NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
CLEVELAND, OHIO
LEWIS FIELD

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

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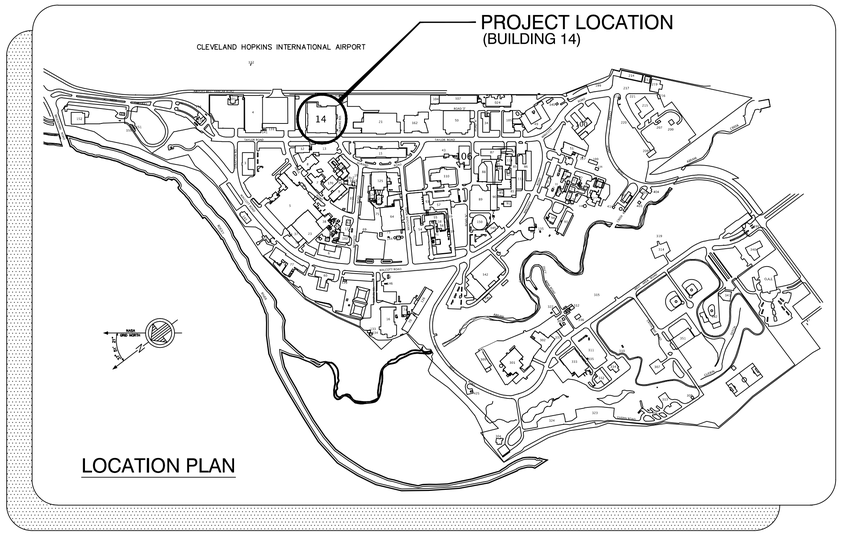

LOCATION PLAN

GENERAL NOTES

1. DIMENSIONS AND PIPE SIZES ON DRAWINGS ARE PROVIDED FOR REFERENCES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS, ELEVATIONS AND PIPE SIZES IN THE FIELD. ACTUAL DIMENSIONS MAY VARY (PLUS OR MINUS) BASED ON EXISTING FIELD CONDITIONS AND NEW CONSTRUCTION INTERFACE.
2. EQUIPMENT LISTED ON THIS DRAWING BY MANUFACTURER'S BRAND NAME IS TO DENOTE THE QUALITY AND SALIENT FEATURES FOR EQUAL PRODUCTS ONLY.
3. THE CONTRACTOR SHALL RECORD ANY DEVIATIONS OR CHANGES FROM CONTRACT DRAWINGS MADE DURING CONSTRUCTION. UPON COMPLETION AND FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE THE GOVERNMENT WITH ONE (1) COMPLETE SET OF RED–LINED AS–BUILT DRAWINGS.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS 3 TEAM
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB–SYS: | FACILITY: | CONFIG:

NASA APPROVALS
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D.ENG: | PROJ. MGR: JAS
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RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

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JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

TITLE SHEET, DRAWING INDEX, AND GENERAL NOTES

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- G-	001

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

REFER TO DRAWING
0014-COF20297-G-002

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
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APPROVED	APPROVAL DATE

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D.ENG: WDH	PROJ. MGR: JAS
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RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS:	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
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BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ENVIRONMENTAL, HEALTH
AND
SAFETY NOTES

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- G-	002

AREA: | SHEET **01** OF **01**

UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION ▪ | VER 1

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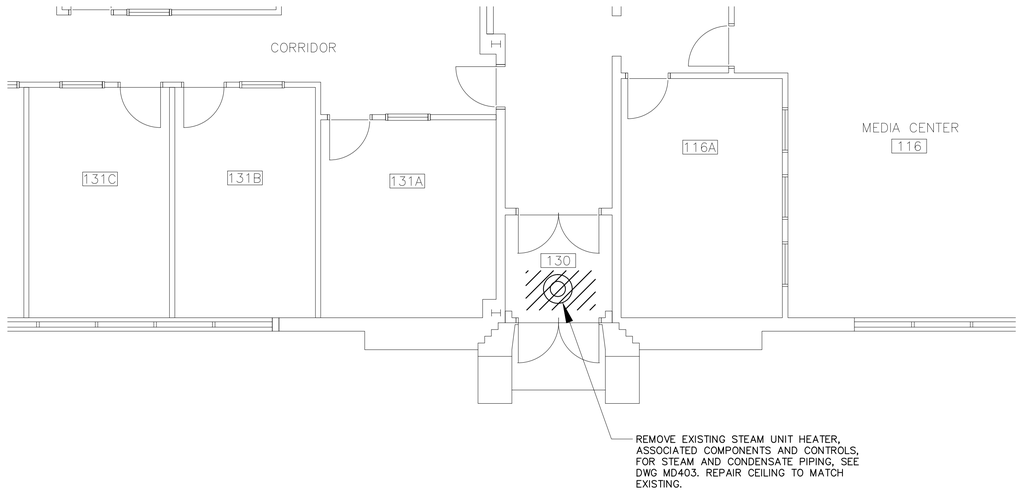


MECHANICAL DEMOLITION - FIRST FLOOR PLAN - NORTH VESTIBULE

SCALE : 3/16"=1'-0"

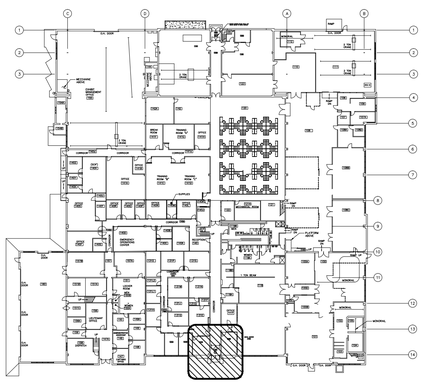
(REFER TO LOCATION PLAN ON DWG M-101)

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

LEGEND

DENOTES EXISTING COMPONENTS TO BE REMOVED

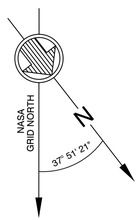


KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

GRAPHIC SCALE 0 1' 3' 5' 10' 15'

3/16" = 1'-0"



CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

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RELEASE APPROVAL: | DATE:
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LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL - DEMOLITION
REMOVAL OF STEAM UNIT HEATERS
FIRST FLOOR PLAN - NORTH VESTIBULE

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	-MD	401

AREA: ROOMS 130 & 130C | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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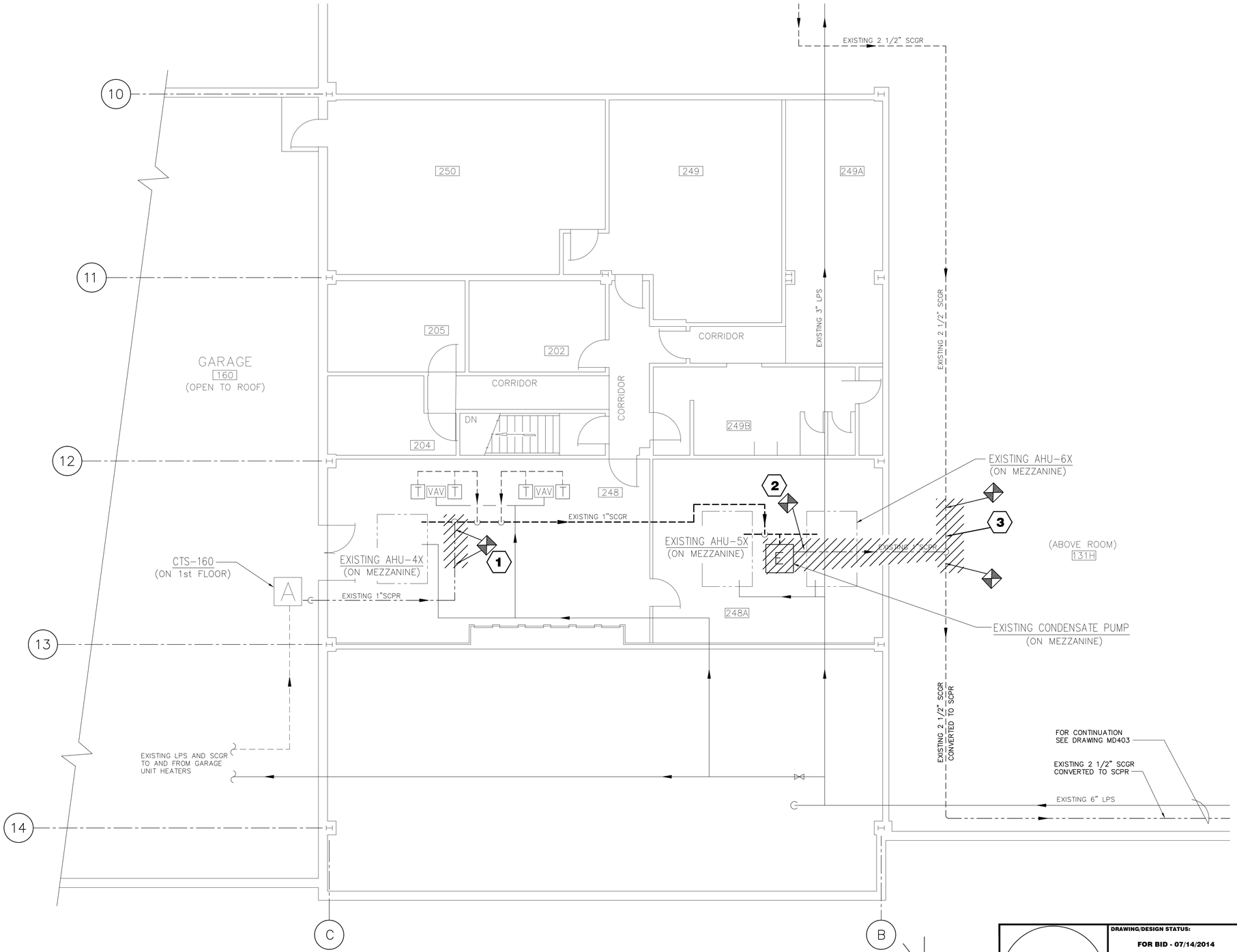


MECHANICAL - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'
3/16" = 1'-0"

NASA GRID NORTH
N
37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

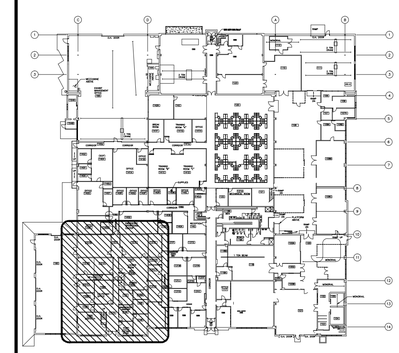
DEMOLITION NOTES

1. REMOVE EXISTING 1" PIPING AS REQUIRED TO INSTALL NEW PIPING, PLUG EXISTING VALVE WATER TIGHT. SEE DRAWING M-402, FOR NEW PIPING INSTALLATION.
2. REMOVE EXISTING STEAM CONDENSATE PUMP, ASSOCIATED PIPING COMPONENTS, CONTROLS, PIPING BACK TO UNION IN SUCTION PIPING AND DISCHARGE PIPING TO EXISTING STEAM CONDENSATE HEADER AS SHOWN ON THIS DRAWING. SEE DRAWING M-402, FOR NEW PUMP AND PIPING INSTALLATION.
3. REMOVE EXISTING 2 1/2" PIPING AS REQUIRED TO INSTALL NEW PIPING, INSTALL NEW WELD CAP AS SHOWN. SEE DRAWING M-402, FOR NEW PIPING INSTALLATION.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: STEM	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CONTRACTOR: GESS3 Team
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TASK ORDER: WO-010
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APPROVED | APPROVAL DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL DEMOLITION
REMOVAL OF COND. PUMP & MISCELLANEOUS PIPING
MEZZ. LEVEL AND ABOVE CEILING PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	-MD	402

AREA: ROOMS 248, 248A AND ABOVE 131H | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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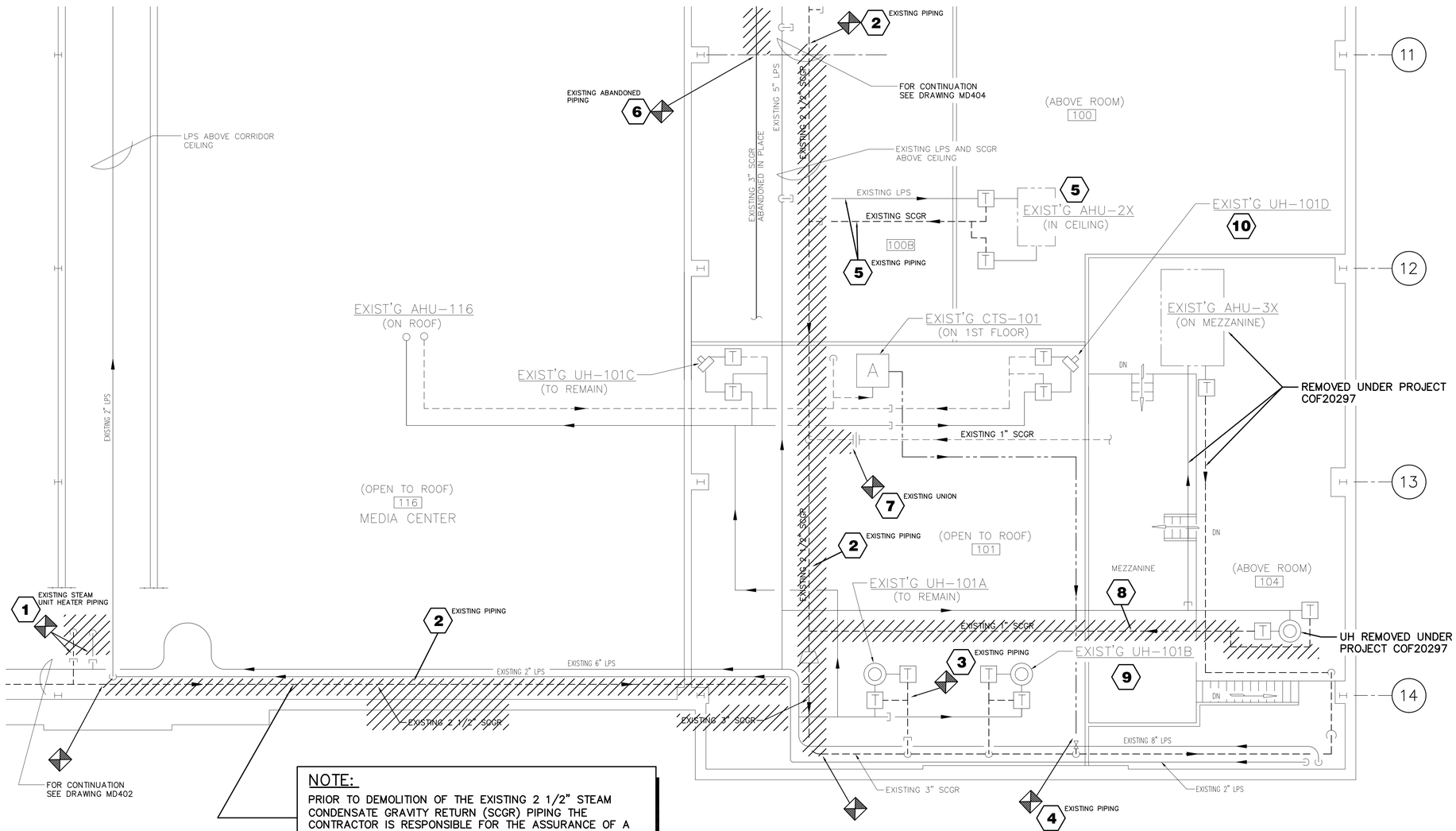
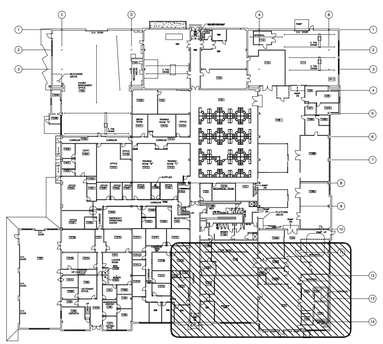


NOTE:

PRIOR TO DEMOLITION OF THE EXISTING 2 1/2" STEAM CONDENSATE GRAVITY RETURN (SCGR) PIPING THE CONTRACTOR IS RESPONSIBLE FOR THE ASSURANCE OF A NEW ROUTING AROUND THE MEDIA CENTER WITHOUT A RISER OF MORE THAN ONE FOOT, SEE GENERAL ROUTING OF NEW PIPING ON DRAWING M-403



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

MECHANICAL DEMOLITION - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-101)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'

3/16" = 1'-0"

NASA GRID NORTH N 37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

DEMOLITION NOTES

1. REMOVE EXISTING STEAM AND CONDENSATE PIPING BACK TO THE STEAM AND CONDENSATE HEADERS. CAP THE PIPING AS CLOSE TO THE HEADERS AS POSSIBLE.
2. REMOVE EXISTING 3" AND 2 1/2" STEAM CONDENSATE PIPING AS SHOWN ON THIS DRAWING. REMOVE PIPE SLEEVES AS REQ'D, REPAIR (2) WALL PENETRATIONS AFTER PIPE REMOVAL WITH GROUT (FILLED SOLID) AND PAINT TO MATCH EXISTING. (BOTH SIDES OF MEDIA CENTER ROOM 116)
3. REMOVE EXISTING CONDENSATE PIPING FROM THE STEAM TRAP ASSEMBLIES TO THE CONDENSATE HEADER. CAP THE PIPING AS CLOSE TO THE HEADER AS POSSIBLE. SEE DRAWING M-403 FOR NEW PIPING INSTALLATION.
4. REMOVE EXISTING PIPING AS REQUIRED TO INSTALL NEW PIPING, SEE DRAWING M-403, FOR NEW PIPING INSTALLATION.
5. EXISTING AHU-2X AND ASSOCIATED STEAM AND CONDENSATE PIPING REMOVED UNDER PROJECT COF20297.
6. REMOVE EXISTING ABANDONED PIPING AS REQUIRED TO INSTALL NEW PIPING, SEE DRAWING M-403 FOR NEW PIPING INSTALLATION. AFTER REMOVAL OF PIPE, REPAIR WALL OPENING AT THE TOP OF THE STAIRS TO MATCH EXISTING.
7. REMOVE EXISTING PIPING BACK TO UNION, SEE DRAWING M-403, FOR NEW PIPING INSTALLATION.
8. REMOVE EXISTING PIPING FROM SCGR HEADER TO UNIT HEATER STEAM TRAPS, SEE DRAWING M-403 FOR NEW PIPING INSTALLATION.
9. UH-101B REMOVED AND RELOCATED UNDER PROJECT COF20297.
10. UH-101D REMOVED AND RELOCATED UNDER PROJECT COF20297.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
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DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
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RELEASE STATUS: WORKING

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BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL DEMOLITION
REMOVAL OF MISCELLANEOUS PIPING
MEZZ. LEVEL AND ABOVE CEILING PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361 -	MD	403

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION ■ | VER 1
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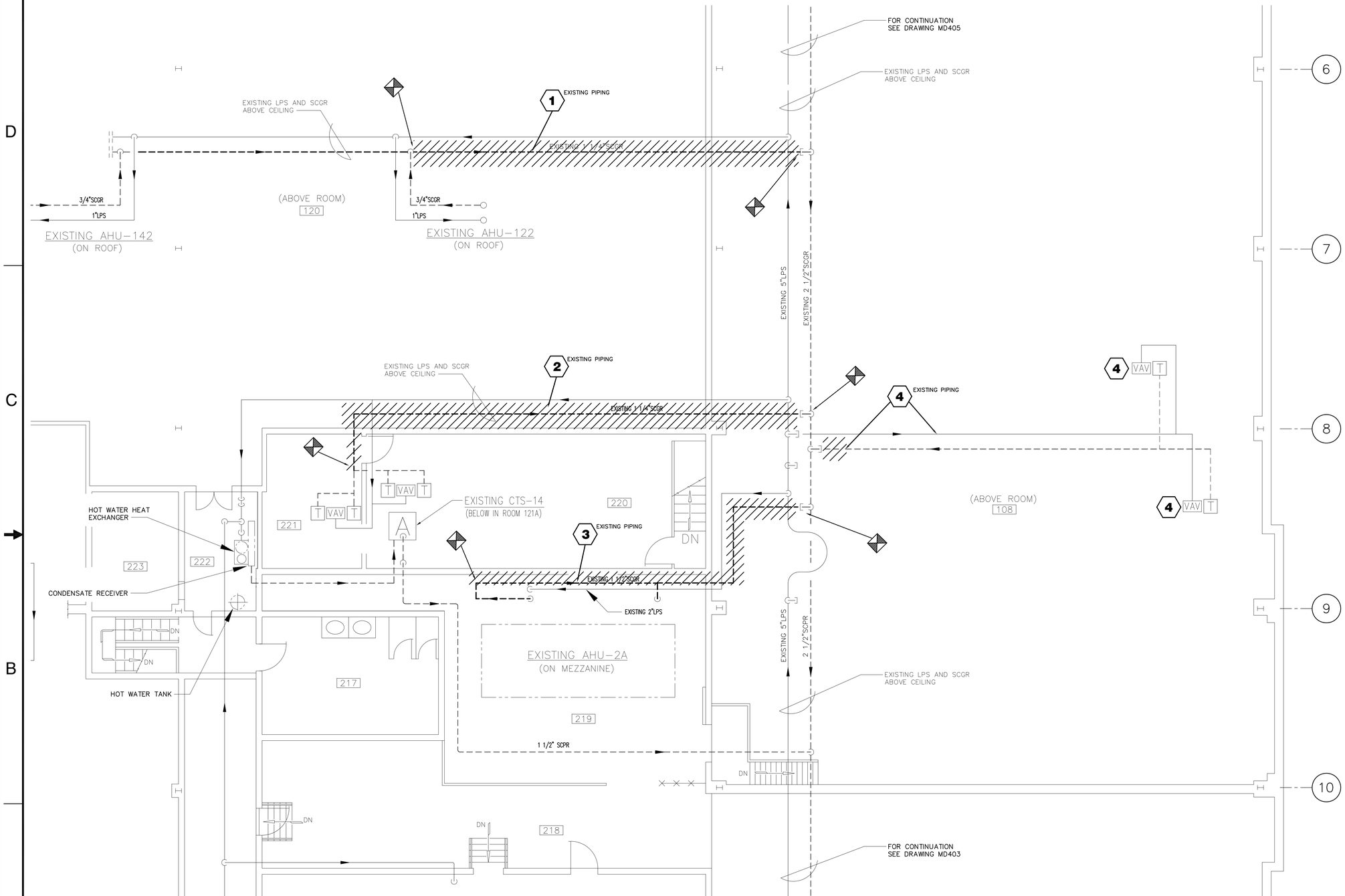


MECHANICAL DEMOLITION - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'
3/16" = 1'-0"

NASA GRID NORTH
N
37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

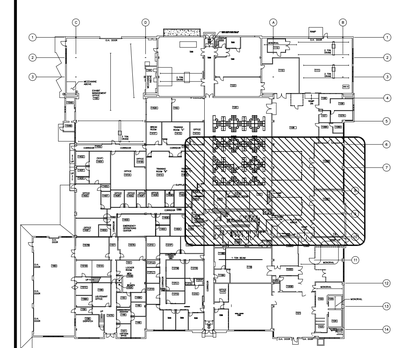
DEMOLITION NOTES

1. REMOVE EXISTING STEAM CONDENSATE PIPING FROM THE STEAM TRAP ASSEMBLY AS SHOWN ON THIS DRAWING BACK TO THE CONDENSATE HEADER. CAP THE PIPING AS CLOSE TO THE HEADER AS POSSIBLE.
SEE DRAWING M-404, FOR NEW PIPING INSTALLATION.
2. REMOVE EXISTING STEAM CONDENSATE PIPING FROM THE STEAM TRAP ASSEMBLIES AS SHOWN ON THIS DRAWING BACK TO THE CONDENSATE HEADER. CAP THE PIPING AS CLOSE TO THE HEADER AS POSSIBLE.
SEE DRAWING M-404, FOR NEW PIPING INSTALLATION.
3. REMOVE EXISTING STEAM CONDENSATE PIPING FROM THE STEAM TRAP ASSEMBLIES AS SHOWN ON THIS DRAWING BACK TO THE CONDENSATE HEADER. CAP THE PIPING AS CLOSE TO THE HEADER AS POSSIBLE.
SEE DRAWING M-404, FOR NEW PIPING INSTALLATION.
4. VAV TERMINALS AND STEAM PIPING REMOVED UNDER PROJECT COF20297.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

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NASA APPROVALS
DR: | DES:
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RELEASE STATUS: WORKING

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BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL DEMOLITION
REMOVAL OF MISCELLANEOUS PIPING
MEZZ. LEVEL AND ABOVE CEILING PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	-MD	404

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION ▪ | VER 1
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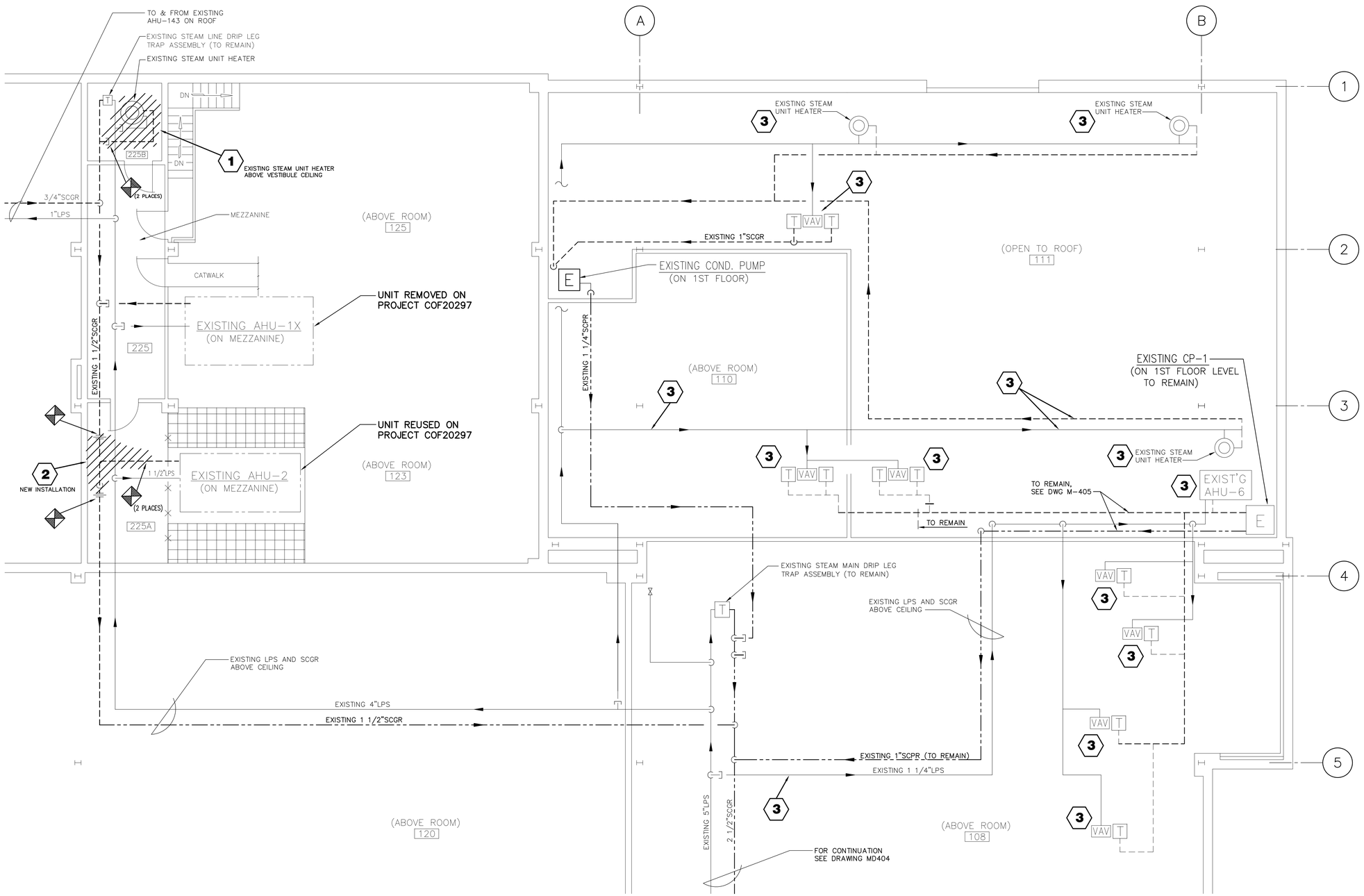


MECHANICAL DEMOLITION - MEZZANINE LEVEL AND 1st FLOOR PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

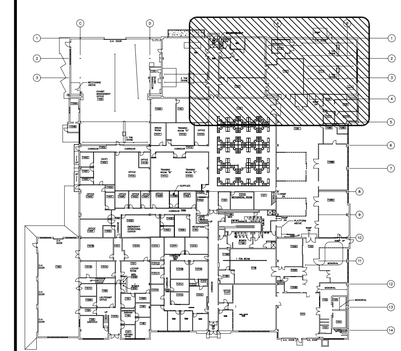
DEMOLITION NOTES

1. REMOVE EXISTING STEAM UNIT HEATER, ATTACHED DUCTWORK, ASSOCIATED PIPING COMPONENTS AND PIPING BACK TO THE STEAM AND CONDENSATE HEADERS. CAP THE PIPING AS CLOSE TO THE HEADERS AS POSSIBLE.
2. REMOVE EXISTING PIPING BETWEEN THE UNIONS AND EXISTING TEE AS REQUIRED TO INSTALL NEW PUMP, SEE DRAWING M-405, FOR NEW PUMP AND PIPING INSTALLATION.
3. EXISTING UNIT HEATERS, VAV'S, AHU, AND ASSOCIATED PIPING AND COMPONENTS DEMOLISHED UNDER PROJECT COF20297.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN	RDF
DESIGNED	RPB
CHECKED	TCB
APPROVED	
APPROVAL DATE	

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: STEM	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL - DEMOLITION
REMOVAL OF COND. PUMP & MISCELLANEOUS PIPING
MEZZANINE LEVEL AND 1ST FLOOR PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	-MD	405

AREA: ROOMS 111, 225 AND 225A		SHEET 01 OF 01	
UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION ■	VER 1
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014		

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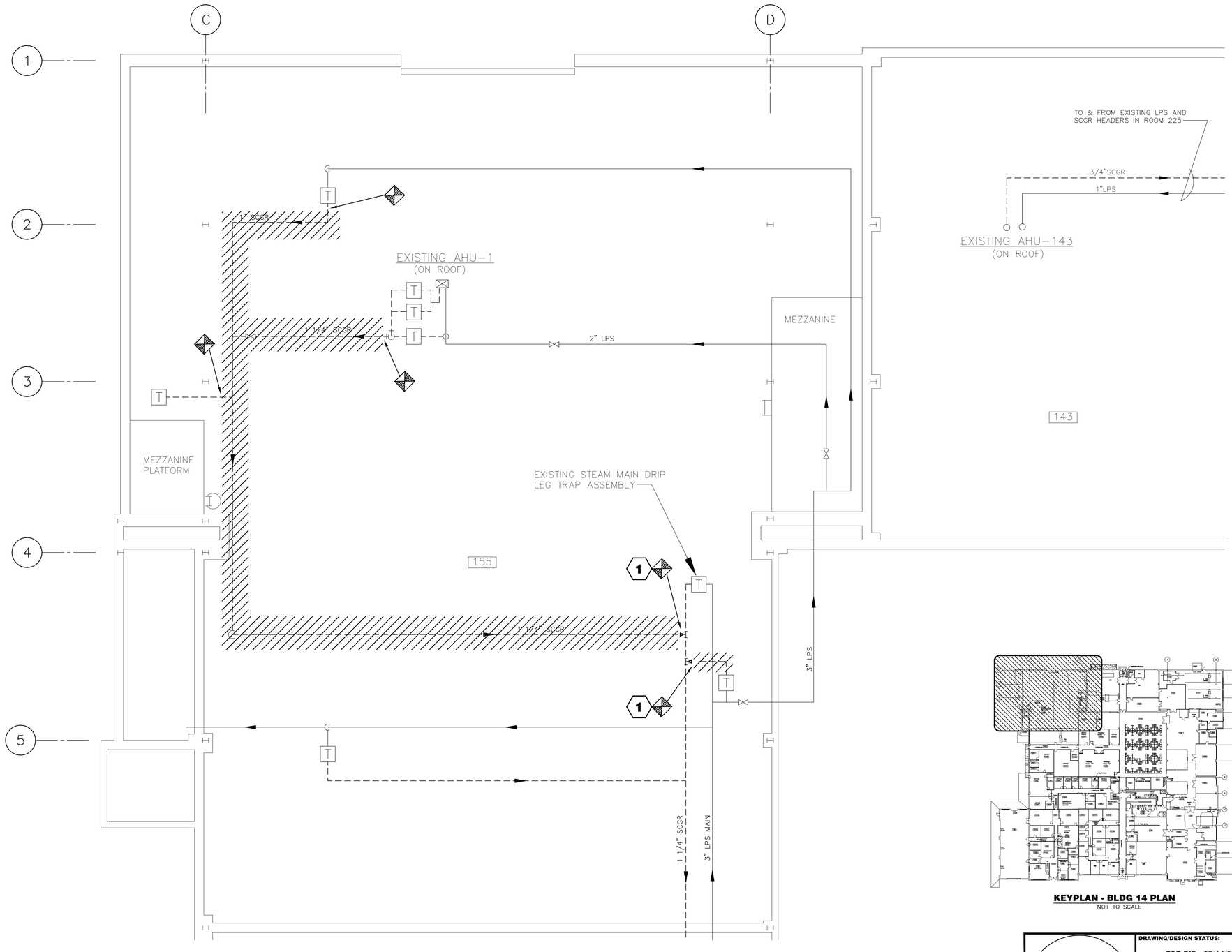
TEMPLATE DATE: 02/28/2011



MECHANICAL DEMO - MEZZANINE LEVEL AND 1st FLOOR PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'
3/16" = 1'-0"

NASA GRID NORTH
N
37° 51' 21"

KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

DEMOLITION NOTES

(1) REMOVE EXISTING CONDENSATE PIPING FROM THE STEAM TRAP ASSEMBLIES TO THE CONDENSATE HEADER. CAP THE PIPING AT THE HEADER AS REQUIRED. (2-REQ'D)
SEE DRAWING M-406, FOR NEW PIPING INSTALLATION TO NEW CONDENSATE TRANSFER STATION CTS-155.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM:	SUB-SYS:	FACILITY:	CONFIG:
STEM			

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN RDF	DESIGNED RPB / CHECKED TCB
APPROVED	APPROVAL DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL - DEMOLITION
REMOVAL OF MISCELLANEOUS PIPING ROOM 155
MEZZANINE LEVEL AND 1ST FLOOR PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	-MD	406

AREA: ROOM 155 | SHEET 01 OF 01

UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION	VER
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014	-	1

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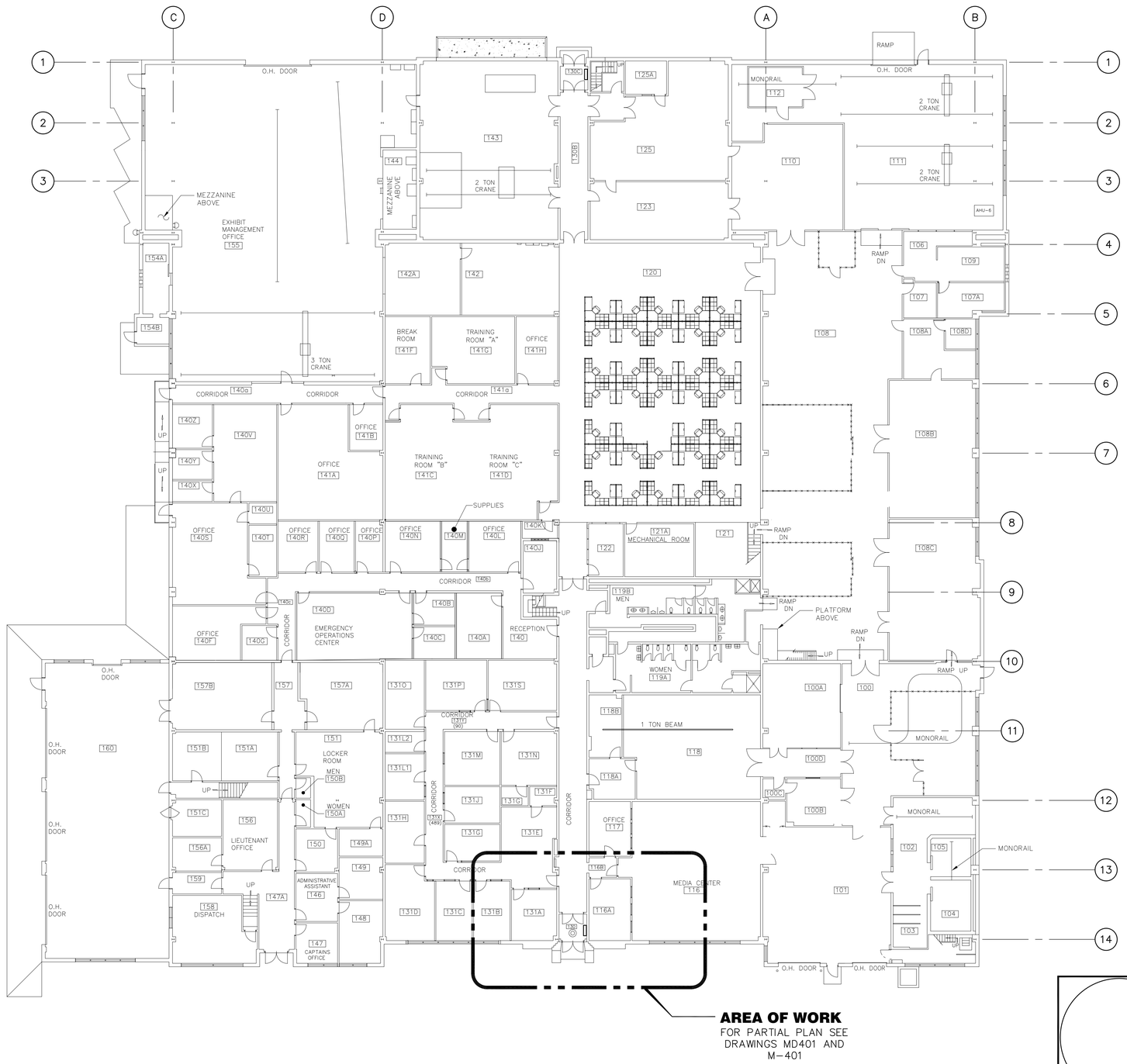
TEMPLATE DATE: 02/28/2011



MECHANICAL - GENERAL ARRANGEMENT - FIRST FLOOR LOCATION PLAN

SCALE : 1/16"=1'-0"

GRAPHIC SCALE 0 10' 20' 30'
1/16" = 1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: STEM	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
GENERAL ARRANGEMENT
FIRST FLOOR LOCATION PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	101

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION: - | VER: 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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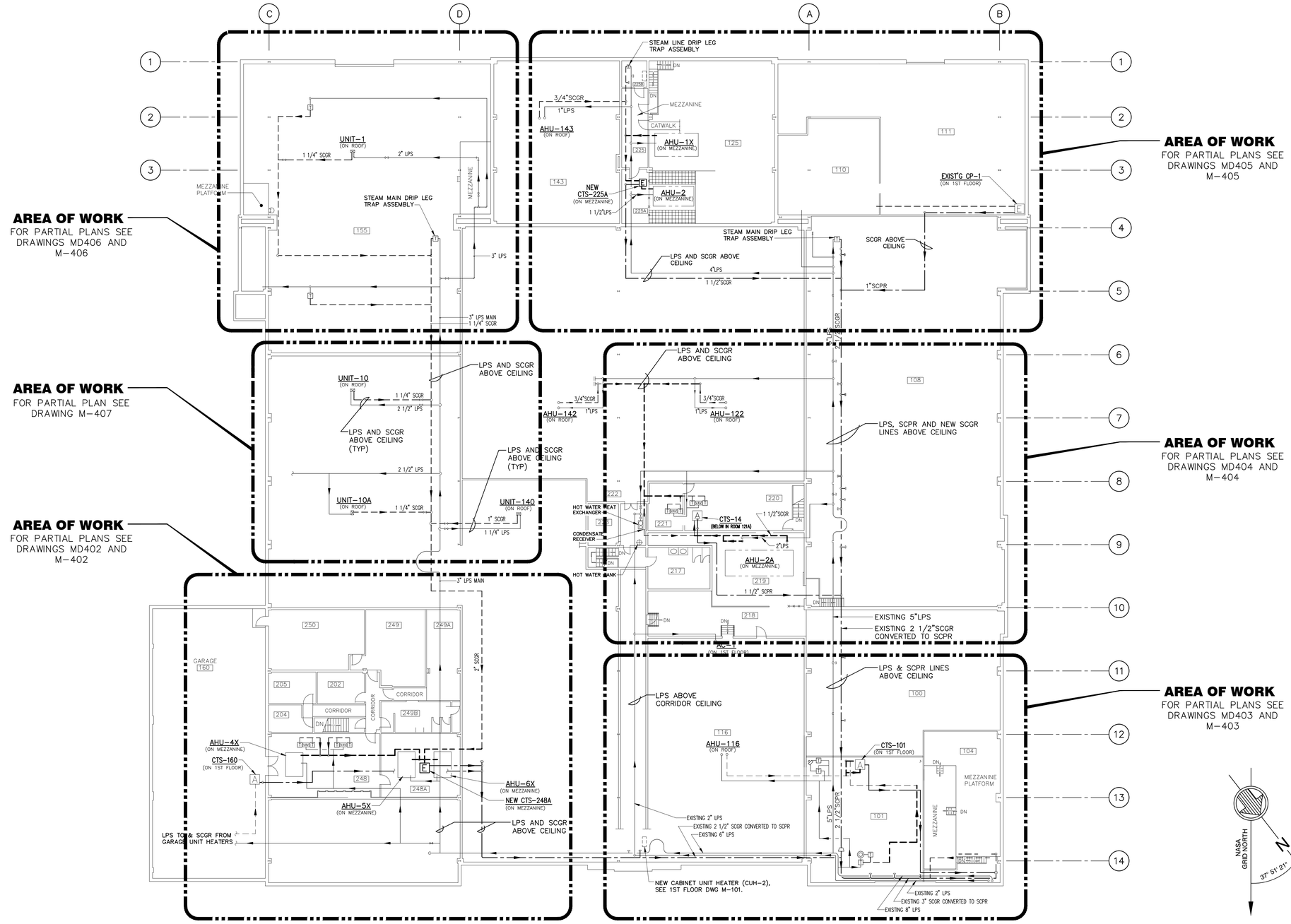
TEMPLATE DATE: 02/28/2011



MECHANICAL - GENERAL ARRANGEMENT - MEZZANINE LEVEL AND ABOVE CEILING LOCATION PLAN

SCALE : 1/16"=1'-0"

GRAPHIC SCALE 0 10' 20' 30'
1/16" = 1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

CHG	NUM	DESCRIPTION	APP/DATE
REVISIONS			

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

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NASA APPROVALS

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D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
GENERAL ARRANGEMENT
MEZZ. LEVEL AND ABOVE CEILING LOCATION PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	102

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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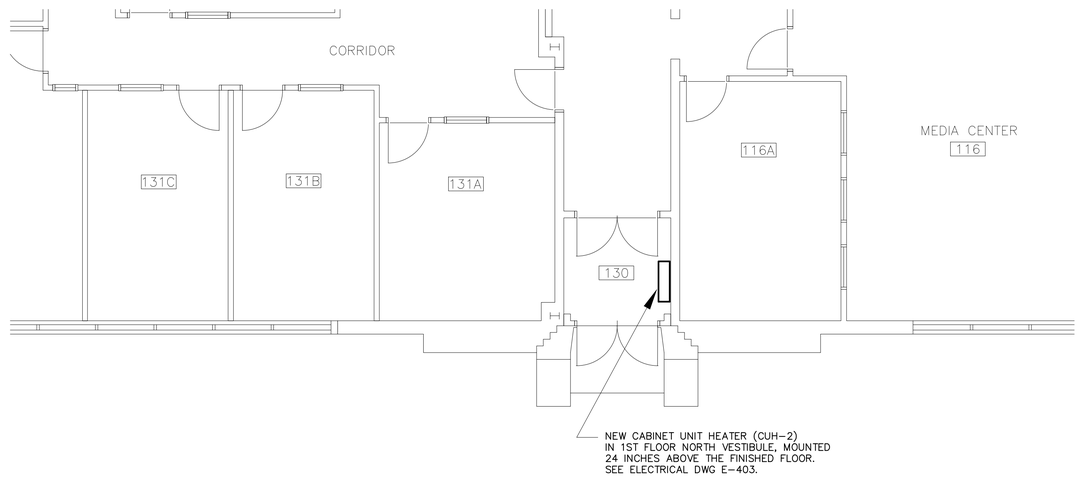


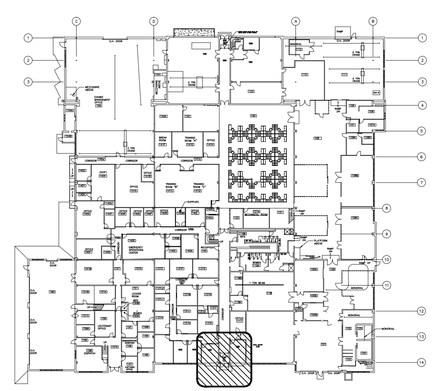
MECHANICAL - FIRST FLOOR PLAN - NORTH VESTIBULE

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-101)

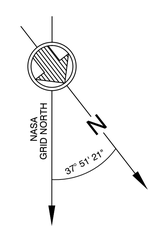
NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES, SEE DRAWING M-601.



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE



GRAPHIC SCALE 0 1' 3' 5' 10' 15'

3/16" = 1'-0"

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN	RDF
DESIGNED	RPB
CHECKED	TCB
APPROVED	
APPROVAL DATE	

DRAWING/DESIGN STATUS:

FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: STEM	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

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RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
INSTALLATION OF CABINET UNIT HEATERS
FIRST FLOOR PLAN - NORTH VESTIBULE

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	401

AREA: ROOM 130 | SHEET 01 OF 01

UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION	VER
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014	-	1

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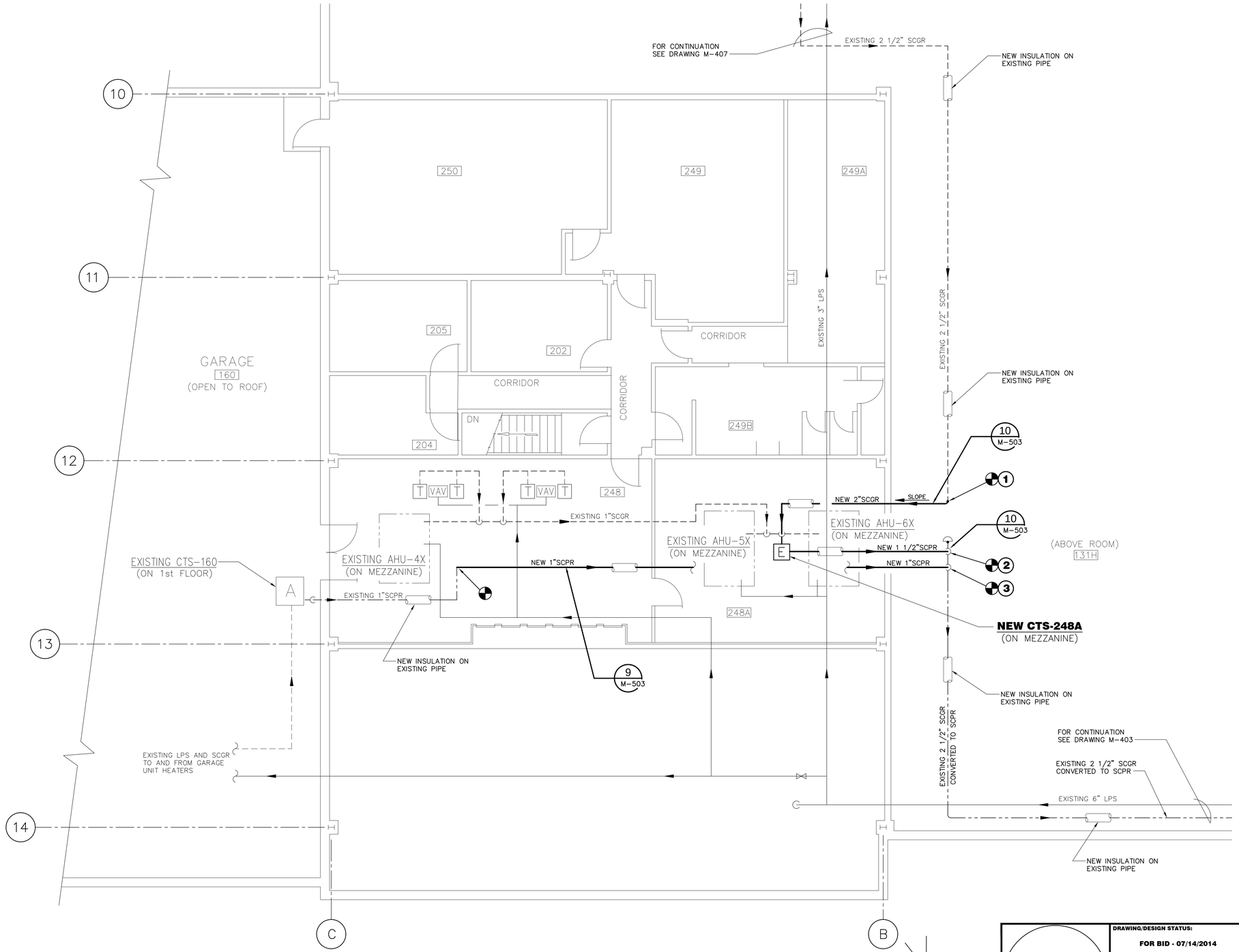
TEMPLATE DATE: 02/28/2011



MECHANICAL - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'

3/16" = 1'-0"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS.

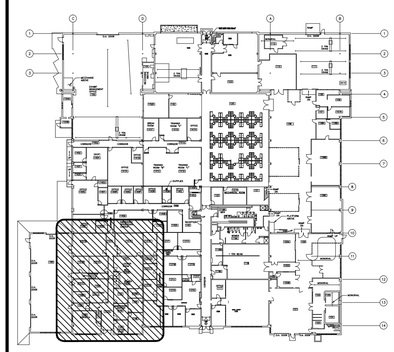
CONSTRUCTION NOTES

1. FIELD WELD NEW 2 1/2" ELBOW TO EXISTING SCGR PIPE, SEE DETAIL #10 ON DWG M-503.
2. FIELD WELD NEW 1 1/2" THREDOLET TO THE EXISTING SCGR PIPE, SEE DETAIL #10 ON DWG M-503.
3. FIELD WELD NEW 1" THREDOLET TO THE EXISTING SCGR PIPE, SEE DETAIL #9 ON DWG M-503.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
INSTALLATION CTS-248A & REROUTING OF PIPING
MEZZ. LEVEL AND ABOVE CEILING PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	402

AREA: ROOMS 248, 248A AND ABOVE 131H | SHEET 01 OF 01

UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1

SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS

DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

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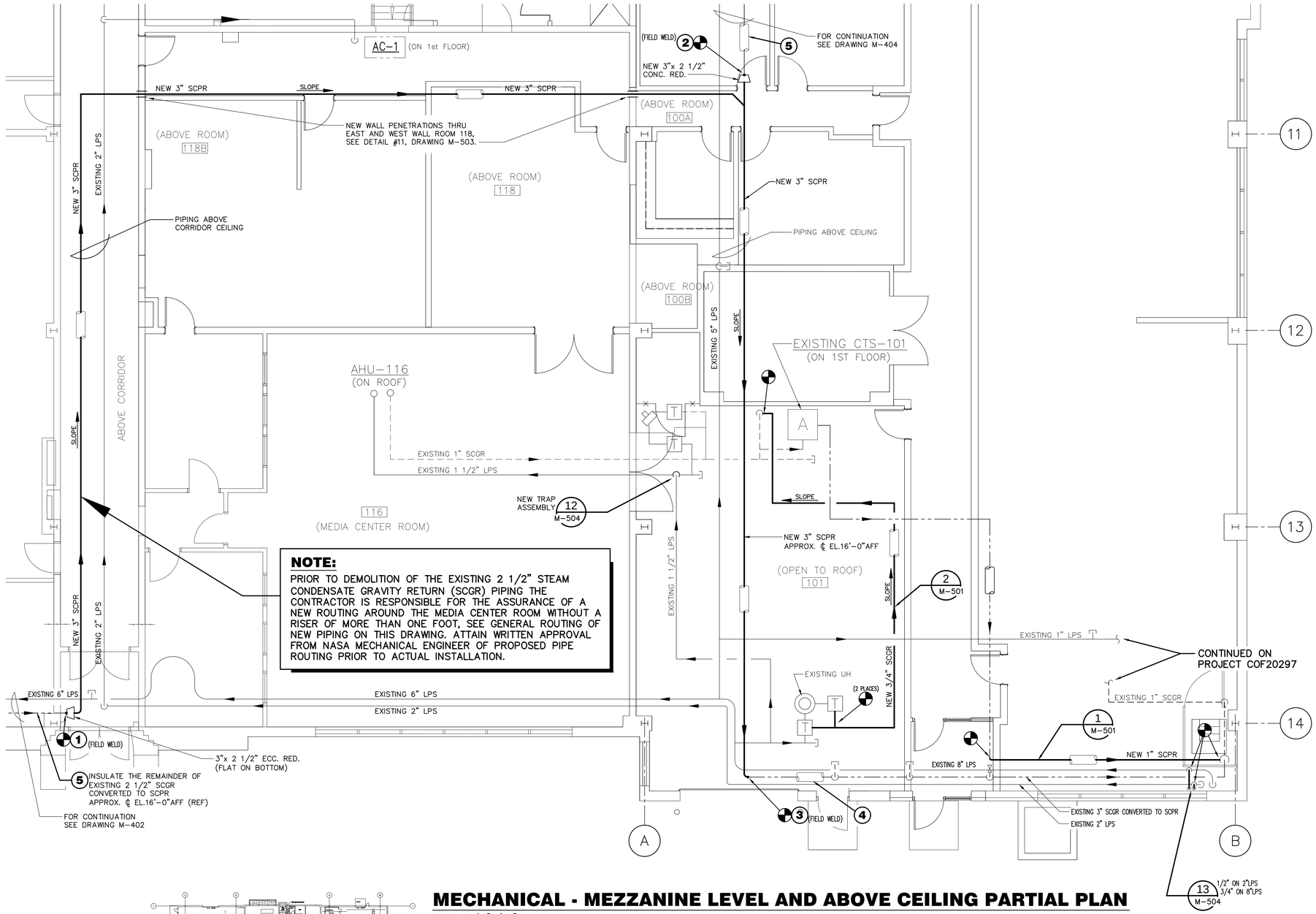


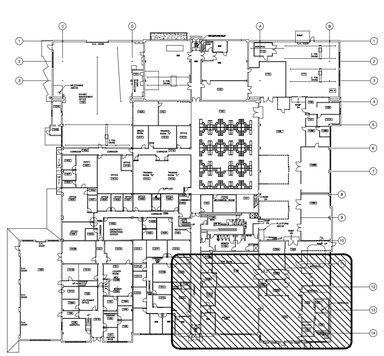
NOTE:

PRIOR TO DEMOLITION OF THE EXISTING 2 1/2" STEAM CONDENSATE GRAVITY RETURN (SCGR) PIPING THE CONTRACTOR IS RESPONSIBLE FOR THE ASSURANCE OF A NEW ROUTING AROUND THE MEDIA CENTER ROOM WITHOUT A RISER OF MORE THAN ONE FOOT, SEE GENERAL ROUTING OF NEW PIPING ON THIS DRAWING. ATTAIN WRITTEN APPROVAL FROM NASA MECHANICAL ENGINEER OF PROPOSED PIPE ROUTING PRIOR TO ACTUAL INSTALLATION.

MECHANICAL - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

GRAPHIC SCALE 0 1' 3' 5' 10' 15'

3/16" = 1'-0"

NASA GRID NORTH

N

37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS.

CONSTRUCTION NOTES

1. FIELD WELD EXISTING 2 1/2" SCGR CONVERTED TO SCPR HEADER WITH NEW 3"x 2 1/2" ECCENTRIC REDUCER (FLAT ON BOTTOM), ROUTE NEW 3" SCPR HEADER PIPE AS SHOWN ON THIS DRAWING. SLOPE TO SUIT, ASSURING THERE ARE NO DIPS OR POCKETS.
2. FIELD WELD EXISTING 2 1/2" SCGR CONVERTED TO SCPR HEADER WITH NEW 3"x 2 1/2" CONC. REDUCER, ROUTE NEW 3" SCPR HEADER PIPE AS SHOWN ON THIS DRAWING. SLOPE TO SUIT, ASSURING THERE ARE NO DIPS OR POCKETS.
3. FIELD WELD NEW 3" ELBOW TO EXISTING 3" SCGR CONVERTED TO SCPR HEADER PIPE.
4. INSULATE THE EXISTING 3" SCGR CONVERTED TO SCPR HEADER PIPE BACK TO STEAM PIT.
5. INSULATE THE EXISTING 2 1/2" SCGR CONVERTED TO SCPR HEADER PIPE ABOVE CEILING.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS

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RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
REROUTING OF STEAM CONDENSATE PIPING
MEZZ. LEVEL AND ABOVE CEILING PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	403

AREA: ROOMS 101 AND 116 | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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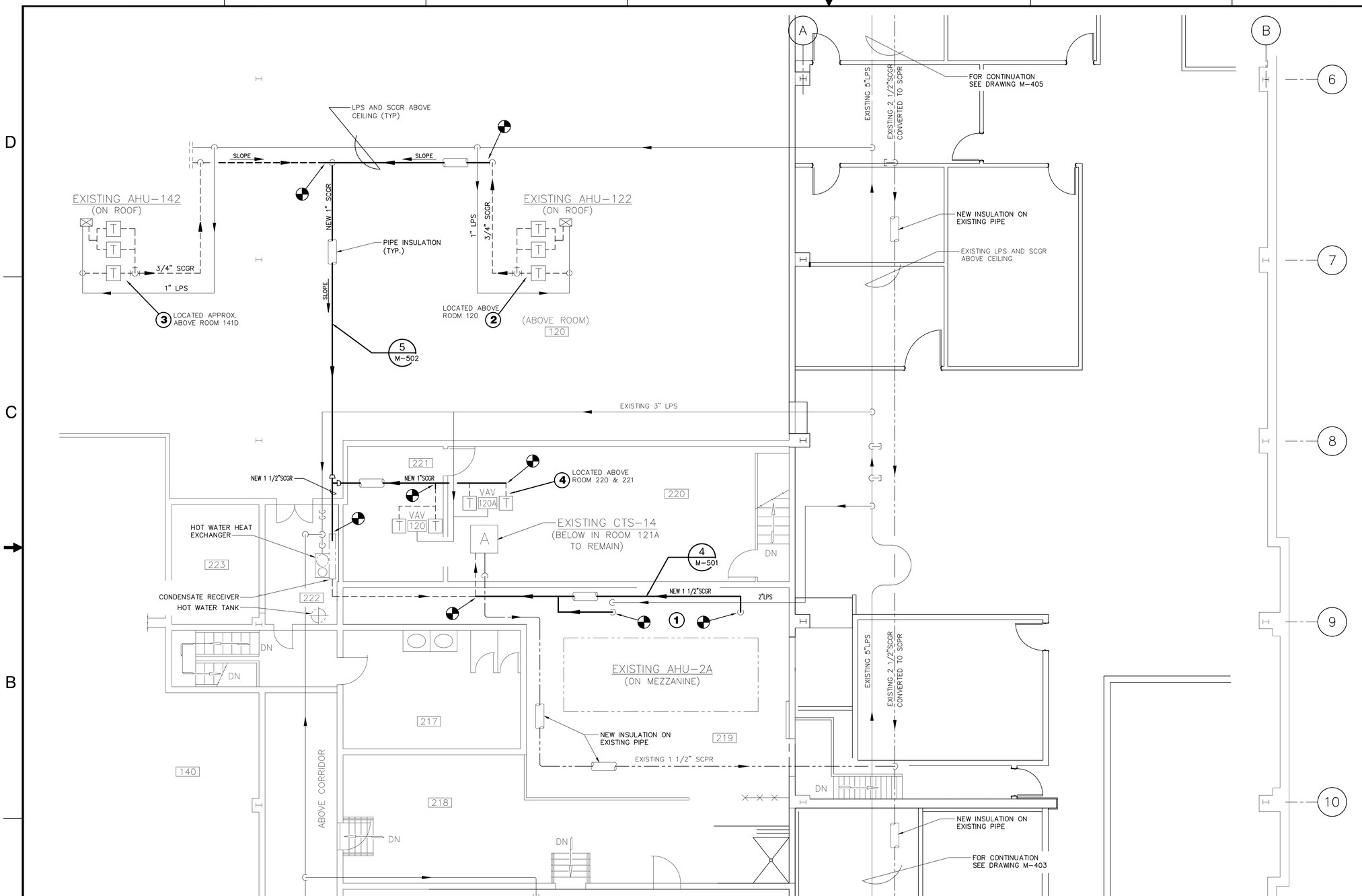
TEMPLATE DATE: 02/28/2011



MECHANICAL - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'

3/16" = 1'-0"

NASA GRID NORTH

N

37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS.

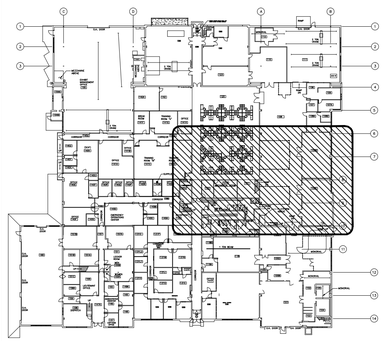
CONSTRUCTION NOTES

1. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-2A AND VAV-2A-1 ON MEZZANINE LEVEL, SEE DETAIL #4 ON DRAWING M-501.
2. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-122 ON ROOF, SEE DETAIL #5 ON DRAWING M-502. (TYPICAL 3-REQ'D.)
3. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-142 ON ROOF, SEE DETAIL #5 ON DRAWING M-502. (TYPICAL 3-REQ'D.)
4. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR VAV-120 AND VAV-120A ON MEZZANINE LEVEL, SEE DETAIL #5 ON DRAWING M-502. (TYPICAL 4-REQ'D)

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: STEM	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
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RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

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LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
REROUTING OF STEAM CONDENSATE PIPING
MEZZ. LEVEL AND ABOVE CEILING PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	404

AREA: ABOVE ROOMS 108, 120 AND 221 | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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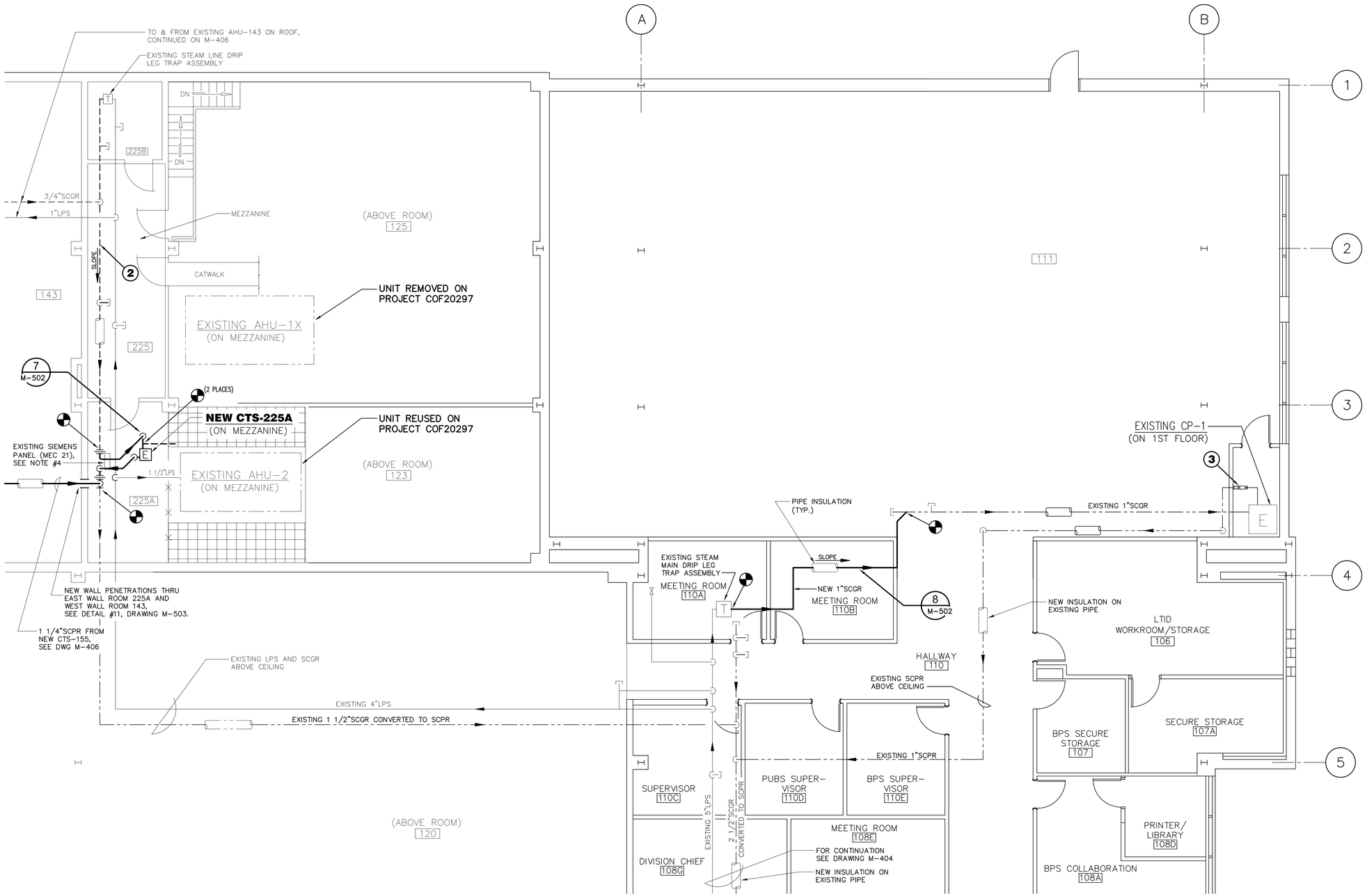


MECHANICAL - MEZZANINE LEVEL AND 1st FLOOR PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'
3/16" = 1'-0"

NASA GRID NORTH
N
37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS.
4. CONTRACTOR SHALL CONSTRUCT A STAINLESS STEEL DRIP SHIELD TO PROTECT THE SIEMENS PANEL AS REQ'D.

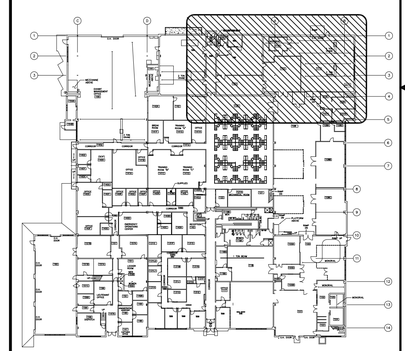
CONSTRUCTION NOTES

1. INSTALL NEW PIPING TO SLOPE ADEQUATELY IN THE DIRECTION SHOWN, SEE DETAIL #6 ON DWG M-502.
2. RE-POSITION EXISTING PIPING TO SLOPE ADEQUATELY IN THE DIRECTION SHOWN, SEE DETAIL #7 ON DWG M-502.
3. REMOVE EXISTING BALANCING VALVE AND INSTALL NEW STRAIGHT PIPE IN ITS PLACE.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN RDF	DESIGNED RPB / CHECKED TCB
APPROVED	APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
INSTALLATION OF CTS-111 & 225A & ASSOC. PIPING
MEZZANINE LEVEL AND 1ST FLOOR PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	405

AREA: ROOMS 111, 225 AND 225A		SHEET 01 OF 01	
UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION ■	VER 1
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014		

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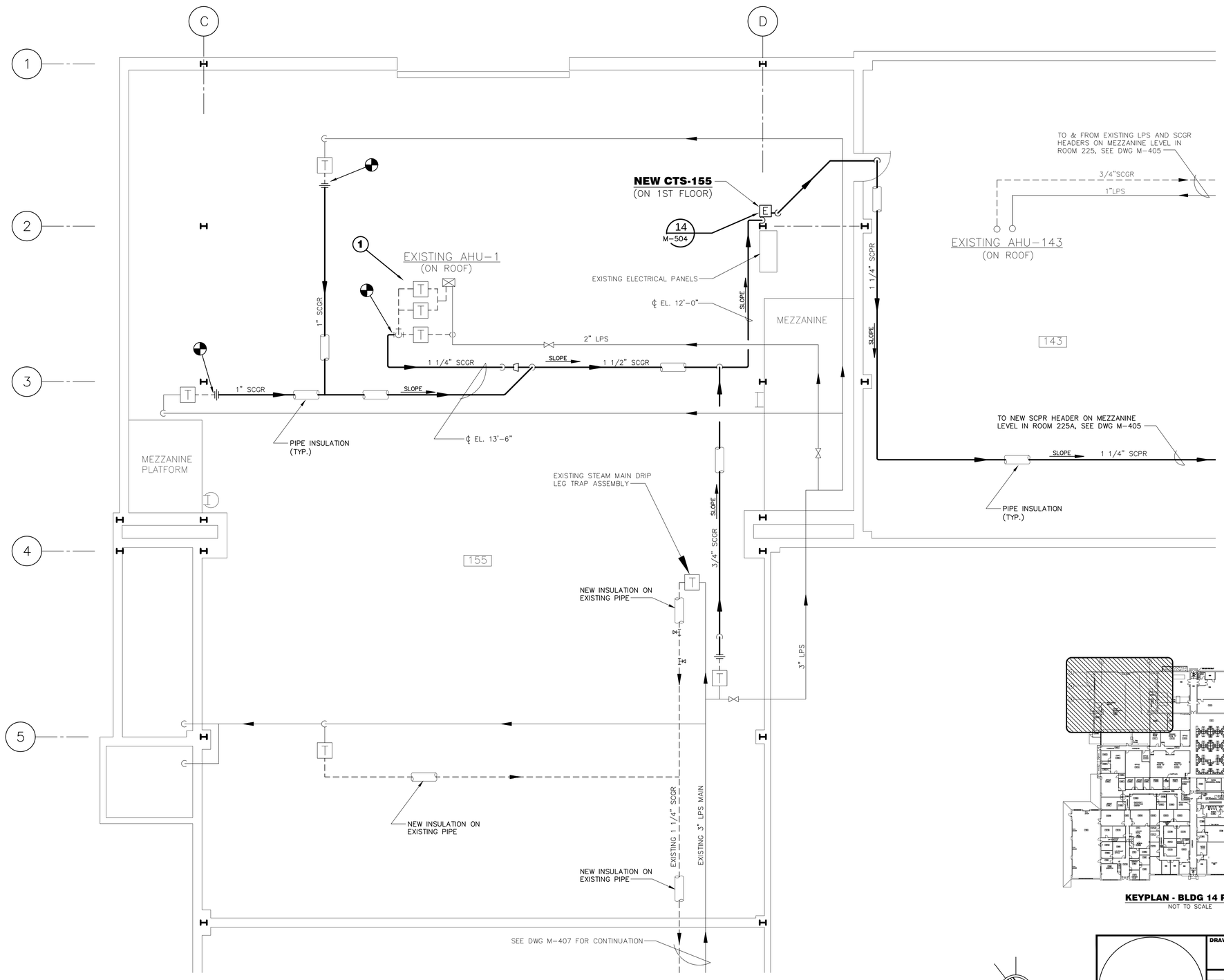
TEMPLATE DATE: 02/28/2011



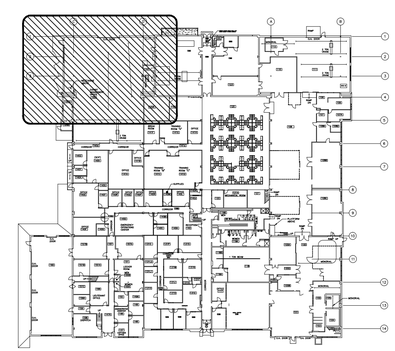
MECHANICAL - MEZZANINE LEVEL AND 1st FLOOR PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'
3/16" = 1'-0"

NASA GRID NORTH
N
37° 51' 21"



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS.

CONSTRUCTION NOTES

1. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-1 ON ROOF, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 3-REQ'D.)

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT
SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
INSTALLATION OF CTS-155 & ASSOC. PIPING
MEZZANINE LEVEL AND 1ST FLOOR PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	406

AREA: ROOMS 143 AND 155 | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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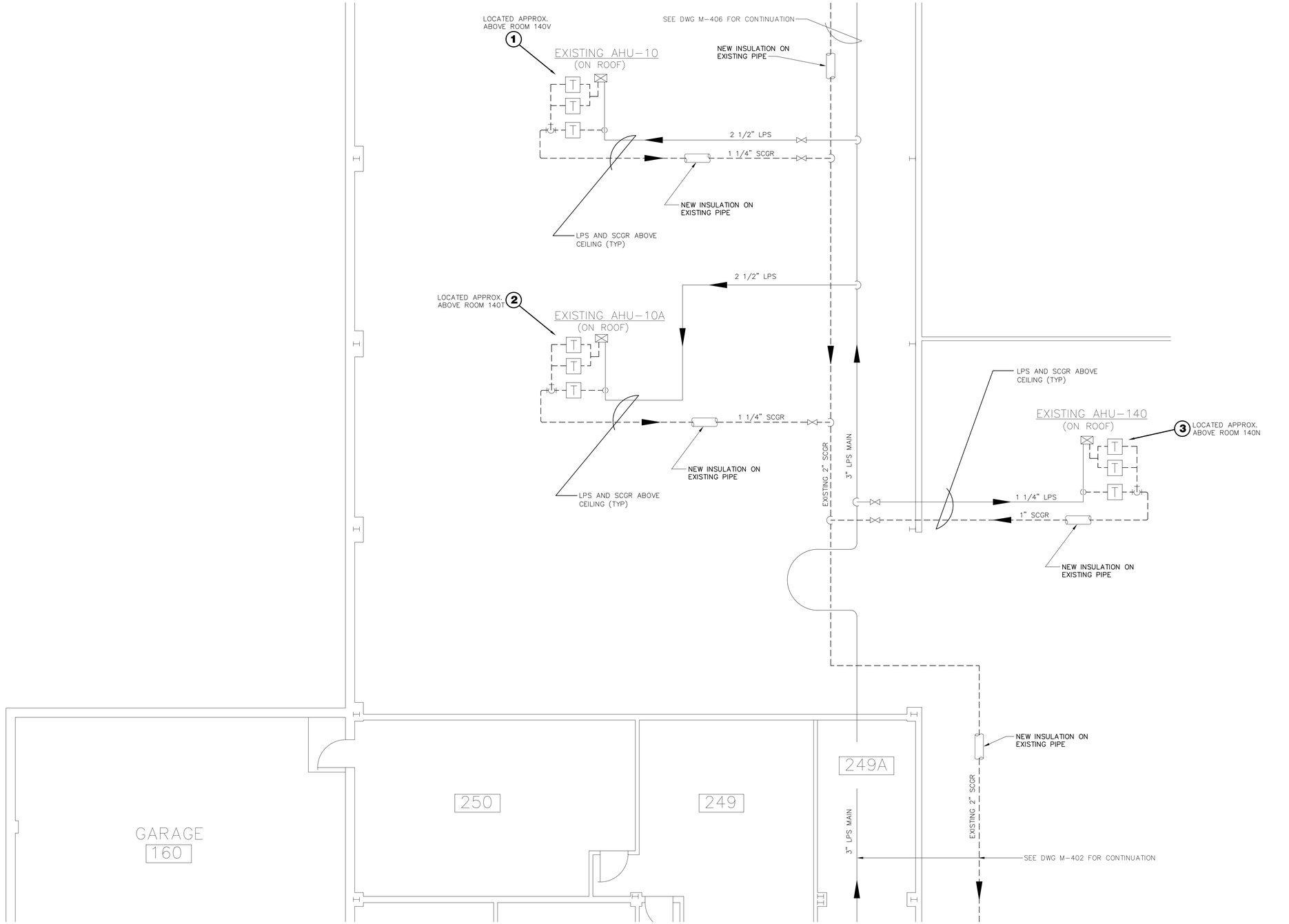
TEMPLATE DATE: 02/28/2011



MECHANICAL - MEZZANINE LEVEL AND ABOVE CEILING PARTIAL PLAN

SCALE : 3/16"=1'-0"

(REFER TO LOCATION PLAN ON DWG M-102)

GRAPHIC SCALE 0 1' 3' 5' 10' 15'
3/16" = 1'-0"

NASA GRID NORTH
N
37° 51' 21"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS.

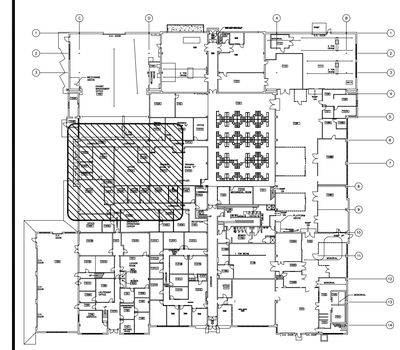
CONSTRUCTION NOTES

1. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-10 ON ROOF, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 3-REQ'D.)
2. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-10A ON ROOF, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 3-REQ'D.)
3. LOCATE, IDENTIFY AND REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-140 ON ROOF, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 3-REQ'D.)

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

DENOTES EXISTING PIPING, SUPPORTS & COMPONENTS TO BE REMOVED



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR: JAS | RELEASE APPROVAL: DATE: | RELEASE APPROVAL: DATE: | RELEASE APPROVAL: DATE: | RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
INSTALLATION OF TRAPS AND ASSOC. PIPING
MEZZANINE LEVEL AND 1ST FLOOR PARTIAL PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	407

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION ■ | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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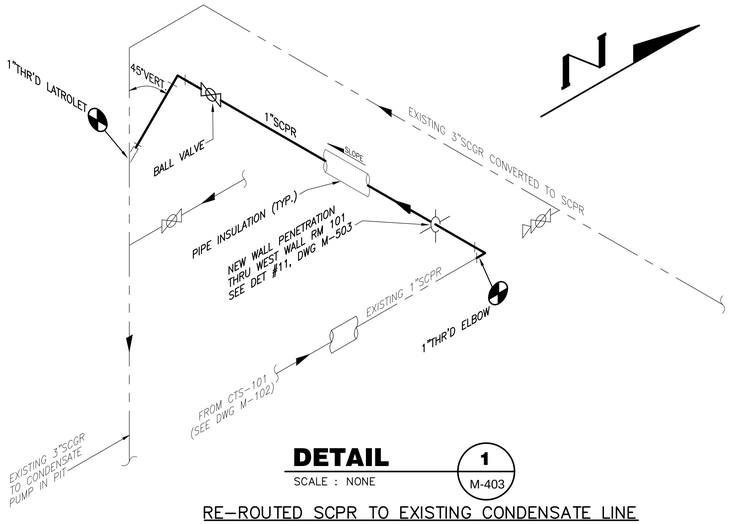
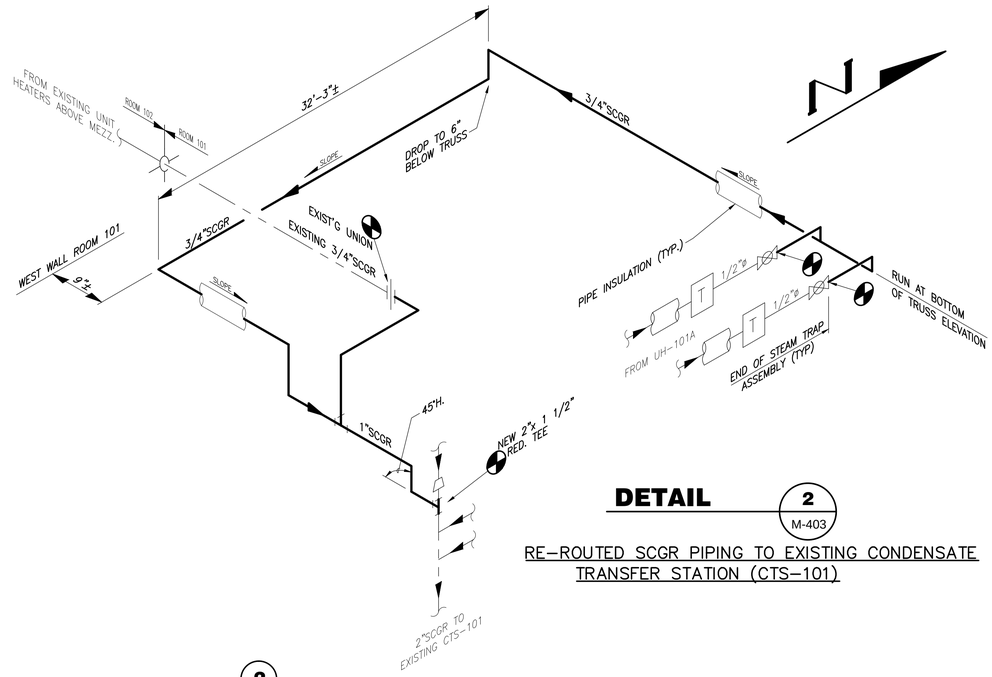


DETAIL 1 / M-403

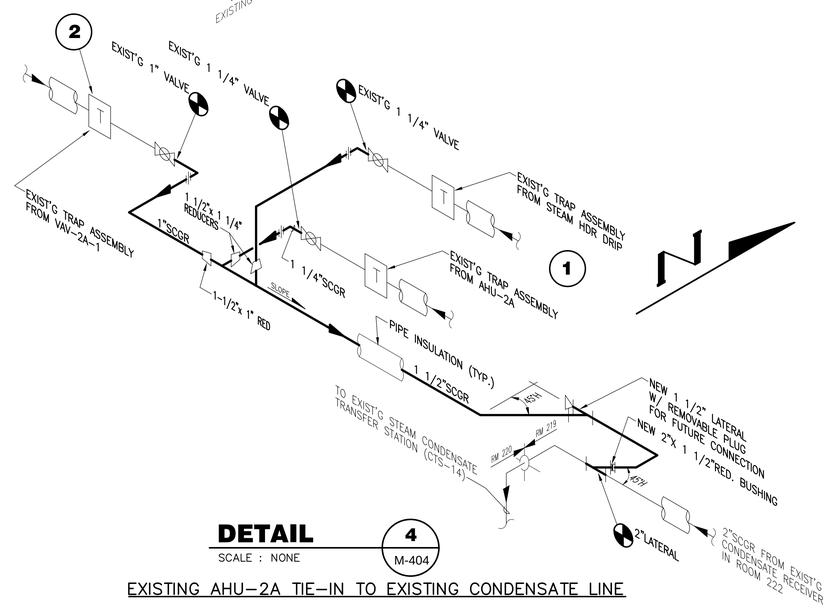
SCALE : NONE

RE-ROUTED SCPR TO EXISTING CONDENSATE LINE



DETAIL 2 / M-403

RE-ROUTED SCGR PIPING TO EXISTING CONDENSATE TRANSFER STATION (CTS-101)



DETAIL 4 / M-404

SCALE : NONE

EXISTING AHU-2A TIE-IN TO EXISTING CONDENSATE LINE

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS. DIMENSIONS AND ELEVATIONS ON THIS DRAWING ARE PROVIDED FOR REFERENCES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS AND ELEVATIONS IN THE FIELD. ACTUAL DIMENSIONS MAY VARY (PLUS OR MINUS) BASED ON EXISTING FIELD CONDITIONS AND NEW CONSTRUCTION INTERFACE.
4. WHERE RISERS EXIST AFTER THE STEAM TRAP CONTRACTOR SHALL RECONFIGURE STEAM TRAP ASSEMBLY TO ASSURE THERE ARE NO RISERS AFTER THE TRAP. (TYPICAL)

CONSTRUCTION NOTES

1. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-2A ON MEZZANINE LEVEL, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 2-REQ'D.)
2. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR VAV-2A-1 ON MEZZANINE LEVEL, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

NOTE TO CONTRACTOR:

PRESSURE TEST NEW PIPING BEFORE MAKING FINAL CONNECTIONS TO EXISTING PIPING SYSTEM.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: DATE:
RELEASE APPROVAL: DATE:
RELEASE APPROVAL: DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
REROUTING OF MISC. STEAM CONDENSATE PIPING DETAILS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	501

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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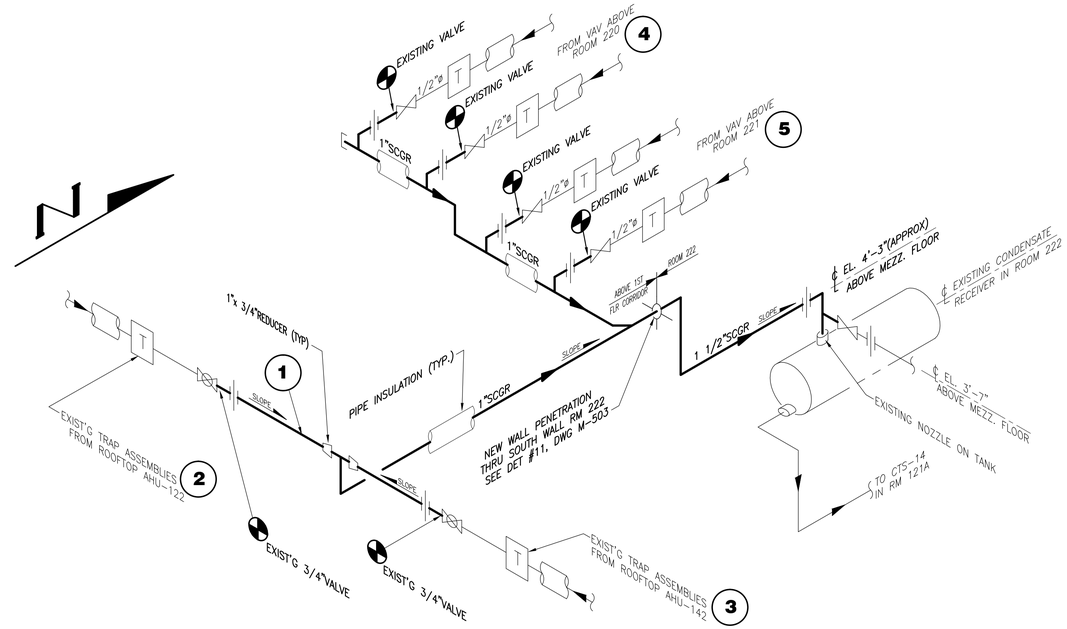
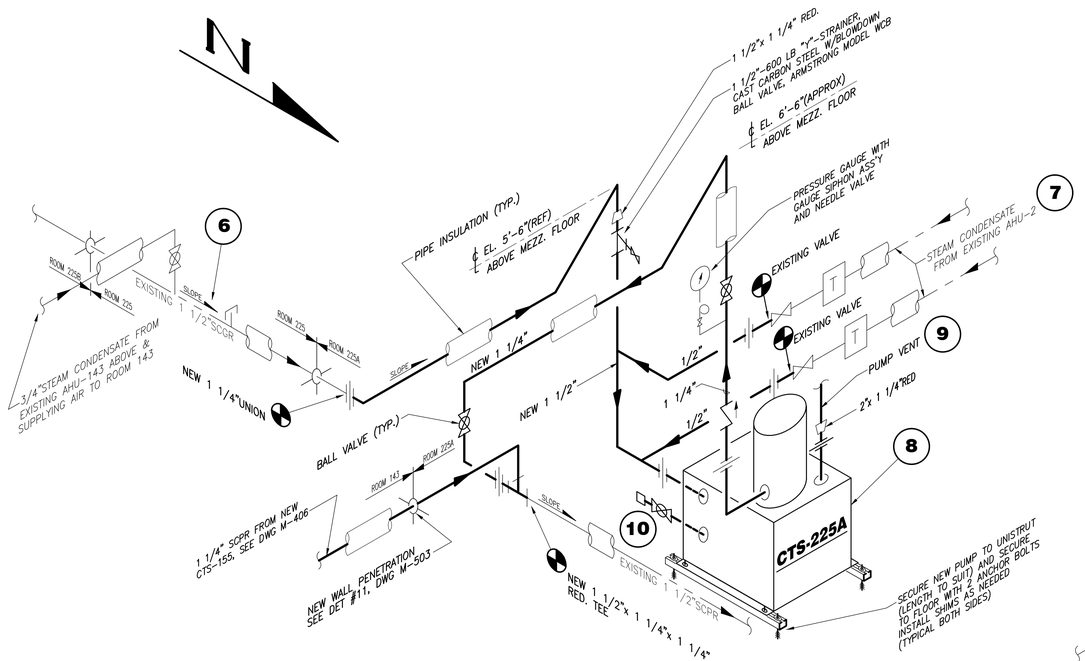
TEMPLATE DATE: 02/28/2011



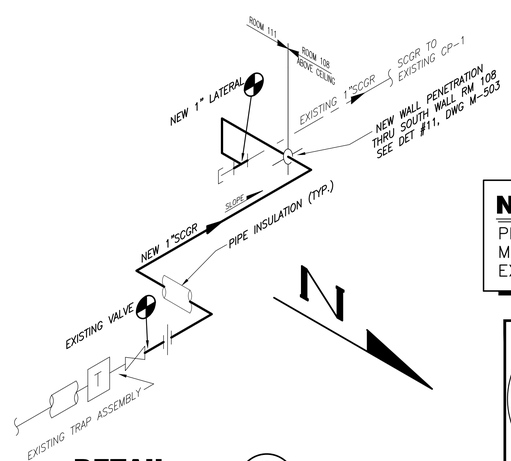
DETAIL 5 / M-404
SCALE : NONE

RE-ROUTED SCGR TO EXISTING CONDENSATE RECEIVER TANK



DETAIL 7 / M-405
SCALE : NONE

INSTALLATION OF NEW CONDENSATE TRANSFER STATION (CTS-225A)



DETAIL 8 / M-405
SCALE : NONE

RE-ROUTED STEAM MAIN TRAP DISCHARGE TO SCGR

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS. DIMENSIONS AND ELEVATIONS ON THIS DRAWING ARE PROVIDED FOR REFERENCES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS AND ELEVATIONS IN THE FIELD. ACTUAL DIMENSIONS MAY VARY (PLUS OR MINUS) BASED ON EXISTING FIELD CONDITIONS AND NEW CONSTRUCTION INTERFACE.
4. WHERE RISERS EXIST AFTER THE STEAM TRAP CONTRACTOR SHALL RECONFIGURE STEAM TRAP ASSEMBLY TO ASSURE THERE ARE NO RISERS AFTER THE TRAP. (TYPICAL)

CONSTRUCTION NOTES

1. RE-POSITION EXISTING PIPING TO SLOPE ADEQUATELY IN THE DIRECTION AS SHOWN ON THE DETAIL.
2. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-122 ON ROOF, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 3-REQ'D.)
3. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-142 ON ROOF, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 3-REQ'D.)
4. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR VAV-220 ON MEZZANINE LEVEL, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 2-REQ'D.)
5. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR VAV-221 ON MEZZANINE LEVEL, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 2-REQ'D.)
6. RE-POSITION EXISTING PIPING TO SLOPE ADEQUATELY IN THE DIRECTION AS SHOWN ON THE DETAIL.
7. REMOVE EXISTING STEAM TRAP ASSEMBLY PIPING AND INSTALL NEW TRAP ASSEMBLY PIPING FOR AHU-2 ON MEZZANINE LEVEL, SEE DETAIL #15 AND TRAP CHART ON DRAWING M-504. (TYPICAL 2-REQ'D.)
8. PROVIDE AND INSTALL NEW CONDENSATE TRANSFER STATION (CTS-225A). SEE ELECTRICAL DWG. E-402 FOR WIRING.
9. FIELD ROUTE 2"ø VENT PIPE UP THRU THE ROOF AND END IT WITH A 180° GOOSENECK 3 FEET ABOVE ROOF. SEE DWG. M-503 FOR ROOF PENETRATION DETAIL
10. INSTALL 1/2" BALL VALVE DRAIN AND MALE HOSE CONNECTION.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

NOTE TO CONTRACTOR:
PRESSURE TEST NEW PIPING BEFORE MAKING FINAL CONNECTIONS TO EXISTING PIPING SYSTEM.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
REROUTING OF MISC. STEAM CONDENSATE
PIPING DETAILS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	502

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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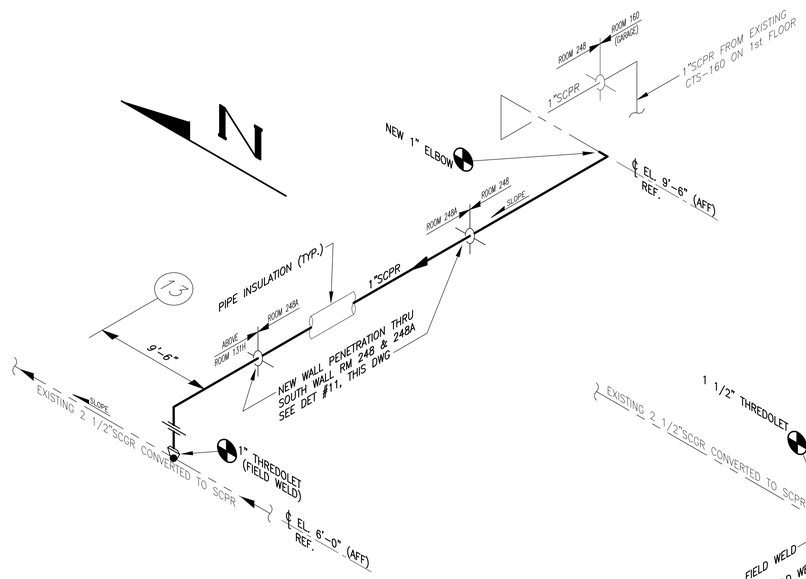
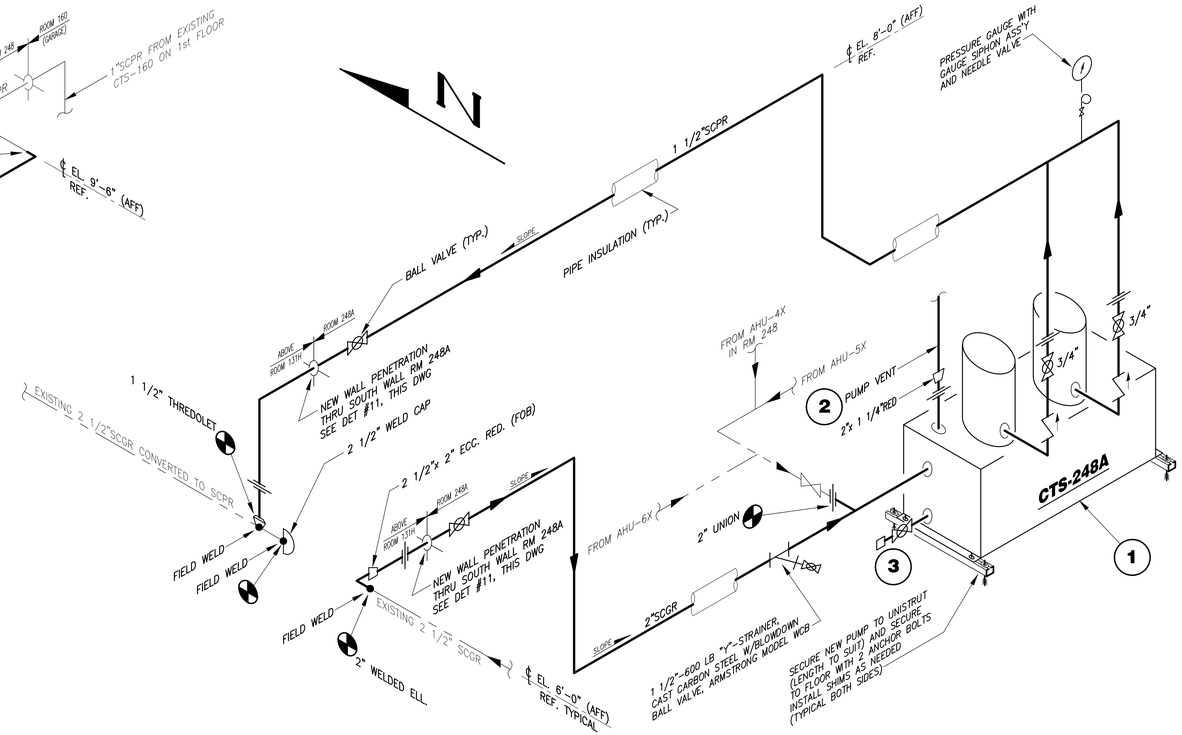


DETAIL 9 / M-402
SCALE : NONE

RE-ROUTED SCPR TO THE SCPR HEADER



DETAIL 10 / M-402
SCALE : NONE

INSTALLATION OF NEW CONDENSATE TRANSFER STATION (CTS-248A)

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M-601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS. DIMENSIONS AND ELEVATIONS ON THIS DRAWING ARE PROVIDED FOR REFERENCES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS AND ELEVATIONS IN THE FIELD. ACTUAL DIMENSIONS MAY VARY (PLUS OR MINUS) BASED ON EXISTING FIELD CONDITIONS AND NEW CONSTRUCTION INTERFACE.
4. WHERE RISERS EXIST AFTER THE STEAM TRAP CONTRACTOR SHALL RECONFIGURE STEAM TRAP ASSEMBLY TO ASSURE THERE ARE NO RISERS AFTER THE TRAP. (TYPICAL)
5. PROVIDE LETTER OF CERTIFICATION FROM THE ROOF MANUFACTURER AND INSULATION COMPANY THAT ROOF REPAIR HAS BEEN ACCEPTED AND THAT THE EXISTING WARRANTY IS STILL IN EFFECT.

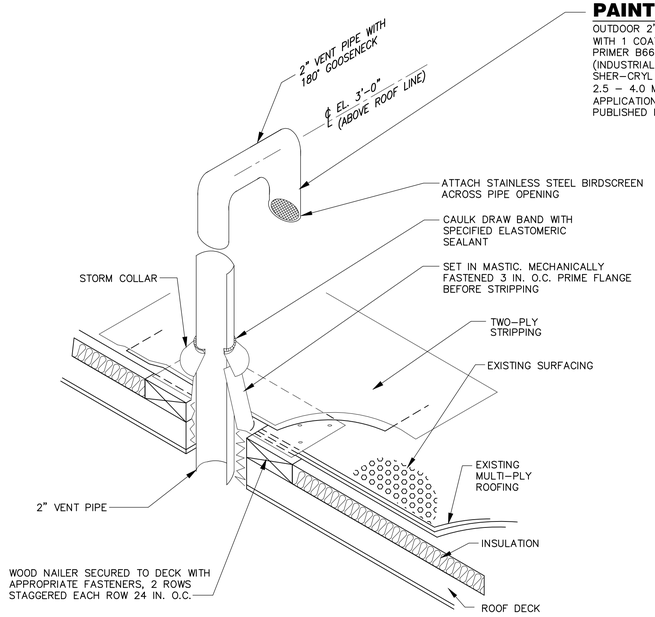
CONSTRUCTION NOTES

1. PROVIDE AND INSTALL THE NEW CONDENSATE TRANSFER STATION (CTS-248A) IN THE APPROXIMATE LOCATION OF THE EXISTING PUMP. SEE ELECTRICAL DWG. E-404 FOR WIRING.
2. FIELD ROUTE 2"ø VENT PIPE UP THRU THE ROOF AND END IT WITH A 180° GOOSENECK 3 FEET ABOVE ROOF. SEE THIS DWG. FOR ROOF PENETRATION DETAIL.
3. INSTALL 1/2" BALL VALVE DRAIN AND MALE HOSE CONNECTION.

LEGEND

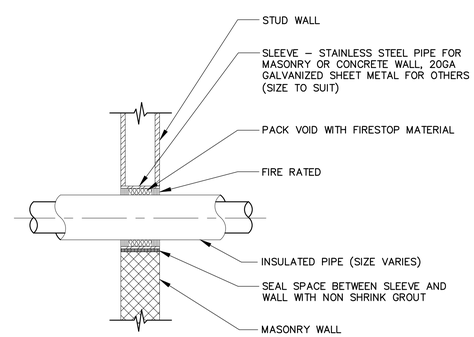
FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014-COF20297-M-001

PAINT NOTE:
OUTDOOR 2" CONDENSATE VENT PIPE PAINT SPECIFICATION, PRIME WITH 1 COAT OF "SHERWIN-WILLIAMS" PRO-CRYL UNIVERSAL PRIMER B66-310 SERIES @ 2.0 - 4.0 MILS DFT. FINISH PAINT (INDUSTRIAL & MARINE) - 2 COATS OF "SHERWIN-WILLIAMS" SHER-CRYL HPA HIGH PERFORMANCE ACRYLIC B66-350 SERIES @ 2.5 - 4.0 MILS DFT/CT; COLOR: FLAT BLACK. PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH "SHERWIN-WILLIAMS" PUBLISHED INSTRUCTIONS.



ROOF PENETRATION DETAIL SEE NOTE #5
SCALE : NONE

METAL SLEEVE AND STORM COLLAR (TYP 3 PLACES)
(REFER TO DRAWINGS M-502, 503 & 504)



DETAIL 11 / M-501, 02 & 03
SCALE : NONE

INSULATED PIPE WALL PENETRATION

NOTE TO CONTRACTOR:
PRESSURE TEST NEW PIPING BEFORE MAKING FINAL CONNECTIONS TO EXISTING PIPING SYSTEM.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR: JAS | RELEASE APPROVAL: DATE: | RELEASE APPROVAL: DATE: | RELEASE APPROVAL: DATE: | RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
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DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
REROUTING OF MISC. STEAM CONDENSATE PIPING DETAILS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	503

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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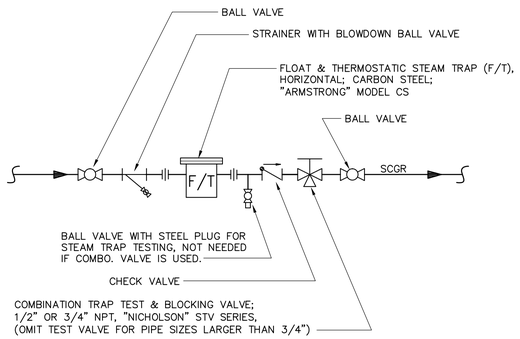


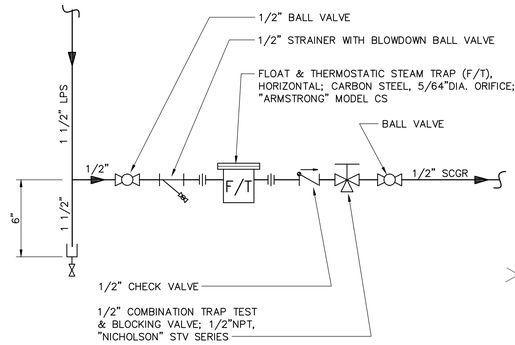
NOTE:
FOR ESTIMATED PIPING LINE SIZE AND TRAP SIZES SEE CHART BELOW

UNIT NUMBER	ROOM SERVED	DRAWING NUMBER	ESTIMATED STEAM COIL CAPACITY (LB/HR)	STEAM PIPE SIZE (INCH)	NUMBER OF TRAPS REQUIRED	COND. PIPE SIZE (INCH)	TRAP SIZE (INCH)	TRAP ORIFICE (INCH)	TRAP CAPACITY @ 10 PSIG DIFF. (LB/HR)
AHU–1	155	M–406	365	2	3	1 1/4	1 1/4	7/32	1000
AHU–2	123	M–405	75	1 1/2	2	1	1	3/32	240
AHU–2A	108	M–404	205	2	3	1 1/4	1 1/4	5/32	560
AHU–10	152	M–407	300	1 1/4	3	3/4	3/4	11/64	800
AHU–10A	152A	M–407	430	2	3	3/4	1	7/32	1000
AHU–122	122	M–404	80	1	3	3/4	3/4	3/32	280
AHU–140	140	M–407	20	1/2	3	1/2	1/2	5/64	200
AHU–142	142	M–404	80	1	3	3/4	3/4	3/32	280
VAV–2A–1	108	M–404	50	1 1/4	1	1	1	3/32	240
VAV–120	120	M–404	15	1	2	3/4	3/4	5/64	200
VAV–120A	120A	M–404	25	1	2	3/4	3/4	5/64	200

DETAIL 15 / M-406
SCALE : NONE

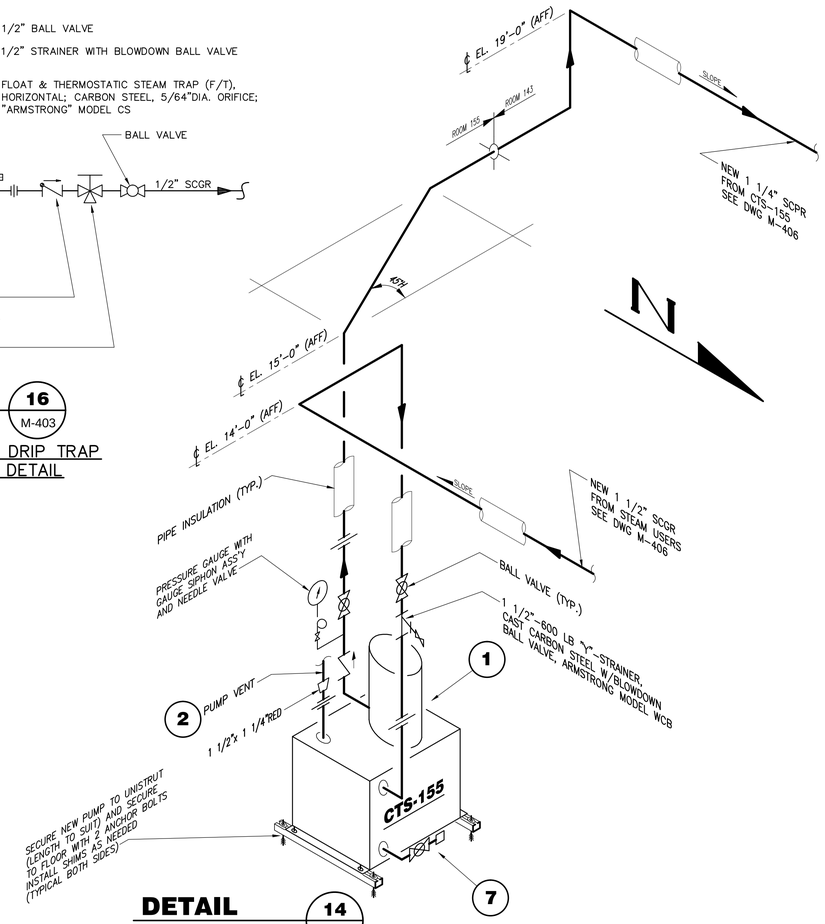
REPLACEMENT OF EXISTING UNIT STEAM TRAP ASSEMBLIES PIPING SCHEMATIC DETAIL

NOTE:
BECAUSE OF INACCESSIBILITY OF SOME AREAS, THE EXACT QUANTITY, SIZE, AND CONFIGURATION OF EXISTING STEAM TRAP ASSEMBLIES COULD NOT BE FULLY DETERMINED DURING THE DESIGN STAGE. CONTRACTOR SHALL MAKE THE NECESSARY ADJUSTMENTS AFTER VIEWING EACH SITUATION AND "REDLINE" THE DESIGN DRAWING AS APPROPRIATE DURING INSTALLATION.



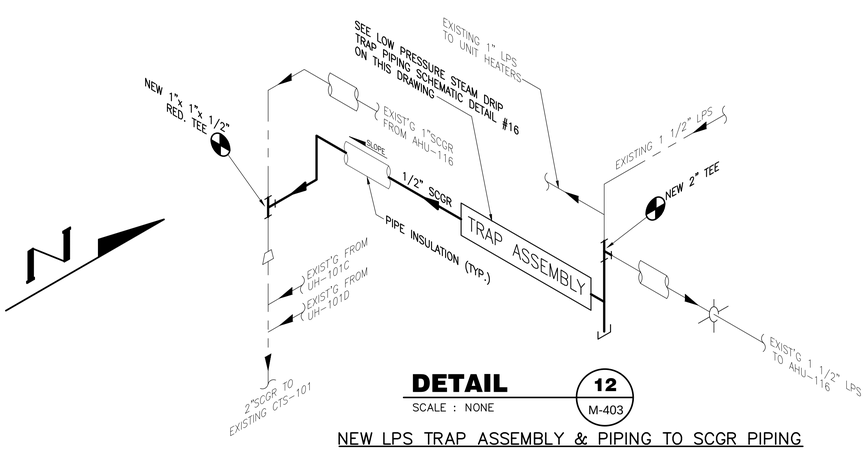
DETAIL 16 / M-403
SCALE : NONE

LOW PRESSURE STEAM DRIP TRAP PIPING SCHEMATIC DETAIL



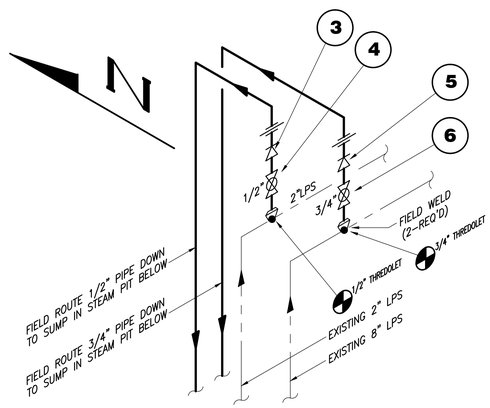
DETAIL 14 / M-406
SCALE : NONE

INSTALLATION OF NEW CONDENSATE TRANSFER STATION (CTS–155)



DETAIL 12 / M-403
SCALE : NONE

NEW LPS TRAP ASSEMBLY & PIPING TO SCGR PIPING



DETAIL 13 / M-403
SCALE : NONE

BALANCED PRESSURE THERMOSTATIC VENT INSTALLATION

NOTE TO CONTRACTOR:
PRESSURE TEST NEW PIPING BEFORE MAKING FINAL CONNECTIONS TO EXISTING PIPING SYSTEM.

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014–WON20361–G–001.
2. FOR EQUIPMENT SCHEDULES AND TESTING CRITERIA, SEE DRAWING M–601.
3. STEAM CONDENSATE PIPE ROUTING AS SHOWN ON THIS DRAWING IS DIAGRAMMATICAL. ACTUAL INSTALLATION SHALL BE DONE TO SUIT FIELD CONDITIONS. DIMENSIONS AND ELEVATIONS ON THIS DRAWING ARE PROVIDED FOR REFERENCES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS AND ELEVATIONS IN THE FIELD. ACTUAL DIMENSIONS MAY VARY (PLUS OR MINUS) BASED ON EXISTING FIELD CONDITIONS AND NEW CONSTRUCTION INTERFACE.
4. WHERE RISERS EXIST AFTER THE STEAM TRAP CONTRACTOR SHALL RECONFIGURE STEAM TRAP ASSEMBLY TO ASSURE THERE ARE NO RISERS AFTER THE TRAP. (TYPICAL)

CONSTRUCTION NOTES

1. PROVIDE AND INSTALL THE NEW CONDENSATE TRANSFER STATION (CTS–155) IN THE LOCATION SHOWN ON DRAWING M–406. SEE ELECTRICAL DWG. E–401 FOR WIRING.
2. FIELD ROUTE 2"ø VENT PIPE UP THRU THE ROOF AND END IT WITH A 180° GOOSENECK 3 FEET ABOVE ROOF. SEE DWG. M–503 FOR ROOF PENETRATION DETAIL.
3. PROVIDE AND INSTALL THE NEW 1/2" BALANCED PRESSURE THERMOSTATIC VENT "SPIRAX–SARCO" VS204.
4. NEW 1/2" STEEL BALL VALVE.
5. PROVIDE AND INSTALL THE NEW 3/4" BALANCED PRESSURE THERMOSTATIC VENT "SPIRAX–SARCO" VS204.
6. NEW 3/4" STEEL BALL VALVE.
7. INSTALL 1/2" BALL VALVE DRAIN AND MALE HOSE CONNECTION.

LEGEND

FOR SYMBOLS AND DESIGNATIONS REFER TO DRAWING 0014–COF20297–M–001

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT
SYSTEM: STEM | SUB–SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
REROUTING OF MISC. STEAM CONDENSATE PIPING DETAILS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- M-	504

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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TEMPLATE DATE: 02/28/2011

STEAM CONDENSATE TRANSFER PUMP STATION SCHEDULE

TAG	LOCATION	SERVICE	TANK	PUMP TYPE	DISCHARGE PRESSURE (PSIG)	DISCHARGE RATE (LBS/HR)	TEMPERATURE (°F)	SUCTION (INCHES)	DISCHARGE (INCHES)	RECEIVER CAPACITY (GAL)	PUMP			SELECTION BASED ON THE FOLLOWING MANUFACTURER & MODEL No.:	REMARKS
											HP	VOLTS/ø	RPM		
CTS-225A	ROOM 225A	STEAM CONDENSATE TRANSFER STATION	STEEL	CENTRIFUGAL	40	1500	< 200	1 1/2	1 1/4	8	1/2	120/1	1750	"ROTH PUMPS" SIMPLEX LOW PROFILE VENTED ELECTRIC PUMP	1, 2, & 3
CTS-248A	ROOM 248A	STEAM CONDENSATE TRANSFER STATION	STEEL	CENTRIFUGAL	40	2500	< 200	2	1 1/4	15	3/4	120/1	1750	"ROTH PUMPS" DUPLEX LOW PROFILE VENTED ELECTRIC PUMP	1, 2, & 3
CTS-155	ROOM 155	STEAM CONDENSATE TRANSFER STATION	STEEL	CENTRIFUGAL	40	1500	< 200	1 1/2	1 1/4	8	1/2	120/1	1750	"ROTH PUMPS" SIMPLEX LOW PROFILE VENTED ELECTRIC PUMP	1, 2, & 3

REMARKS:
1. SUPPLY WITH FLOAT SWITCH.
2. PUMP DIGITAL CYCLE COUNTER (SUPPLIED BY CONTRACTOR).
3. SUPPLY WITH BRONZE GAUGE GLASS ON RECEIVER TANK.

CABINET UNIT HEATER SCHEDULE

TAG	LOCATION	TYPE	MANUFACTURER		KW HIGH/LOW	CFM HIGH/LOW	MBH	AMPS	VOLTS/PHASE	REMARKS
			NAME	MODEL						
CUH-2	VESTIBULE 130	ELECTRIC; FAN	QMARK	CU93505203FF	5/3.3	250/200	17.1	15.0	208/3	1, 2, 3 & 4

REMARKS:
1. INTEGRAL THERMOSTAT
2. CABINET UNIT
3. BUILT-IN POWER DISCONNECT AND THERMAL OVERLOAD PROTECTION
4. CABINET COLOR: "NAVAJO WHITE"

NOTES:

1. FOR INDEX OF DRAWINGS AND GENERAL NOTES, SEE DRAWING CD 0014-WON20361-G-001.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: RDF | DESIGNED: RPB | CHECKED: TCB
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: STEM | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

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JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

MECHANICAL
LOW PRESSURE STEAM CONDENSATE
EQUIPMENT SCHEDULES

SIZE: CD | BLDG/SYS: 0014 | PROJECT ID: WON20361 | DISCP: M | TYP SEQ: 601
AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION: - | VER: 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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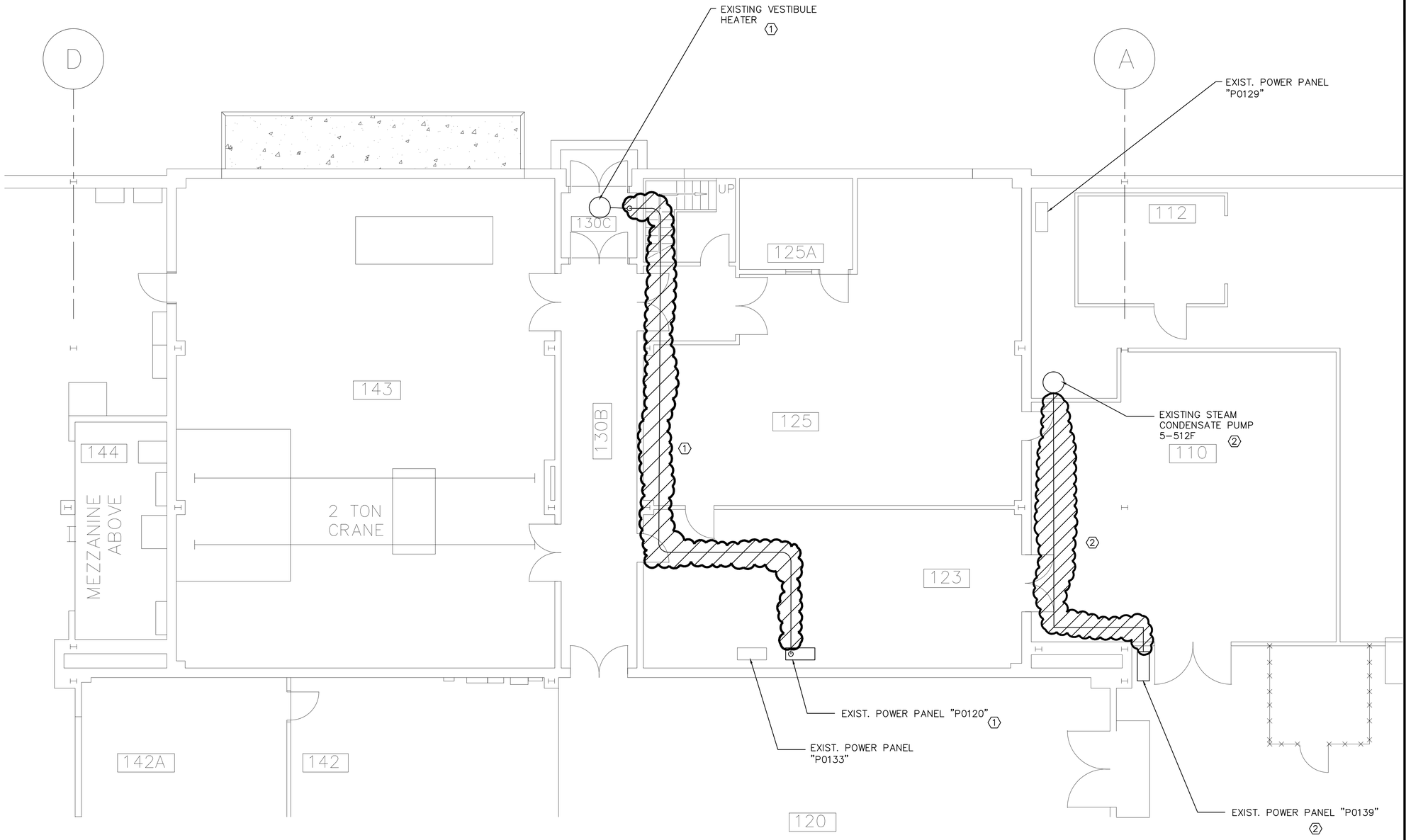
TEMPLATE DATE: 02/28/2011



ELECTRICAL - STEAM CONDENSATE - FIRST FLOOR - SOUTH DEMOLITION PLAN

SCALE : 3/16"=1'-0"

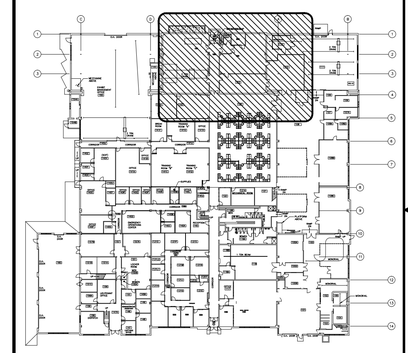
NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. CONDUIT ROUTING AND EQUIPMENT LOCATIONS AS SHOWN ARE DIAGRAMMATIC.
3. SEE DWG E-101 FOR THE OVERALL ELECTRICAL PLAN

PLAN DEMOLITION NOTES

1. REMOVE ALL EXISTING CONDUIT AND WIRING FROM PANEL "P0120" TO THE EXISTING VESTIBULE HEATER. DISCONNECT WIRE AT THE BREAKER AND REMOVE CONDUIT, WIRE, BOXES, SWITCHES, THERMOSTATS OR ANY OTHER ITEM ASSOCIATED WITH THE SYSTEM. SEE DRAWING ED601 FOR PANEL SCHEDULE CHANGE. THE VESTIBULE HEATER WILL BE REMOVED AS PART OF THIS CONTRACT (SEE DWG. MD405).

2. DISCONNECT WIRING AT BREAKER #18 AND REMOVE ALL CONDUIT AND WIRING FROM THE EXISTING PANEL "P0139" TO THE EXISTING CONDENSATE PUMP 5-512F. THIS INCLUDES ANY BOXES, DISCONNECTS, ETC.
SEE DRAWING ED602 FOR PANEL SCHEDULE CHANGE. THE CONDENSATE PUMP WILL BE REMOVED AS PART OF PROJECT COF20297.



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

HATCHED AREAS DENOTES ITEMS TO BE REMOVED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NASA GRID NORTH
37° 51' 21"

GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'
3/16" = 1'-0"

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM:	SUB-SYS:	FACILITY:	CONFIG:
ELEC			

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN GM / DESIGNED GM / CHECKED	
APPROVED / APPROVAL DATE	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL DEMOLITION
LOW PRESSURE STEAM CONDENSATE
FIRST FLOOR PARTIAL SOUTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- ED	401

AREA: SHEET 01 OF 01

UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION	VER
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014	-	1

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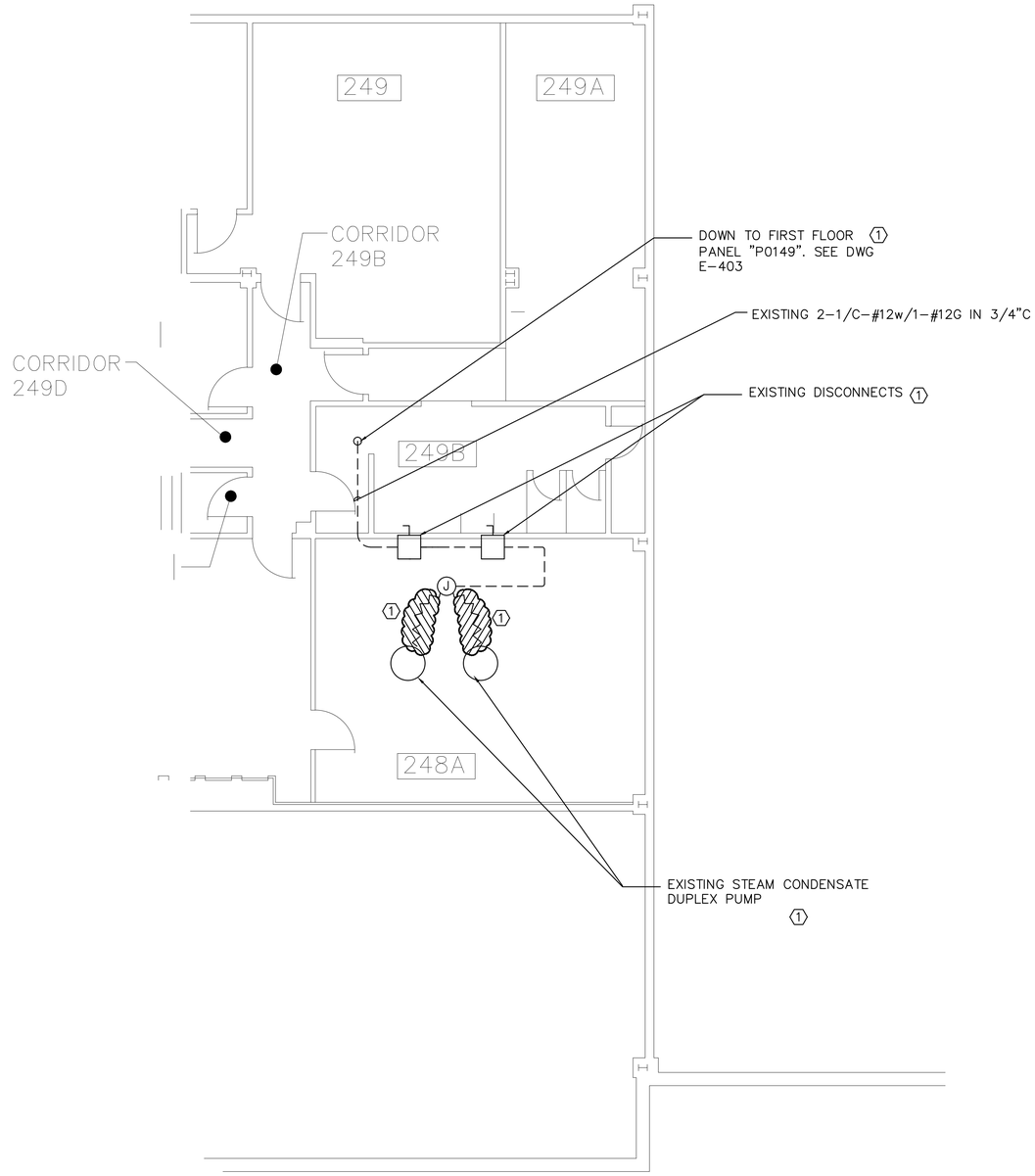
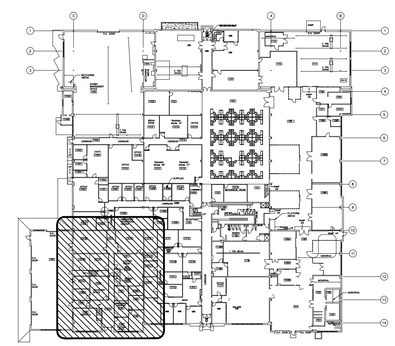
TEMPLATE DATE: 02/28/2011



ELECTRICAL - STEAM CONDENSATE - SECOND FLOOR - NORTH DEMOLITION PLAN

SCALE : 3/16"=1'-0"



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. CONDUIT ROUTING AND EQUIPMENT LOCATIONS AS SHOWN ARE DIAGRAMMATIC.
3. SEE DWG E-102 FOR THE OVERALL ELECTRICAL PLAN

PLAN DEMOLITION NOTES

1. DISCONNECT WIRING AND CONDUIT FROM THE EXISTING JUNCTION BOX TO THE RESPECTIVE MOTOR UNIT. ALL OTHER EXISTING CONDUIT, WIRING, DISCONNECTS, JUNCTION BOXES, ETC. SHALL REMAIN. SEE DRAWING E-602 FOR PANEL SCHEDULE CHANGE. THE CONDENSATE PUMP WILL BE REMOVED ON DRAWING MD402.

HATCHED AREAS DENOTES ITEMS TO BE REMOVED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NASA GRID NORTH

N

37° 51' 21"

GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'

3/16" = 1'-0"

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED:
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: ELEC	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
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BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL DEMOLITION
LOW PRESSURE STEAM CONDENSATE
SECOND FLOOR PARTIAL NORTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014	- WON20361	- ED	402

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
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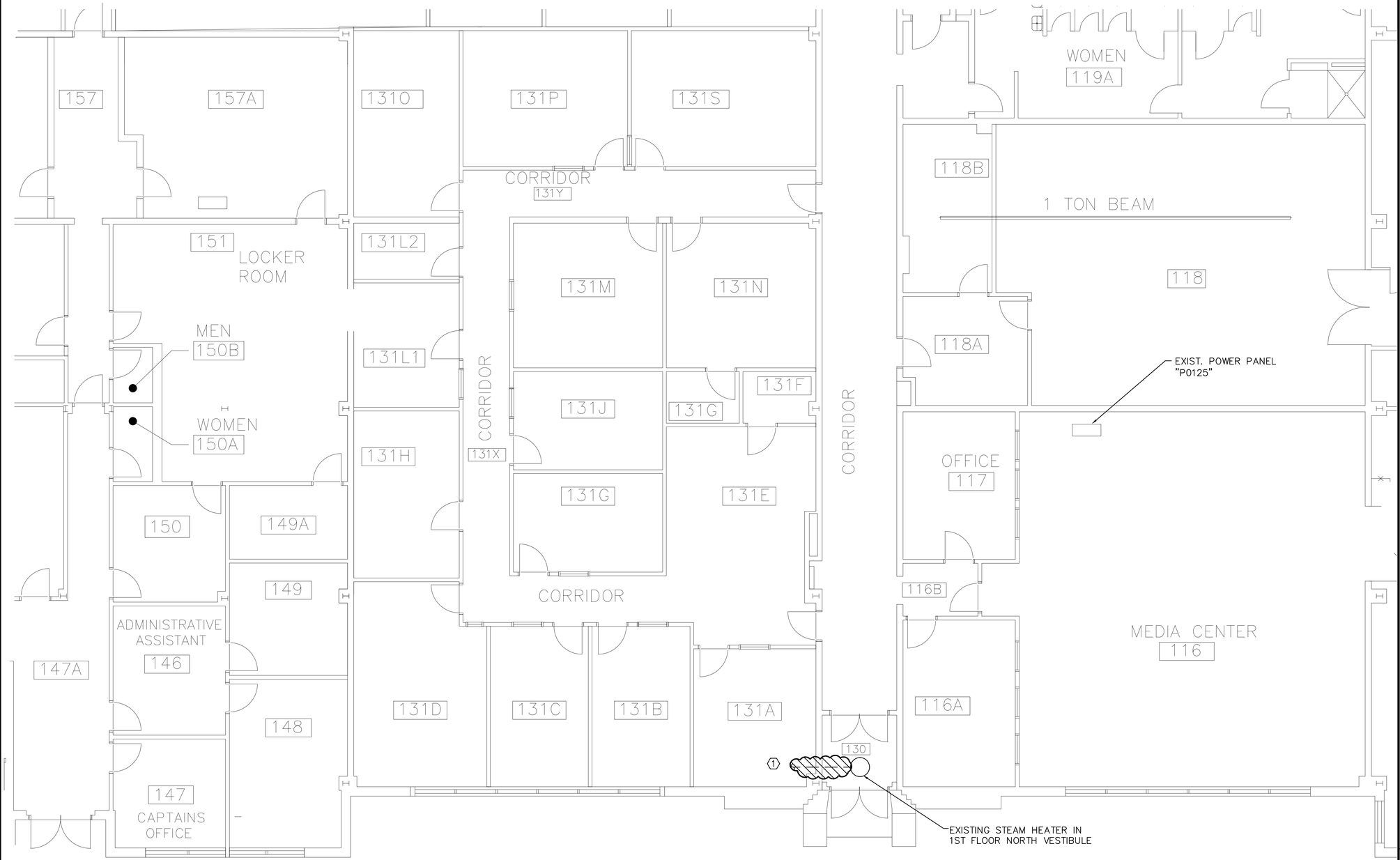


ELECTRICAL - STEAM CONDENSATE - FIRST FLOOR - NORTH DEMOLITION PLAN

SCALE : 3/16"=1'-0"

NASA GRID NORTH

37° 51' 21"

GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'

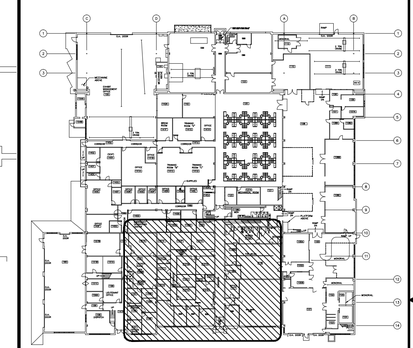
3/16" = 1'-0"

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. CONDUIT ROUTING AND EQUIPMENT LOCATIONS AS SHOWN ARE DIAGRAMMATIC.
3. SEE DWG E-101 FOR THE OVERALL ELECTRICAL PLAN

PLAN DEMOLITION NOTES

(1) TRACE BACK THE EXISTING WIRING AND CONDUIT TO THE SOURCE. DISCONNECT WIRE AT THE BREAKER AND REMOVE CONDUIT, WIRE, BOXES, SWITCHES, THERMOSTATS OR ANY OTHER ITEM ASSOCIATED WITH THE SYSTEM. THE VESTIBULE HEATER WILL BE REMOVED AS PART OF THIS CONTRACT, (SEE DWG. MD401).



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED:
APPROVED: | APPROVAL DATE:

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT
SYSTEM: ELEC | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL DEMOLITION
LOW PRESSURE STEAM CONDENSATE
FIRST FLOOR PARTIAL NORTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- ED	403

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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TEMPLATE DATE: 02/28/2011

PANEL P0116 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 142, S. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0111, BKR. #4
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP
TAG # 1133061
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 04/04/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	A B C	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	SPARE	XXXX			20/1		20/1	XXXX			NIGHT LIGHTS	2.
3.	LIGHTS CORRIDOR		XXXX		20/1		30/1		XXXX		LIGHTS ROOM 142	4.
5.	SPARE			XXXX	20/1		25/1			XXXX	LIGHTING CONTACTOR	6.
7.	SPARE	XXXX			20/1		20/1	XXXX			SPARE	8.
9.	LIGHTS ROOM 142		XXXX		20/1		20/1		XXXX		SPARE	10.
11.	LIGHTS ROOM 142			XXXX	20/1		25/1			XXXX	SPARE	12.
13.	SPARE	XXXX			25/1		25/1	XXXX			SPARE	14.
15.	SPARE		XXXX		30/1		25/1		XXXX		SPARE	16.
17.	SPARE			XXXX	20/1		25/1			XXXX	SPARE	18.
19.	LIGHTS CONF. CENTER "A"	XXXX			20/1		20/1	XXXX			LIGHTS OPEN OFFICE	20.
21.	LIGHTS OPEN OFFICE		XXXX		20/1		20/1		XXXX		LIGHTS OPEN OFFICE	22.
23.	LIGHTS OPEN OFFICE			XXXX	20/1		20/1			XXXX	LIGHTS OPEN OFFICE	24.
25.	FIRE ALARM POWER	XXXX			20/1			XXXX			BLANK	26.
27.	BLANK		XXXX						XXXX		BLANK	28.
29.	BLANK			XXXX						XXXX	BLANK	30.
31.	BLANK	XXXX						XXXX			BLANK	32.
33.	BLANK		XXXX						XXXX		BLANK	34.
35.	BLANK			XXXX						XXXX	BLANK	36.
37.	BLANK	XXXX						XXXX			BLANK	38.
39.	BLANK		XXXX						XXXX		BLANK	40.
41.	BLANK			XXXX						XXXX	BLANK	42.

PANEL P0118 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 120, S. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0111, BKR. #8
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP
TAG # 1133063
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 04/07/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	A B C	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	EXHAUST FAN 122	XXXX			15/1		20/1	XXXX			MOD. OFFICE 1,2	2.
3.	MOD. OFFICE 16,18		XXXX		20/1		20/1		XXXX		MOD. OFFICE 3,4	4.
5.	MOD. OFFICE 20,21			XXXX	20/1		20/1			XXXX	MOD. OFFICE 5	6.
7.	MOD. OFFICE 22,24	XXXX			20/1		20/1	XXXX			MOD. OFFICE 6,8	8.
9.	MOD. OFFICE 23,25		XXXX		20/1		20/1		XXXX		MOD. OFFICE 10,11	10.
11.	MOD. OFFICE 17,19			XXXX	20/1		20/1			XXXX	MOD. OFFICE 14,15	12.
13.	RECEPTACLE TABLE	XXXX			20/1		20/1	XXXX			MOD. OFFICE 12,13	14.
15.	SPARE		XXXX		30/1		20/1		XXXX		MOD. OFFICE 7,9	16.
17.	SPARE			XXXX	30/1		20/1			XXXX	SPARE	18.
19.	SPARE	XXXX			20/1		30/1	XXXX			SPARE	20.
21.	TEMP CONTROL MEC #142		XXXX		20/1		20/1		XXXX		SPARE	22.
23.	TEMP CONTROL MEC #122			XXXX	20/1		20/1			XXXX	SPARE	24.
25.	SPARE	XXXX			20/1		20/1	XXXX			RECEPTACLE NEXT TO PANEL	26.
27.	BLANK		XXXX						XXXX		BLANK	28.
29.	BLANK			XXXX						XXXX	BLANK	30.
31.	BLANK	XXXX						XXXX			BLANK	32.
33.	BLANK		XXXX						XXXX		BLANK	34.
35.	BLANK			XXXX						XXXX	BLANK	36.
37.	BLANK	XXXX						XXXX			BLANK	38.
39.	BLANK		XXXX						XXXX		BLANK	40.
41.	BLANK			XXXX						XXXX	BLANK	42.

PANEL P0119 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 120, S. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 10,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0111, BKR. #14
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP
TAG # 1133064
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 04/11/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	A B C	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	RECEPTACLE CONF. ROOM	XXXX			20/1		30/1	XXXX			SPARE	2.
3.	RECEPTACLE CONF. ROOM		XXXX		20/1		20/1		XXXX		AHU-122 RECEPTACLE	4.
5.	EF-120			XXXX	15/1		20/1			XXXX	LIGHTS CONFERENCE RM	6.
7.	SPARE	XXXX			20/1		20/1	XXXX			EMER. LIGHT BY CONF. RM.	8.
9.	SPARE		XXXX		20/1		20/1		XXXX		RECEPTACLES RM. 122A	10.
11.	SPARE			XXXX	25/1		30/1			XXXX	RECEPTACLES RM. 120	12.
13.	SPARE	XXXX			25/1		30/1	XXXX			LIGHTS ROOM 122	14.
15.	SPARE		XXXX		25/1		20/1		XXXX		P.A. SYSTEM	16.
17.	RECEPT. OVER TOOL CRIB			XXXX	20/1		30/1			XXXX	SPARE	18.
19.	RECEPT. OVER TOOL CRIB	XXXX			20/1		20/1	XXXX			AHU-122 HEAT TRACE	20.
21.	TOOL CRIB LIGHTS		XXXX		20/1		20/1		XXXX		MOD. OFFICE 36-37	22.
23.	MOD. OFFICE 26-28			XXXX	20/1		20/1			XXXX	MOD. OFFICE 38-39	24.
25.	MOD. OFFICE 30-31	XXXX			20/1		20/1	XXXX			MOD. OFFICE 40	26.
27.	MOD. OFFICE 34-32		XXXX		20/1				XXXX		BLANK	28.
29.	MOD. OFFICE 33-35			XXXX	20/1					XXXX	BLANK	30.
31.	MOD. OFFICE 27-29	XXXX			20/1			XXXX			BLANK	32.
33.	BLANK		XXXX						XXXX		BLANK	34.
35.	BLANK			XXXX						XXXX	BLANK	36.
37.	BLANK	XXXX						XXXX			BLANK	38.
39.	BLANK		XXXX						XXXX		BLANK	40.
41.	BLANK			XXXX						XXXX	BLANK	42.

PANEL P0120 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 123, N. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0111, BKR. #2
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP
TAG # 1133065
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 04/11/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	A B C	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	SPARE	XXXX			20/1		15/3	XXXX			CEILING HTR SOUTH VEST.	2.
3.	SPARE		XXXX		20/1		"		XXXX		"	4.
5.	SPARE			XXXX	20/1		"			XXXX	"	6.
7.	3Ph RECEPT. NEAR DOOR	XXXX			20/3		30/3	XXXX			SPARE	8.
9.	"		XXXX		"		"		XXXX		"	10.
11.	"			XXXX	"		"			XXXX	"	12.
13.	SPARE	XXXX			15/3		20/3	XXXX			SPARE	14.
15.	"		XXXX		"		"		XXXX		"	16.
17.	"			XXXX	"		"			XXXX	"	18.
19.	3Ph RECEPT. S.WALL	XXXX			20/3		25/3	XXXX			SPARE	20.
21.	"		XXXX		"		"		XXXX		"	22.
23.	"			XXXX	"		"			XXXX	"	24.
25.	SPARE	XXXX			20/3		30/3	XXXX			SPARE	26.
27.	"		XXXX		"		"		XXXX		"	28.
29.	"			XXXX	"		"			XXXX	"	30.
31.	SPARE	XXXX			20/3		20/3	XXXX			SPARE	32.
33.	"		XXXX		"		"		XXXX		"	34.
35.	"			XXXX	"		"			XXXX	"	36.
37.	SPARE	XXXX			20/3		100/3	XXXX			P0121	38.
39.	"		XXXX		"		"		XXXX		"	40.
41.	"			XXXX	"		"			XXXX	"	42.

1

PANEL P0110 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 120 W. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 25,000 AMPS RMS
MAIN LUG ONLY 600 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0106, BKR. #9
FEEDER: 6-#350 KCMIL
NEUTRAL: 2-#350 KCMIL
GROUND: 2-#1
ENTRY: BOTTOM
TAG # 1133055
ENCLOSURE: SQUARE D
TYPE: I-LINE
DATE: 04/10/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P					BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	FAN-N MENS ROOM	15/3	4.5"			4.5"	15/3	SPARE	2.
3.	SPARE	20/3	4.5"			4.5"	20/3	SPARE	4.
5.	SPARE	25/3	4.5"			4.5"	20/3	SPARE	6.
7.	SPARE	30/3	4.5"			4.5"	30/3	SPARE	8.
9.	SPARE	20/3	4.5"			4.5"	35/3	SPARE	10.
11.	SPARE	40/3	4.5"			4.5"	50/3	SPARE	12.
13.	SPARE	30/3	4.5"			4.5"	50/3	SPARE	14.
15.	BLANK		4.5"			4.5"		BLANK	16.
17.	SPARE	70/3	4.5"			4.5"	90/3	SPARE	18.

A B C

GENERAL NOTES

CONTROLLED DRAWING
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REVISION BY UNAUTHORIZED PERSONNEL PROHIBITED
CONTACT RESPONSIBLE SYSTEM MANAGER FOR RELEASE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

REGISTRATION STAMP

DRAWING/DESIGN STATUS: RECORD DRAWING

DRAWING MANAGEMENT: SYSTEM: LVPNL | SUB-SYS: | FACILITY: | CONFIG: CFG

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR:
RELEASE APPROVAL: Quach, Quyen — DATE: 20120517
RELEASE APPROVAL: Gaudreau, Sue — DATE: 20120517
RELEASE APPROVAL: — DATE:
RELEASE STATUS: RELEASE

CONTRACTOR: CALL HENRY INC.
CONTRACT NO.: NNC07BA04B
TASK ORDER: 347 NUMBER 2120/2139
DRAWN: MSI | DESIGNED | CHECKED
APPROVED: KFS | APPROVAL DATE: 05/16/2012

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

TECHNICAL SERVICES BUILDING
LOW VOLTAGE DISTRIBUTION SYSTEM

ELECTRICAL PANEL/SWITCHBOARD DIRECTORIES
PANELS: P0116, P0118, P0119,
P0120, P0110

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	LVPNLDIR	- E-	601

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2010 | REVISION - | VER 0
SCALE: | OFFICIAL DATE: 05/16/2012

TEMPLATE DATE: 02/28/2011

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NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. EQUIPMENT LISTED ON THIS DRAWING BY MANUFACTURER'S BRAND NAME IS TO DENOTE THE QUALITY AND SALIENT FEATURES FOR EQUAL PRODUCTS ONLY.
3. CONTRACTOR SHALL BE RESPONSIBLE TO UPDATE THE PANEL SCHEDULES MOUNTED ON THE INSIDE OF THE DOOR.
4. SEE DRAWING E-401 FOR PANEL LOCATION INFORMATION.

CODED DEMOLITION NOTES

1 DISCONNECT ALL WIRING FROM THE EXISTING BREAKER #2/4/6. MODIFY SCHEDULE TO SHOW THIS AS "SPARE". SEE DRAWING ED401 FOR DEMOLITION PLAN.

CLOUDED AREAS DENOTE ITEMS TO BE CHANGED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: LVPD | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: — DATE:
RELEASE APPROVAL: — DATE:
RELEASE APPROVAL: — DATE:
RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED
APPROVED | APPROVAL DATE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL DEMOLITION
LOW PRESSURE STEAM CONDENSATE
PANEL "P0120" MODIFICATIONS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- ED	601

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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TEMPLATE DATE: 02/28/2011

PANEL P0139 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 108, S.E. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 22,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0131, BKR. #2
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP

TAG # 1133085
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 03/19/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	OUTSIDE LIGHTS	XXXX			20/1	20/1	XXXX			LIGHTS ROOM 110	2.
3.	RECEPT. RIGHT OF PANEL		XXXX		20/1	20/1		XXXX		LIGHTS ROOM 110/EMER. LTS.	4.
5.	SAW ROOM NIGHT LIGHTS			XXXX	30/1	20/1			XXXX	AHU-SERV. RECEPT.	6.
7.	SAW ROOM LIGHTS-NORTH	XXXX			30/1	15/1	XXXX			CONDENSATE PUMP CP-1	8.
9.	SAW ROOM LIGHTS-MID		XXXX		30/1	20/1		XXXX		SAW ROOM EMERGENCY LTS	10.
11.	SAW ROOM LIGHTS-SOUTH			XXXX	30/1	20/1			XXXX	AHU-6 TEMP. CONTROL	12.
13.	TRAFFIC SIGNAL PANEL	XXXX			20/1	30/1	XXXX			RECEPT. WEST WALL	14.
15.	RECEPT. WEST WALL		XXXX		20/1	20/1		XXXX		EMERGENCY LTS. ROOM 110	16.
17.	RECEPT. ROOM 110 -CLOCK			XXXX	20/1	15/1			XXXX	CONDENSATE PUMP	18.
19.	BPS	XXXX			20/1	20/1	XXXX			SPARE	20.
21.	BLANK		XXXX					XXXX		BLANK	22.
23.	BLANK			XXXX					XXXX	BLANK	24.
25.	BLANK	XXXX					XXXX			BLANK	26.
27.	BLANK		XXXX					XXXX		BLANK	28.
29.	BLANK			XXXX					XXXX	BLANK	30.

1

PANEL P0141 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 100A, E. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 10,000 AMPS RMS
90 AMP MAIN BREAKER 100 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0140, BKR. #1
FEEDER: 3-#2
NEUTRAL: 1-#2
GROUND: 1-#2
ENTRY: BOTTOM

TAG # 1133087
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 03/28/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	RECEPTS. RM 100B E. WALL	XXXX			20/1	20/1	XXXX			RECEPTS. RM 100A N. WALL	2.
3.	NEW COMPARTOR		XXXX		30/1	20/1		XXXX		RECEPTS. RM 100A W. WALL	4.
5.	RECEPTS. RM 100B W. WALL			XXXX	20/1	20/1			XXXX	RECEPTS. RM 100A S.E. WALL	6.
7.	RECEPTS. RM 100B S. WALL	XXXX			20/1	20/1	XXXX			ROOM 100B-OGP-OQ20	8.
9.	ROOM 118 -TABLE "A"		XXXX		20/1	20/1		XXXX		RECEPTACLE OFFICE N. WALL	10.
11.	ROOM 118 1808 MEA			XXXX	20/1	20/1			XXXX	DUPLEX RECEPT. W. WALL	12.
13.	SPARE	XXXX			20/1	20/1	XXXX			SPARE	14.
15.	SPARE		XXXX		20/1	20/1		XXXX		SPARE	16.
17.	RECEPTS. RM 118 N.W. WALL			XXXX	20/1	20/1			XXXX	NORNGREN DRYER	18.
19.	RECEPTS. RM 118 N.E. WALL	XXXX			20/1	20/1	XXXX			SPARE	20.
21.	RECEPTS. ROOM 100A		XXXX		20/1	20/1		XXXX		SPARE	22.
23.	SPARE			XXXX	30/1	20/1			XXXX	SPARE	24.
	MAIN	90/3									

PANEL P0144 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 100A, E. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 18,000 AMPS RMS
MAIN LUG ONLY 60 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0140, BKR. #6
FEEDER: 3-#1
NEUTRAL: 1-#1
GROUND: NONE
ENTRY: BOTTOM

TAG # 1133090
ENCLOSURE: LEONARD ELECTRIC
TYPE: A-564299
DATE: 05/01/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P			BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	LIGHTS ROOM 101	20/1	1.5"	1.5"	20/1	LIGHTS ROOM 101	2.
3.	LIGHTS ROOM 100A	20/1	1.5"	1.5"	20/1	RECEPTS. MEZZ. MECH. RM	4.
5.	LIGHTS 2ND FLR MEZZANINE	25/1	1.5"	1.5"	20/1	SPARE	6.
7.	LIGHTS ROOM 101	20/1	1.5"	1.5"	20/1	LIGHTS ROOM 101	8.
9.	SPARE	20/1	1.5"	1.5"	20/1	LIGHTS ROOM 101	10.
11.	LIGHTS ROOM 100B	30/1	1.5"	1.5"	20/1	EMERGENCY LIGHT RM 100A	12.
13.	LIGHTS HALL/ EM. LTG.	20/1	1.5"	1.5"	20/1	GFI S.E. CORNER RM 100A	14.

A B C

PANEL P0146 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 102, N. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 10,000 AMPS RMS
MAIN LUG ONLY 100 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0140, BKR. #2
FEEDER: 3-#6
NEUTRAL: 1-#6
GROUND: 1-#2 BARE
ENTRY: TOP

TAG # 1133092
ENCLOSURE: SQUARE D
TYPE: QO
DATE: 03/28/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	LIGHTS ROOM 102	XXXX			20/1	20/1	XXXX			LIGHTS ROOM 102	2.
3.	RECEPT. ON CEILING WEST		XXXX		20/1	20/1		XXXX		LIGHTS ROOM 102	4.
5.	SPARE			XXXX	20/1	20/1			XXXX	LIGHTS ROOM 102	6.
7.	SPARE	XXXX			20/1	20/1	XXXX			SPARE	8.
9.	SPARE		XXXX		20/1	20/1		XXXX		SPARE	10.
11.	BLANK			XXXX					XXXX	BLANK	12.

PANEL P0147 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 157A, N. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0106, BKR. #2
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#2
ENTRY: TOP

TAG # 1133093
ENCLOSURE: CLEVELAND SWITCHBOARD
TYPE: 9053
DATE: 06/04/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	DUCT RECEPTACLE	XXXX			20/1	100/3	XXXX			P0149	2.
3.	DUCT RECEPTACLE		XXXX		20/1	"		XXXX		"	4.
5.	DUCT RECEPTACLE			XXXX	20/1	"			XXXX	"	6.
7.	DUCT RECEPTACLE	XXXX			20/1	30/3	XXXX			HOT WATER TANK	8.
9.	DUCT RECEPTACLE		XXXX		20/1	"		XXXX		"	10.
11.	DUCT RECEPTACLE			XXXX	20/1	"			XXXX	"	12.
13.	DUCT RECEPTACLE	XXXX			20/1	50/3	XXXX			RANGE RECEPTACLE	14.
15.	DUCT RECEPTACLE		XXXX		20/1	"		XXXX		"	16.
17.	RANGE RECEPTACLE			XXXX	20/1	"			XXXX	"	18.
19.	LTS. OFFICE (BAY) AREA	XXXX			20/1	20/1	XXXX			KITCHEN HOOD	20.
21.	RECEPTACLE S.WALL		XXXX		20/1	60/3		XXXX		ARGON VESSEL	22.
23.	RECEPT. EAST WALL RM 158			XXXX	20/1	"			XXXX	"	24.
25.	TREADMILL RECEPTACLE	XXXX			20/2	"	XXXX			"	26.
27.	"		XXXX		"	60/3		XXXX		H.V. UNIT #2	28.
29.	RADIANT HEATER			XXXX	20/1	"			XXXX	"	30.
31.	PTR01 NORMAL FEED	XXXX			100/3	"	XXXX			"	32.
33.	"		XXXX		"	30/2		XXXX		SPARE	34.
35.	"			XXXX	"	"			XXXX	"	36.
37.	SNOW MELTER	XXXX			30/3	60/3	XXXX			P0160	38.
39.	"		XXXX		"	"		XXXX		"	40.
41.	"			XXXX	"	"			XXXX	"	42.

GENERAL NOTES

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CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

REGISTRATION STAMP

DRAWING/DESIGN STATUS: RECORD DRAWING

DRAWING MANAGEMENT: SYSTEM: LVPNL | SUB-SYS: | FACILITY: | CONFIG: CFG

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR:

RELEASE APPROVAL: Quach, Quyen DATE: 20120606
RELEASE APPROVAL: Gaudreau, Sue DATE: 20120606
RELEASE APPROVAL: DATE:
RELEASE STATUS: RELEASE

CONTRACTOR: CALL HENRY INC.
CONTRACT NO.: NNC07BA04B
TASK ORDER: 347 NUMBER 2120/2139
DRAWN: MSI | DESIGNED | CHECKED: S
APPROVED: KFS | APPROVAL DATE: 06/05/2012

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

TECHNICAL SERVICES BUILDING
LOW VOLTAGE DISTRIBUTION SYSTEM

ELECTRICAL PANEL/SWITCHBOARD DIRECTORIES
PANELS: P0139, P0141, P0144,
P0146, P0147

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	LVPNLDIR	- E-	613

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 0
SCALE: | OFFICIAL DATE: 06/05/2012

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TEMPLATE DATE: 02/28/2011

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G–001.
2. EQUIPMENT LISTED ON THIS DRAWING BY MANUFACTURER'S BRAND NAME IS TO DENOTE THE QUALITY AND SALIENT FEATURES FOR EQUAL PRODUCTS ONLY.
3. CONTRACTOR SHALL BE RESPONSIBLE TO UPDATE THE PANEL SCHEDULES MOUNTED ON THE INSIDE OF THE DOOR.
4. SEE DRAWING E–401 FOR PANEL LOCATION INFORMATION.

CODED DEMOLITION NOTES

1 DISCONNECT ALL WIRING FROM THE EXISTING BREAKER #16. MODIFY SCHEDULE TO SHOW THIS AS "SPARE". SEE DRAWING ED401 FOR DEMOLITION PLAN.

CLOUDED AREAS DENOTE ITEMS TO BE CHANGED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: LVPD | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR: JAS

RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL DEMOLITION
LOW PRESSURE STEAM CONDENSATE
PANEL "P0139" MODIFICATIONS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- ED	602

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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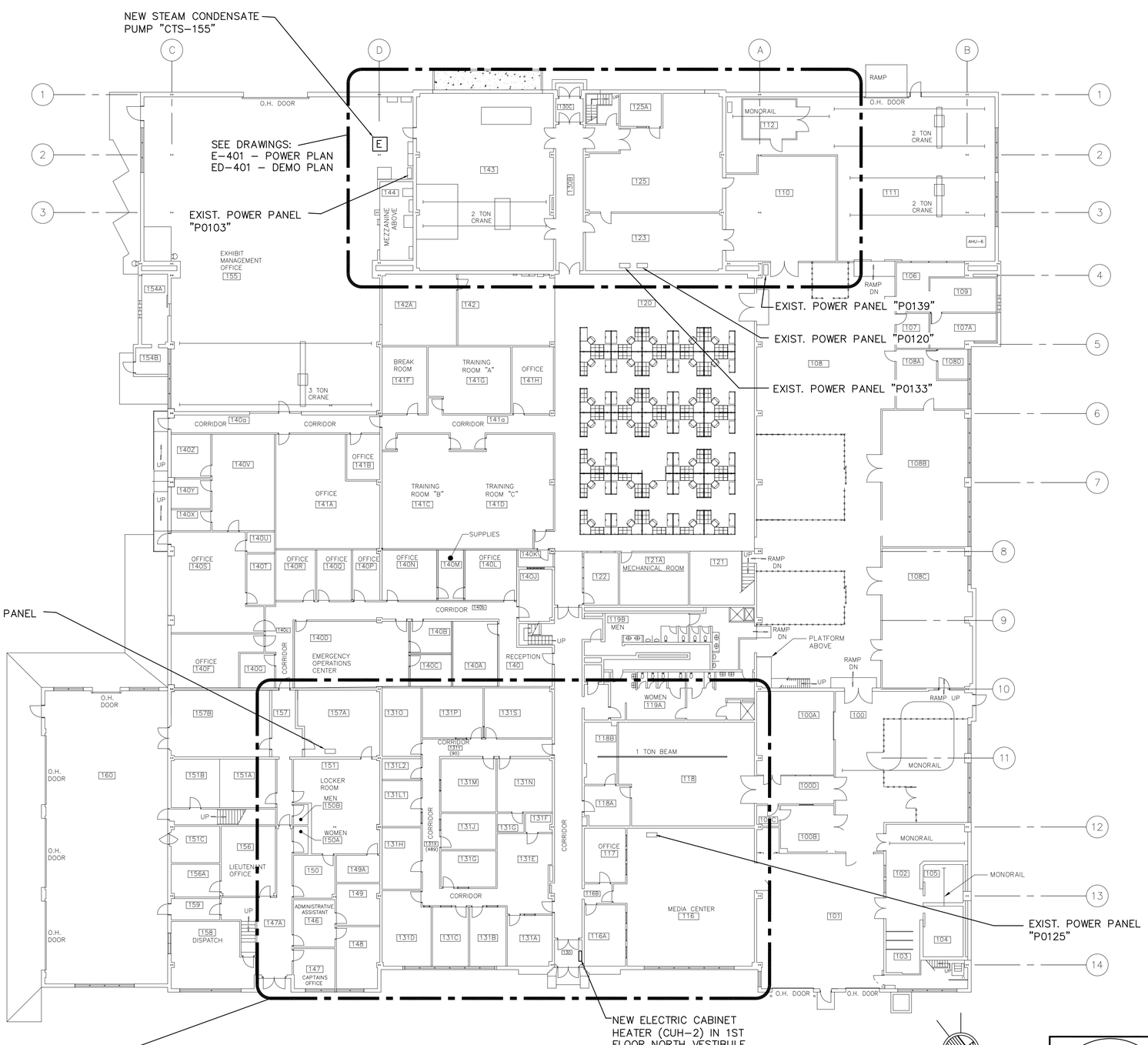
TEMPLATE DATE: 02/28/2011



ELECTRICAL - STEAM CONDENSATE - FIRST FLOOR LOCATION PLAN

SCALE : 1/16"=1'-0"

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL
LOW PRESSURE STEAM CONDENSATE
FIRST FLOOR LOCATION PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	101

AREA: SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION ▪ | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: ELEC | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED:
APPROVED: | APPROVAL DATE:

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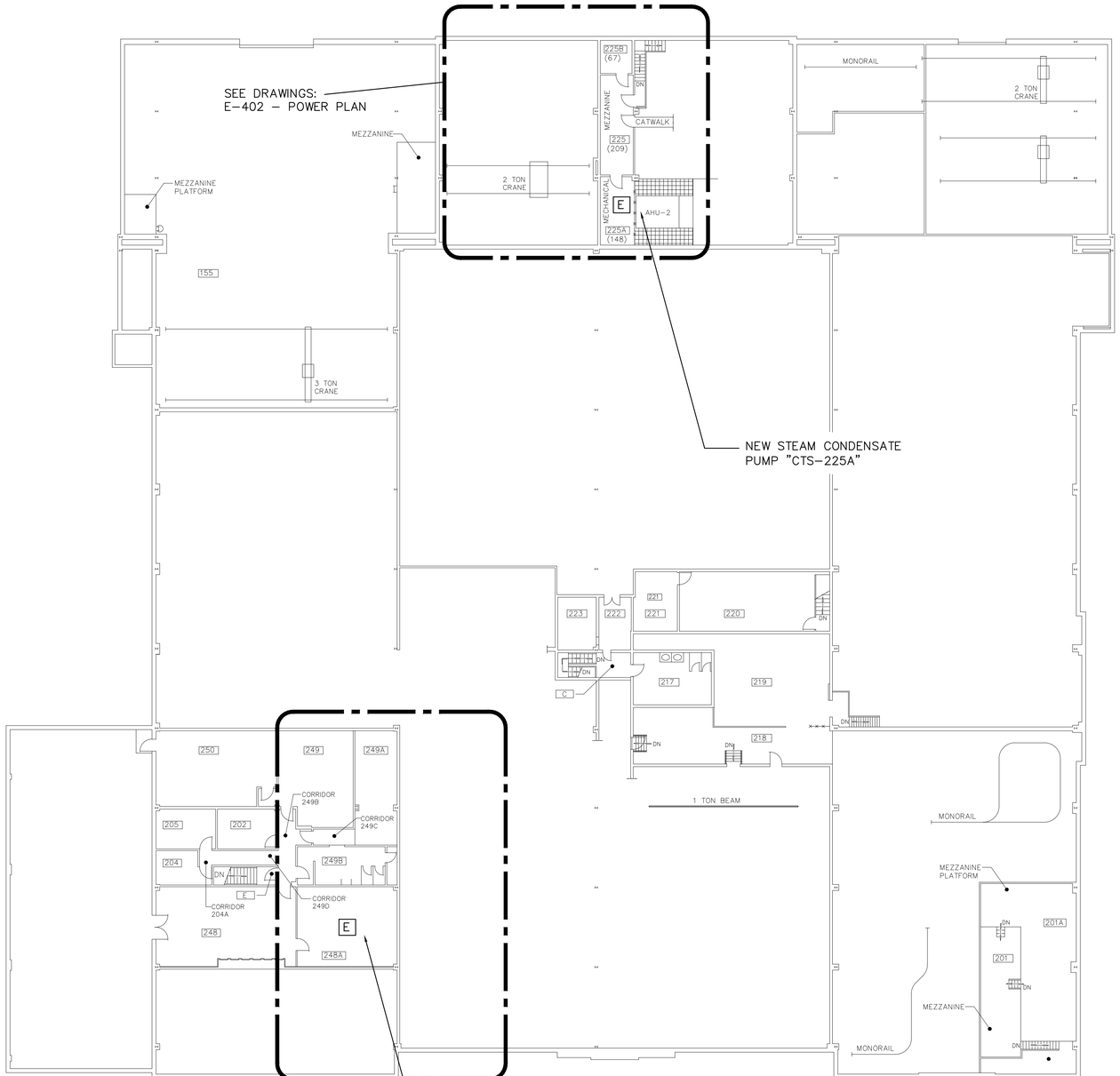
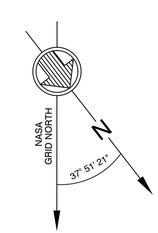
TEMPLATE DATE: 02/28/2011



ELECTRICAL - STEAM CONDENSATE - SECOND FLOOR LOCATION PLAN

SCALE : 1/16"=1'-0"

GRAPHIC SCALE 0 10' 20' 30'
1/16" = 1'-0"



NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: ELEC	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN	GM
DESIGNED	GM
CHECKED	
APPROVED	
APPROVAL DATE	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL
LOW PRESSURE STEAM CONDENSATE
SECOND FLOOR LOCATION PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	102

AREA:		SHEET 01 OF 01	
UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION	VER
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014	-	1

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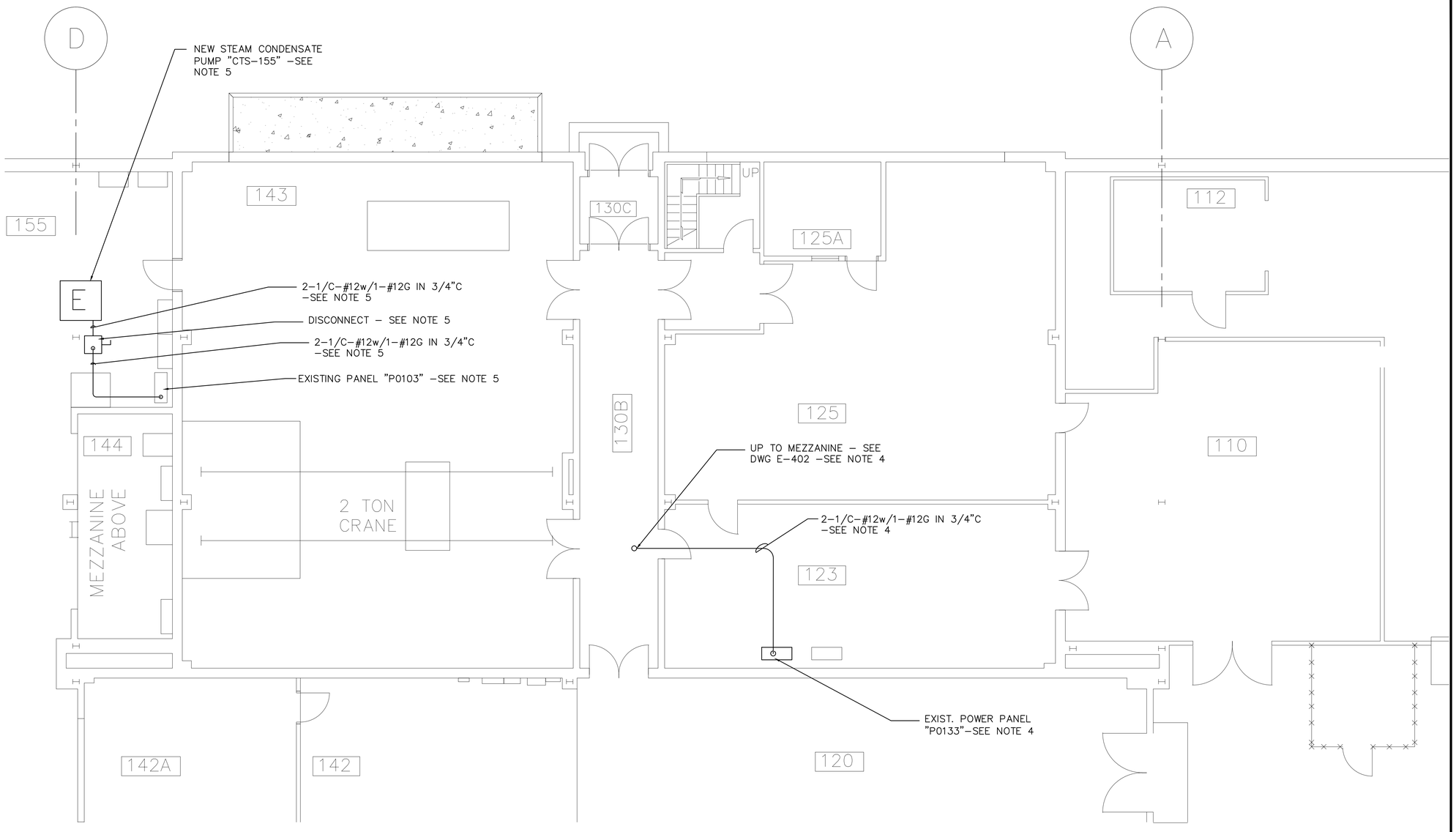
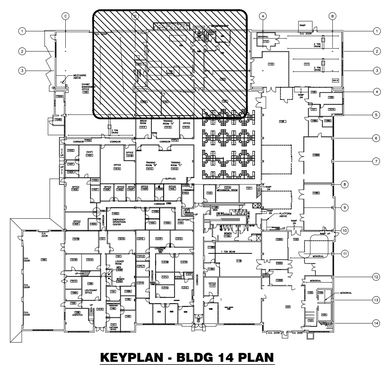
TEMPLATE DATE: 02/28/2011



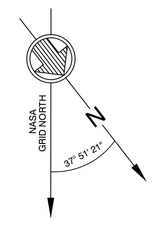
ELECTRICAL - STEAM CONDENSATE - FIRST FLOOR - SOUTH POWER PLAN

SCALE : 3/16"=1'-0"



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE



GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'

3/16" = 1'-0"

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. SEE DWG E-101 FOR THE OVERALL ELECTRICAL PLAN
3. CONDUIT ROUTING AS SHOWN IS DIAGRAMMATIC. ROUTE CONDUIT TO SUIT FIELD CONDITIONS. ALL WIRING SHALL BE #12 MINIMUM, UNLESS OTHERWISE NOTED.
4. PROVIDE AND INSTALL NEW CONDUIT AND WIRING FROM THE EXISTING POWER PANEL "P0133" UP TO THE SECOND FLOOR MEZZANINE. SEE DRAWING E-402 FOR CONTINUATION SEE DRAWING E-604 FOR POWER PANEL WIRING.
5. PROVIDE AND INSTALL ONE (1) NEW DISCONNECT (SQUARE D, CLASS 2510, MODEL K01 LOCKABLE SAFETY DISCONNECT SWITCH. SWITCH SHALL BE RATED FOR 120 VOLTS, 1-PHASE, 2 HP (MAX) AND MOUNTED IN A NEMA 3R ENCLOSURE) IN THE LOCATION OF THE NEW STEAM CONDENSATE PUMP "CTS-155". INSTALL NEW CONDUIT AND WIRING FROM THE EXISTING POWER PANEL "P0103" TO THE DISCONNECT AND FROM THE DISCONNECT TO THE PUMP. PUMP INSTALLATION WILL BE AS PART OF THIS CONTRACT (SEE DWG. M-406). SEE DRAWING E-602 FOR POWER PANEL WIRING.

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED:
APPROVED: | APPROVAL DATE:

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: ELEC | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
FIRST FLOOR PARTIAL SOUTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	401

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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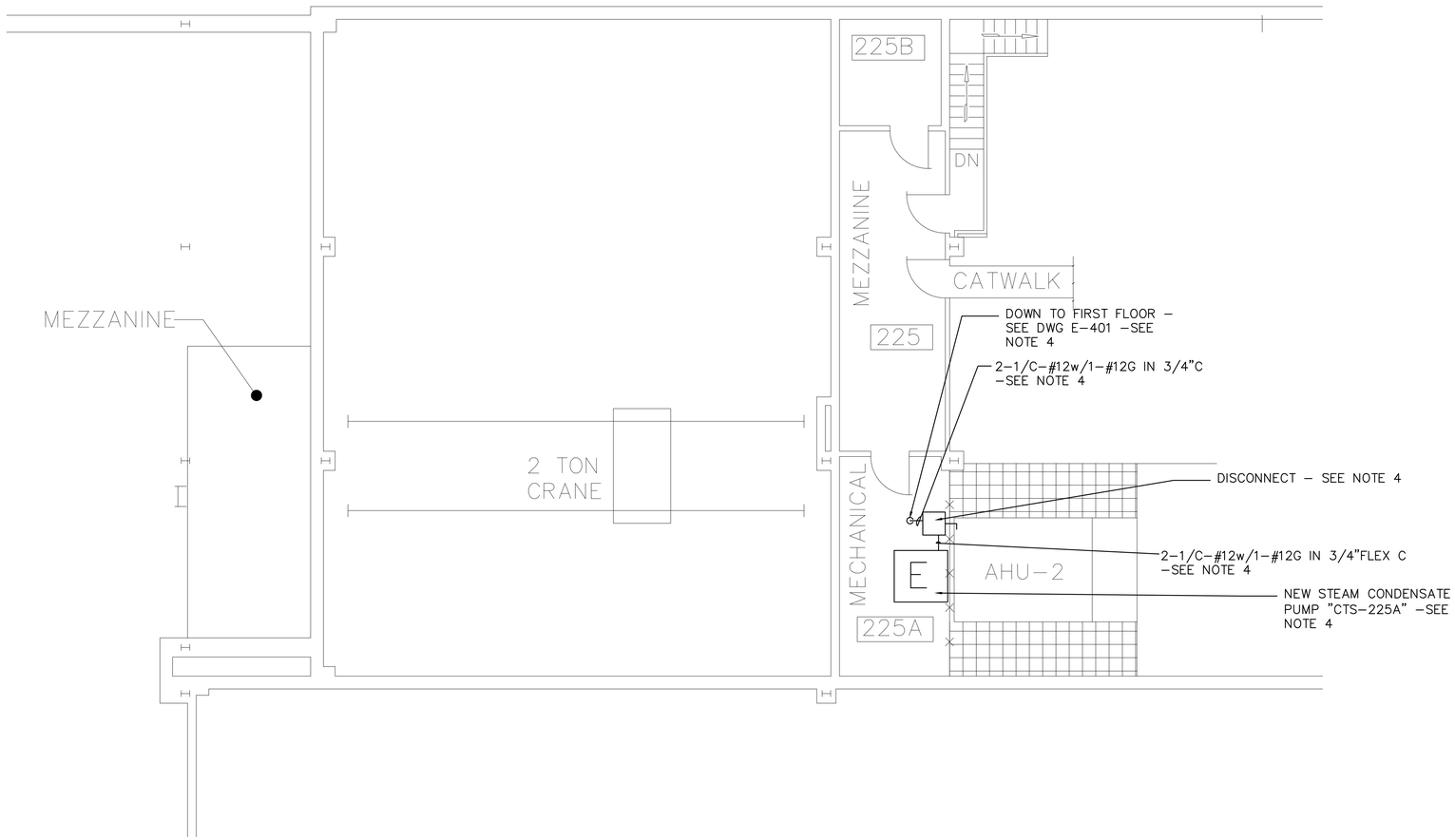
TEMPLATE DATE: 02/28/2011

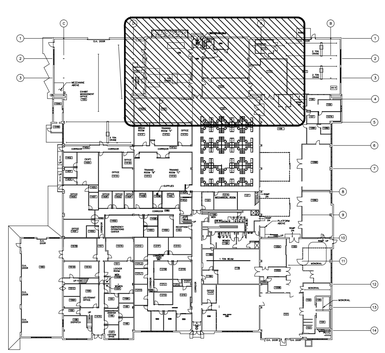


ELECTRICAL - STEAM CONDENSATE - SECOND FLOOR - SOUTH POWER PLAN

SCALE : 3/16"=1'-0"

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. SEE DWG E-102 FOR THE OVERALL ELECTRICAL PLAN.
3. CONDUIT ROUTING AS SHOWN IS DIAGRAMMATIC. ROUTE CONDUIT TO SUIT FIELD CONDITIONS. ALL WIRING SHALL BE #12 MINIMUM, UNLESS OTHERWISE NOTED.
4. PROVIDE AND INSTALL ONE (1) NEW DISCONNECT (SQUARE D, CLASS 2510, MODEL K01 LOCKABLE SAFETY DISCONNECT SWITCH. SWITCH SHALL BE RATED FOR 120 VOLTS, 1-PHASE, 2 HP (MAX) AND MOUNTED IN A NEMA 3R ENCLOSURE) IN THE LOCATION OF THE NEW STEAM CONDENSATE PUMP "CTS-225A". INSTALL NEW CONDUIT AND WIRING FROM THE EXISTING POWER PANEL "P0133" (SEE E-401)TO THE DISCONNECT AND FROM THE DISCONNECT TO THE PUMP. PUMP INSTALLATION WILL BE AS PART OF THIS CONTRACT (SEE DWG. M-405). SEE DRAWING E-604 FOR POWER PANEL WIRING.



KEYPLAN - BLDG 14 PLAN
NOT TO SCALE

NASA GRID NORTH
N
37° 51' 21"

GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'
3/16" = 1'-0"

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN GM	DESIGNED GM / CHECKED
APPROVED	APPROVAL DATE

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM: ELEC	SUB-SYS:	FACILITY:	CONFIG:

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
SECOND FLOOR PARTIAL SOUTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	402

AREA:		SHEET 01 OF 01	
UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION -	VER 1
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014		

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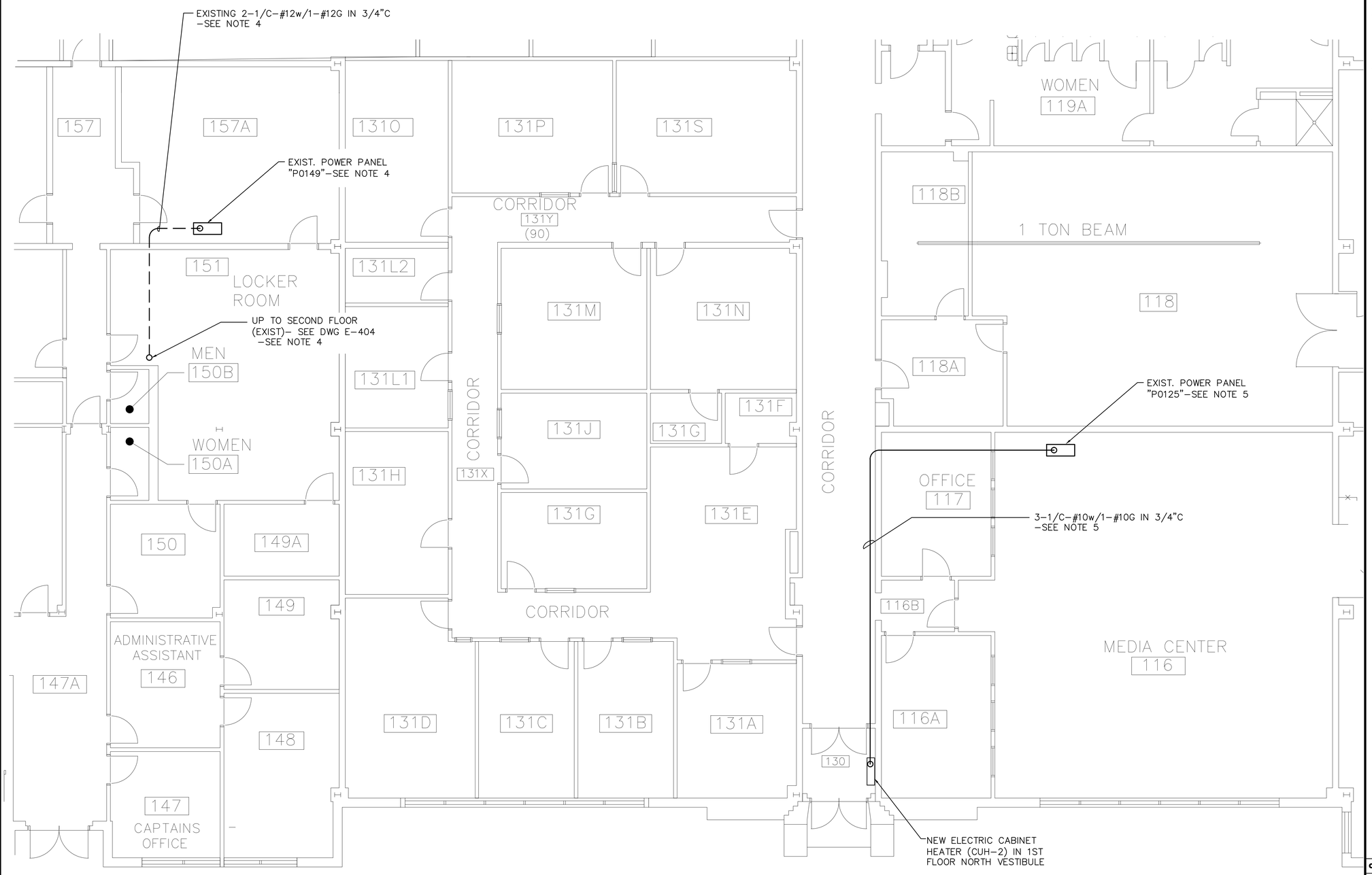
TEMPLATE DATE: 02/28/2011



ELECTRICAL - STEAM CONDENSATE - FIRST FLOOR - NORTH POWER PLAN

SCALE : 3/16"=1'-0"

NASA GRID NORTH

N

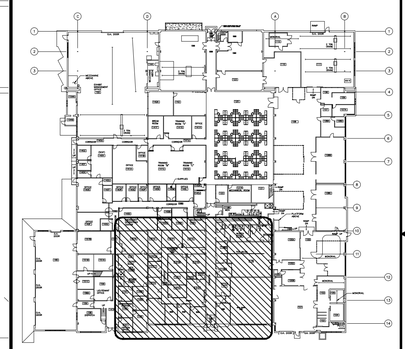
37° 51' 21"

GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'

3/16" = 1'-0"

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G-001.
2. SEE DWG E-101 FOR THE OVERALL ELECTRICAL PLAN.
3. CONDUIT ROUTING AS SHOWN IS DIAGRAMMATIC. ROUTE CONDUIT TO SUIT FIELD CONDITIONS. ALL WIRING SHALL BE #12 MINIMUM, UNLESS OTHERWISE NOTED.
4. EXISTING CONDUIT AND WIRING FROM PANEL "P0149" TO REMAIN. SEE DRAWING E-602 FOR THE EXISTING PUMP CIRCUIT. SEE DRAWING E-404 FOR CONTINUATION TO THE SECOND FLOOR.
5. PROVIDE AND INSTALL NEW CONDUIT AND WIRING FROM THE EXISTING POWER PANEL "P0125" TO THE NEW ELECTRIC CABINET HEATER "CUH-2". WIRE TO THE INTERNAL DISCONNECT/THERMOSTAT PER THE MANUFACTURERS INSTRUCTIONS. SEE DRAWING E-603 FOR POWER PANEL WIRING.



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED:
APPROVED: | APPROVAL DATE:

DRAWING/DESIGN STATUS:
FOR BID - 07/14/2014

DRAWING MANAGEMENT
SYSTEM: ELEC | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
FIRST FLOOR PARTIAL NORTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	403

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: AS NOTED | OFFICIAL DATE: 07/14/2014

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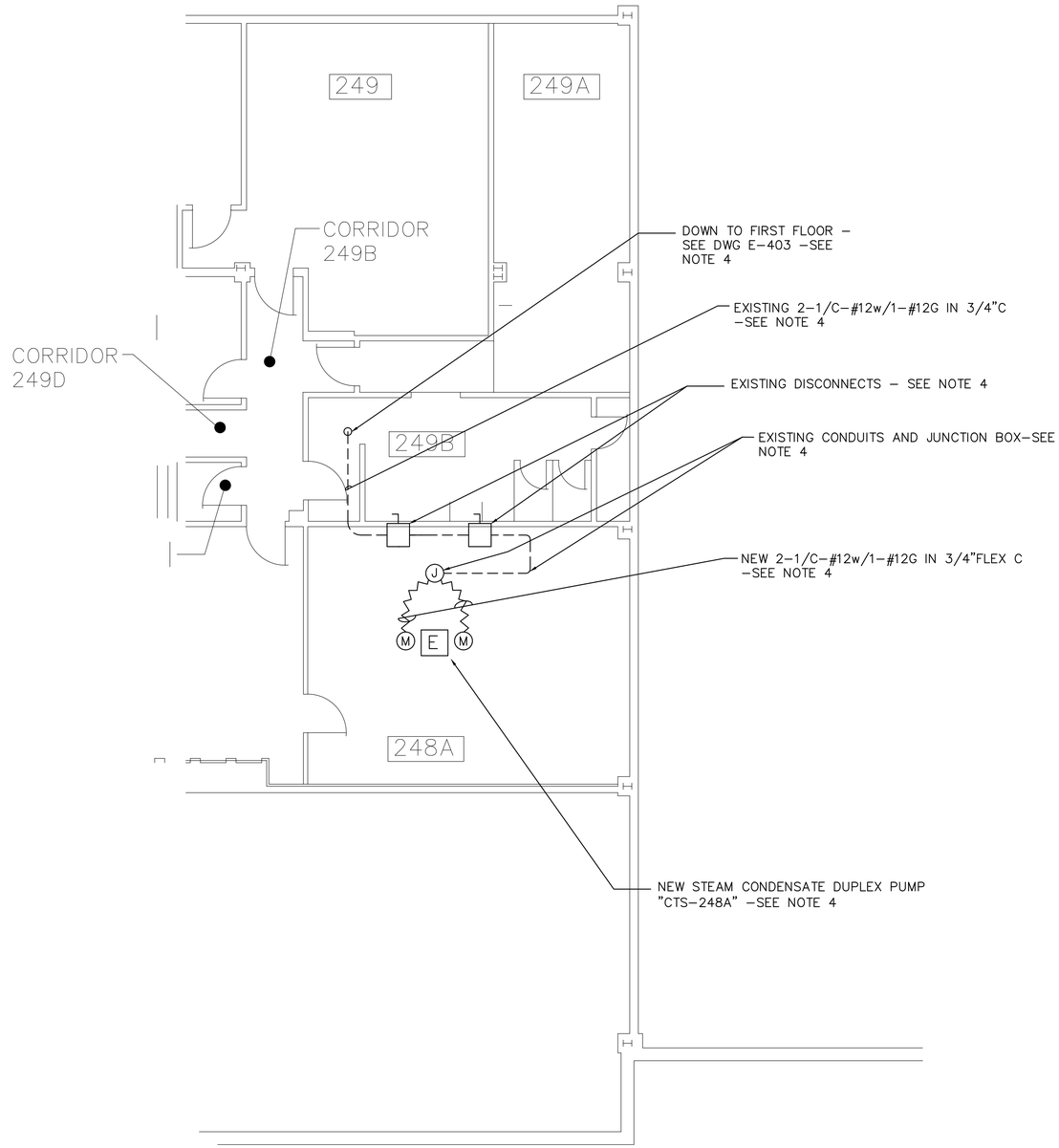
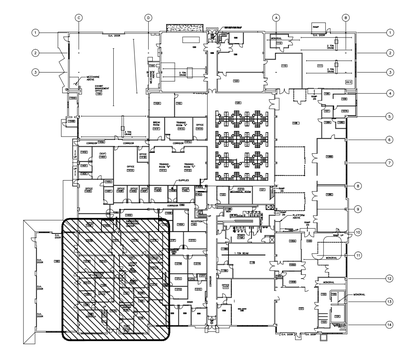
TEMPLATE DATE: 02/28/2011



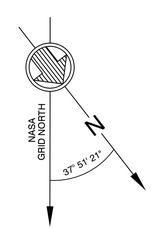
ELECTRICAL - STEAM CONDENSATE - SECOND FLOOR - NORTH POWER PLAN

SCALE : 3/16"=1'–0"



KEYPLAN - BLDG 14 PLAN

NOT TO SCALE



GRAPHIC SCALE 0 1' 2' 3' 4' 5' 10' 15'

3/16" = 1'–0"

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G–001.
2. SEE DWG E–102 FOR THE OVERALL ELECTRICAL PLAN.
3. CONDUIT ROUTING AS SHOWN IS DIAGRAMMATIC. ROUTE CONDUIT TO SUIT FIELD CONDITIONS. ALL WIRING SHALL BE #12 MINIMUM, UNLESS OTHERWISE NOTED.
4. EXISTING CONDUIT AND WIRING FROM THE FIRST FLOOR PANEL "P0149" TO REMAIN. (SEE DWG E–403). EXISTING DISCONNECTS (2), RECEPTACLE, JUNCTION BOX, CONDUITS, ETC. SHALL REMAIN. CONTRACTOR SHALL PROVIDE AND INSTALL NEW WIRING AND FLEX CONDUIT TO THE NEW STEAM CONDENSATE DUPLEX PUMP "CTS–248A" FROM THE EXISTING JUNCTION BOX. WIRE PER MANUFACTURERS INSTRUCTIONS. SEE DRAWING E–602 FOR POWER PANEL WIRING. PUMP TO BE INSTALLED AS PART OF THIS CONTRACT (SEE DWG. M–402).

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT

SYSTEM:	SUB–SYS:	FACILITY:	CONFIG:
ELEC			

NASA APPROVALS

DR:	DES:
D.ENG:	PROJ. MGR: JAS
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE APPROVAL:	DATE:
RELEASE STATUS: WORKING	

CONTRACTOR	GESS3 Team
CONTRACT NO.	NNC12BA01B
TASK ORDER	WO-010
DRAWN GM / DESIGNED GM / CHECKED	
APPROVED / APPROVAL DATE	

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
SECOND FLOOR PARTIAL NORTH POWER PLAN

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	404

AREA:		SHEET 01 OF 01	
UNITS: ENGLISH	SOFTWARE: AUTOCAD 2012	REVISION	VER
SCALE: AS NOTED	OFFICIAL DATE: 07/14/2014	-	1

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PANEL P0149 SCHEDULE

LOCATION: BUILDING 14, 1st FL., ROOM: 157A N. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 10,000 AMPS RMS
MAIN LUG ONLY — 100 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0147, BKR. #2-4-6 — TAG # 1133094
FEEDER: 3-#2
NEUTRAL: 1-#2 — ENCLOSURE: CLEVELAND SWITCHGEAR
GROUND: 1-#8 — TYPE: 905A
ENTRY: TOP — DATE: 08/18/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	RECEPTACLE ROOM 149	XXXX			20/1	20/1	XXXX			SPARE	2.
3.	RECEPTACLE ROOM 149		XXXX		20/1	20/1		XXXX		SPARE	4.
5.	RECEPT. S. WALL RM 146			XXXX	20/1	20/1			XXXX	SPARE	6.
7.	RECEPT. WOMENS ROOM	XXXX			20/1	20/1	XXXX			LIGHTS ROOM 148, 149	8.
9.	RECEPTACLE ROOM 156		XXXX		20/1	20/1		XXXX		LIGHTS ROOM 146, 150	10.
11.	RECEPTACLE ROOM 149			XXXX	20/1	20/1			XXXX	LTS HALL BY RM. 151	12.
13.	LIGHTS ROOM 157B	XXXX			20/1	20/1	XXXX			LTS HALL BY RM. 151 / EM. LIGHT	14.
15.	A/C UNIT ROOM 151A		XXXX		20/1	20/1		XXXX		LTS HALL BY RM. 151 / EM. LIGHT	16.
17.	RECEPTACLE BAY (GARAGE)			XXXX	20/1	20/1			XXXX	LTS T.V. RM, RM 156, RM 148	18.
19.	SPARE	XXXX			20/1	20/1	XXXX			LIGHTS OUTSIDE EAST	20.
21.	KITCHEN REC. / BENCH REC.		XXXX		20/1	20/1		XXXX		GARAGE LIGHTS	22.
23.	SPARE			XXXX	20/1	20/1			XXXX	LIGHTS ROOM 157B	24.
25.	SPARE	XXXX			20/1	20/1	XXXX			LTS TOOL CRIB / EM. LIGHT	26.
27.	SPARE		XXXX		20/1	20/1		XXXX		UNIT HEATERS	28.
29.	RECEPT. KITCHEN COUNTER			XXXX	20/1	20/1			XXXX	~~EXHAUST FAN RM 157A/2~~	30.
31.	DISHWASHER & DISPOSAL	XXXX			20/1	20/1	XXXX			STM CND PMP CTS-248A-RM 248A	32.
33.	HOOD IN KITCHEN		XXXX		20/1	20/1		XXXX		~~AIR COMPRESSOR~~	34.
35.	CLOCK RECEPTACLES			XXXX	20/1	20/1			XXXX	RECEPTS. RM 151A	36.
37.	BATTERY CHARGER	XXXX			20/1	20/1	XXXX			RECEPTACLE NEW PARTITION	38.
39.	SPARE		XXXX		20/1	15/2		XXXX		A/C BUNK ROOM	40.
41.	WATER COOLER / DOOR ALARM			XXXX	20/1	"			XXXX	"	42.

(1)

PANEL P0103 SCHEDULE

LOCATION: BUILDING 14, ROOM: 155 WEST WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 25,000 AMPS RMS
MAIN LUG ONLY — 100 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0102, BKR. #31-33-35 — TAG # 1133048
FEEDER: 3-#2
NEUTRAL: 1-#2 — ENCLOSURE: SQ D
GROUND: 1-#8 — TYPE: NQOD
ENTRY: BOTTOM — DATE: 04/08/2013

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	BLANK	XXXX				20/1	XXXX			GENERAL LTG. & RCPT.	2.
3.	BLANK		XXXX			20/1		XXXX		~~SPARE~~	4.
5.	BLANK			XXXX		20/1			XXXX	STM CND PUMP CTS-155-RM 155	6.
7.	BLANK	XXXX				20/1	XXXX			~~RCPT. E. WALL~~	8.
9.	BLANK		XXXX			20/1		XXXX		1 OUTSIDE LT. S. WALL	10.
11.	BLANK			XXXX		20/1			XXXX	LIGHTS - SHAPER	12.
13.	BLANK	XXXX				30/1	XXXX			SPARE	14.
15.	BLANK		XXXX			30/1		XXXX		LIGHTS - KING MILL	16.
17.	BLANK			XXXX		30/1			XXXX	SPARE	18.
19.	PAINT BOOTH VENT	XXXX			20/1	30/1	XXXX			LIGHTS - NORTH OF AISLE	20.
21.	BOOTH VENT		XXXX		20/1	30/1		XXXX		LIGHTS - SOUTH OF AISLE	22.
23.	BOOTH VENT			XXXX	20/1	30/1			XXXX	SPARE	24.
25.	208V 3PH RECEPTACLE	XXXX			20/3	20/1	XXXX			RCPT. / LTG. UNDER E. MEZZ.	26.
27.	"		XXXX		"	20/1		XXXX		RECEPT. LEFT OF PANEL	28.
29.	"			XXXX	"	20/1			XXXX	RECEPT. MEZZ. CEILING	30.
31.	SPARE	XXXX			20/3	20/3	XXXX			OVERHEAD DOOR	32.
33.	"		XXXX		"	"		XXXX		"	34.
35.	"			XXXX	"	"			XXXX	"	36.

(2)

PANEL P0130 SCHEDULE

LOCATION: BUILDING 14, ROOM: 110 EAST WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY — 400 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0111, BKR. #1 — TAG # 1133076
FEEDER: 3-#500 MCM
NEUTRAL: 1-#500 MCM — ENCLOSURE: SQ D
GROUND: 1-#3 — TYPE: I-LINE
ENTRY: TOP — DATE: 08/18/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P	A	B	C	BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	RECEPTACLE S.E. WALL	20/1	1.5"					2.
3.	RECEPTACLE W. WALL	20/1	1.5"			4.5"	100/3 P0129	4.
5.	RECEPTACLE S. WALL	20/1	1.5"					6.
7.	HEATER RM. 111 BY O.H. DOOR	20/1	1.5"			1.5"	20/1 RECEPTACLE E. WALL	8.
9.	RECEPTACLE W. WALL	20/1	1.5"			1.5"	20/1 RECEPTACLE N. WALL	10.
11.	HEATER ROOM 112	20/1	1.5"			1.5"	20/1 RECEPTACLE N. WALL	12.
13.								14.
15.	3PH RECEPTACLE N. WALL	20/3	4.5"			4.5"	40/3 30A DISCONNECT E. WALL	16.
17.								18.
19.								20.
21.	SPARE	20/3	4.5"			4.5"	30/3 TWISTLOCK REC. ON COLUMN	22.
23.								24.
25.								26.
27.	SPARE	30/3	4.5"			4.5"	60/3 SPARE	28.
29.								30.
31.								32.
33.	3PH RECEPT N. WALL RM 111	30/3	4.5"			4.5"	20/3 SPARE	34.
35.								36.
37.								38.
39.	SANDBLASTER	70/3	4.5"			4.5"	20/3 SPARE	40.
41.								42.
43.								44.
45.	SPARE	70/3	4.5"			4.5"	70/3 O.H. DOOR ROOM 111	46.
47.								48.
49.								50.
51.	GRINDER ROOM 111	70/3	4.5"			4.5"	70/3 3PH DISC. W. WALL RM 111	52.
53.								54.
55.								56.
57.	3PH RECEPT. W. WALL RM 111	20/3	4.5"			4.5"	70/3 3PH DISC. W. WALL RM 111	58.
59.								60.
61.								62.
63.	UNIT HEATER ROOM 111	30/3	4.5"			4.5"	70/3 3PH DISC. RELIEF VALVE	64.
65.								66.

PANEL P0123 SCHEDULE

LOCATION: BLDG. 14, 1st FL. E. WALL MAIN HALL NORTH
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY — 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE
FED FROM: P0122, BKR. #4 — TAG # 1133068
FEEDER: 3-#3/0
NEUTRAL: 1-#3/0 — ENCLOSURE: SQ D
GROUND: 1-#6 — TYPE: NQOD
ENTRY: BOTTOM — DATE: 04/03/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ØA	ØB	ØC	BKR A/P	BKR A/P	CONN. LOAD VA ØA	ØB	ØC	LOAD DESCRIPTION	CKT NO.
1.	LIGHTS RMS. 131D & 131H	XXXX			20/1	20/1	XXXX			LIGHTS RMS. 131L & 131O	2.
3.	LIGHTS RMS. 131A, 131B & 131C		XXXX		20/1	20/1		XXXX		LIGHTS RMS. 131E & 131F	4.
5.	LIGHTS RMS. 131G & 131J			XXXX	20/1	20/1			XXXX	LIGHTS 131Q & CORRIDOR	6.
7.	LIGHTS RMS. 131P & 131S	XXXX			20/1	20/1	XXXX			LIGHTS RMS. 131K, 131M & 131N	8.
9.	NORTH TEC POWER - IG		XXXX		20/1	20/1		XXXX		DOOR SECURITY	10.
11.	SOUTH TEC POWER - IG			XXXX	20/1	20/1			XXXX	SPARE	12.
13.	RCPT. I.G. OFFICE	XXXX			20/1	20/1	XXXX			NIGHT LIGHTS	14.
15.	RECEPTS. RMS. 131D & 131N		XXXX		20/1	20/1		XXXX		RECEPTS. RMS. 131L & 131O	16.
17.	RECS. RMS. 131P, 131Q & 131S			XXXX	20/1	20/1			XXXX	RECS. RMS. 131M, 131N & CORR.	18.
19.	RECEPTS. RMS. 131G & 131J	XXXX			20/1	20/1	XXXX			RECEPTS. RMS. 131A & 131E	20.
21.	RECEPTS. RMS. 131B & 131C		XXXX		20/1	20/1		XXXX		SPARE	22.
23.	SPARE			XXXX	20/1	20/1			XXXX	SPARE	24.
25.	RCPT. I. G. OFFICE	XXXX			20/1	20/2	XXXX			FCU	26.
27.	RCPT. I. G. OFFICE		XXXX		20/1	"		XXXX		"	28.
29.	FCU			XXXX	20/2	20/1			XXXX	SPARE	30.
31.	"	XXXX			"	20/2	XXXX			FCU ROOM 131D	32.
33.	BATH HANDICAP BUTTON		XXXX		20/1	"		XXXX		"	34.
35.	VENDING MACHINE RECEPT.			XXXX	20/1	20/1			XXXX	H.C. DRS / TV REC. RM. 131A	36.
37.	RECEPT. BY SINK	XXXX			20/1	20/1	XXXX			RCPT.RM. 131A	38.
39.	CCTV - IG		XXXX		20/1	20/1		XXXX		RCPT.RM. 131A	40.
41.	SPARE			XXXX	20/1	20/1			XXXX	RCPT.RM. 131A	42.

GENERAL NOTES

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G–001.
2. EQUIPMENT LISTED ON THIS DRAWING BY MANUFACTURER'S BRAND NAME IS TO DENOTE THE QUALITY AND SALIENT FEATURES FOR EQUAL PRODUCTS ONLY.
3. CONTRACTOR SHALL BE RESPONSIBLE TO TEMPORARILY UPDATE THE PANEL SCHEDULES MOUNTED ON THE INSIDE OF THE DOOR.
4. SEE DRAWING E–401 FOR PANEL LOCATION INFORMATION.

CODED NOTES

(1) CONDUIT AND WIRING FROM BREAKER #32 TO THE STEAM CONDENSATE PUMP TO REMAIN. PANEL SCHEDULE WILL CHANGE TO "STM COND PUMP CTS–248A–RM 248A". SEE DRAWING E–403 FOR WIRING INFORMATION.

(2) INSTALL CONDUIT AND WIRING AS SHOWN ON DRAWING E–401 FOR THE NEW STEAM CONDENSATE PUMP "CTS–155". WIRE TO PANEL "P0103", EXISTING BREAKER # 6 A SHOWN. PANEL SCHEDULE WILL CHANGE TO "STM COND PUMP CTS–155–RM 155". SEE DRAWING E–401 FOR WIRING INFORMATION.

CONTROLLED DRAWING
THIS DRAWING IS UNDER CONFIGURATION CONTROL.
REVISION BY UNAUTHORIZED PERSONNEL PROHIBITED.
CONTACT RESPONSIBLE SYSTEM MANAGER FOR RELEASE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

ELECTRIC PROPULSION RESEARCH BUILDING
LOW VOLTAGE DISTRIBUTION SYSTEM

ELECTRICAL PANEL/SWITCHBOARD DIRECTORIES
PANELS: P0103, P0130, P0149,
AND P0123

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	LVPNLDIR	- E-	616

AREA: — SHEET 01 OF 01
UNITS: ENGLISH — SOFTWARE: AUTOCAD 2012 — REVISION - — VER 0
SCALE: — OFFICIAL DATE: 04/23/2013

DRAWING/DESIGN STATUS: RECORD DRAWING
DRAWING MANAGEMENT — SYSTEM: LVPNL — SUB-SYS: — FACILITY: — CONFIG: CFG
NASA APPROVALS — DR: — DES: — D.ENG: — PROJ. MGR:
RELEASE APPROVAL: Quach, Quyen — DATE: 20130423
RELEASE APPROVAL: Gaudreau, Sue — DATE: 20130424
RELEASE APPROVAL: — DATE:
RELEASE STATUS: RELEASE

REGISTRATION STAMP
CONTRACTOR: CALL HENRY INC.
CONTRACT NO.: NNC07BA04B
TASK ORDER: 347 NUMBER 2120/2139
DRAWN: SMR — DESIGNED: — CHECKED: —
APPROVED: KFS — APPROVAL DATE: 04/08/2013

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TEMPLATE DATE: 02/28/2011

CLOUDED AREAS DENOTE ITEMS TO BE CHANGED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
PANEL "P0103" & "P0149" MODIFICATIONS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	601

AREA: — SHEET 01 OF 01
UNITS: ENGLISH — SOFTWARE: AUTOCAD 2012 — REVISION - — VER 1
SCALE: NONE — OFFICIAL DATE: 07/14/2014

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014
DRAWING MANAGEMENT — SYSTEM: LVPD — SUB-SYS: — FACILITY: — CONFIG:
NASA APPROVALS — DR: — DES: — D.ENG: — PROJ. MGR: JAS
RELEASE APPROVAL: — DATE:
RELEASE APPROVAL: — DATE:
RELEASE APPROVAL: — DATE:
RELEASE STATUS: WORKING

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM — DESIGNED: GM — CHECKED:
APPROVED: — APPROVAL DATE:

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TEMPLATE DATE: 02/28/2011

PANEL P0111 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 142A S. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 800 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P01, BKR. #1
FEEDER: 6-#500 KCMIL
NEUTRAL: 2-#500 KCMIL
GROUND: 1-#1/0
ENTRY: BOTTOM

TAG # 1133056
ENCLOSURE: SQUARE D
TYPE: I-LINE
DATE: 03/24/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P		BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	P0130	400/3	6"	4.5" 225/3	P0120	2.
3.	P0112	400/3	6"	4.5" 225/3	P0116	4.
5.	SPARE	400/3	6"	4.5"	BLANK	6.
7.	BLANK		4.5"	4.5" 225/3	P0118	8.
9.	BLANK		4.5"	4.5"	BLANK	10. (1)
11.	BLANK		4.5"	4.5"	BLANK	12.
13.	BLANK		4.5"	4.5" 225/3	P0119	14.
15.	BLANK		6"	4.5" 225/3	P0117	16.
17.	P0150	600/3	6"	4.5"	BLANK	18.
				4.5"	BLANK	20.
				4.5"	BLANK	22.

A B C

PANEL P0112 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 155 N.W. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 400 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0111, BKR. #3
FEEDER: 3-#500 KCMIL
NEUTRAL: 1-#500 KCMIL
GROUND: 1-#3
ENTRY: BOTTOM

TAG # 1133057
ENCLOSURE: SQUARE D
TYPE: I-LINE
DATE: 03/13/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P		BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	RECEPT. N.E. WALL	25/3	4.5"	4.5" 70/3	SPARE	2.
3.	SPARE	35/3	4.5"	4.5" 15/3	CRANE	4. (2)
5.	RECEPT. N.E. WALL	70/3	4.5"	4.5" 20/3	SPARE	6.
7.	SPARE	150/3	4.5"	4.5" 100/3	SPARE	8.
9.	SPARE	100/3	4.5"	4.5"	BLANK	10.

A B C

PANEL P0125 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 116 S.WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 65,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0125M, BKR. #225A
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP

TAG # 1133070
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 05/17/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ø A	ø B	ø C	BKR A/P	A B C	BKR A/P	CONN. LOAD VA ø A	ø B	ø C	LOAD DESCRIPTION	CKT NO.
1.	LIGHTS ROOM 116	XXXX			20/2		20/1	XXXX			SPARE	2.
3.	"		XXXX		"		30/1		XXXX		LIGHTS ROOM 116A & CORR.	4.
5.	SPARE			XXXX	20/1		20/1			XXXX	NIGHT LIGHT ROOM 116	6.
7.	BENCH POWER RM 117 EAST	XXXX			20/1		20/1	XXXX			SPARE	8.
9.	BENCH POWER RM 117 WEST		XXXX		20/1		20/1		XXXX		RECEPTACLE ROOM 116	10.
11.	RECEPTACLE ROOM 117			XXXX	20/1		20/1			XXXX	BENCH POWER RM 116 S.	12.
13.	RECEPTACLE ROOM 116A	XXXX			20/1		25/1	XXXX			BENCH POWER RM 116 N.	14.
15.	RECEPTACLE ROOM 116		XXXX		20/1		30/1		XXXX		BENCH POWER RM 116 E.	16.
17.	SPARE			XXXX	20/1		25/1			XXXX	SPARE	18.
19.	SPARE	XXXX			20/1		20/1	XXXX			AHU-116 LIGHT & RECEPT.	20.
21.	SPARE		XXXX		20/1		20/1		XXXX		SPARE	22.
23.	SPARE			XXXX	20/1		20/1			XXXX	SPARE	24.
25.	SPARE	XXXX			20/1		20/1	XXXX			SPARE	26.
27.	SPARE		XXXX		20/1		20/1		XXXX		SPARE	28.
29.	SPARE			XXXX	20/1		20/1			XXXX	SPARE	30.
31.	BLANK	XXXX						XXXX			BLANK	32.
33.	BLANK		XXXX						XXXX		BLANK	34.
35.	BLANK			XXXX						XXXX	BLANK	36.
37.	BLANK	XXXX					30/3	XXXX			HEATER CUH-2-VEST. 130	38.
39.	BLANK		XXXX						XXXX		"	40.
41.	BLANK			XXXX						XXXX	"	42.

(1)

PANEL P0127 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 102 N.WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 42,000 AMPS RMS
MAIN LUG ONLY 200 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0161, BKR. #41
FEEDER: 3-#1/0
NEUTRAL: 1-#4
GROUND: 1-#2 BARE
ENTRY: TOP

TAG # 1133073
ENCLOSURE: SQUARE D
TYPE: QO
DATE: 03/27/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ø A	ø B	ø C	BKR A/P	A B C	BKR A/P	CONN. LOAD VA ø A	ø B	ø C	LOAD DESCRIPTION	CKT NO.
1.	RECEPTACLE ROOM 102	XXXX			20/1		20/1	XXXX			RECEPTACLE ROOM 102	2.
3.	DARK ROOM LIGHTS		XXXX		20/1		20/1		XXXX		RECEPTACLE ROOM 102	4.
5.	RECEPTACLE ROOM 102			XXXX	20/1		20/1			XXXX	RECEPTACLE ROOM 102	6.
7.	ZYGLO	XXXX			30/3		20/1	XXXX			RECEPTACLE ROOM 102	8.
9.	"		XXXX		"		20/1		XXXX		RECEPTACLE-COMPUTER	10.
11.	"			XXXX	"		20/1			XXXX	ULTRA TANK	12.
13.	3Ph RECEPTACLE ROOM 102	XXXX			20/3		40/3	XXXX			DOOR OPENER/ AC UNIT	14.
15.	"		XXXX		"		"		XXXX		"	16.
17.	"			XXXX	"		"			XXXX	"	18.
19.	POST MT. X-RAY 2	XXXX			15/3		20/3	XXXX			X-RAY UNIT 1/2	20.
21.	"		XXXX		"		"		XXXX		"	22.
23.	"			XXXX	"		"			XXXX	"	24.
25.	MONORAIL RECEPTACLE	XXXX			15/3		30/3	XXXX			OVERHEAD AIR HANDLER	26.
27.	"		XXXX		"		"		XXXX		"	28.
29.	"			XXXX	"		"			XXXX	"	30.
31.	WATER HEATER	XXXX			20/2		40/2	XXXX			CHILLER	32.
33.	"		XXXX		"		"		XXXX		"	34.
35.	SPARE			XXXX	20/1		20/1			XXXX	FILM PROCESSOR	36.
37.	POST MT. X-RAY 1	XXXX			15/3		50/3	XXXX			3Ph RECEPTACLE ROOM 102	38.
39.	"		XXXX		"		"		XXXX		"	40.
41.	"			XXXX	"		"			XXXX	"	42.

GENERAL NOTES

CONTROLLED DRAWING

THIS DRAWING IS UNDER CONFIGURATION CONTROL
REVISION BY UNAUTHORIZED PERSONNEL PROHIBITED
CONTACT RESPONSIBLE SYSTEM MANAGER FOR RELEASE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

REGISTRATION STAMP

CONTRACTOR: CALL HENRY INC.
CONTRACT NO.: NNC07BA04B
TASK ORDER: 347 NUMBER 2120/2139
DRAWN: MSI | DESIGNED | CHECKED: 4
APPROVED: KFS | APPROVAL DATE: 05/30/2012

DRAWING/DESIGN STATUS: RECORD DRAWING

DRAWING MANAGEMENT: SYSTEM: LVPNL | SUB-SYS: | FACILITY: | CONFIG: CFG

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR:
RELEASE APPROVAL: Quach, Quyen | DATE: 20120531
RELEASE APPROVAL: Gaudreau, Sue | DATE: 20120601
RELEASE APPROVAL: | DATE:
RELEASE STATUS: RELEASE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

TECHNICAL SERVICES BUILDING
LOW VOLTAGE DISTRIBUTION SYSTEM

ELECTRICAL PANEL/SWITCHBOARD DIRECTORIES
PANELS: P0111, P0112, P0125, P0127

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	LVPNLDIR	- E-	611

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 0
SCALE: | OFFICIAL DATE: 05/30/2012

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TEMPLATE DATE: 02/28/2011

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G–001.
2. EQUIPMENT LISTED ON THIS DRAWING BY MANUFACTURER'S BRAND NAME IS TO DENOTE THE QUALITY AND SALIENT FEATURES FOR EQUAL PRODUCTS ONLY.
3. CONTRACTOR SHALL BE RESPONSIBLE TO TEMPORARILY UPDATE THE PANEL SCHEDULES MOUNTED ON THE INSIDE OF THE DOOR.
4. SEE DRAWING E–403 FOR PANEL LOCATION INFORMATION.

CODED NOTES

(1) SUPPLY AND INSTALL ONE (1) NEW 30 AMP, 3–POLE BEAKER IN THE LOCATION SHOWN. CONTRACTOR SHALL INSTALL WIRING FROM THE NEW ELECTRIC CABINET HEATER "CUH–2" TO THE BREAKER. SEE DRAWING E–403 FOR ROUTING INFORMATION.

CLOUDED AREAS DENOTE ITEMS TO BE CHANGED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED
APPROVED | APPROVAL DATE

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: ELEC | SUB-SYS: | FACILITY: | CONFIG:

NASA APPROVALS
DR: | DES:
D.ENG: | PROJ. MGR: JAS
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
PANEL "P0125" MODIFICATIONS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	602

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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TEMPLATE DATE: 02/28/2011

PANEL P0128 SCHEDULE

LOCATION: BLDG. 14, MEZZANINE, ROOM: FOYER, S. WALL
PANEL MOUNTING: FLUSH
INTERRUPTING CAPACITY: 42,000 AMPS
MAIN LUG ONLY 600 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0122, BKR: #5
FEEDER: 3-#300 KCMIL
NEUTRAL: 1-#1/0
GROUND: NONE
ENTRY: BOTTOM

TAG # 1133074
ENCLOSURE: LEONARD ELECTRIC
TYPE: 4-564515
DATE: 04/09/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P			BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	SPARE	35/3	4.5"	4.5"	35/3	SPARE	2.
3.	HOT WATER TANK	50/2	4.5"	4.5"	25/3	SPARE	4.
5.	SPARE	70/3	6"	6"		BLANK	6.
7.	SPARE	225/3	9"				
			9"			BLANK	8.

A B C

PANEL P0138 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 143 W.WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 25,000 AMPS RMS
MAIN LUG ONLY 100 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0131, BKR. #4
FEEDER: 3-#2
NEUTRAL: 1-#2
GROUND: 1-#6
ENTRY: BOTTOM

TAG # 1133084
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 04/12/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ø A	ø B	ø C	BKR A/P	BKR A/P	CONN. LOAD VA ø A	ø B	ø C	LOAD DESCRIPTION	CKT NO.
1.	RECEPTACLE S.W.WALL	XXXX			15/1	20/2	XXXX			LIGHTS ROOM 143	2.
3.	EMERGENCY LIGHTS		XXXX		20/1	"		XXXX		"	4.
5.	LIGHTING CONTACTOR			XXXX	20/1	20/2			XXXX	LIGHTS ROOM 143	6.
7.	NIGHT LIGHTS	XXXX			20/2	"	XXXX			"	8.
9.	"		XXXX		"	35/1		XXXX		SPARE	10.
11.	ROOF VENT SOUTH			XXXX	20/1	25/1			XXXX	EXHAUST FAN #143	12.
13.	SPARE	XXXX			20/1	20/1	XXXX			DESK RECEPTACLE	14.
15.	SPARE		XXXX		20/1	20/1		XXXX		RECEPTACLE NORTH WALL	16.
17.	SPARE			XXXX	20/1	20/1			XXXX	RECEPTACLE WEST WALL	18.
19.	HEAT TRACE AHU #143	XXXX			20/1	20/2	XXXX			REC. W.WALL-VACUUM PUMP	20.
21.	RECEPTACLE AHU #143		XXXX		20/1	"		XXXX		"	22.
23.	SPARE			XXXX	20/1	20/1			XXXX	MEC 23- SIEMENS PANEL	24.

A B C

PANEL P0133 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., ROOM: 123, N. WALL
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 25,000 AMPS RMS
MAIN LUG ONLY 100 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0131, BKR. #5
FEEDER: 3-#2
NEUTRAL: 1-#2
GROUND: 1-#8
ENTRY: TOP

TAG #1133079
ENCLOSURE: SQUARE D
TYPE: NQOD
DATE: 04/11/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ø A	ø B	ø C	BKR A/P	BKR A/P	CONN. LOAD VA ø A	ø B	ø C	LOAD DESCRIPTION	CKT NO.
1.	RECEPT. LEFT OF PANEL	XXXX			30/1	20/1	XXXX			REC. MEZZ. & WALLPACK LT.	2.
3.	LIGHTS MIXER RM. 225		XXXX		30/1	20/1		XXXX		HALL LIGHTS/EM. LTG.	4.
5.	RECEPT. RIGHT OF PANEL			XXXX	20/1	20/1			XXXX	SPARE	6.
7.	LIGHTS ROOM 125	XXXX			20/1	20/1	XXXX			LIGHTS ROOM 125	8.
9.	LIGHTS ROOM 123		XXXX		20/1	20/1		XXXX		AHU #2 SERVICE RECEPTACLE	10.
11.	LIGHTS ROOM 123/EM. LTG.			XXXX	20/1	25/1			XXXX	SPARE	12.
13.	SPARE	XXXX			20/1	25/1	XXXX			AHU #2 TEMP. CONTROL	14.
15.	LIGHTS MEZZANINE		XXXX		20/1	20/1		XXXX		STM COND PUMP CTS225A MEZZ	16.
17.	SPARE			XXXX	20/1	20/1			XXXX	SPARE	18.
19.	SPARE	XXXX			20/1	20/1	XXXX			SPARE	20.
21.	BLANK		XXXX					XXXX		BLANK	22.
23.	BLANK			XXXX					XXXX	BLANK	24.

1

PANEL P0140 SCHEDULE

LOCATION: BLDG. 14, 1st Fl., MAIN HALL NORTH, W. WALL
PANEL MOUNTING: FLUSH
INTERRUPTING CAPACITY: 42,000 AMPS
MAIN LUG ONLY 400 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P01, BKR: #7
FEEDER: 3-#350 KCMIL
NEUTRAL: 1-#350 KCMIL
GROUND: 1-#1/0
ENTRY: BOTTOM

TAG # 1133086
ENCLOSURE: LEONARD ELECTRIC
TYPE: A-564294
DATE: 04/03/2012

CKT NO.	LOAD DESCRIPTION	BKR A/P			BKR A/P	LOAD DESCRIPTION	CKT NO.
1.	P0141	90/3	6"	6"	70/3	P0146	2.
3.	SPARE	100/3	6"	6"	70/3	P0145	4.
5.	SPARE	125/3	9"				
			9"		125/3	P0144	6.

A B C

PANEL P0137 SCHEDULE

LOCATION: BUILDING 14, 1st Fl., HALLWAY BY ROOM 140D
PANEL MOUNTING: SURFACE
INTERRUPTING CAPACITY: 22,000 AMPS RMS
MAIN LUG ONLY 225 AMP BUS
VOLTAGE: 208/120 VOLTS 4-WIRE, 3 PHASE

FED FROM: P0131, BKR. #10
FEEDER: 3-#4/0
NEUTRAL: 1-#4/0
GROUND: 1-#4
ENTRY: TOP

TAG # 1133083
ENCLOSURE: SQUARE D
TYPE: NQ
DATE: 04/18/2012

CKT NO.	LOAD DESCRIPTION	CONN. LOAD VA ø A	ø B	ø C	BKR A/P	BKR A/P	CONN. LOAD VA ø A	ø B	ø C	LOAD DESCRIPTION	CKT NO.
1.	P0155	XXXX			100/3	20/1	XXXX			SPARE	2.
3.	"		XXXX		"	20/1		XXXX		SPARE	4.
5.	"			XXXX	"	20/1			XXXX	SPARE	6.
7.	SPARE	XXXX			20/1	20/1	XXXX			SPARE	8.
9.	SPARE		XXXX		20/1	20/1		XXXX		SPARE	10.
11.	SPARE			XXXX	20/1	20/1			XXXX	SPARE	12.
13.	SPARE	XXXX			20/1	20/1	XXXX			SPARE	14.
15.	SPARE		XXXX		20/1	20/1		XXXX		SPARE	16.
17.	BLANK			XXXX					XXXX	BLANK	18.
19.	BLANK	XXXX					XXXX			BLANK	20.
21.	BLANK		XXXX					XXXX		BLANK	22.
23.	BLANK			XXXX					XXXX	BLANK	24.
25.	BLANK	XXXX					XXXX			BLANK	26.
27.	BLANK		XXXX					XXXX		BLANK	28.
29.	BLANK			XXXX					XXXX	BLANK	30.
31.	BLANK	XXXX					XXXX			BLANK	32.

GENERAL NOTES

NOTES

1. FOR A LIST OF DRAWINGS AND GENERAL NOTES, REFER TO G–001.
2. EQUIPMENT LISTED ON THIS DRAWING BY MANUFACTURER'S BRAND NAME IS TO DENOTE THE QUALITY AND SALIENT FEATURES FOR EQUAL PRODUCTS ONLY.
3. CONTRACTOR SHALL BE RESPONSIBLE TO TEMPORARILY UPDATE THE PANEL SCHEDULES MOUNTED ON THE INSIDE OF THE DOOR.
4. SEE DRAWING E–401 FOR PANEL LOCATION INFORMATION.

CODED NOTES

1 INSTALL WIRING FROM THE NEW STEAM CONDENSATE PUMP "CTS–225A" TO THE EXISTING SPARE 20 AMP, 1–POLE BREAKER IN PANEL P0133, CKT #16. SEE DRAWING E–401 FOR ROUTING INFORMATION.

CONTROLLED DRAWING

THIS DRAWING IS UNDER CONFIGURATION CONTROL
REVISION BY UNAUTHORIZED PERSONNEL PROHIBITED
CONTACT RESPONSIBLE SYSTEM MANAGER FOR RELEASE

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

REGISTRATION STAMP

DRAWING/DESIGN STATUS: RECORD DRAWING

DRAWING MANAGEMENT: SYSTEM: LVPNL | SUB–SYS: | FACILITY: | CONFIG: CFG

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR:

CONTRACTOR: CALL HENRY INC.
CONTRACT NO.: NNC07BA04B
TASK ORDER: 347 NUMBER 2120/2139
DRAWN: MSI | DESIGNED | CHECKED
APPROVED: KFS | APPROVAL DATE: 05/16/2012

RELEASE APPROVAL: Quach, Quyen | DATE: 20120517
RELEASE APPROVAL: Gaudreau, Sue | DATE: 20120517
RELEASE APPROVAL: | DATE:
RELEASE STATUS: RELEASE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

TECHNICAL SERVICES BUILDING
LOW VOLTAGE DISTRIBUTION SYSTEM

ELECTRICAL PANEL/SWITCHBOARD DIRECTORIES
PANELS: P0128, P0133, P0137,
P0138, P0140

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	LVPNLDIR	- E-	603

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2010 | REVISION - | VER 0
SCALE: | OFFICIAL DATE: 05/16/2012

TEMPLATE DATE: 02/28/2011

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CLOUDED AREAS DENOTE ITEMS TO BE CHANGED PER THIS CONTRACT

CHG	NUM	DESCRIPTION	APP/DATE

REVISIONS

CAD DRAWING - DO NOT REVISE MANUALLY

DRAWING/DESIGN STATUS: FOR BID - 07/14/2014

DRAWING MANAGEMENT: SYSTEM: ELEC | SUB–SYS: | FACILITY: | CONFIG:

NASA APPROVALS: DR: | DES: | D.ENG: | PROJ. MGR: JAS

CONTRACTOR: GESS3 Team
CONTRACT NO.: NNC12BA01B
TASK ORDER: WO-010
DRAWN: GM | DESIGNED: GM | CHECKED
APPROVED | APPROVAL DATE

RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE APPROVAL: | DATE:
RELEASE STATUS: WORKING

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN H. GLENN RESEARCH CENTER
LEWIS FIELD & PLUM BROOK STATION, OHIO

BUILDING 14
REDESIGN OF STEAM CONDENSATE SYSTEM

ELECTRICAL INSTALLATION
LOW PRESSURE STEAM CONDENSATE
PANEL "P0133" MODIFICATIONS

SIZE	BLDG/SYS	PROJECT ID	DISCP	TYP SEQ
CD	0014 -	WON20361	- E-	603

AREA: | SHEET 01 OF 01
UNITS: ENGLISH | SOFTWARE: AUTOCAD 2012 | REVISION - | VER 1
SCALE: NONE | OFFICIAL DATE: 07/14/2014

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TEMPLATE DATE: 02/28/2011