



22 February 2012

MILITARY DEPARTMENT  
STATE of NEBRASKA  
LINCOLN, NEBRASKA

**TITAN READINESS CENTER  
MEAD TRAINING SITE  
HVAC REPLACEMENT**

at

785 County Road J  
Mead, Nebraska 68041

**PROJECT No.: 310086**

**ADDENDUM NO. 1**

The original specifications and drawings sent to you by the NEBRASKA MILITARY DEPARTMENT CFMO-CMB and Davis Design for the project noted above are amended as noted in this Addendum No. 1.

Receipt of this Addendum shall be acknowledged by inserting its number and date into your proposal.

The following changes to the Contract Documents are issued by CFMO/CMB and shall have the same force and affect as though a part of the original issue.

**ITEMS NO.**

- 1-1 In reference to specification; Project Manual; Instructions to Bidders. Refer to page IB 3 of 7. As a matter of clarification the darkened text after paragraph 5.3.A is as follows:

**Mail to:**

Military Department, State of Nebraska  
Attn: CFMO-CMB (Robert DeMoss)  
1300 Military Road  
Lincoln, NE 68508-1090

**Hand Carried to:**

Military Department, State of Nebraska  
Attn: CFMO-CMB (Robert DeMoss)  
1234 Military Road (Room 108)  
Lincoln, NE 68508-1091

**OR**

- 1-2 In reference to specification, Section 00800 - Project Requirements. Refer to page 00800 - 3 of 4. As a matter of clarification the darkened text after paragraph 12.1 is as follows:

**12.2 CHANGE ORDER REVIEW APPROVAL / DISAPPROVAL PROCESS SHALL NOT STOP ANY OTHER WORK ON THE PROJECT.**

Also see Paragraph 13.

- 1-3 In reference to specification, Section 00800 - Project Requirements. Refer to page 00800 - 4 of 4. As a matter of clarification the darkened text after paragraph 14 is as follows:

**14.1 Per the conditions of the Contract, the Vendor shall notify the Contracting Officer IN WRITING of any changed conditions/change orders affecting work under this project. VENDOR SHALL NOT PROCEED WITH WORK IN THE AFFECTED AREA UNTIL HE/SHE RECEIVES WRITTEN APPROVAL/DISAPPROVAL FROM THE STATE OF NEBRASKA, PURCHASING BUREAU.**



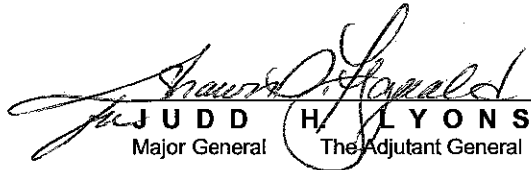
14.2 ALL OTHER WORK SHALL CONTINUE IN A TIMELY MANNER THROUGH THE ESTABLISHED COMPLETION DATE. ANY CHANGE ORDER REVIEWS SHALL NOT STOP WORK ON THE UNAFFECTED AREAS.  
Also see Paragraph 11.

- 1-4 In reference to specification, Section 018113.13 - Sustainable Design Requirements - Leed for New Construction and Major Renovations. Refer to page 018113.13-8. As a matter of clarification the LEED Project Checklist shown unreadable is included as an attachment to this Addendum.
- 1-5 In reference to specification Section 012300 – Alternates, under Article 3.1, revise Paragraph P and Subparagraph 1 to read as follows:
- P. ABI No. 16: Add additional plantings.
1. Alternate: Provide additional plantings as identified in Plant Schedule-ABI#16 located on Overall Site Landscaping plan, L-102, and Detailed Landscaping Plan, L-103. (Note: Seeding Schedule is base bid.).
- 1-6 In reference to specification Section 012300 – Alternates, all instances of the term “flexible pavement” can be replaced with “asphalt pavement.”
- 1-7 In reference to specification Section 085113 – Aluminum Windows. Refer to paragraph 2.1.A.3. Change the "3225 Series" to 3527 Series".
- 1-8 In reference to specification Section 087100 – Door Hardware. As a matter of clarification, there are two specification sections of Section 087100 - Door Hardware. Delete the entire Section immediately following Section 086250 - Unit Skylights.
- 1-9 In reference to specification Section 088000 – Glazing. Change paragraph 2.2.D. as follows: "Wire Glass: Furnish Baroque Wire (square) laminated between two layers of float glass."
- 1-10 In reference to specification Section 088000 – Glazing. Refer to paragraph 2.3.A. Add "3. Manko Window Systems".
- 1-11 In reference to specification Section 088000 – Glazing. Refer to paragraph 2.3.B.2. Change paragraph to read "2. Spacer: Triple seal, warm edge TriSeal Super Spacer technology. Submit samples for color selection by Architect."
- 1-12 In reference to specification Section 088000 – Glazing. Delete paragraph 2.7.B. As a matter of clarification, there is not patterned glass.
- 1-13 In reference to specification Section 088000 – Glazing. Refer to paragraph 2.8.A.5. Change the Indor Lite from "float glass" to ".030" polyvinyl-butylal laminated between 2 layers 3 mm annealed glass panes."
- 1-14 In reference to specification Section 088000 – Glazing. Refer to paragraph 2.8.A.8. Change the Solar Heat Gain Coefficient from .27 maximum to .24 maximum.
- 1-15 In reference to specification Section 230900 - Building Management System. Add the following manufacturers as Article 2.18, Paragraph K, Subparagraph 1, sub-subparagraphs d and e: Air Balance, Inc. and United Eneritech.
- 1-16 In reference to specification Section 230900 - Building Management System. Add the following manufacturers as Article 2.18, Paragraph L, Subparagraph 1, sub-subparagraphs d and e: Air Balance, Inc. and United Eneritech.



- 1-17 In reference to specification Section 230900 - Building Management System. Add the following manufacturers as Article 2.18, Paragraph M, Subparagraph 1, sub-subparagraphs d and e: Air Balance, Inc. and United Enertech.
- 1-18 In reference to specification Section 232113 - Hydronic Piping. Refer to paragraph 2.5.E.1. Add Bell and Gossett as an acceptable manufacturer.
- 1-19 In reference to specification Section 233300 - Air Duct Accessories. Add the following manufacturer as Article 2.9, Paragraph A, Subparagraph 10: Air Balance, Inc.
- 1-20 In reference to specification Section 238233 - Convectors. Add the following manufacturer as Article 2.1, Paragraph A, Subparagraph 2: Zehnder/Rittling.
- 1-21 In reference to specification Section 238239 - Unit Heaters. Add the following manufacturer as Article 2.1, Paragraph A, Subparagraph 4: Zehnder/Rittling.
- 1-22 In reference to specification Section 034100 - Precast Structural Concrete, entire section is attached.
- 1-23 In reference to the legends on drawing Sheets C-102, C-103, C-104, C-105 and C-106 have been modified to show that all concrete sidewalks have a thickness of 4". Notes have been added to these sheets to refer to Sheet L-104 for specific decorative sidewalk information. The legend on Sheet C-106 has also been revised to show the same hatches for the concrete sidewalks as are shown on sheet L-104. Detail 8 on sheet C-501 has been revised to show a concrete sidewalk thickness of 4". All hatches outside the limits of construction line represent existing pavements or other ground cover and are not shown in the legend nor are they included in the improvements in this contract. See attached drawing exhibits 001 - 006.
- 1-24 In reference to the drawings, replace Sheets S-101, S-102, S-103 and S-104 with the attached sheets.
- 1-25 In reference to the drawing Sheet A-601, add the attached supplemental drawing A-601.1.
- 1-26 In reference to the drawing Sheet A-601, on the Door Schedule, change doors and frames marked 60 min. fire rated to 45 min.
- 1-27 In reference to the drawing Sheets I-101 and I-601, as a matter of clarification to the "Abbreviations" list, there are two abbreviations for "SC". One is SC - Sealed Concrete, the other is SC - Epoxy (Special Coating). Delete the SC - Epoxy (Special Coating).

THIS ADDENDUM SHALL BE ATTACHED TO AND MADE A PART OF THE DRAWINGS AND SPECIFICATIONS AND SHALL BE ACKNOWLEDGED WITH THE BIDDER'S PROPOSAL.

  
J U D D   H .   L Y O N S  
Major General   The Adjutant General

End of Addendum No. 1





# LEED 2009 for New Construction and Major Renovation

## Project Checklist

Mead (NE) Titan Readiness Center

Date 9-12-2011

### 14 12 Sustainable Sites Possible Points: 26

Y	N	?			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
	5		Credit 2	Development Density and Community Connectivity	5
	1		Credit 3	Brownfield Redevelopment	1
	6		Credit 4.1	Alternative Transportation—Public Transportation Access	6
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
1			Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
1			Credit 8	Light Pollution Reduction	1

### 6 4 Water Efficiency Possible Points: 10

Y	N	?			
Y			Prereq 1	Water Use Reduction—20% Reduction	
4			Credit 1	Water Efficient Landscaping	2 to 4
	2		Credit 2	Innovative Wastewater Technologies	2
2	2		Credit 3	Water Use Reduction	2 to 4

### 19 16 Energy and Atmosphere Possible Points: 35

Y	N	?			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
14	5		Credit 1	Optimize Energy Performance	1 to 19
	7		Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
1	2		Credit 5	Measurement and Verification	3
	2		Credit 6	Green Power	2

### 5 7 2 Materials and Resources Possible Points: 14

Y	N	?			
Y			Prereq 1	Storage and Collection of Recyclables	
	3		Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
	1		Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
	2		Credit 3	Materials Reuse	1 to 2

### Materials and Resources, Continued

Y	N	?			
1		1	Credit 4	Recycled Content	1 to 2
1		1	Credit 5	Regional Materials	1 to 2
	1		Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

### 12 3 Indoor Environmental Quality Possible Points: 15

Y	N	?			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
1			Credit 8.1	Daylight and Views—Daylight	1
	1		Credit 8.2	Daylight and Views—Views	1

### 5 1 Innovation and Design Process Possible Points: 6

Y	N	?			
1			Credit 1.1	SSC5.2 Exemplary Performance- Maximize Open Space	1
1			Credit 1.2	SSc6.1 Exemplary Performance-Stormwater Quantity	1
	1		Credit 1.3	EAc3 Exemplary Performance- Building Envelope Commissioning	1
1			Credit 1.4	Systems Furniture- Greenguard Certified	1
1			Credit 1.5	Low Mercury Lighting	1
1			Credit 2	LEED Accredited Professional	1

### 4 Regional Priority Credits Possible Points: 4

Y	N	?			
1			Credit 1.1	SSc1 Site Selection	1
1			Credit 1.2	SSc5.1 Protect or Restore Habitat	1
1			Credit 1.3	WEc1 Opt 2 No potable water use / irrigation	1
1			Credit 1.4	MRC2 Construction Waste Management 75%	1

### 65 42 3 Total Possible Points: 110

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

**NEBRASKA NATIONAL GUARD  
TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

**SECTION 034100 - PRECAST STRUCTURAL CONCRETE**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes precast structural concrete.

**1.2 PERFORMANCE REQUIREMENTS**

- A. Delegated Design: Design precast structural concrete, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Precast structural concrete units and connections shall withstand design loads indicated within limits and under conditions indicated.
  - 1. Fire-Resistance Rating: Select material and minimum thicknesses to provide indicated fire rating.

**1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. LEED Submittals:
  - 1. Product Data for Credit MR 4.1: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
  - 2. Design Mixtures for Credit ID 1.1: For each concrete mixture containing fly ash as a replacement for portland cement or other portland cement replacements and for equivalent concrete mixtures that do not contain portland cement replacements.
- C. Design Mixtures: For each precast concrete mixture.
- D. Shop Drawings: Include member locations, plans, elevations, dimensions, shapes and sections, openings, support conditions, and types of reinforcement, including special reinforcement. Detail fabrication and installation of precast structural concrete units.
- E. Delegated-Design Submittal: For precast structural concrete indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

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TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and fabricator.
- B. Welding certificates.
- C. Material certificates.
- D. Material test reports.
- E. Field quality-control and special inspection reports.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm that assumes responsibility for engineering precast structural concrete units to comply with performance requirements. Responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
- B. Design Standards: Comply with ACI 318 and design recommendations in PCI MNL 120, "PCI Design Handbook - Precast and Prestressed Concrete," applicable to types of precast structural concrete units indicated.
- C. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Structural Precast Concrete Products."
- D. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1, "Structural Welding Code - Steel."
  - 2. AWS D1.4, "Structural Welding Code - Reinforcing Steel."
- E. Fire-Resistance Calculations: Where indicated, provide precast structural concrete units whose fire resistance meets the prescriptive requirements of authorities having jurisdiction or has been calculated according to ACI 216.1/TMS 0216.1, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies," and PCI MNL 124, "Design for Fire Resistance of Precast Prestressed Concrete," and is acceptable to authorities having jurisdiction.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Support units during shipment on nonstaining shock-absorbing material in same position as during storage.
- B. Store units with adequate bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.
- C. Lift and support units only at designated points shown on Shop Drawings.

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TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

1.7 COORDINATION

- A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction before starting that Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

2.1 REINFORCING MATERIALS

- A. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.
- B. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- C. Low-Alloy-Steel Reinforcing Bars: ASTM A 706, deformed.
- D. Steel Bar Mats: ASTM A 184, fabricated from ASTM A 615, **Grade 60** ASTM A 706 deformed bars, assembled with clips.
- E. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- F. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- G. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 116.

2.2 PRESTRESSING TENDONS

- A. Strand: ASTM A 416, Grade 270, uncoated, 7-wire, low-relaxation strand.
  - 1. Coat unbonded post-tensioning strand with post-tensioning coating complying with ACI 423.6 and sheath with polypropylene tendon sheathing complying with ACI 423.6. Include anchorage devices and coupler assemblies.

2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type III, gray, unless otherwise indicated.
- B. Supplementary Cementitious Materials:
  - 1. Fly Ash: ASTM C 618, Class C or F, with maximum loss on ignition of 3 percent.

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TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

- C. Normal-Weight Aggregates: Except as modified by PCI MNL 116, ASTM C 33, with coarse aggregates complying with Class 5S, Class 5M, Class 4S, or Class 4M. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
- D. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.

**2.4 STEEL CONNECTION MATERIALS**

- A. Carbon-Steel Shapes and Plates: ASTM A 36.
- B. Carbon-Steel-Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished, AWS D1.1, Type A or B, with arc shields and with minimum mechanical properties of PCI MNL 116.
- C. Carbon-Steel Plate: ASTM A 283.
- D. Malleable-Iron Castings: ASTM A 47.
- E. Carbon-Steel Castings: ASTM A 27, Grade 60-30.
- F. High-Strength, Low-Alloy Structural Steel: ASTM A 572.
- G. Carbon-Steel Structural Tubing: ASTM A 500, Grade B.
- H. Wrought Carbon-Steel Bars: ASTM A 675, Grade 65.
- I. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706.
- J. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts, ASTM A 563; and flat, unhardened steel washers, ASTM F 844.
- K. High-Strength Bolts and Nuts: ASTM A 325 or ASTM A 490, Type 1, heavy hex steel structural bolts; heavy hex carbon-steel nuts, ASTM A 563; and hardened carbon-steel washers, ASTM F 436.
  - 1. Do not zinc coat ASTM A 490 bolts.

**NEBRASKA NATIONAL GUARD  
TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

- L. Zinc-Coated Finish: For exterior steel items, steel in exterior walls, and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123 or ASTM A 153.
  - 1. Galvanizing Repair Paint: High-zinc-dust-content paint with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035B or SSPC-Paint 20.
- M. Shop-Primed Finish: Prepare surfaces of nongalvanized-steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3, and shop apply lead- and chromate-free, rust-inhibitive primer, complying with performance requirements in MPI 79 and SSPC-Paint 25 according to SSPC-PA 1.

**2.5 BEARING PADS**

- A. Provide bearing pads for precast structural concrete units as recommended by precast fabricator for application.

**2.6 GROUT MATERIALS**

- A. Sand-Cement Grout: Portland cement, ASTM C 150, Type I, and clean, natural sand, ASTM C 144 or ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
- B. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.
- C. Epoxy-Resin Grout: Two-component, mineral-filled epoxy resin; ASTM C 881/C 881M, of type, grade, and class to suit requirements.

**2.7 CONCRETE MIXTURES**

- A. Prepare design mixtures for each type of precast concrete required.
  - 1. Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
  - 2. Limit use of fly ash to 25 percent replacement of portland cement by weight and granulated blast-furnace slag to 40 percent of portland cement by weight; metakaolin and silica fume to 10 percent of portland cement by weight.
- B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at precast structural concrete fabricator's option.

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TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

- C. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by ACI 318 or PCI MNL 116 when tested according to ASTM C 1218.
- D. Normal-Weight Concrete Mixtures: Proportion by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 5000 psi minimum.
  - 2. Maximum Water-Cementitious Materials Ratio: 0.45.
- E. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 116.
- F. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 116.
- G. When included in design mixtures, add other admixtures to concrete mixtures according to manufacturer's written instructions.
- H. Concrete Mix Adjustments: Concrete mix design adjustments may be proposed if characteristics of materials, Project conditions, weather, test results, or other circumstances warrant.

**2.8 FABRICATION**

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
  - 1. Weld-headed studs and deformed bar anchors used for anchorage according to AWS D1.1 and AWS C5.4, "Recommended Practices for Stud Welding."
- B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing precast structural concrete units to supporting and adjacent construction.
- C. Cast-in reglets, slots, holes, and other accessories in precast structural concrete units as indicated on the Contract Drawings.
- D. Cast-in openings larger than 10 inches in any dimension. Do not drill or cut openings or prestressing strand without Architect's approval.
- E. Reinforcement: Comply with recommendations in PCI MNL 116 for fabricating, placing, and supporting reinforcement.

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TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

- F. Reinforce precast structural concrete units to resist handling, transportation, and erection stresses.
- G. Prestress tendons for precast structural concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 116.
- H. Comply with requirements in PCI MNL 116 and in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
- I. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.
- J. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 116.
- K. Comply with ACI 306.1 procedures for cold-weather concrete placement.
- L. Comply with PCI MNL 116 procedures for hot-weather concrete placement.
- M. Identify pickup points of precast structural concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each precast structural concrete unit on a surface that will not show in finished structure.
- N. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.
- O. Discard and replace precast structural concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 116 and meet Architect's approval.

**2.9 FABRICATION TOLERANCES**

- A. Fabricate precast structural concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with PCI MNL 116 product dimension tolerances.

**2.10 COMMERCIAL FINISHES**

- A. Standard Grade: Normal plant-run finish produced in molds that impart a smooth finish to concrete. Surface holes smaller than 1/2 inch caused by air bubbles, normal color variations, form joint marks, and minor chips and spalls are permitted. Fill air holes greater than 1/4 inch in width that occur more than once per 2 sq. in. Major or unsightly imperfections, honeycombs, or structural defects are not permitted. Limit joint offsets to 1/8 inch.

**NEBRASKA NATIONAL GUARD  
TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

- B. Screed or float finish unformed surfaces. Strike off and consolidate concrete with vibrating screeds to a uniform finish. Hand screed at projections. Normal color variations, minor indentations, minor chips, and spalls are permitted. Major imperfections, honeycombing, or defects are not permitted.
- C. Smooth, steel trowel finish unformed surfaces. Consolidate concrete, bring to proper level with straightedge, float, and trowel to a smooth, uniform finish.
- D. Apply roughened surface finish according to ACI 318 to precast concrete units that will receive concrete topping after installation.

**2.11 SOURCE QUALITY CONTROL**

- A. Testing: Test and inspect precast structural concrete according to PCI MNL 116 requirements.
- B. Defective Units: Discard and replace precast structural concrete units that do not comply with requirements, including strength, manufacturing tolerances, and color and texture range. Chipped, spalled, or cracked units may be repaired, subject to Architect's approval. Architect reserves the right to reject precast units that do not match approved samples, sample panels, and mockups.

**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Install clips, hangers, bearing pads, and other accessories required for connecting precast structural concrete units to supporting members and backup materials.
- B. Erect precast structural concrete level, plumb, and square within specified allowable tolerances. Provide temporary structural framing, supports, and bracing as required to maintain position, stability, and alignment of units until permanent connection.
  - 1. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
  - 2. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.
  - 3. For hollow-core slab voids used as electrical raceways or mechanical ducts, align voids between units and tape butt joint at end of slabs.
- C. Connect precast structural concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.
- D. Field cutting of precast units is not permitted without approval of the Architect.

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MEAD, NEBRASKA**

- E. Fasteners: Do not use drilled or powder-actuated fasteners for attaching accessory items to precast, prestressed concrete units.
- F. Welding: Comply with applicable AWS D1.1 and AWS D1.4 for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.
- G. At bolted connections, use lock washers, tack welding, or other approved means to prevent loosening of nuts after final adjustment.
- H. Grouting: Grout connections and joints and open spaces at keyways, connections, and joints where required or indicated on Shop Drawings. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely filled.

### 3.2 ERECTION TOLERANCES

- A. Erect precast structural concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 135.
  - 1. Install precast units without exceeding the following tolerance limits, unless superceded by the above requirements:
    - a. Variations from Plumb: 1/4 inch in a 20 foot run or story height; 1/2 inch total in any 40 foot or longer run.
    - b. Variations from Level or Elevation: 1/4 inch in a 20 foot run; 1/2 inch in any 40 foot run; total  $\pm 1/2$  inch at any location.
    - c. Variations from Theoretical Position in Plan:  $\pm 1/4$  maximum at any location.
    - d. Offsets in Alignment of Adjacent Members at Any Joint: 1/16 inch in any 10 foot run; 1/4 inch maximum.
- B. Minimize variations between adjacent slab members by jacking, loading, or other method recommended by fabricator and approved by Architect.

### 3.3 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:
  - 1. Erection of precast structural concrete members.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Field welds will be visually inspected according to ASTM E 165 or ASTM E 709. High-strength bolted connections will be subject to inspections.
- D. Testing agency will report test results promptly and in writing to Contractor and Architect.

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TITAN READINESS CENTER  
MEAD TRAINING SITE  
MEAD, NEBRASKA**

- E. Repair or remove and replace work where tests and inspections indicate that it does not comply with specified requirements.
- F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- G. Prepare test and inspection reports.

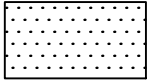
**3.4 REPAIRS**

- A. Repair precast structural concrete units if permitted by Architect.
  - 1. Repairs may be permitted if structural adequacy, serviceability, durability, and appearance of units has not been impaired.
- B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet.
- C. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780.
- D. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
- E. Remove and replace damaged precast structural concrete units that cannot be repaired or when repairs do not comply with requirements as determined by Architect.

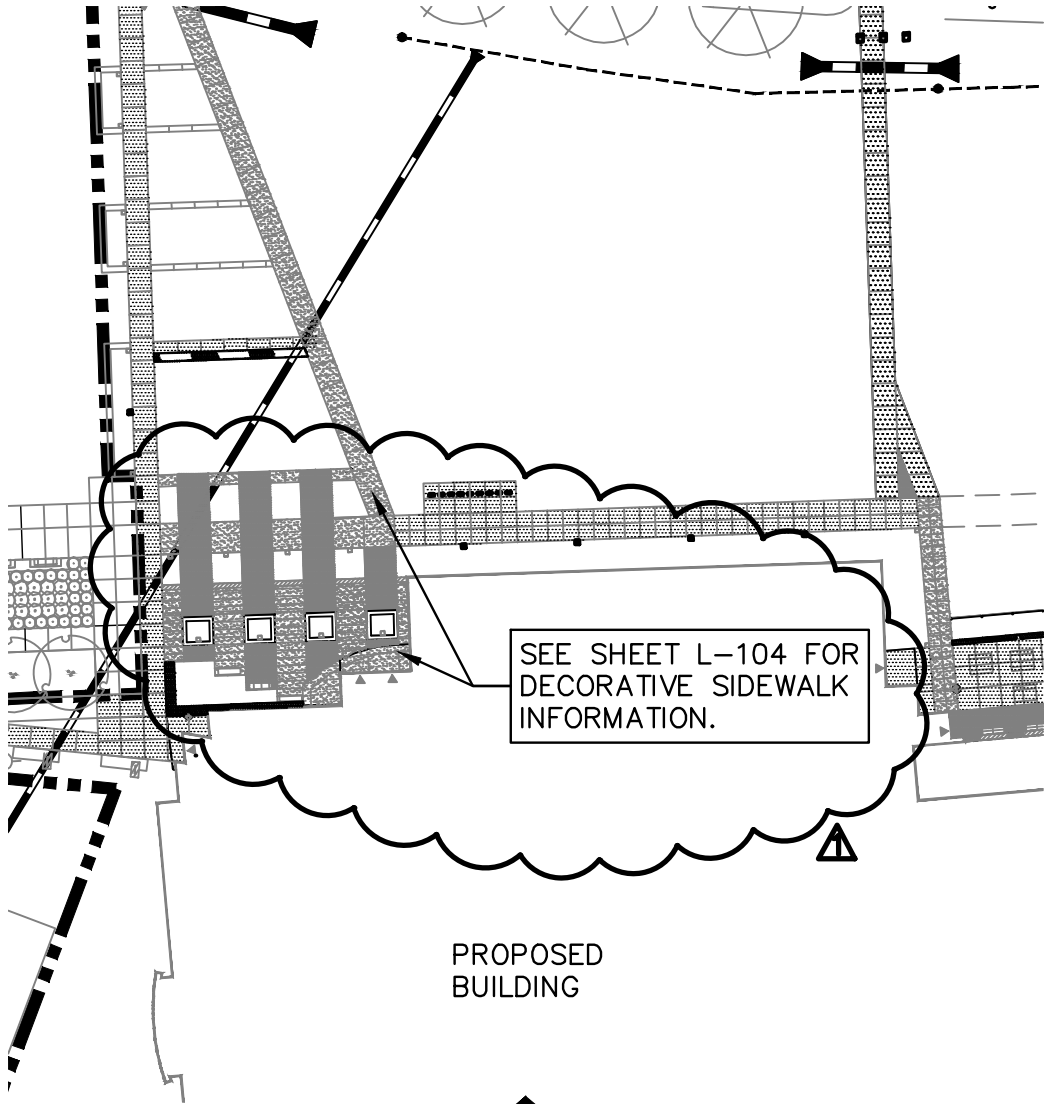
**3.5 CLEANING**

- A. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.
- B. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
  - 1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's written recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.
  - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION 034100



- PROPOSED 4" P.C.C. SIDEWALK, SEE  $\frac{8}{C-501}$  AND SHEET L-104



SEE SHEET L-104 FOR DECORATIVE SIDEWALK INFORMATION.

PROPOSED BUILDING



NORTH

SCALE 1" = 50'



**EHRHART  
GRIFFIN &  
ASSOCIATES**

- ENGINEERING
- PLANNING
- LAND SURVEYING
- TRAFFIC ENGINEERING

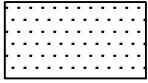
3552 FARNAM STREET  
OMAHA, NEBRASKA 68131  
PHONE: 402-551-0631  
FAX: 402-551-6540

### OVERALL SITE LAYOUT PLAN ADDENDUM 1 - SHEET C-102

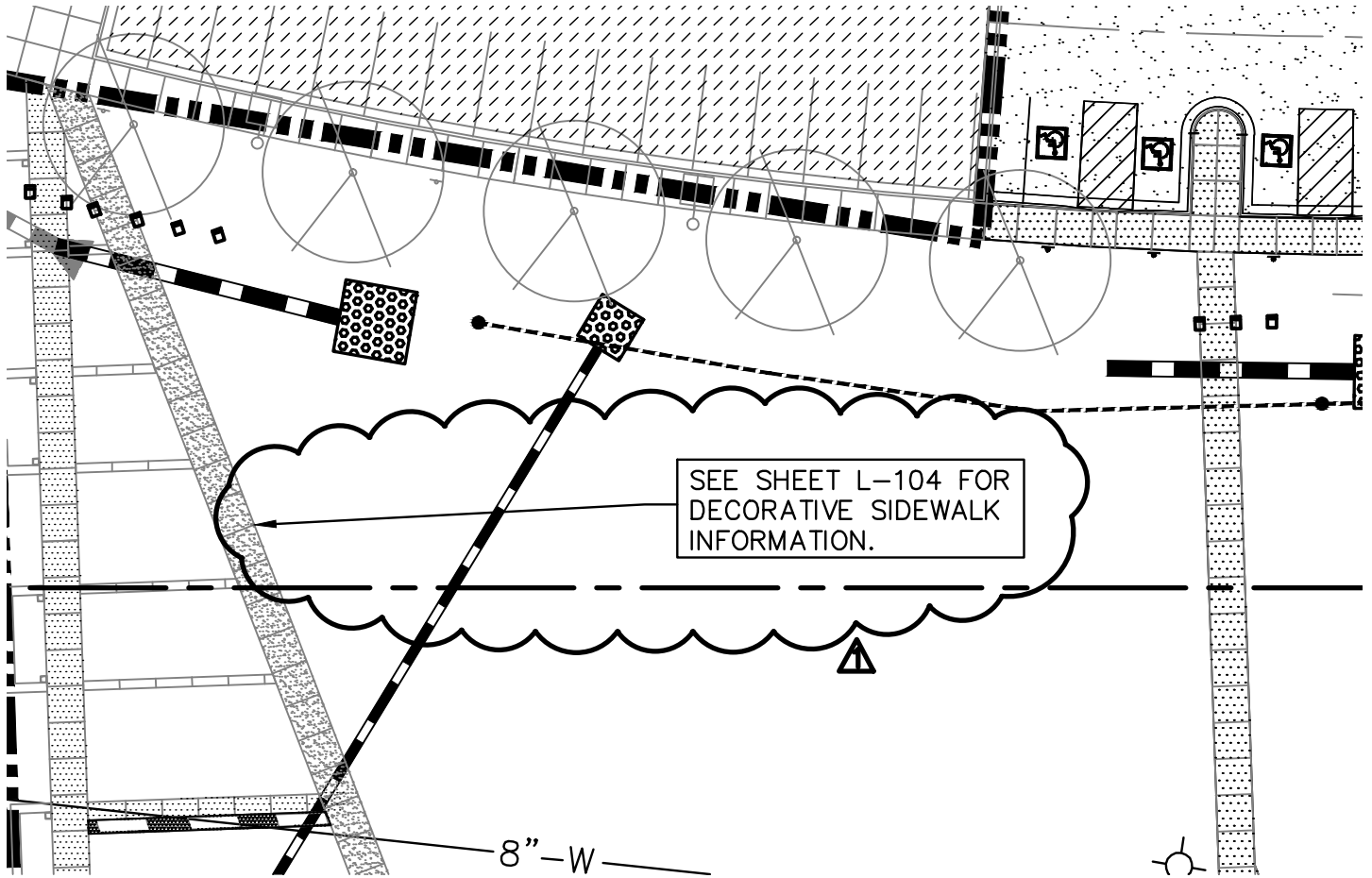
COUNTY ROAD J & 8 ST.  
MEAD, NEBRASKA

DATE: 02/16/12  
DESIGNED BY: TLM  
DRAWN BY: TJS  
CHECKED BY: TLM

SHEET NO.  
**001**



- PROPOSED 4" P.C.C. SIDEWALK, SEE  $\frac{8}{C-501}$  AND SHEET L-104



NORTH

SCALE 1" = 50'



**EHRHART  
GRIFFIN &  
ASSOCIATES**

- ENGINEERING
- PLANNING
- LAND SURVEYING
- TRAFFIC ENGINEERING

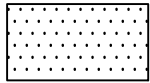
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OMAHA, NEBRASKA 68131  
PHONE: 402-551-0631  
FAX: 402-551-6540

### NORTH SITE LAYOUT PLAN ADDENDUM 1 - SHEET C-103

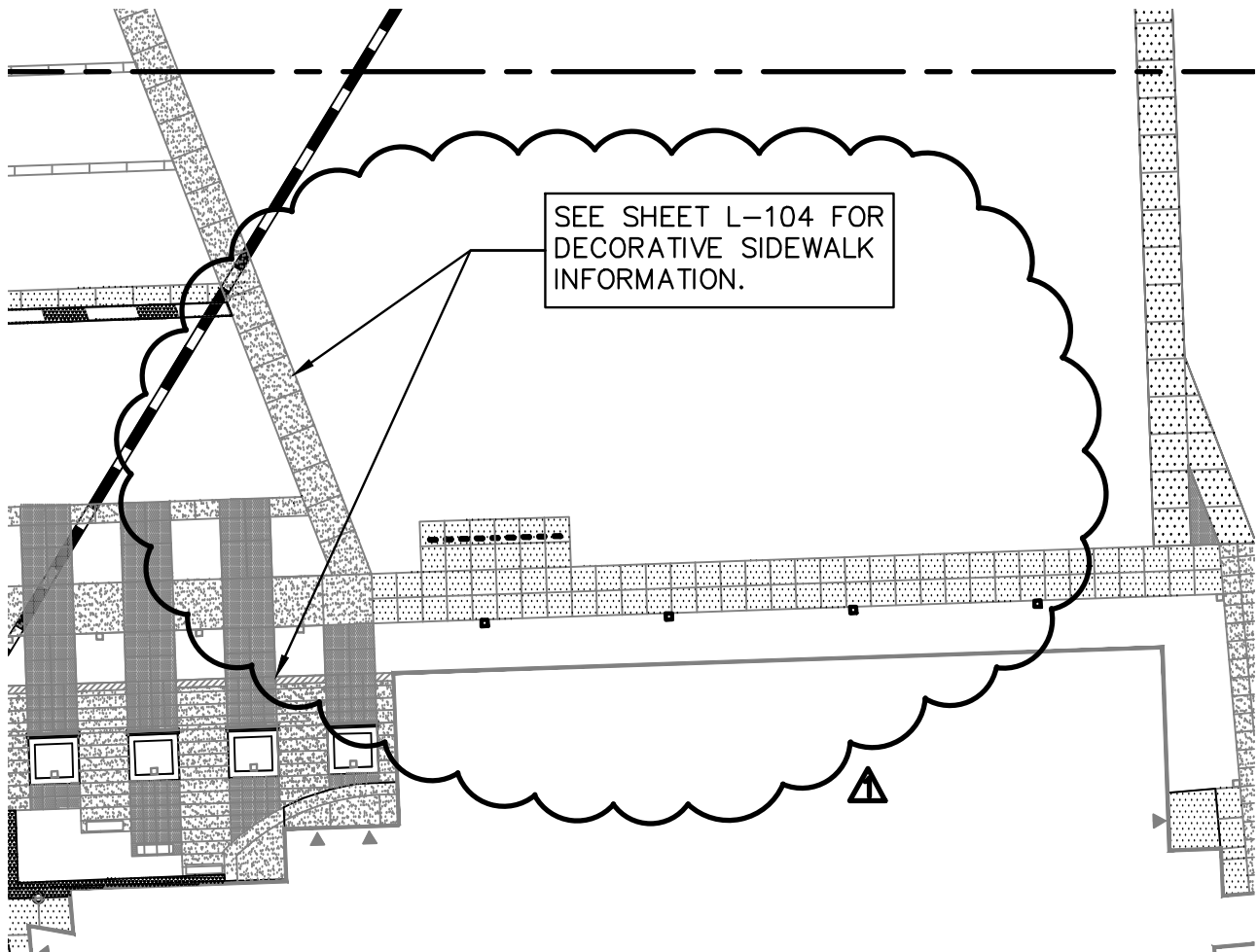
COUNTY ROAD J & 8 ST.  
MEAD, NEBRASKA

DATE: 02/16/12  
DESIGNED BY: TLM  
DRAWN BY: TJS  
CHECKED BY: TLM

SHEET NO.  
**002**



- PROPOSED 4" P.C.C. SIDEWALK, SEE  $\frac{8}{C-501}$  AND SHEET L-104



NORTH

SCALE 1" = 50'

**ag** EHRHART  
GRIFFIN &  
ASSOCIATES

- ENGINEERING
- PLANNING
- LAND SURVEYING
- TRAFFIC ENGINEERING

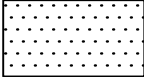


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### SOUTH SITE LAYOUT PLAN ADDENDUM 1 - SHEET C-104

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MEAD, NEBRASKA

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CHECKED BY: TLM

SHEET NO.  
**003**


 - PROPOSED 4" P.C.C. SIDEWALK, SEE  AND SHEET L-104 



**EHRHART  
GRIFFIN &  
ASSOCIATES**

- ENGINEERING
- PLANNING
- LAND SURVEYING
- TRAFFIC ENGINEERING

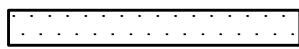
3552 FARNAM STREET  
OMAHA, NEBRASKA 68131  
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FAX: 402-551-6540

**POV PARKING LAYOUT PLAN  
ADDENDUM 1 - SHEET C-105**

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MEAD, NEBRASKA

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SHEET NO.  
**004**



- 4" PCC PAVEMENT-SEE D3/L-501



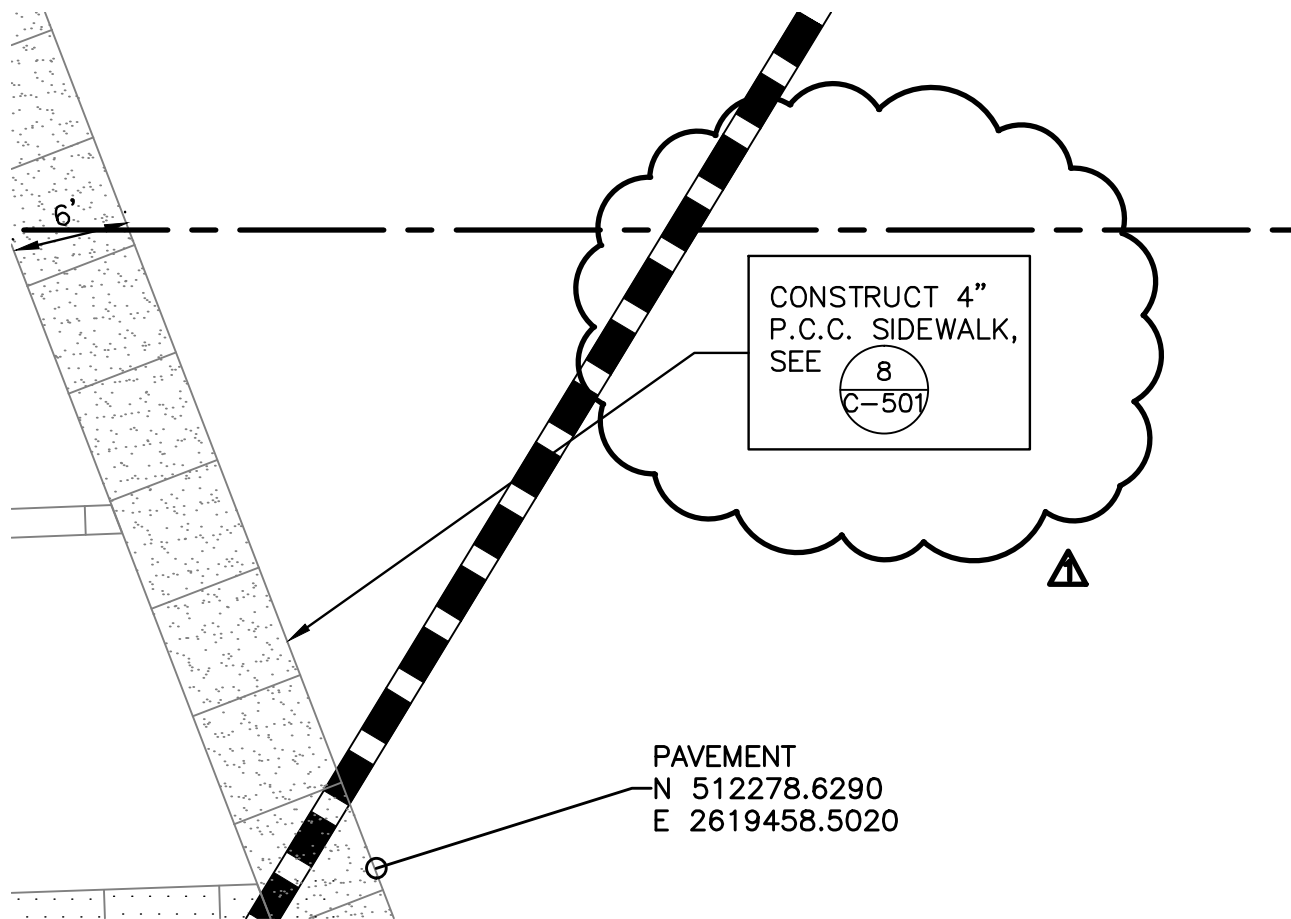
- DECORATIVE 4" PCC SIDEWALK PAVEMENT-ADOBE TAN



- DECORATIVE 4" PCC SIDEWALK PAVEMENT-CHARCOAL



- DECOMPOSED GRANITE PAVING-SEE D8/L-501



NORTH

SCALE 1" = 50'

**age**  
**EHRHART**  
**GRIFFIN &**  
**ASSOCIATES**

- ENGINEERING
- PLANNING
- LAND SURVEYING
- TRAFFIC ENGINEERING

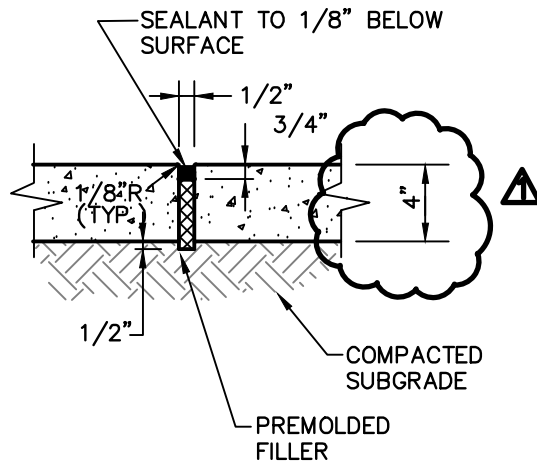
3552 FARNAM STREET  
 OMAHA, NEBRASKA 68131  
 PHONE: 402-551-0631  
 FAX: 402-551-6540

**ENTRY PLAZA LAYOUT PLAN**  
**ADDENDUM 1 - SHEET C-106**

COUNTY ROAD J & 8 ST.  
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 CHECKED BY: TLM

SHEET NO.  
**005**



**EXPANSION  
JOINT**

SPACE AS SHOWN ON  
LAYOUT PLAN AND WHERE  
ABUTTING ALL STRUCTURES  
AND CURBS

**ag** EHRHART  
GRIFFIN &  
ASSOCIATES

- ENGINEERING
- PLANNING
- LAND SURVEYING
- TRAFFIC ENGINEERING

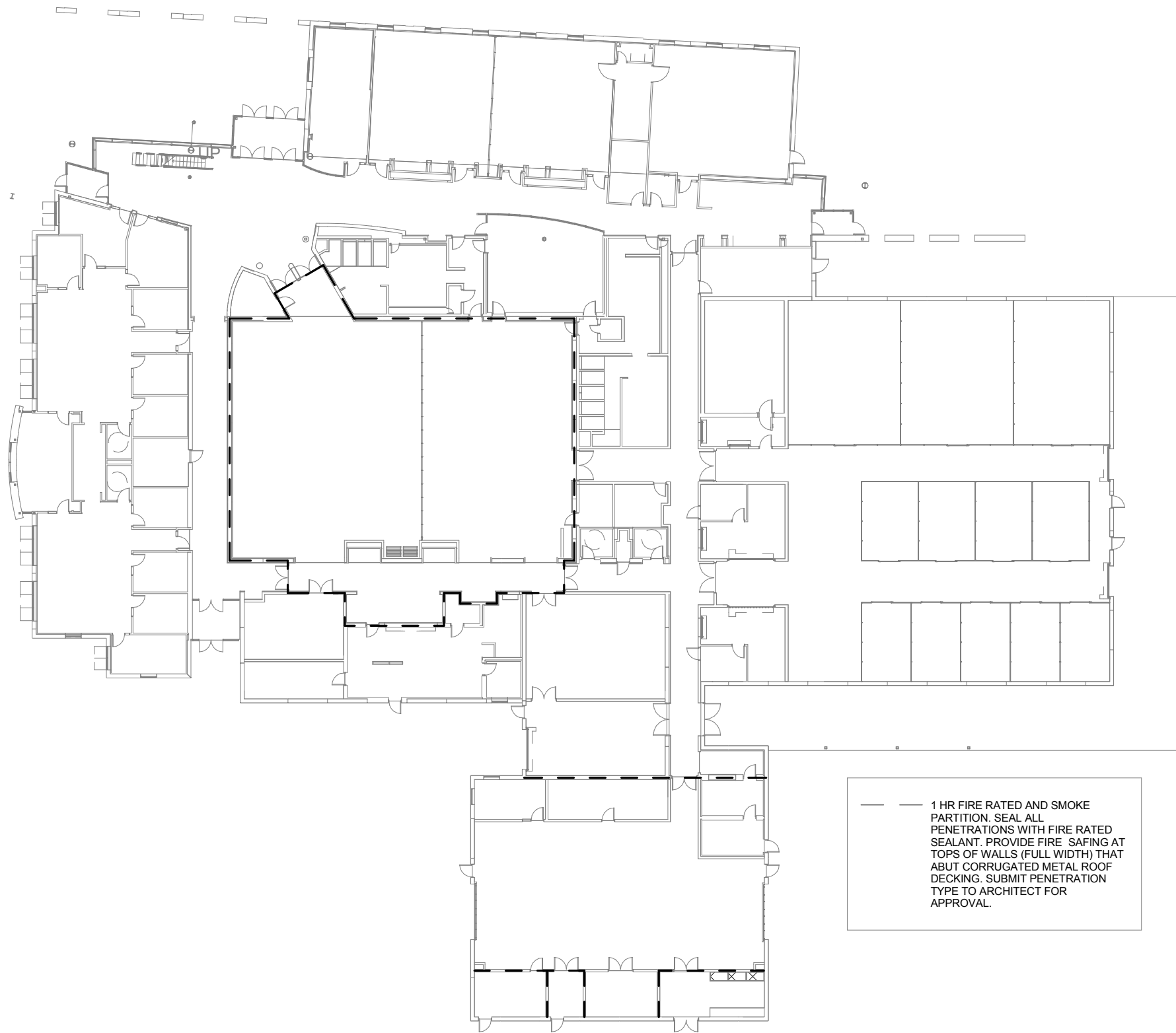
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**MISCELLANEOUS DETAILS  
ADDENDUM 1 - SHEET C-501**

COUNTY ROAD J & 8 ST.  
MEAD, NEBRASKA

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CHECKED BY: TLM

SHEET NO.  
**006**



- - - 1 HR FIRE RATED AND SMOKE  
 PARTITION. SEAL ALL  
 PENETRATIONS WITH FIRE RATED  
 SEALANT. PROVIDE FIRE SAFING AT  
 TOPS OF WALLS (FULL WIDTH) THAT  
 ABUT CORRUGATED METAL ROOF  
 DECKING. SUBMIT PENETRATION  
 TYPE TO ARCHITECT FOR  
 APPROVAL.

**1** Rated Wall Key Plan  
 1/32" = 1'-0"

LINCOLN  
 211 North 14th Street  
 Lincoln, NE 68508  
 Phone: 402-476-9700  
 Fax: 402-476-9722

OMAHA  
 4245 South 148th Street  
 Omaha, NE 68137  
 Phone: 402-341-6600  
 Fax: 402-341-6611



CLIENT INFORMATION  
**Nebraska National  
 Guard**

PROJECT INFORMATION  
**Titan Readiness Center**  
  
 Mead Training Site  
 County Road J and 8th St.  
 Mead, Nebraska

Issue Date:	02/16/12
Job #	10-0115
Drawn by:	AS

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 Drawing Title  
**Rated Wall Key Plan**

From Sheet <b>A-601</b>	for CA use:
Drawing # <b>A-601.1</b>	