



THE GOLD STAR
MEMORIAL HIGHWAY

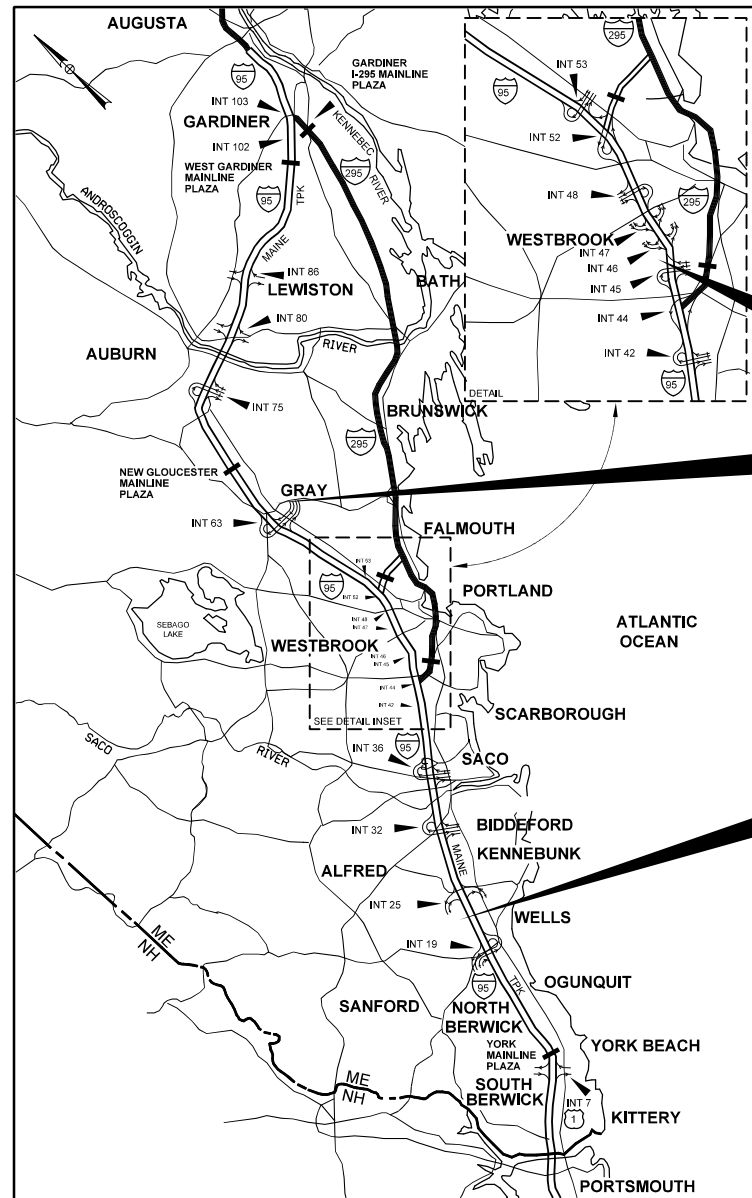
MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
JOHN E. DORITY, MEMBER
ANN R. ROBINSON, MEMBER
THOMAS J. ZUKE, MEMBER
KAREN S. DOYLE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

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LOCATION MAP

MAINTENANCE GARAGE
CROSBY

MAINTENANCE GARAGE
GRAY

2 MAINTENANCE GARAGES
KENNEBUNK

CONTRACT 2018.14 KENNEBUNK AND GRAY MAINTENANCE GARAGE EXTENSIONS NEW HEATING SYSTEM CROSBY MAINTENANCE FACILITY

CONTRACT 2018.14

HNTB

APPROVED:
MAINE TURNPIKE AUTHORITY

Peter S. Merfeld 3/20/18
 PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER
 DATE

Stephen R. Tarure 3/20/18
 STEPHEN R. TARURE, P.E. - DIRECTOR OF ENGINEERING &
 BUILDING MAINTENANCE
 DATE



MECHANICAL SYSTEMS ENGINEERS

MECHANICAL DESIGN
MECHANICAL SYSTEMS ENGINEERS
SHEETS EM-01 TO EM-12

KURT MAGNUSSON, P.E.

3/20/18
DATE



Roland A. Lavalley
 ROLAND A. LAVALLEY P.E., PLS
 VICE PRESIDENT
 DIRECTOR OF OPERATIONS

3/20/18
DATE

Date: 3/27/2018

Filename: 001_Title.dgn

GENERAL NOTES

1. THE FOLLOWING BUILDING CODES AND STANDARDS SHALL BE REFERENCED DURING CONSTRUCTION:
IBC INTERNATIONAL BUILDING CODE, 2015

ASCE 7 AMERICAN SOCIETY OF CIVIL ENGINEERS, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016

ACI 301 AMERICAN CONCRETE INSTITUTE SPECIFICATION FOR STRUCTURAL CONCRETE, 2016

AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION, 2017

ACI 318 AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, 2014

ASTM AMERICAN SOCIETY OF TESTING AND MATERIALS

NDS NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION BY NATIONAL FOREST PRODUCTS ASSOCIATION, 2015
2. EXISTING DIMENSIONS AND CONDITIONS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL EXISTING CONSTRUCTION AND DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION OR FABRICATION. ALL DISCREPANCIES SHALL BE REPORTED TO THE MAINE TURNPIKE AUTHORITY PRIOR TO COMMENCING WORK.
3. ALL MATERIALS STORED ON THE PROJECT SHALL BE PROTECTED FROM THE ELEMENTS BY BEING STORED INDOORS ABOVE GROUND LEVEL ON SUITABLE DUNNAGE.
4. ALL MATERIALS REQUIRED TO BE REMOVED AND REUSED SHALL BE MAINTAINED IN SERVICEABLE CONDITION, STORED IN A MOISTURE FREE ENVIRONMENT INDOORS, AND ABOVE THE GROUND LEVEL.
5. THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AND DIG SMART AT 207-749-7231 AT LEAST 72 HOURS PRIOR TO START OF WORK.
6. THE CONTRACTOR SHALL NOTIFY THE RESIDENT 10 DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. ALL PROPOSED SIGN LOCATIONS AND EXCAVATION LOCATIONS SHALL BE MARKED AT THE NOTIFICATION TIME. EXCAVATION WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED ITS UNDERGROUND UTILITIES, OR NOTIFIED THE RESIDENT THERE ARE NO UNDERGROUND UTILITIES IN THE MARKED AREAS.
7. THE AUTHORITY HAS PROGRAMMED TWO FIELD VISITS FOR MAINE TURNPIKE UTILITY COORDINATION ON THIS PROJECT. SHOULD THE CONTRACTOR NEED ADDITIONAL SIGN LOCATIONS AND/OR ADDITIONAL EXCAVATION LOCATIONS MARKED, OR SHOULD THE CONTRACTOR FAIL TO MAINTAIN THE AUTHORITY'S PREVIOUSLY ESTABLISHED DIG SAFE MARKS, THE AUTHORITY SHALL DEDUCT THE ADDED MARKING COSTS FROM THE CONTRACTOR'S PAYMENTS.
8. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH OSHA SUBPART P OF 29 CFR PART 1926.650-62 (CONSTRUCTION STANDARDS FOR EXCAVATIONS).
9. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD DETAILS HIGHWAY AND BRIDGES 2014 LATEST REVISIONS AND MAINEDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL LATEST REVISION UNLESS OTHERWISE INCLUDED IN THESE PLANS.
10. THERE ARE NO PERMANENT OR TEMPORARY EASEMENTS ASSOCIATED WITH THIS PROJECT. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING RIGHT OF WAY.
11. THE CONTRACTOR SHALL SUBMIT THE PROPOSED STAGING AREA(S) TO THE RESIDENT PRIOR TO STARTING WORK.
12. COPIES OF THE AS-BUILT PLANS ARE NOT AVAILABLE. CONTRACTOR TO VERIFY ALL ASSUMED DIMENSIONS.
13. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AFTER CONSTRUCTION IS COMPLETED.

GENERAL SCOPE OF WORK:

1. CONSTRUCT A BUILDING EXTENSION OFF THE BACK OF THE BUILDING OF (2) 8-BAY MAINTENANCE GARAGES AT THE KENNEBUNK MAINE TURNPIKE AUTHORITY MAINTENANCE YARD AND (1) 8-BAY MAINTENANCE GARAGE AT THE GRAY MAINE TURNPIKE AUTHORITY MAINTENANCE YARD.
2. THE NEW BUILDING CONSTRUCTION SHALL INCLUDE: TEMPORARY SUPPORT, SLAB-ON-GRADE, STUD WALL, ROOF RAFTERS, SHEATHING, COLUMNS AND LVL HEADER.
3. REMOVE ALL EXISTING SIDING AND REPLACE WITH NEW PREFORMED METAL SIDING.
4. REMOVE ALL EXISTING ROOF SHINGLES AND REPLACE WITH NEW PREFORMED METAL ROOFING.
5. ADD LED LIGHTS IN EACH BAY OF GARAGE.
6. REINSTALL ELECTRICAL CONDUITS AND ADD OUTLETS AS SHOWN ON THE PLANS.
7. ADD HVAC AT (2) KENNEBUNK GARAGES, (1) GRAY GARAGE AND (1) CROSBY GARAGE AS SHOWN IN THE PLANS.

FOUNDATION NOTES:

1. ALL FILL USED TO SUPPORT SLABS-ON-GRADE SHALL BE WELL-GRADED 1" CRUSHED GRAVEL.
2. STRUCTURAL SLABS SHALL BE CONSTRUCTED ON A MINIMUM 12" THICK LAYER OF STRUCTURAL FILL SOIL MEETING THE REQUIREMENTS IN THE CONTRACT SPECIFICATIONS.
3. PRESUMED ALLOWABLE SOIL BEARING PRESSURE USED IN DESIGN = 2,000 PSF. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT IF ANY UNSUITABLE SOILS ARE ENCOUNTERED PRIOR TO PLACING FOUNDATIONS. 2 FT OF UNSUITABLE SOIL ASSUMED AT GRAY WILL NEED TO BE EXCAVATED AND REPLACED.
4. SLABS-ON-GRADE SHALL REACH THEIR FULL DESIGN STRENGTH PRIOR TO LOADING. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING/BRACING AS NECESSARY TO PLACE STRUCTURAL FILL AND CONSTRUCT SLAB-ON-GRADE.
5. CARE SHALL BE TAKEN DURING EXCAVATION NOT TO DISRUPT EXISTING UTILITIES AND DRAINAGE. IF EXISTING UTILITIES ARE DAMAGED DURING EXCAVATION OR SLAB CONSTRUCTION, THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGED UTILITIES AT NO ADDITIONAL COST TO THE AUTHORITY.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHORING AND BRACING OF EXISTING STRUCTURES DURING EXCAVATION, BACKFILLING AND CONSTRUCTION. CONTRACTOR SHALL SLOPE EXCAVATIONS TO ACHIEVE SOIL STABILITY.

CONCRETE REINFORCING NOTES:

1. USE DEFORMED EPOXY COATED STEEL REINFORCING BARS, GRADE 60 IN CONFORMANCE WITH ASTM A775/ A 775M. REINFORCEMENT SHALL BE PLACED AND SUPPORTED PRIOR TO CONCRETE PLACEMENT, AND SHALL BE SECURED AGAINST DISPLACEMENT.
2. THE CONTRACTOR SHALL SUBMIT REINFORCING SHOP DRAWINGS TO THE MAINE TURNPIKE AUTHORITY FOR REVIEW AND ACCEPTANCE PRIOR TO COMMENCING FABRICATION. SHOP DRAWINGS SHALL SHOW REINFORCING STEEL PLACEMENT DETAILS AND SECTIONS.
3. MINIMUM CONCRETE COVER FOR REINFORCEMENT:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER 2 INCHES
CONCRETE NOT EXPOSED TO EARTH OR WEATHER IN SLABS AND WALLS 1 1/2 INCHES
CONCRETE NOT EXPOSED TO EARTH OR WEATHER IN CURBS 1 1/2 INCHES
4. CONTINUOUS REINFORCEMENT SHALL BE TENSION LAP SPLICED PER LAP SLICE LENGTH TABLE, U.N.O.

LAP SPLICE LENGTH TABLE							
BAR SIZE	#3	#4	#5	#6	#7	#8	#9
MIN LAP SPLICE (INCHES)	19	19	24	29	36	47	74

5. REINFORCEMENT HOOKS SHALL CONFORM TO STANDARD HOOKS ACCORDING TO ACI 318.
6. WELDING OF REINFORCING IS NOT PERMITTED, U.N.O.

CONCRETE NOTES:

1. ALL CONCRETE WORK, INCLUDING MATERIAL SELECTION, ADMIXTURES, MIXING, AND PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH APPLICABLE BUILDING CODES IN ADDITION, REFERENCE THE CAST-IN-PLACE CONCRETE SPECIFICATIONS.
2. CONTRACTOR SHALL NOT PLACE CONCRETE ON FROZEN GROUND OR IN WATER. ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING NEAR-FREEZING, OR FREEZING WEATHER. REFERENCE SECTION 502.08 COLD WEATHER CONCRETE OF "STATE OF MAINE, DEPARTMENT OF TRANSPARATION STANDARD SPECIFICATIONS, REVISION OF NOVEMBER 2014" FOR REQUIREMENTS FOR COLD WEATHER CURING.
3. CONTRACTOR SHALL SUBMIT PROPOSED CONCRETE MIX DESIGN AND LABORATORY TESTS OF FABRICATED CYLINDERS VERIFYING CONCRETE STRENGTH OR PERFORMANCE HISTORY OF MIX TO THE MAINE TURNPIKE AUTHORITY FOR ACCEPTANCE PRIOR TO PLACEMENT OF CONCRETE. CONCRETE USED ON SITE SHALL BE FIELD TESTED BY THE MAINE TURNPIKE AUTHORITY. FIELD TESTING INFORMATION SHALL INDICATE SLUMP, AIR CONTENT, AND TEMPERATURE. COMPRESSION TEST 2 CYLINDERS AT 7 DAYS AND TWO AT 28 DAYS. HOLD AN ADDITIONAL CYLINDER FOR A 56 DAY BREAK IF NECESSARY. PROVIDE A SET OF FIVE CYLINDERS FOR EACH PLACEMENT AND PER 50 CUBIC YARDS OF CONCRETE PLACED. THE MAINE TURNPIKE AUTHORITY SHALL PROVIDE ALL CONCRETE TESTING.
4. CONCRETE DESIGN STRENGTH SHALL BE A MINIMUM OF 4,000 PSI.
5. THREADED RODS SHALL CONFORM TO ASTM F1554. THREADED RODS SHALL HAVE HEAVY HEX NUTS AND LOCK WASHERS. WET STICKING THREADED ROD SHALL NOT BE ACCEPTABLE.
6. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE NOTED.

WOOD NOTES:

1. ALL LUMBER SHALL BE VISUALLY GRADED AND STAMPED WITH GRADE DESIGNATION, SPECS AND ADDITIONAL INSPECTION INFORMATION, U.N.O.
2. CARE SHALL BE TAKEN TO PROTECT TIMBER FROM WEATHER AND DAMPNESS. DO NOT STACK IN SUCH A WAY AS TO CAUSE WARPING OR PREVENT ADEQUATE AIR CIRCULATION. WARPED TIMBER MAY BE REJECTED.
3. WOOD GRADES AND SPECIES:
A. SPRUCE-PINE-FIR NO.2 OR BETTER FOR TYPICAL LUMBER (STUDS, RAFTERS, ETC.) U.N.O.
B. SOUTHERN YELLOW PINE FOR EXTERIOR EXPOSURE APPLICATIONS AND WHERE SHOWN ON DRAWINGS AS PRESERVATIVE PRESSURE TREATED LUMBER (PT OR PPT).
C. WHERE NOTED LVL ON DRAWINGS PROVIDE VERSA LAM 3100 BY BOISE CASCADE OR EQUIVALENT, WHICH HAS THE FOLLOWING MINIMUM ALLOWABLE STRESSES:
Fb = 3,100 PSI Fc = 2,510 PSI (PARALLEL TO GRAIN)
Fv = 285 PSI Fc = 750 PSI (PERPENDICULAR TO GRAIN)
Ft = 1,555 PPSI E = 2,000,000 PSI
4. STRUCTURAL LUMBER SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19%
5. PROVIDE PRESSURE TREATED LUMBER FOR ALL LUMBER IN CONTACT WITH CONCRETE. ALL CONNECTORS THAT ARE IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT-DIP GALVANIZED, U.N.O.
6. NOMINAL SIZES ARE TYPICALLY REFERENCED ON THE DRAWINGS. PROVIDE ACTUAL SIZES AS SET FORTH BY U.S. DEPARTMENT OF COMMERCE VOLUNTARY PRODUCT STANDARD PS20-99.
7. ALL PLYWOOD SHALL BE APA RATED SHEATHING.
8. PROVIDE FULL DEPTH BLOCKING AT ENDS AND INTERIOR SUPPORTS OF ALL RAFTERS WHERE RAFTERS FRAME OVER SUPPORTS. PROVIDE FULL DEPTH SOLID BLOCKING FOR EACH 8'-0" SPAN FOR ALL RAFTERS.
9. ALL FASTENERS AND WASHERS SHALL BE HOT-DIPED GALVANIZED, U.N.O.
10. ALIGN COLUMNS SUCH THAT COLUMNS BEAR CONTINUOUSLY TO FOUNDATION SUPPORT.
11. PROVIDE HORIZONTAL BLOCKING FOR ALL LOAD BEARING WALLS AT 4'-0" O.C. VERTICAL, MAXIMUM.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY
815.01	BUILDINGS - KENNEBUNK GARAGE #1 ADDITION	EA	1
815.02	BUILDINGS - KENNEBUNK GARAGE #2 ADDITION	EA	1
815.03	BUILDINGS - GRAY GARAGE ADDITION	EA	1
815.04	BUILDINGS - CROSBY GARAGE HVAC UPDATE	EA	1

LIST OF ABBREVIATIONS

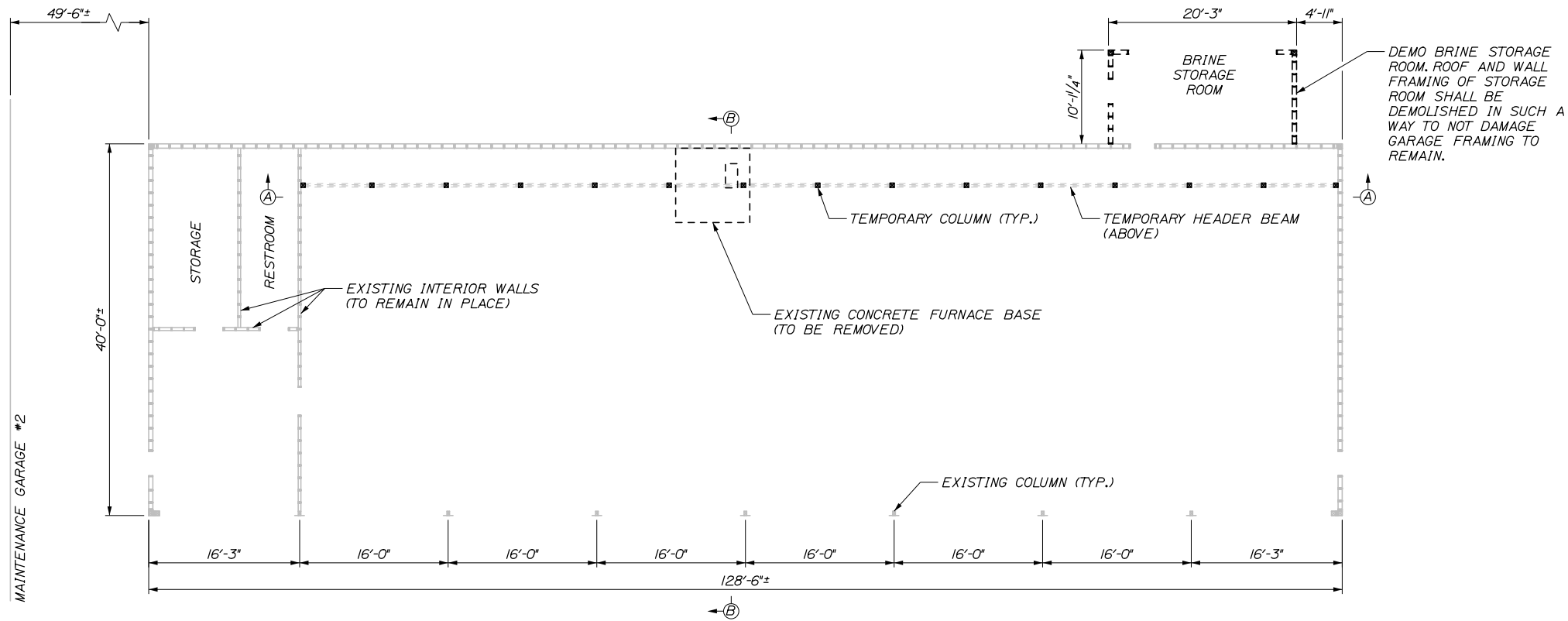
ABUT. - ABUTMENT	MIN. - MINIMUM
ADDL. - ADDITIONAL	MTA - MAINE TURNPIKE AUTHORITY
ALT. - ALTERNATE	NB - NORTHBOUND
APPROX. - APPROXIMATELY	N.F. - NEAR FACE
BOT. - BOTTOM	N.T.S. - NOT TO SCALE
BRG. - BEARING	PED. - PEDESTAL
CL. - CLEAR	PGL - PROFILE GRADE LINE
CL. - CENTERLINE	PL - PLATE
CONC. - CONCRETE	PROP. - PROPOSED
CONSTR. - CONSTRUCTION	P.S.I. - POUNDS per SQUARE INCH
DEMO. - DEMOLITION	RDWY. - ROADWAY
DIA. - DIAMETER	SHLDR. - SHOULDER
EA. - EACH	SB - SOUTHBOUND
EB - EASTBOUND	SP. - SPACES
E.F. - EACH FACE	STA. - STATION
EL. - ELEVATION	T.&B. - TOP & BOTTOM
EQ. - EQUAL	TPKE. - TURNPIKE
EXIST. - EXISTING	TYP. - TYPICAL
EXP. - EXPANSION	U.O.N. - UNLESS OTHERWISE NOTED
F.F. - FAR FACE	VERT. - VERTICAL
JT. - JOINT	WB - WESTBOUND
MAX. - MAXIMUM	W.P. - WORKING POINT
MAINEDOT - MAINE DEPARTMENT OF TRANSPORTATION	

Date: 3/27/2018

Filename: 002_GeneralNotes.dgn

Scale:	Designed by:		HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909		THE GOLD STAR MEMORIAL HIGHWAY	MAINTENANCE GARAGE EXTENSIONS GENERAL NOTES																																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	Revision	By	Date																	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE</th> </tr> <tr> <th> </th> <th>By</th> <th>Date</th> <th> </th> </tr> </thead> <tbody> <tr> <td>Designed</td> <td>BRG</td> <td>11\17</td> <td>Checked RBM 11\17</td> </tr> <tr> <td>Drawn</td> <td>ERB</td> <td>11\17</td> <td>In Charge of RAL 11\17</td> </tr> </tbody> </table>	CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					By	Date		Designed	BRG	11\17	Checked RBM 11\17	Drawn	ERB	11\17	In Charge of RAL 11\17	MTA PROJECT MANAGER: BRIAN TADDEO, PE	CONTRACT: 2018.14	SHEET NUMBER: S1 2 OF 27
No.	Revision	By	Date																																					
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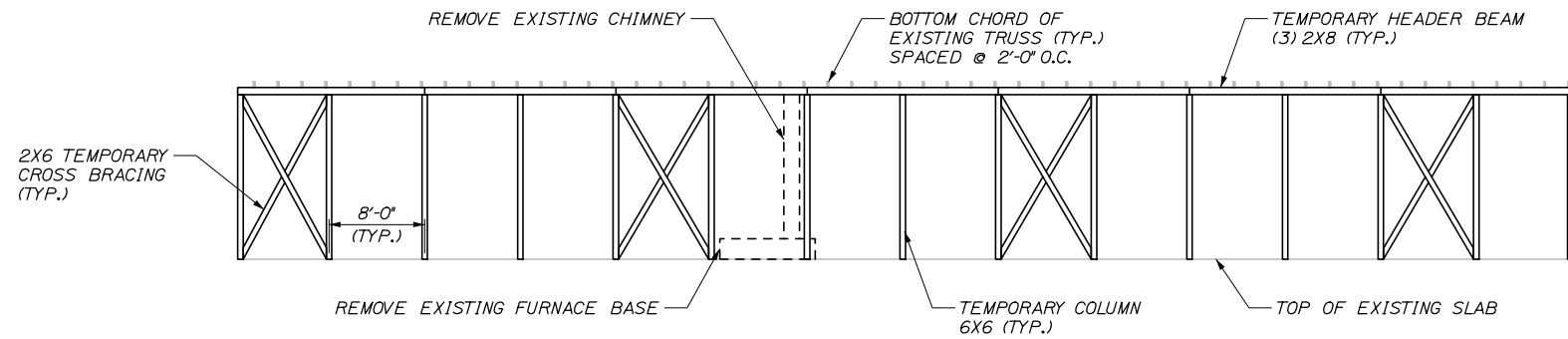
Date: 3/27/2018



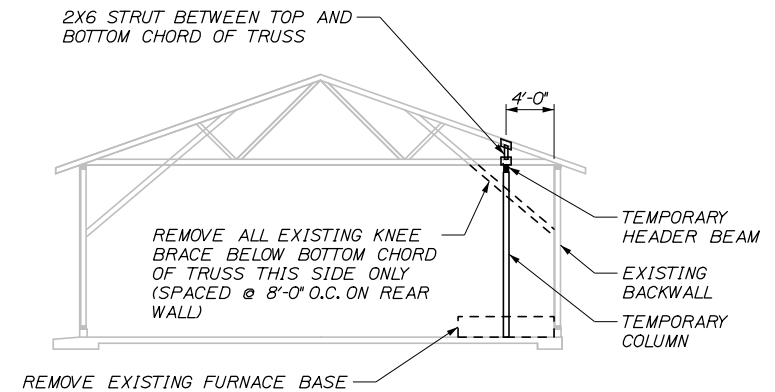
EXISTING FRAMING PLAN AND TEMPORARY SUPPORT PLAN VIEW
SCALE: 1/8" = 1'-0"

GENERAL PROCEDURE

1. REMOVE SHEATHING ON WALLS AND BELOW TRUSS TO ALLOW ACCESS TO STRUCTURAL COMPONENTS. ALL SHEATHING TO BE REMOVED TO ACCESS THE WORK SHALL BE REMOVED CAREFULLY AS TO PREVENT DAMAGE TO THE SHEATHING. SHEATHING ON THE EXISTING WALLS TO REMAIN SHALL THEN BE STORED IN A SUITABLE LOCATION AND REINSTALLED USING WOOD SCREWS. ANY SHEATHING LOST OR DAMAGED DURING STORAGE TO BE REINSTALLED SHALL BE REPLACED IN KIND WITH NEW MATERIAL AT NO ADDITIONAL COST TO THE AUTHORITY.
2. REMOVE EXISTING CHIMNEY, CONCRETE FURNACE BASE, FURNACE, AND DUCT WORK.
3. LOCATE EXISTING STUDS IN BACK WALL AND INSTALL TEMPORARY COLUMNS OFFSET TO STUDS ACCORDING TO THE DETAILS ON THE STRUCTURAL PLANS. REMOVE EXISTING KNEE BRACE TO THE BOTTOM OF THE TRUSS AT LOCATIONS SHOWN ON THE STRUCTURAL PLANS. CEILING SHEATHING SHALL BE PATCHED AT REMOVED KNEE BRACE LOCATIONS.
4. INSTALL TEMPORARY HEADER BEAM TIGHTLY BENEATH EXISTING TRUSSES. INSTALL TEMPORARY STRUTS BETWEEN BOTTOM AND TOP CHORDS OF THE EXISTING TRUSS AS SHOWN ON THE STRUCTURAL PLANS. ALL MODIFICATION WORK COMPLETED WHILE THE TEMPORARY SUPPORT IS IN PLACE SHALL BE COMPLETED WITH ONLY STRUCTURAL DEAD LOAD ON THE ROOF. DO NOT PERFORM THIS WORK WHEN THE ROOF IS SUBJECT TO SNOW OR LIVE LOAD CONDITIONS.
5. REMOVE EXISTING BACKWALL, CURB AND PORTION OF THE ROOF AS SHOWN IN THE STRUCTURAL PLANS TO CONSTRUCT GARAGE EXPANSION. PORTIONS OF THE BACK WALL, CURB, AND ROOF THAT ARE REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS.
6. LAYOUT AND PLACE NEW CONCRETE SLAB-ON-GRADE AND CURB TO MATCH EXISTING FLOOR. SLOPE NEW FLOOR TO MATCH EXISTING DRAINAGE.
7. INSTALL NEW COLUMNS AND HEADER BEAMS ACCORDING TO THE DETAILS IN THE STRUCTURAL PLANS. PAINT NEW COLUMNS SAFETY ORANGE TO A HEIGHT OF 8' TO ENHANCE VISIBILITY.
8. CONSTRUCT NEW BACKWALL AND ROOF. TIE INTO AND MATCH EXISTING WALL CONSTRUCTION AND ROOF PITCH.
9. REMOVE TEMPORARY SUPPORT.
10. REMOVE ALL EXISTING SHINGLES. INSPECT ROOF SHEATHING, REPLACE ANY ROTTED SHEATHING OR DAMAGED WATERPROOFING. INSTALL NEW PREFORMED METAL ROOFING ON EXISTING AND NEW ROOF. NEW UNDERLAYMENT SHALL BE INSTALLED AT ALL LOCATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
11. REMOVE ALL EXISTING SIDING, INSPECT WALL SHEATHING, REPLACE ANY ROTTED SHEATHING. REPLACEMENT OF ROTTED SHEATHING SHALL BE INCIDENTAL TO BUILDING PAY ITEM. INSTALL NEW PREFORMED METAL SIDING ON EXISTING AND NEW WALLS.
12. INSTALL ELECTRICAL CONDUITS AND LED LIGHTS AT LOCATIONS SHOWN IN THE ELECTRICAL PLANS.
13. INSTALL NEW FURNACE UNITS AND DUCT WORK AS SHOWN ON THE MECHANICAL PLANS AND INSTALL DIRECT VENT OUT THE PROPOSED BACKWALL.



SECTION A-A
SCALE: 1/8" = 1'-0"



SECTION B-B
SCALE: 1/8" = 1'-0"
EXISTING CHIMNEY NOT SHOWN FOR CLARITY

NOTES:

1. SEE SHEET S8 FOR TEMPORARY COLUMN AND HEADER DETAILS.

Scale:		Designed by:	
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HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
	Designed	BRG 11\17		Checked	RBM 11\17
	Drawn	ERB 11\17		In Charge of	RAL 11\17

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

TEMPORARY SUPPORT DETAILS
(KENNEBUNK #1)

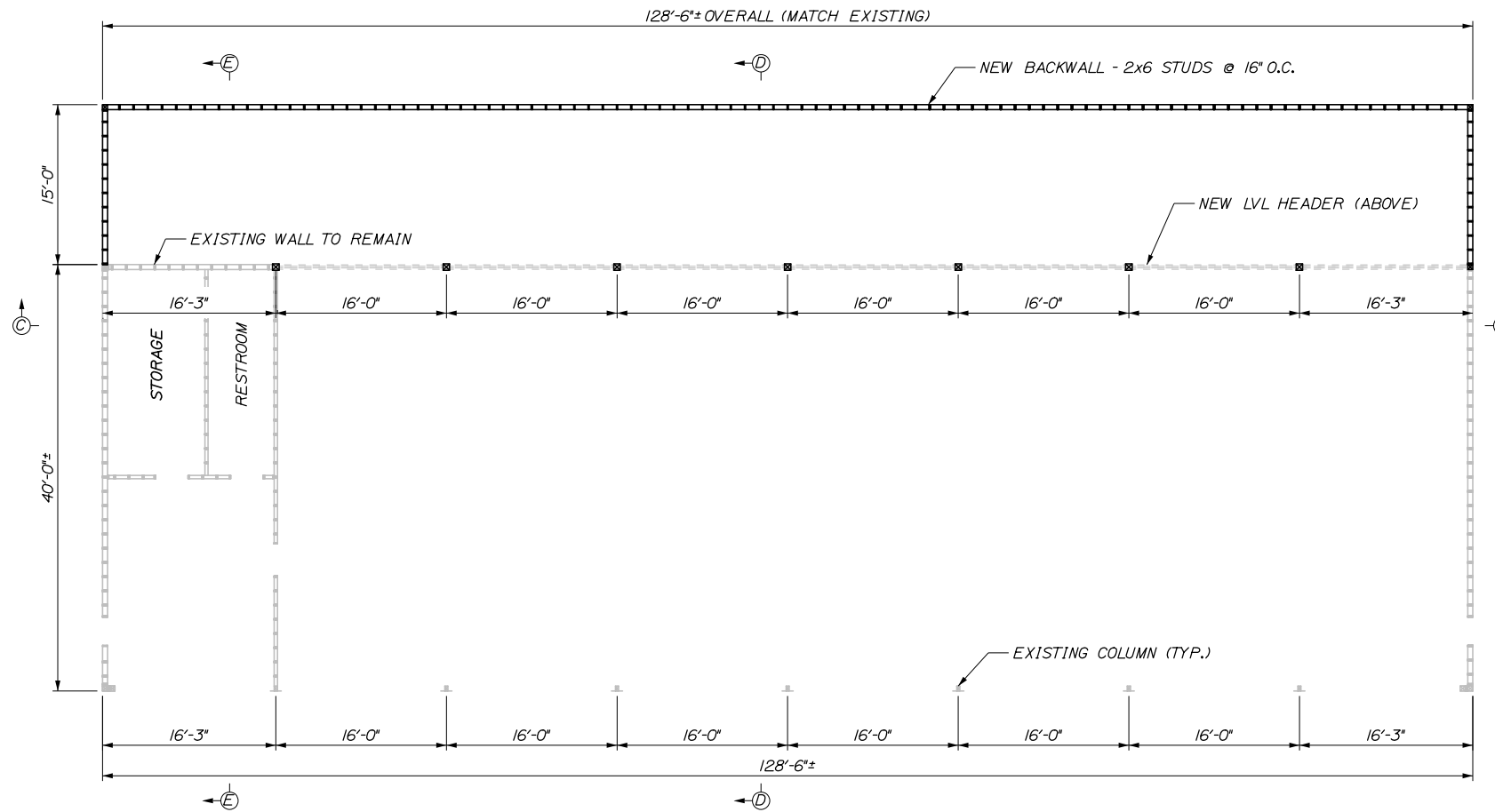
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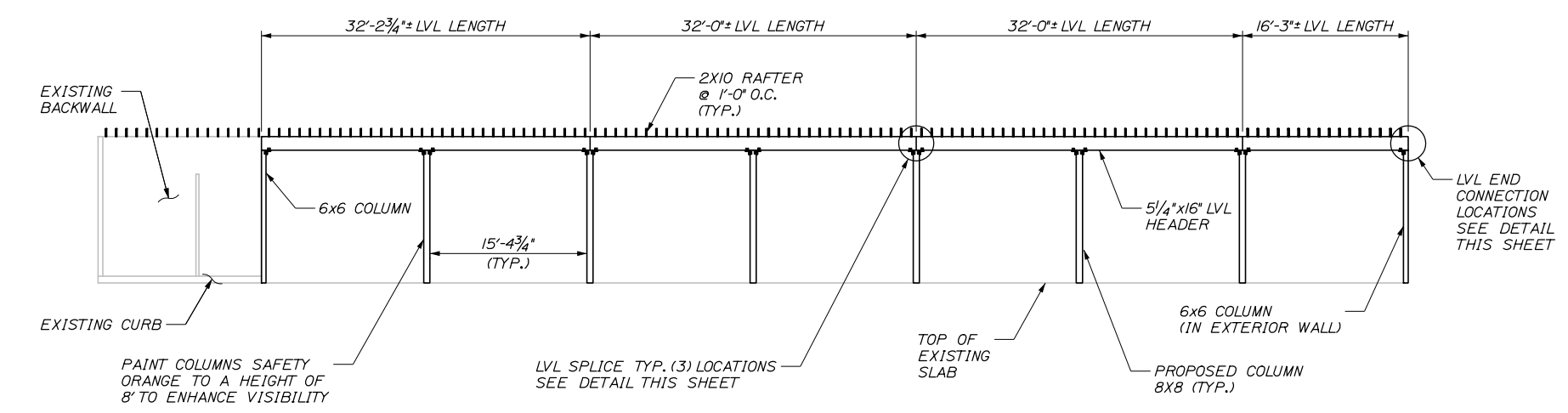
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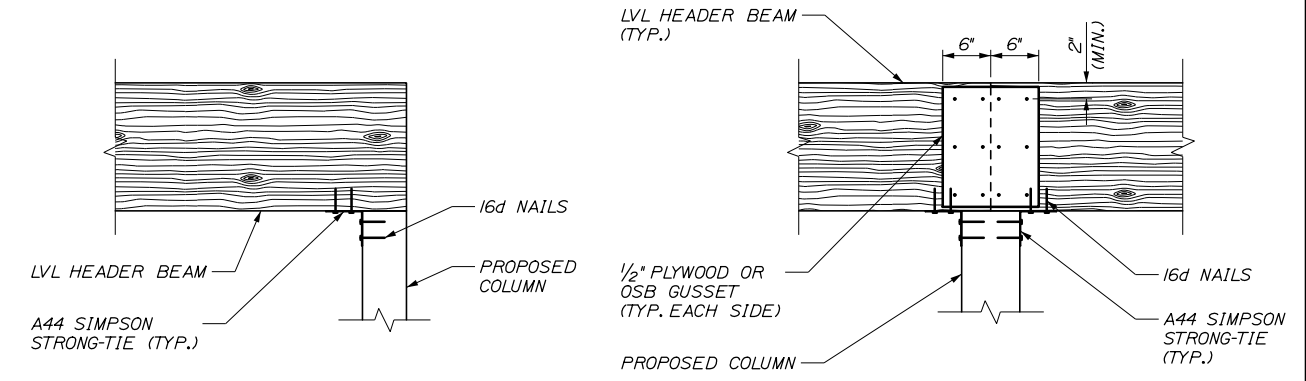
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PROPOSED FRAMING PLAN VIEW
SCALE: 1/8" = 1'-0"

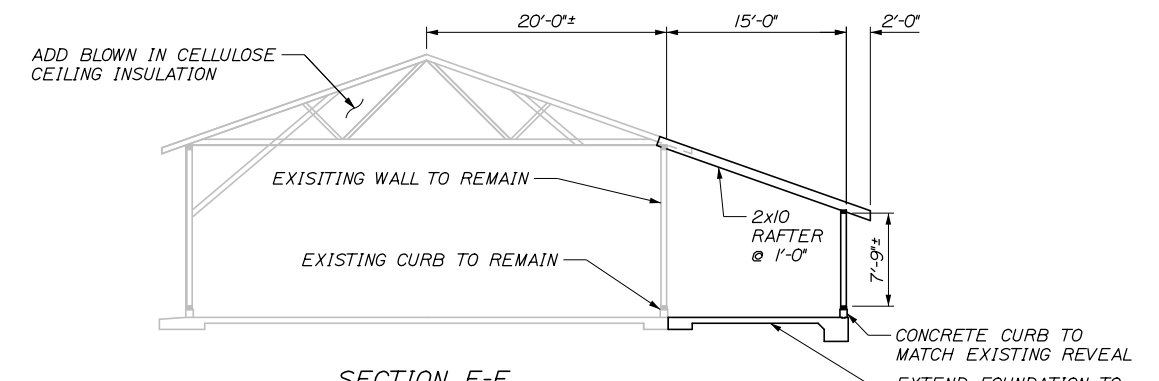


SECTION C-C
SCALE: 1/8" = 1'-0"
TOP CHORD OF TRUSS NOT SHOWN FOR CLARITY

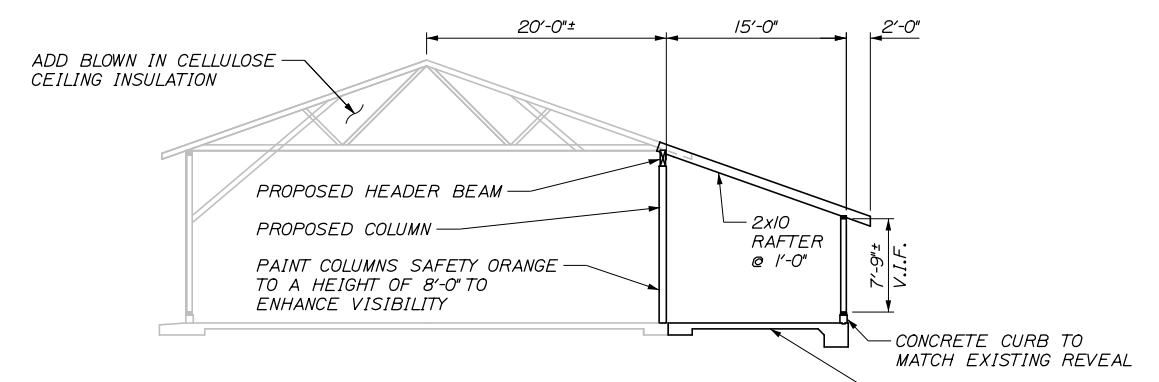


LVL HEADER BEAM END CONNECTION
SCALE: 1" = 1'-0"

LVL HEADER BEAM SPLICE
SCALE: 1" = 1'-0"



SECTION E-E
SCALE: 1/8" = 1'-0"
SHEATHING NOT SHOWN FOR CLARITY



SECTION D-D
SCALE: 1/8" = 1'-0"
SHEATHING NOT SHOWN FOR CLARITY

- NOTES:**
- SEE SHEET S9 FOR PROPOSED SLAB-ON-GRADE DETAILS.
 - SEE SHEET S10 FOR PROPOSED COLUMN AND HEADER DETAILS.

Filename: 004_Proposed Modification Details_Kem_1.dgn

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

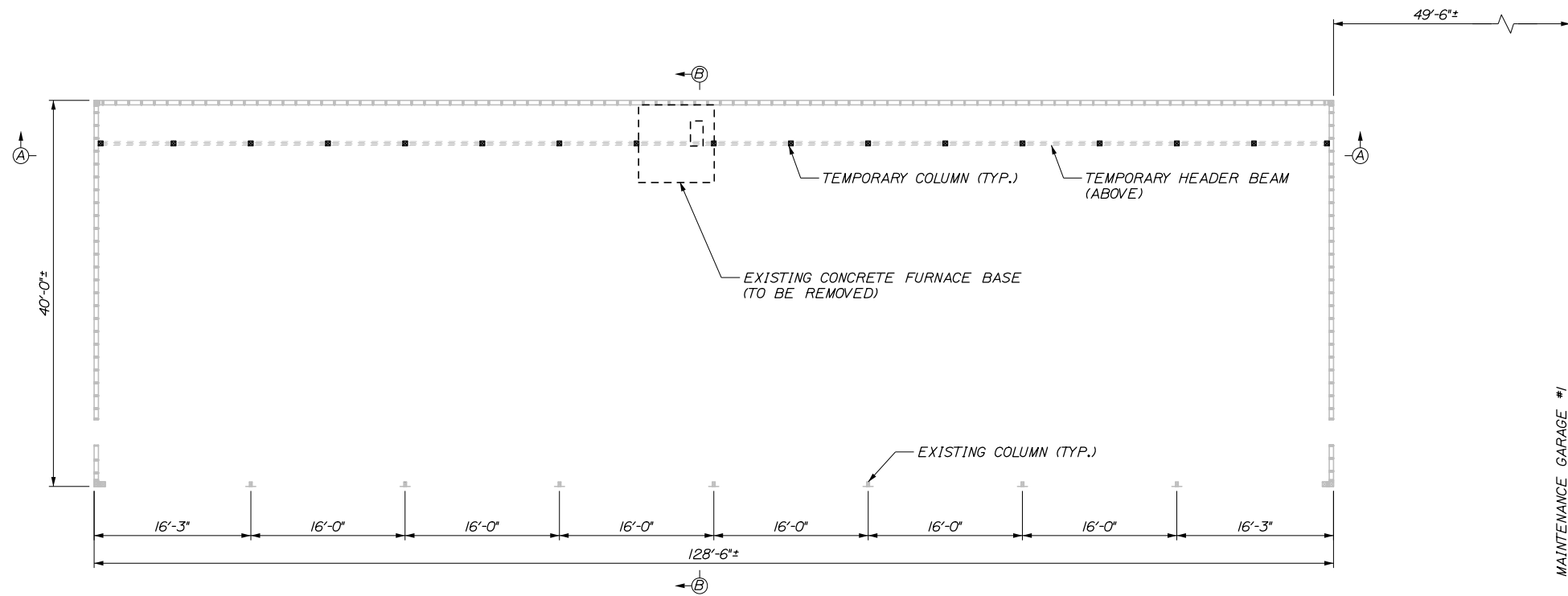
MAINTENANCE GARAGE EXTENSIONS

PROPOSED MODIFICATION DETAILS
(KENNEBUNK #1)

SHEET NUMBER: S3

CONTRACT: 2018.14
4 OF 27

Date: 3/27/2018

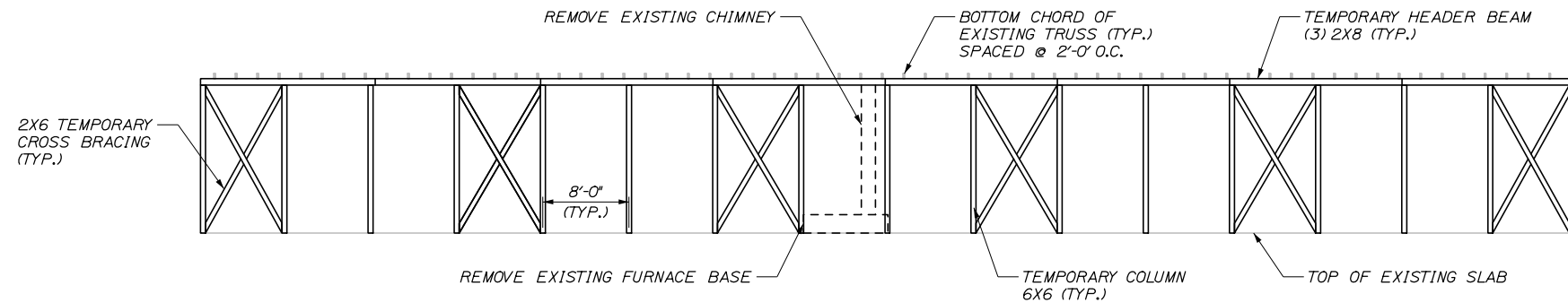


EXISTING FRAMING PLAN AND TEMPORARY SUPPORT PLAN VIEW
SCALE: 1/8" = 1'-0"

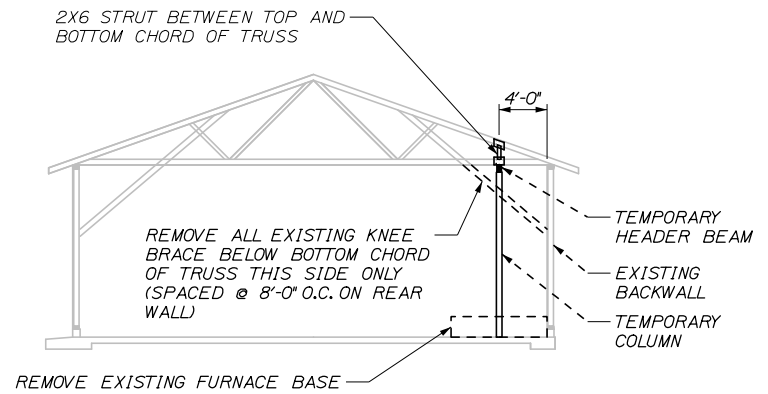
GENERAL PROCEDURE

1. REMOVE SHEATHING ON WALLS AND BELOW TRUSS TO ALLOW ACCESS TO STRUCTURAL COMPONENTS. ALL SHEATHING TO BE REMOVED TO ACCESS THE WORK SHALL BE REMOVED CAREFULLY AS TO PREVENT DAMAGE TO THE SHEATHING. SHEATHING ON THE EXISTING WALLS TO REMAIN SHALL THEN BE STORED IN A SUITABLE LOCATION AND REINSTALLED USING WOOD SCREWS. ANY SHEATHING LOST OR DAMAGED DURING STORAGE TO BE REINSTALLED SHALL BE REPLACED IN KIND WITH NEW MATERIAL AT NO ADDITIONAL COST TO THE AUTHORITY.
2. REMOVE EXISTING CHIMNEY, CONCRETE FURNACE BASE, FURNACE, AND DUCT WORK.
3. LOCATE EXISTING STUDS IN BACK WALL AND INSTALL TEMPORARY COLUMNS OFFSET TO STUDS ACCORDING TO THE DETAILS ON THE STRUCTURAL PLANS. REMOVE EXISTING KNEE BRACE TO THE BOTTOM OF THE TRUSS AT LOCATIONS SHOWN ON THE STRUCTURAL PLANS. CEILING SHEATHING SHALL BE PATCHED AT REMOVED KNEE BRACE LOCATIONS.
4. INSTALL TEMPORARY HEADER BEAM TIGHTLY BENEATH EXISTING TRUSSES. INSTALL TEMPORARY STRUTS BETWEEN BOTTOM AND TOP CHORDS OF THE EXISTING TRUSS AS SHOWN ON THE STRUCTURAL PLANS. ALL MODIFICATION WORK COMPLETED WHILE THE TEMPORARY SUPPORT IS IN PLACE SHALL BE COMPLETED WITH ONLY STRUCTURAL DEAD LOAD ON THE ROOF. DO NOT PERFORM THIS WORK WHEN THE ROOF IS SUBJECT TO SNOW OR LIVE LOAD CONDITIONS.
5. REMOVE EXISTING BACKWALL, CURB AND PORTION OF THE ROOF AS SHOWN IN THE STRUCTURAL PLANS TO CONSTRUCT GARAGE EXPANSION. PORTIONS OF THE BACK WALL, CURB, AND ROOF THAT ARE REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS.
6. LAYOUT AND PLACE NEW CONCRETE SLAB-ON-GRADE AND CURB TO MATCH EXISTING FLOOR. SLOPE NEW FLOOR TO MATCH EXISTING DRAINAGE.
7. INSTALL NEW COLUMNS AND HEADER BEAMS ACCORDING TO THE DETAILS IN THE STRUCTURAL PLANS. PAINT NEW COLUMNS SAFETY ORANGE TO A HEIGHT OF 8' TO ENHANCE VISIBILITY.
8. CONSTRUCT NEW BACKWALL AND ROOF. TIE INTO AND MATCH EXISTING WALL CONSTRUCTION AND ROOF PITCH.
9. REMOVE TEMPORARY SUPPORT.
10. REMOVE ALL EXISTING SHINGLES. INSPECT ROOF SHEATHING, REPLACE ANY ROTTED SHEATHING OR DAMAGED WATERPROOFING. INSTALL NEW PREFORMED METAL ROOFING ON EXISTING AND NEW ROOF. NEW UNDERLAYMENT SHALL BE INSTALLED AT ALL LOCATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
11. REMOVE ALL EXISTING SIDING, INSPECT WALL SHEATHING, REPLACE ANY ROTTED SHEATHING. REPLACEMENT OF ROTTED SHEATHING SHALL BE INCIDENTAL TO BUILDING PAY ITEM. INSTALL NEW PREFORMED METAL SIDING ON EXISTING AND NEW WALLS.
12. INSTALL ELECTRICAL CONDUITS AND LED LIGHTS AT LOCATIONS SHOWN IN THE ELECTRICAL PLANS.
13. INSTALL NEW FURNACE UNITS AND DUCT WORK AS SHOWN ON THE MECHANICAL PLANS AND INSTALL DIRECT VENT OUT THE PROPOSED BACKWALL.

MAINTENANCE GARAGE #1



SECTION A-A
SCALE: 1/8" = 1'-0"



SECTION B-B
SCALE: 1/8" = 1'-0"
EXISTING CHIMNEY NOT SHOWN FOR CLARITY

NOTES:

1. SEE SHEET S8 FOR TEMPORARY COLUMN AND HEADER DETAILS.

Scale:			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

TEMPORARY SUPPORT DETAILS
(KENNEBUNK #2)

SHEET NUMBER: S4

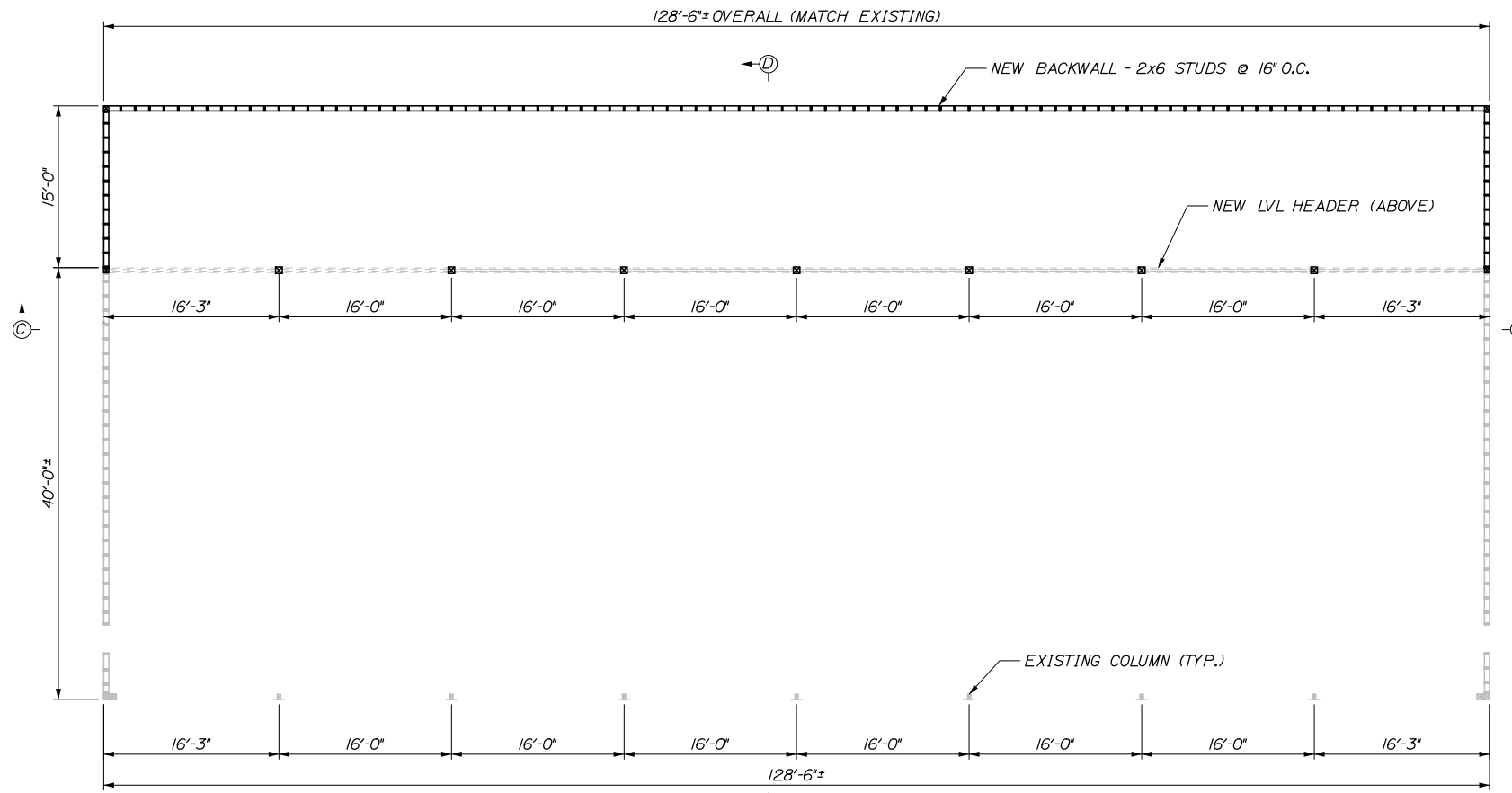
CONTRACT: 2018.14

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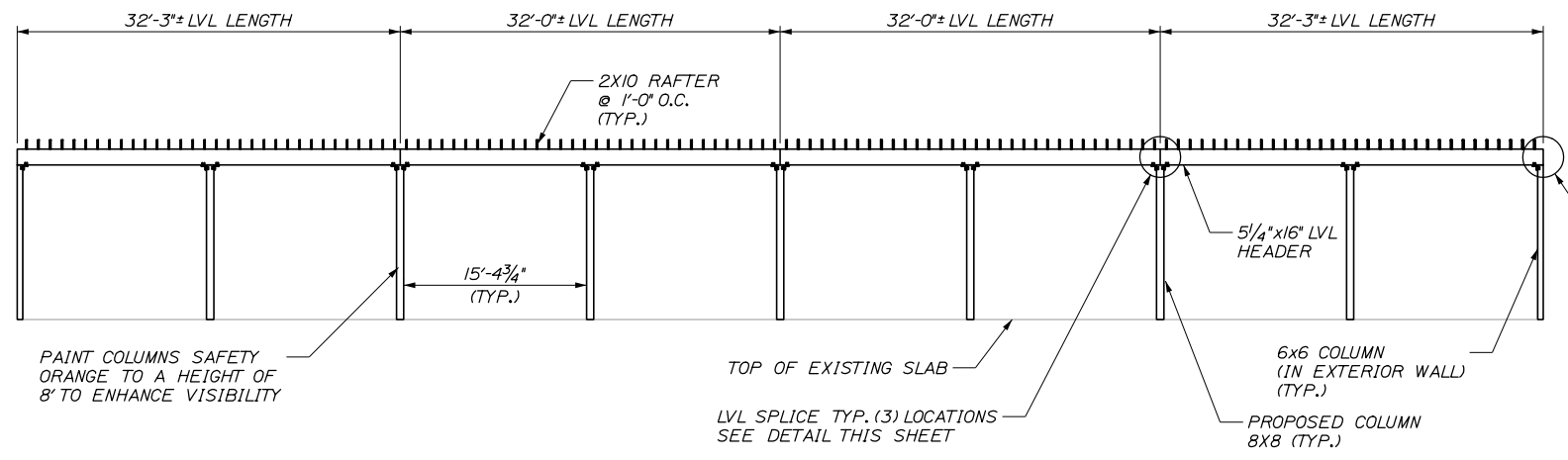
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Date: 3/27/2018

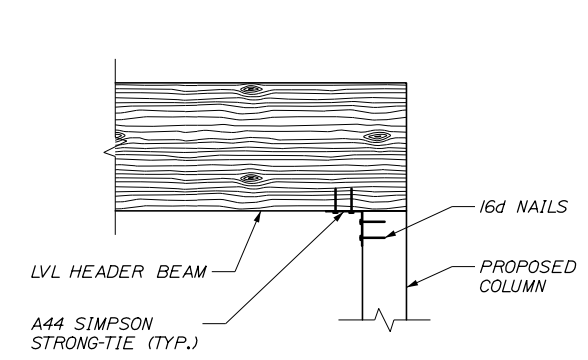
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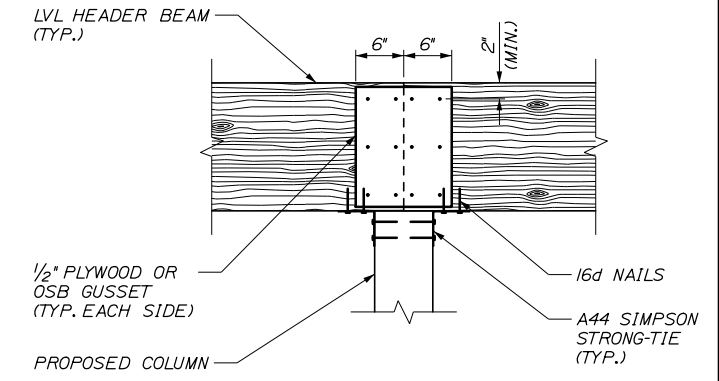
PROPOSED FRAMING PLAN VIEW
SCALE: 1/8" = 1'-0"



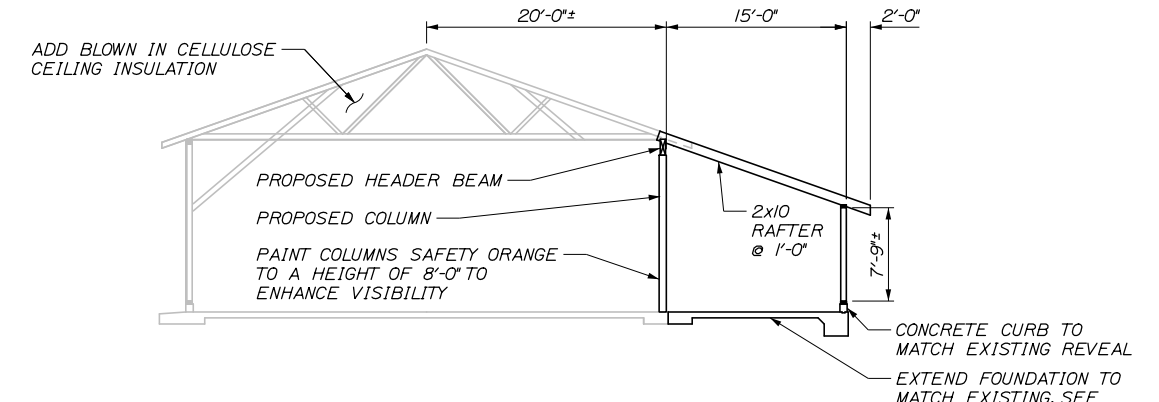
SECTION C-C
SCALE: 1/8" = 1'-0"
TOP CHORD OF TRUSS NOT SHOWN FOR CLARITY



LVL HEADER BEAM END CONNECTION
SCALE: 1" = 1'-0"



LVL HEADER BEAM SPLICE
SCALE: 1" = 1'-0"



SECTION D-D
SCALE: 1/8" = 1'-0"
SHEATHING NOT SHOWN FOR CLARITY

- NOTES:**
- SEE SHEET S9 FOR PROPOSED SLAB-ON-GRADE DETAILS.
 - SEE SHEET S10 FOR PROPOSED COLUMN AND HEADER DETAILS.

Scale:		Designed by:	
No.	Revision	By	Date

HNTB			
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE			
Designed	By	Date	Checked
	BRG	11\17	RBM
Drawn	By	Date	In Charge of
	ERB	11\17	RAL

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340 County Road, Suite 6-C
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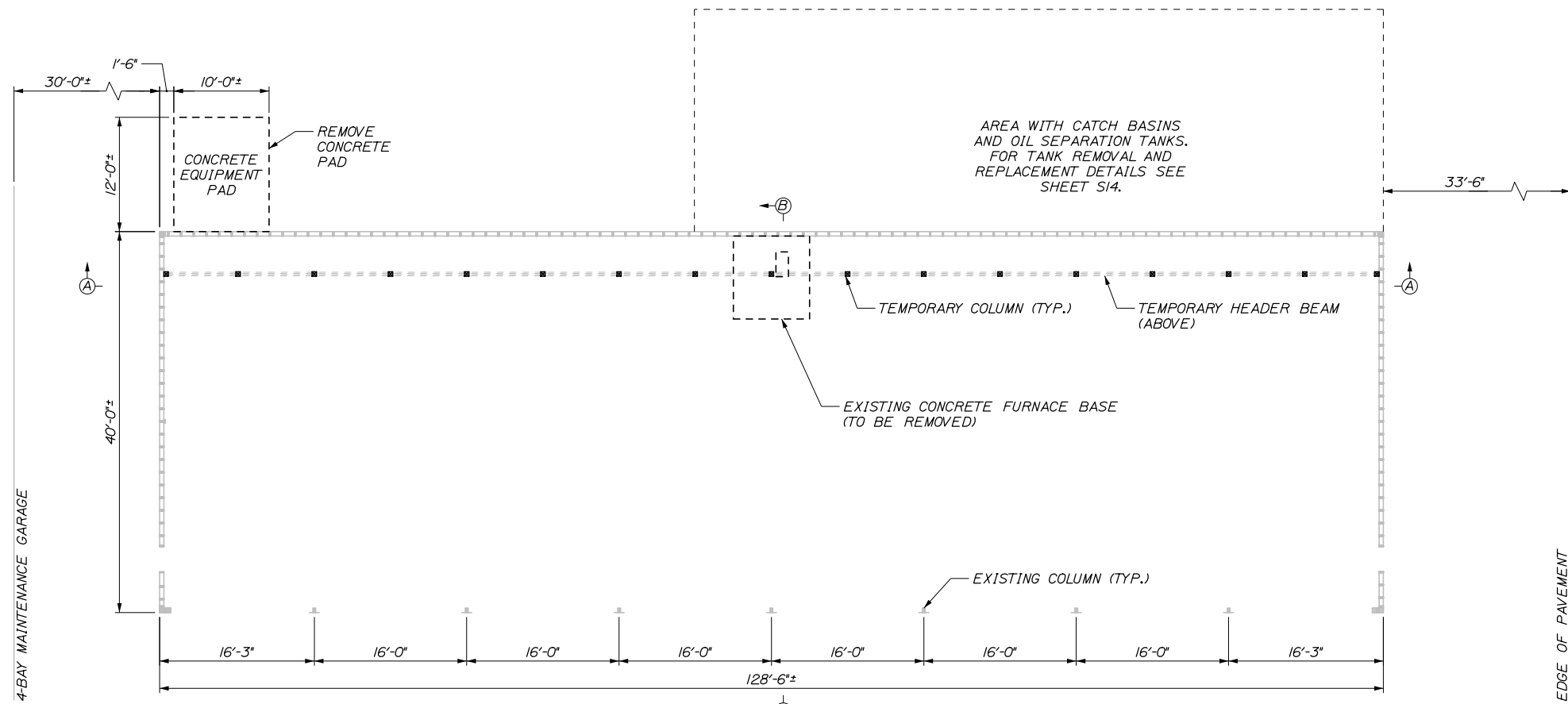
**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

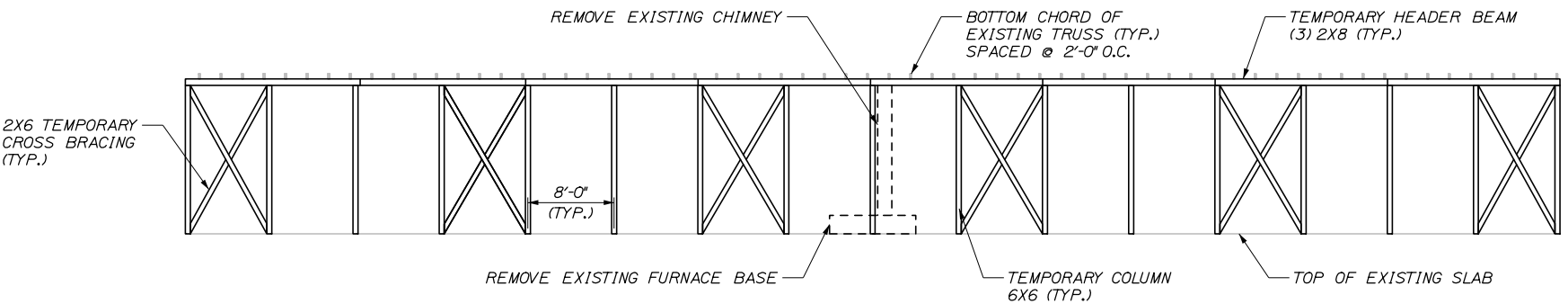
MAINTENANCE GARAGE EXTENSIONS
PROPOSED MODIFICATION DETAILS
(KENNEBUNK #2)

SHEET NUMBER: S5
CONTRACT: 2018.14
6 OF 27

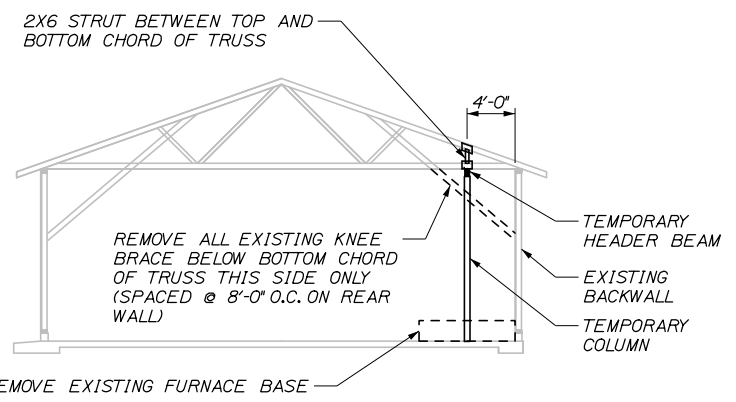
Date: 3/27/2018



EXISTING FRAMING PLAN AND TEMPORARY SUPPORT PLAN VIEW
SCALE: 1/8" = 1'-0"



SECTION A-A
SCALE: 1/8" = 1'-0"



SECTION B-B
SCALE: 1/8" = 1'-0"
EXISTING CHIMNEY NOT SHOWN FOR CLARITY

GENERAL PROCEDURE

1. REMOVE SHEATHING ON WALLS AND BELOW TRUSS TO ALLOW ACCESS TO STRUCTURAL COMPONENTS. ALL SHEATHING TO BE REMOVED TO ACCESS THE WORK SHALL BE REMOVED CAREFULLY AS TO PREVENT DAMAGE TO THE SHEATHING. SHEATHING ON THE EXISTING WALLS TO REMAIN SHALL THEN BE STORED IN A SUITABLE LOCATION AND REINSTALLED USING WOOD SCREWS. ANY SHEATHING LOST OR DAMAGED DURING STORAGE TO BE REINSTALLED SHALL BE REPLACED IN KIND WITH NEW MATERIAL AT NO ADDITIONAL COST TO THE AUTHORITY.
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NOTES:
1. SEE SHEET S8 FOR TEMPORARY COLUMN AND HEADER DETAILS.

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

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Westbrook, ME 04092
TEL (207) 774-5155
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MAINTENANCE GARAGE EXTENSIONS
TEMPORARY SUPPORT DETAILS
(GRAY)

MTA PROJECT MANAGER: BRIAN TADDEO, PE

CONTRACT: 2018.14

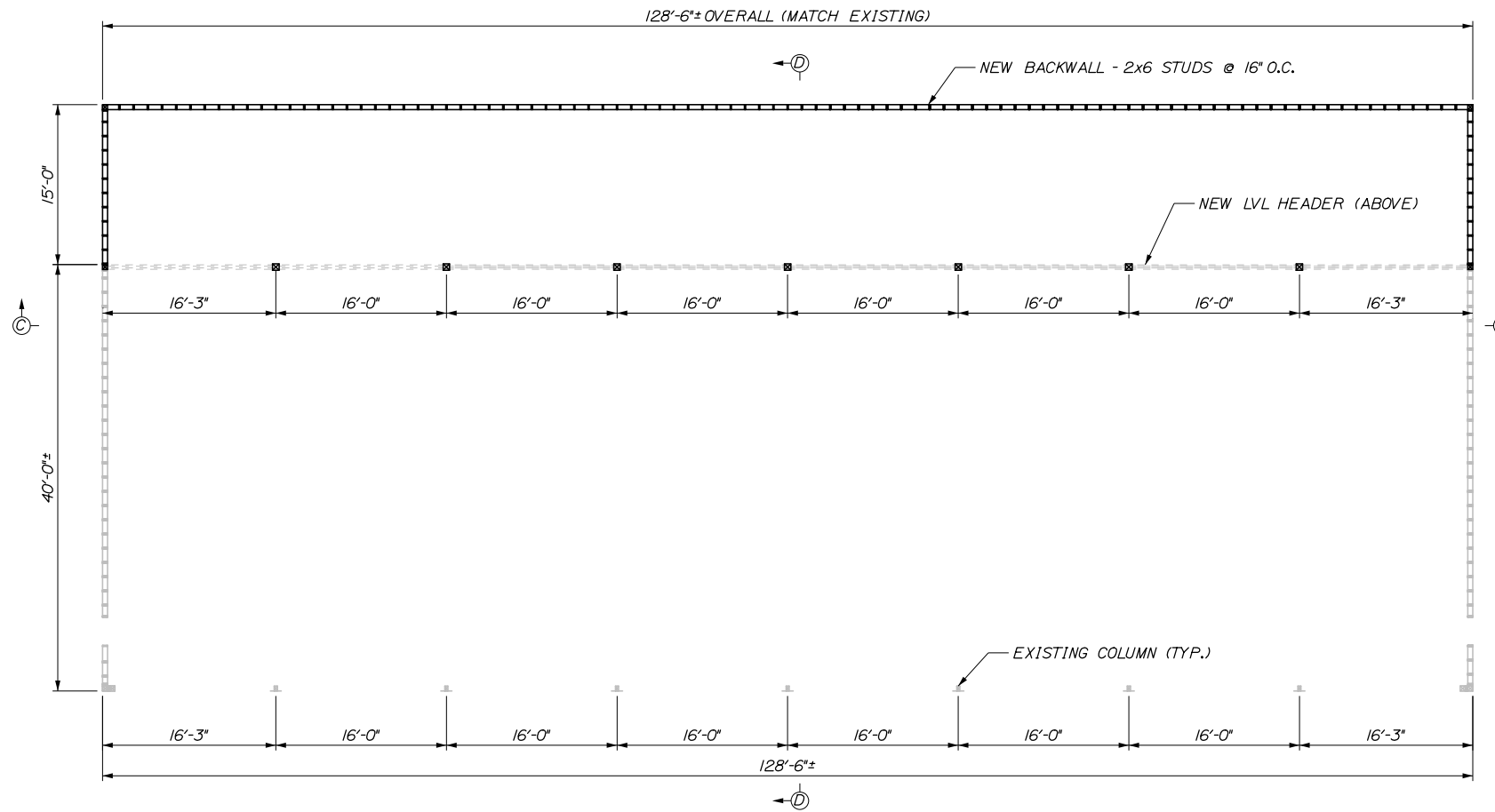
SHEET NUMBER: S6

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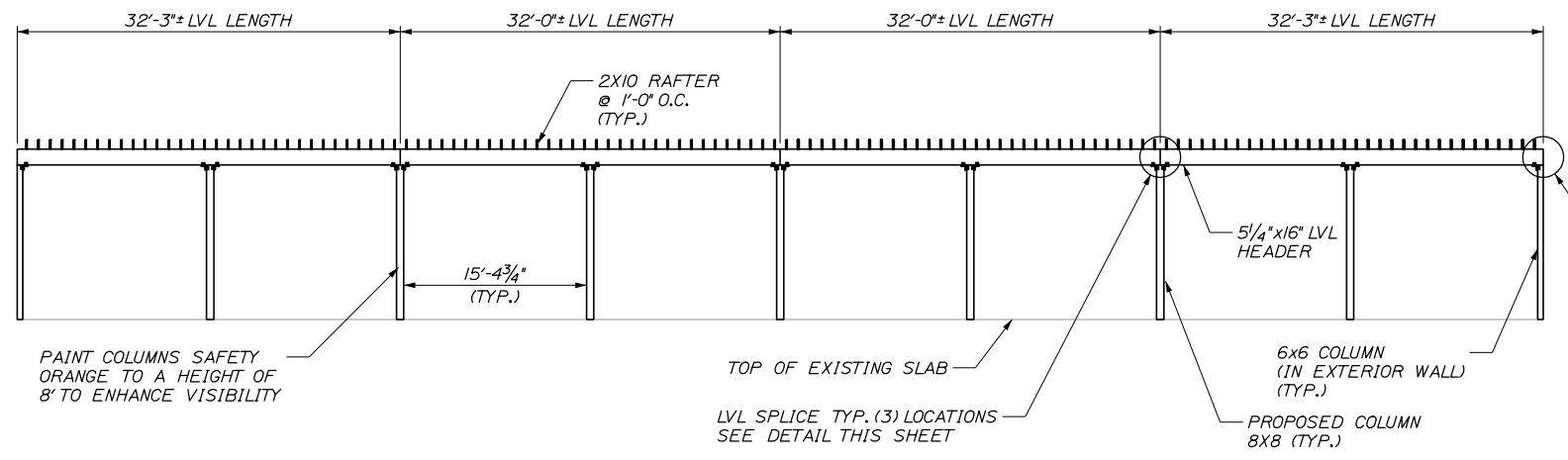
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Date: 3/27/2018

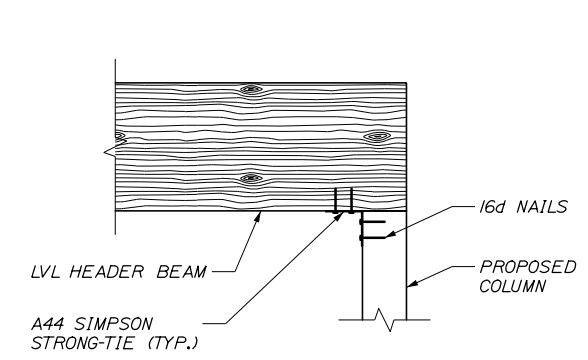
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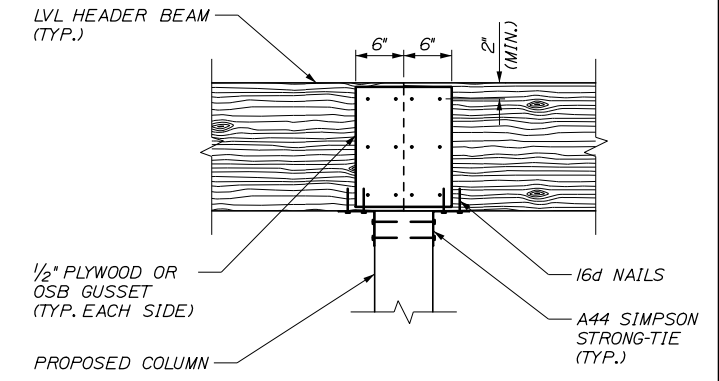
PROPOSED FRAMING PLAN VIEW
SCALE: 1/8" = 1'-0"



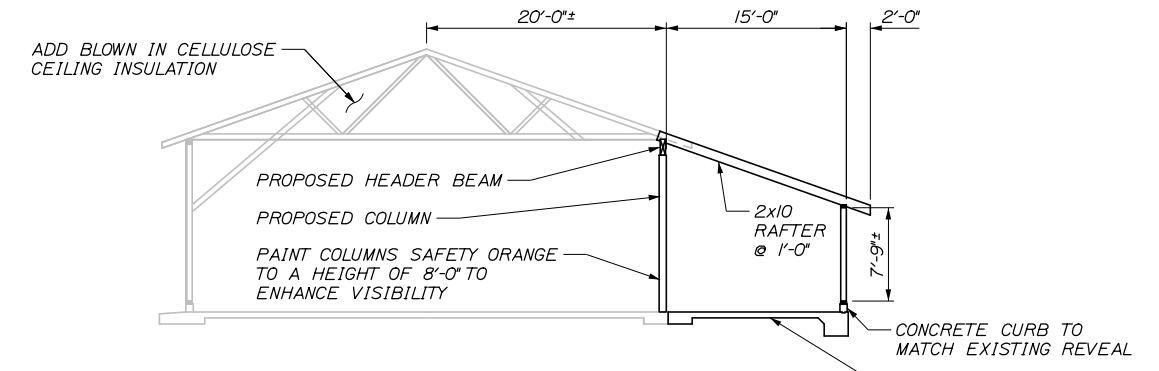
SECTION C-C
SCALE: 1/8" = 1'-0"
TOP CHORD OF TRUSS NOT SHOWN FOR CLARITY



LVL HEADER BEAM END CONNECTION
SCALE: 1" = 1'-0"



LVL HEADER BEAM SPLICE
SCALE: 1" = 1'-0"



SECTION D-D
SCALE: 1/8" = 1'-0"
SHEATHING NOT SHOWN FOR CLARITY

- NOTES:**
- SEE SHEET S9 FOR PROPOSED SLAB-ON-GRADE DETAILS.
 - SEE SHEET S10 FOR PROPOSED COLUMN AND HEADER DETAILS.

Scale:		Designed by:	
No.	Revision	By	Date

HNTB			
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE			
Designed	BRG	11\17	Checked RBM 11\17
Drawn	ERB	11\17	In Charge of RAL 11\17

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THE GOLD STAR
MEMORIAL HIGHWAY

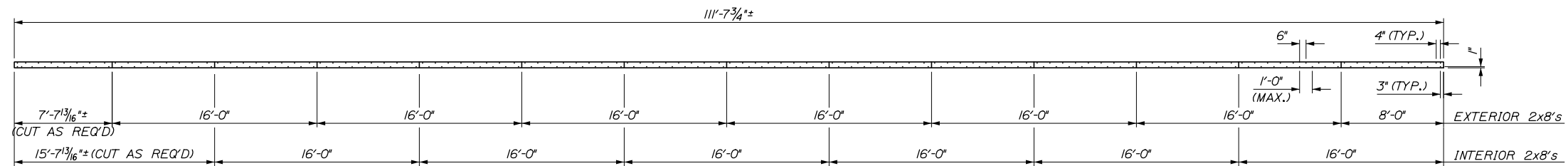
MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
PROPOSED MODIFICATION DETAILS
(GRAY)

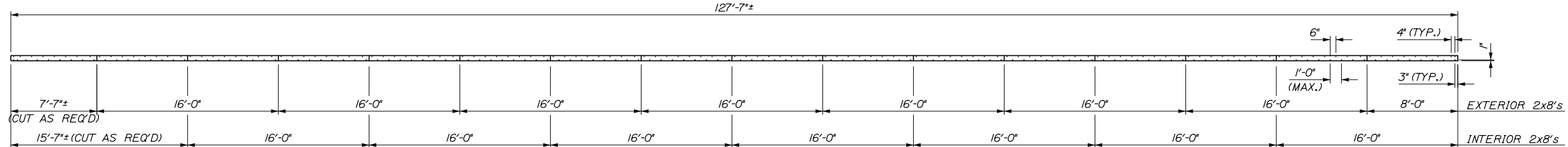
SHEET NUMBER: S7
CONTRACT: 2018.14
8 OF 27

Date: 3/27/2018

Filename: 009_Temporary Column & Header Details.dgn



KENNEBUNK MAINTENANCE GARAGE #1



KENNEBUNK MAINTENANCE GARAGE #2
GRAY MAINTENANCE GARAGE

TEMPORARY HEADER NAILING SCHEDULE

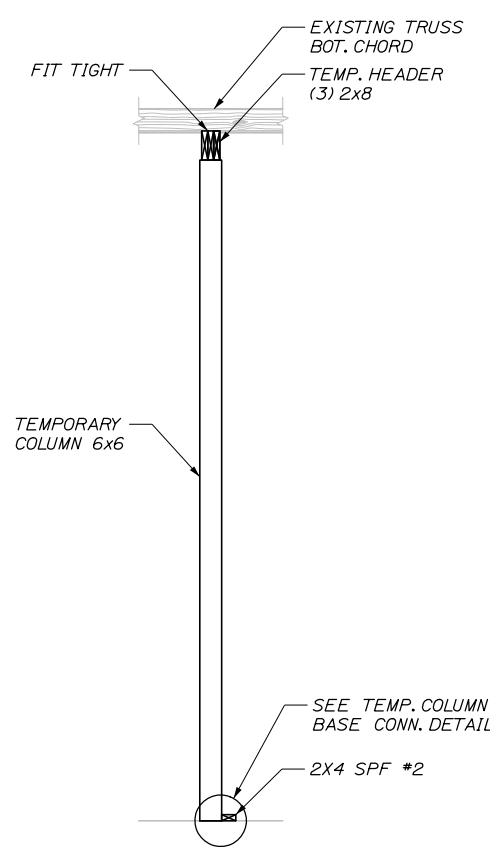
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. ALL LUMBER SIZE CALL OUTS ARE NOMINAL UNLESS OTHERWISE NOTED.

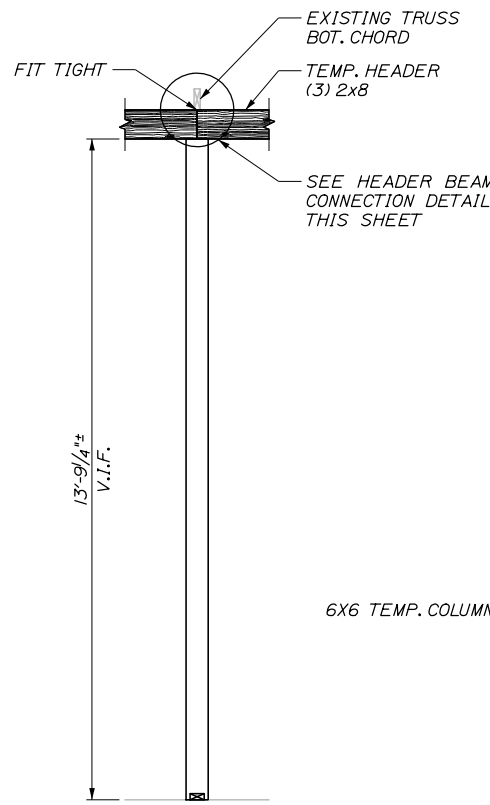
TEMPORARY HEADER NOTES:

1. COLUMNS NOT SHOWN FOR CLARITY
2. STAGGER SPACING AS SHOWN TOP TO BOTTOM & NEAR SIDE TO FAR SIDE
3. ALL NAILS SHOWN ARE 16d COMMON (BRIGHT OR GALV.)



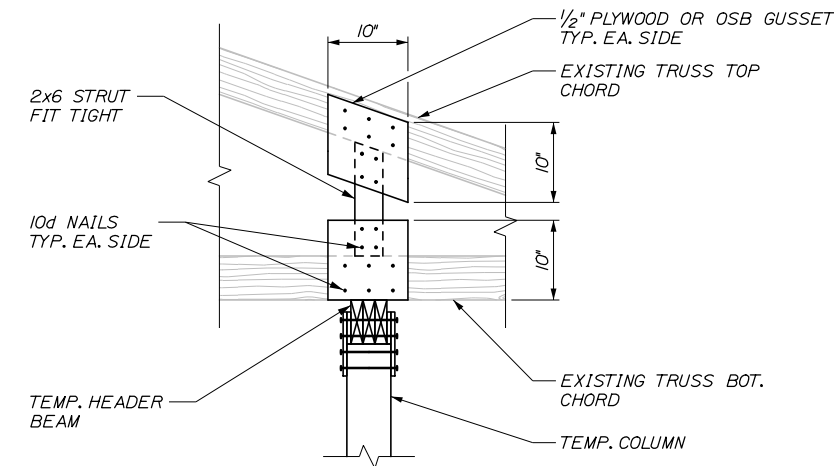
TEMPORARY COLUMN DETAILS

SCALE: 1/2" = 1'-0"



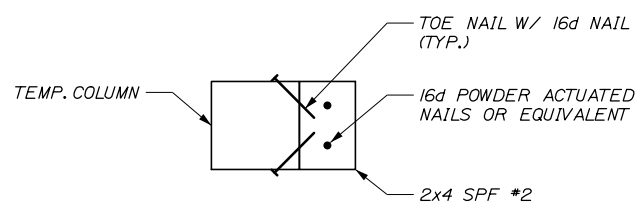
TEMPORARY CROSS BRACING CONNECTION DETAIL

SCALE: 2" = 1'-0"



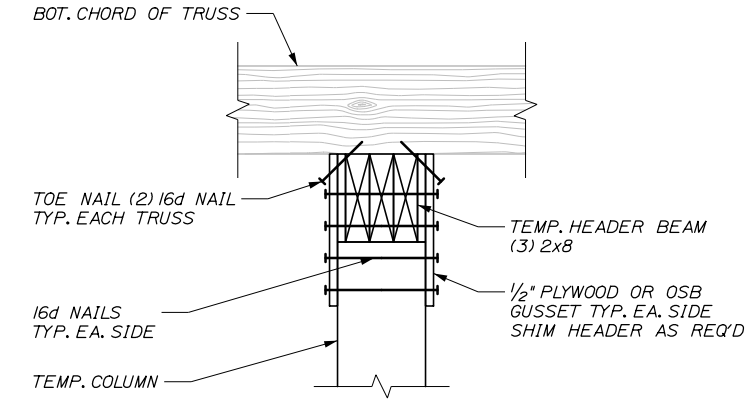
TEMPORARY STRUT DETAIL

SCALE: 1" = 1'-0"



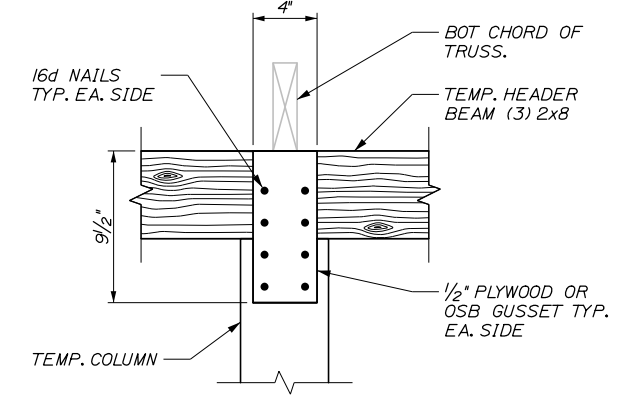
TEMPORARY COLUMN BASE CONNECTION DETAIL

SCALE: 2" = 1'-0"



TRUSS CONNECTION DETAIL

SCALE: 2" = 1'-0"



HEADER BEAM CONNECTION DETAIL

SCALE: 2" = 1'-0"

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

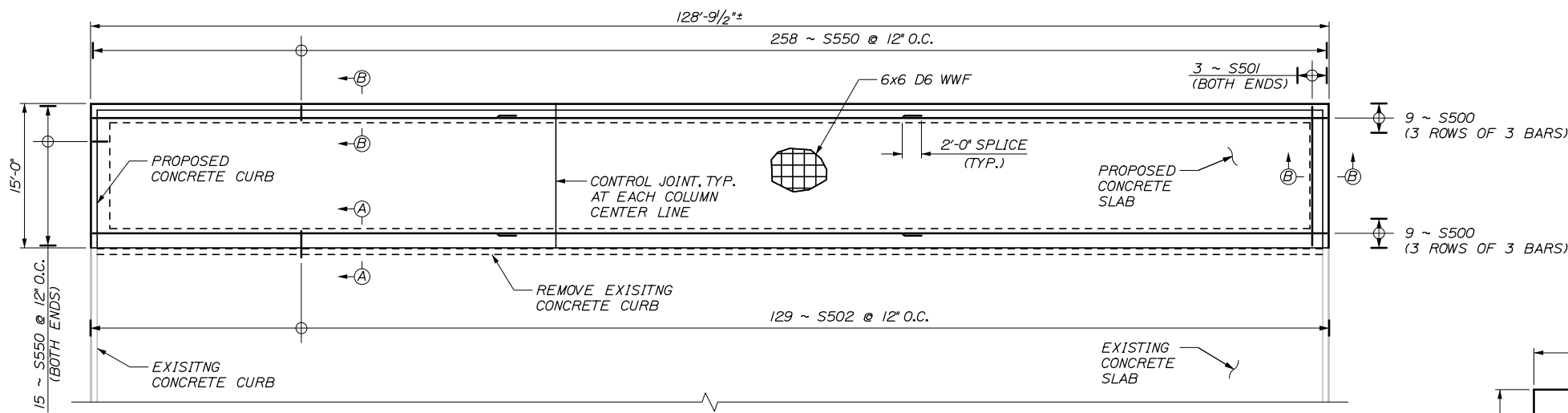
TEMPORARY COLUMN AND HEADER DETAILS

SHEET NUMBER: S8

CONTRACT: 2018.14

9 OF 27

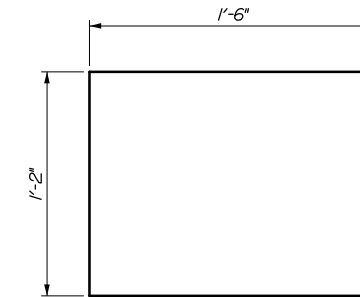
Date: 3/27/2018



SLAB ON GRADE PLAN VIEW

SCALE: 1/8" = 1'-0"

NOTE: SLOPE PROPOSED SLAB TO MATCH EXISTING SLAB SLOPE. EXISTING DRAINS TO BE USED TO DRAIN SLAB EXTENSION.



S550 DETAIL

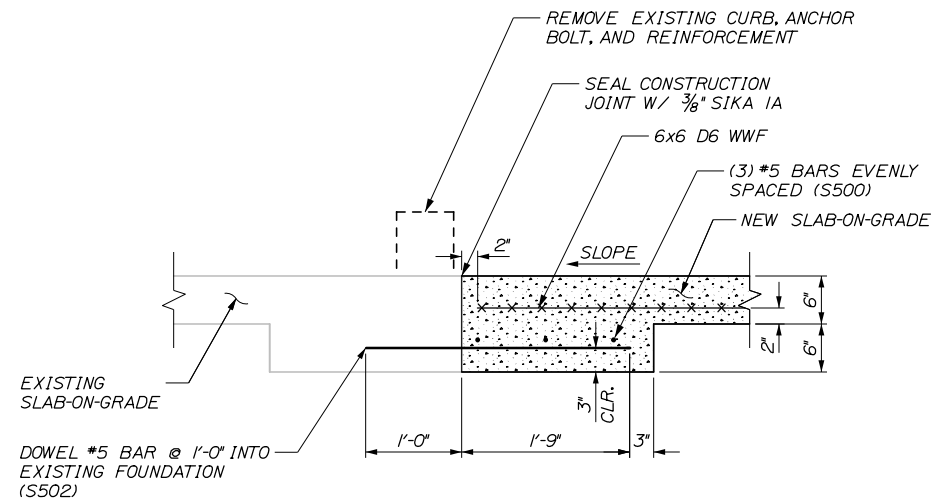
SCALE: 2" = 1'-0"

REINFORCING SCHEDULE

MARK	SIZE	No.	LENGTH	TYPE	LOCATION
S400	4	6	43'-9"	STR	CURB LONG
S401	4	4	14'-6"	STR	CURB SHORT
S500	5	27	44'-0"	STR	FOOTING LONG
S501	5	6	14'-6"	STR	FOOTING SHORT
S502	5	129	2'-9"	STR	FOOTING DOWEL
S550	5	288	4'-2"	U-BAR	FOOTING STIRRUP

SLAB-ON-GRADE NOTES:

- SLOPE PROPOSED SLAB TO MATCH EXISTING SLAB SLOPE. EXISTING DRAINS TO BE USED TO DRAIN SLAB EXTENSION.
- SAW CUT 1/2" DEEP CONTROL JOINTS IN PROPOSED SLAB-ON-GRADE. CONTROL JOINTS SHALL ALIGN WITH THE PROPOSED COLUMN CENTER LINES AND RUN PARALLEL TO THE SHORT (15') DIRECTION. SEAL CONTROL JOINTS WITH 3/8" DEEP SIKA IA.
- CONTRACTOR TO SUBMIT DOCUMENTATION OF WWF SUPPORT METHOD THAT MEETS THE REQUIREMENTS OF THE REINFORCEMENT SPECIFICATIONS.
- IF EXISTING FOUNDATION DRAINS ARE PRESENT THEY SHALL BE EXTENDED AROUND THE PROPOSED SLAB EXTENSION. THIS WORK SHALL BE INCIDENTAL TO THE LUMP SUM BUILDING ITEMS.
- SYNTHETIC FIBER REINFORCEMENT SHALL BE USED AT A DOSAGE RATE OF 3LB/CY.

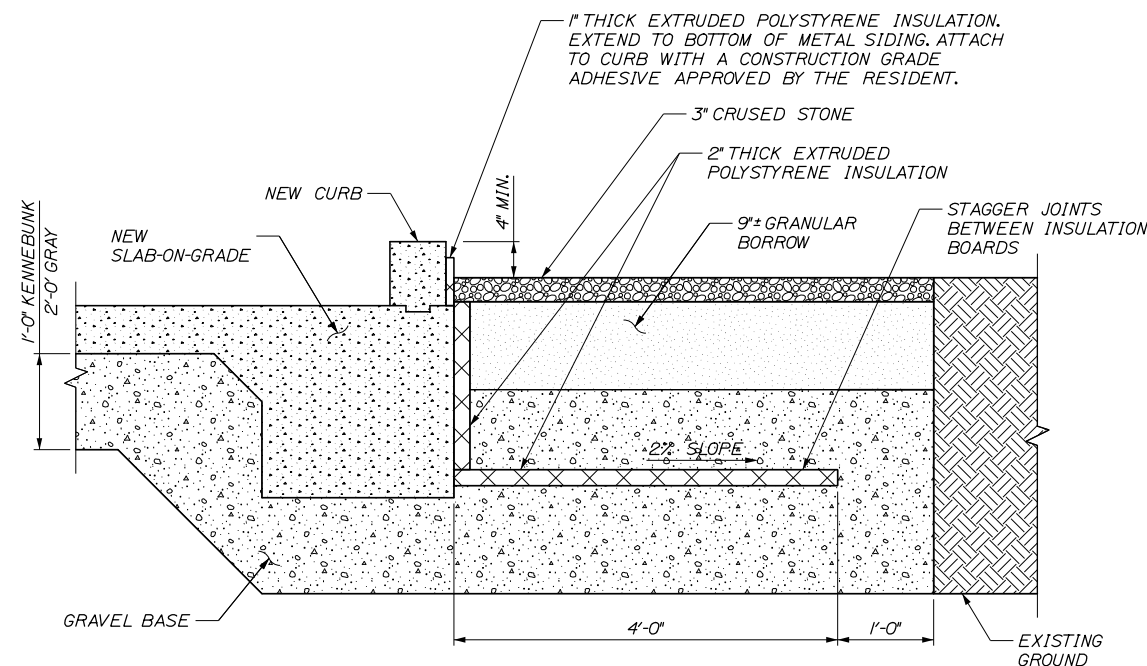


SECTION A-A

EXISTING AND NEW FOUNDATION INTERFACE DETAILS

SCALE: 1" = 1'-0"

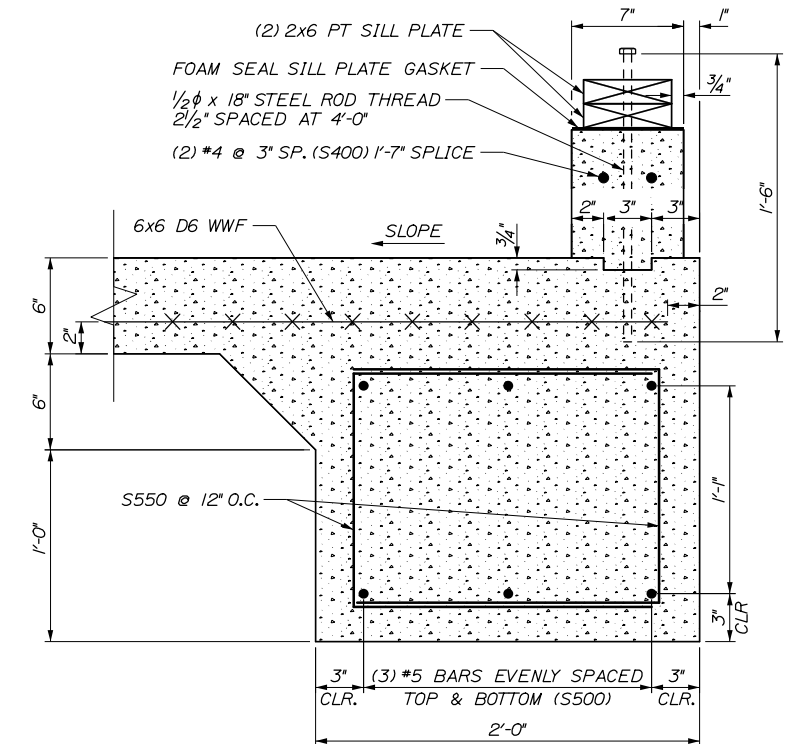
NOTE: 12" GRAVEL BASE REQUIRED UNDER CONCRETE SLAB. CONCRETE SHALL HAVE A MINIMUM DESIGN STRENGTH OF 4,000PSI



BACKWALL INSULATION DETAIL

SCALE: 1" = 1'-0"

NOTE: DRIVE THREE OR FOUR 3/8"x6" POINTED HARDWOOD DOWEL PEGS THROUGH EACH INSULATION PANEL TO SECURE FOR TIGHT JOINTS DURING BACKFILLING



SECTION B-B

CURB AND ANCHOR BOLT DETAIL

SCALE: 2" = 1'-0"

NOTE: 12" GRAVEL BASE REQUIRED UNDER CONCRETE SLAB

Filename: 010_Proposed Slab on Grade Details.dgn

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
	BRG	11\17		RBM	11\17
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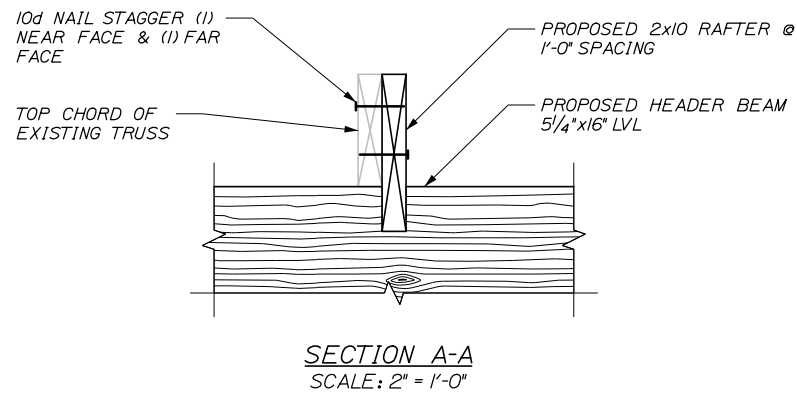
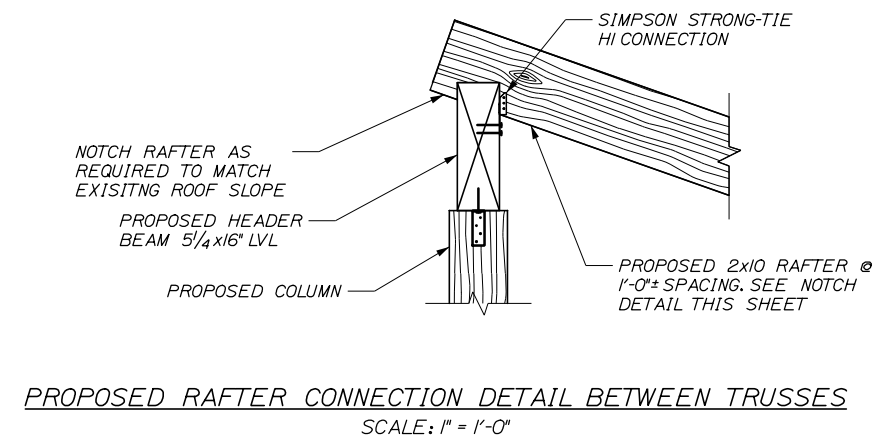
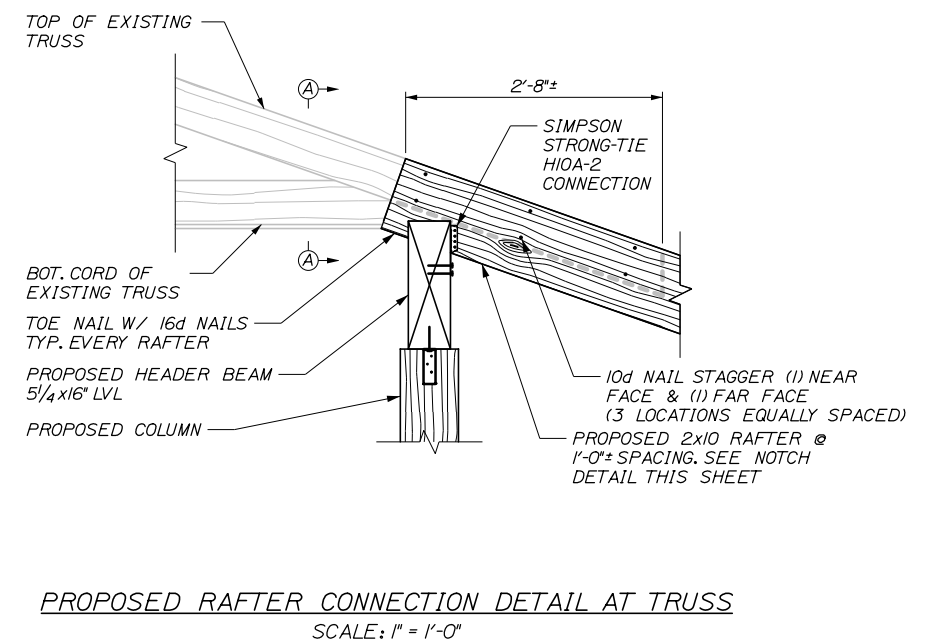
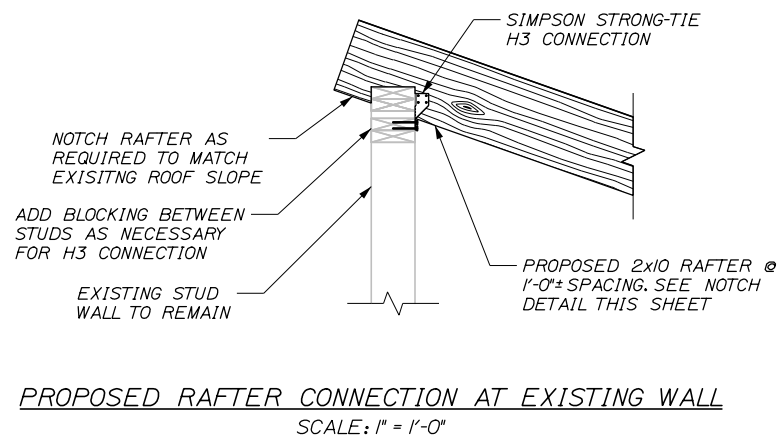
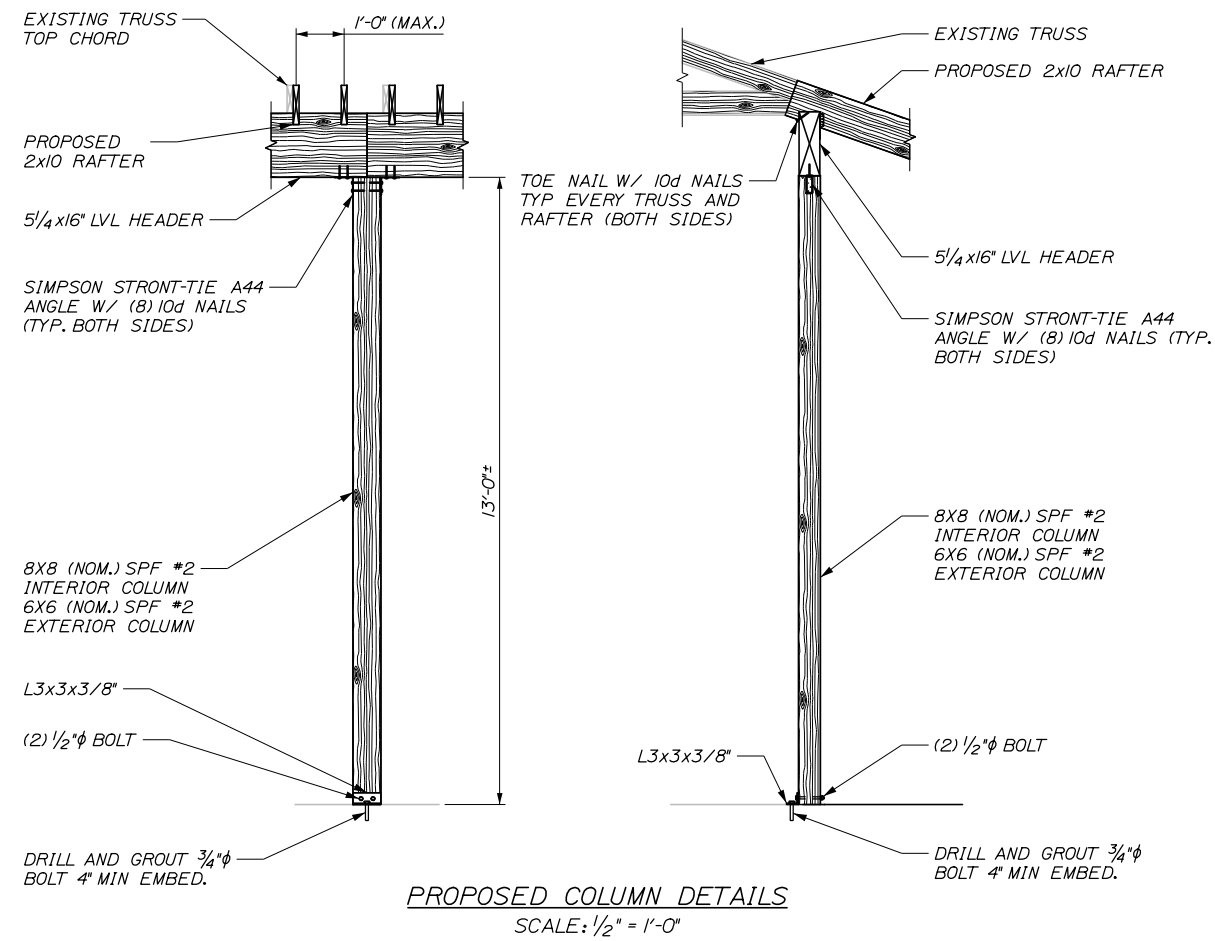
**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
 PROPOSED SLAB-ON-GRADE DETAILS

SHEET NUMBER: S9
 CONTRACT: 2018.14
 10 OF 27

Date: 3/27/2018



Filename: 011_Proposed Column & Header Details.dgn

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

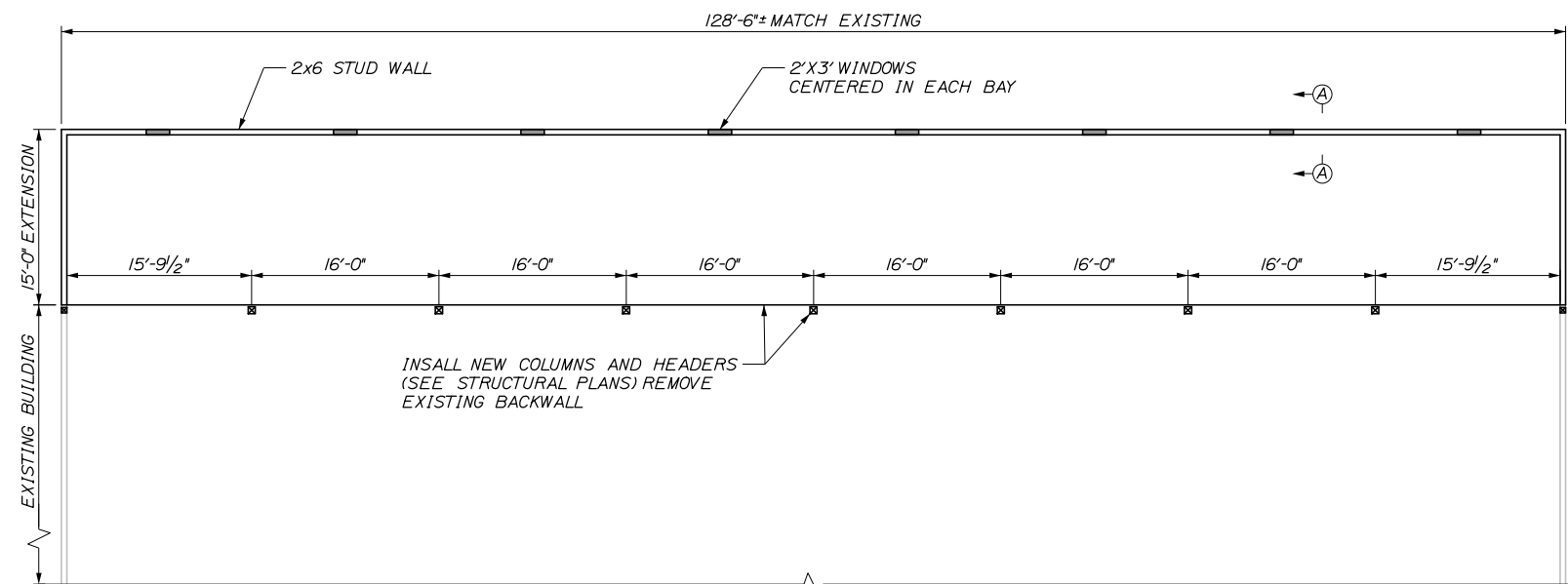
PROPOSED COLUMN AND HEADER DETAILS

SHEET NUMBER: S10

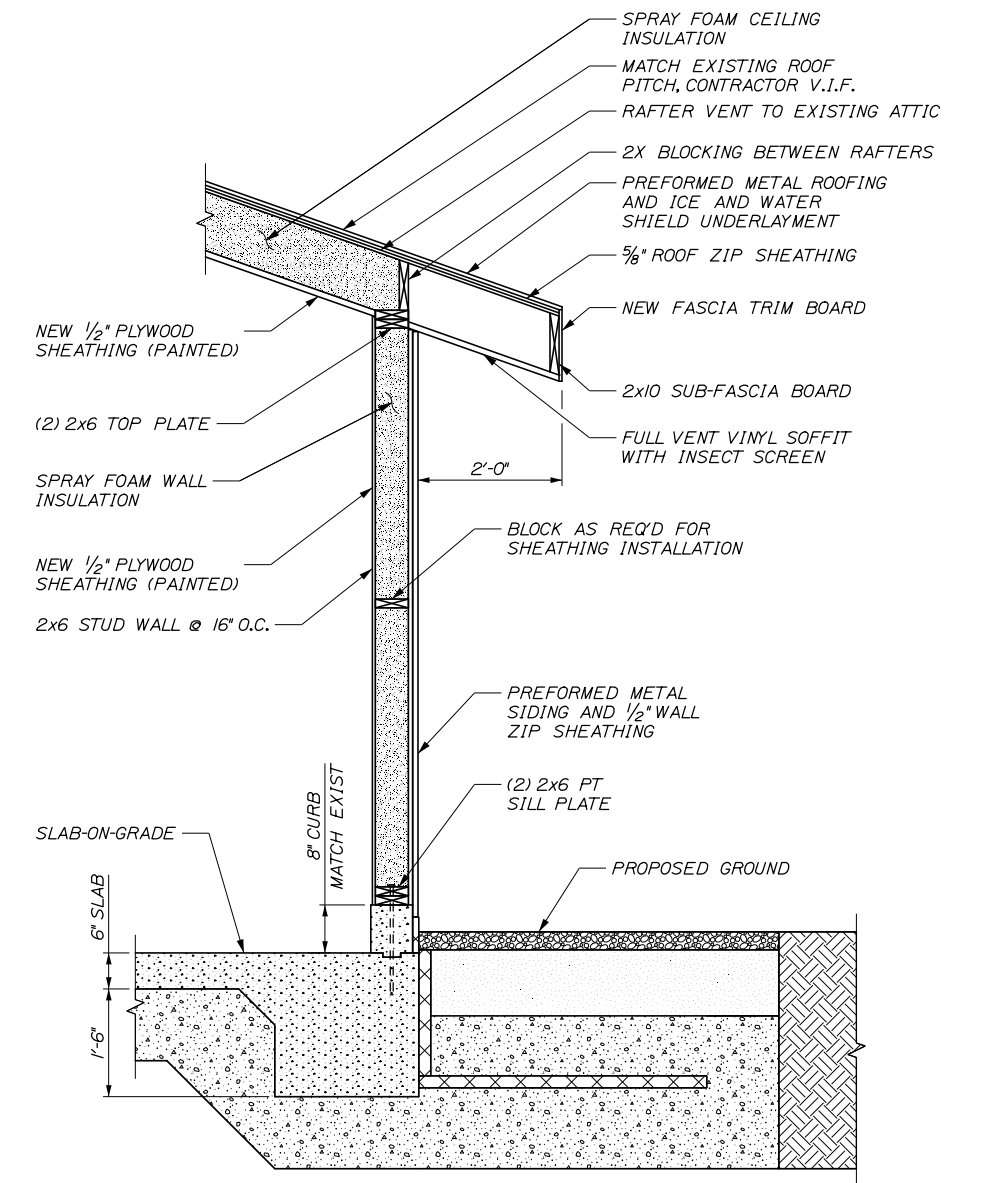
CONTRACT: 2018.14

11 OF 27

Date: 3/27/2018



ARCHITECTURAL PLAN
SCALE: 1/8" = 1'-0"



SECTION A-A BUILDING EXTENSION
SCALE: 3/4" = 1'-0"

Filename: 012_Building Plans and Details.dgn

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

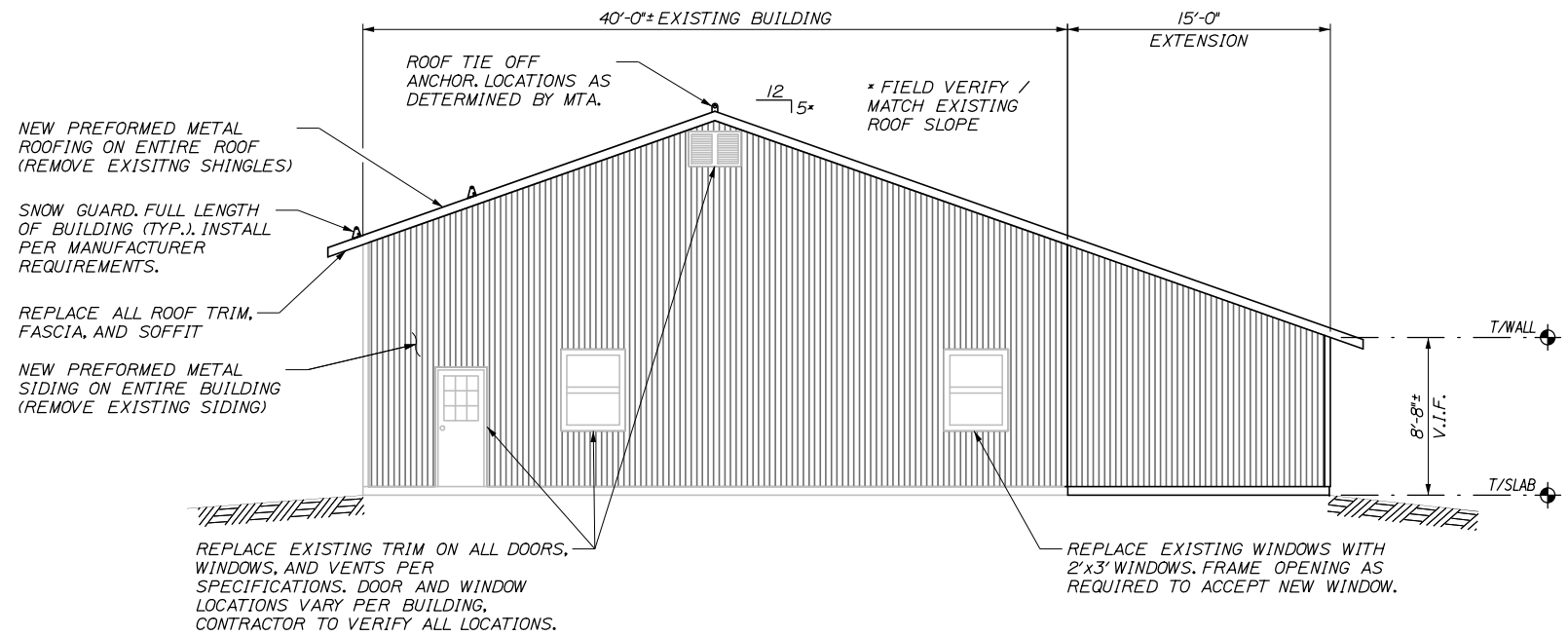
BUILDING PLAN AND SECTION

SHEET NUMBER: S11

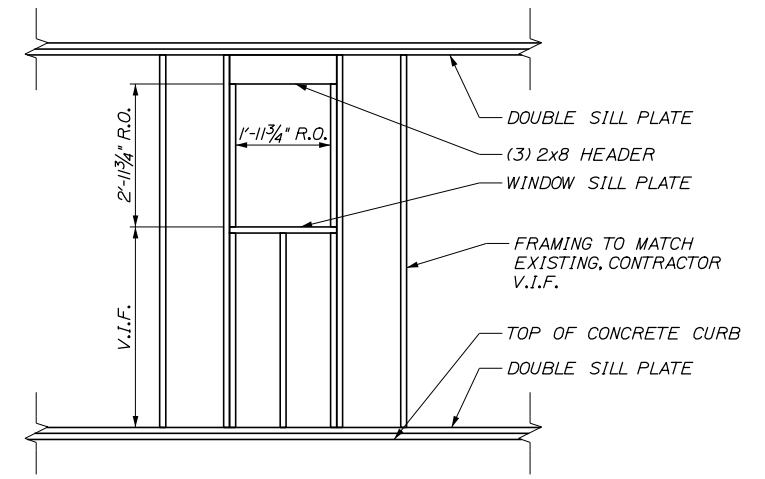
CONTRACT: 2018.14

12 OF 27

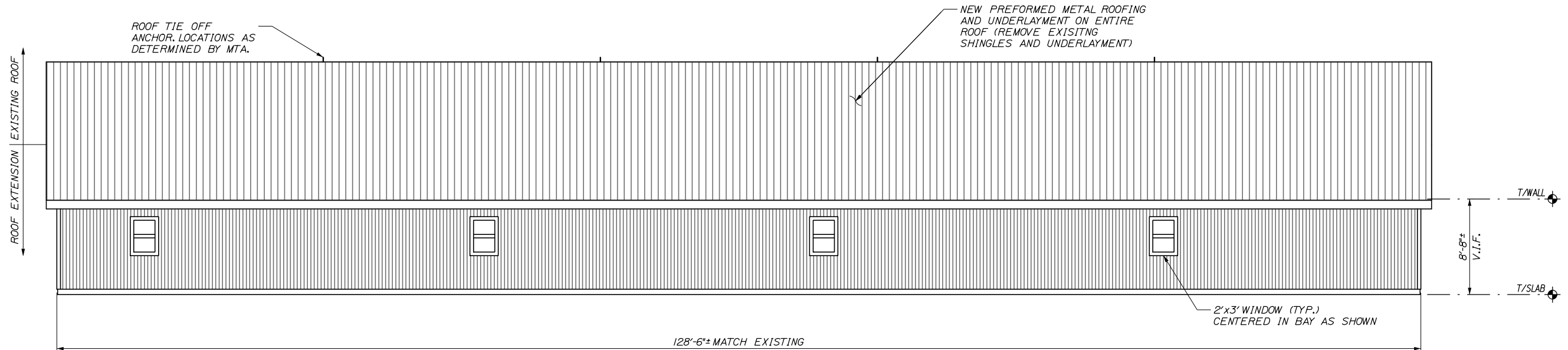
Date: 3/27/2018



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



WINDOW FRAMING DETAIL
SCALE: 1/2" = 1'-0"



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

Filename: 013_Building Elevations.dgn

Scale:			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
	BRG	11\17		RBM	11\17
	ERB	11\17	In Charge of	RAL	11\17

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

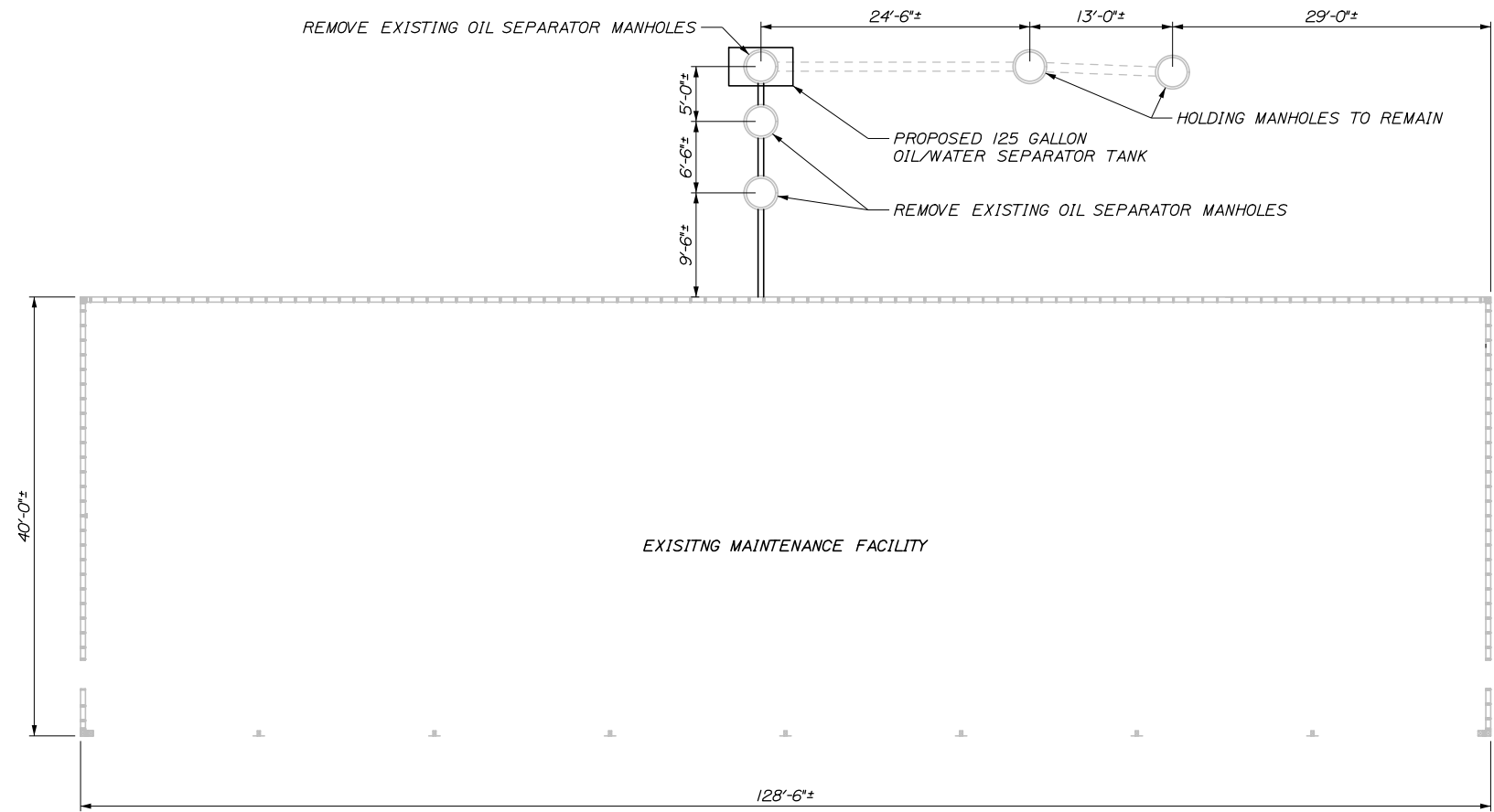
BUILDING ELEVATIONS

SHEET NUMBER: S12

CONTRACT: 2018.14

13 OF 27

Date: 3/20/2018



OIL SEPARATOR TANK REPLACEMENT PLAN
SCALE: 1/8" = 1'-0"

NOTES:

1. THE WORK SHOWN ON THIS SHEET APPLIES TO THE 8-BAY MAINTENANCE GARAGE IN GRAY.
2. FOR MORE INFORMATION SEE CONTRACT SPECIFICATIONS.
3. REMOVE EXISTING OIL SEPARATOR TANKS AS SHOWN IN THE PLANS AND REPLACE WITH A 125 GALLON OIL/WATER SEPARATOR TANK.
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO TANK REMOVAL AND REPLACEMENT.
5. CONTRACTOR SHALL TIE INTO EXISTING BUILDING DRAINAGE WITH NEW OIL/WATER SEPARATOR TANK.
6. PIPE INVERT ELEVATIONS SHALL BE INSTALLED SUCH THAT A CONSTANT SLOPE BE MAINTAINED TO ALLOW WATER TO FLOW THROUGH THE SYSTEM TO THE HOLDING TANKS.
7. THIS WORK SHALL BE COMPLETED BEFORE FORMING THE PROPOSED SLAB-ON-GRADE OF THE BUILDING EXTENSION.

Filename: 014_Oil&Water_Separator_Tank_Details_Gray.dgn

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

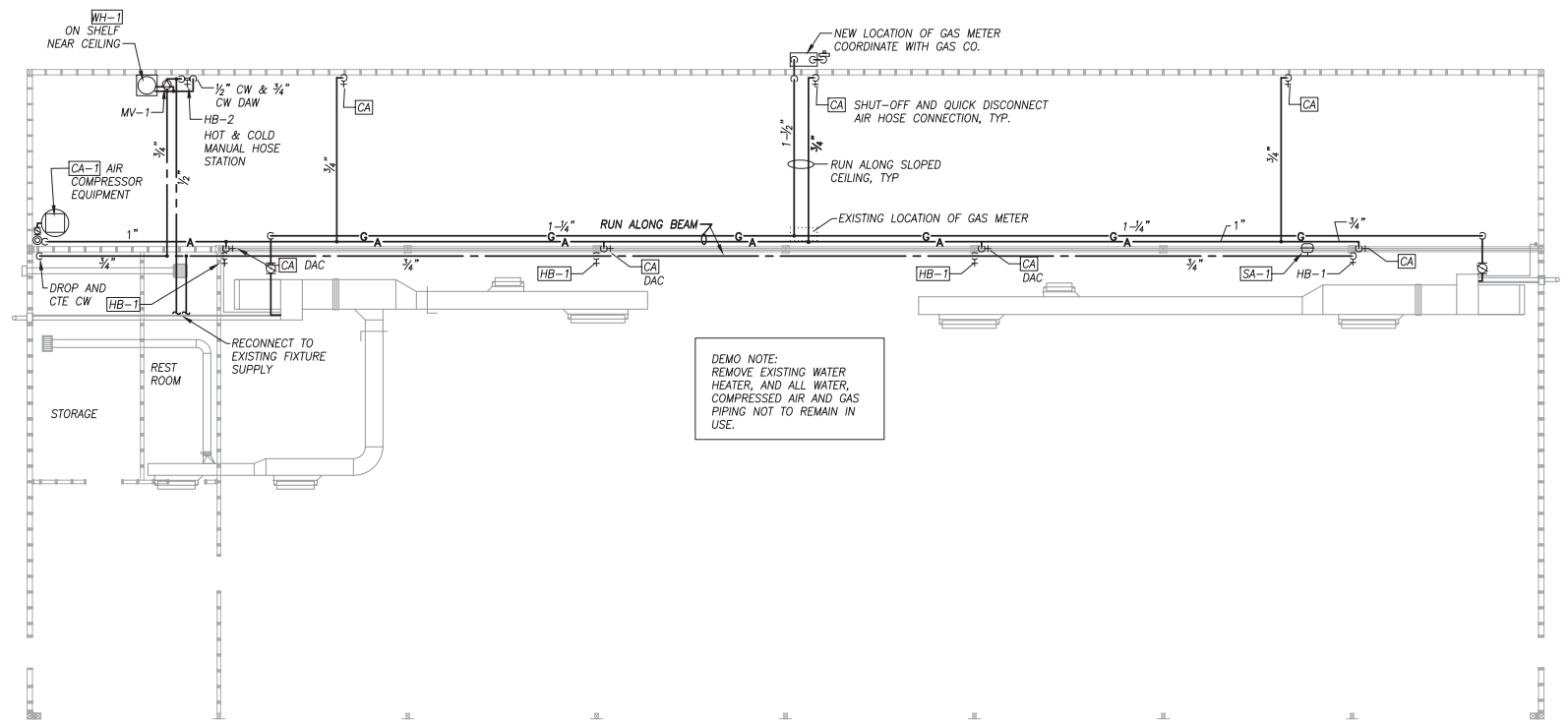
HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
OIL/WATER SEPARATOR TANK DETAILS
(GRAY)

SHEET NUMBER: S13
CONTRACT: 2018.14
14 OF 27



DEMO NOTE:
REMOVE EXISTING WATER HEATER, AND ALL WATER, COMPRESSED AIR AND GAS PIPING NOT TO REMAIN IN USE.

PROPOSED PLAN VIEW

SCALE: 1/8" = 1'-0"

LEGEND

140	140 DEG F HOT WATER	OD	OUTSIDE DIAMETER	-----	COLD WATER PIPING
A	COMPRESSED AIR	PC	PLUMBING CONTRACTOR	-----	120 HOT WATER PIPING
AFF	ABOVE FINISHED FLOOR	PDI	PLUMBING & DRAINAGE INSTITUTE	-----	140 HOT WATER PIPING
BFP	BACKFLOW PREVENTER	PG	PRESSURE GAUGE	---G---	FUEL GAS PIPING ABOVE SLAB
BLV	BALL VALVE	RAW	RISE AT WALL	---A---	COMPRESSED AIR PIPING ABOVE SLAB
CONT	CONTINUATION	RH	RIGHT HAND	---A---	BALL VALVE
COORD	COORDINATION	RV	RELIEF VALVE	---O---	VERTICAL BALL VALVE
CW	COLD WATER	SA	SHOCK ABSORBER	---S---	CHECK VALVE
C&HW	COLD & HOT WATER	T	THERMOMETER	---T---	VACUUM RELIEF VALVE
DAW	DROP AT WALL	TYP	TYPICAL	---T---	THERMOMETER
DN	DOWN	UAW	UP AT WALL	---U---	PRESSURE GAUGE
DNAW	DOWN AT WALL	V	VENT	---V---	LINE UP TO FLOOR ABOVE
DO	DRAW-OFF	VB	VACUUM BREAKER	---VB---	DROP/RISE IN LINE
EQ	EQUAL	VF	VERIFY IN FIELD	---VF---	TEE -DROP
ET	EXPANSION TANK	VRV	VACUUM RELIEF VALVE	---VRV---	SHOCK ABSORBER
FFE	FINISHED FLOOR ELEVATION	VS	VENT STACK	---VS---	UNION
G	GAS (FUEL)	VTR	VENT THRU ROOF	---VTR---	MIXING VALVE
GC	GENERAL CONTRACTOR	W	WASTE	---W---	HOSE BIB
HB	HOSE BIB	W/	WITH	---W/---	PLUMBING FIXTURE/EQUIPMENT NUMBER TAG
HC	HEATING CONTRACTOR	WC	WATER COLUMN	---WC---	
HW	HOT WATER	WCO	WALL CLEANOUT	---WCO---	
IDW	INDIRECT WASTE	WH	WATER HEATER	---WH---	
MTD	MOUNTED			---XX---	
MV	MIXING VALVE				

GENERAL NOTES

- All work shall be in accordance with the Maine State (Uniform) Plumbing Code, local codes and ordinances, National Fire Code (NFPA), or these plans or specifications, whichever is more strict.
- All drawings are schematic only, and are intended to indicate the intent, extent, and general arrangement of work. They are not meant to show every fitting, change of direction or every situation. Verify locations in the field. Work indicated shall be furnished complete to perform the function intended.
- Carefully coordinate the space requirements and location of piping with the other trade contractors.
- This contractor shall make all final plumbing connections to equipment/fixtures provided by other contractors.
- No structural members shall be cut without approval of the Structural Engineer.
- All plumbing shall be supported from the building structure. Hangers longer than 12" will be seismically braced if required by the International Building Code.
- Any pipe penetrations through a fire rated wall or floor shall have a UL rated fire stop system rated to match the rating of the wall assembly, as per the NFPA.
- All above ground domestic water and any storm water piping shall be insulated unless otherwise specified.
- Run all water and drain piping on warm side of building insulation. No lines shall be run in exterior walls, unless directly indicated, and protected.
- All Domestic water piping shall be type "K" or "L" copper, type "M" is prohibited.

WATER SPEC. SCHEDULE

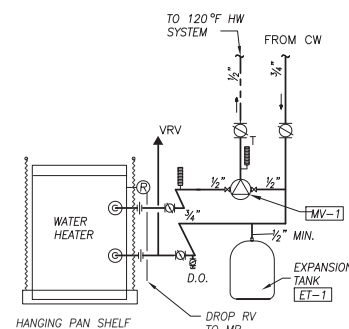
TAG	ITEM	CW	HW	OUTLET	REMARKS
ET-1	EXPANSION TANK	1/2"	-	-	
HB-1	HOSE BIB W/ VB	3/4"	-	3/4" GHT	
HB-2	HOT AND COLD WATER MIXING STATION	3/4"	1/2"	3/4" GHT	
MV-1	MIXING VALVE	1/2"	1/2"	1/2"	
SA-1	SHOCK ABSORBER	1/2 OR 3/4"	-	-	P.D.I. A

WATER HEATER SCHEDULE

TAG	ITEM	GAL	WATTS	VOLTS	PH	SPECIFICATION & REMARKS
WH-1	DOMESTIC HOT WATER	10	4500	240	1	A. O. SMITH EJC-10, ELEC. BY EC

AIR COMPRESSOR SCHEDULE

TAG	ITEM	GAL	HP	VOLTS	PH	SPECIFICATION & REMARKS
AC-1	AIR COMPRESSOR STATIONARY	80	7.5	240	1	INGERSOLL RAND, VERTICAL TANK MOUNTED, MODEL 2475N7.5



HOT WATER STORAGE TANK DIAGRAM

SCALE: NONE



Scale:

Designed by:



HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909



THE GOLD STAR MEMORIAL HIGHWAY

MAINTENANCE GARAGE EXTENSIONS
KENNEBUNK #1
PLUMBING PLAN, NOTES AND SCHEDULES

No.	Revision	By	Date

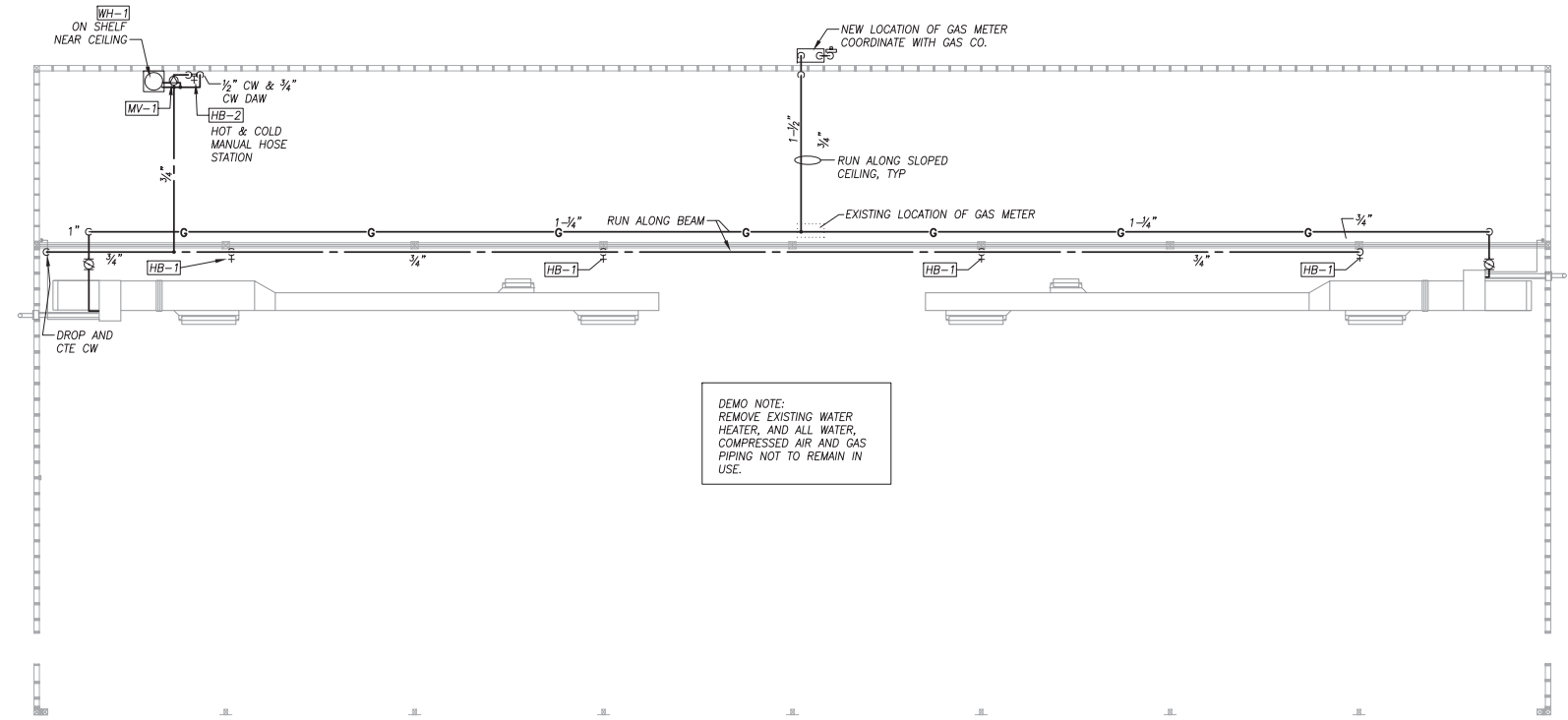
CONSULTANT PROJECT MANAGER: KFM					
	By	Date		By	Date
	Designed	EJP	02/18	Checked	KFM 02/18
	Drawn	EJP	02/18	In Charge of	KFM

MTA PROJECT MANAGER: BRIAN TADDEO, PE

CONTRACT: 2018.14

SHEET NUMBER: P1

15 OF 27



DEMO NOTE:
REMOVE EXISTING WATER
HEATER, AND ALL WATER,
COMPRESSED AIR AND GAS
PIPING NOT TO REMAIN IN
USE.

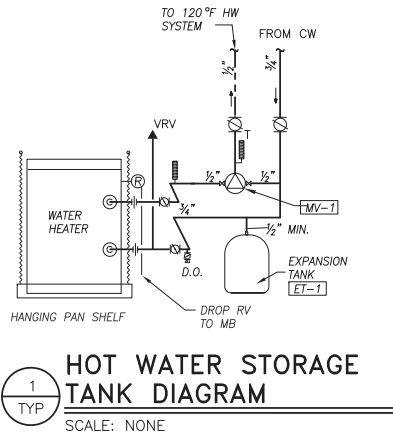
PROPOSED PLAN VIEW
SCALE: 1/8" = 1'-0"

LEGEND					
140	140 DEG F HOT WATER	OD	OUTSIDE DIAMETER	-----	COLD WATER PIPING
A	COMPRESSED AIR	PC	PLUMBING CONTRACTOR	-----	120 HOT WATER PIPING
AFF	ABOVE FINISHED FLOOR	PDI	PLUMBING & DRAINAGE INSTITUTE	-----	140 HOT WATER PIPING
BFP	BACKFLOW PREVENTER	PG	PRESSURE GAUGE	-----G	FUEL GAS PIPING ABOVE SLAB
BLV	BALL VALVE	RAW	RISE AT WALL	-----A	COMPRESSED AIR PIPING ABOVE SLAB
CONT	CONTINUATION	RH	RIGHT HAND	-----	BALL VALVE
COORD	COORDINATION	RV	RELIEF VALVE	-----	VERTICAL BALL VALVE
CW	COLD WATER	SA	SHOCK ABSORBER	-----	CHECK VALVE
C&HW	COLD & HOT WATER	T	THERMOMETER	-----	VACUUM RELIEF VALVE
DAW	DROP AT WALL	TYP	TYPICAL	-----	THERMOMETER
DN	DOWN	UAW	UP AT WALL	-----	PRESSURE GAUGE
DNW	DOWN AT WALL	V	VENT	-----	LINE UP TO FLOOR ABOVE
DO	DRAWOFF	VB	VACUUM BREAKER	-----	DROP/RISE IN LINE
EO	EQUAL	VF	VERIFY IN FIELD	-----	TEE -DROP
ET	EXPANSION TANK	VRV	VACUUM RELIEF VALVE	-----	SHOCK ABSORBER
FFE	FINISHED FLOOR ELEVATION	VS	VENT STACK	-----	UNION
G	GAS (FUEL)	VTR	VENT THRU ROOF	-----	MIXING VALVE
GC	GENERAL CONTRACTOR	W	WASTE	-----	HOSE BIB
HB	HOSE BIB	W/	WITH	-----	PLUMBING FIXTURE/ EQUIPMENT NUMBER TAG
HC	HEATING CONTRACTOR	WC	WATER COLUMN	-----	
HW	HOT WATER	WCO	WALL CLEANOUT	-----	
IDW	INDIRECT WASTE	WH	WATER HEATER	-----	
MTD	MOUNTED			-----	
MV	MIXING VALVE			-----	

- | GENERAL NOTES | |
|---------------|--|
| 1. | All work shall be in accordance with the Maine State (Uniform) Plumbing Code, local codes and ordinances, National Fire Code (NFPA), or these plans or specifications, whichever is more strict. |
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| 7. | All plumbing shall be supported from the building structure. Hangers longer than 12" will be seismically braced if required by the International Building Code. |
| 8. | ANY pipe penetrations through a fire rated wall or floor shall have a UL rated fire stop system rated to match the rating of the wall assembly, as per the NFPA. |
| 9. | All above ground domestic water and any storm water piping shall be insulated unless otherwise specified. |
| 10. | Run all water and drain piping on warm side of building insulation. No lines shall be run in exterior walls, unless directly indicated, and protected. |
| 12. | All Domestic water piping shall be type "K" or "L" copper, type "M" is prohibited. |

WATER SPEC. SCHEDULE					
TAG	ITEM	CW	HW	OUTLET	REMARKS
ET-1	EXPANSION TANK	1/2"	-	-	
HB-1	HOSE BIB W/ VB	3/4"	-	3/4" GHT	
HB-2	HOT AND COLD WATER MIXING STATION	3/4"	1/2"	3/4" GHT	
MV-1	MIXING VALVE	1/2"	1/2"	1/2"	
SA-1	SHOCK ABSORBER	1/2 OR 3/4"	-	-	P.D.I. A

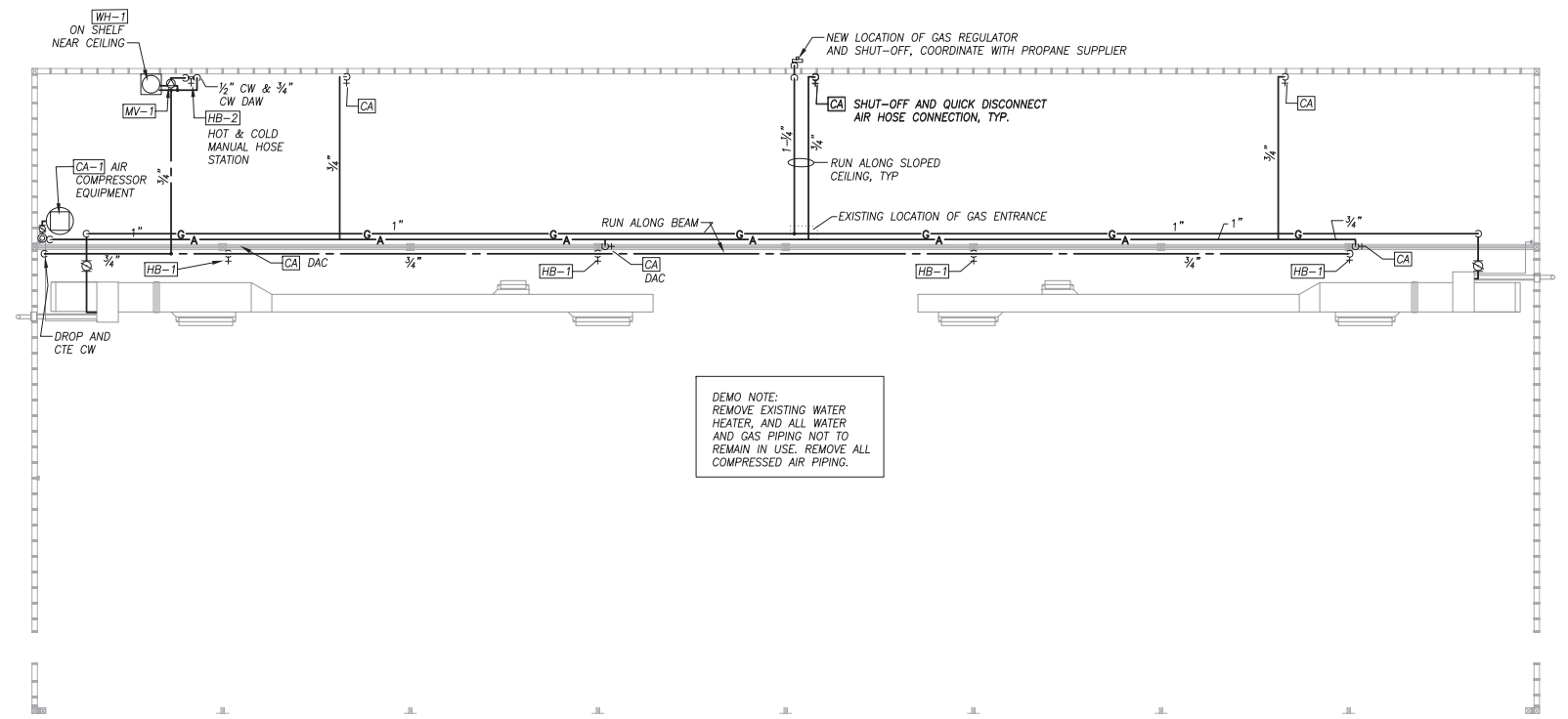
WATER HEATER SCHEDULE						
TAG	ITEM	GAL	WATTS	VOLTS	PH	SPECIFICATION & REMARKS
WH-1	DOMESTIC HOT WATER	10	4500	240	1	A. O. SMITH EJC-10, ELEC. BY EC



HOT WATER STORAGE TANK DIAGRAM
SCALE: NONE



Scale:		Designed by:		HNTB		HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909		THE GOLD STAR MEMORIAL HIGHWAY		MAINTENANCE GARAGE EXTENSIONS KENNEBUNK #2 PLUMBING PLAN, NOTES AND SCHEDULES	
No.	Revision	By	Date								
				Designed	EJP	02/18	Checked	KFM	02/18	SHEET NUMBER:P2 16 OF 27	
				Drawn	EJP	02/18	In Charge of	KFM			



DEMO NOTE:
REMOVE EXISTING WATER HEATER, AND ALL WATER AND GAS PIPING NOT TO REMAIN IN USE. REMOVE ALL COMPRESSED AIR PIPING.

PROPOSED PLAN VIEW
SCALE: 1/8" = 1'-0"

LEGEND

140	140 DEG F HOT WATER	OD	OUTSIDE DIAMETER	-----	COLD WATER PIPING
A	COMPRESSED AIR	PC	PLUMBING CONTRACTOR	-----	120 HOT WATER PIPING
AFF	ABOVE FINISHED FLOOR	PDI	PLUMBING & DRAINAGE INSTITUTE	-----	140 HOT WATER PIPING
BFP	BACKFLOW PREVENTER	PG	PRESSURE GAUGE	—G—	FUEL GAS PIPING ABOVE SLAB
BLV	BALL VALVE	RAW	RISE AT WALL	—A—	COMPRESSED AIR PIPING ABOVE SLAB
CONT	CONTINUATION	RH	RIGHT HAND	—	BALL VALVE
COORD	COORDINATION	RV	RELIEF VALVE	—V—	VERTICAL BALL VALVE
CW	COLD WATER	SA	SHOCK ABSORBER	—S—	CHECK VALVE
C&HW	COLD & HOT WATER	T	THERMOMETER	—T—	VACUUM RELIEF VALVE
DAW	DROP AT WALL	TYP	TYPICAL	—	THERMOMETER
DN	DOWN	UAW	UP AT WALL	—	PRESSURE GAUGE
DNAW	DOWN AT WALL	V	VENT	—	LINE UP TO FLOOR ABOVE
DO	DRAWOFF	VB	VACUUM BREAKER	—	DROP/RISE IN LINE
EO	EQUAL	VF	VERIFY IN FIELD	—	TEE -DROP
ET	EXPANSION TANK	VRV	VACUUM RELIEF VALVE	—	SHOCK ABSORBER
FFE	FINISHED FLOOR ELEVATION	VS	VENT STACK	—	UNION
G	GAS (FUEL)	VTR	VENT THRU ROOF	—	MIXING VALVE
GC	GENERAL CONTRACTOR	W	WASTE	—	HOSE BIB
HB	HOSE BIB	W/	WITH	—	PLUMBING FIXTURE/EQUIPMENT NUMBER TAG
HC	HEATING CONTRACTOR	WC	WATER COLUMN	—	
HW	HOT WATER	WCO	WALL CLEANOUT	—	
IDW	INDIRECT WASTE	WH	WATER HEATER	—	
MTD	MOUNTED			+	
MV	MIXING VALVE			XX-1	

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- All Domestic water piping shall be type "K" or "L" copper, type "M" is prohibited.

WATER SPEC. SCHEDULE

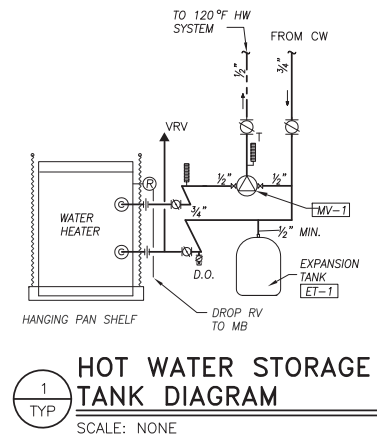
TAG	ITEM	CW	HW	OUTLET	REMARKS
ET-1	EXPANSION TANK	1/2"	-	-	
HB-1	HOSE BIB W/ VB	3/4"	-	3/4" GHT	
HB-2	HOT AND COLD WATER MIXING STATION	3/4"	1/2"	3/4" GHT	
MV-1	MIXING VALVE	1/2"	1/2"	1/2"	
SA-1	SHOCK ABSORBER	1/2 OR 3/4"	-	-	P.D.I. A

WATER HEATER SCHEDULE

TAG	ITEM	GAL	WATTS	VOLTS	PH	SPECIFICATION & REMARKS
WH-1	DOMESTIC HOT WATER	10	4500	240	1	A. O. SMITH EJC-10, ELEC. BY EC

AIR COMPRESSOR SCHEDULE

TAG	ITEM	GAL	HP	VOLTS	PH	SPECIFICATION & REMARKS
AC-1	AIR COMPRESSOR STATIONARY	80	7.5	240	1	INGERSOLL RAND, VERTICAL TANK MOUNTED, MODEL 2475N7.5



HOT WATER STORAGE TANK DIAGRAM
SCALE: NONE



No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: KFM

By	Date	By	Date
Designed	EJP 02/18	Checked	KFM 02/18
Drawn	EJP 02/18	In Charge of	KFM

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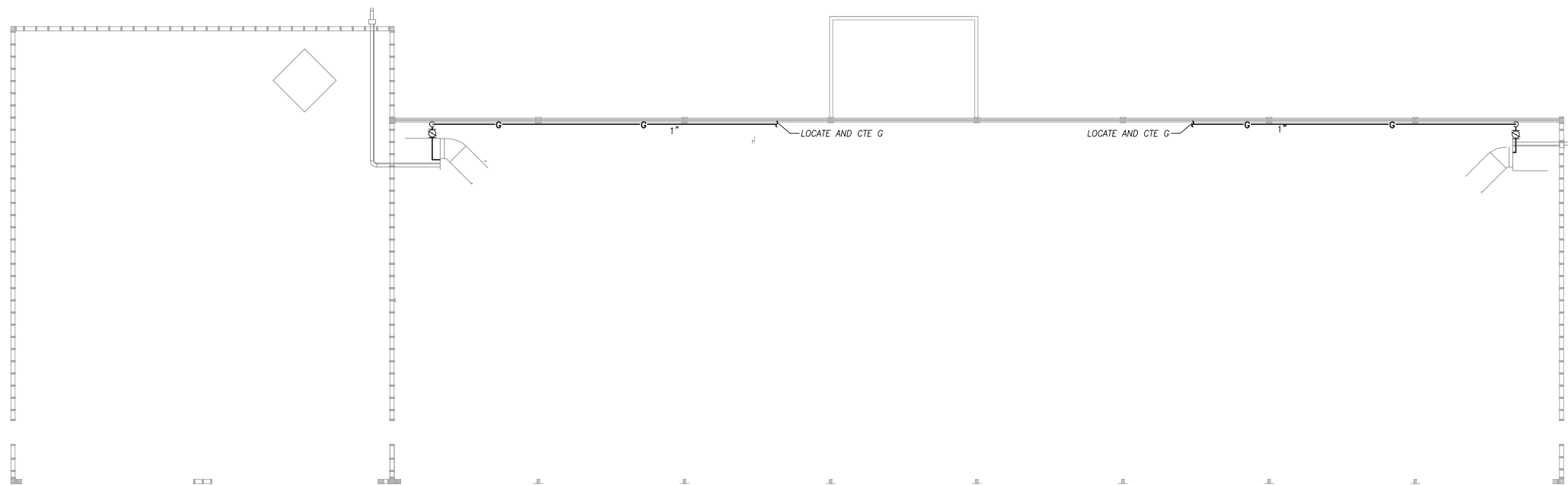
MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
GRAY
PLUMBING PLAN, NOTES AND SCHEDULES

SHEET NUMBER: P3
CONTRACT: 2018.14
17 OF 27



PROPOSED PLAN VIEW

SCALE: 1/8" = 1'-0"

LEGEND

⊙	AT	OD	OUTSIDE DIAMETER	— G —	FUEL GAS PIPING ABOVE SLAB
A	AMPS,	PC	PLUMBING CONTRACTOR		
AFF	ABOVE FINISHED FLOOR	RAW	RISE AT WALL	⊘	BALL VALVE
BLV	BALL VALVE	TBD	TO BE DETERMINED	⊕	VERTICAL BALL VALVE
CONT	CONTINUATION	TYP	TYPICAL	○	LINE UP TO FLOOR ABOVE
COORD	COORDINATION	UAW	UP AT WALL	○	DROP/RISE IN LINE
CTE	CONNECT TO EXISTING	VIF	VERIFY IN FIELD	⊕	TEE -DROP
DAW	DROP AT WALL	W/	WITH		
EQ	EQUAL	WC	WATER COLUMN		
G	GAS (FUEL)				
GC	GENERAL CONTRACTOR				
HC	HEATING CONTRACTOR				

GENERAL NOTES

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- Carefully coordinate the space requirements and location of piping with the other trade contractors. If coordination fails, conflicts will be decided in favor of the other contractors with this contractor relocating his piping and equipment at no expense to the Owner.
- This contractor shall make all final plumbing connections to equipment/ fixtures provided by other contractors.
- No structural members shall be cut without approval of the Architect.
- All plumbing shall be supported from the building structure. Hangers longer than 12" will be seismically braced if required by the International Building Code.
- All piping shall be installed parallel to building lines and pitched to low points. Provide draw-offs at low points. Piping shall be run neatly grouped together when practical.



Scale:		Designed by:			
		HNTB			
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: KFM	
				By	Date
				Designed	EJP 02/18
				Checked	KFM 02/18
				Drawn	EJP 02/18
				In Charge of	KFM

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TEL (207) 774-5155
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**THE GOLD STAR
MEMORIAL HIGHWAY**

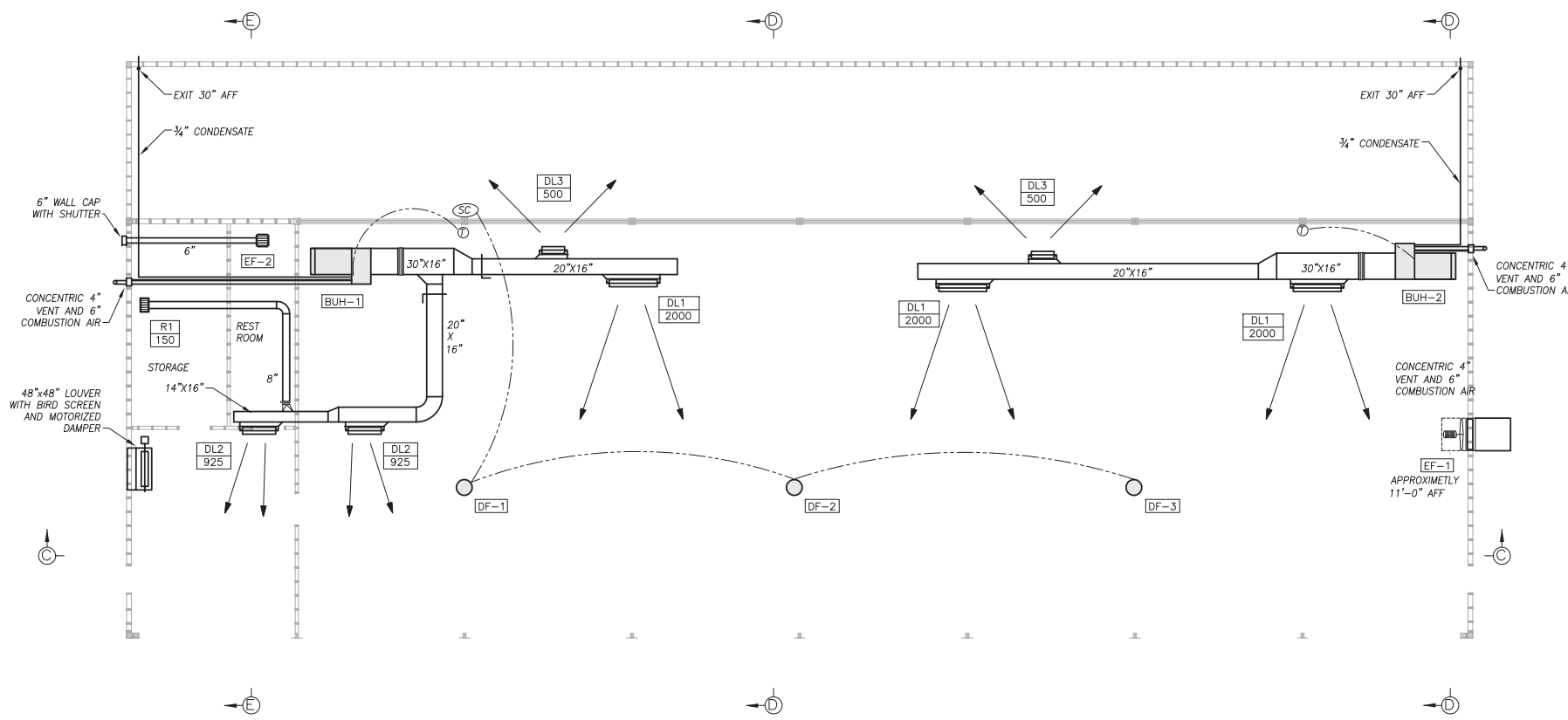
MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
CROSBY FARMS
PLUMBING PLAN, NOTES AND SCHEDULES

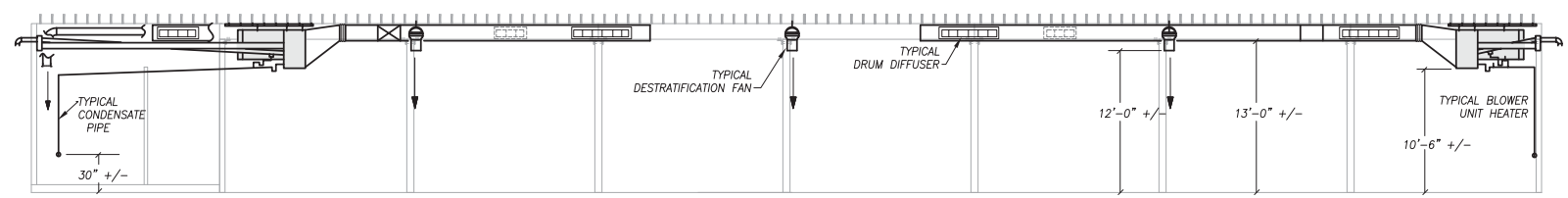
SHEET NUMBER: P4

CONTRACT: 2018.14

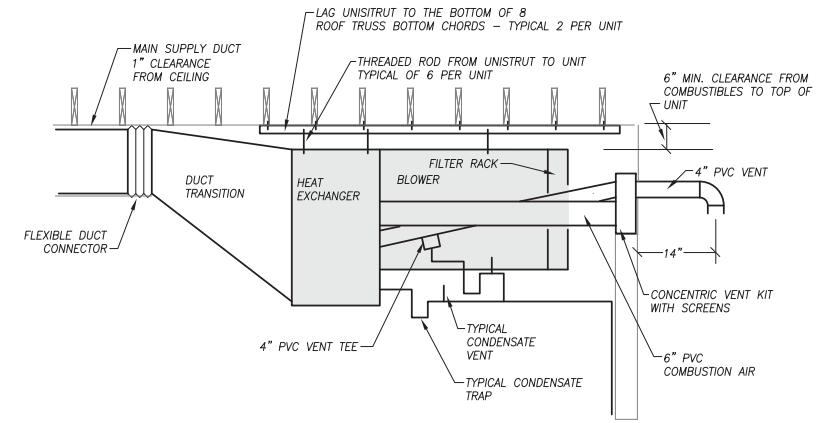
18 OF 27



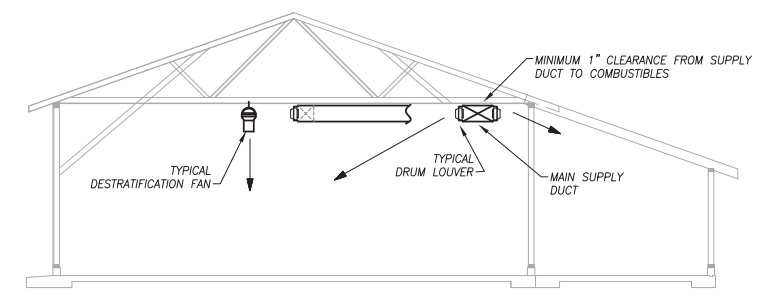
KENNEBUNK #1 PLAN VIEW
SCALE: 1/8" = 1'-0"



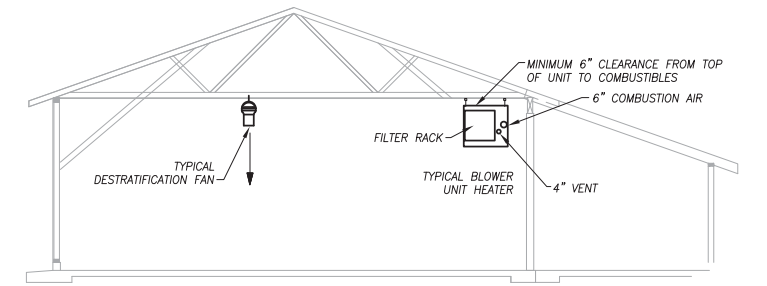
SECTION C-C
SCALE: 1/8" = 1'-0"



SECTION THROUGH BLOWER UNIT HEATER
SCALE: 1/2" = 1'-0"



SECTION E-E
SCALE: 1/8" = 1'-0"



SECTION D-D
SCALE: 1/8" = 1'-0"



Scale:			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: KFM					
	By	Date		By	Date
	KFM	02/18		KFM	02/18

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
KENNEBUNK #1
MECHANICAL PLAN VIEW

SHEET NUMBER: M1
CONTRACT: 2018.14
19 OF 27

GENERAL NOTES

- All systems are to be to meet the following Codes and Standards.
 - ASHRAE 90.1 2007 – Energy Standard for Commercial Buildings.
 - ASHRAE 60.1 2007 – Standard for Indoor Air Quality in Commercial Buildings.
 - 2009 IECC – International Energy Conservation Code.
 - NFPA – National Fire Protection Association Standards.
- Do not cut any structural members without pre-approval of structural engineer.

SHEETMETAL NOTES

- All ductwork to be fabricated and installed per SMACNA Low Pressure Ductwork Standards.
- Ductwork is shown diagrammatically and does not indicate all the offsets, rises and drops that will be required.
- All ductwork is within the Building Thermal Envelope and will not require insulation.

VENTING, COMBUSTION AIR AND CONDENSATE NOTES

- Piping is shown diagrammatically and does not indicate all the offsets, rises and drops that will be required.
- All condensate piping to be Schedule 40 PVC.
- All venting and combustion air piping to be Schedule 40 PVC.
- All venting, combustion air and condensate piping to be installed per manufacturers recommendations and requirements for horizontal venting.

CONTROL NOTES

- It will be the Mechanical Contractor's responsibility to provide and install all controls and all control wiring.
- All control wiring that is run exposed shall be in electrical conduit provided and installed by the mechanical contractor (or his ATC subcontractor).
- Blower Unit Heaters (BUH) to have 24v heating only thermostats.
- Control for the Destratification Fans (DF) to be provided by the Mechanical Contractor including Potentiometer Speed Control, control wiring and conduit.

DEMOLITION NOTES

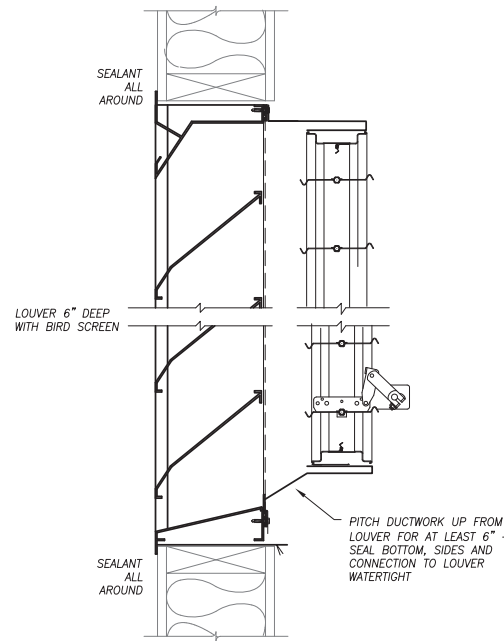
- It will be the mechanical contractor's to remove from the jobsite all existing mechanical related items that will no longer be in service.
- Items to be removed include (but are not limited to):
 - Air Handler / Warm Air Furnace
 - All ductwork, registers and grilles associated with the Air Handler / Warm air furnace.
 - Furnace breeching from furnace to masonry chimney.
 - Thermostats and related control wiring.
- All removed items to be disposed of per EPA Standards.

LEGEND	
	FLEXIBLE CONNECTOR
	DRUM LOUVER DIFFUSER
	DOUBLE DEFLECTION DIFFUSER
	MANUAL DAMPER W/LOCKING QUADRANT
	SIDE TAKE-OFF WITH VOLUME DAMPER
	THERMOSTAT
	SPEED CONTROL

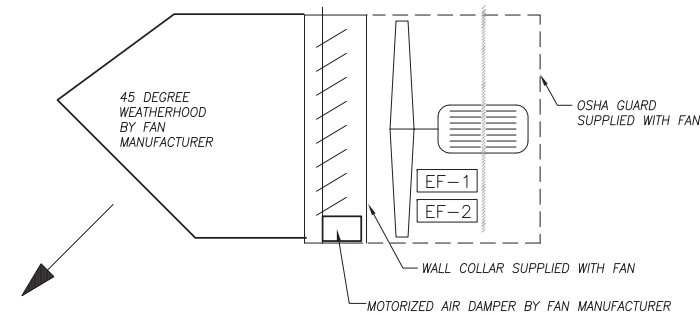
DESTRATIFICATION & EXHAUST FAN SCHEDULE										
TAG	DESIGN MANUFACTURER & MODEL	TYPE	CFM	ELECTRIC			WEIGHT	REMARKS	CONTROL	
				POWER	FLA	HP				
DF-1	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	ARIUS POT-1 POTENTIOMETER SPEED CONTROL FOR MULTIPLE EC MOTORS	
DF-2	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR		
DF-3	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR		
DF-4	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR		
EF-1	GREENHECK S2-30-610b10	SIDEWALL	8,600	115/60/1		1.0	150 LBS	WITH WALL COLLAR, 115V MOTORIZED DAMPER, MOTOR SIDE GUARD AND EXTERIOR 45 DEG. WEATHER HOOD	WALL STARTER POWERING FAN AND LOUVER	
EF-2	NUTONE QTXEN110	CEILING	110	115/60/1	0.4		10 LBS	MAXIMUM 0.7 SONE	POWERED BY LIGHT SWITCH	

BLOWER UNIT HEATER SCHEDULE											
TAG	DESIGN MANUFACTURER & MODEL	BTUH INPUT	BTUH OUTPUT	AFUE	FUEL	CFM	E.S.P.	MOTOR HP	POWER	WEIGHT	REMARKS
BUH-1	MODINE EFFINTY BTC310	310,000	257,000	93 %	NAT. GAS	4,500	0.50"	2.0	230/60/1	395 LBS	CONDENSING TYPE – SEALED COMBUSTION WITH FACTORY BLOWER ENCLOSURE, FILTER RACK, CONCENTRIC HORIZONTAL VENT KIT, AND 24V CONTROL CIRCUIT
BUH-2	MODINE EFFINTY BTC310	310,000	257,000	93 %	NAT. GAS	4,500	0.50"	2.0	230/60/1	395 LBS	

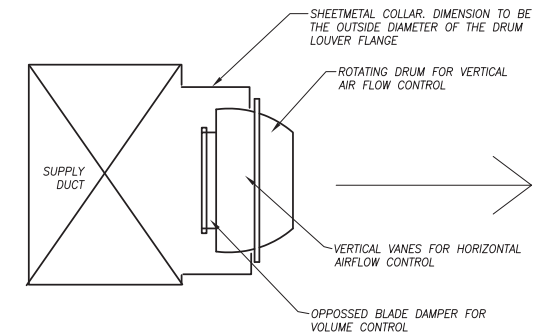
AIR TERMINAL SCHEDULE						
TAG	DESIGN MANUFACTURER & MODEL	SIZE	MAX NC	MAX SP	REMARKS	
DL1	PRICE HCD 12/48	48"x12"	30	.07	HIGH CAPACITY DRUM LOUVER DIFFUSER WITH VERTICAL VANES AND OPPOSED BLADE DAMPER	
DL2	PRICE HCD 12/18	18"x12"	30	.07	HIGH CAPACITY DRUM LOUVER DIFFUSER WITH VERTICAL VANES AND OPPOSED BLADE DAMPER	
DL3	PRICE HCD 6/24	24"x6"	30	.07	HIGH CAPACITY DRUM LOUVER DIFFUSER WITH VERTICAL VANES AND OPPOSED BLADE DAMPER	
R1	PRICE 520S	14"x8"	20	.07	DOUBLE DEFLECTION SUPPLY GRILLE	



EXTERIOR LOUVER DETAIL
NO SCALE



EXHAUST FAN DETAIL SECTION
NO SCALE



DRUM LOUVER DETAIL
NO SCALE



Scale:				Designed by:			
No.	Revision	By	Date				
CONSULTANT PROJECT MANAGER: KFM				HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909			
				By	Date	By	Date
				Designed	KFM 02/18	Checked	KFM 02/18
				Drawn	KFM 02/18	In Charge of	

Designed by:							
CONSULTANT PROJECT MANAGER: KFM				HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909			
				By	Date	By	Date
				Designed	KFM 02/18	Checked	KFM 02/18
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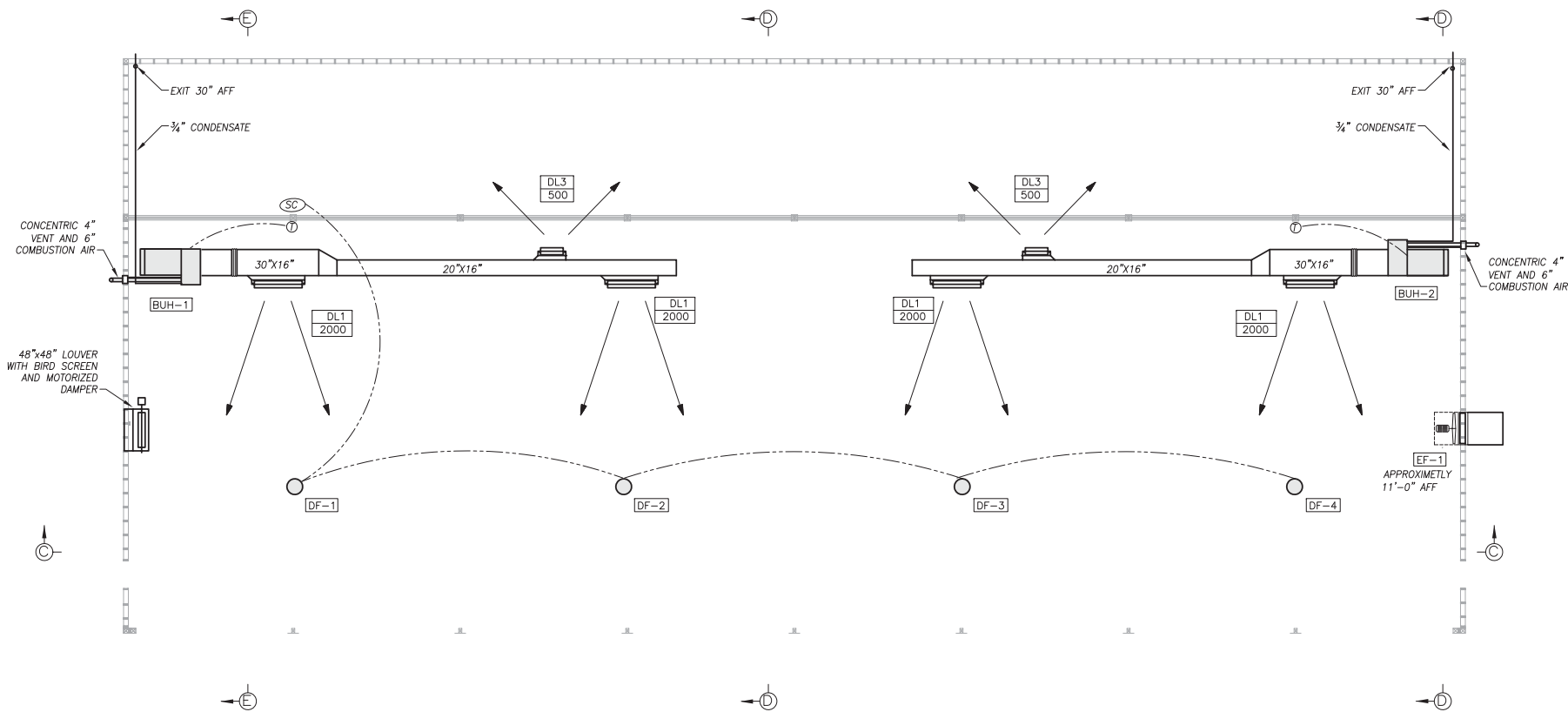
HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
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**THE GOLD STAR
MEMORIAL HIGHWAY**

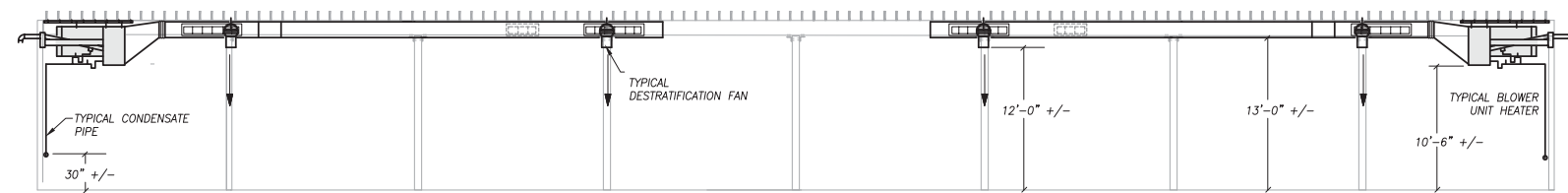
MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
 KENNEBUNK #1
 SCHEDULES, NOTES & DETAILS

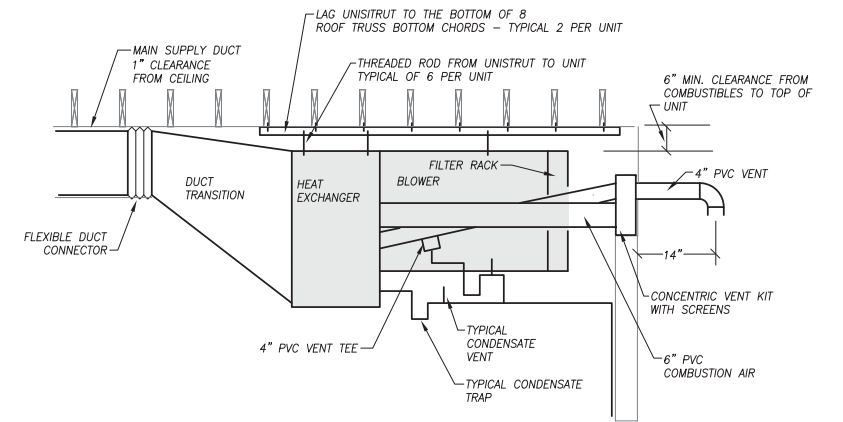
SHEET NUMBER: M2
 CONTRACT: 2018.14
 20 OF 27



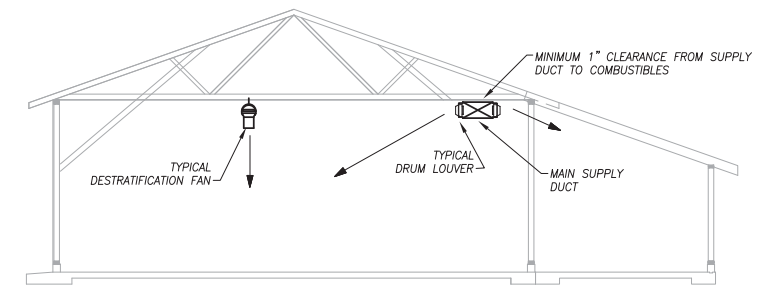
KENNEBUNK #2 PLAN VIEW
SCALE: 1/8" = 1'-0"



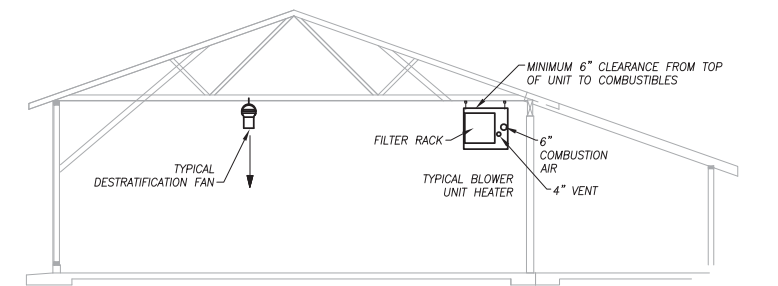
SECTION C-C
SCALE: 1/8" = 1'-0"



SECTION THROUGH BLOWER UNIT HEATER
SCALE: 1/2" = 1'-0"



SECTION E-E
SCALE: 1/8" = 1'-0"



SECTION D-D
SCALE: 1/8" = 1'-0"



Scale:			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: KFM					
	By	Date		By	Date
	Designed	KFM 02/18		Checked	KFM 02/18
	Drawn	KFM 02/18		In Charge of	

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
KENNEBUNK #2
MECHANICAL PLAN VIEW

SHEET NUMBER: M3
CONTRACT: 2018.14
21 OF 27

GENERAL NOTES

- All systems are to be to meet the following Codes and Standards.
 - ASHRAE 90.1 2007 – Energy Standard for Commercial Buildings
 - ASHRAE 60.1 2007 – Standard for Indoor Air Quality in Commercial Buildings.
 - 2009 IECC – International Energy Conservation Code.
 - NFPA – National Fire Protection Association Standards.
- Do not cut any structural members without pre-approval of structural engineer.

SHEETMETAL NOTES

- All ductwork to be fabricated and installed per SMACNA Low Pressure Ductwork Standards.
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- All venting, combustion air and condensate piping to be installed per manufacturers recommendations and requirements for horizontal venting.

CONTROL NOTES

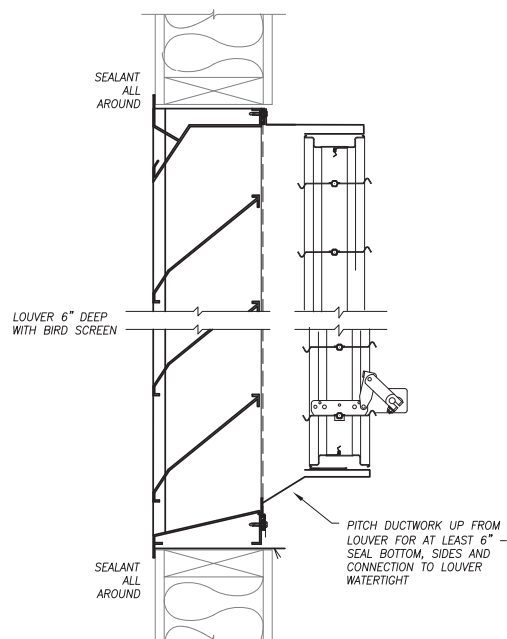
- It will be the Mechanical Contractor's responsibility to provide and install all controls and all control wiring.
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LEGEND

	FLEXIBLE CONNECTOIR
	DRUM LOUVER DIFFUSER
	DOUBLE DEFLECTION DIFFUSER
	MANUAL DAMPER W/LOCKING QUADRATIN
	SIDE TAKE-OFF WITH VOLUME DAMPER
	THERMOSTAT
	SPEED CONTROL



EXTERIOR LOUVER DETAIL
NO SCALE

KENNEBUNK #2

DESTRATIFICATION & EXHAUST FAN SCHEDULE

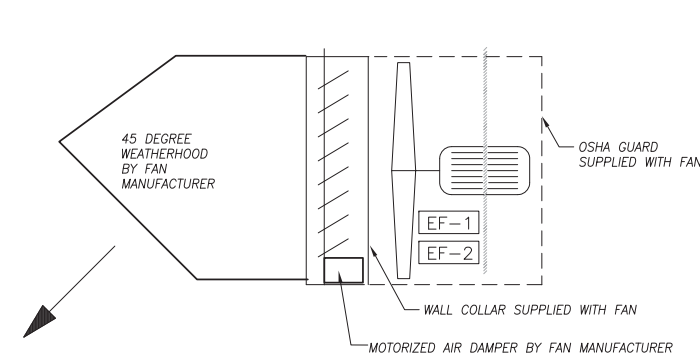
TAG	DESIGN MANUFACTURER & MODEL	TYPE	CFM	ELECTRIC			WEIGHT	REMARKS	CONTROL
				POWER	FLA	HP			
DF-1	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	AIRIUS POT-1 POTENTIOMETER SPEED CONTROL FOR MULTIPLE EC MOTORS
DF-2	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	
DF-3	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	
DF-4	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	
EF-1	GREENHECK S2-30-610b10	SIDEWALL	8,600	115/60/1		1.0	150 LBS	WITH WALL COLLAR, 115V MOTORIZED DAMPER, MOTOR SIDE GUARD AND EXTERIOR 45 DEG. WEATHER HOOD	WALL STARTER POWERING FAN AND LOUVER

BLOWER UNIT HEATER SCHEDULE

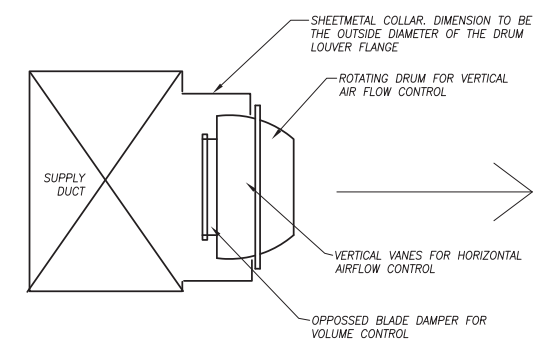
TAG	DESIGN MANUFACTURER & MODEL	BTUH INPUT	BTUH OUTPUT	AFUE	FUEL	CFM	E.S.P.	MOTOR HP	POWER	WEIGHT	REMARKS
BUH-1	MODINE EFFINTY BTC310	310,000	257,000	93 %	NAT. GAS	4,500	0.50"	2.0	230/60/1	395 LBS	CONDENSING TYPE – SEALED COMBUSTION WITH FACTORY BLOWER ENCLOSURE, FILTER RACK, CONCENTRIC HORIZONTAL VENT KIT, AND 24V CONTROL CIRCUIT
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AIR TERMINAL SCHEDULE

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DL3	PRICE HCD 1 1/4	24"X6"	30	.07	HIGH CAPACITY DRUM LOUVER DIFFUSER WITH VERTICAL VANES AND OPPOSED BLADE DAMPER



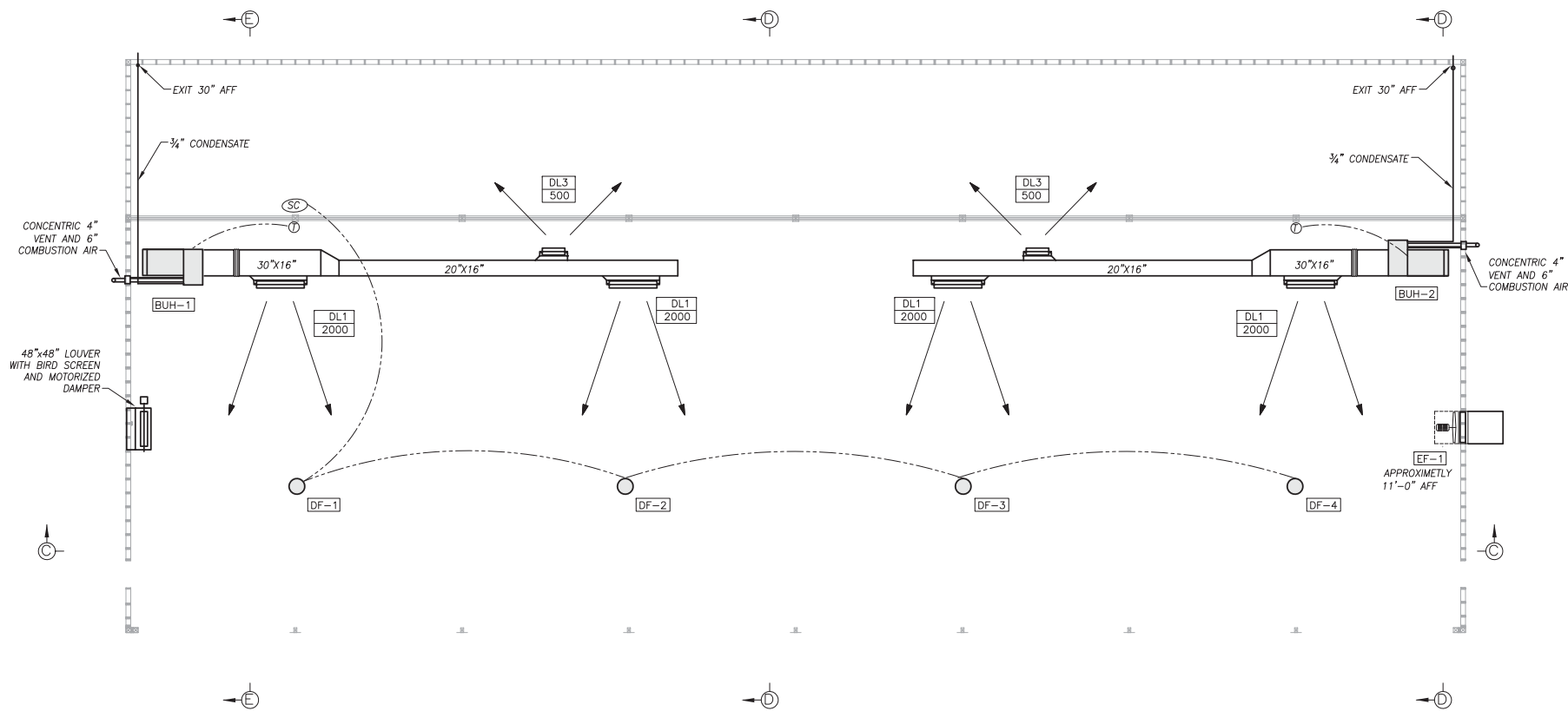
EXHAUST FAN DETAIL SECTION
NO SCALE



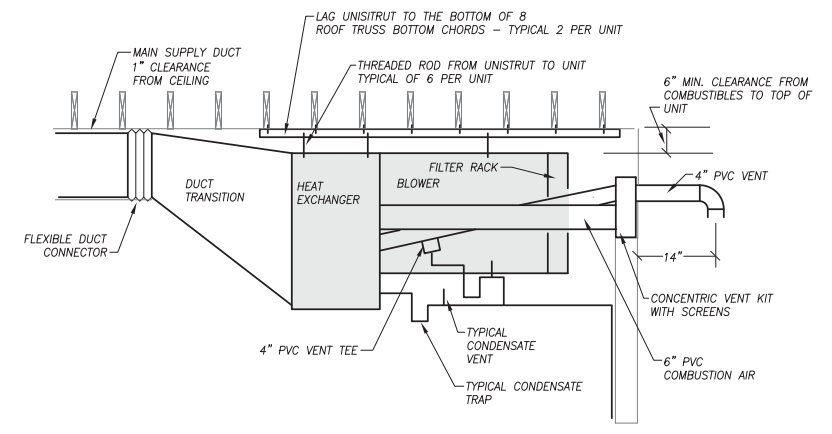
DRUM LOUVER DETAIL
NO SCALE



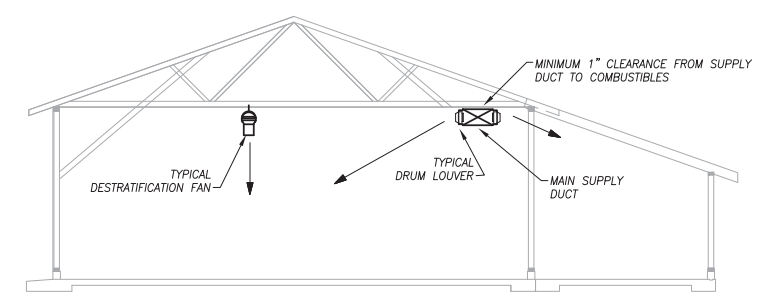
Scale:		Designed by:				HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909				THE GOLD STAR MEMORIAL HIGHWAY		MAINTENANCE GARAGE EXTENSIONS KENNEBUNK #2 SCHEDULES, NOTES & DETAILS	
No.	Revision	By	Date										
				By	Date	By	Date	MTA PROJECT MANAGER: BRIAN TADDEO, PE		SHEET NUMBER: M4			
				Designed	KFM 02/18	Checked	KFM 02/18			22 OF 27			
				Drawn	KFM 02/18	In Charge of							



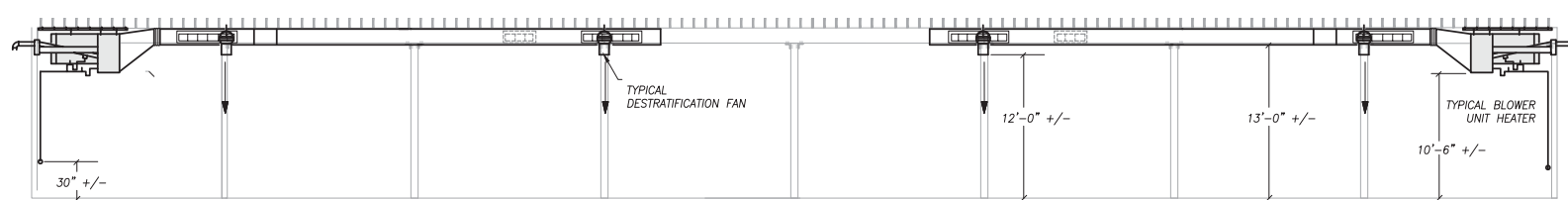
GRAY PLAN VIEW
SCALE: 1/8" = 1'-0"



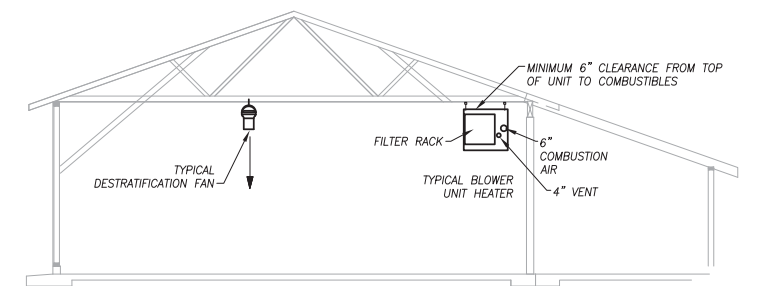
SECTION THROUGH BLOWER UNIT HEATER
SCALE: 1/2" = 1'-0"



SECTION E-E
SCALE: 1/8" = 1'-0"



SECTION C-C
SCALE: 1/8" = 1'-0"



SECTION D-D
SCALE: 1/8" = 1'-0"



Scale:			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: KFM					
	By	Date		By	Date
	KFM	02/18	Checked	KFM	02/18
	Drawn	KFM	02/18	In Charge of	

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
GRAY
MECHANICAL PLAN VIEW

SHEET NUMBER: M5
CONTRACT: 2018.14
23 OF 27

GENERAL NOTES

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CONTROL NOTES

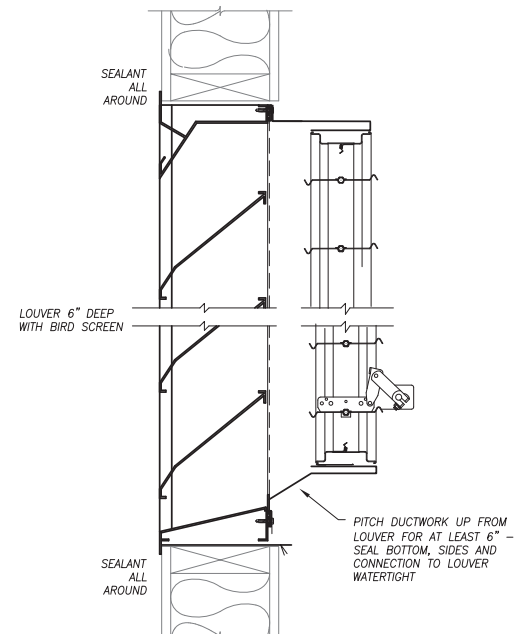
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LEGEND

	FLEXIBLE CONNECTOR
	DRUM LOUVER DIFFUSER
	DOUBLE DEFLECTION DIFFUSER
	MANUAL DAMPER W/LOCKING QUADRANT
	SIDE TAKE-OFF WITH VOLUME DAMPER
	THERMOSTAT
	SPEED CONTROL



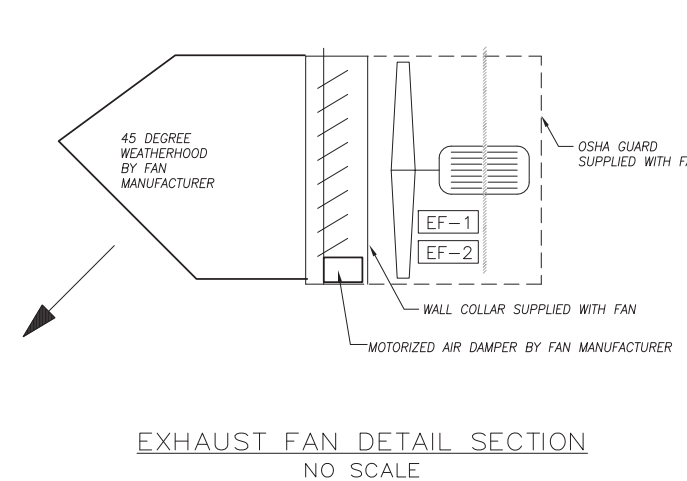
EXTERIOR LOUVER DETAIL
NO SCALE

GRAY

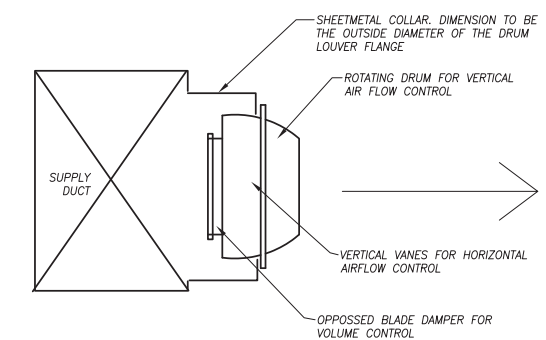
DESTRATIFICATION & EXHAUST FAN SCHEDULE										
TAG	DESIGN MANUFACTURER & MODEL	TYPE	CFM	ELECTRIC			WEIGHT	REMARKS	CONTROL	
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BLOWER UNIT HEATER SCHEDULE											
TAG	DESIGN MANUFACTURER & MODEL	BTUH INPUT	BTUH OUTPUT	AFUE	FUEL	CFM	E.S.P.	MOTOR HP	POWER	WEIGHT	REMARKS
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BUH-2	MODINE EFFINTY BTC310	310,000	257,000	93 %	LP GAS	4,500	0.50"	2.0	230/60/1	395 LBS	

AIR TERMINAL SCHEDULE					
TAG	DESIGN MANUFACTURER & MODEL	SIZE	MAX NC	MAX SP	REMARKS
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DL3	PRICE HCD 1 3/4	24"x6"	30	.07	HIGH CAPACITY DRUM LOUVER DIFFUSER WITH VERTICAL VANES AND OPPOSED BLADE DAMPER



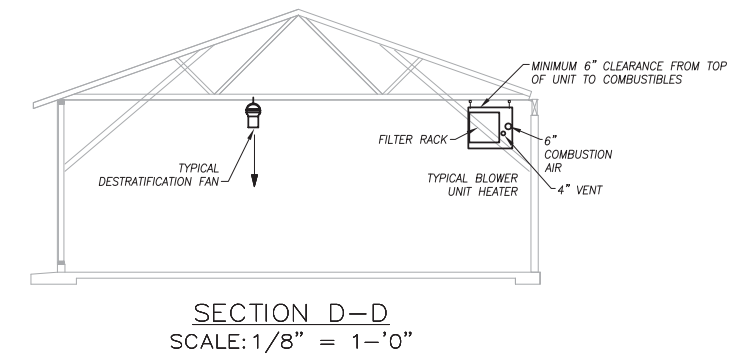
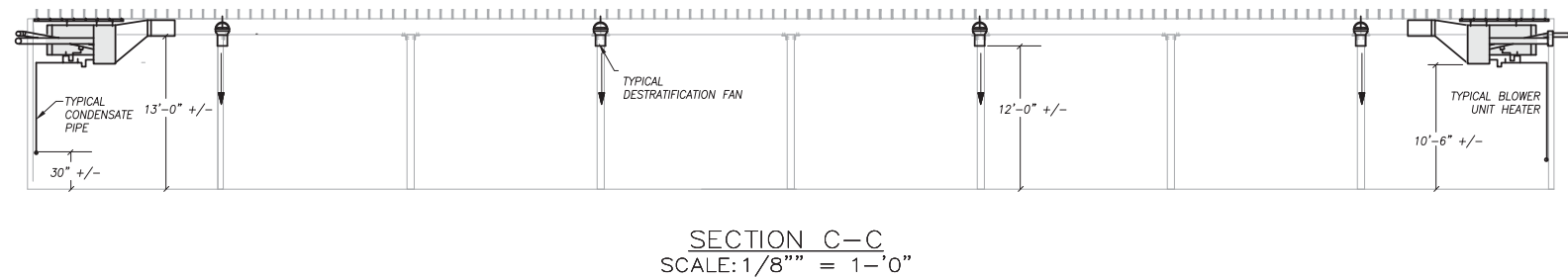
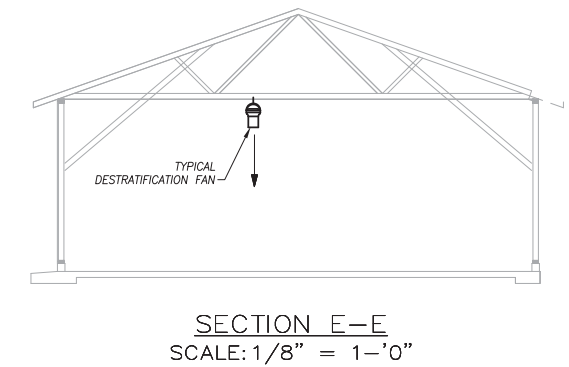
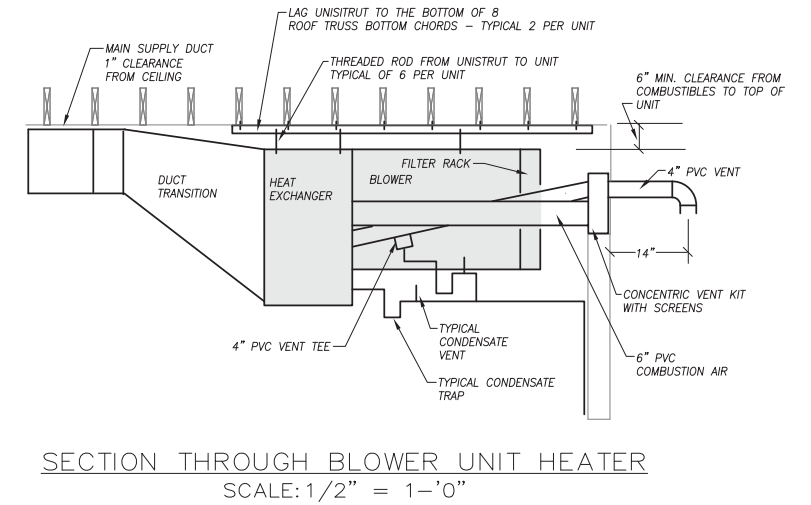
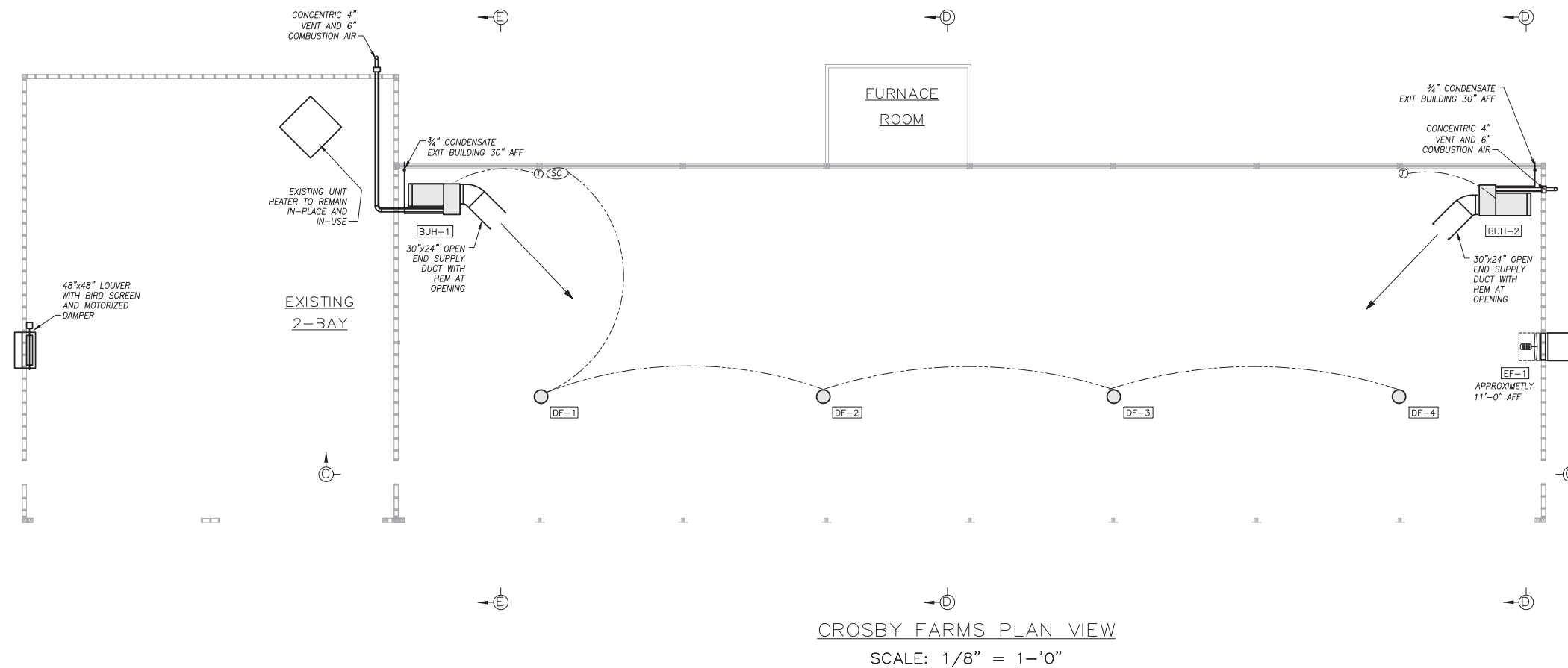
EXHAUST FAN DETAIL SECTION
NO SCALE



DRUM LOUVER DETAIL
NO SCALE



Scale:		Designed by:				HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909		 THE GOLD STAR MEMORIAL HIGHWAY		MAINTENANCE GARAGE EXTENSIONS GRAY SCHEDULES, NOTES & DETAILS													
<table border="1" style="width: 100%;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		No.	Revision									By	Date					CONSULTANT PROJECT MANAGER: KFM		SHEET NUMBER: M6			
No.	Revision	By	Date																				
<table border="1" style="width: 100%;"> <thead> <tr> <th> </th> <th>By</th> <th>Date</th> <th> </th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Designed</td> <td>KFM</td> <td>02/18</td> <td>Checked</td> <td>KFM</td> <td>02/18</td> </tr> <tr> <td>Drawn</td> <td>KFM</td> <td>02/18</td> <td>In Charge of</td> <td> </td> <td> </td> </tr> </tbody> </table>			By	Date		By	Date	Designed	KFM	02/18	Checked	KFM	02/18	Drawn	KFM	02/18	In Charge of			MTA PROJECT MANAGER: BRIAN TADDEO, PE		CONTRACT: 2018.14	
	By	Date		By	Date																		
Designed	KFM	02/18	Checked	KFM	02/18																		
Drawn	KFM	02/18	In Charge of																				
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Scale:			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: KFM					
	By	Date		By	Date
	KFM	02/18		KFM	02/18

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS
CROSBY FARMS
MECHANICAL PLAN VIEW

SHEET NUMBER: M7
CONTRACT: 2018.14
25 OF 27

GENERAL NOTES

- All systems are to be to meet the following Codes and Standards.
 - ASHRAE 90.1 2007 – Energy Standard for Commercial Buildings.
 - ASHRAE 60.1 2007 – Standard for Indoor Air Quality in Commercial Buildings.
 - 2009 IECC – International Energy Conservation Code.
 - NFPA – National Fire Protection Association Standards.
- Do not cut any structural members without pre-approval of structural engineer.

SHEETMETAL NOTES

- All ductwork to be fabricated and installed per SMACNA Low Pressure Ductwork Standards.
- Ductwork is shown diagrammatically and does not indicate all the offsets, rises and drops that will be required.
- All ductwork is within the Building Thermal Envelope and will not require insulation.

VENTING, COMBUSTION AIR AND CONDENSATE NOTES

- Piping is shown diagrammatically and does not indicate all the offsets, rises and drops that will be required.
- All condensate piping to be Schedule 40 PVC.
- All venting and combustion air piping to be Schedule 40 PVC.
- All venting, combustion air and condensate piping to be installed per manufacturers recommendations and requirements for horizontal venting.

CONTROL NOTES

- It will be the Mechanical Contractor's responsibility to provide and install all controls and all control wiring.
- All control wiring that is run exposed shall be in electrical conduit provided and installed by the mechanical contractor (or his ATC subcontractor)..
- Blower Unit Heaters (BUH) to have 24v heating only thermostats.
- Control for the Destratification Fans (DF) to be provided by the Mechanical Contractor including Potentiometer Speed Control, control wiring and conduit.

DEMOLITION NOTES

- It will be the mechanical contractor's to remove from the jobsite all existing mechanical related items that will no longer be in service.
- Items to be removed include (but are not limited to):
 - Air Handler / Warm Air Furnace
 - All ductwork, registers and grilles associated with the Air Handler / Warm air furnace.
 - Furnace breaching from furnace to masonry chimney.
 - Thermostats and related control wiring.
- All removed items to be disposed of per EPA Standards.

LEGEND

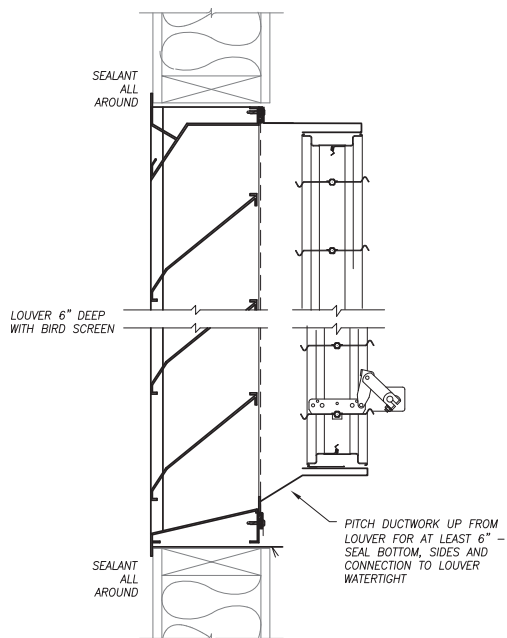
	FLEXIBLE CONNECTOIR
	DRUM LOUVER DIFFUSER
	DOUBLE DEFLECTION DIFFUSER
	MANUAL DAMPER W/LOCKING QUADRANT
	SIDE TAKE-OFF WITH VOLUME DAMPER
	THERMOSTAT
	SPEED CONTROL

DESTRATIFICATION & EXHAUST FAN SCHEDULE

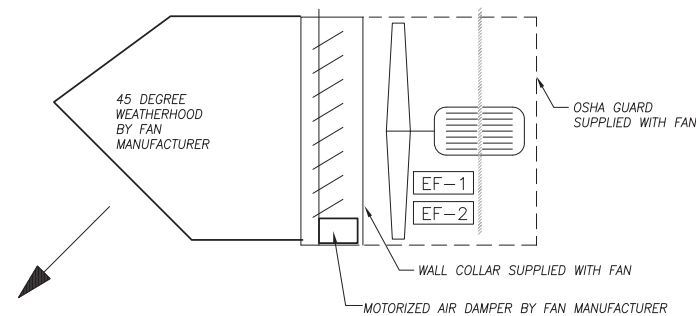
TAG	DESIGN MANUFACTURER & MODEL	TYPE	CFM	ELECTRIC			WEIGHT	REMARKS	CONTROL
				POWER	FLA	HP			
DF-1	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	ARIUS POT-1 POTENTIOMETER SPEED CONTROL FOR MULTIPLE EC MOTORS
DF-2	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	
DF-3	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	
DF-4	ARIUS AIR PEAR 45-EL	CEILING HUNG	0-1180	115/60/1	2.2		14 LBS	ECM MOTOR – GRAY COLOR	
EF-1	GREENHECK S2-30-610b10	SIWALL	8,600	115/60/1		1.0	150 LBS	WITH WALL COLLAR, 115V MOTORIZED DAMPER, MOTOR SIDE GUARD AND EXTERIOR 45 DEG. WEATHER HOOD	WALL STARTER POWERING FAN AND LOUVER

BLOWER UNIT HEATER SCHEDULE

TAG	DESIGN MANUFACTURER & MODEL	BTUH INPUT	BTUH OUTPUT	AFUE	FUEL	CFM	E.S.P.	MOTOR HP	POWER	WEIGHT	REMARKS
BUH-1	MODINE EFFINTY BTC310	310,000	257,000	93 %	LP GAS	4,500	0.50"	2.0	230/60/1	395 LBS	CONDENSING TYPE – SEALED COMBUSTION WITH FACTORY BLOWER ENCLOSURE, FILTER RACK, CONCENTRIC HORIZONTAL VENT KIT, AND 24V CONTROL CIRCUIT
BUH-2	MODINE EFFINTY BTC310	310,000	257,000	93 %	LP GAS	4,500	0.50"	2.0	230/60/1	395 LBS	



EXTERIOR LOUVER DETAIL
NO SCALE



EXHAUST FAN DETAIL SECTION
NO SCALE



Scale:				Designed by:			
No.	Revision	By	Date				
CONSULTANT PROJECT MANAGER: KFM				By	Date	By	Date
Designed				KFM	02/18	Checked	KFM 02/18
Drawn				KFM	02/18	In Charge of	

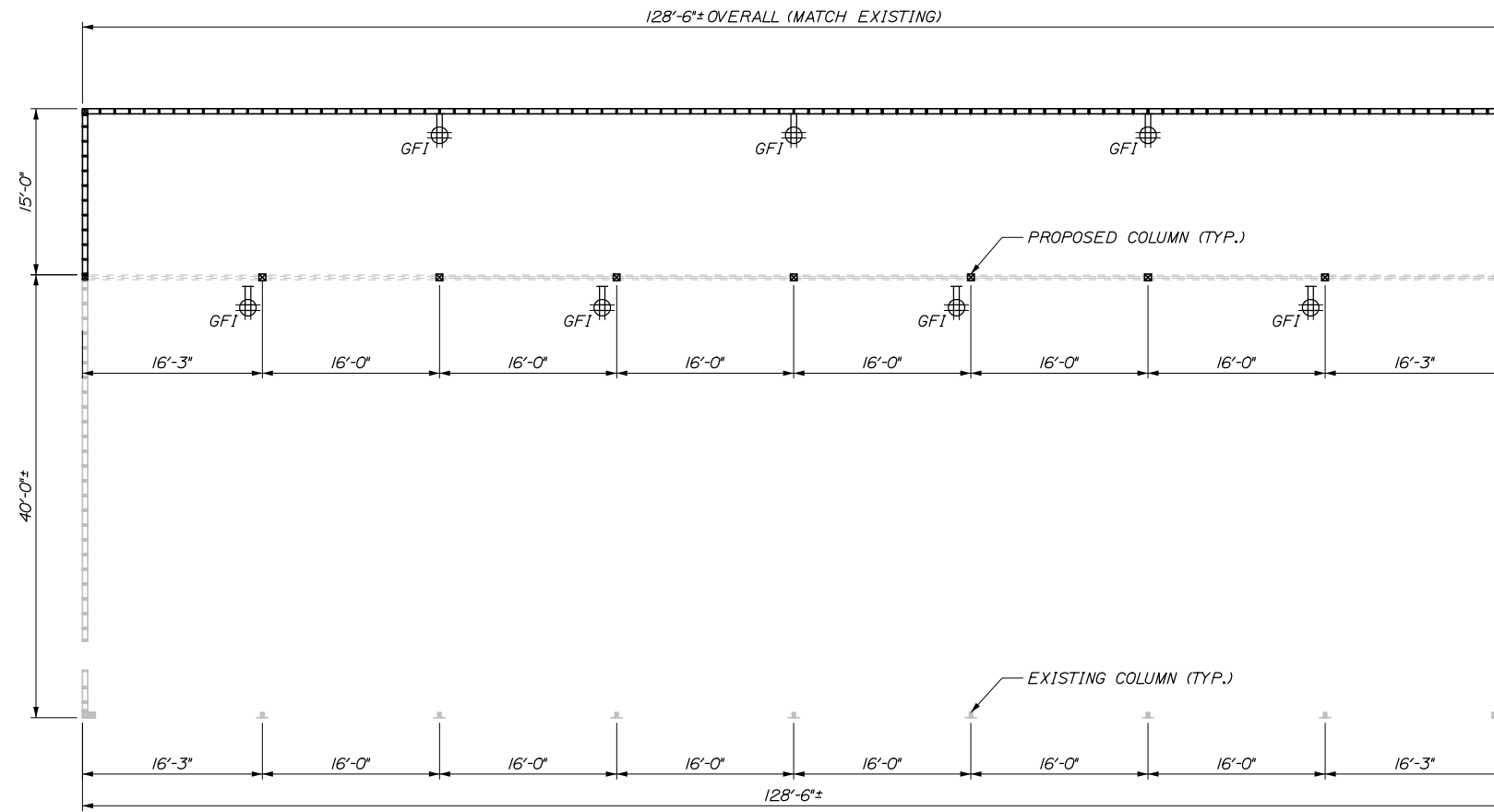
HNTB CORPORATION			
340 County Road, Suite 6-C			
Westbrook, ME 04092			
TEL (207) 774-5155			
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<p>THE GOLD STAR MEMORIAL HIGHWAY</p>	
MTA PROJECT MANAGER: BRIAN TADDEO, PE	

MAINTENANCE GARAGE EXTENSIONS CROSBY FARMS SCHEDULES, NOTES & DETAILS	
SHEET NUMBER: M8	
CONTRACT: 2018.14	

SHEET NUMBER: M8	
CONTRACT: 2018.14	
26 OF 27	

Date: 3/27/2018



PROPOSED ELECTRICAL PLAN VIEW
SCALE: N.T.S.

ELECTRICAL SYMBOLS:
NOT TO SCALE

SYMBOL	DESCRIPTION
	125V, 20A, QUAD GROUND FAULT RECEPTACLE

ELECTRICAL NOTES:

1. ALL PROPOSED CONDUIT IN EXTENDED SECTION OF GARAGE SHALL BE SURFACE MOUNTED AND MATCH EXISTING FEEDER CONDUIT.
2. ALL RECEPTACLE BOXES SHALL BE SURFACE MOUNTED.
3. ONE EXTERIOR MOUNTED QUAD RECEPTACLE SHALL BE MOUNTED ON THE OUTSIDE OF EACH OF THE THREE 8-BAY GARAGES IN GRAY AND KENNEBUNK. THE RECEPTACLES WILL BE LOCATED BY A MTA MAINTENANCE REPRESENTATIVE.
4. ALL NEEDED ELECTRICAL WORK SHALL BE INCIDENTAL TO THE LUMP SUM BUILDING ITEM.
5. TWO (2) ADDITIONAL RECEPTACLES SHALL BE INSTALLED ON THE EXTERIOR OF EACH BUILDING. RECEPTACLES WILL BE FIELD LOCATED BY THE RESIDENT.

Filename: 027_Electrical Plans.dgn

No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE					
	By	Date		By	Date
Designed	BRG	11\17	Checked	RBM	11\17
Drawn	ERB	11\17	In Charge of	RAL	11\17

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Westbrook, ME 04092
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

ELECTRICAL PLANS

SHEET NUMBER: E1

CONTRACT: 2018.14

27 OF 27