

ADDENDUM NO. 1

BONITA UNIFIED SCHOOL DISTRICT BID NO. 2025-26-09 BONITA HIGH SCHOOL FREEZER

The following clarifications, responses, changes, additions, deletions, or corrections shall become part of this solicitation and the contract documents for the bid named above.

1. Is there any specification for the freezer?

It is a Polar King 8' x 20'



2. Where is the exterior freezer being relocated?

The existing modular freezer is moving in the general area of its present location. Please see attached Drawing A1.2 highlighted in green. The dashed line is the freezer's present location with Keynote E4..Keynote R1 relates to relocated position.

3. The drawings reference a staff restroom. Can you let me know where that restroom is located?

Please see attached Drawings A1.1 and A2.1 highlighted to indicate the staff restroom location and scope. These are in building J as noted on the Drawings.

4. Where are the staff restrooms?

The staff restrooms are located in the Multipurpose Room. Attached photos for reference.







- 5. What is the project's duration, and is it measured in calendar days or business days? Additionally, once the school year begins, what are the permitted working hours?**

49 Working days; weekends are not included. Once school starts, the working hours will need to be coordinated with the contractor to minimize disruption to classroom instruction.

- 6. There were no specifications for the asphalt; can you please provide these?**

See attached specification section 32 12 16.08

- 7. There were no specifications provided for the rock base; can you please provide these?**

See attached specification section 32 11 23

- 8. There were no specifications provided for the concrete; can you please provide these?**

See attached specification 03 20 00 and 03 30 00

- 9. There were no specifications provided for the seal coat; is it 1 or 2 coats?**

See attached specification 32 12 36.13

10. If the freezer cannot be reassembled, what is the school's plan to resolve this?

The question is unclear. The existing freezer unit is **not** to be disassembled. Please refer to Drawing PK.1.

11. On sheet D1.1 the plans call for an R8 but there is no indication of what R8 is in the keynotes. Can you please provide details on call-out note R8?

Keynote R8 is to removed existing chainlink mesh.

END OF ADDENDUM NO. 1

BELOW, PLEASE ACKNOWLEDGE RECEIPT OF THIS ADDENDUM AND SUBMIT IT WITH YOUR BID.

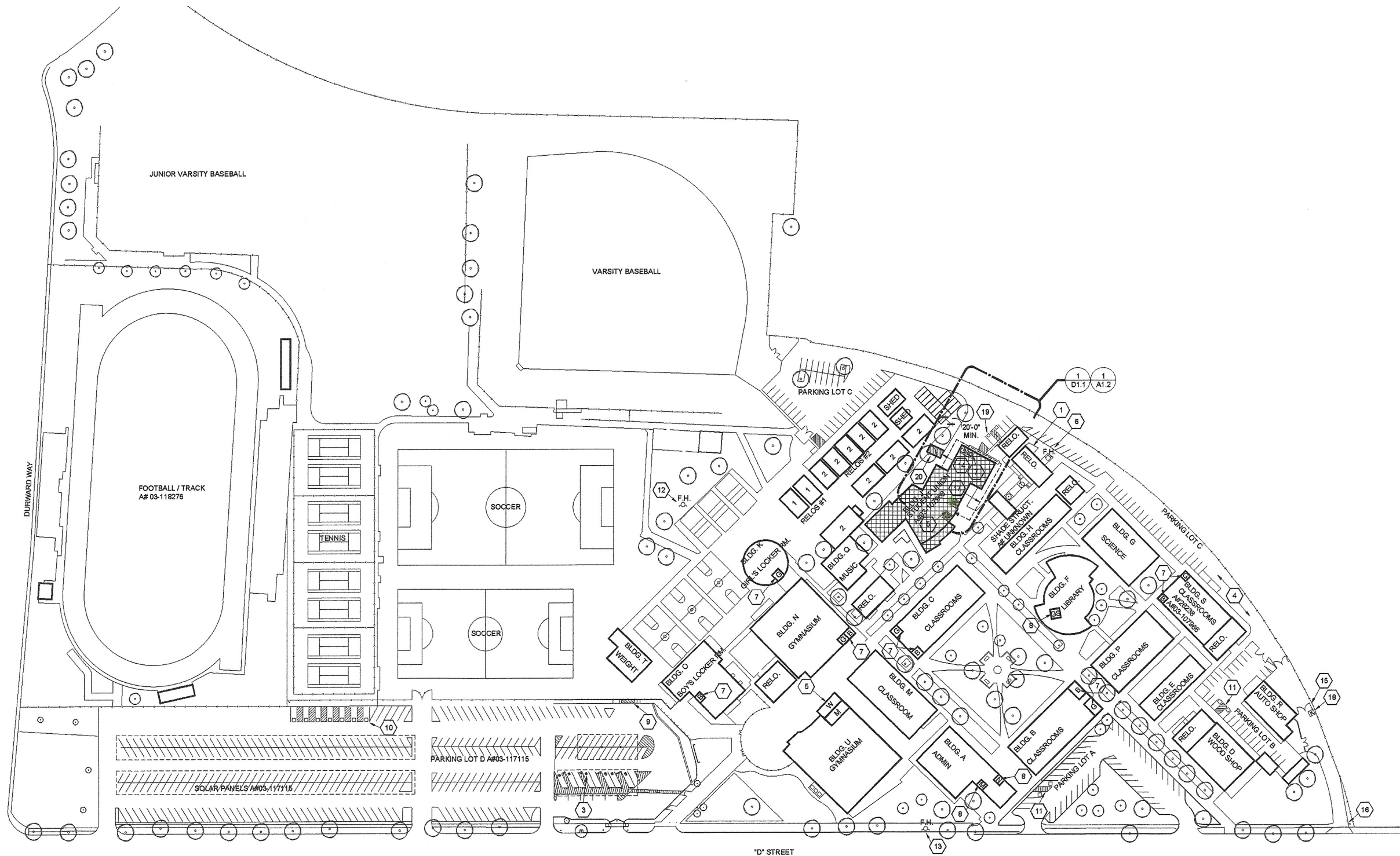
Company Name: _____

Signature: _____

Print Name: _____

Title: _____

Date: _____



1 OVERALL SITE PLAN
SCALE: 1" = 80'
NORTH

GENERAL NOTES	KEYNOTES	PARKING LOT ANALYSIS	LEGEND	DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
A. FOR TYP. SYMBOLS AND ABBREVIATIONS, SEE SHEET G1.0 B. PROVIDE TEMPORARY 6' HIGH CHAIN LINK FENCE ENCLOSURES WITH SCREENING FABRIC AND LOCKABLE GATES AS REQUIRED FOR CONSTRUCTION ACCESS AT CONTRACTOR'S STAGING AREA AND AROUND ALL CONSTRUCTION SITES. C. WHERE (E) LAWNS ARE DAMAGED BY THE EXECUTION OF THIS CONTRACT, FILL, COMPACT, AND REPLANT. D. CONTRACTOR SHALL MAINTAIN EXISTING PLANTING WITHIN THE JOB SITE FENCE ENCLOSURE DURING DEMOLITION AND CONSTRUCTION PHASES. EXISTING IRRIGATION SYSTEMS SHALL EITHER REMAIN OPERATIONAL FOR CONTRACTOR'S USE OR CONTRACTOR SHALL HAND WATER EXISTING PLANT MATERIALS AS REQUIRED. E. REPAIR EXISTING IRRIGATION SYSTEMS DAMAGED DURING THE EXECUTION OF THIS CONTRACT. REPLACE PLANT MATERIALS DAMAGED DURING THE CONSTRUCTION PERIOD WITH THE SAME SPECIES OF EQUAL OR GREATER SIZE. F. A MINIMUM OF 15% OF ALL SCOPE WORK MUST BE PERFORMED IN-HOUSE BY GENERAL CONTRACTOR. G. ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR). H. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT. I. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCE.	1. EXISTING CONCRETE SIDEWALK/PAVING, PROTECT 2. EXISTING ASPHALT SIDEWALK/PAVING, PROTECT 3. EXISTING ACCESSIBLE PARKING STALLS 4. EXISTING 20' W. FIRE LANE 5. EXISTING ACCESSIBLE MEN AND WOMEN TOILET TO BE UPDATED, (A# 03-113305) RE: A2.1 6. EXISTING FIRE HYDRANT TESTED 7. EXISTING ACCESSIBLE STUDENT TOILET 8. EXISTING ACCESSIBLE STAFF TOILET 9. EXISTING ACCESSIBLE LOADING ZONE 10. EXISTING ACCESSIBLE PARKING STALLS 11. EXISTING ACCESSIBLE STUDENT TOILET 12. EXISTING FIRE HYDRANT FLOWED, (A# 03-115973) 13. EXISTING CITY OF LA VERNE FIRE HYDRANT 14. EXISTING 8' X 20' KITCHEN EXTERIOR FREEZER TO BE MOVED 15. EXISTING 20' W. GATE 16. NEW TOW-AWAY SIGN (REMOVE EXISTING), RE: 6/A1.3 17. NEW ACCESSIBLE PATH OF TRAVEL 18. NEW 3200 KNOX BOX MOUNTED TO EXISTING C.L. FENCE, RE: 2/G1.1 19. NEW ACCESSIBLE PARKING STALLS, RE: A1.2 20. ASSUMED PROPERTY LINE, RE: A1.2	PARKING LOT A A#03-107966 (STAFF & VISITORS) 43 EXISTING STANDARD STALLS 1 EXISTING ACCESSIBLE STALL 1 EXISTING ACCESSIBLE VAN STALL PARKING LOT B A#03-107966 (STAFF) 28 EXISTING STANDARD STALLS 1 EXISTING ACCESSIBLE STALLS 1 EXISTING ACCESSIBLE VAN STALL PARKING LOT C A#03-107966 (STAFF) 70 EXISTING STANDARD STALLS 2 EXISTING ACCESSIBLE STALL 2 EXISTING ACCESSIBLE VAN STALL PARKING LOT D A#03-117115 (STAFF & STUDENTS) 339 EXISTING STANDARD STALLS SOUTH: SCHOOL 6 EXISTING ACCESSIBLE STALLS 2 EXISTING ACCESSIBLE VAN STALLS NORTH: FOOTBALL STADIUM 5 EXISTING ACCESSIBLE STALLS 2 EXISTING ACCESSIBLE VAN STALLS	EXISTING BUILDING ACCESSIBLE ENTRY NEW ACCESSIBLE PATH OF TRAVEL EXISTING ACCESSIBLE TOILETS A#03-107966 B=BOYS M=MENS N=NURSE G=GIRLS W=WOMENS GS=GENDER NEUTRAL STAFF EXISTING 8'X20' KITCHEN EXTERIOR FREEZER BUILDING J (A#03-107966)	"THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS, OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT." PATH OF TRAVEL TECHNICAL REQUIREMENTS FOR ACCESSIBLE ROUTE "ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP-RESISTANT. CROSS-SLOPE SHALL NOT BE STEEPER THAN 1:48 AND SLOPE IN THE DIRECTION OF THE TRAVEL SHALL NOT BE STEEPER THAN 1:20. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND FREE OF OBJECTS PROTRUDING MORE THAN 4" FROM THE WALL, ABOVE 27" AND LESS THAN 80" ABOVE THE FLOOR. ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL."

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125520 INC.
REVIEWED FOR
SS ☒ FLS ☒ ACS ☒
DATE: 02/24/2026

Architecture
9 PLLLP
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a9contact@architecture9.com

ARCHITECTS STAMP:

CONSULTANT:

CONSULTANTS STAMP:

SCHOOL DISTRICT:
BONITA UNIFIED
SCHOOL DISTRICT

PROJECT:
BONITA
HIGH SCHOOL
KITCHEN
EXTERIOR
FREEZER
3102 D. STREET
LA VERNE, CA. 91750

JOB NUMBER: 12.01.08
DATE: 1/16/25
REVISION: DATE:
REVISION: DATE:
DRAWING TITLE:
OVERALL
SITE PLAN
DRAWING NO.:

A1.1



1 ENLARGED SITE PLAN
SCALE: 1" = 10'-0"
NORTH

KEYNOTES

- E1. EXISTING CONCRETE SIDEWALK/ PAVING TO REMAIN, PROTECT
- E2. EXISTING C.L. FENCE TO REMAIN, PROTECT
- E3. EXISTING ASPHALTIC CONCRETE PAVING TO REMAIN, PROTECT
- E4. EXISTING 8' X 20' PRE-MANUFACTURED EXTERIOR KITCHEN MODULAR FREEZER AND ELECTRICAL SERVICE TO BE RELOCATED
- E5. EXISTING MAINTENANCE GATE TO REMAIN, PROTECT
- E6. EXISTING ELECTRICAL C.L. ENCLOSURE TO REMAIN, PROTECT
- E7. EXISTING TRASH DUMPSTERS TO REMAIN, RELOCATE AS REQUIRED DUE TO NEW CONSTRUCTION
- E8. EXISTING CONCRETE CURB AND GUTTER TO REMAIN, PROTECT
- E9. EXISTING CONCRETE SWALE TO REMAIN, PROTECT. LOWER ADJACENT GRADE TO PROVIDE POSITIVE RUN-OFF FLOW
- E10. EXISTING TREE TO REMAIN, PROTECT
- E11. EXISTING RECESSED UTILITY VAULT OR CLEAN-OUT TO REMAIN, RAISE TO NEW FINISH SURFACE
- E12. EXISTING CONCRETE CURB TO REMAIN
- E13. EXISTING RELOCATABLE AND RAMP TO REMAIN, PROTECT
- E14. EXISTING WALL-MOUNTED DOWNSPOUT WITH NEW 5" PVC DRAIN LINE
- E15. EXISTING EXPOSED SOIL/ TURF
- E16. EXISTING C.L. FENCE, MODIFY DUE TO THE FREEZER RELOCATION, RE: CLF.1
- E17. EXISTING FIRE HYDRANT

RELOCATE

- R1. RELOCATE EXISTING 8' X 20' PRE-MANUFACTURED KITCHEN MODULAR FREEZER AND ASSOCIATED ELECTRICAL SERVICE. RE-INSTALL EXISTING HURRICANE ANCHORS AT EACH CORNER RE: PK.1 & ELECTRICAL DWG.
- R2. RELOCATE EXISTING METAL RAMP, RE-ATTACHED TO EXISTING CONCRETE PAVING
- R3. RE-INSTALL SALVAGED WHEEL STOP, RE: 13/A1.3

NEW

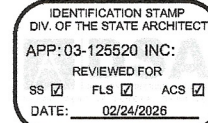
- N1. NEW ASPHALTIC CONCRETE TOPCOAT OVER COLDPLANE/ MILLING, SEAL COAT
- N2. NEW ACCESSIBLE (EXISTING < 2% ALL DIRECTIONS) PATH OF TRAVEL WITH 4" W. PAINTED BLUE (FEDERAL STD. 556C, COLOR: 15080) BORDER AND 4" W. PAINTED WHITE DIAGONAL STRIPING AT 36" O.C.
- N3. NEW 4" W. PAINTED BLUE (FEDERAL STD. 556C, COLOR: 15080) PARKING STALL LINE
- N4. NEW 12" W. PAINTED WHITE TRAFFIC CONTROL WORDS, RE: 8/A1.3
- N5. NEW 36" SQ. PAINTED ACCESSIBLE PARKING STALL SYMBOL, RE: 7/A1.3
- N6. NEW ACCESSIBLE PARKING SIGN, RE: 5/A1.3
- N7. NEW ACCESSIBLE VAN PARKING SIGN, RE: 5/A1.3
- N8. NEW 4" D. BOLLARD, RE: 9/A1.3
- N9. NEW 4" W. PAINTED WHITE STALL LINE
- N10. NEW 3" ASPHALT OVER 4" AGGREGATE BASE AT <2% EACH WAY
- N11. NEW 4" PAINTED WHITE BORDER AND DIAGONAL STRIPING AT 36" O.C.
- N12. NEW 6" H. C.L. FENCE, RE: CLF.1
- N13. NEW STRUCTURAL BRACE FRAME, RE: S0.1
- N14. NEW ACCESSIBLE CURB RAMP, RE: 1/A1.3
- N15. NEW 60" X 60" ACCESSIBLE CLEAR SPACE AT < 2% EACH WAY
- N16. NEW DOOR THRESHOLD, RE: 12/A1.3
- N17. NEW FLUSH TRANSITION
- N18. NEW 4" REINFORCED CONCRETE SIDEWALK AT <2% EACH WAY, RE: 2/A1.4
- N19. NEW 42" W. MAINTENANCE C.L. GATE AND 6" H. FENCE, RE: CLF.1
- N20. NEW FOOD SERVICE CURB RAMP, RE: 1/A1.4
- N21. NEW CONCRETE TRANSITION PAD AT EXISTING RAMP, RE: 10/A1.3
- N22. NEW CONCRETE CURB AND GUTTER TO MATCH EXISTING, RE: 2E/A1.4
- N23. NEW 10" WIDE FIRE LANE RED STRIP, RE: 8D/A1.3
- N24. NEW CONCRETE CURB TO MATCH EXISTING, RE: 3B/A1.4 SIM.
- N25. NEW SLOPING CONCRETE SIDEWALK AT <1.20 % RUN AND <2% CROSS
- N26. NEW 6" H. WIRE 2X2 FENCE MESH ON EXISTING POSTS, STRAIGHTEN, RE: CLF.1

GENERAL NOTES

- A. FOR TYP. SYMBOLS AND ABBREVIATIONS, SEE SHEET G1.0
- B. PROVIDE TEMPORARY 6' HIGH CHAIN LINK FENCE ENCLOSURES WITH LOCKABLE GATES AROUND ALL CONSTRUCTION SITES.
- C. WHERE REMOVAL OF CONCRETE WALKS, MOW STRIPS, CURBS AND GUTTERS IS REQUIRED REMOVE THE CONCRETE WORK TO THE NEAREST EXISTING EXPANSION OR CONTROL JOINT (SAW CUT IF REQUIRED). A MINIMUM OF 15% OF ALL WORK IS TO BE PERFORMED IN-HOUSE BY GENERAL CONTRACTOR UNLESS NOTED OTHERWISE
- E. CONTRACTOR TO COMPLY WITH ALL CPC CHAPTER 33 CURRENT EDITION FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

LEGEND

- EXISTING BUILDING OR STRUCTURE
- NEW 4" REINFORCED CONCRETE PAVING
- NEW ASPHALT COLD PLANE
- NEW ASPHALT AND AGGREGATE BASE



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9

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ARCHITECTS STAMP:



CONSULTANT:

CONSULTANTS STAMP:

SCHOOL DISTRICT:
BONITA UNIFIED
SCHOOL DISTRICT

PROJECT:
BONITA
HIGH SCHOOL
KITCHEN
EXTERIOR
FREEZER

3102 D. STREET
LA VERNE, CA. 91750

JOB NUMBER: 12.01.08
DATE: 01/16/25

REVISION: DATE: _____
REVISION: DATE: _____

DRAWING TITLE:

ENLARGED
SITE PLAN

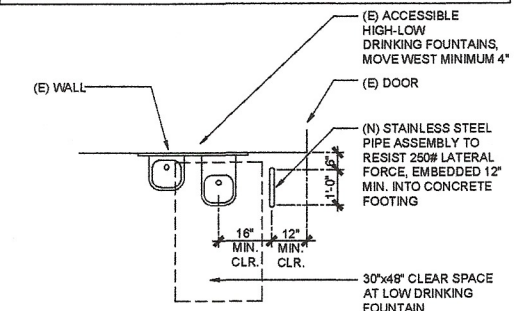
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A1.2

KEYNOTES

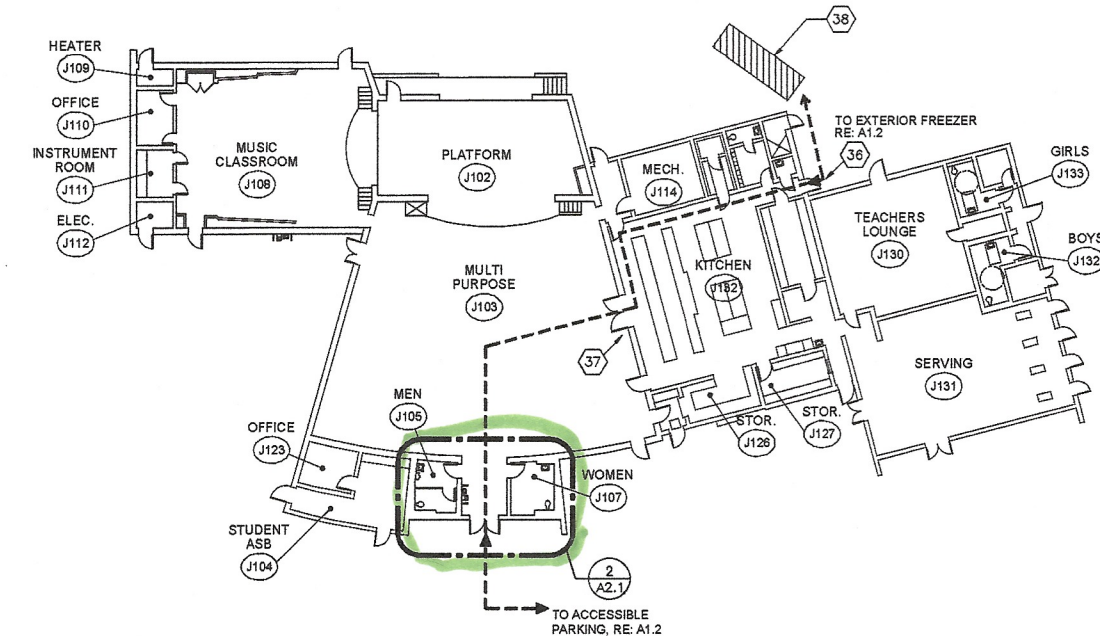
- EXISTING CERAMIC WALL TILE TO REMAIN
- EXISTING CERAMIC FLOOR TILE TO REMAIN
- EXISTING GYPSUM BOARD WALL TO REMAIN
- EXISTING ACCESSIBLE WATER CLOSET TO REMAIN (A# 03-107986)
- EXISTING ACCESSIBLE GRAB BARS TO REMAIN (A# 03-107986)
- EXISTING ACCESSIBLE LAVATORY WITH PIPE PROTECTOR TO REMAIN (A# 03-107986)
- EXISTING ACCESSIBLE TOILET PAPER DISPENSER (A#03-107986)
- EXISTING ACCESSIBLE FREE-STANDING TRASH CAN TO REMAIN (A#03-107986)
- EXISTING PLUMBING ACCESS HATCH TO REMAIN
- EXISTING ACCESSIBLE SOAP DISPENSER TO REMAIN (A#03-107986)
- EXISTING ACCESSIBLE HIGH/ LOW DRINKING FOUNTAIN TO BE MOVED A MINIMUM 4" WEST, (A#03-107986, RE: 2 & 14/A2.1)
- EXISTING ACCESSIBLE URINAL TO REMAIN (A#04-107986)
- EXISTING ACCESSIBLE MIRROR TO REMAIN
- EXISTING ACCESSIBLE 36" W. DOOR AND HARDWARE TO REMAIN (A#04-107986), ADD COAT HOOK AT 48" AFF
- EXISTING TOILET PARTITION TO REMAIN (A#04-107986)
- EXISTING ACCESSIBLE 36" W. DOOR AND HARDWARE TO REMAIN (A#04-107986)
- 30" X 48" CLEAR SPACE
- 48" X 48" CLEAR SPACE
- 80" DIA. TURNING RADIUS
- 54" X 60" CLEAR SPACE
- 72" X 48" CLEAR SPACE
- 72" X 60" CLEAR SPACE
- REMOVE AND SALVAGE EXISTING LAVATORY, PIPE PROTECTOR, MIRROR, AND SOAP DISPENSER, REPAIR/ REPLACE EXISTING DAMAGE WALL TILE
- REPAIR WALL
- REMOVE AND SALVAGE EXISTING TOILET PARTITION
- NEW 44" PROJECTION ACCESSIBLE SEMI-RECESSED TOILET PAPER DISPENSER
- NEW ACCESSIBLE RECESSED NAPKIN DISPOSAL
- NEW AND RE-INSTALLED SALVAGED TOILET PARTITION TO MATCH EXISTING RE: 4A1.4
- NEW GUARDRAIL, RE: 13/A2.1
- RE-INSTALLED SALVAGED ACCESSIBLE LAVATORY WITH PIPE PROTECTOR
- RE-INSTALL SALVAGED ACCESSIBLE MIRROR
- RE-INSTALL SALVAGED ACCESSIBLE SOAP DISPENSER
- EXISTING ACCESSIBLE SIGNAGE TO REMAIN, (A#03-107986), RE: A3.1
- NEW WALL TILE TO MATCH EXISTING
- DESIGN/ BUILD PLUMBING MODIFICATIONS
- REPLACE EXISTING TILE DAMAGED OR WITH HOLES TO MATCH EXISTING
- REMOVE AND REPLACE EXISTING THRESHOLD AT EXISTING 36" W. PAIR OF 37. ACCESSIBLE DOORS (A# 04-107986), RE: 12/A1.3
- EXISTING 36" W. PAIR OF DOORS, REPLACE LOCKSET WITH NEW LEVER ACCESSIBLE LOCKSET
- EXISTING 8' X 20' KITCHEN EXTERIOR MODULAR FREEZER TO BE RELOCATED, RE: D4.1 & A4.2

NOTE:
CONTRACTOR SHALL ADJUST WATER FLOW ON EXISTING DRINKING FOUNTAIN TO THE FOLLOWING REQUIREMENTS:
THE SPOUT SHALL PROVIDE FLOE OF WATER 4 INCHES (102 mm) HIGH MINIMUM AND SHALL BE LOCATED 5 INCHES (127 mm) MAXIMUM FROM THE FRONT OF UNIT. THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT FACE OF THE UNIT. WHERE SPOUTS ARE LOCATED LESS THAN 3 INCHES (76 mm) OF THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 30 DEGREES MAXIMUM. WHERE SPOUTS ARE LOCATED BETWEEN 3 INCHES (76 mm) AND 5 INCHES (127 mm) MAXIMUM FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAXIMUM



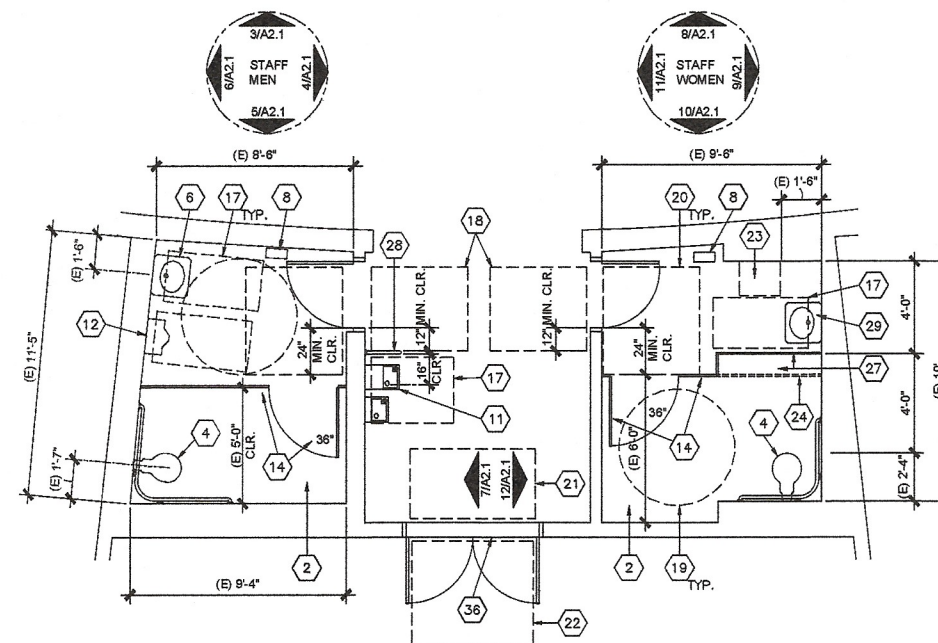
13 HIGH-LOW D.F. GUARDRAIL DETAILS

SCALE: 3/8"=1'-0"



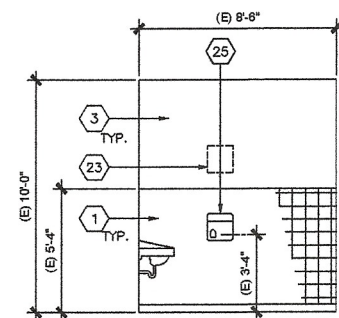
1 BUILDING J FLOOR PLAN

SCALE: N.T.S.



2 STAFF TOILET FLOOR PLANS

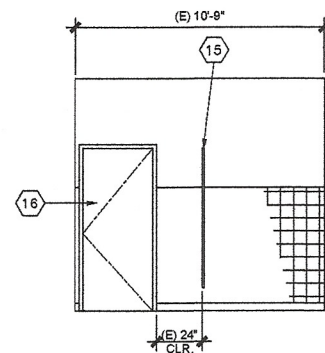
SCALE: 1/4"=1'-0"



3 ELEVATION

SCALE: 1/4"=1'-0"

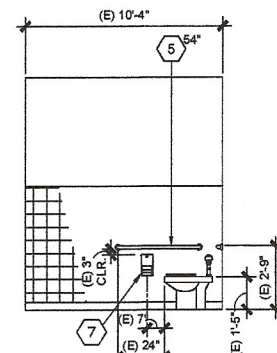
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4 ELEVATION

SCALE: 1/4"=1'-0"

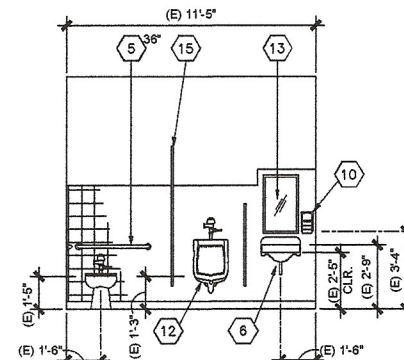
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5 ELEVATION

SCALE: 1/4"=1'-0"

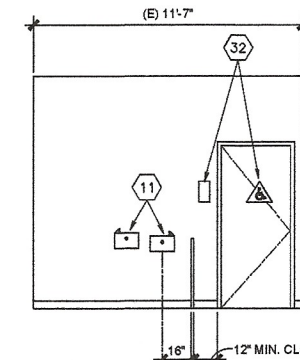
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6 ELEVATION

SCALE: 1/4"=1'-0"

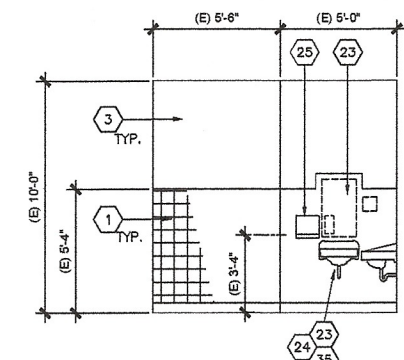
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7 ELEVATION

SCALE: 1/4"=1'-0"

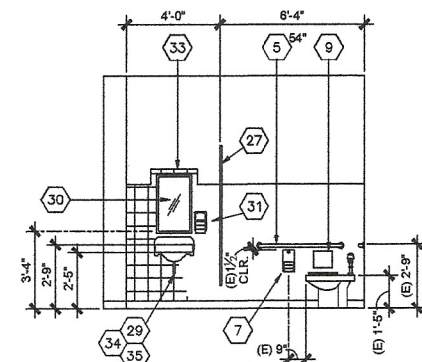
MEN



8 ELEVATION

SCALE: 1/4"=1'-0"

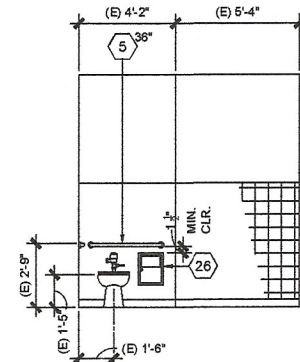
WOMEN



9 ELEVATION

SCALE: 1/4"=1'-0"

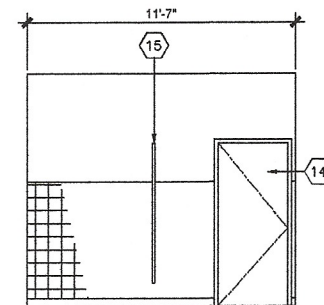
WOMEN



10 ELEVATION

SCALE: 1/4"=1'-0"

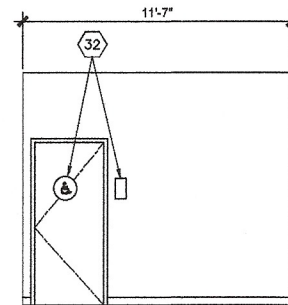
WOMEN



11 ELEVATION

SCALE: 1/4"=1'-0"

WOMEN



12 ELEVATION

SCALE: 1/4"=1'-0"

WOMEN

PART 1 - GENERAL

1.01 SUMMARY OF WORK

- A. Asphaltic concrete paving.
- B. Patching existing pavement.
- C. Fill all cracks in existing paving.
- D. Surface sealer coats.
- E. Path to pedestrian areas shall comply with 11B - 302-1 and 11B - 303.

1.02 RELATED WORK

- A. Section 32 12 36.13 - Asphalt Pavement Seal Coat.
- B. Section 32 17 23.13 - Pavement Marking.

1.03 REFERENCES

- A. California Department of Transportation (CALTRANS), Division of Highways Standard Specifications, as last amended.
- B. Definitions: Paving and base Type designations.
 - 1. Type A: Areas taking automobile traffic.
 - 2. Type B: Areas taking bus and/or truck traffic and fire lanes.
 - 3. Type C: Areas taking pedestrian traffic (hard-court/play areas).
 - 4. Type E: Areas where paving is to be replaced. Refer to 3.06.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with CALTRANS Standard Specifications.
- B. Off-site work to conform to local governing agency requirements. Obtain and pay for required permits and licenses. Do required testing.
- C. Allowable Tolerances:
 - 1. Material Weights: Weights of base course and paving materials delivered to Site shall be computed as follows:
 - a. Asphalt Concrete Paving: 12 lbs/sf/inch of thickness.
 - b. Rock Base Course: 9-1/2 lbs/sf/inch of thickness.
 - 2. Paving Surface Smoothness: 3/8" maximum permissible from a true plane measured from 10' straight edge placed on surface non-cumulative.

ASPHALTIC CONCRETE PAVING, PATCHING, AND REPLACEMENT

1.05 SUBMITTALS

- A. Submit product data.
- B. Submit test reports of field quality control tests.
- C. Submit Weighmaster's Certificates showing net weight of each load of base and paving materials.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Place asphalt when base surface temperature is above 40°F and dry, and when weather is stable.
- B. Do not commence work until installation of underground pipes and utilities is complete.

1.07 GUARANTEE

- A. In addition to guarantee specified in Contract Close-Out, Section 01700, the Contractor shall repair or restore to first class condition any portion of asphaltic paving and surface coating in which weed growth, creeping, shoving, cracking, delamination, raveling, softening, excessive or uneven settlement due to improperly compacted subgrade, or other defects due to improper placing or defective materials, become apparent within one (1) year from acceptance date by the District.
- B. Effectiveness of type of weed control is sole responsibility of the Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Weed Control:
 - 1. Herbicide: Only use of borates, sodium chlorate, or other nonpoisonous chemicals will be permitted.
 - 2. Option: The Contractor may, at his option and expense, use Nox-Weed 310 emulsion.
- B. Base Course: Untreated rock using a pit run unwashed stream bar material, crusher run material, or blend of commercial products; graded as follows:
 - 1. Class 2 Aggregate Base, per Section 26, CALTRANS Standard Specifications.
 - 2. Mixing: Thoroughly blend material by blading or other suitable means.
- C. Asphalt Concrete Paving:
 - 1. General: CALTRANS Standard Specifications, except as modified herein.
 - 2. Asphalt: 40 or 50 penetration.

ASPHALTIC CONCRETE PAVING, PATCHING, AND REPLACEMENT

3. Aggregate: Graded mix as follows:

TOTAL PERCENTAGE PASSING SIEVES

<u>Sieve Size</u>	<u>Percentage</u>
3/4"	100%
1/2"	90%-100%
3/8"	74%-89%
No. 4	53%-67%
No. 8	40%-50%
No. 30	20%-30%
No. 200	3%-8%
Paving Asphalt	5-1/2 % to 7% by weight of total mix.

4. Mixing: Plant mix aggregate and asphalt, to produce a dense mixture with minimum of voids, per Section 39, CALTRANS Standard Specifications.

D. Surface Seal Coat For All Paving Areas:

1. Meet Green Book, Specification No. 203-9-Seal Coat Asphalt Base.
2. Sealer shall be Ove Kote Asphalt Pavement Coating by Diversified Asphalt Products or approved equal.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.
- C. Beginning of installation means acceptance of substrate.

3.02 PREPARATION

- A. Subgrade Preparation: After areas are brought to approximate required subgrade, finish by scarifying to depth of 3", moistening and rolling with a self-propelled tandem roller, weighting 8 tons minimum, until surface is firm and unyielding. Bring any depressions and high areas to required grade by scarifying, filling or cutting, and rolling to density and stability of adjoining material.
- B. Weed Control: Just prior to paving work, apply herbicide to earth as per manufacturer's printed recommendations.
- C. Coat surfaces of manhole catch basin metal surface frames with oil to prevent bond with asphalt paving.

ASPHALTIC CONCRETE PAVING, PATCHING, AND REPLACEMENT

3.03 INSTALLATION - BASE COURSE

- A. Spread to uniform thickness; water and roll until firm enough to support material trucks without displacement or rutting.
- B. Compacted Thicknesses:
 - 1. Type A Areas: 7." Parking lots.
 - 2. Type B Areas: 12". Fire Lane.
 - 3. Type C Areas: 3". Sidewalk/Hardcourt
 - 4. Type E Areas: 3" minimum. Paving Replacement refer to Paragraph 3.06.
- C. Density Required: 90% minimum.

3.04 INSTALLATION - PAVEMENT WEARING COURSE

- A. General: Conform to Section 39, CALTRANS Standard Specifications.
- B. Placing: Spread to headers and/or temporary screeds, where required, with Barber-Greene self-propelled mechanical spreading and finishing equipment, or Architect-approved equal. Hand spread only in places inaccessible to mechanical spreader. Heat shovels, forks and rakes.
- C. Edges: At headers, lay to a thickness 4" deep x 8" wide at bottom, forming a footing. Slope bottom up 3:1 to meet typical paving thickness. Where paving stops against buildings, walls, curbs, or concrete walks, thickened edges are not required.
- D. Abutting Work: Where paving contacts rigid structures, thoroughly clean and coat contact surfaces with a film of asphalt emulsion and/or asphalt cement. Protect adjoining work from spotting and splashing or asphalt materials.
- E. Rolling and Smoothness: Roll per Section 39, CALTRANS Standard Specifications. Finished surface to be even, smooth, of uniform texture free of roller welts, true to place and line, and drain as indicated. Paving to have a density such that water will not penetrate.
- F. Compacted Paving Thicknesses:
 - 1. Type A Areas: 3". Parking Lot
 - 2. Type B Areas: 3.5". Fire Lane
 - 3. Type C Areas: 3" Sidewalk/Hardcourt.
 - 4. Type E Areas: 3" minimum. Paving replacement refer to Paragraph 3.06.

3.05 APPLICATION - SURFACE SEAL

- A. Refer to Specification Section 32 12 36.13, Asphalt Pavement Seal Coat/Crack Filler.
- B. Preparation:
 - 1. Clean paving surface removing all loose, foreign materials.

ASPHALTIC CONCRETE PAVING, PATCHING, AND REPLACEMENT

2. Contractor shall exercise one of the following procedures:
 - a. Remove existing concrete parking bumpers prior to seal coat application and replace all bumpers on the original manner after curing period.
 - b. Mask all bumpers completely to prevent seal coat from splashing onto bumpers.
 3. Preventive measures shall be taken to protect existing concrete surfaces including curbs, walks, light pole mounting piers, etc, from over-splash by seal coat.
- C. Application:
1. Per manufacturer's recommendations.
 2. Mix into a slurry with three to six lbs. of sand per gallon of sealer.
 3. Protect adjacent structures from mixture.
 4. **Apply evenly in two coats.** Spread immediately with rubber-faced squeegees; pull at angle from line of spread, to roll material toward operator. After each coat has dried, remove ridges with scraper.
 5. Total Application Rate for Two Coats: Apply at an undiluted rate of 25 gallons minimum per 1,000 square feet. Increase application rate due to surface porosity per manufacturer's printed recommendations.
- D. Protect from traffic for three (3) days minimum after application.

3.06 TYPE E ASPHALT - PAVING REPLACEMENT

- A. Establish subgrade elevations allowing for new asphalt layers.
- B. Rip established subgrade surface to depth to 10 - 12" and bring to optimum moisture content and compact to 95% minimum.
- C. Prepare and sterilize new surface per CALTRANS Standards.
- D. Place two lifts of hot asphalt for a finished thickness of 3" at hardcourt and 3.5" at fire lane. Top lift to be 3/8" fine asphalt paving 1-1/2" thick, lower lift 1/2" maximum, medium asphalt paving 2-1/2" thick. Place, compact, and test per current Caltrans Standards.
- E. Apply (2) application of seal coat over all paving.

3.07 FIELD QUALITY CONTROL

- A. On-Site Work:
 1. Water Test: Flood test paving to show surfaces are free of standing puddles, and drain properly.
 2. Material Tests:
 - a. Made at District's option, by District selected Testing Lab.
 - b. District's Inspector to select test sample locations.
 - c. The Contractor is to repair test areas at no additional cost to District.
 - d. Testing costs by Contractor.

ASPHALTIC CONCRETE PAVING, PATCHING, AND REPLACEMENT

3.08 CLEANING

Remove equipment, excess materials, debris, and material splashes from abutting work.

3.09 REPAIR EXISTING CRACKS:

- A. Less than 1/4" up to 1/2": Repair with OverKote, Crack Filler by Diversified Asphalt Products or approved equal.
- B. Greater than 1/2" but less than 1": Remove asphalt a minimum of 2" down or to sound pavement and re-pack area with asphalt paving mix following procedures under paragraph 3.06.
- C. Greater than 1": Follow procedures under paragraph 3.06.

3.10 PATCHING EXISTING PAVEMENT

- A. Remove any defective pavement and existing deteriorated in areas defined and all pavement disturbed by construction activity to minimum 6" in depth or until sound subgrade is obtained. Extend limits minimum 1' into sound pavement; make cuts in straight lines.
- B. Contractor to remove spoils from site and dispose of properly.
- C. Apply tack coat to sides and bottom of excavated areas.
- D. Place asphaltic concrete in maximum 4" high lifts thoroughly and evenly compact using equipment which will obtain maximum compaction without damage to surrounding pavement.
- E. Contour and blend patches to lines and elevations of adjacent surfaces.
- F. Determine location of "bird baths". Apply tack coat and blend new leveling asphalt to existing surface.
- G. Repairing Existing Cracks:
 - 1. Less than 1/4" up to 1/2": Repair with OverKote, Crack Filler by Diversified Asphalt Products or approved equal.
 - 2. Greater than 1/2" but less than 1": Remove asphalt a minimum of 2" down or to sound pavement and re-pack area with asphalt paving mix following procedures under Paragraph 3.06.
 - 3. Greater than 1": Follow procedure under Paragraph 3.06.
- H. Apply 2 applications of seal coat 2 days apart over entire surface and re-stripe.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. All new and existing asphalt pavement areas as indicated in the Drawings is to be seal coated.
- B. All existing asphalt pavement areas to receive seal coat as indicated in the Drawings is to have all cracks filled prior to seal coats.

1.02 RELATED SECTION

- A. Section 32 12 16.08 - Asphaltic Concrete Paving, Patching and Replacement.
- B. Section 32 17 23.13 - Pavement Marking.

1.03 QUALITY ASSURANCE

- A. Qualification of workmen:
 - 1. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this section, and who shall be present at all times during progress of the work of this section and shall direct all work performed under this section.
 - 2. For actual seal coating and operation of the required equipment, use only personnel who are thoroughly trained and experienced in the skills required.

PART 2 - PRODUCTS

2.01 SEAL COAT

- A. The surface Seal Coat of existing and new Asphalt Pavement shall meet Green Book, Specification No. 203-9 Seal Coat Asphalt Based.
- B. Over Kote Asphalt Pavement Coating, Over Kote 1 Crack Filler and Over Kote Crack Filler 2 by Reed & Graham, Inc. or approved equal.

2.02 CRACK FILLER

- A. Over Kote Asphalt Pavement Coating, Over Kote Crack Filler and Over Kote Crack Filler II by Reed & Graham, Inc. or approved equal.

2.03 OTHER MATERIALS

All other materials, not specifically described but required for proper and complete installation of pavement seal coat, shall be provided to complete the work of this section.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A. Inspection: Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
 - 1. Verify that seal coat may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
- B. Discrepancies:
 - 1. In the event of discrepancy, immediately notify the Architect.
 - 2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.
- C. New and existing Asphalt Paving:
 - 1. The surface shall be cleaned of all dirt, debris oil, or foreign matter. After thoroughly cleaning, dampen the surface with water. Remove any excess water prior to application of sealer. Rough or irregular areas are to be treated with a mastic mix consisting of two pounds of 30 mesh silica sand per gallon of seal coat, prior to the applications of seal coats.
- D. Repairing Existing Cracks:
 - 1. Less than 1/4" fill with Over Kote 1, Crack Filler by Reed & Graham, Inc. or approved equal.
 - 2. Greater than 1/4" but less than 1/2" fill with Over Kote, Crack Filler 2 by Reed & Graham, Inc. or approved equal.
 - 3. Greater than 1/2" but less than 1". Remove asphalt a minimum of 2" down or to sound pavement and re-pack area with asphalt paving mix following procedures under Section 32 12 16.08, Paragraph 3.06.
 - 4. Greater than 1". Follow procedure under Section 32 12 16.08, Paragraph 3.06.
- E. New Asphalt Paving is not to be seal coated for a minimum of 36 days after installation of asphalt, to allow new paving to cure and prevent slurry seal blistering.

3.02 APPLICATION

- A. Seal coat shall be a two-coat application, each at the rate of approximately 25 gallons per 1000 square feet of pavement for application of each coat at 3 mils minimum thickness. Application may be made with squeegees, brooms, or mechanical applicators designed for applying slurry seal. Application is to be made by experienced technicians. Finished surface shall be smooth, without ridges, loops, and holidays.
- B. Apply per manufacturer recommended procedure.

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ASPHALT PAVEMENT SEAL COAT AND CRACK FILLER

- C. Do not place seal coat when the atmospheric temperature is below 65°F, or during unsuitable weather.
- D. Provide **two (2)** applications of seal coats on both new and existing asphalt surface as indicated on the Drawings. Coats shall be a minimum two (2) days apart.
- E. At new asphalt paving the Contractor shall be required to stripe parking lot areas where parking lot work is indicated, immediately after placement of asphalt. Contractor shall re-stripe a second time, 45 days later after application of seal coats.

3.03 CLEANING AND PROTECTION

- A. After completion of operations, clean surfaces of excess or spilled slurry material.
- B. Do not allow any foot or vehicular traffic on paving for 24 hours minimum, or until paving slurry has dried.
- C. Provide proper barricades and warning devices for slurry seal protection until it is opened to traffic.

END OF SECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base material.
- B. Installation standards.
- C. Spreading of material.
- D. Compacting.
- E. Field quality control.

1.2 RELATED SECTIONS

- A. Aggregate subbase for pavements and foundations is specified in Section 32 11 17 - Aggregate Subbase Courses.

1.3 CLASSIFICATION

- A. Aggregate bases are designated as Class 1 or Class 2. The class of aggregate base shall be as indicated.

1.4 MEASUREMENT AND PAYMENT

- A. General: Measurement and payment for aggregate base course will be either by the lump-sum method or by the unit-price method as determined by the listing of the bid item for aggregate base course indicated in the Bid Schedule of the Bid Form.

1.5 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
 - 2. ASTM D421 Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
 - 3. ASTM D1241 Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses
 - 4. ASTM D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 5. ASTM D2419 Test Method for Sand Equivalent Value of Soils and Fine Aggregate
 - 6. ASTM D2844 Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils
 - 7. ASTM D2922 Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - 8. ASTM D3017 Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - 9. ASTM D3744 Test Method for Aggregate Durability Index
- B. State of California, Department of Transportation (Caltrans), Standard Specifications, 1992 edition:
 - 1. Section 17 Watering
 - 2. Section 26 Aggregate Bases

1.6 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, for submittal requirements and procedures.
- B. Product Data: Submit source, gradation, R-value, sand equivalent, and durability for the proposed base course material.
- C. Test Reports: Submit plant and field test reports as specified in Articles 2.02 and 3.05 herein.

PART 2 - PRODUCTS

2.1 AGGREGATE BASE MATERIAL

- A. Aggregate for the two classes of aggregate bases at the time the base material is deposited on the prepared sub grade or sub base shall conform with ASTM D1241 and the following requirements:
 - 1. Class 1 Aggregate Base:
 - a. Class 1 aggregate base shall consist of crushed stone or gravel, free from vegetable matter and other deleterious substances. Aggregate shall consist of material of which 90 percent by weight shall be crushed particles. Composition of aggregate base, in percentages by weight, shall conform to one of the following gradings, determined in accordance with ASTM C136:

Percentage Passing Sieves

Sieve Sizes	1-1/2 inch Maximum	3/4-inch Maximum
2-inch	100	-----
1-1/2 inch	90-100	100
3/4-inch	50-85	90-100
No. 4	30-45	35-55
No. 30	10-25	10-30
No. 200	2-9	2-9

- b. Class 1 aggregate base shall conform to the following additional requirements:

ASTM Test

Tests	Method	Requirements
Resistance (R-Value)	D2844	80 min.
Sand Equivalent	D2419	50 min.
Durability Index	D3744	40 min.

2. Class 2 Aggregate Base:
- a. Class 2 aggregate base shall be free of vegetable matter and other deleterious substances. Coarse aggregate, material contained on the No. 4 sieve, shall consist of material of which 25 percent by weight shall be crushed particles. Class 2 aggregate base shall conform to one of the following gradings, determined in accordance with ASTM C136:

Percentage Passing Sieves

Sieve Sizes	1-1/2 inch Maximum	3/4-inch Maximum
2-inch	100	-----
1-1/2 inch	90-100	-----
1-inch	-----	100
3/4-inch	50-85	90-100
No. 4	25-45	35-55
No. 30	10-25	10-30
No. 200	2-9	3-9

- b. Class 2 aggregate base shall conform to the following additional requirements:

ASTM Test

Tests	Method	Requirements
Resistance (R-Value)	D2844	78 min.
Sand Equivalent	D2419	30 min.
Durability Index	D3744	35 min.

2.2 SOURCE QUALITY CONTROL

- A. The Contractor shall perform sampling and tests of the aggregate base material in accordance with the ASTM Test Methods herein specified, to determine compliance with specified requirements. Samples shall be taken from material as delivered to the site, and shall be prepared in accordance with ASTM D421, as applicable.
- B. Aggregate grading or sand equivalent test shall represent no more than 500 cubic yards of base course material or one day's production, whichever is the greater amount.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. The Contractor shall call for an inspection by the Engineer and obtain written acceptance of the prepared sub grade or sub base before proceeding with the placement of aggregate base course.
- B. The sub grade or sub base to receive aggregate base course, immediately prior to spreading, shall conform to the compaction and elevation tolerances indicated for the material involved and shall be free of standing water and loose or extraneous material.

3.2 INSTALLATION STANDARDS

- A. Aggregate base course shall be applied over the prepared sub grade or sub base and compacted in accordance with Section 26 of the Caltrans Standard Specifications.
- B. Aggregate base course shall have minimum uniform thickness after compaction of dimensions indicated. Where not indicated, compacted thickness shall be 6 inches.
- C. All compaction expressed in percentages in this section refers to the maximum dry density as determined by ASTM D1557.

3.3 SPREADING OF MATERIAL

- A. Aggregate for base course shall be delivered as uniform mixture of fine and coarse aggregate and shall be spread in layers without segregation.

- B. Aggregate base course material shall be free from pockets of large and fine material. Segregated materials shall be remixed until uniform.
- C. Aggregate base material shall be moisture-conditioned to near optimum moisture content in accordance with the applicable requirements of Section 17 of the Caltrans Standard Specifications.
- D. Aggregate base course 6 inches and less in thickness may be spread and compacted in one layer. For thickness greater than 6 inches, the base course aggregate shall be spread and compacted in two or more layers of uniform thickness not greater than 6 inches each.

3.4 COMPACTING

- A. Relative compaction of each layer of compacted aggregate base material shall be not less than 95 percent as determined by ASTM D1557.
- B. Thickness of finished base course shall not vary more than 3/4 inch from the indicated thickness at any point. Base that does not conform to this requirement shall be reshaped or reworked, watered, and recompact to achieve compliance with specified requirements.
- C. The surface of the finished aggregate base course at any point shall not vary more than 3/4 inch above or below the indicated grade.

3.5 FIELD QUALITY CONTROL

- A. The Contractor shall perform field tests in accordance with ASTM D2922 to determine compliance with specified requirements for density and compaction of aggregate base material, and with ASTM D3017 to determine moisture-content compliance of the installed base course.
- B. Testing frequency shall be not less than one test for every 2,000 square feet of base course material, per layer or lift.

END OF SECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Reinforcing steel bars, welded steel wire fabric fabricated steel bar or rod mats for cast-in-place concrete.
- B. Support chairs, bolsters, bar supports, and spacers, for supporting reinforcement.

1.02 REFERENCES

- A. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A (ACI 318).
- B. ACI 301 - Specifications for Structural Concrete for Buildings.
- C. ACI 315 (SP-66) - Details and Detailing of Concrete Reinforcement.
- D. ACI 318 - Building Code Requirements for Structural Concrete.
- E. ASTM A1064 - Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
- F. ASTM A615 - Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
- G. ASTM A706 - Standard Specification for Low Alloy Steel Deformed Bars for Concrete Reinforcement.
- H. ASTM C1116 - Specification for Fiber-Reinforced Concrete and Shotcrete.
- I. AWS D1.4 - Structural Welding Code Reinforcing Steel.
- J. CRSI - Manual of Practice.
- K. CRSI - Placing Reinforcing Bars.

1.03 QUALITY

ASSURANCE Bonita High

03 20 00 - 1

Gym HVAC

Replacement File 19-H3

03-122102

- A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice.
- B. Conform to ACI 301 and ACI 315 (SP-66).
- C. Conform to CBC California Building Code, (CCR) California Code of Regulations, Title 24, Part 2.

1.04 CERTIFICATES

- A. Submit mill test certificates of supplied concrete reinforcing, indicating physical and chemical analysis.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Reinforcing Steel: ASTM A615, Grade 40 for No. 4 bars and smaller, Grade 60 for No. 5 bars and larger. Billet-steel deformed bars, uncoated finish.
- B. Welded Reinforcement: ASTM A706, Grade 60, deformed bars, unfinished.
- C. Welded Steel Wire Fabric: ASTM A1064 plain type; coiled rolls; uncoated finish.
- D. Steel Wire: ASTM A1064, plain, cold drawn steel.

2.02 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete including load bearing pad on bottom to prevent vapor barrier puncture.

2.03 FABRICATION

- A. Fabricate in accordance with ACI 315 (SP-66), providing concrete cover specified in Section 03 30 00.

- B. Locate reinforcing splices not indicated on Drawings at points of minimum stress.
- C. Weld reinforcing bars in accordance with AWS D1.4.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Before placing concrete, clean reinforcement of foreign particles or coatings.
- B. Place, support, and secure reinforcement against displacement. Do not deviate from alignment or measurement.
- C. Do not displace or damage vapor barrier required by Section 03 30 00.

3.02 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of section 01 45 29 and as required by the Division of the State Architect and District inspector.

END OF SECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Cast-in-place concrete foundation walls, and footings.
- B. Floors and slabs on vapor barrier.
- C. Control, expansion, and contraction joint devices associated with concrete work.
- D. Curing and sealing compound.

1.02 REFERENCES

- A. The 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design.
- B. CBC - California Building Code, (CCR) California Code of Regulations Title 24, Part 2, Chapter 19A.
- C. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, California State Accessibility Standards.
- D. ACI 301 - Specifications for Structural Concrete for Buildings.
- E. ACI 302.1R - Guide for Concrete Floor and Slab Construction.
- F. ACI 305R - Hot Weather Concreting.
- G. ACI 306R - Standard Specification for Cold Weather Concreting.
- H. ACI 318 - Building Code Requirements for Structural Concrete.
- I. ASTM C33 - Concrete Aggregates.
- J. ASTM C94 - Ready-Mixed Concrete.

- K. ASTM C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
- L. ASTM C150 - Portland cement.
- M. ASTM C260 – Air entraining admixtures for concrete.
- N. ASTM C289 - Potential Reactivity of Aggregate.
- O. ASTM C309 - Liquid Membrane Forming Compound.
- P. ASTM C330 - Lightweight Aggregates for Structural Concrete.
- Q. ASTM C494 - Standard Specifications for Chemical Admixtures for Concrete.
- R. ASTM C567 - Unit Weight of Structural Lightweight Concrete.
- S. ASTM C618- Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture for Concrete.
- T. ASTM C932 - Surface-Applied Bonding Agents.
- U. ASTM C1315 - Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
- V. ASTM C1602 - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.
- W. ASTM D226 - Asphalt Saturated Organic Felt used in Roofing and Waterproofing.
- X. ASTM D1751 - Preformed Expansion Joint Filler for Concrete Paving and Structural Construction.
- Y. ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials.
- Z. ASTM E154 - Standard Test Methods for Water Vapor Retardants used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.

- AA. ASTM E1643 - Installation of Water Vapor Retarders used in Contact with Earth or Granular Fill Under Concrete Slab.
- BB. ASTM E1155 - Determining Floor Flatness and Levelness Using the F-Number System.
- CC. ASTM E1745 - Standard Specifications for Plastic Water Vapor Retarders Used in Contact with Soil Or Granular Fill Under Concrete Slabs.
- DD. ASTM F1249 - Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
- EE. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- FF. National Ready Mix Concrete Association - Plant Certification Program.
- GG. Stormwater Best Management Practice Handbook (BMP Handbook),

1.03 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Installation of vapor barrier shall be in accordance with ASTM E1643 and manufacturer's installation guides and recommendations. Provide Architect written site reports from manufacturer's field service representative, indicating observation of vapor barrier installation prior to concrete placement.
- C. Obtain concrete materials from same source throughout the Work.

1.04 QUALIFICATIONS

- A. Manufacturer: Manufacturer of ready-mix concrete products complying with ASTM C94 requirements for production facilities and equipment. Certified according to National Ready Mix Concrete Associates Plant Certification Program.

1.05 DESIGN MIX

- A. Submit design mix for each class of concrete, prepared by a

California Registered Civil Engineer, to testing laboratory and architect to review.

1.06 REGULATORY REQUIREMENTS

- A. Conform to CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2.
- B. Conform to CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, and the 2010 ADA Standards for Accessible Design for access requirements for individuals with disabilities.

1.07 SUBMITTALS

- A. Submit product data and manufacturer's instructions for all accessories under provisions of section 01 33 00.

1.08 PRE-INSTALLATION CONFERENCE

- A. Convene a conference two weeks prior to commencing placement of floor slab work of this section, under provisions of Section 01 31 00.
- B. Require attendance of parties directly affecting the work of this Section.
- C. Agenda:
 - 1. Placement of subgrade beneath floor slab.
 - 2. Testing of subgrade beneath floor slab.
 - 3. Delivery and placement of concrete.
 - 4. Testing and inspection procedures for concrete.
 - 5. Submittal of mix design for concrete.
 - 6. Hot and cold weather concreting procedures.
 - 7. Vapor barrier location and installation.
 - 8. Placement of control and expansion joints.
 - 9. Steel reinforcement installation.
 - 10. Installation of inserts and embedded items.
 - 11. Finishes and finishing.
 - 12. Forming and form removal limitations.
 - 13. Floor slab flatness and levelness requirements.

- 14. Curing process and procedures.
- 15. Protection of finished floor slabs.
- 16. Floor slab joint and crack repair.
- 17. Moisture vapor transmission testing.

1.11 WARRANTY

- A. Provide fifteen year warranty from curing, hardening and vapor barrier compound manufacturer under provisions of Section 01 77 00.
- B. Warranty: Include coverage for removal and replacement of finish floor materials that delaminate from interior floor slabs due to moisture migration and excessive vapor emissions or due to presence of efflorescence and alkali contaminates.
- C. Provide warranty from vapor barrier manufacturer that products meet the current requirements of ASTM E1745 and will be free from material defects for the life of the building.

PART 2 – PRODUCTS

2.01 FORMWORK

- A. As specified in Section 03 11 00.

2.02 REINFORCEMENT

- A. As specified in Section 03 20 00.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I or Type II Portland type; low alkali; grey color.
- B. Fine and Coarse Aggregates Normal Weight Concrete: ASTM C33, non reactive when tested in accordance with ASTM C289 and Appendix X-1 of ASTM C33.
- C. Fine and Coarse Aggregate, Light Weight Concrete: ASTM C330.
- D. Water: ASTM C1602, clean and not detrimental to concrete.

2.04

ADMIXTURES

03 30 00 - 5

Bonita High Gym

HVAC

Replacement

- A. Air Entrainment: ASTM C260.
- B. Fly Ash: ASTM C618, Class F.
- C. Water reducing admixture: ASTM C494, Type A.
- D. Calcium Chloride, or any other admixtures not allowable.

2.05 VAPOR BARRIER

- A. Material: 15 mil thick polyethylene film meeting the requirements of ASTM E1745, Class A, with a maximum permeance of 0.01 perms in accordance with ASTM E96/E154, Section 7, and a Water Vapor Transmission Rate (WVTR) of less than 0.0037 when tested according to ASTM F1249.
- B. Accessories:
 - 1. Minimum 4 inch wide polyethylene seaming tape with pressure sensitive adhesive.
 - 2. Minimum 6 inch wide multi-layered textured polyethylene concrete bonding tape.
 - 3. Polymer-modified liquid vapor retarder mastic.
 - 4. PVC termination bar with pre-drilled holes.
 - 5. All accessories provided by vapor barrier manufacturer.
- C. Manufactures:
 - 1. Fortifiber Building Products, www.fortifiber.com.
 - 2. Poly-America, www.yellowguard.com.
 - 3. Reef Industries, www.reefindustries.com.
 - 4. Stego Industries, www.stegoindustries.com.
 - 5. Substitutions: Under Provisions of Section 01 25 13.

2.06 ACCESSORIES

- A. Underlayment: ASTM D226, Type I (No. 15) asphalt saturated roofing felt.
- B. Bonding Agent: ASTM C932; Weld-Crete as manufactured by Larsen Products Corp., www.larsenproducts.com.
- C. Non-shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 7000 psi in 28 days.
- D. Joint Filler: ASTM D1751, 1/2 inch thick.
- E. Sand Fill: Manufactured "crusher run" sand free of silt, clay, loam, friable or soluble materials or organic matters, all passing the No. 4 sieve and only 5 percent passing the No. 200 sieve.
- F. Curing, Hardening and Vapor Barrier Compound: ASTM C1315, Type I, Class A and ASTM C309, Type 1, Class A, with maximum volatile organic compound (VOC) content rating as required to suit regulatory requirements. Material to have no less than 34 percent penetrating solids, have no visible sheen and be compatible with floor finish materials and overlays. Provide the following:
 - 1. PMC 3300 Penetrating Sealer manufactured by Curranseal, www.curranseal.com.
- G. Sealing Compound: Ashford Formula manufactured by Curecrete Distribution, Inc., www.ashfordformula.com.
- H. Slip Resistant Aggregate: 95 percent minimum fused homogeneous aluminum oxide.

2.07 CONCRETE MIX

- A. Mix concrete in accordance with ASTM C94 ACI 318, Section 26.4.4.
- B. Footings: Proportion normal-weight concrete mixture as follows:
 - 1. Minimum compressive strength: 3,500 psi at 28 days
 - 2. Maximum Water-Cement Materials Ratio: 0.50
 - 3. Aggregate Size: 1" maximum
 - 4. Slump Limit: 4" minimum, 6" maximum
- C. Slabs-on-grade: Proportion normal-weight concrete mixture as follows:

1. Minimum compressive strength: 4,000 psi at 28 days
2. Maximum Water-Cement Materials Ratio: 0.45
3. Aggregate Size: 3/4" maximum
4. Slump Limit: 3" minimum, 5" maximum

PART 3 – EXECUTION

3.01 INSPECTION

- A. Verify anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, held securely, and will not cause difficulty in placing concrete.

3.02 PREPARATION

- A. At locations where new concrete is dowelled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.
- B. Place 2 inch thick sand fill over subgrade.
- C. Compact sand fill as specified in Section 31 20 00.
- D. Install underlayment over wood subfloor. Lap joints 6 inches. Fasten in place.

3.03 VAPOR BARRIER

- A. Install vapor barrier in compliance with ASTM E1643 under interior slabs over sand subgrade.
- B. Install vapor barrier to exterior surface of below grade building foundation walls and grade beams. Seal to vertical surface of foundation wall with pressure sensitive tape and termination bar at an elevation consistent with the top of the adjacent finish grade.
- C. Lay vapor barrier with long dimension parallel with long dimension of space.
- D. Lap vapor barrier over footing and seal to vertical surface of interior foundation wall with pressure sensitive tape and termination bar at an elevation consistent with the top of the slab or terminate vapor barrier at horizontal edge of slab. Overlap all joints in vapor barrier 6 inches and seal with tape.
- E. Seal all pipe penetrations of vapor barrier with pipe boot fabricated from vapor barrier material, tape and mastic.

- F. Repair damaged areas with vapor barrier, overlapping damaged area by 6 inches and taping all four sides.

3.04 PLACING CONCRETE

- A. Notify Architect minimum 24 hours prior to commencement of concreting operations.
- B. Place concrete in accordance with ACI 301.
- C. Hot Weather Placement: ACI 305R.
 - 1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water.
 - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete in hot weather. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.
- D. Cold Weather Placement: ACI 306R.
 - 1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 306.1
- E. Ensure reinforcement, inserts, embedded parts and formed joints are not disturbed during concrete placement.
- F. Do not disturb or damage vapor barrier while placing concrete. Repair damage as required to maintain integrity of barrier.
- G. Place concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.
- H. Place interior floor slabs on fill in a strip sequence pattern.
- I. Excessive honeycomb or embedded debris in concrete is not acceptable.

3.05 JOINTS

- A. Saw cut control joints at an optimum time after finishing. Use 3/16 inch thick blade, cutting 1/3 into depth of slab thickness.

- B. Review locations of joints when indicated and make recommendations for any additional joints or suggestions for new locations. Lack of joints or misplacement of joints will not constitute justification of slab cracking.
- C. Provide control joints at 15 feet on center unless otherwise indicated.
- D. Where indicated on the drawings, separate slabs from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface.

3.06 FLOOR SLAB JOINT FILLING AND CRACK REPAIR

- A. Prepare, clean, and install joint repair material according to manufacturer's written instructions.
- B. Defer joint filling and crack repair until concrete has aged a minimum of 60 days.
- C. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- D. Mechanically V-groove as necessary all saw cuts, joints and cracks, to a minimum width of 1/4 inch and a minimum depth of 5/8 inch.
- E. Fill bottom of joint at slab on grade locations to a depth of at least 3/16 inch with semi-rigid epoxy. Omit semi-rigid epoxy at above grade slab locations.
- F. Place silica sand over epoxy filler.
- G. Prepare and prime joint substrate as recommended by joint repair material manufacturer.
- H. Fill all saw cuts, joints, and cracks with cement based joint repair material to top of concrete surface.
- I. Steel trowel edges of joint repair material to a feather edge to match adjacent floor elevation.

3.06 FINISHING SLABS

- A. Uniformly spread, screed and consolidate concrete. Do not spread concrete by vibration.
- B. Float Finish: Float with hand float or with a powered disc float. High spots to be cut down and low spots to be filled. Use as preparation for further finishing.

- C. Scratched Finish: Mechanically float surfaces. Roughen with stiff brushes before final set. Use for ceramic tile with full bed setting systems substrate slab beneath topping and where indicated.

3.07 SLAB TOLERANCES

- A. Maintain slab tolerance as defined in ACI 302.1R of (SOV) F_F35 and F_L25 and (MLV) F_F24 and F_L17 as measured by ASTM E1155 for slabs on grade.
- B. Correct the slab surface if the actual FF/FL number for the floor installation measures less than required.
- C. After correction of slab surface to specified tolerance, apply curing, hardening and vapor barrier over corrected surface.
- D. In areas of floor drains, maintain floor levels at the walls and slope surface uniformly to drains at 1/8 inch per foot.

3.08 CURING

- A. Apply curing, hardening and vapor barrier compound on all floor slabs that are not exposed and indicated to be sealed.
- B. Cure concrete surfaces in accordance with ACI 301.
- C. Spray apply curing, hardening and vapor barrier compound on finished slab surfaces located below grade, at grade, and above grade in two "wet on wet" flood coats at the total rate of 200 sq. ft./gallon in accordance with manufacturer's instructions.
- D. Application of compound shall be by a trained applicator acceptable to compound manufacturer.
- E. After application of curing, hardening, and vapor barrier compound, moist cure concrete using the following method:
- F. Spraying: Fog spray clean, potable water over floor slab areas and maintain moist for 10 days.
- G. Polyethylene Film: Spread over floor slab areas, lap edges and sides, maintain in place for 10 days.

3.09 SEALING

- A. Apply sealing compound on finished floor slab surfaces that are not to receive a finished floor covering and are indicated to be exposed and sealed.
- B. Apply sealing compound immediately following finishing operation.
- C. Apply sealing compound in sufficient quantities to keep entire surface wet for a minimum of 30 minutes.
- D. Lightly mist surface with water as compound is absorbed into surface.
- E. Flush surface with water and squeegee surface free of excess compound.
- F. Burnish final concrete surface with propane burnisher.

3.10 PATCHING

- A. Notify Architect immediately upon removal of forms to determine areas that will require patching.
- B. Surface defects shall include color and texture irregularities, stains, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections and discolorations in the surface that cannot be removed by cleaning.
- C. Patch imperfections in accordance with ACI 301.

3.11 DEFECTIVE CONCRETE

- A. Modify or replace concrete not conforming to required levels and lines, details, and elevations.
- B. Repair or replace concrete not properly placed or of the specified type.

3.12 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 45 29 [and as required by the Division of the State Architect and District Inspector].
- B. Owner's Inspector will take cylinders and perform slump and air entrainment tests in accordance with ACI 301 and will arrange for pick-up by Testing Laboratory.

- C. Three cylinders will be taken for every 50 yards, or fraction thereof, for each class of concrete for each day.
- D. Tests of cement and aggregates will be performed by Testing Laboratory to ensure conformance with requirements stated herein.
- E. Slab tolerance as measured by ASTM E1155 shall be performed within 72 hours of floor slab installation.
- F. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.13 PROTECTION

- A. Protect finished work under provisions of Section 01 61 00.
- B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- C. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

END OF SECTION