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Henry + Associates Project No. 24-32-058
DSA File No. [Edit]
DSA Application No. 02-122212

ADDENDUM NO. 02

Vinewood Play Apparatus
Lodi Unified School District
Lodi, California

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Henry + Associates Architects

1. ALL WORKMANSHIP, MATERIALS, APPLIANCES AND EQUIPMENT which may be included in the following items shall be the same relative quality as described for similar work set forth in the original or main specifications of which these Addendum items shall be considered a part.

2. ADDENDUM DRAWINGS (included in the back of this Addendum).
The following Addendum drawings modify or supplement the issued bid documents:

AD2.01	DETAIL 8
AD2.02	REVISION TO SHEET C2.1

3. PROJECT MANUAL:

   A. Section 32 16 00 Site Concrete. Add section to Project Manual.

   B. Section 32 31 13 Chainlink Fences and Gates: Add section to Project Manual.

4. DRAWINGS:

   A. Addendum Drawing AD 2.01, Detail 8 is added to the drawing set

   B. Addendum Drawing AD 2.02 modifies sheet C2.1.

* * * END OF ADDENDUM * * *

SITE CONCRETE

Section 32 16 00
21-32-52

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The Section describes the requirements for providing portland cement concrete paving, including accessibility ramps, sidewalks, accessible routes of travel, vehicular travel, drain structures, sewer structures, thrust blocks and for other non-structural or non-vehicular applications.

1.02 INCLUSION OF OTHER CONTRACT DOCUMENTS

A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01 45 00, Testing Lab Services.

B. Section 31 00 00, Earthwork.

1.04 QUALITY ASSURANCE

A. Use only new materials and products.

B. Use materials and products of one manufacturer whenever possible.

C. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

D. Sieve analysis from testing laboratories identifying rock/sand percentages within the concrete mix; or class 2 aggregate base shall have the current project name and project location identified on the report. Outdated analytical reports greater than 90 days old will not be accepted

1.05 SUBMITTALS

A. Refer to Section 13 33 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

C. Materials list: Submit to the Architect a complete list of all materials proposed to be used in this portion of the work. Submitted items should include but are not limited to sand, gravel, admixtures, surface treatments, coloring agents, sealers, fibers, cast-in-place accessories, forming and curing products and concrete mix designs.

D. With concrete submittal, provide documented history of mix design performance.

1.06 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.07 REFERENCES AND STANDARDS

A. California Building Code, latest edition.

B. ACI Standards, ACI 211.1, ACI 318-14, ACI 302, IR-04, ACI 301-16, ACI 305R-10, ACI 306R-16, ACI 308-16.

C. ASTM C-94, Specification for Ready-Mixed Concrete.

D. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (latest edition).

E. ASTM – American Society for Testing and Materials.

1.08 DELIVERY, STORAGE AND HANDLING

A. Deliver undamaged products to job in manufacturer's sealed containers and/or original bundles with tags and labels intact.

B. Store materials in protected, dry conditions off of ground and in areas so as to not interfere with the progress of the work.

C. Transport, store and handle in strict accord with the manufacturer's written recommendations.

D. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

E. Store cement in weather tight building, permitting easy inspection and identification. Protect from dampness. Lumpy or stale cement will be rejected.

F. Aggregates: Prevent excessive segregation, or contamination with other materials or other sizes of aggregate. Use only one supply source for each aggregate stock pile.

1.09 TESTING

A. General: Refer to Section 01 40 00 – Quality Requirements.

1.10 ADEQUACY AND INSPECTION

A. Design, erect, support, brace and maintain formwork and shoring to safely support all vertical and lateral loads that might be applied until such loads can be carried by concrete.

B. Notify Inspector, Architect and DSA at least 48 hours prior to placing of concrete.

1.11 PROTECTION

A. Finish surfaces shall be protected at all times from concrete pour. Inspect forming against

such work and establish tight leak-proof seal before concrete is poured. Finish work damaged, defaced or vandalized during the course of construction shall be replaced by contractor at contractor expense.

1.12 FIELD MEASUREMENTS

A. Make and be responsible for all field dimensions necessary for proper fitting, slopes and completion of work. Report discrepancies to Architect before proceeding.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Cement: Portland cement, ASTM C150, Type II, per ACI 318-14 Section 26.4.

B. Concrete Aggregates: Normal weight aggregates shall conform to ASTM C33, except as modified by this section. Combined grading shall meet limits of ASTM C33. Lightweight aggregate shall conform to ASTM C330, suitably processed, washed and screened, and shall consist of durable particles without adherent coatings.

C. Water: Clean and free from deleterious amounts of acids, alkalis, scale, or organic materials and per ACI 318-14 Section 26.4.1.3.1.

D. Fly Ash: Western Fly Ash, conforming to ASTM C618 for Class N or Class F materials (Class C is not permitted). Not more than 15% (by mass) may be substituted for portland cement.

E. Water Reducing Admixture: Admixture to improve placing, reduce water cement ratio, and ultimate shrinkage may be used. Provide WRDA 64 by Grace Construction Products or approved equal. Admixture shall conform to ASTM C494 and ACI 318-14 Section 26.4.1.4.19(a). Such admixture must receive prior approval by the Architect, Structural Engineer, and the Testing Lab, and shall be included in original design mix.

F. Air-entraining Admixture: Daravair 1000 by Grace Construction Products or approved equal. Admixture must conform to ASTM C260 and ACI 318-14, section 26.4.1.4.

G. Surface Retarder (for exposed aggregate finishes): Rugasol-S by Sika Corporation or approved equal.

H. Form Coating: Material which will leave no residue on concrete surface that will interfere with surface coating, as approved by the Architect.

I. Reinforcement Bars: New billet steel deformed bars conforming to requirements of ASTM A615 or ASTM A706; Grade 60. Dowels for installation through expansion joints or construction joints to existing sidewalks or concrete features shall be smooth or shall be sleeved on one end for slippage.

J. Reinforcing supports: Concrete supports with wire ties. Concrete supports without wire ties will not be allowed

K. Truncated Domes: Vitrified Polymer Composite (VPC), Cast-In-Place Detectable/Tactile Warning Surface Tiles; “Armor-Tile”, “Access Tile Tactile Systems”, or approved equal. Tiles shall comply with Americans with Disabilities Act and the California Code of Regulations (CCR) Title 24, Part 2, Chapter 11B (dome spacing shall be 2.35”). Install tiles as recommended by manufacturer. Color, federal yellow (FS 33538).

L. Curing Compound (for exterior slabs only): Burke Aqua Resin Cure by Burke by Edoco, 1100 Clear by W.R. Meadows or accepted equal. Water based membrane-forming concrete curing compound meeting ASTM C 309 and C1315.

M. Concrete Bonding Agent: Weld-Crete by Larson Products Corp., Daraweld C by Grace Construction Products or accepted equal.

N. Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or accepted equal.

O. Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed,non-metallic, no chlorides, non-staining and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.

P. Aggregate Base: Class 2 AB per Caltrans specification section 26-1.02A.

Q. Expansion Joint Material: Preformed 3/8" fiber material, full depth of concrete section, with bituminous binder manufactured for use as concrete expansion joint material, as accepted by the Architect.

R. Joint sealant for expansion joints: Single component silicone sealant, Type S, ASTM D5893.

1. Reference Standard: ASTM C920, Grade P, Class 25, Use T.
2. Dow Corning 890-SL (self-leveling) Silicone, or accepted equal.
3. Dow Corning 888-NS (non-sagging) Silicone, at slopes exceeding 5%. May not be used at asphalt surfaces.
4. Color: Custom color as selected by Architect.

S. Pre- Formed plastic Expansion Joint; W.R. Meadows 3/8” “Snap Cap”, Tex-Trude expansion joint cap, or an approved equal.

T. Adhesive Anchoring (Epoxy): Hilty HIT-HY 200 Safe Set, or approved equal.

2.02 CONCRETE DESIGN AND CLASS

A. Class “B”: Concrete shall have 1" max. size aggregate, shall have 3000 psi min. at 28 day strength with a maximum water to cementitious ratio no greater than 0.50. Use for exterior slabs, including walks, vehicular paved surfaces, manhole bases, poured-in-place drop inlets, curbs, valley gutters, curb & gutter and other concrete of like nature.

B. Slump Limits: Provide concrete, at point of final discharge, of proper consistency determined by Test Method ASTM C143 with a slumps of 4" plus or minus 1".

C. Mix Design: All concrete used in this work will be designed for strength in accordance with

provisions of ASI 318-14 Section 26.4. Should the Contractor desire to pump concrete, a modified mix design will need to be submitted for review. Fly ash may be used in concrete to improve workability in amounts up to 15% of the total cementitious weight.

D. Air Entrainment; Per the Local Jurisdiction minimum requirements, or 3% minimum.

2.03 MIXING OF CONCRETE

A. Conform to requirements of CBC, Chapter 19A.

B. All concrete shall be mixed until there is uniform distribution of material and mass is uniform and homogenous; mixer must be discharged completely before the mixer is recharged.

C. Concrete shall be Ready-mixed Concrete:

1. Placement of concrete shall occur as rapidly as possible after batching and in a manner which will assure that the required quality of the concrete is maintained. In no case may concrete be placed more than 90 minutes from batch time.
2. Water may be added to the mix only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. In no case shall more than 10 gallons of water shall be added to a full 9 yard load, or 1 gal. per yard on remaining concrete within the drum providing load tag indicates at time of mixing at plant will allow for additional water.

2.04 MATERIALS TESTING

A. Testing of concrete shall be performed per article 3.12 of this specification.

2.05 EQUIPMENT

A. Handling and mixing of concrete: Project Inspector may order removal of any equipment which in his opinion is insufficient or in any way unsuitable.

PART 3 - EXECUTION

3.01 APPROVAL OF FORMS AND REINFORCEMENTS

A. Forms and reinforcements are subject to approval by the Project Inspector, and notice of readiness to place first pour shall be given to DSA, Architect and Structural Engineer 48 hours prior to placement of concrete. Before placing concrete, clean tools, equipment and remove all debris from areas to receive concrete. Clean all reinforcing and other embedded items off all coatings oil, and mud that may impair bond with concrete.

B. All reinforcing steel and shall be adequately supported by approved devices on centers close enough to prevent any sagging.

C. All reinforcing bar lap splices shall be staggered a minimum of 5 ft.

D. Additional reinforcing steel shall be placed around all utility boxes, valve boxes, manhole frames and covers that are located within the concrete placements.

1. The bars shall be placed so that there will be a minimum of 1 ½" clearance and a maximum of 3" clearance. The reinforcing steel shall be placed mid-depth of concrete slab.

E. At all right angles or intersections of concrete walks, additional 2'x2' #5, 90 degree bars shall be added at all inside corners for additional crack control. The bars shall be placed 2" from concrete forms and supports at mid-depth of slab.

3.02 PROTECTION

A. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.

B. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

C. Sub-Grade in vehicular concrete paved areas: Subgrade shall be clean, shaped and compact to hard surface free from elevations or depressions exceeding 0.05' in 10' from true plan. Compact per Section 31 00 00. Compaction and moisture content shall be verified immediately prior to placement of concrete. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.

3.03 CLEANING

A. Reinforcement and all other embedded items at time of placing concrete to be free of rust, dirt oil or any other coatings that would impair bond to concrete.

B. Remove all wood chips, sawdust, dirt, loose concrete and other debris just before concrete is to be poured. Use compressed air for inaccessible areas. Remove all standing water from excavations.

3.04 FORMING

A. Form material shall be straight, true, sound and able to withstand deformation due to loading and effects of moist curing. Materials which have warped or delaminated, or require more than minor patching of contact surfaces, shall not be reused.

B. Build forms to shapes, lines, grades and dimensions indicated. Construct form work to maintain tolerances required by ACI 301. Forms shall be substantial, tight to prevent leakage of concrete, and properly braced and tied together to maintain position and shape. Butt joints tightly and locate on solid backing. Chamfer corners where indicated. Form bevels, grooves and recesses to neat, straight lines. Construct forms for easy removal without hammering, wedging or prying against concrete.

C. Space clamps, ties, hangers and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.

D. Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.

E. Build in securely braced temporary bulkheads, keyed as required, at planned locations of construction joints.

F. Slope tie-wires downward to outside of wall.

G. Brace, anchor and support all cast-in items to prevent displacement or distortion.

H. During and immediately after concrete placing, tighten forms, posts and shores. Readjust to maintain grades, levels and camber.

I. Concrete paving, Curbs, Curb and Gutters, Ramps:

1. Expansion Joints: Install at locations indicated, and so that maximum distance between joints is 20' for exterior concrete unless otherwise shown. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant where required. Expansion joints shall not exceed ¼ inch depth measured from finish surface to top of felt or sealant, and ½ inch width.
2. Curbs, Valley Gutter, and Curb & Gutter: Install expansion joints at 60' on center, except when placing adjacent to concrete walks, the expansion joints shall align with the expansion joints shown for the concrete walks. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant will be required.
3. Isolation Joints: 3/8" felt between walls and exterior slabs or walks so that paved areas are isolated from all vertical features, unless specifically noted otherwise on plans.
4. Exterior Concrete Paving: Install expansion joints at 20' on center maximum, both directions, unless shown otherwise on plans.
5. Ramps; whether shown or not all ramps shall have control joints and expansion joints.

    a. Control joints on ramps shall be aligned and be placed in between with the vertical posts for the handrails. The curbs, if required shall have control joints that align with the handrail posts.
    b. Expansion joints shall be placed at the upper, intermediate, and bottom landings.

3.05 FORM COATING

A. Before placement of reinforcing steel, coat faces of all forms to prevent absorption of moisture from concrete and to facilitate removal of forms. Apply specified material in conformance with manufacturer's written directions.

B. Before re-using form material, inspect, clean thoroughly and recoat.

C. Seal all cut edges.

3.06 INSTALLATION

A. General: Reinforcement shall be accurately placed at locations indicated on the drawings within required tolerances and providing required clearances. Reinforcement shall be

secured prior to placement of concrete such that tolerances and clearances are maintained. Coverage shall be in accordance with Section 1907A.7 of the CBC. Keep a person on the job to maintain position of reinforcing as concrete is placed. Reinforcement must be in place before concreting is begun. Install dowels as shown on drawings. Give notice whenever pipes, conduits, sleeves, and other construction interferes with placement; obtain method of procedure to resolve interferences. All expansion and construction joints in concrete shall have dowels of size and spacing as shown, or as approved by Architect.

B. Placing Tolerances:

1. Per ACI 301 or CRSI/WCRSI Recommended Practice for Placing Reinforcing Bars, unless otherwise shown.
2. Clear distance between parallel bars in a layer shall be no less than 1", the maximum bar diameter not 1 ½ times the maximum size of coarse aggregate.

C. Splices:

1. General: Unless otherwise shown on drawings, splice top reinforcing at midspan between supports, splice bottom reinforcing at supports and stagger splices at adjacent splices 5 foot minimum. Bar laps shall be wired together. Reinforcing steel laps shall be as follows:
   a. Lap splices in concrete: Lap splice lengths shall not be less than 62 bar diameter for No. 5 bar, 56" minimum for No. 6 bars. No. 4 bar shall have a minimum of 24" splice. 93 bar diameters for No. 7 bars and larger.
   b. All splices shall be staggered at 5 feet minimum.

3.07 INSPECTION

A. Slope of concrete forms and finish condition shall be checked with a two foot (2') digital level.

3.08 PLACING OF CONCRETE

A. Adjacent finish surfaces shall be protected at all times during the concrete pour and finishing. Verify that all formwork is tight and leak-proof before concrete is poured. Finish work defaced during the concrete pour and finishing shall be replaced at no extra cost to the owner.

B. Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which will prevent separation or loss of ingredients. Deposit as close as practicable in final position to avoid re-handling or flowing. Partially hardened concrete must not be deposited in work. Concrete shall not be wheeled directly on top of reinforcing steel.

C. Placing: Once started, continue concrete pour continuously until section is complete between predetermined construction joints. Prevent splashing of concrete onto adjacent forms or reinforcement and remove such accumulation of hardened or partially hardened concrete from forms or reinforcement before work proceeds in that area. Free fall of concrete shall not to exceed 4'-0" in height. If necessary, provide lower openings in forms to inject concrete and to reduce fall height.

D. Remove form spreaders as placing of concrete progresses.

E. Place footings as monolithic and in one continuous pour.

F. Keep excavations free of standing water, but moisture condition sub-grade before concrete placement.

G. Compacting: All concrete shall be compacted by mechanical vibrators. Concrete shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms. Vibrating shall not be applied to concrete which has already begun to initially set nor shall it be continued so long as to cause segregation of materials.

H. Concrete Flatwork:

1. All flatwork shall be formed and finished to required line and grades. Flatwork shall be true and flat with a maximum tolerance of 1/8" in 10' for flatness. Flatwork which is not flat and are outside of the maximum specified tolerances shall be made level by the Contractor at no additional expense to the Owner.
2. Thoroughly water and soak the flatwork subgrade as required to achieve required moisture content prior to the concrete pour. Provide damming as required to keep water within the formed area and to allow for proper saturation of the subgrade.

I. Placing in hot weather: Comply with ACI 305R-10. Concrete shall not exceed 85 degrees F at time of placement. Concrete shall be delivered, placed and finished in a sufficiently short period of time to avoid surface dry checking. Concrete shall be kept wet continuously after tempering until implementation of curing compound procedure in accordance with this specification.

J. Placing in cold weather: Comply with ACI 306R-16. Protect from frost or freezing. No antifreeze admixtures are permitted. When deposited concrete during freezing or near-freezing weather, mix shall have temperature of at least 50 degrees F but not more than 90 degrees F. Concrete shall be maintained at temperature of at least 50 degrees F for not less than 72 hours after placing or until it has thoroughly hardened. Provide necessary thermal coverings for any flat work exposed to freezing temperatures.

K. Horizontal construction joint: Keep exposed concrete face of construction joints continuously moist from time of initial set until placing of concrete; thoroughly clean contact surface by chipping entire surface not earlier than 5 days after initial pour to expose clean hard aggregate solidly embedded, or by approved method that will assure equal bond, such as green cutting. If contact surface becomes contaminated with soil, sawdust or other foreign matter, clean entire surface and re-chip entire surface to assure proper adhesion.

3.09 CONCRETE FINISHES

A. Concrete Slab Finishing: Finish slab as required by ACI 302.1R. Use manual screeds, vibrating screeds to place concrete level and smooth. Use “jitterbugs” or other special tools designed for the purpose of forcing the course aggregate below the surface leaving a thick layer of mortar 1 inch in thickness. Surface shall be free from trowel marks, depressions, ridges or other blemishes. Tolerance for flatness shall be 1/8" in 10'. Provide final finish as follows:

1. Flatwork, medium broom finish: Typical finish to be used at all exterior walks and stairs.

2. Ramps, heavy broom finish: Concrete surfaces with slope greater than 5% including all ramps. Brooming direction shall run perpendicular to slope to form non-slip surface
3. Under no circumstances can water be added to the top surface of freshly placed concrete.

B. Curb Finishing: Steel trowel.

C. Joints and Edges: Mark-off exposed joints, where indicated, with ¼" radius x 1" deep jointer or edging tool. Joints to be clean, cut straight, parallel or square with respect to concrete walk edge. Tool all edges of exposed expansion and contraction joints, walk edges, and wherever concrete walk adjoins other material or vertical surfaces.

1. The expansion joints shall be full depth as shown in the plan details. Failure to do so will result in non-compliance and shall be immediately machine cut by the contractor at his expense.

D. Exposed Concrete Surface Finishing (not including top surface of flatwork): Remove fins and rough spots immediately following removal of forms from concrete which is to be left exposed. Damaged and irregular surfaces and holes left by form clamps and sleeves shall be patched with grout. Tie wires are to be removed to below exposed surface and holes pointed up with neat cement paste similar to procedure noted under "Patching" below. Removal of tie wires shall extend to distance of 2" below established grade lines. Ends of tie wires shall be cut off flush at all other, unexposed locations. Care shall be taken to match adjacent finishes of exposed concrete surface. After patching, all concrete that is to remain exposed, shall be sacked with a grout mixture of 1-part cement, 1 1/2- parts fine sand and sufficient water to produce a consistency of thick paint. After first wetting the concrete surface, apply mixture with a brush and immediately float entire surface vigorously using a wood float. Keep damp during periods of hot weather. When set, excess grout shall be scraped from wall with edge of steel trowel, allowed to set for a time, then wiped or rubbed with dry burlap. Entire finishing operation of any area shall be completed on the same day. This treatment shall be carried to 4" below grade, and all patching and sacking shall be done immediately upon removal of the forms.

E. Stair Treads and Risers: Tool exterior stair tread nosing per ADA requirements and as detailed. Paint or stain tooled area at every stair tread nosing or as detailed. Stair tread nosing shall contain no pockets, voids or spalls. Patching is not allowed. Damaged nosing shall be replaced.

3.10 CURING

A. Cured Concrete in Forms: Keep forms and top on concrete between forms continuously wet until removal of forms, 7 days minimum. Maintain exposed concrete in a continuous wet condition for 14 days following removal of forms.

B. Flatwork/Variable Height Curbs, Curb and gutter, Valley Gutter: Cure utilizing Curing Compound. If applicable, the Contractor shall verify that the approved Curing Compound is compatible with the approved colorant system. Upon completion of job, wash clean per manufacturer's recommendations.

1. Curing compound shall be applied in a wet puddling application. Spotty applications shall be reason for rejection and possibly concrete removal and replacement at the

contractor's expense with no compensation from the owner.

3.11 DEFECTIVE CONCRETE

A. Determination of defective concrete shall be made by the Architect or Engineer. His opinion shall be final in identifying areas to be replaced, repaired or patched.

B. The Owner reserves the right to survey the flatwork, if it is determined to be outside of the maximum tolerance for flatness. If the flatwork is found to be out of tolerance, then the Contractor will be required to replace concrete. The Contractor will be responsible for reimbursing the Owner for any surveying costs incurred. Determination of flatwork flatness, surveying and any remedial work must be completed far enough in advance so that the project schedule is maintained, delays are avoided and the new flatwork or flatwork repairs are properly cured.

C. As directed by Architect, cut out and replace defective concrete. All defective concrete shall be removed from the site. No patching is to be done until surfaces have been examined by Architect and permission to begin patching has been provided.

D. Permission to patch any area shall not be considered waiver of right, by the Owner, to require removal of defective work, if patching does not, in opinion of Architect, satisfactorily restore quality and appearance of surface.

E. Defective concrete is:

2. Concrete that does not match the approved mix design for the given installation type.
3. Concrete not meeting specified 28-day strength.
4. Concrete which contains rock pockets, voids, spalls, transverse cracks, exposed reinforcing, or other such defects which adversely affect strength, durability or appearance.
5. Concrete which is incorrectly formed, out of alignment or not plumb or level.
6. Concrete containing embedded wood or debris.
7. Concrete having large or excessive patched voids which were not completed under Architect's direction.
8. Concrete not containing required embedded items.
9. Excessive Shrinkage, Traverse cracking, Crazing, Curling; or Defective Finish. Remove and replace if repair to an acceptable condition is not feasible.
10. Concrete that is unsuitable for placement or has set in truck drum for longer than 90 minutes from the time it was batched.
11. Expansion joint felt that is not isolating the full depth of the concrete section, and recessed as required for backer rod and sealant where required.
12. Concrete that is excessively wet or excessively dry and will not meet the minimum or maximum slump required per mix design.
13. Finished concrete with oil stains from equipment use, and or rust spots that cannot be removed.
14. Control joints (weakened planed joints) that do not meet the required minimum depth shown on the drawings.

F. Patching: Install specified Patching Mortar per manufacturer's recommendations.

REPAIRS TO DEFECTIVE CONCRETE WHICH AFFECT THE STRENGTH OF ANY STRUCTURAL CONCRETE MEMBER OR COMPONENT ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND DSA.

3.12 CONCRETE TESTING

A. Comply with CBC Section 1903A, 1905A.1.16, 1910A and 1705A.3 and as specified in B. below. Costs of tests will be borne by the Owner.

B. Four identical cylinder samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. In addition, samples for strength tests for each class of concrete shall be taken for seven-day tests at the beginning of the concrete work or whenever the mix or aggregate is changed.

C. Strength tests will be conducted by the Testing Lab on one cylinder at seven (7) days and two cylinders at twenty-eight (28) days. The fourth remaining cylinder will be available for testing at fifty-six (56) days if the 28-day cylinder test results do not meet the required design strength.

D. On a given project, if the total volume of concrete is such that the frequency of testing required by paragraph B. above would provide less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.

E. Cost of retests and coring due to low strength or defective concrete will be paid by Owner and back-charged to the Contractor.

F. Each truck shall be tested for slump before concrete is placed.

3.13 REMOVAL OF FORMS

A. Remove without damage to concrete surfaces.

B. Sequence and timing of form removal shall insure complete safety of concrete structure.

C. Forms shall remain in place for not less than the following periods of time. These periods represent cumulative number of days during which temperature of air in contact with concrete is 60 degrees F and above.

1. Vertical forms of foundations, walls and all other forms not covered below: 5 days.
2. Slab edge screeds or forms: 7 days.
3. Concrete columns and beam soffits: 28 days.

D. Concrete shall not be subjected to superimposed loads (structure or construction equipment) until it has attained its full design strength and not for a period of at least 21 days after placing. Concrete systems shall not be subjected to construction loads in excess of design loads.

3.14 CLEANING

A. Refer to Section 01 74 00.

B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

C. Clean excess material from surface of all concrete walks and utility structures.

D. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION

PART 1 - GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 03 00 00 – Miscellaneous Concrete

1.03 QUALITY ASSURANCE

A. Use only new materials and products unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.

B. Use materials and products of one manufacturer whenever possible.

C. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

1.04 SUBMITTALS

A. Refer to Section 01 30 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions and maintenance instructions.

C. Samples: The following examples are required. Submit per Section 01 33 00.

1. Submit sample for each type of fence fabric to Architect for review.

2. Manufacturer's full range of items that allow color selection.

D. Shop Drawings: Submit showing all parts, connections and anchorages, adjacent materials, fully dimensioned and noted.

E. Submit executed Guarantee of Contractor/Subcontractor per article 1.05.

1.05 GUARANTEE

A. Refer to General Conditions and Section 01 33 00.

B. Submit fully executed Guarantee with submittal package required by Article 1.04.

C. Provide two-year warranty to insure materials against rusting or breakdown of finish. Provide adjustments as needed to assure continued smooth operation of gates.

1.06 REFERENCES AND STANDARDS

A. Title 24, Part 2, CCR, California Building Code.

B. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless.

C. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

D. ASTM A392 - Zinc-Coated Steel Chain-Link Fence Fabric.

E. ASTM F552 Standard Terminology Relating to Chain Link Fencing

F. ASTM F567 - Practice for Installation of Chain-Link Fence.

G. ASTM F626 Specification for Fence Fittings

H. ASTM A780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

I. ASTM F900 Specification for Industrial and Commercial Swing Gates

J. ASTM F1043 Specification for Strength and Protective Coatings of Steel Industrial Chain Link Fence Framework

K. ASTM F1083- Pipe, steel, hot-dipped zinc coated (galvanized), welded, for fence structures.

L. ASTM F1184 Specification for Industrial and Commercial Horizontal Slide Gates

M. SSPWC - Standard Specifications for Public Works Construction, 2000 Edition.

N. CLFM - Chain Link Fence Manufacturer's Institute

O. Chapters 10 and 19A, CBC.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver undamaged products to job in manufacturer’s sealed containers and/or original bundles with tags and labels intact.

B. Store materials in protected, dry conditions off of ground and in areas so as to not interfere with the progress of the work.

C. Transport, store and handle in strict accord with the manufacturer’s written recommendations.

D. Make deliver to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.08 QUALIFICATIONS

A. Manufacturer: Company specializing in commercial quality chain link fencing with five years experience

1.09 FIELD MEASUREMENTS

A. Subcontractor is to make and be responsible for all field dimensions necessary for proper fitting and completion of work of this section. Report discrepancies to General Contractor before proceeding.

1.010 PROJECT RECORD DOCUMENTS

A. Provide per Section 01 77 00, Contract Closeout

.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Manufacturer: Merchant Metals, Master-Halco or equal in accordance with Section 01 33 00.

B. Framework: ASTM A53, Schedule 40, galvanized steel pipe, minimum 1.8 ounces per square feet galvanizing, ASTM A123 and ASTM F1083. Class 1, sized in accordance with Table 206-6.2, Standard Specifications for Public Works Construction. One piece without joints in accordance with CLFM I.

1. Fabric at New Fence Lines: Class 2, ASTM A392 & A817 galvanized after fabrication. Provide, interwoven, top and bottom knuckled selvage, closed end. **2-inch square x 9-gauge (min.) fabric with factory pre-inserted slats. Noodle Link Plus as manufactured by PrivacyLink, Smithfield UT 800-574-1076 or approved equal.**

2. **Fabric at Existing Fence Lines (where frame is being modified for height and fabric is being replaced: Provide 1-inch square x 9-gauge (min.) no-climb fabric. See drawings for extent of replacement fabric.**

C. Slats shall have standard 25-year, pro-rata warranty against breakage under normal conditions. Color as selected by Architect from full line of colors available.

2.02 CONCRETE MIX

A. Concrete: Normal portland cement; 2,500 psi at 28 days; 4 inch slump, conforming to Section 1905A, CBC.

1. Design Mix: Conform to Method A Table 19A-A-8 CBC.

2.03 COMPONENTS

A. Nominal pipe size (NPS) and weight (Class 1) in pounds per lineal foot:

	NPS	Pounds/LF
1.	1-1/4:	2.27
2.	1-1/2:	2.72
3.	2:	3.65
4.	2-1/2:	5.79
5.	3:	7.58
6.	3-1/2:	9.11
7.	6:	18.97
8.	8:	24.58

B. Posts for fencing

	Fence height in feet	Outside diameter in inches
1.	Less than 6 feet	1.9
2.	6 to 7.9	2.375
3.	8 to 11.9	2.875
4.	12 to 16	4.0

C. Terminal Posts – end, corner and slope.

	Fence height in feet	Outside diameter in inches
1.	Less than 6 feet	2.375
2.	6 to 8	2.875
3.	8 to 12	4.0
4.	12 to 16	6.625

D. Posts for Fencing 12 foot high with wind screen:
1. Line: 3-1/2 inches.
2. End, corner: 6 inches.
3. Provide horizontal rail at mid span.
4. Full sections only, no welded sections permitted.]

E. Posts for fencing 18 feet and 24 feet:
1. Line: 6 inches.
2. End, Corner: 8 inches.
3. Provide horizontal rails at 6 feet on center.
4. Full sections only, no welded sections permitted.

F. Swing gate posts, single leaf; opening widths in feet:
1. Up to 6 wide 2-3/8” dia.
2. 6-13 wide 3-1/2” dia.
3. 13-18 wide: 6” dia.

4. 18 or more wide: 8” dia.

G. Swing gate posts, double leaf, opening widths in feet:
   1. Up to 12 wide 2-1/2” dia.
   2. 12-26 wide 3-1/2” dia.
   3. 26-36 wide 6” dia.
   4. 36 or more wide: 8” dia.

H. Sliding gate support posts shall be as follows:
   1. Under 30 feet wide: 4” dia. weighing 9.1 lb/ft. Provide 1 latch post and 2 support posts at each leaf 12 feet on center, four support posts for double slide gates.
   2. 30 feet wide and larger: 4” dia. weighing 9.1 lb/ft. Provide 1 latch post and 2 pairs of support posts for each leaf, connect paired posts supports with welded 6 in. x 3/8 thick steel plate between posts, with intermediate line posts.

I. Top rail and braces: 1-5/8, plain end, sleeve coupled.

J. Swing Gate Frames: 1-1/2.

K. Stiffeners for swing gates: 1-1/4.

L. Caps: Domed cast steel or malleable iron, galvanized and coated; sized to post dimension, set screw retained.

M. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings: Galvanized Steel.

N. Tension Wire: 7-gauge thick coil spring steel, single strand, galvanized.

O. Knox Box: #1650 surface as manufactured by the Knox Company, Newport Beach, CA.

2.04 PADLOCK

A. Non fire-access Padlock: 5 pin cylinder, corrosion resistant, hardened steel shackles, 5/16 inch shackle diameter, No. 1158A54 by McMaster-Carr, Los Angeles, CA, or equal as approved in accordance with Section 01600 for substitutions, master keyed to building standard one per gate.

B. Fire Access Padlock: heavy-duty brass body, 2-1/4 in. H x 2 in. W x 1-1/4 in. D. 3/8 in. dia. hardened steel shackle, 1-1/2 in. shackle clearance, No. PL-1 by The Knox Company, or equal as approved in accordance with Section 01600 for substitutions, one per fire-access gate.

PART 3 - EXECUTION

3.01 INSPECTION

A. Prior to installation of this work, carefully inspect and verify that the installed work of all other trades is complete to the point where this installation may properly commence.

B. Verify that specified items may be installed in accordance with the approved design.

C. In the event of discrepancy, immediately notify Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.02 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with Section 304-3, SSPWC and ASTM F567.
   1. Post Footings: 4 times the diameter of the largest core section of the post, 12 inches minimum.
   2. Posts Set in Hard Rock: Drill holes 1 inch larger than post and set in non-shrink grout.
   3. Footings 6 inches below post bottom.
   4. Minimum Depth: 36 inches plus 3 inches for each one ft over four ft.

B. Provide fence height as indicated on Drawings.

C. Space line posts at intervals not exceeding 10 feet.

D. Set terminal, gate and line posts plumb, in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.

E. Provide top rail through line post tops and splice with 7 inch long rail sleeves, outside sleeve type.

F. Brace each gate and corner post back to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail, one bay from end and gate posts.

G. Install center and bottom brace rail on gate leaves.

H. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.

I. Position bottom of fabric 2 inches above finished grade.

J. Fasten fabric to top rail, line posts, braces and bottom tension wire with tie wires maximum 16 inches on centers.

K. Attach fabric to end, corner and gate posts with tension bars and tension bar clips.

L. Install bottom tension wire stretched taut between terminal posts, (corner posts shall have brace rail).

M. Install gates with fabric to match fence. Install three hinges per leaf, latch, catches, drop bolt at double gates, retainer and locking clamp.

N. Provide concrete center drop and drop rod retainers at center of double gate openings, except gates with panic hardware.

O. Install privacy decorative slating vertically, with bottom channel horizontal member. Lock slating in place to preclude removal as recommended by manufacturer.

P. Weld mounting plate for knox box to gate post nearest latch with access to door from outside of fence enclosure for Fire Department.

3.03 SWING GATES

A. Gate Frames: 1-1/2 inch diameter steel pipe, welded corners, hot dip galvanized after fabrication.

B. Sizes: As indicated on the Drawings, minimum widths of gates shall not be less than 36”.

C. Hardware: Heavy-duty, galvanized ferrous metal industrial quality as manufactured by Master-Halco/Anchor Fence Inc., Baltimore, MD. or equal as approved in accordance with Section 01600 for substitutions.
   1. Hinges: Structurally capable of supporting gate leaf and allow opening and closing without binding. Non-lift-off type hinge design shall permit gate to swing 180 degrees outward. [Standard Steel Gate Hinges, Series 15600, industrial malleable, three each leaf; ADA gate hinges: Hoover Fence Automatic Spring Hinge Model CL-RGH-500, three each leaf].
   2. Latch: ADA required fork type capable of retaining gate in closed position. [Malleable, Series 16600]
   3. Exit Device at Exit Gates:
      a. Lock Assembly and Paddle: Adams Rite 4710/4590 at single gates, devices in exit pathways, attach to gate post.
   4. Locking: Provide padlock capability.
   5. Gate Hardware: Mount at 40 inches above finish floor and according to Sections 1007.3.11, 1003.3.2 and 1133B1.1.1.4 CBC.
      a. Provide strike strap.
      b. Bolt keeper.
   6. Install 1/8 in. thick aluminum plate 24 in. high behind panic device centered at 40 in. above finish floor. Secure to gate frame with #8 stainless steel screws at 6 in on center.]
   7. Install 1/8 in. thick aluminum plate 10 inches kickplate secure with # 8 stainless steel screws 4 places.

D. Sign: Provide signs on gate to read "Gate is to remain locked in the open position during school hours or during any public function". Text shall be in 1" white capital letters. Place sign on each side of gate for both directions. Fabricate sign 16 gage enamelized steel blue color No. 15090. Fed. Standard 595b. Mount at 60 inches above grade on or adjacent to gate.

E. Install slatting.

3.04 SLIDING GATES

A. Reference ASTM F1184 Standard Specification for Industrial and Commercial Horizontal Slide Gates.

B. Gate Frames: Sizes of gate frame members and intermediate bracing as detailed on approved shop drawings.

C. Hardware: heavy duty metal stops, clips brackets and all required components. Gate hardware shall be mounted at 40" above finish floor.

D. Ground Rolling Sliding Gates: Galvanized overhead track and rail with internal truck assembly, 4 ball bearing track wheels, 6 inch rubber guide rollers. Full length inverted galvanized steel angle, 2-1/2" x 2-1/2" x 1/4" thick with welded anchors, set in concrete curb at level of finish surface to receive 6 inch diameter metal V-groove wheel. Provide necessary attachment hardware.

E. Provide positive locking device with padlock capability.

F. Gates shall operate freely and properly with minimum pull effort. Provide adjustments as required.

G. Sign: Provide sign adjacent to the gate to read "Gate to remain locked in the open position during school hours or during any public functions.". Wording shall be in 1" capital letters.

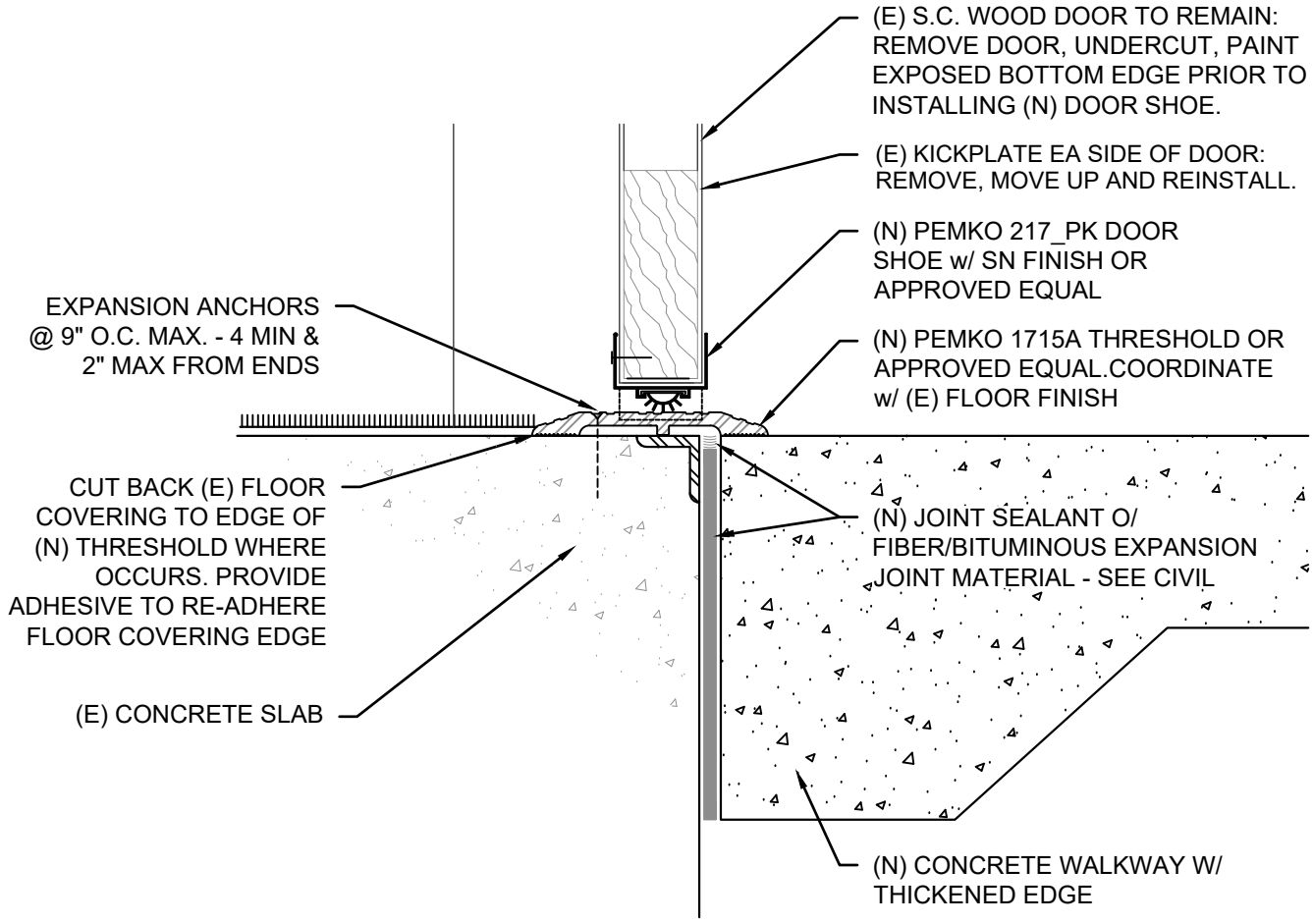
H. Install slating.

3.05 PROTECTION

A. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.

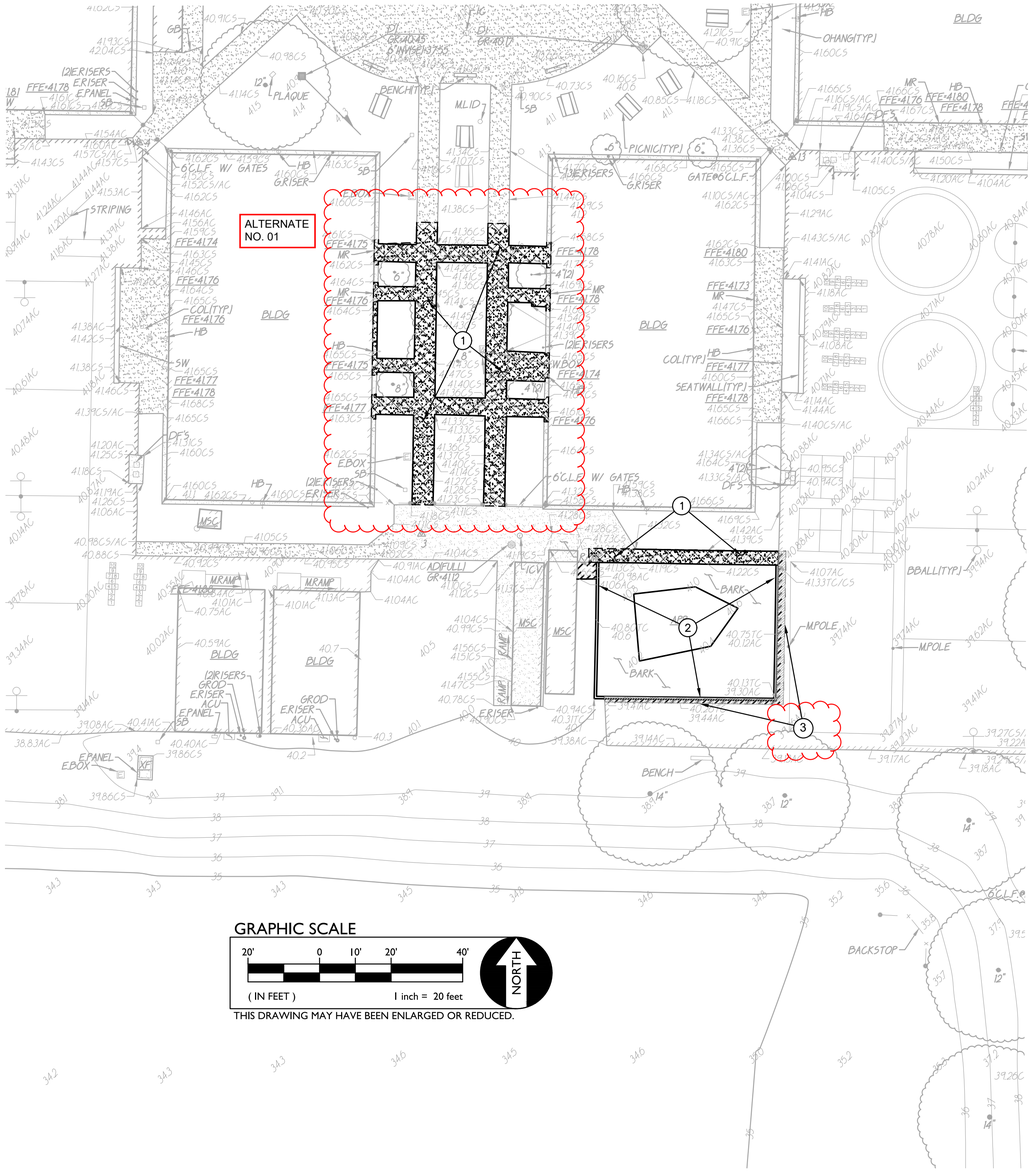
B. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

END OF SECTION



8 DOOR THRESHOLD

SCALE: 3" = 1'-0"



GRAPHIC SCALE

20' 0 10' 20' 40'

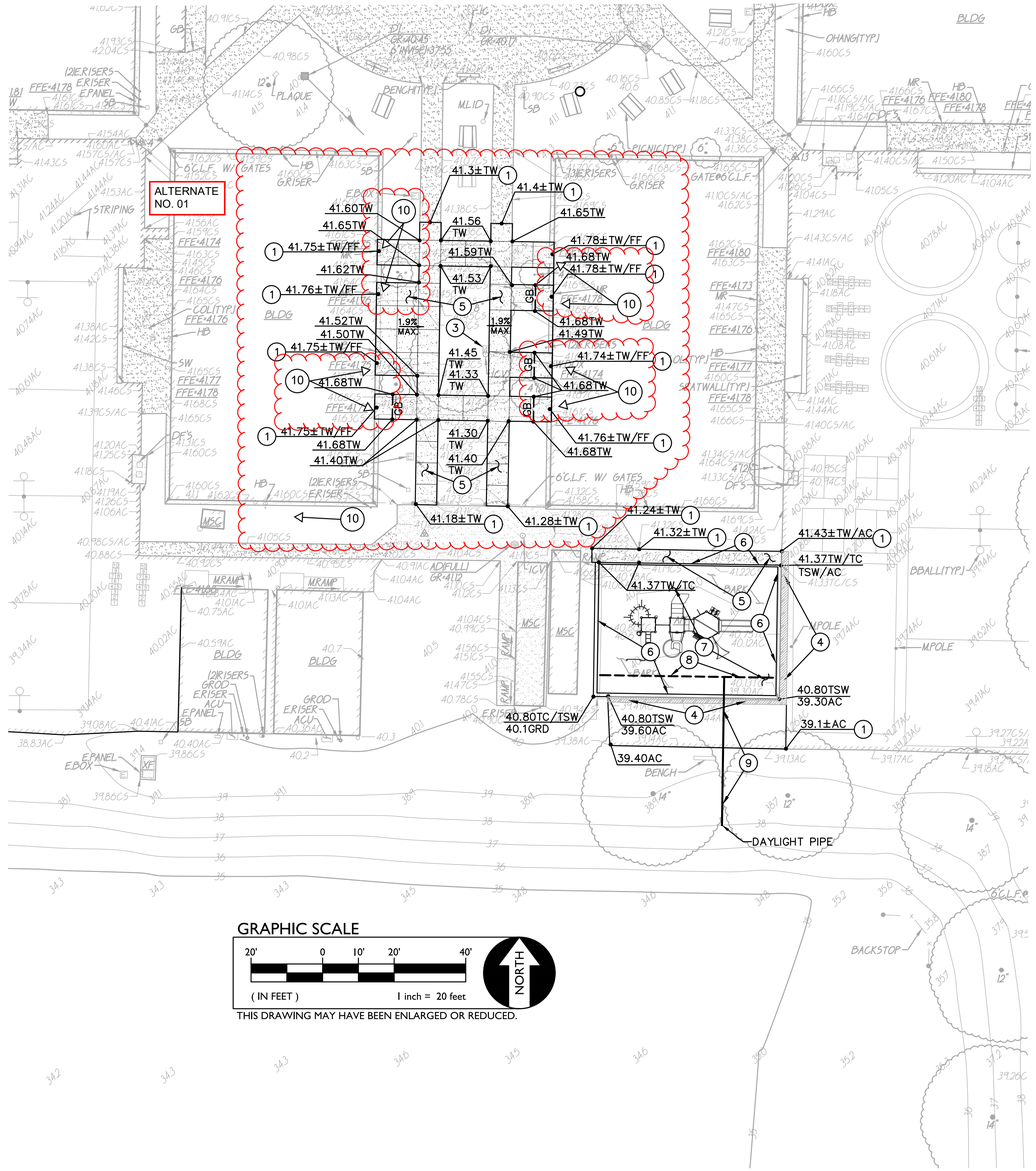
(IN FEET) 1 inch = 20 feet

NORTH

THIS DRAWING MAY HAVE BEEN ENLARGED OR REDUCED.

DEMOLITION NOTES

1. WITHIN LIMITS SHOWN REMOVE ALL PAVEMENT, CURB, GUTTER, BASE MATERIAL AND LANDSCAPING. COORDINATE LIMITS OF REMOVAL WITH PLANS BY OTHERS. ADDITIONAL DEMOLITION ITEMS SHOWN ON ARCHITECTURAL, ELECTRICAL AND PLUMBING PLANS.
2. REMOVE EXISTING APPARATUS AREA INCLUDING PLAY EQUIPMENT, FOOTINGS, FILL MATERIAL AND PERIMETER CURBS.
3. SAWCUT AND REMOVE 2' MINIMUM AC PAVING OR AS NECESSARY FOR NEW CURB CONSTRUCTION.



GRAPHIC SCALE

20' 0 10' 20' 40'

(IN FEET) 1 inch = 20 feet

NORTH

THIS DRAWING MAY HAVE BEEN ENLARGED OR REDUCED.

GRADING NOTES

1. MATCH EXISTING GRADE.
2. GRADE UNIFORMLY
3. ADJUST UTILITY BOX TO LIMITS OF NEW PAVEMENT.
4. PATCH BACK AC PAVING WITH 2.5" MIN. AC OVER 4" MIN AB COMPACTED TO 95% ON SUBGRADE PER SPECIFICATIONS.
5. PLACE 4" PCC WITH NO. 3 BARS AT 18" O.C. EACH WAY OVER 4" MIN. AB COMPACTED TO 95% ON SUBGRADE PER SPECIFICATIONS.
6. CONSTRUCT CONCRETE CURB AT TURF PLAY AREA PER 2/C3.1
7. PROVIDE SYNTHETIC PLAY AREA PER 3/C3.1
8. PROVIDE 6" SUBDRAIN PER 4/C3.1
9. PROVIDE 6" DRAIN PIPE, PVC SDR 35, SLOPE AT 1% MIN. SAWCUT EXISTING AC PAVING AND PATCH BACK TO MATCH EXISTING SECTION. TRENCH BACKFILL TO BE CL 2 AB COMPACTED TO 90%. CUT END OF PIPE AT 45° AND DAYLIGHT.
10. UNDERCUT DOORS AND PROVIDE THRESHOLDS AND DOOR BOTTOMS PER DETAIL 8 OF ADDENDUM NO. 02

REGISTERED PROFESSIONAL ENGINEER ANTHONY J. TASSANO NO. C74626 STATE OF CALIFORNIA 03/06/2024

ADDENDUM DRAWING AD 2.02

FILENAME: I:\24-045\LVH\DWG\24-045_C2.1.DWG

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 02-122212 INC:
REVIEWED FOR
SS ☐ FLS ☐ ACS ☑
DATE: 04/18/2024

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212

HENRY+ ASSOCIATES ARCHITECTS

REGISTERED ARCHITECT STEVEN C. HENRY C-22282 12/31/25 RENEWAL DATE STATE OF CALIFORNIA

VINEWOOD PLAY APPARATUS
LODI SCHOOL DISTRICT

GRADING AND DEMOLITION PLAN

CONSULTANT

WARREN CONSULTING ENGINEERS, INC.
1117 WINDFIELD WAY, SUITE 110
EL DORADO HILLS, CA 95762 | (916) 985-1870

PROJECT NO. 24-32-058	REVISIONS	BY
DATE 2/2024		
DRAWN MG		
CHECKED MG		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

C2.1