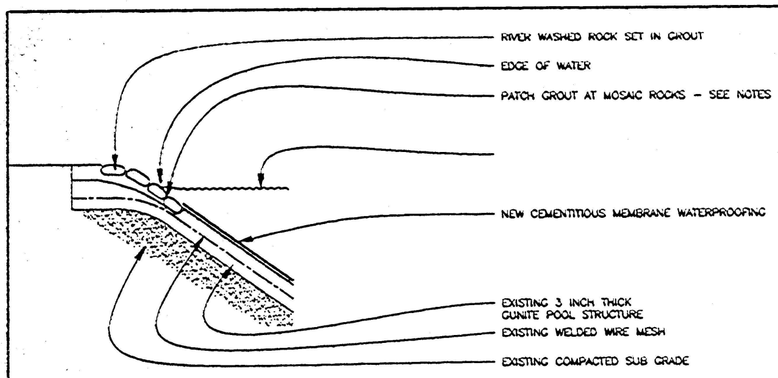
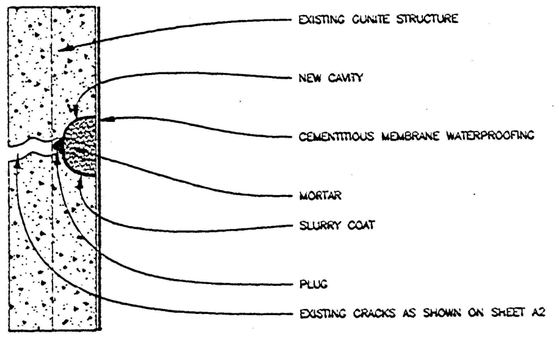


4.1 NEW CEMENTITIOUS COATING OVER EXISTING GUNITE STRUCTURE

NOTES:
1. THIS DETAIL IS ONLY PERMITTED IF PIES, FLUES, AN D LARGE CONDUIT HAVE AN OUTSIDE DIAMETER OF 6" OR LESS.
2. SET INTEGRAL FLANGE IN MASTIC - PRIME BEFORE STRIPPING MODIFIED BITUMEN SHEE TFLASHING.
3. ISOLATE DISSIMILAR METALS AS REQUIRED.
4. EXTEND PIPING, FLUE, AND LARGE CONDUIT AS REQUIRED TO EXECUTE THIS DETAIL.



4.2 CRACK REPAIRS DETAIL

NOTES:
1. ROUT OR CHISEL OUT GUNITE TO A DEPTH OF 1 INCH MINIMUM TO CREATE A NEW CAVITY.
2. CLEAN AND WASH NEW CAVITY TO REMOVE ALL LOOSE MATERIAL.
3. FORM A PLUG AND PRESS PLUG INTO EXISTING CRACK AND MAINTAIN PRESSURE UNTIL SETTING HAS TAKEN PLACE.
4. SLURRY COAT THE CAVITY.
5. BEFORE THE SLURRY COAT HAS SET, FILL THE CAVITY WITH MORTAR. WHEN THE MORTAR HAS SET APPLY CEMENTITIOUS MEMBRANE WATERPROOFING.

SECTION 07146
CEMENTITIOUS MEMBRANE WATERPROOFING

PART 1 - GENERAL

I. SCOPE
- A. Furnish and install cementitious membrane waterproofing as shown on the Drawings and as herein specified.

II. QUALITY ASSURANCE
- A. Manufacturer qualifications: Obtain primary waterproofing materials from single manufacturer with not less than 10 years of successful experience in supplying principal materials for waterproofing work, and who is able to document such experience by reference lists.
- B. Installer qualifications: The installer shall be qualified to perform the work specified by reason of experience and/or training provided by the product manufacturer.

III. SUBMITTALS
- A. Product Data: Submit manufacturer's specifications and installation instructions for materials.
- B. Certificates: Submit membrane manufacturer's certification that proposed materials, details and systems as indicated and specified fully comply with manufacturer's details and specifications. If any portion of Contract Documents do not conform to manufacturer's standard recommendation, submit notification of portions of design that are at variance with manufacturer's specifications on the Drawings and herein specified.

IV. DELIVERY, STORAGE, AND HANDLING
- A. Deliver, store, handle and protect products in accordance with manufacturer's instructions.
- B. Deliver materials in manufacturer's unopened containers, fully identified with brand, type, grade, class, and all other qualifying information.
- C. Take necessary precautions to keep products clean, dry and free of damage.

V. PROJECT CONDITIONS
- A. Maintain surfaces to be waterproofed and surrounding air temperature at not less than 40 degrees Fahrenheit for at least 48 hours before, during and after application of waterproofing.
- B. Do not apply materials to frozen or frost filled surfaces.

VI. WARRANTY
- A. Furnish written warranty signed by installer, guaranteeing installed waterproofing system to be free of leaks and defects for a period of not less than 2 (two) years from date of acceptance.

PART 2 - PRODUCTS

VII. PRODUCTS AND MANUFACTURERS
- A. Listed and accepted products are distributed by Vandex Sales & Services, Inc., Columbia, MD. (410)964-1410 to establish standard of quality. Substitutions will not be accepted unless the materials are substantially identical to the specified product. Any material requiring an admixture or primer (film) to adhere the cementitious membrane waterproofing to the existing gunite substrate is not acceptable.

VIII. MATERIALS
- A. Waterproofing Materials and Performance Criteria:
  1. Cementitious, ready-mixed, efflorescence-free surface waterproofer with hydrophobic properties, that requires just the addition of water, resistant to water and moisture for vertical and horizontal surfaces not exposed to vehicular traffic.
  2. Product: VANDEX BB 75 by Vandex.
  3. The Waterproofing Material shall meet the following criteria:

Color	Grey
Aggregate	Powder
Comprehensive Strength (ASTM C-109)	6300 psi (28 days)
Flexural Strength (ASTM C-348)	1100 psi (28 days)
Adhesion (ASTM C-321)	300 psi
Drying Shrinkage (ASTM C-596)	0.02"/ft. (28 days)
Permeability (CRD C 48-77)	0.00 cm/sec permeability at 100 psi pressure on negative side (1/8" thickness).
Microbiological growth	not supported
Toxic Metals	not detectable
Organoleptic/physical test	no change
Application methods	Able to be applied by the following methods: brush, trowel, or spray

IX. ACCESSORIES
- A. Patching Compound:
  1. Ready-mixed cementitious waterproofing and repair mortar recommended by waterproofing manufacturer for honeycombs, fillets, reglets, etc.
  2. Product: VANDEX UNI MORTAR 1 or VANDEX MORTAR by Vandex.
  3. Performance requirements:

Comprehensive Strength (ASTM C-109)	6380 psi (28 days)
Tensile Strength (ASTM C-190)	1060 psi (28 days)
Adhesion (ASTM C-321)	275 psi (28 days)

- B. Cementitious, ready-mixed, efflorescence-free, rapid setting cement, resistant to water and moisture ingress to waterproof wet areas and spot leaks and to plug water penetrations.
  1. Product: VANDEX PLUG by Vandex.

PART 3 - EXECUTION

X. EXAMINATION
- A. Examine substrates and adjoining construction, and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.
- B. Verify the following substrate conditions before application of cementitious membrane waterproofing:
  1. That substrate condition is satisfactory and in accordance with manufacturer's instructions.
  2. That concrete surfaces are free of voids, spalled areas, loose aggregate and sharp protrusions, and with no coarse aggregate visible.
  3. That curing compounds incompatible with waterproofing have not been used on concrete.

XI. PROTECTION
- A. Protect adjacent surfaces not designated to receive waterproofing.

XII. SUBSTRATE PREPARATION
- A. Follow manufacturer's instructions to clean and prepare surfaces and seal cracks, spalled areas and patch holes.
- B. Remove remaining concrete fins and projections, and general surface dirt. Chisel out loose gunite or damaged gunite areas. Prime areas with patching compound in slurry consistency and then fill flush to adjacent surface in mortar consistency.
- C. Areas where chipping of the existing gunite structure has occurred and sound gunite is exposed shall be primed with patching compound in slurry consistency and then filled flush to adjacent surface in mortar consistency.
- D. All surfaces of the existing gunite structure to receive new cementitious membrane waterproofing must have a clean surface and an open capillary system to ensure maximum bonding. Remove all cement laitance, form release agent, curing compound, and loose particles. Repair cracks as shown on the drawings and as specified herein.
- E. All surfaces of the existing gunite structure to receive new cementitious membrane waterproofing shall be cleaned of surface dirt and contaminants using high pressure water blasting.
- F. All surfaces of the existing gunite structure to receive new cementitious membrane waterproofing shall be sand blasted or grit blasted to produce smooth surfaces suitable for application of the cementitious membrane waterproofing.
- G. Visible cracks (as noted on the drawings):
  1. Rout out visible cracks as noted on the drawings exceeding 1/32 inch in width to minimum 1 inch depth. Remove all protrusions, work back to sound gunite, and chisel out any spalled or honeycombed areas.
  2. All cracks shall be sealed with waterproof Plug.
  3. Prime routed areas with patching compound in slurry consistency and then fill flush to adjacent surface in mortar consistency.
- H. Application of coves (fillets) at junction of slabs and vertical surfaces:
  1. Apply slurry coating of waterproofing material minimum 6 inches wide, at rate recommended by manufacturer.
  2. Form cove (fillet) with patching compound.
- I. Rinse and saturate all surfaces to be waterproofed thoroughly with water, prior to application. Surfaces shall be moist but not wet when waterproofing system is applied. Remove any surface water on horizontal surfaces.

XIII. APPLICATION
- A. Mix waterproofing material in proportions recommended by manufacturer, using mechanical mortar or electrical drill mixer, do not use concrete mixer. Apply using trowel, or spray equipment in accordance with the manufacturer's recommendations.
- B. Vertical surfaces:
  1. Apply base coating (1st coat) in mortar consistency at uniform minimum rate recommended by manufacturer, completely filling voids, holes, cracks, leaving no pinholes or uncovered areas.
  2. After base coat has sufficiently hardened, apply finish coating (2nd coat) of waterproofing mixture at same rate as base coat (1st coat). Apply so that final brush strokes leave parallel, uniform texture, or trowel finish, if specified, after finish coat (2nd coat) has reached initial set.
- C. Horizontal surfaces and construction joints:
  1. Apply waterproofing material in mortar consistency in one or two coats at rate recommended by manufacturer.

XIV. CURING AND PROTECTION
- A. Protect surfaces from rain, frost and drying out as per manufacturer's recommendations.
- B. Moisture cure waterproofed surfaces as per manufacturer's recommendations and as herein specified.
  1. Protect waterproofed surfaces against evaporation by sun and wind for a minimum of 5 days following completion of waterproofing application unless other means are specifically recommended by the manufacturer.
  2. Moisture cure waterproofed surfaces for a minimum of 5 days, starting with fine water fog spray the day following completion of waterproofing application unless other means are specifically recommended by the manufacturer.
  3. Do not fill waterproofed gunite structure until a minimum of 5 days after completion of all curing (minimum of 10 days after completion of waterproofing application).

JOB COPY
These plans must be kept on the job at all times.
CITY OF SUNNYVALE

Rev.	Description	Date

GROSSMANN DESIGN GROUP
181 Townsend Street
San Francisco, CA 94107
415-543-8818

Scale	NONE
Designed By:	JPC
Drawn By:	JPC
Checked By:	JPC
Consultant's Job No.	920.010

BRALY PARK AND POND RENOVATIONS

DETAILS AND SPECIFICATIONS
NEW CEMENTITIOUS COATING

CITY OF SUNNYVALE CALIFORNIA

City of Sunnyvale
Santa Clara County
California

Department of Public Works
456 West Olive Avenue
P.O. Box 3707
Sunnyvale 94088-3707

City of Sunnyvale Project No.

Drawing No. A-4

Sheet ____ of ____

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

Revision 1.0 (10/93)