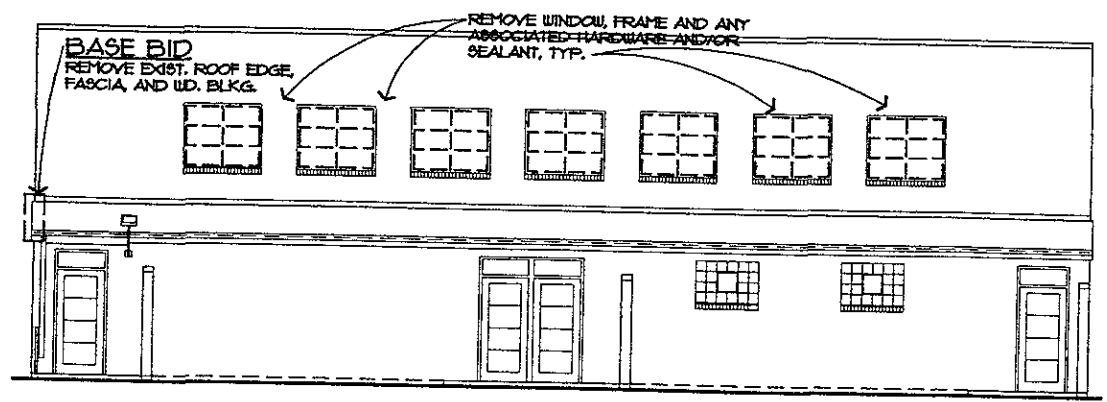
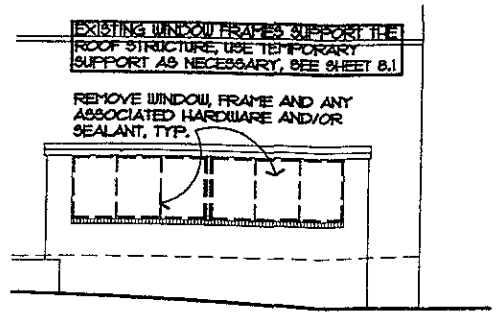


1
3.1 **SITE AND FLOOR DEMO PLAN**
1/8" = 1'-0"



1
3.1 **ELEV. "A" ELEVATION BID ALT. #1**
1/8" = 1'-0"
GYM UPPER WINDOWS



1
3.1 **ELEV. "B" ELEVATION ALT. #2**
1/8" = 1'-0"
KINDERGARTEN WINDOWS

BID



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DEMOLITION INFORMATION

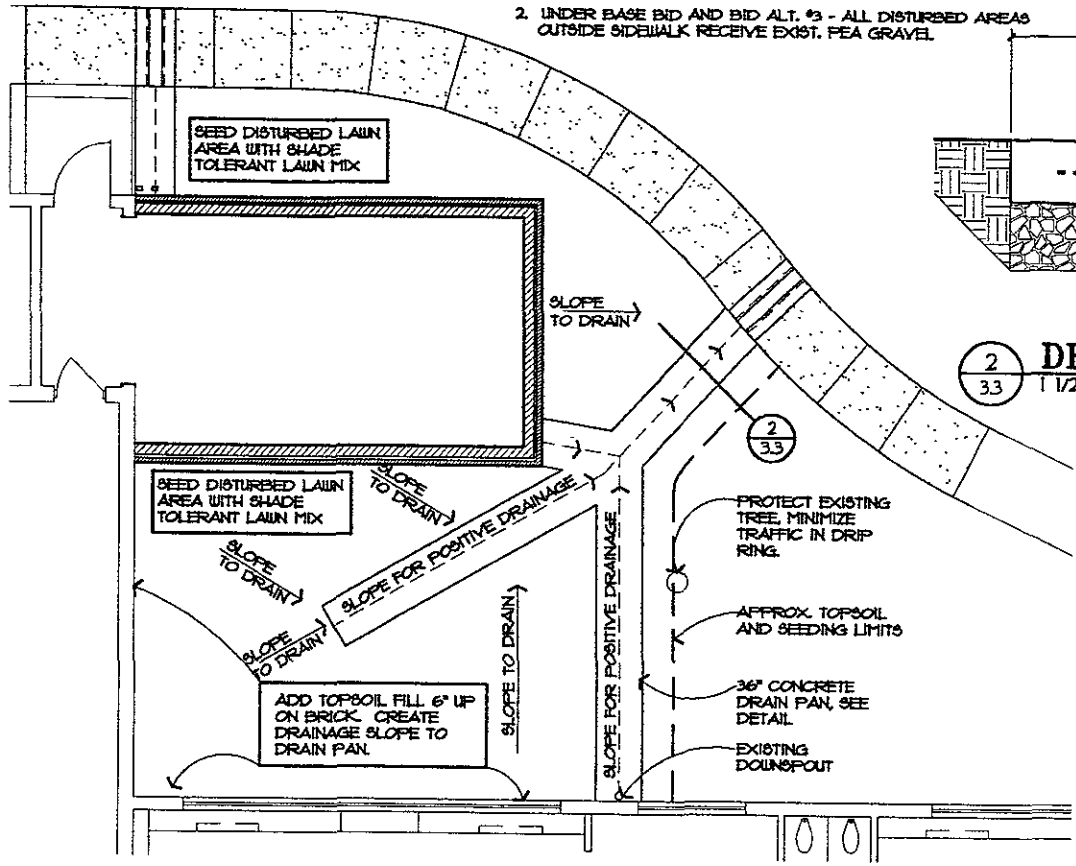
CONSTRUCTION



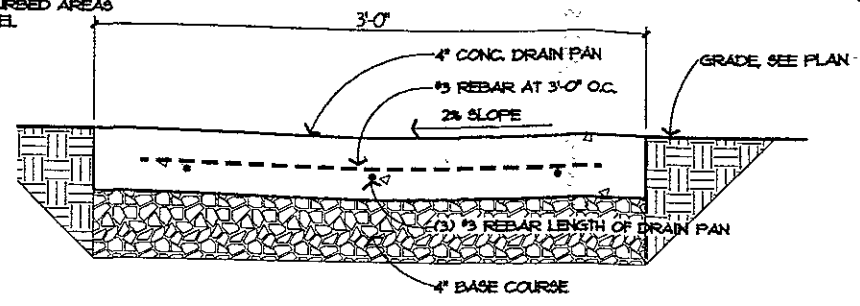
3.1

GENERAL NOTES:

1. UNDER BID ALT. #3 - ALL DISTURBED AREAS INSIDE SIDEWALK RECEIVE TOPSOIL AND SEEDING
2. UNDER BASE BID AND BID ALT. #3 - ALL DISTURBED AREAS OUTSIDE SIDEWALK RECEIVE EXIST. FEA GRAVEL



1 PARTIAL SITE PLAN
 33 1/8" = 1'-0" BID ALT. #3



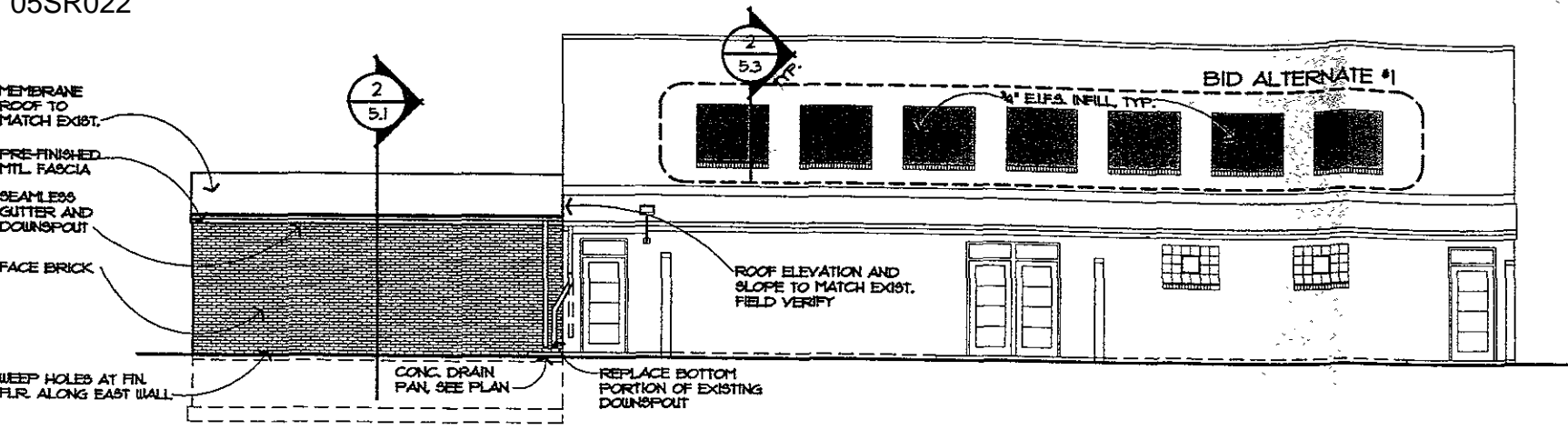
2 DRAIN PAN DETAIL
 33 1/2" = 1'-0"

- PROTECT EXISTING TREE, MINIMIZE TRAFFIC IN DRIP RING.
- APPROX. TOPSOIL AND SEEDING LIMITS
- 36" CONCRETE DRAIN PAN, SEE DETAIL
- EXISTING DOWNSPOUT

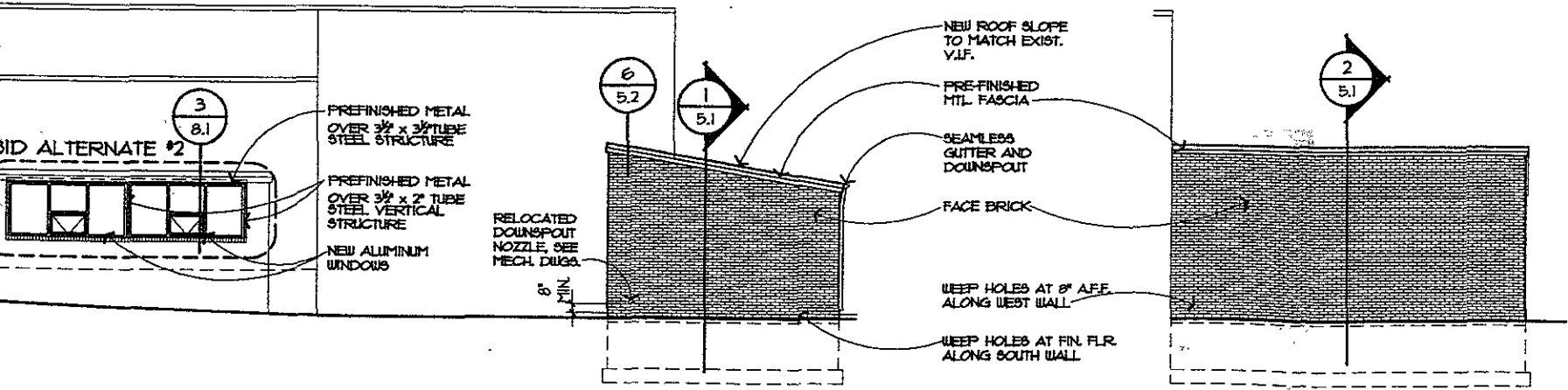
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 RAPID CITY SOUTH DAKOTA 57503
 ASD
 4/8/06

BID ALTERNATE #3
 PARTIAL SITE PLAN

ARCHITECTURE
 CONSULTANTS
 P.C.



1 PARTIAL EAST ELEVATION
 4.1 1/8" = 1'-0"



2 PARTIAL SOUTH ELEVATION
 4.1 1/8" = 1'-0"

3 PARTIAL WEST ELEVATION
 4.1 1/8" = 1'-0"



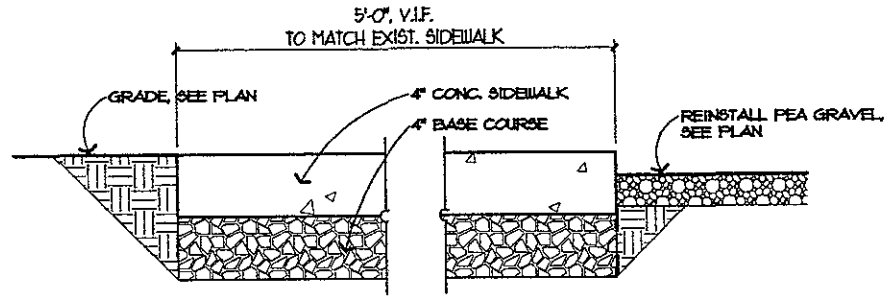
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EXTERIOR
 ELEVATIONS

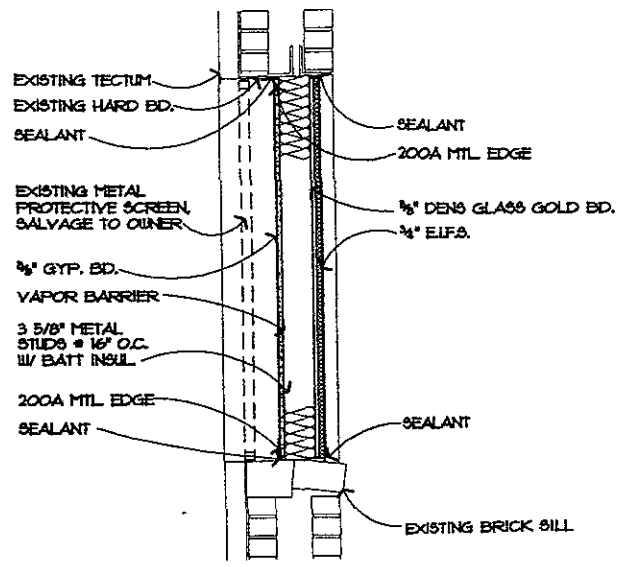
ARCHITECTURE
 CIVIL ENGINEERING



4.1

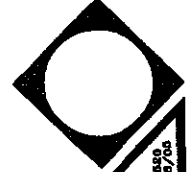


1 SIDEWALK SECTION
3.2 1 1/2" = 1'-0"



RETOUCH & REPAINT ANY AND ALL DAMAGE RESULTING FROM REMOVING, INSTALLING AND INFILLING WINDOWS.

2 INFILL SECTION
4.1 3/4" = 1'-0"

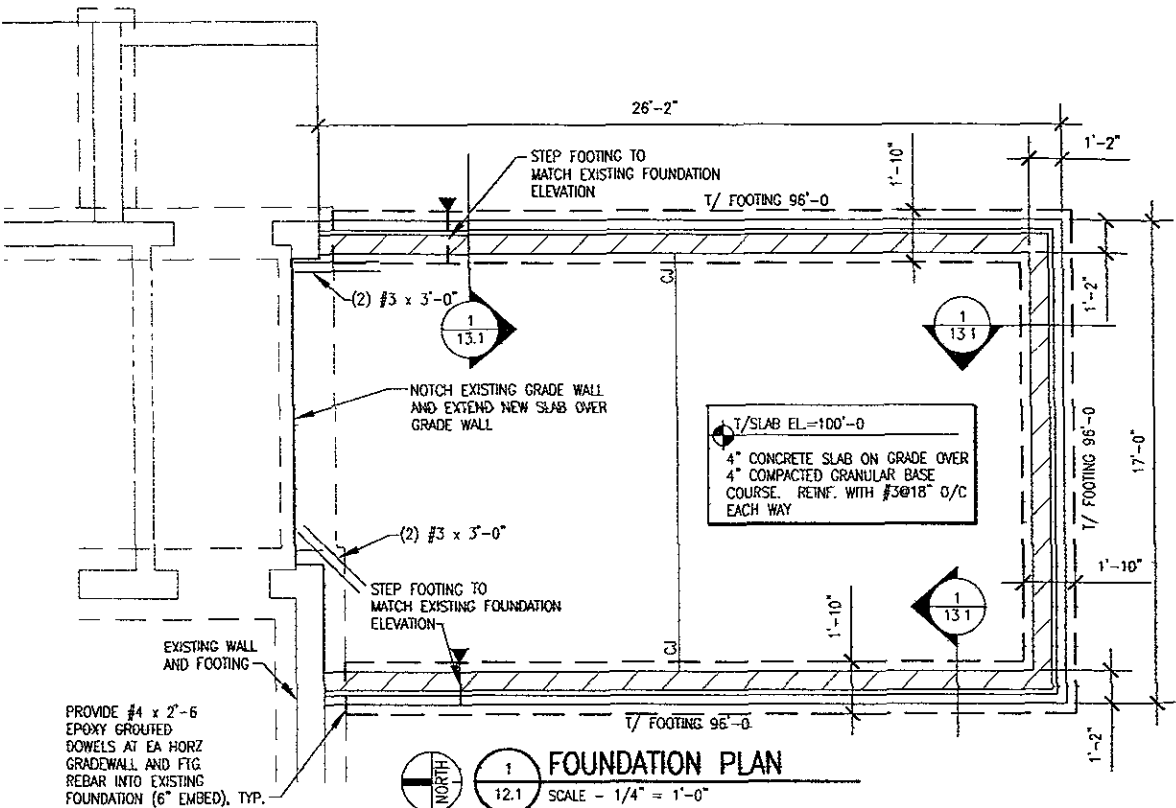


SOUTH CANYON
ELEMENTARY
ASG
BOON DAUGHTER 4/2/00
BLVD CITY

WINDOW INFILL
DETAIL

ARCHITECTURE
CITY OF BOONVILLE





STRUCTURAL LEGEND	
MARK	DESCRIPTION
T/	TOP OF
B/	BOTTOM OF
TF	TOP OF FOOTING
EL.	ELEVATION
CJ	CONTROL JOINT - SEE SHEET 13.4
O/C	ON CENTER
(E)	EXISTING
///	RE-ENTRANT REBAR - SEE GENERAL NOTES
TW	TOP OF WALL
▷	STEP IN TOP OF WALL
▷	STEP IN TOP OF FOOTING
↔	DECK SPAN DIRECTION
UNO	UNLESS NOTED OTHERWISE

FOUNDATION PLAN
 12.1 SCALE - 1/4" = 1'-0"

PLAN NOTES:

1. SEE GENERAL NOTES AND TYPICAL DETAILS ON 13.4 FOR SLAB ON GRADE CONTROL AND CONSTRUCTION JOINT REQUIREMENTS AND DETAILS. COORDINATE LAYOUT WITH ARCHITECTURAL DRAWINGS.
2. SAWCUT JOINTS IN SLAB WITHIN 12 HOURS OF CONCRETE PLACEMENT.
3. ALL CONCRETE BLOCK SHALL LAY IN RUNNING BOND.



HERMANSON EGGE ENGINEERING, INC.
 STRUCTURAL CONSULTING ENGINEERS
 2955C COMMENCE ROAD - RAPID CITY, SD 57702
 JOB NO. 05-015C PHONE (605) 342-6680 - FAX (605) 342-5835



**SOUTH CANYON
 ELEMENTARY**
 RAPID CITY, SOUTH DAKOTA 57702

FOUNDATION PLAN

ARCHITECTURE



GENERAL NOTES:

GENERAL

THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.

VERIFY SIZE, LOCATION AND NUMBER OF ROOF AND FLOOR OPENINGS WITH MECHANICAL AND ELECTRICAL CONTRACTORS.

DESIGN LOADS:

- A. LIVE LOAD - ROOF - SNOW = 30 PSF (PLUS DRIFTING)
 B. DEAD LOAD - ROOF = 25 PSF
 C. WIND----- 100 MPH (EXPOSURE B).
 D. SEISMIC----- $S_s = 0.15G$, $S_1 = 0.041G$

EXCAVATION

CONTRACTOR SHALL BE AWARE OF AND VERIFY LOCATION OF ALL UNDERGROUND UTILITIES, TANKS, ETC.

DUE CARE SHALL BE EXERCISED DURING EXCAVATION SUCH THAT EXISTING UTILITIES ARE NOT DAMAGED.

ANY BROKEN OR DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR RESPONSIBLE FOR THE DAMAGE.

FOUNDATIONS

ALLOWABLE SOIL BEARING PRESSURE = 1500 PSF

ALL FOOTINGS ARE CENTERED UNDER WALLS AND/OR COLUMNS UNLESS DETAILED OTHERWISE.

CONCRETE AND REINFORCING

ULTIMATE STRENGTH DESIGN.
 A.C.I. MANUAL OF CONCRETE PRACTICE.
 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (A.C.I. 318-02)
 DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.

ALL CONCRETE U.N.O. ----- 3,000 PSI.
 CONCRETE IN CONTACT w/ WEATHER ----- 4,000 PSI.

REINFORCING ----- 60,000 PSI. (ASTM A615 GRADE 60).

ALL SLAB AND/OR WALL OPENINGS SHALL BE REINFORCED WITH 2 - #5 BARS EACH SIDE AND EXTEND 2'-0" BEYOND SAID OPENING.

ALL PLUMBING, HEATING AND ELECTRICAL OPENINGS NOT SHOWN ON THE PLANS SHALL BE SLEEVED (MINIMUM SPACING OF 3 SLEEVE DIAMETERS ON CENTER).

SPICES IN REINFORCEMENT SHALL BE ACCORDING TO LAP SCHEDULE.

- ALL REINFORCED CONCRETE FOOTINGS SHALL HAVE INSIDE AND OUTSIDE CORNER BARS WITH SIZE AND SPACING TO MATCH HORIZONTAL REINFORCING (UNLESS NOTED OTHERWISE).
- USE TYPE I-II PORTLAND CEMENT FOR ALL CONCRETE WORK.
- ALL CONCRETE EXPOSED TO FREEZING SHALL BE 4% TO 6% AIR ENTRAINED.
- WIRE CHAIRS SHALL BE USED TO PROVIDE CLEAR COVER AND SPACING REQUIREMENTS FOR PLACEMENT OF REINFORCING STEEL IN CONCRETE. (ROCK, BRICK, ETC. WILL NOT BE ALLOWED.)

E. CONCRETE MASONRY WALLS

- SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY AS AUTHORED BY THE NATIONAL CONCRETE MASONRY ASSOCIATION.
 WORKING STRENGTH - ENGINEERED MASONRY DESIGN.
- PRISM STRENGTH $F'_m =$ ----- 1,500 PSI.
- ALL CONCRETE MASONRY UNITS SHALL BE GRADE N, TYPE I UNITS. ALL CONCRETE BLOCK SHALL LAY IN RUNNING BOND.
- ALL MORTAR SHALL BE 1,800 PSI TYPE S, PROPORTIONED BY VOLUME ACCORDING TO ASTM C270. ALL GROUT SHALL BE OF A FLUID CONSISTENCY, WITH A SLUMP OF 10", AND A COMPRESSIVE STRENGTH OF 2,250 PSI AT 28 DAYS.
- ALL WALL OPENINGS SHALL BE REINFORCED WITH 2-#5 BARS EACH SIDE, REINFORCING SHALL EXTEND FULL HEIGHT VERTICALLY.
- SPICES FOR VERTICAL AND HORIZONTAL BARS SHALL LAP 48 BAR DIAMETERS.
- WHERE TYPICAL VERTICAL WALL REINFORCING IS INTERRUPTED BY DOOR, WINDOW, MECHANICAL OR OTHER WALL OPENINGS, PROVIDE TYPICAL VERTICAL WALL REINFORCING ABOVE AND BELOW OPENING, AND EXTEND INTO HORIZONTAL BOND BEAM.
- PROVIDE 9 GAUGE GALVANIZED TRUSS TYPE HORIZONTAL JOINT REINFORCEMENT AT 16" ON CENTERS IN ALL EXTERIOR AND INTERIOR BLOCK WALLS.
- BEAR ALL UNTEL BLOCK 8" MINIMUM INTO SUPPORTING WALLS AND EXTEND VERTICAL REINFORCING THROUGH UNTEL.
- PROVIDE 8" BOND BEAM WITH 2-#4 BARS OVER ALL WALL PENETRATIONS UNLESS NOTED OTHERWISE.

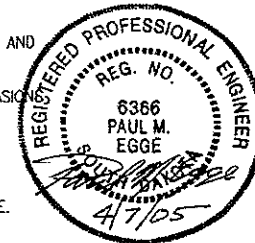
E. STRUCTURAL STEEL

- A.I.S.C. SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (LATEST EDITION).
 A.I.S.C. CODE OF STANDARD PRACTICE FOR BUILDINGS & BRIDGES (LATEST EDITION).
 AMERICAN WELDING SOCIETY STANDARDS
- BEAMS----- ASTM A572 GRADE 50.
 ANGLES, PLATES AND CHANNELS----- ASTM A36.
 SQUARE TUBING ----- ASTM A500, $f_y = 46KSI$

- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED ACCORDING TO LATEST A.I.S.C. SPECIFICATIONS.
- ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION OF THE AMERICAN WELDING SOCIETY. PROVIDE E70XX ELECTRODES.
- ALL FIELD WELDING SHALL BE SHOWN ON THE SHOP DRAWINGS.
- ALL FIELD WELDING SHALL BE PERFORMED BY AN A.W.S. CERTIFIED WELDER USING E70XX ELECTRODES AND INSPECTED AS PRESCRIBED BY THE DESIGN ENGINEER.
- TEMPORARY ERECTION BOLTS, CLIPS, HANGERS AND TEMPORARY BRACING SHALL BE FURNISHED AS REQUIRED BY ERECTOR.
- BEFORE LEAVING THE SHOP ALL STEEL SHALL BE CLEANED AND PAINTED WITH ONE COAT OF PRIMER.
- TOUCH UP FIELD SPICES, CONNECTIONS, WELDS AND ABRASIONS WITH TOUCH UP SHOP PAINT AFTER INSTALLATION.

H. METAL DECK

- STEEL DECK INSTITUTE DESIGN MANUAL.
 ROOF DECK SPECIFICATIONS OF THE STEEL DECK INSTITUTE.
 STEEL DECK INSTITUTE DIAPHRAGM DESIGN MANUAL.
- ROOF: ALL ROOF DECK SHALL BE PAINTED:
 $f-1/2" - 22$ GA. TYPE B ($f_{min} = 0.189$ in⁴/ft; $S_p = 0.186$ in³/ft; $S_n = 0.192$ in³/ft).
- DECK MATERIALS ----- ASTM A611, GRADE C,D OR E.
 ----- ASTM A446, GRADE A,B,C,D,E OR F.
- MINIMUM YIELD STRENGTH: TYPE B - $f_y = 33,000$ PSI.
 TYPE C - $f_y = 60,000$ PSI.
- DECK SHALL BE INSTALLED AND ATTACHED TO THE SUPPORTING STEEL AS FOLLOWS:
 - WELD DECKING TO JOIST WITH 5/8" DIAMETER PUDDLE WELDS. (ALTERNATE - FASTEN DECK TO JOIST WITH HILT "ENKK" PIN)
 - ATTACH EACH FLUTE AT EACH END OF DECK SHEET.
 - WELD OR FASTEN 4 OF THE 7 FLUTES AT INTERMEDIATE DECK SUPPORT POINTS ON 36" WIDE DECK MATERIAL.
 - WELD AT 12" O/C. AT SUPPORTS. PARALLEL TO DECK SPAN AT PERIMETER OF OF DECK AND AT EDGES OF OPENING.
 - MINIMUM 3-SPAN CONDITION REQUIRED.
 - ATTACH ROOF DECK SIDE LAPS W/ (4) #10 TEK SCREWS PER SPAN
- BEFORE LEAVING THE SHOP ALL ROOF DECK SHALL BE CLEANED AND PAINTED WITH ONE PRIMER COAT.
- TOUCH UP ALL FIELD WELDS, ABRASIONS, ETC. WITH SHOP PAINT AFTER INSTALLATION.



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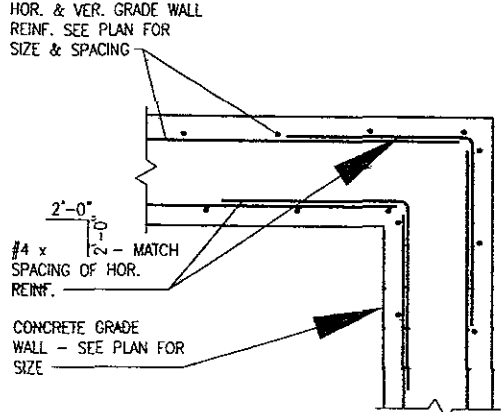
GENERAL NOTES

ARCHITECTURE
 CONSULTING ENGINEERS

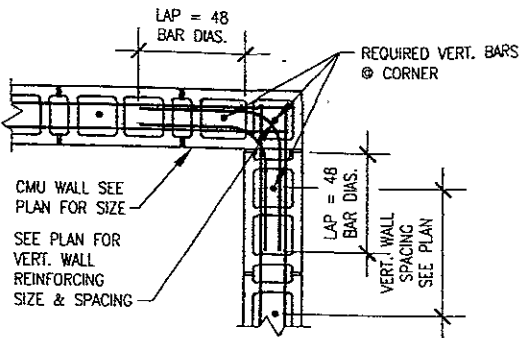


13.3

REBAR LAP SCHEDULE	
BAR SIZE	LAP
#3	18"
#4	24"
#5	30"
#6	36"
#7	42"

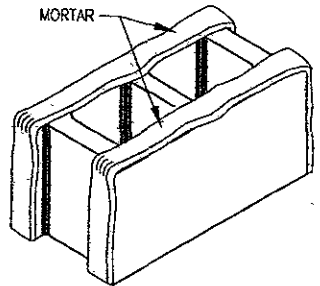


2 TYPICAL CORNER DETAIL
13.4



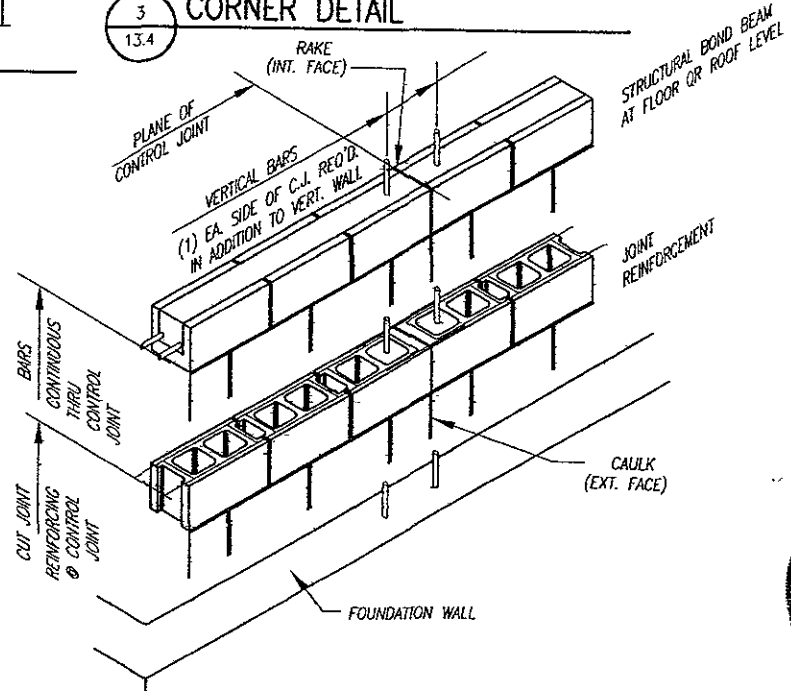
3 TYPICAL BOND BEAM CORNER DETAIL
13.4

1 TYPICAL REBAR LAP SCHEDULE
13.4



4 TYPICAL MORTAR BEDDING DETAIL
13.4

NOTE: DO NOT MORTAR WEBS EXCEPT AROUND WALL STIFFENERS & AS OTHERWISE SPECIFIED.



5 TYPICAL CONTROL JOINT DETAIL
13.4



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STRUCTURAL CONSULTING ENGINEERS
2693C COMMERCE ROAD - RAPID CITY, SD 57702
PHONE (605) 342-0600 - FAX (605) 342-5435
JOB NO. 05-015C

SOUTH CANYON ELEMENTARY RAPID CITY SOUTH DAKOTA 4/7/05

TYPICAL DETAILS

REGISTERED PROFESSIONAL ENGINEER

PAUL M. EDGE

4/7/05

13.4

MECHANICAL

PART 1 - GENERAL

1.01 CONDITIONS

General Conditions, Supplementary Conditions, Special Conditions, and other related portions of Division 1, apply to this Section

1.02 SUMMARY OF WORK

The work included in this Section consists of all labor, materials, and equipment necessary for the installation of a complete Mechanical System as indicated on the drawings and as described herein. Install system in perfect working order and in full accordance with the intent and meaning of the drawings and specifications. The Plumbing work in general consists of furnishing and installing new storm drain piping to existing services as required to put new piping into service.

1.03 REGULATIONS, CODES, PERMITS AND INSPECTIONS

- A Comply with all National, State, County, and City Codes, Ordinances, etc., having jurisdiction, including rules and requirements of utility serving agencies
- B Incorporate all codes, ordinances, etc., into the base bid and installation of work. No additional funds shall be allocated for work required to conform to regulations and requirements and/or to obtain approval of work
- C Obtain and pay for all required permits and licenses. When required by code, all work must be inspected and approved by local authorities. Prior to final approval, furnish Engineer with certificates of inspection and approvals by local authorities
- D In addition, the latest edition of the following published standards shall be adhered to

- Uniform Building Code
- National Standard Plumbing Code
- Uniform Mechanical Code
- Applicable NFPA Standards
- National Electric Code
- ASHRAE Guides
- SMACNA Duct Construction Standards

1.04 DESIGN DRAWINGS

- A Design drawings are diagrammatic and are only intended to define the basic functions required. Provide all work, material, etc., necessary to accomplish these requirements. Minor deviations from the design layout are anticipated and are a part of the work included, however, no changes that alter the character of the work will be permitted. Do not scale the design drawings
- B If a conflict occurs between the design drawings and specifications, promptly notify the Architect and/or Engineer. At that point, an interpretation will be made by the Architect and/or Engineer, and this decision shall be considered part of the Contract Documents

1.05 QUALIFICATIONS OF WORKMEN

Use sufficient journeymen, craftsmen and competent supervisors to ensure prompt, proper, and safe execution of the work

1.06 SAFETY PRECAUTIONS

- A Exercise caution at all times to protect all persons and property. Furnish to each employee, a place of employment which is free from recognized hazards that are causing, or likely to cause, death or serious injury or harm to employees
- B Furnish and maintain guards, railings, fences, canopies, lights, warning signs, etc., which are required by law and/or necessary to protect all persons and property
- C Be familiar with and comply with all applicable codes and laws

PART 2- PRODUCTS

2.01 PIPING MATERIALS

- A Storm Drain Piping and Fittings shall be
 - 1 Hobless service weight cast iron CISPI 301. Joints Buried below grade shall be MG no-hub cast-iron coupling or clamp-all stainless steel coupling, above grade shall be stainless steel clamp-and-shield assemblies
 - 2 PVC ASTM D2665-82, Joints shall be solvent weld ASTM D2564-80.

2.02 PIPE SUPPORTS

- A Storm Drain
 - 1 Hangers shall be Kin-Line No. 455 with maximum spacings of 5 feet
 - 2 Hangers shall be Kin-line No. 455F with maximum spacings of 4 feet

Part 3- EXECUTION

3.01 GENERAL

- A Install materials and equipment in an arrangement that will give the greatest practical ease of operation and service by the Owner
- B Install all equipment in accordance with all manufacturers recommended installation procedures.
- C Perform all work in accordance with the best trade practices. Install all materials and equipment squarely with the building lines. Provide rigid permanent bases and supports for all work. Construct and brace equipment, piping, etc., so that there will be no vibration and/or rattling when the system is in operation
- D Cover and protect all equipment and materials from weather, theft, etc., until date of completion. Plug and/or cap all open ends of installed piping

3.02 INSTALLATION

- A Conceal all piping in walls, furred space, pipe spaces, or above suspended ceilings, as shown on the drawings. Group piping wherever practical and install uniformly in straight parallel lines, squarely with building lines.
- B Support horizontal piping with pipe hangers. Do not use perforated metal tape. Arrange piping so that thermal expansion does not cause stress. Install and secure piping so that hot and cold lines, and lines of dissimilar metals are not in contact.

END OF SPECIFICATIONS



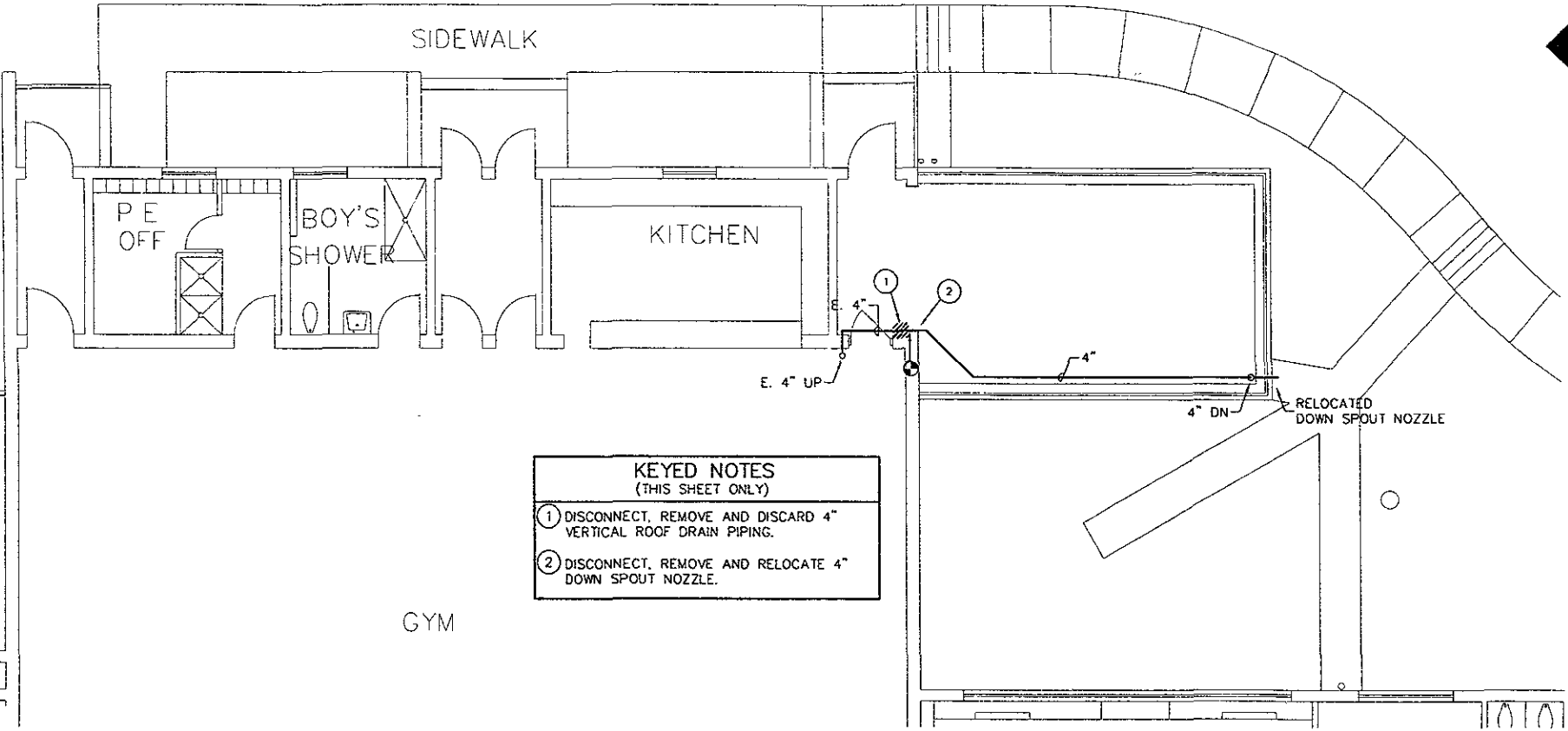
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 ELEMENTARY
 05SR
 SOUTH DAKOTA 4/05/05
 RAPID CITY

MECHANICAL
 SPECIFICATIONS

ARCHITECTURE



823 Quincy Street
 Rapid City, SD 57701
 Office: (605) 341-6939 Fax: (605) 341-6883
 E-Mail: maleng@maloenengineering.com

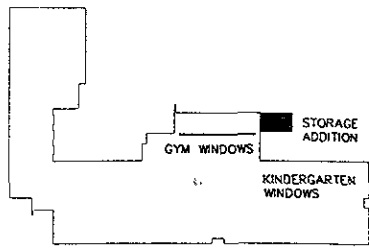


KEYED NOTES
(THIS SHEET ONLY)

① DISCONNECT, REMOVE AND DISCARD 4" VERTICAL ROOF DRAIN PIPING.

② DISCONNECT, REMOVE AND RELOCATE 4" DOWN SPOUT NOZZLE.

① **MECHNAICAL PLAN**
15.2 1/8" = 1'-0"



○ **KEY PLAN**
NOT TO SCALE



ME MECHANICAL ENGINEERS
823 Quincy Street
Rapid City, SD 57701
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E-Mail: malco@mechdesign.com



**SOUTH CANYON
ELEMENTARY**
RAPID CITY
SOUTH DAKOTA
4/08/05

**MECHANICAL
PLAN**

**MECHANICAL
ENGINEERS**



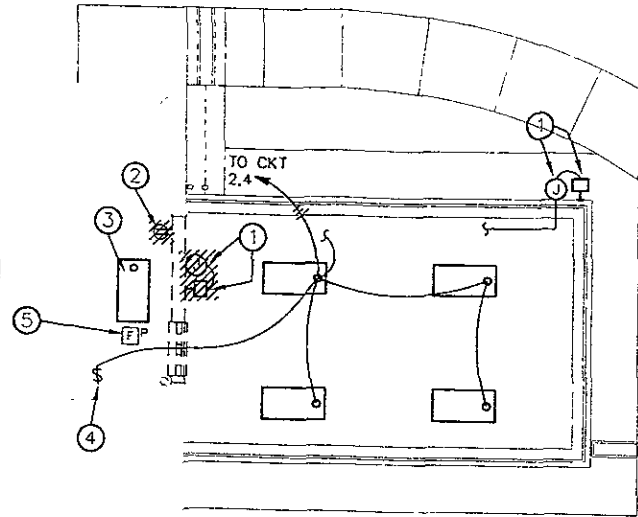
GENERAL NOTES:

A. NEW LIGHTING FIXTURES SHALL BE LITHONIA 2GT8-232-FW-A12125-120-GE8.

DEMOLITION LIGHTING PLAN NOTES:

- ① DISCONNECT AND REMOVE THE EXISTING WALL MOUNTED FLOOD LIGHT AND WALL BRACKET. RELOCATE AS SHOWN AND EXTEND THE LIGHTING BRANCH CIRCUIT. PROVIDE A FLUSH BOX AND CONNECT TO THE FIXTURE WITH NEW SEALTIGHT CONDUIT.
- ② REMOVE THE EXISTING RECEPTACLE AND BRANCH CIRCUIT WIRING BACK TO THE NEAREST UPSTREAM DEVICE OR JUNCTION BOX.
- ③ REMOVE THE FLUSH MOUNTED FIXTURE FOR CEILING DEMOLITION. REINSTALL AS SHOWN.
- ④ CONNECT NEW LIGHTING TO THE EXISTING SWITCH.
- ⑤ REMOVE THE EXISTING SMOKE DETECTOR. REINSTALL AS SHOWN ON SHEET 16.2.

KITCHEN



1 DEMOLITION AND LIGHTING PLAN
16.1 1/8" = 1'-0"



LIGHTING SYMBOLS		
SYMBOL	DESIGNATION	MTG. HGT.
[Symbol]	FLUORESCENT FIXTURE	
[Symbol]	WALL FIXTURE	VERIFY
[Symbol]	SINGLE FACE EXIT SIGN	VERIFY
[Symbol]	SINGLE POLE	48"

FIRE ALARM SYMBOLS		
SYMBOL	DESIGNATION	MTG. HGT.
[Symbol]	MANUAL STATION	48"
[Symbol]	SMOKE DETECTOR - PHOTOELECTRIC	VERIFY
[Symbol]	HORN AND STROBE - SUBSCRIPT INDICATES CANDELLA	80"

POWER SYMBOLS		
SYMBOL	DESIGNATION	MTG. HGT.
[Symbol]	PANEL BOARD	
[Symbol]	MOTOR	
[Symbol]	DUPLEX RECEPTACLE	18"
[Symbol]	SPECIAL PURPOSE OUTLET OR CONNECTION	16"
[Symbol]	THERMOSTAT	

CONDUIT SYMBOLS	
SYMBOL	DESIGNATION
[Symbol]	CONCEALED CONDUIT OR CABLING
[Symbol]	CONTINUATION
[Symbol]	CIRCUIT HOME RUN, L1 INDICATES PANEL, J, 3 INDICATES CIRCUIT NUMBER
[Symbol]	UNLESS OTHERWISE INDICATED EACH CROSS HASH DENOTES ONE #12 CONDUCTOR, NO CROSS HASH DENOTES 2 #12 CONDUCTORS, LONGER CROSS HASH INDICATES NEUTRAL CONDUCTOR, 1 INDICATES GROUNDING CONDUCTOR.
[Symbol]	JUNCTION BOX

ABBREVIATIONS	
GFI	GROUND FAULT CIRCUIT INTERRUPTER
WP	WEATHERPROOF



L.P.S.
ENGINEERING INC
823 Quincey St
Rapid City, SD 57701
Phone: 605.381.5510

16.1

DEMOLITION AND LIGHTING PLAN

SOUTH CANYON ELEMENTARY
RAPID CITY SOUTH DAKOTA 8/28/03

ARCHITECTURE
THURSTON DESIGN GROUP

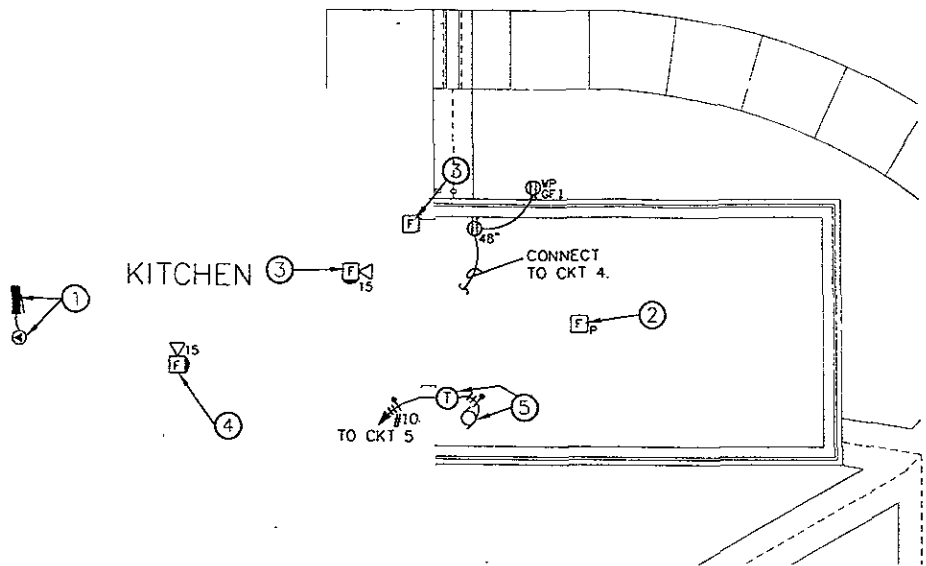
GENERAL NOTES:

A. THE EXISTING FIRE ALARM SYSTEM IS A FARADAY MPC-2000. CONTACT JIM WAY AT ADTECH, 342.5047, FOR THE NEW DEVICES, INSTALLATION ASSISTANCE, AND SYSTEM PROGRAMMING CHANGES.

POWER & SPECIAL SYSTEMS PLAN NOTES:

- ① DISCONNECT AND REMOVE THE WALL MOUNTED SAFETY SWITCH AND THE SURFACE MOUNTED RANGE RECEPTACLE. PROVIDE A NEW KITCHEN PANEL AND CONNECT TO THE EXISTING FEEDER. SEE THE SCHEDULE. REINSTALL THE RANGE RECEPTACLE AND CONNECT TO THE NEW PANEL, (3) #6, GROUND. PROVIDE A GRAY PAINTED PLYWOOD MOUNTING BOARD FOR THE PANEL AND RANGE OUTLET.
- ② RELOCATE THE EXISTING CEILING MOUNTED SMOKE DETECTOR. CONNECT THE SMOKE DETECTOR AND THE NEW MANUAL STATION TO THE INITIATING CIRCUIT
- ③ NEW FIRE ALARM DEVICE.
- ④ EXISTING WALL MOUNTED HORN/STROBE. CONNECT THE NEW HORN STROBE TO THE NOTIFICATION CIRCUIT.
- ⑤ NEW WALL MOUNTED UNIT HEATER, Q-MARK MUH05-21 WITH A MT-1 LINE VOLTAGE THERMOSTAT AND A MMB-10 UNIVERSAL MOUNTING BRACKET.

TALK

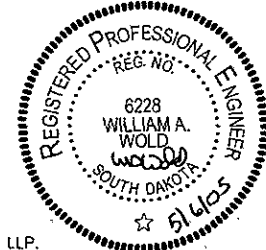


1 POWER & SPECIAL SYSTEMS PLAN
16.2 1/8" = 1'-0"



KITCHEN PANEL SCHEDULE
VOLTAGE - 240/120 V, 1 PH. 3 WIRE CONNECTION - 100 A MLO
MOUNTING - SURFACE

CCT	LOAD SERVED	AMPS/POLES	PHASE	AMPS/POLES	LOAD SERVED	CCT
1	Range Outlet	50/2	A	20/1	Storeroom Lighting	2
3	"	-	B	20/1	Storeroom and Receptacles	4
5	Unit Heater	30/2	A	20/1	Spare	6
7	"	-	B	20/1	Spare	8
9	Spare	20/1	A	20/1	Spare	10
11	Spare	20/1	B	20/1	Spare	12
13	Spare	20/1	A	20/1	Spare	14
15	Spare	20/1	B	20/1	Spare	16
17			A			18
19			B			20
21			A			22
23			B			24
25			A			26
27			B			28
29			A			30



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SOUTH CANYON ELEMENTARY
 RAPID CITY, SOUTH DAKOTA 57701
 POWER & SPECIAL SYSTEMS PLAN
 16.2

ELECTRICAL SPECIFICATIONSPART 1 - GENERAL1.1 SCOPE

Provide a complete operational electrical system as shown on the plans and specified herein. The scope includes lighting, power and special systems work as shown.

1.2 CODE COMPLIANCE

The Contractor shall comply with National, State and local electrical codes.

1.3 SITE CONDITIONS

The Contractor shall field verify all existing conditions prior to submitting a proposal. By submitting a proposal, the Contractor states that he has examined all existing conditions. If the Contractor encounters conditions that need clarification, contact the Engineer for resolution or clarification.

1.4 PERMITS AND FEES

The Contractor shall obtain required permits and pay fees and charges required.

1.5 SHOP DRAWINGS

Submit shop drawings in accordance with the Architectural Specifications for the following items:

Lighting Fixtures	Wiring Devices
Realer	Fire Alarm System

PART 2 - MATERIALS2.1 BRANCH CIRCUIT WIRING AND RACEWAYS

In general, feeder, branch circuit and low voltage wiring shall be installed in EMT raceways. Interior conduits shall be EMT with steel set-screw fittings. Minimum size shall be 1/2". All interior conduits shall be routed perpendicular to building lines. Flexible metallic conduit or Type MC cable may be used for connections between junction boxes and recessed lighting fixtures. Wiremold raceways and boxes shall be used for surface mounted wiring in existing finished areas.

2.2 WIRE

Wire for line voltage work shall be Type THHN copper, THWN below grade, unless otherwise indicated. Minimum wire size shall be #12. Low voltage wire and cable shall be as specified in other paragraphs of this specification.

2.3 BOXES

Device and junction boxes for EMT and metallic raceway systems in walls shall be plated sheet steel, size as required by the NEC. Device and junction boxes shall be Steel City 52000 Series or equal. Boxes shall be a minimum of 4" square X 1 1/2" deep, with a device ring sized for the use. Provide Steel City 52-C series wall outlet box covers as required. Provide with box supports.

2.4 WIRING DEVICES

Devices in office areas shall be commercial grade, color to match existing wiring devices in the area. Devices shall be as follows:

Switches	Leviton C120 Series
Receptacles	Leviton BR20 Series
GFI Receptacles	Leviton 8899 Series

Wiring device plates in finished areas shall be nylon, P&S Trademaster series or equal, color to match wiring devices. Device plates in unfinished areas shall be raised steel on surface mounted boxes, nylon on PVC boxes. Weatherproof plates shall be of the deep in-use type, horizontal device, gray cover, Leviton 5996-DGY or equal.

2.5 LIGHTING FIXTURES AND LIGHTING CONTROL

Lighting fixtures shall be as scheduled on the plans. Fixtures shall be provided complete with lamps. Ballasts for fluorescent fixtures shall be high frequency electronic. Fixture shall be provided complete with lamps. Fluorescent lamp color shall be 3500K.

2.6 GROUNDING

The entire electrical system shall be grounded in accordance with NEC Article 250. Provide an equipment grounding conductor in all raceways.

2.7 PANELBOARDS

Provide branch circuit panelboards as shown and scheduled on the plans. The panelboards shall be the Siemens P1 series or equal by Square D, GE or Cutler Hammer. Load centers shall not be used.

2.8 FIRE ALARM SYSTEM

Extend the existing Faraday MPC 2000 addressable fire alarm system as shown on the plans. Provide new devices and extend existing fire alarm system wiring as required.

2.8 A FIRE ALARM SYSTEM EQUIPMENT

Manual alarm stations shall be non-coded and be semi-flush mounted in finished areas and surface mounted in unfinished areas. Construction shall be die cast finished red with instructions in raised white lettering.

Visual and Audible/visual notification appliances shall be installed where indicated on the drawings. All audible devices shall have a minimum 95 dB volume. Visual devices shall flush mount to a standard one gang electrical box and shall be of the synchronized type and shall meet UL-1971 and ADA requirements. Candela rating shall be as shown on the plans.

Audible/visual notification appliances shall mount to a standard one gang electrical box.

2.8 B FIRE ALARM SYSTEM OPERATION

Actuation of any alarm initiating device shall cause all audible devices to sound, visual signals to flash (synchronized), all air handling equipment to shut down, controlled doors to close and notification provided at the remote annunciator.

2.8 C FIRE ALARM SYSTEM INSTALLATION AND TESTING

All wiring shall be in accordance with the manufacturer's wiring diagrams. Conductors to notification appliance circuits shall be #14 THHN minimum, wiring for the intelligent system data loop shall be #16 THHN, configured in a Class B wiring layout as per NFPA 72. Fire alarm system devices shall be installed on metal boxes.

An authorized representative of the manufacturer shall make an inspection of the fire alarm system upon completion of the installation. The inspection shall consist of an examination of the system for the following:

1. Wiring connections to all equipment components show that the installer undertook to have observed NEC, UL and NFPA requirements.
2. The equipment has been installed in accordance with the manufacturer's recommendations and that all devices have been operated or tested to verify their operation.
3. Supervisory wiring of those items of equipment connected to a supervised circuit is operating and that the governmental regulations, if any, concerning such supervisory wiring, have been met to the satisfaction of inspecting officials.

The representative of the manufacturer shall supply to the electrical contractor reasonable amounts of technical assistance with respect to any changes necessary to conform the work described above. Upon the completion of the inspection and when all of the above conditions have been complied with, the manufacturer's representative shall issue to the engineer:

1. A copy of the inspecting technician's report showing location of each device and certifying the test results of each device.
2. A certification of verification confirming that the inspection has been completed and showing the conditions upon which such inspection and certification have been rendered. This verification shall bear the signatures of the technician and the observing representative of the Rapid City Fire Department as required by local codes.

All costs involved with Rapid City Fire Department plan reviews and inspections shall be included with the electrical contractor's total bid price.

PART 3 - EXECUTION3.1 MATERIALS AND WORKMANSHIP

All materials shall be new and of first class quality. The materials shall carry an UL label for the use. The Contractor shall install all materials in a workmanlike manner. Installations not of this quality shall be replaced or modified at no cost to the Owner.

Conduits and boxes shall be concealed in the walls and above ceilings where ever possible.

3.2 CUTTING AND PATCHING

The Contractor shall provide cutting and patching of site and building surfaces for the installation of electrical equipment and materials. The Contractor shall not cut structural members without the approval of the Architect.

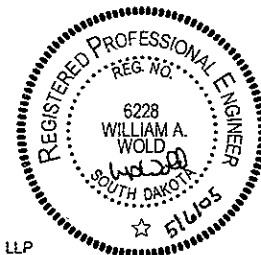
3.3 GUARANTEE AND WARRANTIES

Work performed under this contract shall have a written guarantee for (1) year from the date of final acceptance.

3.4 AS BUILT DRAWINGS AND OWNERS MANUALS

At the completion of the project the Contractor shall deliver to the Owner an accurate set of red lined as-built drawings.

The Contractor shall assemble any installation instructions and operations manuals that are delivered with the electrical equipment. These materials, along with a copy of the original shop drawings and systems test, shall be assembled into electrical operation and maintenance manuals for the Owners use. See the Architectural specifications.



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