



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 GSD096431

PAGE
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF
 KRISTA FERRELL
 304-558-2596

RFQ COPY
 TYPE NAME/ADDRESS HERE
 VENDOR

DEPARTMENT OF ADMINISTRATION
 GENERAL SERVICES DIVISION
 BUILDING FIVE - HIGHWAYS
 1900 KANAWHA BOULEVARD, EAST
 CHARLESTON, WV
 25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
03/16/2009				

BID OPENING DATE: 03/31/2009 BID OPENING TIME: 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 2						
THIS ADDENDUM IS ISSUED TO:						
1.) ANSWER ALL TECHNICAL QUESTIONS SUBMITTED PRIOR TO THE DEADLINE FOR TECHNICAL QUESTIONS,						
2.) ADD ADDENDUM NO. 2 DOCUMENT TO PROJECT MANUAL,						
3.) ADD THE BELOW SECTIONS TO THE PROJECT MANUAL:						
GSD096431 REVISED SECTION 06105						
GSD096431 REVISED SECTION 09651						
GSD096431 REVISED SECTION 10270,						
4.) ADD THE BELOW DRAWINGS:						
GSD096431 DRAWING 1A1-1R1						
GSD096431 DRAWING A6-1R1						
GSD096431 DRAWING P1-1R1,						
NOTE: FULL SIZE DRAWINGS WILL BE DISTRIBUTED TO PLAN HOLDERS BY ZMM, INC.						
5.) AND, TO EXTEND THE BID OPENING DATE						
BID OPENING DATE IS EXTENDED TO: 03/31/2009						
BID OPENING TIME REMAINS: 1:30 PM						
***** END ADDENDUM NO. 2 *****						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
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WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

March 11, 2009

ADDENDUM NO. 2

RE: Renovations To State Office Building No. 5
10th Floor Office Of Technology
West Virginia Capital Complex
Charleston, WV
Architect's Project No. 0821

TO: Prospective Bidders

FROM: ZMM, Inc. Architects And Engineers

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents.

ATTACH THIS ADDENDUM TO THE FRONT COVER OF THE PROJECT MANUAL AND ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM.

See Addendum No. 2 for the captioned project with State RFQ No. GSD096431 as issued by the State Of West Virginia Department Of Administration Purchasing Division as attached.

SPECIAL DOCUMENTS:

- 1. See attached Responses To Technical Questions as attached to this Addendum.

CHANGES TO SPECIFICATIONS:

- 1. Section 01500 – Temporary Facilities And Controls – Make the following revisions:
 - A. REPLACE Paragraph 3.3.C with the following: "Parking area will be available at nearby Laidley Field."
 - B. ADD to Paragraph 3.3.E the following: " Location of Contractor's waste collection containers will be the north-west yard adjacent to Piedmont Avenue."
- 2. REPLACE Section 06105 – Miscellaneous Carpentry dated 11/12/08 with Section 06105 dated 03/10/09 as attached to this Addendum.
- 3. Section 07841 – Through-Penetration Firestop Systems - ADD Paragraph 1.2.A.3 to read:
 - 3. "Contractor is to locate and fill all existing penetrations and openings on the floor and ceiling/floor deck of construction area with firestop system as specified in this Section. Contractor is to visit construction site and survey existing construction as needed, before bidding, to locate and quantify all existing penetrations and openings to be filled with firestop system."

4. ADD Section 09651 – Resilient Floor Tile as attached to this Addendum.
5. REPLACE Section 10270 “Access Flooring” dated 10/24/08 with Section 10270 “Access Flooring” dated 02/27/09 as attached to this Addendum.
6. Section 01352 – LEED Requirements – DELETE Paragraph Nos. 1.5.A and 3.1.A.
7. Section 16442 – Panelboards: ADD Subparagraph 2.1.A.1.b. to read: General Electric.

CHANGES TO DRAWINGS:

1. Sheet AD1-1 – Make the following revisions:
 - A. Add General Note No. 1 to read as follows:
 1. Refer to Plumbing, HVAC, and Electrical Drawings for additional required demolition.
 - B. Remove rust from and clean existing steel beams at ceiling along structural lines AE and AF.
2. Sheet A1-1 – Make the following revisions:
 - A. REVISE General Note No. 2 to read as follows:
 2. All new and existing structural steel is to be covered with Sprayed Fire Resistive Material according to the following schedule:

All steel columns are to be covered to achieve a 3-hour fire-rating according to U.L. Design No. X701.

All exposed steel beams (including those above a suspended acoustical panel ceiling) are to be covered to achieve a 2-hour rating according to U.L. Design No. N815.

All concealed steel beams are to be covered to achieve a 2-hour rating according to U.L. Design No. N759.

Refer Specifications Section 07811.
 - B. REVISE General Note No. 4 to read: as follows:
 4. Patch and repair all existing openings in corridor walls from floor to floor deck. Apply plaster skim coat on corridor walls for consistent finish prior to painting.
 - C. REVISE General Note No. 5 to read as follows:
 5. Provide 2 inch rigid insulation on the interior face of all exterior precast concrete/limestone panels along all perimeter walls from floor to ceiling.

D. ADD General Note No. 6 to read as follows:

"The Steel X-bracing at the east and west faces of the tenth floor shall be replaced. The concrete floor at the base of the angle-column connection shall be removed to fully expose the connection plate. The existing connection plates and angles shall be removed without damaging the columns or beams. New 5/8" connection plates shall be welded in place where the old plates existed and new X-Brace angles, 2L4x4x5/16 shall be bolted to the connection plates. Details to be confirmed by the A/E. The concrete deck shall be repaired where portions were removed. This work shall be done one bay at a time; work on the next bay shall start only after work on the previous bay has been completed."

E. REVISE Keyed Note No. 18 to read as follows:

18. Remove wall between Private Phone 1014 and Men's Restroom 1016, and replace with Partition Type 8. Terminate wall replacement at corner of adjacent mechanical shaft. Reference Partition Types This Sheet.

F. Clarification – Reference 1st Level Fire Command Center Location – Demolition in this area is to include flooring, floor base material, ceiling, and lights. Refer to mechanical and electrical drawings for additional required demolition in this area. Conduct abatement operations as required and as specified. Contractor is to construct the following finishes for this room:

1. VCT Flooring
2. Resilient floor base molding.
3. Suspended Acoustical Panel Ceiling.
4. Painted new and existing CMU walls.

3. ADD Sheets A1-1R1 and A6-1R1 as attached to this Addendum.

4. Drawing A7-1 – Make the following revisions or clarifications:

- A. Detail 2 – Clarification – A total of ten brackets is required. Locate one bracket 3 inches from each end of countertop, and one bracket between each sink.
- B. Detail 8 – Clarification – Contractor is to dismantle existing office cubicle assemblies as needed for access to area of work. Store dismantled items in remote location in same room. Conduct floor, wall, and ceiling demolition as required for new construction indicated. New finish work for the new Fire Pump Room includes painted CMU.

5. Sheet A8-1 – Clarification: Door Frame Type 8 (Alternate No. 1) shall include Door Frame Type '2' for Door Type 'F' leading into Conference Room Nos. 1001 and 1024 as shown on sheet A1-1. Wall Partition Type '2' as indicated on Sheet A1-1 shall be the wall construction supporting the L.E.D. vision panels incorporated in Alternate No.1.

6. Sheet M1-2 – Make the following revisions or clarifications:

- A. ADD Note No. 3 under General Mechanical Notes – Penetrations to read: Provide 4 inch high by 6 inch thick concrete curb at all duct penetrations of 11th floor deck to accommodate fire dampers.
- B. Clarification: Partition wall adjacent to AHU-1 will be relocated by others.

7. ADD Sheet P1-1R1 as attached to this Addendum.

End Of Addendum

<i>Attachments:</i>	<i>Responses To Technical Questions</i>	<i>5 pages</i>
	<i>Section 06105 dated 03/10/09</i>	<i>4 pages</i>
	<i>Section 09651 dated 03/09/09</i>	<i>4 pages</i>
	<i>Section 10270 dated 02/27/09</i>	<i>7 pages</i>
	<i>Drawing A1-1R1</i>	
	<i>Drawing A6-1R1</i>	
	<i>Drawing P1-1R1</i>	

Responses to Technical Questions
State Office Building #5, 10th Floor Renovation
RFQ: GSD096431

Question #1

Please refer to the Bid Form. The Bid Form states that the contract shall be complete within 150 calendar days from the issuance of the Owner's Notice to Proceed. At this time the lead time for materials required for the mock-up area is unknown (light fixtures, raised flooring, carpet); if the delivery of materials delays the construction and approval of the mock-up area, will this be grounds for extending the contract time? Must the mock-up area be 100% complete before approval will given or will certain aspects be approved (metal framing and drywall) as not to delay the project?

Response: *The mock-up area is required to verify the quality and coordination of the installation. The completion of the mock-up will not delay ordering of materials or installation of other contract items.*

Question #2

Please refer to the requirements for Alternate 1-L.E.D. Vision panels. If the alternate is accepted, what will the "wall type" be in lieu of glass storefront? Also, what type of door and hardware will be required?

Response: *Refer to Drawing A8-1/Door Frame Type 8 (Alternate #1) and Specification Section 08412. The door and hardware do not change with the alternate. The door frame is clarified in this addendum.*

Question #3

Please refer to specification section 10522 FIRE EXT., CABINETS. Are fire extinguishers and cabinets required for this project? We cannot find them on the drawings.

Response: *A 10lb, 4-A Portable Fire Extinguisher is required within 75 feet of any point on the floor. The proposed location of the fire extinguishers is addressed with a sketch in the addendum.*

Question #4

Please refer to drawing A7-1, Detail 2- BRACKET DETAIL. Please provide a quantity of these brackets or provide spacing dimensions.

Response: *A total of ten (10) brackets is required. One bracket should be located 3" from each end of the countertop, and one bracket should be located between each sink.*

Question #5

The RFQ states on page 17 that parking of vehicles and placement of dumpsters are not allowed on the premises. Is parking allowed at Laidley Field? If so is there a fee for parking there? Please provide information about dumpster placement.

Response: *The dumpster location will be in the north-west yard adjacent to Piedmont Avenue. Parking is available at Laidley Field if available. This parking is first come, first serve, and there is no cost.*

Question #6

Please refer to drawing A7-1. Detail B BASEMENT LEVEL FIRE PUMP ROOM LOCATION. Will the office cubicles remain or will they be removed for access to this space for construction? Also, the only demolition noted for this area is note 11, is this all that is required for demolition? Also, there are no finishes scheduled for this area.

Response: *The contractor will need to dismantle the office cubicles and store them in the same room in the basement prior to commencing work on the Fire Pump Room. Any demolition required for the installation of the fire pump room, including flooring and ceiling demolition is required. The new CMU walls are to be painted to match adjacent walls. No floor finish is required in the pump room. Please refer to Section 01569 Asbestos Hazardous Control Activities for additional information regarding the overall scope of the demolition in this area.*

Question #7

Please refer to drawing A1-1 1ST LEVEL FIRE COMMAND CENTER LOCATION. In the upper left hand side of the drawing. The only demolition noted for this room is note 10, is this all that is required for demolition? Also, there are no finishes scheduled for this area.

Response: *Additional demolition items are noted on the mechanical and electrical plans. The flooring and base in the Fire Command Center will be demolished (and abated). The ceiling and lights will also be demolished. New finishes include a new suspended acoustical tile ceiling, VCT flooring, and rubber wall base. All existing and new walls will be painted.*

Question #8

Please refer to specification section 06105 – Miscellaneous Carpentry. At the pre-bid site walk-thru, a representative from General Services stated that all wood blocking should be fire retardant treated lumber and plywood. Is this required for this project?

Response: *This specification Section is replaced in this addendum*

Question #9

Please refer to specification section 01352 – LEED Requirements. Clarify the responsibility of the Contractor to obtain LEED points listed in this section. Is the Contractor required to obtain every point listed, even if the material price is higher than the standard building materials for

our region? What if the Contractor meets the requirements of the specification, but can not meet requirement of the LEED point requirement (i.e. Materials & Resources Credit 2.2 – Construction Waste Management, Divert 75% or Materials & Resources Credit 4.2 – Recycled Content, 20%)?

Response: *The contractor is required to obtain every point listed. Materials can be submitted as substitutions (refer to Section 01635) to the Architect. If the Contractor submits a material that does not meet LEED requirements, the Contractor will be required to resubmit an appropriate material.*

Question #10

Please refer to specification section 01352 – LEED Requirements. Item A, under part 1.5 – Quality Assurance, states that the LEED Coordinator must be LEED – Accredited Professional. Is it required that the Contractor engage a LEED AP for this project?

Response: *The Contractor will not be required to hire an outside LEED consultant. This issue is clarified in this addendum.*

Question #11

Please refer to specification section 01352 – LEED Requirements; Item B – Commissioning Agent, under part 1.5 – Quality Assurance. Is the requirement for engaging a Commissioning Agent only as it relates to Bid Alternate #02 and must the Commissioning Agent be a third party, separate from the General Contractor, Mechanical / Electrical Contractor and Test / Balance Contractor?

Response: *The commissioning agent must be a third party. All commissioning requirements for the project are incorporated into Bid Alternate #02.*

Question #12

Please refer to specification section 01352 – LEED Requirements. Item B, under part 3.3 – Construction Indoor – Air – Quality Management; is either option acceptable, as the construction schedule will not allow option 1 (flush-out prior to occupancy)?

Response: *Either option is acceptable.*

Question #13

Please refer to specification section 01352 – LEED Requirements' attachment LEED Registered Project Checklist. Some of the points listed are for items outside the scope of this project (i.e. Sustainable Sites Credit 7.1 and 7.2 – Heat Island Effect, Non-Roof and Roof); what is required of the Contractor for these items?

Response: *The Contractor is not required to meet LEED requirements outside the scope of this project. The Project Checklist is included for reference only.*

Question #14

Please refer to specification section 01352 – LEED Requirements, Item A, under part 3.1 – Refrigerant and Clean-Agent Fire-Extinguishing-Agent Removal and Requirements' attachment LEED Registered Project Checklist. What is required of the Contractor to meet this Prerequisite?

Response: *There is no requirement for the Contractor. This issue is addressed in this addendum.*

Question #15

Please refer to specification section 01352 – LEED Requirements' attachment LEED Registered Project Checklist. There is a possible point indicated for Sustainable Sites Credit 5.1 – Site Development, Protect or Restore Habitat. What is required of the Contractor in order for the Project to achieve this point? Will the Contractor be required to limit the disturbance and install temporary fencing per the requirements of LEED SS Credit 5.1?

Response: *According to the LEED-NC v2.2 Reference Guide, the Contractor is to: Establish clearly marked construction and disturbance boundaries and document these site protection requirements. Delineate lay down, recycling and disposal areas, and use paved areas for staging activities. Erect construction fencing around the drip line of existing trees to protect them from damage and soil compaction by construction vehicles. Coordinate infrastructure construction to minimize the disruption of the site.*

Question #16

Some rooms on ceiling drawing A3-1 show an acoustical tile ceiling, but not on finish plan A2-1.

Response: *Refer to the Reflected Ceiling Plan on drawing A3-1 for location of suspended acoustical ceilings.*

Question #17

There are rooms on A2-2 showing VCT-1 that do not show up on A2-1.

Response: *Drawing A2-2 is provided for dimensioning. Please refer to drawing A2-1 for flooring types. All rooms noted with Room Tag H should have C-1 for the flooring.*

Question #18

Do you know the height of the freight elevator?

Response: *The freight elevator is available for inspection to determine the capacity.*

Question #19

The RFQ on page 17 states that the building is available from 7:00AM to 7:00PM with extended hours acceptable if approved by the owner. Could you please clarify the likelihood of the owner approving work hours beyond the 7-7 time frame? Is access available on weekends?

Response: *The building will be available from M-F from 7:00AM to 5:00PM only. The contractor may request an extension of these hours on an as needed basis.*

Question #20

Is there a cost associated with the required security badges?

Response: *There is no cost associated with the security badges.*

Question #21

Is Builder's Risk insurance required for the project?

Response: *There is no Builder's Risk insurance requirement for this job. The RFQ prevails in these circumstances and it does not check the box for the requirement for Builder's Risk, generally only used for building new buildings. The requirement in the Front End of the RFQ is \$1,000,000.00 in commercial liability.*

Question #22

Please clarify the limits of Alternate #1 (LED Panels).

Response: *Alternate #1 relates to door type "F" only. If the alternate is accepted, frame type 8 will replace frame type 6. Refer to Drawing A1-1, this condition occurs at conference rooms 1001 and 1024 only.*

Question #23

Please list approved and not approved substitution requests.

Response: *Approved: GE Panel Boards;*

Not Approved:

GE Transformers: *The transformer cut sheet submittal listed standard 50 dB noise rated transformers and the specs called for low noise 47 dB transformers.*

Haworth Tecbase Floor System: *Did not meet the 2 ½" height requirement.*

SECTION 06105 - MISCELLANEOUS CARPENTRY**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wood blocking and nailers.
 - 2. Plywood backing panels.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NLGA: National Lumber Grades Authority.
 - 3. SPIB: The Southern Pine Inspection Bureau.
 - 4. WCLIB: West Coast Lumber Inspection Bureau.
 - 5. WWPA: Western Wood Products Association.

1.4 SUBMITTALS

- A. LEED Submittals:
 - 1. Certificates for Credit MR 7: Chain-of-custody certificates certifying that products specified to be made from certified wood comply with forest certification requirements. Include evidence that mill is certified for chain of custody by an FSC-accredited certification body.
 - a. Include statement indicating costs for each certified wood product.

1.5 QUALITY ASSURANCE

- A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":
 - 1. Miscellaneous lumber.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.
- B. Deliver interior wood materials that are to be exposed to view only after building is enclosed and weatherproof, wet work other than painting is dry, and HVAC system is operating and maintaining temperature and humidity at occupancy levels.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. All wood specified in this Section shall be Fire-Retardant-Treated as specified.

2.2 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 15 percent maximum moisture content of any species.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:
 - 1. Mixed southern pine, No. 2 grade; SPIB.
 - 2. Hem-fir or hem-fir (north), Construction or 2 Common grade; NLGA, WCLIB, or WWPA.
 - 3. Spruce-pine-fir (south) or spruce-pine-fir, Construction or 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
 - 4. Eastern softwoods, No. 2 Common grade; NELMA.
 - 5. Northern species, No. 2 Common grade; NLGA.
 - 6. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.
- D. For blocking not used for attachment of other construction Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Comply with performance requirements in AWWA C20 (lumber) and AWWA C27 (plywood).
 - 1. Use Interior Type A, unless otherwise indicated.
- B. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- C. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- D. Application: Treat all miscellaneous carpentry to meet test no. ASTM 5516 for plywood and ASTM D5664 for lumber, unless otherwise indicated.
 - 1. Framing for raised platforms.
 - 2. Concealed blocking.
 - 3. Roof construction.
 - 4. Plywood backing panels.

2.4 PLYWOOD BACKING PANELS

- A. Telephone and Electrical Equipment Backing Panels: Fire-retardant-Treated DOC PS 1, Exposure 1, C-D Plugged, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

2.5 FASTENERS

- A. All fasteners used for fire-retardant-treated wood shall be hot-dipped galvanized.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1.
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Do not splice structural members between supports, unless otherwise indicated.
- D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- E. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- G. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

END OF SECTION

SECTION 09651 - RESILIENT FLOOR TILE**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Related Section: Section 09653 for resilient wall base, reducer strips and other accessories installed with resilient floor tile.

1.3 SUBMITTALS

- A. Samples for Verification: Full-size units of each color and pattern of floor tile required.
- B. Bond and Moisture Test Reports: Verify compliance with ASTM F 710 and manufacturer's recommendations.
- C. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1. Review methods and procedures related to floor tile installation including:
 - 1. Review delivery, storage, and handling procedures.
 - 2. Review concrete slab conditions including results of bond and moisture testing.
 - 3. Review ambient conditions and ventilation procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.6 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 90 deg F, in spaces to receive floor tile during the following time periods:
 - 1. 48 hours before installation.

2. During installation.
 3. 48 hours after installation.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 90 deg F.
 - C. Close spaces to traffic during floor tile installation, and for 48 hours after floor tile installation.
 - D. Install floor tile after other finishing operations, including painting, have been completed.

1.7 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Floor Tile: Furnish 1 box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

PART 2 - PRODUCTS

2.1 VINYL COMPOSITION FLOOR TILE

- A. Products: Subject to compliance with requirements, provide products meeting the following:
 1. Tile Standard: ASTM F 1066, Class 2, through-pattern tile.
 2. Wearing Surface: Smooth.
 3. Thickness: 0.125 inch.
 4. Size: 12 by 12 inches.
 5. Colors and Patterns: As selected by Architect from manufacturer's full range of standard products.
 6. Basis Of Design: AZROCK V-866 – Color: "Shale Gray".
 - a. Equal Products by Armstrong.

2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Vinyl Composition Floor Tile Adhesives: Not more than 50 g/L.

- C. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710. Perform moisture condition and adhesive bond tests in each major area, minimum 1 per 1,000 square feet, prior to installation.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Moisture Testing: Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 4. Do not proceed with work until results of moisture test and bond test are acceptable.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until they are same temperature as space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles in pattern indicated on Drawings or, if not indicated, square with room axis.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
1. Lay tiles with grain direction alternating in adjacent tiles (basket-weave pattern).
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.
- G. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
- B. Perform the following operations immediately after completing floor tile installation:
1. Remove adhesive and other blemishes from exposed surfaces.
 2. Sweep and vacuum surfaces thoroughly.
 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor tile surfaces before applying liquid floor polish.
1. Apply two coats.

END OF SECTION

SECTION 10270 - ACCESS FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
1. Structural floor supported, tile and support, floor and utility system.
 2. Removable floor tiles and pedestals.
 3. Accessories including ramps, access elements, transition trim, column supports, fire-stop, and edge and wall trim.
 4. Wiring and cabling devices.
- B. Related Sections include the following:
1. Section 01821 "Mock-Ups".
 2. Section 09680 "Carpet" for carpet applied over access flooring panels.
 3. Section 09681 "Carpet Tile" for carpet tiles applied over access flooring panels.
 4. Section 16125 "Manufactured Wiring Assemblies (Modular Wiring)".
 5. Section 16750 "Data Communication Cabling".

1.3 REFERENCES

- A. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E136: Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C.
- C. ASTM D635: Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.
- D. ASTM E1354: Cone Calorimeter Test.
- E. CIRCA: Concentrated Static Load Test.
- F. CIRCA: Rolling Load Test.
- G. CIRCA: Ultimate (Proof) Load Test.

- H. CISCA (Ceilings and Interior Systems Construction Association): Recommended Test Procedures for Access Floors.
- I. NES (National Evaluation Service, Inc.): **Underscore™** Raised Floor System - A74040. Full compliance with UBC, CBC, BOCA, SBCCI, ICBO, IBC.
- J. SAE/A151 050 XLF, ASTM A568, ASTM A370, ANSI/ASME B46.1-1985, SAEJ 1392-84: Standard for Hot-Dipped Galvanized Steel.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide access flooring systems capable of withstanding the following loads and stresses within limits and under conditions indicated, as determined by testing manufacturer's current standard products according to referenced procedures in CISCA A/F, "Recommended Test Procedures for Access Floors" :
 - 1. Maximum Axial Load: 2000 pounds without permanent deformation.
 - 2. Ultimate Strength: Not less than twice design load.
- B. Pedestals:
 - 1. Maximum Axial Load: 2000 pounds without permanent deformation.
 - 2. Ultimate Strength: Not less than twice design load.
- C. Floor Tiles: Conform to the following:
 - 1. Live Load: 100 pounds per square foot.
 - 2. Maximum Deflection: .115 inches.
 - 3. Concentrated Load: 500 pounds on 1 square inch at any location with maximum deflection of .115 inches.
 - 4. Permanent Deformation: .035 inch maximum at design load.
 - 5. Ultimate Proof Load: 750 pounds.
 - 6. Flame Spread: 25 or less in accordance with ASTM E84.
- D. Total System Weight: 5.5 psf.
- E. Provide electrical connection to the access flooring to the building ground to comply with this section.

1.5 DESIGN REQUIREMENTS

- A. System: "Stringer-less" system.
- B. Access flooring system to achieve finished floor elevation 2-1/2 inches nominal height above building structural floor. Access flooring system is to provide sufficient space beneath floor for all subfloor wiring and related devices.
- C. Lateral Stability: System shall be laterally stable in all directions, with tiles in place, without the use of adhesives or fasteners, except in seismic zones. Follow manufacturer's specific requirements for installation under such conditions.
- D. Conform to all applicable codes, including National Electrical Code NFPA 70, ANSI A117.1, ADA, and local accessibility code requirements.

1.6 SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Shop Drawings: Include layout of access flooring system and relationship to adjoining Work based on field-verified dimensions.
 - 1. Details and sections with descriptive notes indicating materials, finishes, fasteners, typical and special edge conditions, accessories, and understructure.
 - 2. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Manufacturer's Instructions: Printed or electronic installation instructions for products specified in this section; indicate special procedures, perimeter conditions requiring special attention.
- D. Samples for Initial Selection: For each type of flooring material and exposed finish indicated.
- E. Product Certificates: For each type of access flooring system, signed by product manufacturer.
- F. Qualification Data: For Installer.
- G. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, or performed by access flooring manufacturer and witnessed by a qualified testing agency, for each type of flooring material.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Source Limitations: Obtain access flooring system through one source from a single manufacturer.
 - 1. **Access Flooring System, Manufactured Wiring Assemblies (Modular Wiring) covered in Section 16125, and Data Communication Cabling covered in Section 16750 shall all be compatible, and coordination of all construction is the responsibility of the Contractor.**
- C. Regulatory Requirements: Fabricate and install access flooring to comply with NFPA 75 requirements for raised flooring.
- D. Provide floor panels that are clearly and permanently marked on their underside with panel type and concentrated-load rating.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of typical access flooring assembly as shown on Drawing. Size to be as indicated on Drawings. Refer Section 01821 "Mock-Ups."
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Section 01310 "Project Management and Coordination."
 - 1. Review coordination with mechanical and electrical systems.

2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install access flooring until spaces are enclosed, ambient temperature is between 40 and 90 deg F, and relative humidity is not more than 70 percent.

1.9 COORDINATION

- A. Schedule and conduct a pre-installation conference leaving sufficient lead and coordination time for all trades involved.
- B. Coordinate location of mechanical and electrical work in under-floor cavity to prevent interference with access flooring pedestals.
- C. Mark pedestal locations on subfloor by use of a grid, with a module equal to width of five floor panels in both directions, to enable mechanical and electrical work to proceed without interfering with access flooring pedestals.
- D. Proceed with installation only after completion of other construction within affected spaces.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in cartons or crates to provide protection during shipment.
- B. Inspect product upon delivery for damage. Manufacturer shall submit recommendations with bid advising repair/replacement procedures.
- C. It shall be the responsibility of the manufacturer to properly package all products for storage and define storage program to be provided on site by General Contractor to assure product performance.
- D. Products are not to be installed until after all overhead work and application of ceiling and wall finishes have been completed by other trades.

1.11 EXTRA MATERIALS

- A. Furnish extra materials described in subparagraphs below that match products installed and that are packaged with protective coverings for storage and identified with labels describing contents.
 1. Flooring Panels, accessories, and supports: Ten Percent of project (10%).

PART 2 - PRODUCTS

2.1 FLOOR PANELS AND UNDERSTRUCTURE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Low-profile Raised Floor System, manufactured by Steelcase, Inc, Grand Rapids, Michigan, distributed through local Steelcase product dealer network.
2. DIRTT System
3. Cablefloor System.

2.2 COMPONENTS

- A. Tiles: The tiles include triangular, square, and rectangular pieces. The right-triangle pieces have 7.961-inch (202 mm) legs and feature a 0.7 inch return along the long edge and 0.433 inch deep returns along the shorter legs. The rectangular tiles measure 7.965 inches by 15.965 inches and feature 0.433-inch deep legs. The square tile is also available with an 8.8-inch diameter access hole. The steel is 0.075 inch thick hot-dipped galvanized steel.
- B. Pedestals: The pedestals are formed from talc-filled polypropylene classified CC2, and measures 3.685 inches in diameter by 2-1/2 inches high. The top is to feature (8) 0.73 inch deep by 0.187-inch wide grooves to receive tiles.
- C. Ramps: The ramp pieces measure 30.9 inches long by 2-1/2 inches high, providing the 12:1 slope. Each piece is either 3.279 or 3.569 inches wide. The steel is 0.075 inch thick hot-dipped galvanized steel.
- D. Access Elements: Access elements include a steel collar, nylon trim, urethane bumper, urethane hub, ethylene vinyl acetate grommets and 0.075 inch thick hot-dipped galvanized steel access cover plate.
- E. Accessories including transition trim, column support, fire-stop, and edge and wall trim pieces formed from either 0.0727 inch thick or 0.075 inch thick steel.
- F. Fiberglass Insulation: Fiberglass insulation shall be noncombustible in accordance with ASTM E 136, have a minimum nominal density of 1.2 pounds per cubic foot and flame spread index of 25 or less and a smoke-developed index of 50 or less in accordance with ASTM E84.
- G. Wiring and Cabling Devices:
 1. **Underscore** modular power system supports up to 3 branch circuits with 3 hot conductors, 1 over-sized shared neutral, and 1 ground. Any modular connectors that attach to underscore power components must be 3+1; other wiring schematics must be hardwired.
 2. Power distribution module is hardwired to the building power source. It enables the connection of up to 5 harnesses. It must be covered by a distribution tile.
 3. Harness routes power from the power distribution module to access points. It is 15 feet long. **Underscore** harnesses cannot be connected to each other.
- H. Include access flooring system manufacturer's floor box access tiles, distribution tiles, grommet tiles, ramp kits, edge trim, wall scribes, and fire stops.
- I. Panel Lifting Device: Manufacturer's standard portable lifting device of type required for specified panels. Provide one lifting devices per room of each type required.

- J. Perimeter Support: Where indicated, provide manufacturer's standard method for supporting panel edge and forming transition between access flooring and adjoining floor coverings at same level as access flooring.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer and manufacturer's representative present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
 1. Verify that substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, foreign deposits, and debris that might interfere with adhesive or post-installed anchor attachment of pedestals.
 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Grind and flash-patch existing concrete floor as needed to achieve flat substrate.
- B. Vacuum clean existing concrete floor slab.
- C. Lay out floor panel installation to keep the number of cut panels at floor perimeter to a minimum.
- D. Locate each support, complete any necessary subfloor preparation, and vacuum clean subfloor to remove dust, dirt, and construction debris before beginning installation.

3.3 INSTALLATION

- A. Install access flooring system and all required accessories under supervision of access flooring manufacturer's authorized representative to produce a rigid, firm installation that complies with performance requirements and is free of instability, rocking, rattles, and squeaks.
- B. Coordinate access flooring system installation with electrical work of Division 16 specification sections listed in Article 1.2.B above.
- C. Install supports as recommended by access flooring system manufacturer according to floor system layout.
- D. Install flooring panels securely in place, properly seated with panel edges flush. Do not force panels into place.
- E. Scribe perimeter panels to provide a close fit with adjoining construction with no voids greater than 1/8 inch where panels abut vertical surfaces.
 1. To prevent dusting, seal cut edges of steel-encapsulated, wood-core panels with sealer recommended in writing by panel manufacturer.
- F. Install edge trim along perimeter of all areas of access flooring.
- G. Install all floor box access tiles and distribution tiles where required. Refer Electrical Drawings for locations of Recessed Floor Access Boxes requiring access tiles and distribution tiles.

- H. Install grommet tiles where required.
- I. Install ramp kits where ramps are indicated.
- J. Clean dust, dirt, and construction debris caused by floor installation, and vacuum subfloor area, as installation of floor panels proceeds.
- K. Seal underfloor air cavities at construction seams, penetrations, and perimeter to control air leakage as recommended in writing by manufacturer.
- L. Install access flooring without change in elevation between adjacent panels and within the following tolerances: Plus or minus 1/8 inch from a level plane over entire access flooring area.

3.4 ADJUSTING, CLEANING, AND PROTECTION

- A. After completing installation, prepare flooring panels for scheduled floor finish.
- B. Replace access flooring panels that are stained, scratched, or otherwise damaged or that do not comply with specified requirements.

END OF SECTION

NOTE

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