, or wetlands.

To prevent this from happening, a small number of simple practices to prevent erosion and contain soil on the construction site must be used.



Do I need a permit?

Any construction activity that disturbs 1 or more acres of land, or is part of a larger development plan that will disturb 1 or more acres, requires a Vermont state permit for stormwater discharges from construction sites.

Application Process

1. Obtain a copy of the permit and determine the Risk Category of the proposed project. The permit is available online at: www.vtwaterquality.org/stormwater.htm
2. Submit the Notice of Intent (NOI) form notifying the Department of your intent to begin construction. *Submit the NOI to DEC at least 30 days before you plan to begin construction to allow sufficient time for processing.
3. Upon receipt of written authorization from DEC, you are covered under the permit and may begin construction.
4. If your project is determined to be "Low Risk", you must follow this handbook for erosion prevention and sediment control on your construction site.
5. If your site is not classified as Low Risk, then you must follow the Department guidance in GP 3-9020 for Moderate Risk activities or those requiring an Individual Permit.

Section 2 The Requirements

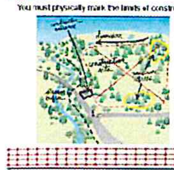
1. Mark Site Boundaries

Purpose:

Mark the site boundaries to identify the limits of construction. Delineating your site will help to limit the area of disturbance, preserve existing vegetation and limit erosion potential on the site.

Requirements:

You must physically mark the limits of construction.



How to comply:

Before beginning construction, walk the site boundaries and flag trees, post signs, or install orange safety fence.

Fence is required on any boundary within 50 feet of a stream, lake, pond or wetland, unless the area is already developed (existing roads, buildings, etc.)

Properly placed barrier tape marks the boundaries and limits of construction on this site.

2. Limit Disturbance Area

Purpose:

Limit the amount of soil exposed at one time to reduce the potential erosion on site.

Requirements:

The permitted disturbance area is specified on the site's written authorization to discharge. Only the acreage listed on the authorization form may be exposed at any given time.

How to comply:

Plan ahead and phase the construction activities to ensure that no more than the permitted acreage is disturbed at one time.

Be sure to properly stabilize exposed soil with seed and mulch or erosion control matting before beginning work in a new section of the site.

This residential subdivision is being constructed in phases. To limit the total disturbance area, only a few homes at a time are under construction at one time.

3. Stabilize Construction Entrance

Purpose:

A stabilized construction entrance helps remove mud from vehicle wheels to prevent tracking onto streets.

Requirements:

If there will be any vehicle traffic off of the construction site, you must install a stabilized construction entrance before construction begins.

Construction entrance detail. Entrance will help to keep mud from tracking onto both paved and dirt roads.

How to install:

Rock Size: Use a mix of 1 to 4 inch stone
Depth: 6 inches minimum
Width: 12 feet minimum
Length: 40 feet minimum (or length of driveway, if shorter)
Geotextile: Place filter cloth under entire gravel bed

Maintenance

Redress with clean stone as required to keep sediment from tracking onto the street.

Good stabilized construction entrance. Adequate width to accommodate construction traffic and prevent mud tracking onto neighboring streets. Ensure that the pad is 6 inches deep and 40 feet long.

Rock pad was installed properly with right sized rock, but lack of filter fabric underneath is causing rock to spread and sink into the soil. Note tracking of mud into street. Mud tracked on roadways violates the permit requirements and is a potential safety liability.

4. Install Silt Fence

Purpose:

Silt fences intercept runoff and allow suspended sediment to settle out.

Requirements:

Silt fence must be installed:
- on the downhill side of the construction activities
- between any ditch, swale, storm sewer inlet, or waters of the State and the disturbed soil

* Hay bales must not be used as sediment barriers due to their tendency to degrade and fall apart.

Where to place:

- Place silt fence on the downhill edge of bare soil. At the bottom of slopes, place fence 10 feet downhill from the end of the slope (if space is available).
- Ensure the silt fence catches all runoff from bare soil.
- Maximum drainage area is ¼ acre for 100 feet of silt fence.
- Install silt fence across the slope (not up and down hills).
- Install multiple rows of silt fence on long hills to break up flow.
- Do not install silt fence across ditches, channels, or streams or in stream buffers.

How to install silt fence:

- Dig a trench 6 inches deep across the slope
- Unroll silt fence along the trench
- Ensure stakes are on the downhill side of the fence
- Join fencing by rolling the end stakes together
- Drive stakes in against downhill side of trench
- Drive stakes until 16 inches of fabric is in trench
- Push fabric into trench; spread along bottom
- Fill trench with soil and pack down

Maintenance:

- Remove accumulated sediment before it is halfway up the fence.
- Ensure that silt fence is trenched in ground and there are no gaps.

5. Divert Upland Runoff

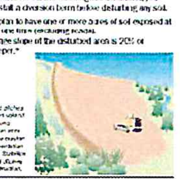
Purpose:

Diversion berms intercept runoff from above the construction site and direct it around the disturbed area. This prevents "clean" water from becoming muddied with soil from the construction site.

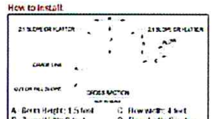
Requirements:

If stormwater runs onto your site from upslope areas and your site meets the following two conditions, you must install a diversion berm before disturbing any soil.

1. You plan to have one or more acres of soil exposed at any one time (excluding roads).
2. Average slope of the disturbed area is 20% or steeper.*



How to install:



A - Berm Height: 1.5 feet
B - Berm Width: 2 feet
C - Flow width: 4 feet
D - Flow depth: 8 inches
Side slopes: 2:1 or flatter *

1. Compact the berm with a shovel or earthmoving equipment.
2. Seed and mulch berm or cover with erosion control matting immediately after installation.
3. Stabilize the flow channel with seed and straw mulch or erosion control matting. Line the channel with 4 inch stone if the channel slope is greater than 20%*.
4. Ensure the berm drains to an outlet stabilized with riprap. Ensure that there is no erosion at the outlet.
5. The diversion berm shall remain in place until the disturbed areas are completely stabilized.

* See page 39 for slope calculations.

6. Slow Down Channelized Runoff

Purpose:

Stone check dams reduce erosion in drainage channels by slowing down the stormwater flow.

Requirements:

If there is a concentrated flow (e.g. in a ditch or channel) of stormwater on your site, then you must install stone check dams. Hay bales must not be used as check dams.

How to install:

Height: No greater than 2 feet. Center of dam should be 9 inches lower than the side elevation.
Side slopes: 2:1 or flatter (see p.39 for slope calculations)
Stone size: Use a mixture of 2 to 9 inch stone
Width: Dams should span the width of the channel and extend up the sides of the banks.
Spacing: Space the dams so that the bottom (toe) of the upstream dam is at the elevation of the top (crest) of the downstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

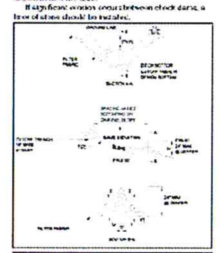
Spacing (in feet) = Height of check dam (in feet) / Slope in channel (ft/ft)

Maintenance:

Remove sediment accumulated behind the dam

as needed to allow channel to drain through the stone check dam and prevent large flows from carrying sediment over the dam.

If significant erosion occurs between check dams, a liner of stone should be installed.



7. Construct Permanent Controls

Purpose:

Permanent stormwater treatment practices are constructed to maintain water quality, ensure groundwater flows, and prevent downstream flooding. Practices include detention ponds and wetlands, infiltration basins, and stormwater filters.

Requirements:

If the total impervious* area on your site, or within the common plan of development, will be 1 or more acres, you must apply for a State Stormwater Discharge Permit and construct permanent stormwater treatment practices on your site. These practices must be installed before the construction of any impervious surfaces.

How to comply:

Contact the Vermont Stormwater Program and follow the requirements in the Vermont Stormwater Management Manual.

The Stormwater Management Manual is available at: www.vtwaterquality.org/stormwater.htm

*An impervious surface is a manmade surface including, but not limited to, paved and unpaved roads, parking areas, roofs, driveways, and walkways, from which precipitation runs off rather than infiltrates.

8. Stabilize Exposed Soil

Purpose:

Seeding and mulching, applying erosion control matting, and hydroseeding are all methods to stabilize exposed soil. Mulches and matting protect the soil surface while grass is establishing.

Requirements:

All areas of disturbance must have temporary or permanent stabilization within 7, 14, or 21 days of initial disturbance, as stated in the project authorization. After this time, any disturbance in the area must be stabilized at the end of each work day.

The following exceptions apply:

- Stabilization is not required if earthwork is to continue in the area within the next 24 hours and there is no precipitation forecast for the next 24 hours.
- Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches).

All areas of disturbance must have permanent stabilization within 48 hours of reaching final grade (See page 33).

How to comply:

Prepare bare soil for seeding by grading the top 3 to 6 inches of soil and removing any large rocks or debris.

Seeding Rates for Temporary Stabilization
April 15 - Sept. 15 — Ryegrass (annual or perennial) 20 lbs/acre
Sept. 15 - April 15 — Winter rye 120 lbs/acre

Seeding Rates for Final Stabilization

Choose from:	Variety	lbs./acre	lbs./1000 sq.ft.
Creeping Red Fescue	Ensylva, Pennlawn, ...	8	0.20
or			
Common White Clover	Common	8	0.20
plus			
Tall Fescue	KY-31, Rebel	10	0.25
plus			
Redtop	Common	2	0.05
or			
Ryegrass (perennial)	Pennfine, Linn	5	0.12

Mulching Rates
April 15 - Sept. 15 - Hay or Straw: 1 inch deep (1-2 bales/1000 sq.ft.)
Sept. 15 - April 15 - Hay or Straw: 2 in. deep (2-4 bales/1000 sq.ft.)

Erosion Control Matting
As per manufacturer's instructions

Hydroseed
As per manufacturer's instructions

Excellent stabilization of large slopes to limit the area of disturbance. Make sure to install erosion control matting within 48 hours of grading to ensure good contact between soil and mat.

Good tracking up and down slope. Tracking slows down runoff and promotes infiltration. Mulch must be added.

Hydroseeding exposed soil is a good option for stabilizing large areas.

Excellent application of hay mulch. Good mulch cover and ensures fast establishment.

9. Winter Stabilization

Purpose:

Managing construction sites to minimize erosion and prevent sediment loading of waters is a year-round challenge. In Vermont, this challenge becomes even greater during the late fall, winter, and early spring months.

"Winter construction" as discussed here, describes the period between October 15 and April 15, when erosion prevention and sediment control is significantly more difficult.

Rains in late fall, thaws throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential for erosion.

Requirements for Winter Shutdown:

For those projects that will complete earth disturbance activities prior to the winter period (October 15), the following requirements must be adhered to:

1. For areas to be stabilized by vegetation, seeding shall be completed no later than September 15 to ensure adequate growth and cover.
2. If seeding is not completed by September 15, additional non-vegetative protection must be used to

Stabilization and seeding of slopes before winter will reduce or eliminate erosion in the spring.

stabilize the site for the winter period. This includes use of Erosion Control Matting or netting of a heavy mulch layer. Seeding with winter rye is recommended to allow for early germination during wet spring conditions.

3. Where mulch is specified, apply roughly 2 inches with an 80-90% cover. Mulch should be tracked in or stabilized with netting in open areas vulnerable to wind.

Requirements for Winter Construction

If construction activities involving earth disturbance continue past October 15 or begin before April 15, the following requirements must be adhered to:

1. Enlarged access points, stabilized to provide for snow stockpiling.
2. Limits of disturbance moved or replaced to reflect boundary of winter work.
3. A snow management plan prepared with adequate storage and control of meltwater, requiring cleared snow to be stored down slope of all areas of disturbance and out of stormwater treatment structures.
4. A minimum 25 foot buffer shall be maintained from perimeter controls such as silt fence.
5. In areas of disturbance that drain to a water body within 100 feet, two rows of silt fence must be installed along the contour.
6. Drainage structures must be kept open and free of snow and ice dams.

7. Silt fence and other practices requiring earth disturbance must be installed ahead of frozen ground.
8. Mulch used for temporary stabilization must be applied at double the standard rate, or a minimum of 3 inches with an 80-90% cover.
9. To ensure cover of disturbed soil in advance of a melt event, areas of disturbed soil must be stabilized at the end of each work day, with the following exceptions:
   - If no precipitation within 24 hours is forecast and work will resume in the same disturbed area within 24 hours, daily stabilization is not necessary.
   - Disturbed areas that collect and retain runoff, such as house foundations or open utility trenches.
10. Prior to stabilization, snow or ice must be removed to less than 1 inch thickness.
11. Use stone to stabilize areas such as the perimeter of buildings under construction or where construction vehicle traffic is anticipated. Stone paths should be 10-20 feet wide to accommodate vehicular traffic.

10. Stabilize Soil at Final Grade

Purpose:

Stabilizing the site with seed and mulch or erosion control matting when it reaches final grade is the best way to prevent erosion while construction continues.

Requirements:

Within 48 hours of final grading, the exposed soil must be seeded and mulched or covered with erosion control matting.

Lawn is fully established before construction is completed at this home site.

How to comply:

Bring the site or sections of the site to final grade as soon as possible after construction is completed. This will reduce the need for additional sediment and erosion control measures and will reduce the total disturbed area.

For seeding and mulching rates, follow the specifications under Rule 8, "Stabilizing Exposed Soil".

Within 48 hours of final grading, erosion control matting and mulch have been applied.

12. Dewatering Activities

Purpose:

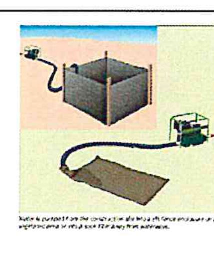
Treat water pumped from dewatering activities so that it is clear when leaving the construction site.

Requirements:

Water from dewatering activities that flows off of the construction site must be clear. Water must not be pumped into storm sewers, lakes, or wetlands unless the water is clear.

How to comply:

Using sock filters or sediment filter bags on dewatering discharge hoses or pipes, discharge water into silt fence enclosures installed in vegetated areas away from waterways. Remove accumulated sediment after the water has dispersed and stabilize the area with seed and mulch.



Water is pumped from the construction site into a silt fence enclosure in a vegetated area or into a sock filter away from waterways.

12. Inspect Your Site

Purpose:

Perform site inspections to ensure that all sediment and erosion control practices are functioning properly. Regular inspections and maintenance of practices will help to reduce costs and protect water quality.

Requirements:

Inspect the site at least once every 7 days and after every rainfall or snowmelt that results in a discharge from the site. Perform maintenance to ensure that practices are functioning according to the specifications outlined in this handbook.

Example Site Inspection Form	Y	N
1. Boundary Limits		
• Site boundary markers are up and visible		
• Disturbance is ... within marked boundaries		
2. Limit Disturbance Area		
• Only the acreage listed on the Authorization to Discharge is disturbed at one time		
3. Construction Entrance		
• Off-site tracking of mud prevented		

Example Site Inspection Form	Y	N
4. Sediment Barriers		
• Silt fence is trenched into ground with no gaps		
• Accumulated sediment is less than ½ way up the fence		
5. Diversion Berms		
• All upland runoff is diverted around the site		
6. Check Dams		
• Check dams are in place and stretch the width of the channel		
• Channels stabilized with no erosion		
7. Stabilize Exposed Soil		
• Seed and mulch, and/or erosion control blankets are being used in accordance with the permit requirements		
8. Winter Stabilization		
• After September 15, all disturbed areas have been seeded and mulched to 2 inches or covered in erosion control blankets		
• For ongoing construction, exposed soil is mulched prior to forecasted rain events		
10. Stabilize Soil at Final Grade		
• Within 48 hours of establishing final grade, soil is seeded and mulched or covered in erosion control matting		
Water flowing off the site		
• Water is free of sediment (water is clear)		

Section 3 Additional Resources

How to calculate slope:

Approximate Slope Conversions

Steepness	Percent	Slope ratio (ft/ft)	Degrees
Very steep	100%	1:1	45°
	50%	2:1	27°
Moderate	33%	3:1	18°
	25%	4:1	14°
	10%	10:1	6°
Slight	5%	20:1	3°

How to estimate disturbance area:

1 acre = 43,560 square feet = 4,840 square yards

Area in acres (width in feet x length in feet)

W x L	100	150	200	300	400	500
100	0.2	0.3	0.5	0.7	0.9	1.1
150	0.3	0.5	0.7	1.0	1.4	1.7
200	0.5	0.7	0.9	1.4	1.8	2.3
250	0.6	0.9	1.1	1.7	2.3	2.9
300	0.7	1.0	1.4	2.1	2.8	3.4
350	0.8	1.2	1.6	2.4	3.2	4.0
400	0.9	1.4	1.8	2.8	3.7	4.6

Acknowledgements

Design details and standards for sediment and erosion control practices have been adapted from the New York State Standards and Specifications for Erosion and Sediment Control, August 2005.

Photographs and illustrations provided by Tetra Tech, Kari Greenwich, Tom Lake, Jim Pease, and Hydrogeo... Technologies.

This document has been adapted from the Kentucky Erosion Prevention and Sediment Control Field Guide produced by the Tetra Tech Water Resources Division in Fairfax, VA for the Kentucky Division of Conservation and Division of Water. Inquiries regarding this publication should be directed to Dave Tonning, Tetra Tech, 10306 Eaton Place, Suite 340, Fairfax, VA 22030 (703-385-6000).

Printing of this manual is sponsored by the Winooski Natural Resources Conservation District through a grant by the U.S. Environmental Protection Agency.

The Vermont Department of Environmental Conservation is an equal opportunity employer and offers all persons the benefits of participating in each of its programs and competing in all areas of employment regardless of race, color, religion, sex, national origin, age, disability, sexual preference, or other non-merit factors.

This document is available upon request in large print, Braille or audio cassette.

VT Relay Service for the Hearing Impaired
1-800-253-0191 TDD>Voice - 1-800-253-0195 Voice>TDD

Vermont Department of Environmental Conservation
Water Quality Division - Stormwater Section
103 South Main Street, Building 10 North
Waterbury, VT 05671-0408
Tel: 802-241-3770 or 3777
Fax: 802-241-3287

www.vtwaterquality.org/stormwater.htm

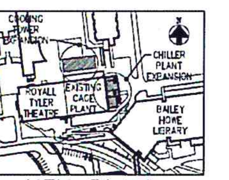
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

DuBois & King inc.
6 GREEN TREE DRIVE
SO. BURLINGTON, VT 05403
TEL: (802) 878-7661
FAX: (866) 783-7101
www.dubois-king.com

Charney Architects LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMITTING DOCUMENTS



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	DATE: 05/28/15
DRAWN BY:	RMF JOB #: 114253.A0
DESIGNED BY:	CLIENT JOB #: XXXXXX.XX
PROJ. MANAGER:	STATE JOB #: XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

EPSC LOW RISK HANDBOOK

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

C-1.10

I:\42651L UVM Chiller Expansion\DWG\42651L_UVM_E2.dwg

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING

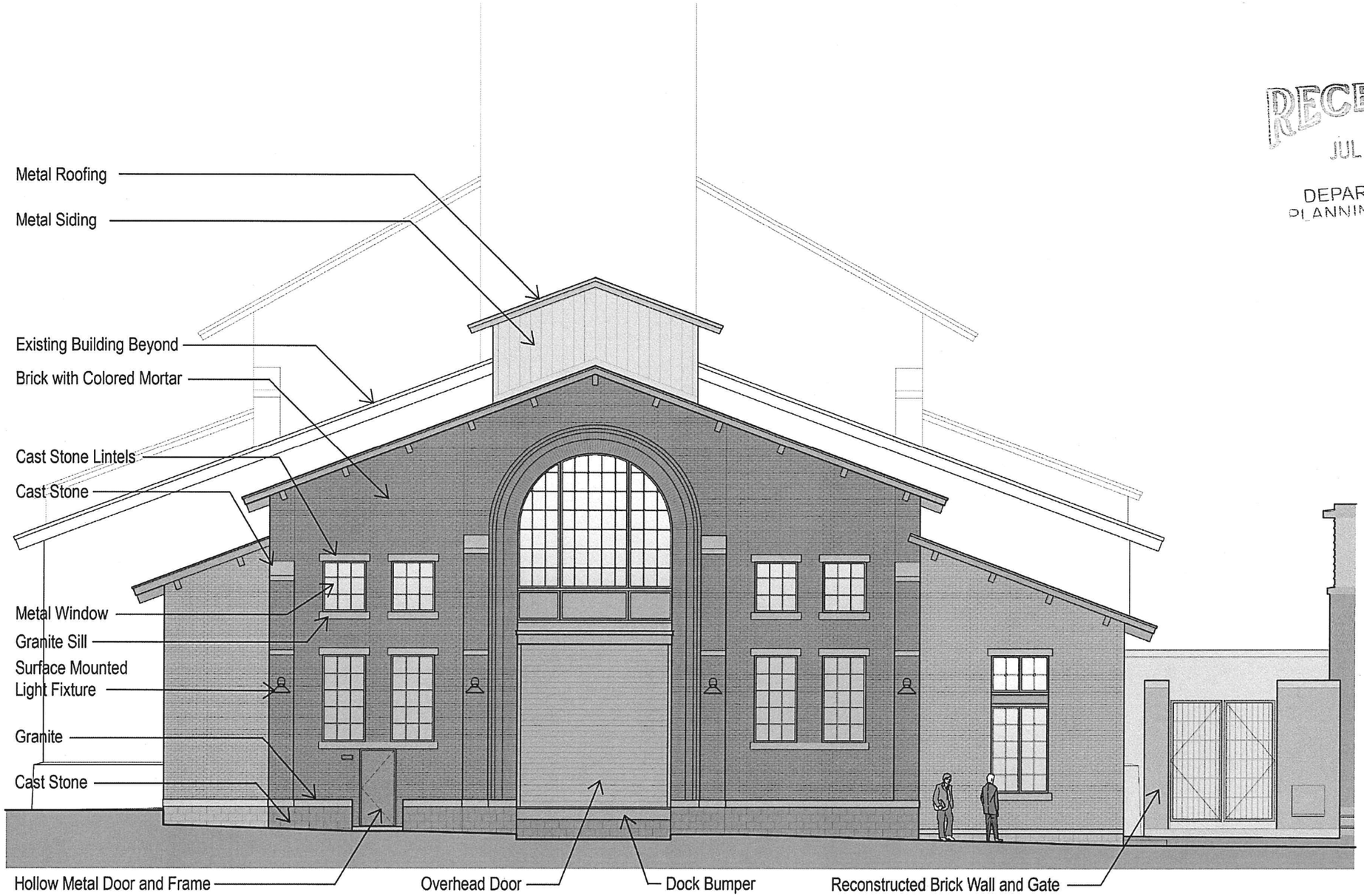
Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203.773.5057

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

The University of Vermont

Central Plant Chiller Expansion
View from Northeast
May 15, 2015

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING



Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203.773.5057

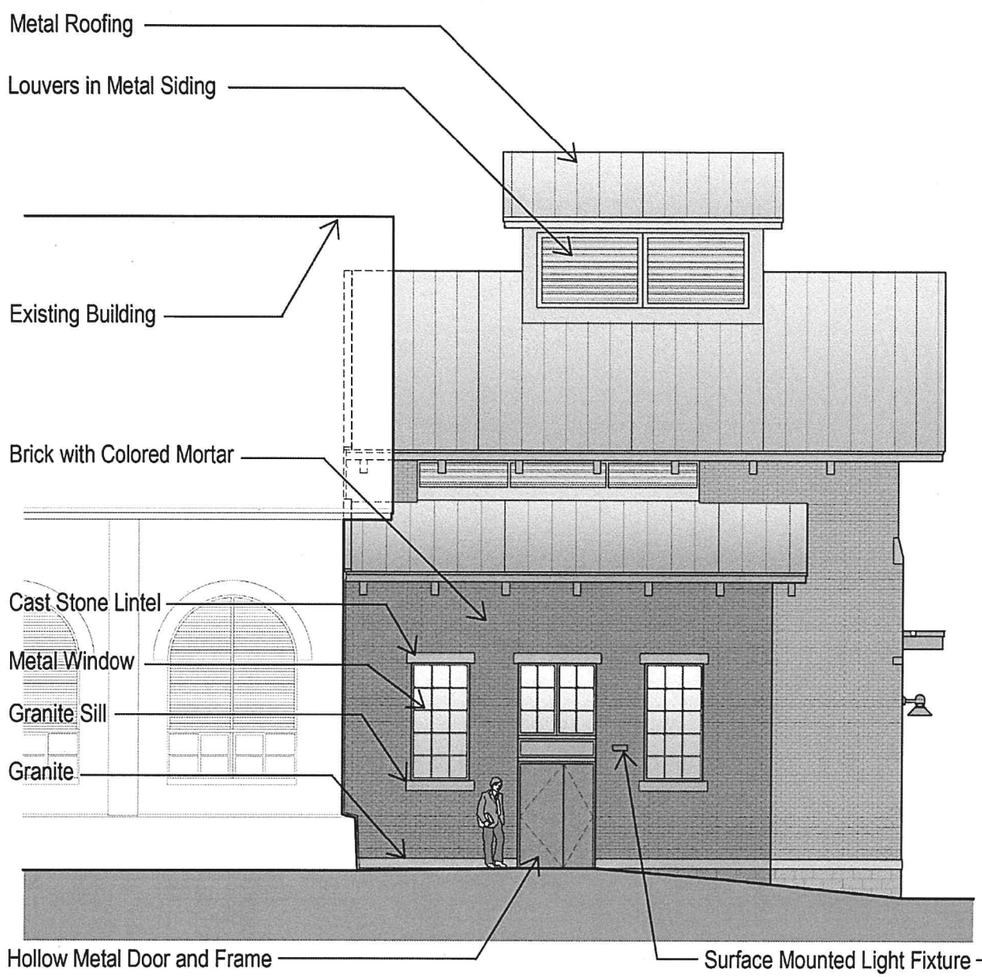
RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

The University of Vermont

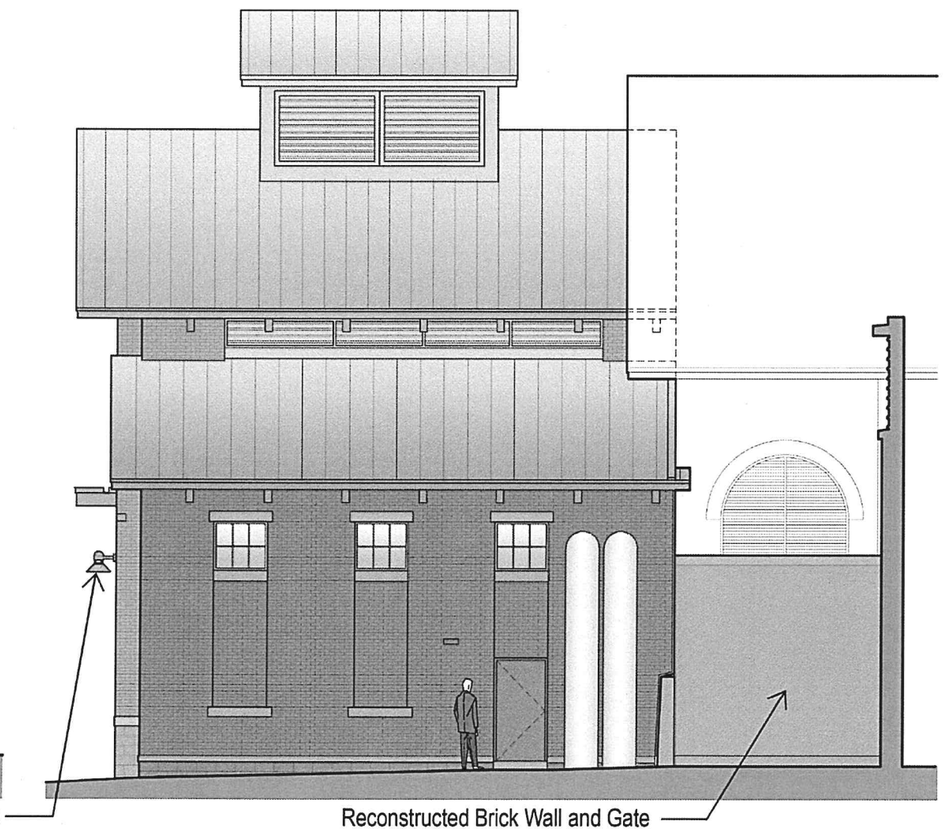
Central Plant Chiller Expansion

East Elevation
May 15, 2015

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING



South Elevation



North Elevation

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203.773.5057

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

The University of Vermont

Central Plant Chiller Expansion

Elevations
May 15, 2015

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203 773 5057

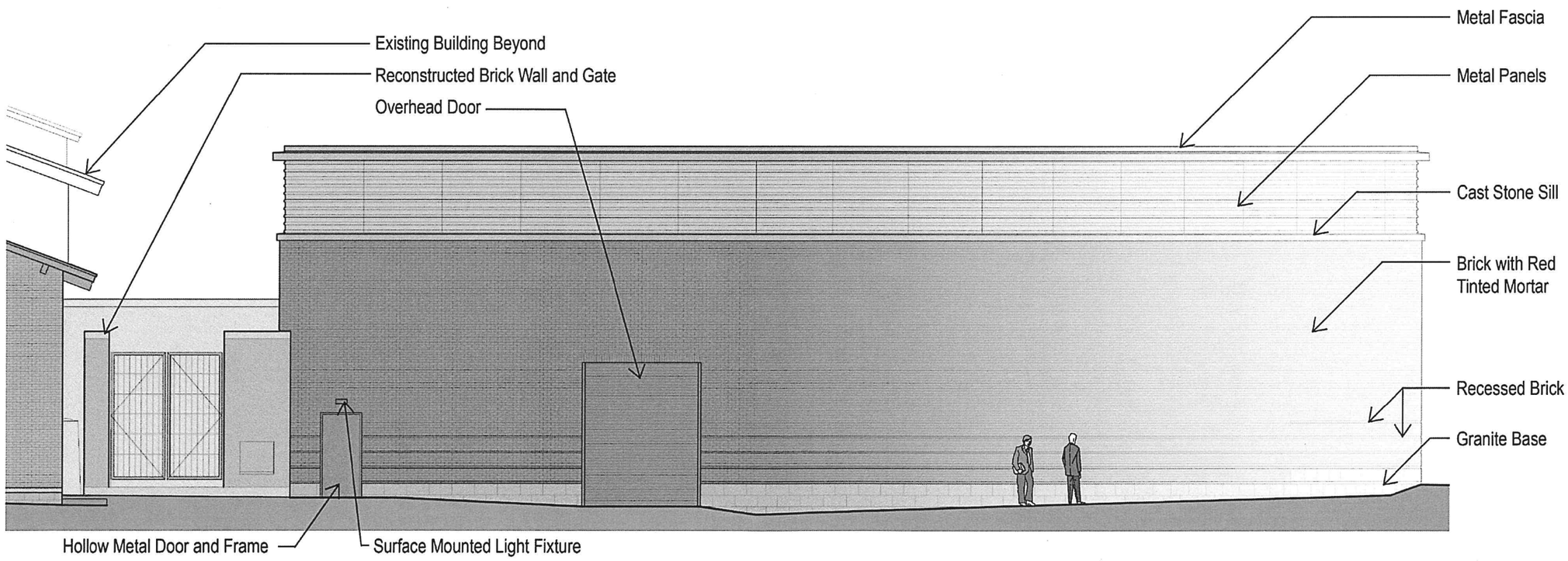
RMF ENGINEERING, INC.
5500 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410376.6505 F: 410.305.0327

The University of Vermont

Central Plant Chiller Expansion

East Elevation
May 15, 2015

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING



Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203.773.5057

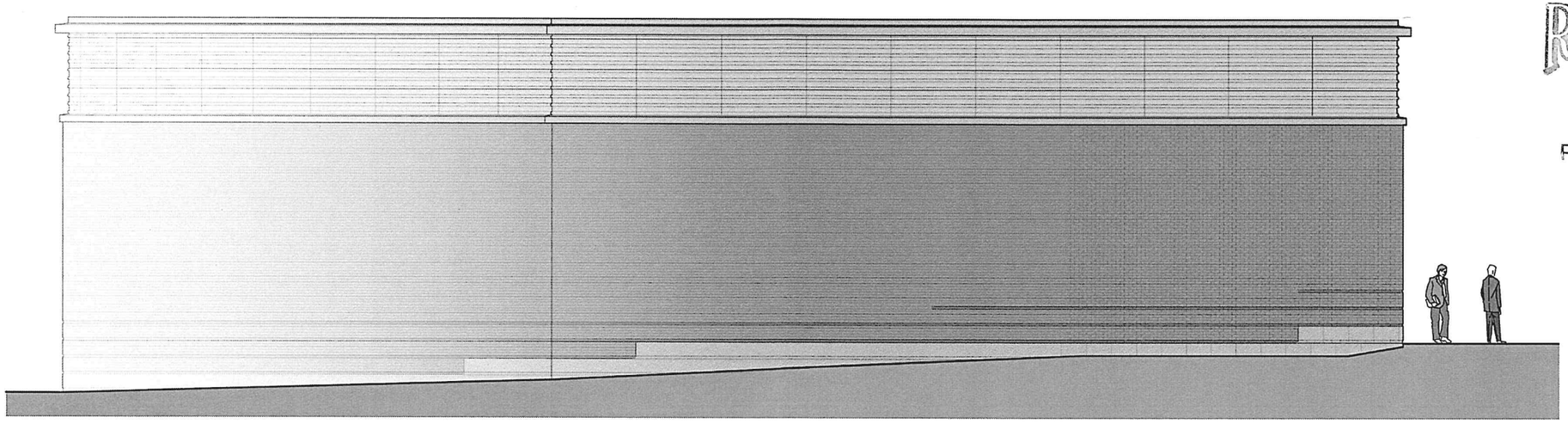
RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

The University of Vermont

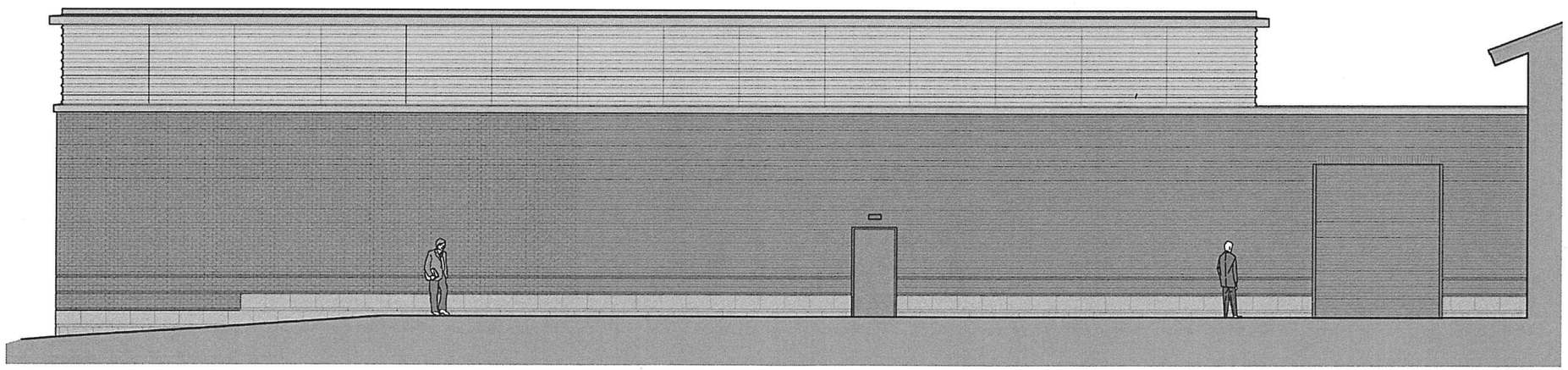
Central Plant Chiller Expansion

East Screen Wall Elevation
May 15, 2015

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING



North Elevation



West Elevation

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203.773.5057

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

The University of Vermont

Central Plant Chiller Expansion

Screen Wall Elevations
May 15, 2015

RECEIVED
JUL 01 2015
DEPARTMENT OF
PLANNING & ZONING

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
203.773.5057

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576-0505 F: 410.385-0327

The University *of* Vermont

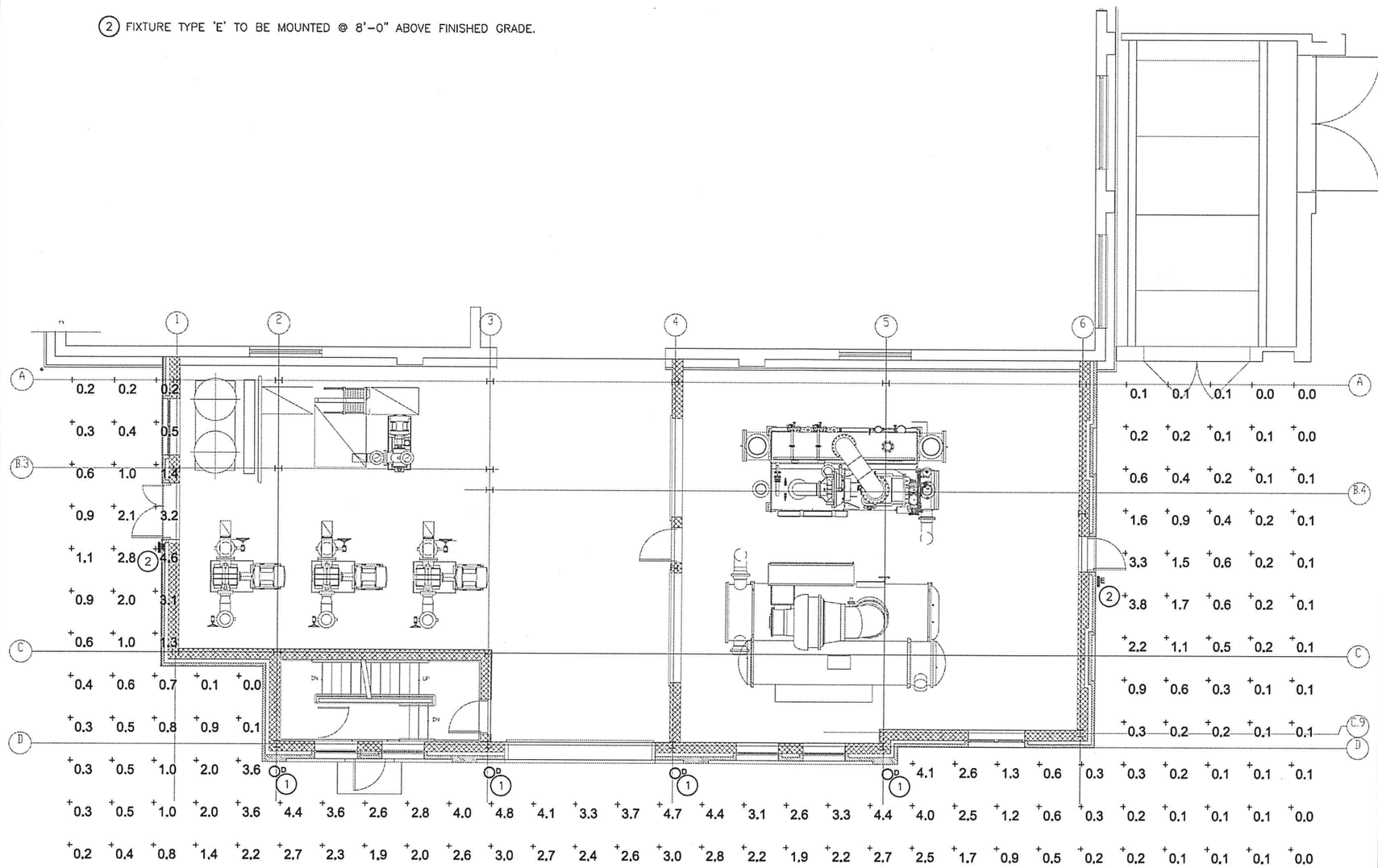
Central Plant Chiller Expansion
View of Addition Showing South Service Drive
With Proposed Electrical Equipment
June 3, 2015

DRAWING NOTES:

1. FIXTURE TYPE 'D' TO BE MOUNTED @ 8'-0" ABOVE FINISHED GRADE.
2. FIXTURE TYPE 'E' TO BE MOUNTED @ 8'-0" ABOVE FINISHED GRADE.

GENERAL NOTES:

1. SEE DRAWING LC-4 FOR LIGHTING FIXTURE SCHEDULE



BUILDING EXTERIOR LIGHTING CALCULATIONS

SCALE: NOT TO SCALE

Statistics				
Description	Avg	Max	Min	Avg/Min
GENERAL OUTDOOR LIGHTING	1.3 fc	4.8 fc	0.1 fc	13.0:1

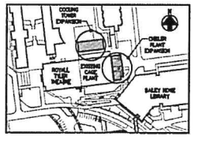
REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMIT SET



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT, OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	NONE	DATE:	5/18/15
DRAWN BY:	TNC	RMF JOB #:	114253.A0
DESIGNED BY:	TNC	CLIENT JOB #:	XXXXXX.XX
PROJ. MANAGER:	WBM	STATE JOB #:	XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

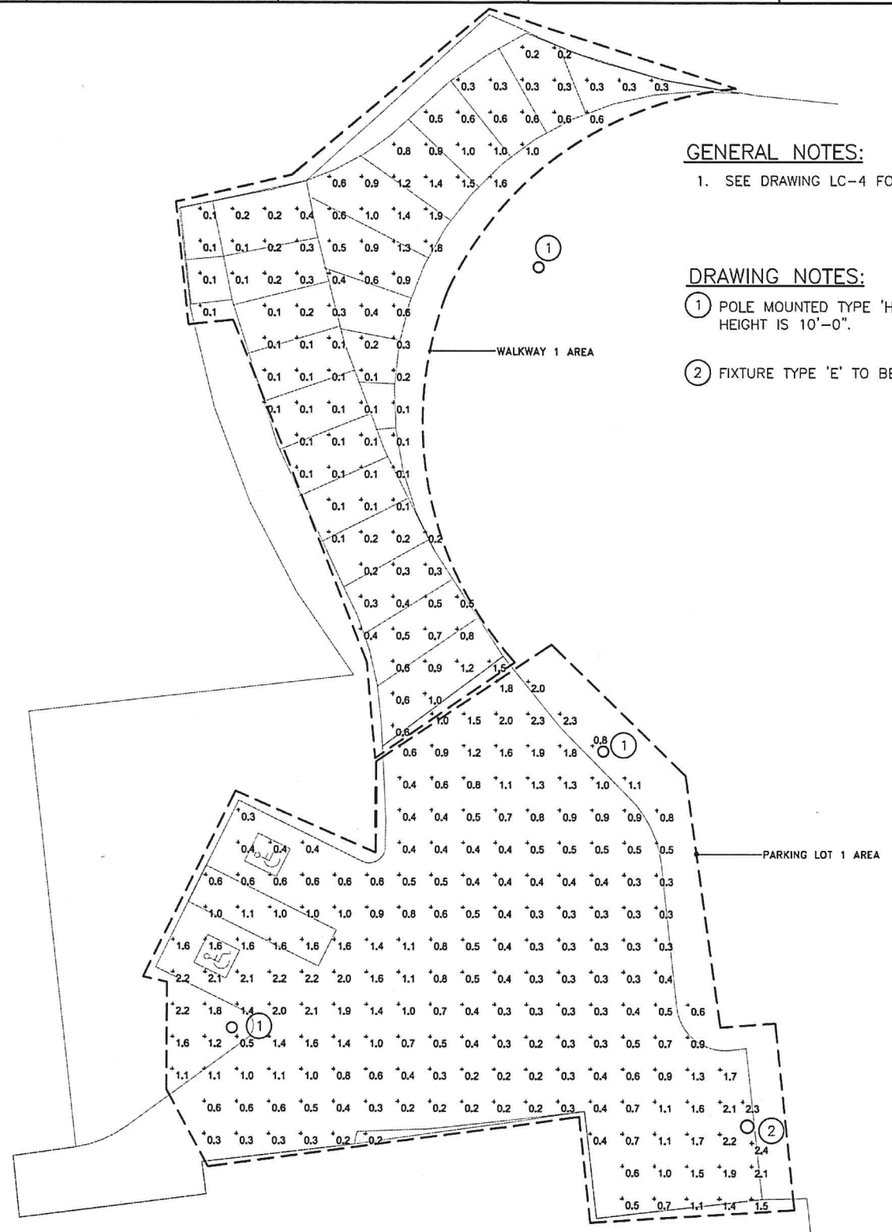
UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

BUILDING EXTERIOR CALCULATIONS

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

LC-1

P:\MCI\114253\CAD\Dwg\114253A_LC-1.dwg



WALKWAY 1 AND PARKING LOT 1 LIGHTING

SCALE: NOT TO SCALE

GENERAL NOTES:

1. SEE DRAWING LC-4 FOR LIGHTING FIXTURE SCHEDULE

DRAWING NOTES:

(1) POLE MOUNTED TYPE 'H' FIXTURE TO BE MOUNTED @ 11'-0". POLE HEIGHT IS 10'-0".

(2) FIXTURE TYPE 'E' TO BE MOUNTED @ 8'-0" ABOVE FINISHED GRADE.

Statistics						
Description	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT 1	0.9 fc	2.4 fc	0.2 fc	12.0:1	4.5:1	0.4:1
WALKWAY 1	0.5 fc	1.9 fc	0.1 fc	19.0:1	5.0:1	0.3:1

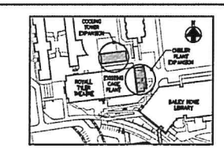
REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMIT SET



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER EMPLOYMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	NONE	DATE:	5/18/15
DRAWN BY:	TNC	RMF JOB #:	114253.A0
DESIGNED BY:	TNC	CLIENT JOB #:	XXXXXX.XX
PROJ. MANAGER:	WBM	STAGE JOB #:	XXXXXX.XX

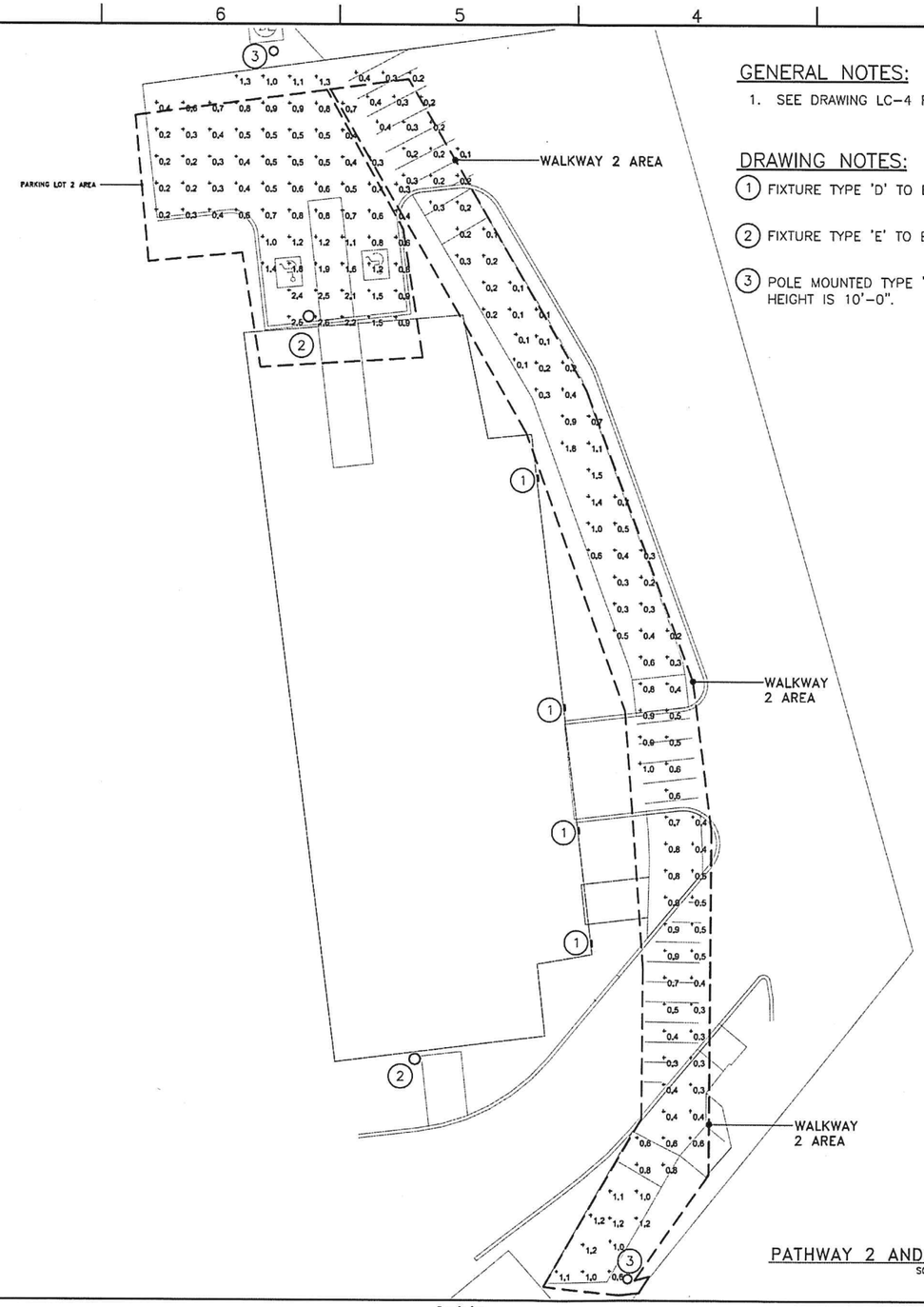
CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

PARKING LOT AND PATHWAY CALCULATIONS

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 380 FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

LC-2



GENERAL NOTES:

1. SEE DRAWING LC-4 FOR LIGHTING FIXTURE SCHEDULE

DRAWING NOTES:

1. FIXTURE TYPE 'D' TO BE MOUNTED @ 8'-0" ABOVE FINISHED GRADE.
2. FIXTURE TYPE 'E' TO BE MOUNTED @ 8'-0" ABOVE FINISHED GRADE.
3. POLE MOUNTED TYPE 'H' FIXTURE TO BE MOUNTED @ 11'-0". POLE HEIGHT IS 10'-0".

PATHWAY 2 AND PARKING LOT 2 LIGHTING

SCALE: NOT TO SCALE

Statistics						
Description	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT 2	0.8 fc	2.6 fc	0.2 fc	13.0:1	4.0:1	0.3:1
WALKWAY 2	0.5 fc	1.8 fc	0.1 fc	18.0:1	5.0:1	0.3:1

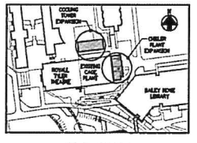
REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMIT SET



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	NONE	DATE:	5/18/15
DRAWN BY:	TNC	RMF JOB #:	11-253.A0
DESIGNED BY:	TNC	CLIENT JOB #:	XXXXXX.XX
PROJ. MANAGER:	WBM	STATE JOB #:	XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

PARKING LOT AND PATHWAY CALCULATIONS

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385.0327

LC-3

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CAT. NO.	LAMPS QTY.	LAMPS TYPE	BALLASTS / CONVERTERS QTY.	BALLASTS / CONVERTERS VOLTS	BALLASTS / CONVERTERS TYPE	MOUNTING HEIGHT		FITTINGS AND ACCESSORIES
A	FLUORESCENT HIGH BAY	LITHONIA LIGHTING OR EQUAL	IBZ 632L WD GEB10IS WGX OR EQUAL	6	32W T8 LAMPS	1	MVOLT	T8 ELECTRONIC BALLAST	SEE DWG'S	FT	FIXTURE TO BE SUSPENDED FROM CEILING. CONTRACTOR SO SUPPLY ACCESSORIES NEEDED FOR THAT APPLICATION.
A1	FLUORESCENT HIGH BAY	LITHONIA LIGHTING OR EQUAL	IBZ 832L WD GEB10IS WGX OR EQUAL	8	32W T8 LAMPS	1	MVOLT	T8 ELECTRONIC BALLAST	SEE DWG'S	FT	FIXTURE TO BE SUSPENDED FROM CEILING. CONTRACTOR SO SUPPLY ACCESSORIES NEEDED FOR THAT
B	STAIRWELL WALL MOUNTED FLUORESCENT	LITHONIA LIGHTING OR EQUAL	WC 232 MVOLT GEB10IS OR EQUAL	2	32W T8 LAMPS	1	MVOLT	T8 ELECTRONIC BALLAST	SEE DWG'S	FT	
C	1X4 HEAVY DUTY INDUSTRIAL	LITHONIA LIGHTING OR EQUAL	AF 232 MVOLT GEB10IS WGAFPV OR EQUAL	2	32W T8 LAMPS	1	MVOLT	T8 ELECTRONIC BALLAST	SEE DWG'S	FT	FIXTURE TO BE SUSPENDED FROM CEILING. CONTRACTOR SO SUPPLY ACCESSORIES NEEDED FOR THAT APPLICATION.
D	SHADE WALL LIGHT	*LIGMAN LIGHTING	UCO-32113-2-2-W27	1	LED	1	N/A	N/A	SEE DWG'S	FT	
E	WALL MOUNTED EXTERIOR LIGHT	*BEGA LIGHTING	2360 LED	1	LED	1	N/A	N/A	SEE DWG'S	FT	
F	EXIT SIGN (LED)	LITHONIA LIGHTING OR EQUAL	LE-S-B-X-ELN-SD-XXXX OR EQUAL	1	LED	1	N/A	N/A	SEE DWG'S	FT	CONTRACTOR TO PROVIDE COLOR THAT COMPLIES WITH LOCAL CODE REQUIREMENTS. CONTRACTOR RESPONSIBLE FOR ORDERING CORRECT MOUNTING AND NUMBER OF FACES PER DRAWINGS.
G	WALL MOUNTED LED	ATLAS LIGHTING OR EQUAL	WPM43LED OR EQUAL	1	LED	1	277	N/A	12.00	FT	LIGHTING FIXTURE MUST BE IDA (INTERNATIONAL DARK-SKY ASSOCIATION) APPROVED
H	POLE MOUNTED LIGHTING	*LUMEC AND POLE	L70 SEE FITTINGS AND ACCESSORIES FOR ALL INFORMATION	1	LED	1	277	N/A	11.00	FT	CONFIGURATION = 1, OPTICS = SE3, LAMP = 40W LED 4 (100K), LENS = PC-FC, COLOR = GN8TX, OPTIONS = GFI, POLE= AM6F-10, ADAPTOR = SFO

*** CONTACTRATOR TO USE SPECIFIED FIXTURE. COORDINATE ANY CHANGES WITH ELECTRICAL ENGINEER FOR APPROVAL.**

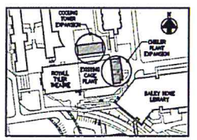
REVISIONS

REV	DESCRIPTION	DATE	APPROVED

RECEIVED
JUL 01 2015
DEPARTMENT OF PLANNING & ZONING

Charney *Architects* LLC
1140 Chapel Street
New Haven, CT 06511
tel: 203.773.5057
fax: 203.777.2608

PERMIT SET



KEY PLAN
SCALE: NONE

THIS DRAWING AND ALL COPIES THEREOF IS THE PROPERTY OF RMF ENGINEERING, INC. THIS DRAWING MAY NOT BE USED OR REPRODUCED WITHIN ANY COMPUTER ENVIRONMENT OR BY ANY PRINT MEDIA FORMAT WITHOUT THE WRITTEN CONSENT OF RMF ENGINEERING, INC.

SCALE:	NONE	DATE:	5/18/15
DRAWN BY:	TNC	RMF JOB #:	114253.A0
DESIGNED BY:	TNC	CLIENT JOB #:	XXXXXX.XX
PROJ. MANAGER:	WBM	STATE JOB #:	XXXXXX.XX

CENTRAL PLANT CHILLER EXPANSION

UNIVERSITY OF VERMONT
BURLINGTON, VT
85 South Prospect Street
Burlington, VT 05405

LIGHTING FIXTURE SCHEDULE

RMF ENGINEERING, INC.
5520 RESEARCH PARK DR, 3RD FLR
BALTIMORE, MD 21228
P: 410.576.0505 F: 410.385-0327

LC-4

F:\WO\114\114253A0\Dwg\114253A_LC-2_LC-3.dwg