

Pet Shelter & Care Facility Design Outline and Architectural Specification

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Outline for planning and design, plus a construction-set-ready specification for kennel-area masonry/concrete sealer (**SealGreen Kennel Brick, Natural Stone and Concrete Concentrate Sealer with Salt Defense Technology**).

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1. Facility Design Outline (Programming Through Design)

1.1 Mission, Capacity, and Operating Model

- **Service model:** open-admission vs. limited-intake; municipal contract vs. private rescue; adoption-focused vs. long-term housing; foster network integration.
- **Capacity targets:** average daily population and peak surge (seasonal intake), by species (dogs, cats, small mammals, exotics if any).
- **Care standards:** enrichment, exercise, separation protocols (healthy/ill/behavior), cleaning frequency, noise control targets.
- **Staffing & hours:** public hours, intake hours, after-hours emergency intake, volunteer program scale.

1.2 Functional Adjacencies and Clean/Dirty Circulation

- **Primary zones:** public/adoption, intake/stray hold, medical/isolation, general animal housing, behavior/training, support/services, administration.

- **One-way flow:** intake → assessment → holding → housing → adoption/transfer; minimize backtracking and cross-contamination.
- **Clean/dirty separation:** dedicated soil-holding and mop-sink locations; laundry route separated from clean storage.
- **Quarantine/isolation:** locate with controlled access and dedicated handwash/PPE donning; consider separate exhaust/negative pressure where required by clinical program.
- **Acoustics and stress:** buffer noisy dog housing from cat/adoption counseling and treatment rooms; provide visual barriers.

1.3 Site Planning, Access, and Outdoor Runs

- **Access separation:** public parking vs. service/intake vehicles; secure sally-port for animal intake and transfers.
- **Outdoor dog runs:** durable surfacing, hose bibs, drainage away from building, shade/windbreaks, and secure fencing.
- **Stormwater:** plan for kennel washdown and exterior run cleaning; coordinate trench drains, interceptors, and sanitary tie-ins per local requirements.
- **Noise & neighbors:** orient dog housing and runs away from residential edges; add landscape buffers and solid fencing where needed.
- **Utilities:** robust domestic hot water capacity, floor drain strategy, electrical for laundry/medical, data for adoption operations.

1.4 Animal Housing (Dogs, Cats, and Specialty)

- **Dog housing:** plan for a mix of standard, large, and ADA-accessible kennels; include separation for shy/aggressive/medical hold.
- **Cat housing:** prioritize quieter zones; include colony rooms where operationally appropriate; provide double-door entries and perch/enrichment.
- **Finishes:** non-porous, cleanable, non slippery and resistant to animal urine; slope floors to drains; coved bases at walls.
- **Daylight & enrichment:** controlled daylight and views; avoid glare/overheating; provide exercise yards and meet-and-greet rooms.
- **Plumbing:** hose bibs, mop sinks, and floor drains coordinated with slab depressions and waterproofing.

1.5 Medical, Surgery, and Isolation

- **Clinical spaces:** exam, treatment, surgery, dental (if needed), imaging (if needed), recovery, pharmacy/med storage.

- **Infection control:** dedicated isolation holding, handwash sinks at points of care, clean/dirty storage separation.
- **Finish performance:** medical areas require seamless, cleanable surfaces; coordinate coved bases and wall protection.
- **Mechanical:** consider pressure relationships and filtration for isolation; coordinate temperature/humidity control for surgery.

1.6 Support, Back-of-House, and Operations

- **Laundry:** sized for bedding volume; separate soiled receiving from clean folding/storage; provide floor drain and ventilation.
- **Food prep:** dry/cold storage, washable finishes, pest-resistant detailing; separate animal food from janitorial chemicals.
- **Waste:** biohazard (if applicable), sharps, general trash, and soiled bedding staging; exterior dumpsters located for service access.
- **Janitorial:** distributed mop sinks and chemical storage; pressure-wash capability in kennel areas where planned.
- **Staff/volunteers:** lockers, break room, training room, and controlled access to animal areas.

1.7 Public/Adoption Experience

- **Entry sequence:** clear wayfinding; separation of adoption visitors from intake drop-offs.
- **Meet-and-greet rooms:** washable finishes, easy supervision, acoustical control; direct access to outdoor yards where possible.
- **Education/community:** multi-purpose room for training classes, outreach, and events; consider after-hours access control.
- **Visibility:** controlled views into adoption areas without stressing animals; provide calming lighting and acoustics.

1.8 Building Systems Considerations (MEP/Envelope)

- **Ventilation/odor:** higher air-change rates in kennels; durable grilles; coordinate with acoustics to reduce noise transmission.
- **Moisture management:** washdown drives humidity—coordinate exhaust, dehumidification, and wall assemblies to prevent condensation and mold.
- **Plumbing/drainage:** trench drains and floor drains with slopes; coordinate cleanouts and access for maintenance.
- **Domestic hot water:** sized for simultaneous washdown, laundry, and clinic needs; consider mixing valves and scald protection.

- **Materials:** corrosion-resistant hardware and coatings in wet/chemical environments; avoid absorbent finishes in animal areas.

1.9 Codes, Risk, and Accessibility (Coordinate with Local AHJ)

- **Occupancy & egress:** confirm occupant loads for public areas and staff-only zones; maintain clear egress from kennel wings.
- **Fire/life safety:** separation of hazardous storage (chemicals, oxygen if any); sprinkler and alarm coverage coordinated with washdown environments.
- **Accessibility:** adoption counters, meet-and-greet rooms, and select kennels to be accessible; consider viewing windows and door hardware.
- **Health/sanitation:** coordinate with animal control and sheltering regulations; provide handwash locations, hose bibs, and cleanable finishes.

2. Architectural Specification – Kennel-Area Penetrating Sealer

SECTION 07 19 00 – WATER REPELLENTS (KENNEL AREAS)

SealGreen Kennel Brick, Natural Stone and Concrete Concentrate Sealer with Salt Defense Technology

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes: one-component, water-based, VOC-compliant, penetrating water and animal urine repellent sealer containing a proprietary modified siloxane (silane/siloxane).

B. Use locations: kennel-area masonry and concrete surfaces as indicated, primarily walls. Product is paintable for use on walls after cure.

C. Substrates include (above-grade): clay brick, mortar, concrete masonry units (CMU) including split-face units, cast-in-place or precast concrete, exposed aggregate, natural stone (limestone, granite, sandstone), terra cotta, stucco/plaster, ceramic tile and grout, and adobe where indicated.

D. Limitations: Not intended for below-grade waterproofing. Protect non-porous substrates (glass, metal frames, painted surfaces, ceramic surfaces- tile) from contact/overspray.

1.2 REFERENCES

A. ASTM C67 – Sampling and Testing Brick and Structural Clay Tile (water absorption reduction on brick).

B. ASTM C140 – Sampling and Testing Concrete Masonry Units and Related Units (water absorption reduction on concrete).

C. ASTM C97 – Absorption and Bulk Specific Gravity of Dimension Stone (water absorption reduction on limestone).

D. ASTM C672 – Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals.

E. ASTM E514 – Water Penetration and Leakage Through Masonry (water permeance/leakage reduction).

F. ASTM D1653 – Water Vapor Transmission of Organic Coating Films (water vapor transmission/breathability).

1.3 SUBMITTALS

A. Product data: current technical data sheet including limitations, dilution instructions for concentrate, application rate range, drying/cure information, and compatible substrates.

B. Manufacturer test data: submit published test results for ASTM C67, C140, C97, C672, E514, and D1653 (or current equivalents) as applicable to project requirements.

C. Safety data sheet (SDS) for specified product.

D. Samples/mockup: if requested, provide minimum 12 in x 12 in sample area on actual project substrates demonstrating no visible film, no discoloration/white staining, and acceptable appearance.

1.4 QUALITY ASSURANCE

A. Installer qualifications: qualified applicators with experience applying penetrating water repellents on similar substrates and conditions.

B. Preinstallation conference: review substrate readiness, environmental limits, protection of non-target surfaces, sequencing with sealants/patching, ventilation, and cleanup.

C. Mockup: apply sealer to representative area(s) of each substrate type using the specified two-application wet-on-wet technique; allow to dry/cure; demonstrate acceptable appearance (natural finish), beading performance, and no residue on adjacent non-porous surfaces. Confirm intended use is wall applications; do not approve mockups for floor/traffic areas unless manufacturer and Architect specifically approve.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's unopened containers with labels intact and batch identification.

B. Product ships in concentrate form; verify correct container size(s) and mixing instructions are provided with shipment.

C. Store per manufacturer's written instructions; protect from freezing; store out of direct sunlight and away from contaminants.

1.6 FIELD CONDITIONS

A. Temperature: do not apply when ambient or surface temperature is less than 40°F, or predicted to fall below 40°F within 24 hours following application. Apply when surface and

air temperatures are between 40°F and 90°F.

B. Moisture: do not apply to wet or frozen substrates. After water-cleaning, allow substrates to dry a minimum of 72 hours prior to application, unless manufacturer confirms shorter drying time for actual conditions.

C. Precipitation: do not apply when rain has occurred within 72 hours prior to application, or is predicted within 4 hours after application; protect treated surfaces from washdown/rain until cured.

D. Wind: do not apply under high winds that could cause excessive overspray; protect surrounding areas from overspray and runoff.

E. Ventilation: provide adequate ventilation in enclosed kennel areas during application and curing.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Basis-of-design product: SealGreen – Kennel Brick, Natural Stone and Concrete Concentrate Sealer with Salt Defense Technology, as available from [SealGreen.com].

B. Substitutions: subject to Division 01 substitution procedures and approval by Architect.

2.2 MATERIALS

A. Sealer type: one-component, water-based, penetrating water and animal urine repellent sealer containing a proprietary modified siloxane (silane/siloxane).

B. Finish: clear, non-yellowing; natural finish look; typical substrate color and surface textures are unaffected when properly applied.

C. Penetration: penetrates pores and capillaries up to 1/4 inch or more depending on surface porosity and moisture content at time of application.

D. Vapor permeability: 100% water vapor permeable (“breathable”); allows free migration of water vapors with no moisture entrapment (when properly detailed and applied).

E. Mechanism (manufacturer description): reacts with silica in concrete and masonry in the presence of ultraviolet light and atmospheric moisture, forming permanent bonds beneath the surface to create a hydrophobic zone that repels water/urine while allowing vapor transmission.

F. Performance/benefits (manufacturer): excellent resistance to water and urine intrusion; beading effect; mildew and fungus resistant; efflorescence protection; high resistance to alkali attack; freeze-thaw protection; can be reapplied; surface can be painted after cure.

G. VOC content: < 50 g/L.

H. Life expectancy: 5 years when properly applied.

2.2.0 OTHER PRODUCTS COMPATIBLE WITH SEALER

A. SealGreen Kennel Sealer

- B. SealGreen Kennel Desinfectant
- C. SealGreen Mold and Mildew Remover

2.2.1 MANUFACTURER TECHNICAL DATA

- A. Color: milky white (in container).
- B. Active content: 10%.
- C. pH: 5.
- D. Density: 8.34 lb/gal.

2.2.2 MANUFACTURER TEST DATA

- A. ASTM C67, percent reduction in water absorption on brick after 24-hour immersion: 96.9%.
- B. ASTM C140, percent reduction in water absorption on 3000 psi concrete after 24-hour immersion: 91.29%.
- C. ASTM C97, percent reduction in water absorption on Indiana limestone after 48-hour immersion: 81.7%.
- D. ASTM C672, “deicer scaling,” 100 cycles: little to no change.
- E. ASTM E514, “water permeance of masonry,” reduction in leakage: 99.9%.
- F. ASTM D1653, water vapor transmission: 100% breathable.

2.3 ACCESSORIES

- A. Cleaner: SealGreen Mold and Mildew Remover for cleaning bricks or removing mold/mildew prior to sealing, or SealGreen Kennel Cleaner to clean and remove urine from currently in used surface, and other manufacturer-recommended cleaners appropriate to substrate and contamination.
- B. Masking and protection materials: tape, polyethylene, and drop cloths suitable to protect adjacent non-target surfaces from overspray and runoff.
- C. Cleanup materials: soap and clean water for prompt removal of overspray from non-target surfaces.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify substrates are sound, clean, dry, and free of contaminants that could inhibit penetration (curing compounds, coatings, sealers, oils, form-release agents).
- B. Verify masonry joints are tooled and cured; repair cracks/spalls and allow patching to cure per manufacturer prior to sealer application.
- C. Confirm adjacent finishes and animals are protected/removed from area during application.

3.2 SURFACE PREPARATION

- A. Clean and dry substrates are required. Remove all traces of dirt, dust, efflorescence, mold/mildew, salt, grease, oil, asphalt, laitance, curing compounds, paint, coatings,

sealers, and other contaminants.

B. Acceptable cleaning methods include shotblasting, sandblasting, water-blasting, and chemical cleaners. If chemical cleaning agents are used, neutralize and wash off residues completely.

C. After water-cleaning, allow surfaces to dry a minimum of 72 hours prior to sealer application.

D. Fresh concrete: allow to cure/dry 28 days for best results; sealer application may occur after 15 days only where approved by Architect and manufacturer for actual conditions.

E. Repointing: complete and allow to cure a minimum of 3 days prior to application.

F. Coordinate sequence: patching materials, caulking/sealants, and other applied materials must be fully cured before applying sealer.

3.3 MIXING AND DILUTION

A. Product is supplied in concentrate form. Mix well before use and dilute with clean water strictly per manufacturer's written instructions for the specified product and substrate/condition.

B. Maintain consistent dilution ratio for entire application area of a given substrate type.

C. Do not over or under mix beyond manufacturer recommendations.

3.4 APPLICATION

A. General: apply as early as practical to protect substrates during construction, but not before wall caps, flashing, and roof are in place and water trapped in structure has been drained.

B. Spray application: apply using low-pressure pumping equipment (150 psi maximum) with fan-type spray nozzle. Immediately after spray application back roll the surface with a 1-inch nap roller.

C. Apply in a flooding application. On vertical surfaces, apply from bottom up so material runs down 6 to 8 inches below spray pattern.

D. Two applications are recommended. Apply second application within 3 to 5 minutes after initial application (or as recommended by manufacturer), retreating while first coat remains wet.

E. To improve uniformity/penetration. Immediately after spray application back roll the surface with a 1-inch nap roller.

F. Horizontal surfaces (only where allowed by Contract Documents): apply enough material so that solution stands on surface at least 5 seconds (or up to 60 seconds on very porous surfaces) before completely penetrating; avoid puddling or ponding; spread material to more porous areas immediately after spray application back roll the surface with a 1-inch nap roller or thick nap roller.

G. Overspray: protect surrounding areas; remove overspray from non-targeted surfaces

immediately with soap and water.

H. Caution: over-application may cause darkening of surface or white stains.

3.5 COVERAGE

A. Required application rate varies with surface texture and absorbency. Typical application rate range: 70 to 175 sq ft per gallon (as applied) depending on substrate.

B. Determine actual coverage and effectiveness by pretesting on project substrates; adjust to achieve required saturation without residue or surface staining.

3.6 DRYING, CURING, AND PROTECTION

A. Dry time (typical): 2 to 6 hours to touch depending on temperature and humidity.

B. Protect treated surfaces from rain, washdown, and cleaning chemicals until cured and accepted by Architect.

C. Do not allow animals to occupy sealed areas until dry/cured and area is ventilated.

3.7 CLEANING

A. Remove masking; clean overspray promptly with soap and water.

B. Equipment cleanup: thoroughly rinse spray equipment with clean water; wash rollers with soap and water; rinse thoroughly.

C. Dispose of wash water and waste in accordance with local regulations; prevent discharge to storm drains where prohibited.

3.8 CLOSEOUT AND MAINTENANCE

A. Provide Owner with manufacturer maintenance guidance, including compatible cleaners/disinfectants and reapplication guidance. Product can be reapplied to treated surfaces and has a stated life expectancy of 5 years when properly applied.

B. Paint compatibility: sealer is compatible with most latex and other paints; to assure compatibility, provide small test application prior to full paint application. Do not allow pretreatment/overspray on metal or other non-porous surfaces to be painted.

C. Advise Owner that sealer reduces water and urine intrusion and improves cleanability; routine cleaning remains required.