SITE CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF BEST MANAGEMENT PRACTICES (BMP'S) AND COMPLIANCE WITH ALL STATE OF MINNESOTA AND CITY SEDIMENT CONTROL REQUIREMENTS.
3. PERIMETER SEDIMENT BMP'S SHALL BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION ACTIVITY. STORM INLET PROTECTION SHALL BE MAINTAINED ON ALL STORM DRAINAGE STRUCTURES.
4. ALL EROSION CONTROL AND SEDIMENT BMP'S SHALL REMAIN IN PLACE AND BE MAINTAINED AS OPERATIONAL UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED AND ALL PAVING IS COMPLETE. CONTRACTOR TO REMOVE ALL EROSION CONTROL PROTECTION ITEMS (SILT FENCE, HAY BALES, ETC.) FROM SITE AT THE COMPLETION OF THE PROJECT.
5. ALL HORIZONTAL AND VERTICAL CONTROL AND LAYOUT TO BE ESTABLISHED AND MAINTAINED BY THE GENERAL CONTRACTOR UNDER THIS CONTRACT.
6. ALL GRADES AND ELEVATIONS SHOWN ARE FINISHED GRADES AND ELEVATIONS.
7. RESTORE ALL AREAS DISTURBED BY CONSTRUCTION WITH TOPSOIL AND SOD AS SPECIFIED AND INDICATED ON PLANS.
8. ALL CONCRETE TO BE 4000 PSI CONCRETE WITH FIBER MESH REINFORCEMENT.
9. ALL CONSTRUCTION TO CONFORM WITH CURRENT ADA, IBC, AND LOCAL BUILDING CODES
10. CONTRACTOR TO COMPLY WITH ALL ISD 709 CONSTRUCTION STANDARDS FOR PLAYGROUND INSTALLATION.
11. INSTALL PLAY EQUIPMENT PER MANUFACTURERS SPECIFICATIONS
12. COORDINATE DRAIN LOCATIONS WITH POST LOCATIONS ADJUST DRAINTILE WHERE NEEDED, MAINTAIN SLOPE AS SHOWN ON CIVIL PLANS.
13. SEE CIVIL PLANS FOR REMOVALS.
14. NOTIFY LANDSCAPE ARCHITECT IN DISCREPANCIES FROM EXISTING CONDITIONS OCCUR. "RUBBERIFIC" RUBBER MULCH (SHREDDED)
15. VERIFY PLAY AREA FALL ZONES ARE WITHIN THE CURB AREA PRIOR TO POURING
16. RUBBERIZED SURFACING SHALL BE "RUBBERIFIC" RUBBER MULCH (SHREDDED) AS PROVIDED BY "LANDSCAPTE STRUCTURES". INSTALLATION METHOD SHALL BE MINIMUM OF (14) POUNDS PER SQUARE FOOT SETTLED AND A MINIMUM OF 6" SETTLED DEPTH.
17. THE TOTAL AREA OF THE FALL PROTECTION SHOULD BE CALCULATED (± 210 CY) AND MULTIPLIED TIMES 14 LBS PER SQUARE FOOT SETTLED AND 6" MIN. SETTLED TO BE VERIFIED BY THE CM ON SITE BEFORE INSTALLATION.

AY EQUIPMENT COMPONENT LIST

te: 11-04-08

oject: LOWELL ELEMENTARY SCHOOL, DULUTH MINNESOTA

ay Equipment System: PlayBooster Playstructure,
manufactured by Landscape Structures, Inc.
pplied by Earl F. Andersen, Inc., Bloomington, MN, 1-800-862-6026. Contact Dave Owen

R APPROVED EQUAL

TY PART NO. DESCRIPTION

S RQRD 111404 ALUMINUM AND STEEL DIRECT BURY POSTS, VARIOUS LENGTHS
152911B CURVED TRANSFER MODULE, RIGHT
111232A HEXAGON TENDERDECK
111228A SQUARE TENDERDECK
111231A TRIANGULAR TENDERDECK
122197A TRIANGULAR TENDERDECK 90 DEGREE
139464A STEELX FLAG POLE FOR ROOF
139375A STEELX SQUARE ROOF
116244A PIPE BARRIER
115254A STORE FRONT PERMALENE PANEL, GROUND LEVEL, UNDER DECK
123336A DOUBLE WAVE POLY SLIDE 48" HT DECK
130390A DOUBLE SWOOSH POLY SLIDE 72" HT DECK
130800G GEMINI SLIDE 96" HT DECK
114665A ARCH BRIDGE WITH BARRIERS, 42" LENGTH
148432B CORKSCREW CLIMBER, WITH PERMALENE BARRIER, 72" HT DECK
143198A CORNER CLIMBER WITH PERMALENE HANDHOLDS, 72" HT DECK
146812A SKY RAIL CLIMBER 72" HT DECK D.B.
145624D VERTICAL ASCENT CLIMBER, PERMALENE PANELS, 72" HT DECK
111357A CHINNING BAR
111363I TALK TUBE AT 72" HT DECK
111363A TALK TUBE AT GROUND LEVEL
111362A TALK TUBE 40' TUBING KIT
142887A 2" DIA STRAIGHT HORIZONTAL LADDER
111353A TRACK RIDE, 10 FT LENGTH
152907B DECK LINK WITH BARRIERS (2 STEPS)
136157A 'S' SHAPED DISC CHALLENGE
111273A END VERTICAL LADDER WITH POSTS
148426B FIREPOLE WITH PERMALENE HANDHOLDS, 72" HT DECK
145106A SPACELINK NET CLIMBER
142431A MACRO SPACENET #3140 (NOTE: OWNED AND SUPPLIED BY OWNER)

DEPENDENT COMPONENTS

154359A ORBITER-3 SPINNER, DIRECT BURY (BID ALT #8)
117961A SPRING RING BOUNCER, DIRECT BURY (BID ALT #8)
150637A 7 PANEL MOBIUS CLIMBER, DIRECT BURY (BID ALT #8)
157111 8' HT, 3 BAY, 5000 SEREIS SWING UNIT, POWDERCOATED BEAM AND CLAMPS, GALVANIZED LEGS, ANTI-WRAP HANGERS, UNCOATED/ GALVANIZED CHAINS, FIVE BELT SEATS
100054A MOLDED BUCKET SEAT WITH GALVANIZED CHAIN

Playground Surface
Recycled Shredded Rubber

Gt Impax Recycled Shredded Rubber Installation

With permanent marker or warning label mark uprights of equipment with compacted system depth (i.e. 6 in.). Install the GT Impax recycled shredded rubber to the proper depth, mounding in the high traffic areas of the playground to allow for displacement. Use a Bobcat or a small front-end loader to spread surfacing. Operator should be careful not to travel on the fabric or turn sharply on the GT Impax recycled shredded rubber. It will also be necessary to spread manually. Install all the material delivered. Install GT Impax rubber mats in excessive wear areas; such as slide exits, under swings, and sliding poles. For a smooth finished surface, hand rake. Periodical adjustments of GT Impax recycled shredded rubber are required under slides, swings and other concentrated use zones. Installing GameTime mats in these areas will help control displacement in these high use zones. WARNING: Failure to maintain GT Impax recycled shredded rubber at the initial installation depth may result in an injury and void your warranty.

Compostition
100% ground recycled tire rubber from whole passenger and/or truck tires with loose fiber removed and free of foreign materials.
Rubber is considered a non-hazardous filled hydrocarbon polymer that is non-toxic, non-metallic and principally a carbon-based
organic material.
Free Metal Content: < .01% (Wire Free) ASTM 5603
Maximum Loose Fiber Content: < .01% by weight.
Colorant: < .75% by weight.

Dimensions
Mixture: 50% 3/8+" crumb rubber and 50% +4 buffings.
98% of Crumb rubber dimensions: 3/8+" by 3/8+" cubed rubber nugget.
98% of +4 buffing dimensions: 7.62 cm long, 1.59 cm wide, .32 cm deep.
Gradation of % weight retained of Crumb Rubber: 10% maximum @ 80 mesh sieve, 15% maximum @ 40 mesh sieve.
ASTM D5644

Properties
Moisture Absorption: 0% maximum by weight.
Moisture Content: < 1% by weight. ASTM 1509
Density: 26-28 pounds per cubic foot.
Accessibility: Meets criteria. ASTM F1951-99
Flammability: (.001 inches per second) Meets criteria. ASTM 16 CFR 1500.44
Acute Toxicity of Colorant: (>5000mg/kg (rat)) Meets criteria. Oral LD50 Test

Packaging
Super Sacks –Palletized container bags with 1,995 pounds per bag. Need forklift to unload. Max of 22 pallets per truck.
Bulk delivery in dump trailers is available in some, but not all areas.

Installation and Maintenance Guidelines

Proper site preparation and maintenance are important factors in the performance of your playground safety surface. Site preparation should begin with the removal of all existing material prior to the installation of your new safety surface. While material removal is recommended, GT Impax Recycled Shredded Rubber may be placed on any firm surface. This includes gravel, concrete, asphalt, existing wood mulch and/or other types of surfaces. In addition, GT Impax encourages the use of a porous barrier cloth or landscaping fabric between existing surfaces and our product. This helps prevent the mixing or percolation of surface materials such as dirt and mud. The barrier will also retard the growth of weeds or grass up through the safety surface. It is also very important to bring your area to grade. This will ensure uniform coverage of your safety surface.

The use of a border around the playground perimeter to diminish the risk of material being kicked or knocked out of the intended playground area is highly recommended. The use of a border will help diminish

SPECIFICATIONS

PLAY EQUIPMENT GENERAL SPECIFICATIONS:

MATERIAL: All materials shall be structurally sound and suitable for safe play. Durability shall be insured on all steel parts by the use of time tested coatings such as zinc plating, zinc-nickel plating, powdercoating, P.V.C. coating, etc.

FASTENERS: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel unless otherwise indicated. All primary fasteners shall include a locking patch type material. Special tools for pinned hex fasteners shall be provided.

BOLT LINKS/DOUBLE CLEVIS: Bolt links shall be steel forging with a stainless steel finish and equipped with a pinned-hex limited thread bolt. The double clevis shall be a stainless steel casting. Fasteners are a hex head limited thread bolt and a hex-pin limited thread bolt.

P.V.C. COATINGS: All metal components to be P.V.C. coated (or TenderTuff-coated) shall be thoroughly cleaned, primed with a water based thermosetting solution, then shall be preheated prior to dipping in U.V. stabilized, liquid polyvinyl chloride, and then salt cured at approximately 400 degrees. The finished coating shall be approximately .080" thick + .020", and have a matte finish.

POLYESTER POWDER-COATING: All metal components to be powdercoated shall be free of excess weld and spatter. Parts shall then be thoroughly cleaned in a 5 stage pre-treatment process, then thoroughly dried. Powdercoating shall be electrostatically applied and oven cured. Average thickness shall be 4 Mils.

ROTATIONALLY MOLDED POLY PARTS: These parts shall be molded using prime compounded linear low-density polyethylene that is U.V. and color stabilized. Rotationally molded products shall meet or exceed tensile strength of 2500 psi per ASTM D368.

PERMALENE: These parts shall be compression molded, 3/4" thick, high density polyethylene that has been specially formulated for optimum U.V. stability and color retention.

PLAYSTRUCTURE SPECIFICATIONS:

POSTS

ALUMINUM POSTS: Aluminum posts shall be constructed of extruded from 6005T5 seamless aluminum tubing. Posts shall have a 5" outside diameter, with a 0.125" wall thickness. Post shall be a minimum of 42" above the deck height for proper height of walls to meet CPSC guidelines. All posts shall be powdercoated as specified. All posts shall have a "finish grade marker" positioned on the post identifying the bury line for correct installation. Top caps for posts shall be aluminum die-castings for durability rather than plastic, which can be broken. All caps shall be factory installed and secured in place. A molded low-density polyethylene cap shall be pressed onto the bottom ends of the post to increase the footing area. All clamps shall be die cast with a 369.1 alloy.

STEEL POSTS: All steel posts shall be manufactured from 5" O.D. tubing with a wall thickness of .120" and shall be galvanized after rolling and shall have both the I.D. and the cut ends sprayed with a corrosive resistant coating. Post shall be a minimum of 42" above the deck height for proper height of walls to meet CPSC guidelines. All posts shall be powdercoated as specified. All posts shall have a "finish grade marker" positioned on the post identifying the bury line for correct installation. Top caps for posts shall be aluminum die-castings for durability rather than plastic, which can be broken. All caps shall be factory installed and secured in place. A molded low-density polyethylene cap shall be pressed onto the bottom ends of the post to increase the footing area. All clamps shall be die cast with a 369.1 alloy.

DECKS

DECKS: All TenderDecks or equal, shall be of modular design and have 5/16" diameter holes on the standing surface. Decks shall be manufactured from a single piece of low carbon 12-gauge sheet steel. The sheet shall be perforated then flanged formed and reinforced as necessary to insure structural integrity. The unit shall then be P.V.C.-coated for a slip resistant surface. Decks shall be designed so that all sides are flush with the outside edge of the supporting posts for a larger deck surface.

TRANSFER MODULE: The 16" high transfer deck shall have rounded edges, 7/8" perforations. Steps shall be fully enclosed and have perforated treads. Handrails shall be fabricated of steel tubing with a .120" wall thickness. All parts shall be TenderTuff-coated.

ENCLOSURES

PIPE BARRIER: This full barrier shall have a top horizontal rail constructed of steel tubing. Vertical rungs shall be solid steel bars for strength, welded to the rails to meet CPSC guidelines for a barrier wall. The bottom member shall be angle steel, which face mounts to the deck. After fabrication, entire unit shall be TenderTuff coated for a non-slip, kid friendly surface.

ACTIVITY PANELS: All panels shall be manufactured from Permalene or equal.

STORE PANEL: This ground level panel encourages creative play and is made of a Permalene countertop mounted to a Permalene panel.

SLIDES

SLIDE HOODS: Single and double slide hoods, when identified, shall be rotationally molded, and provide a full enclosure and attach to posts as an enclosure as recommended by CPSC guidelines.

DOUBLE WAVE SLIDE: Bedway shall be rotationally molded for durability. Powdercoated slide base "T" supports shall have a single steel post for single slides and a double post for double slides. Single and double slides shall include a slide hood.

DOUBLE SWOOSH SLIDE: Bedway shall be one piece and rotationally molded for durability. This double slide provides a 49 degree slope at the top for an exhilarating ride. 12" sidewalls at the top and a longer exit area ensure safety. A slide hood shall be provided.

GEMINI SLIDEWINDER: This double slide shall be rotationally molded and be comprised of one double slide hood and entrance that attaches to a single deck and two slidewinder slides with a combination of left or right elbow and straight sections and exit sections. Sections shall be attached to each other with standard recessed fasteners. Slidewinder shall attach to 32" through 96" deck heights. There shall be an exit footer made from galvanized steel tubing and a mid-support for the 40" through 96" slides made from galvanized steel tubing. Both exit footer and mid-support shall be powdercoated to match the slide color.

FIREPOLES: Poles shall be constructed of 1.9" O.D. galvanized steel tubing. The firepole is attached to a top rail. The unit shall have Permalene handhold panels. Unit shall be powdercoated as specified.

CLIMBERS

CORNER CLIMBER: This challenging climber shall consist of a 5/16" thick PVC belting running nearly vertical, and mounted to a galvanized steel footer and to the face of the deck, and corner mounted to the post 90 degrees out from the deck to a powdercoated galvanized steel tubing. 16 handholds made from Polyester resin, that measure approximately 5-3/4" long x 2-3/4" depth x 1-3/4" high, are to be mounted to the PVC belting. There shall be two Permalene handhold panels to be attached to the face of the deck at the bottom and the posts.

SPACE LINK CLIMBER: This climber is used to link a PlayBooster structure to a Spacenet climber. The wide climbing area supports multiple kids. The net is fully assembled and shall be made completely of six-stranded and tempered Corocord rope. The steel wire cores of the six strands are heated and coated with polyamide. Primary fasteners shall be tamperproof and stainless steel. There shall be two Permalene handhold panels to be attached to the face of the deck, and the posts at the structure end.

VERTICAL ASCENT CLIMBER: This challenging climber shall consist of a vertical Permalene panel from the ground to the deck, mounted to the posts at the bottom and the face of the deck at the top, with handholds bolted to the panel. Handholds to be made from low density, UV stable Polyester resin. There shall be two Permalene handhold panels to be attached to the face of the deck at the bottom and the posts.

CORKSCREW CLIMBER: The climber utilizes a standard firepole frame with the addition of a continuous rolled climbing rail with spirals spaced 9" apart and manufactured from galvanized steel tube. The spiral shall be capped and welded to the frame. Two Permalene handhold panels shall be provided. Unit shall be powdercoated as specified.

SKY RAIL CLIMBER: This climber shall consist of rungs that shall be 1.029" O.D. RS-20 galvanized steel pipe continuously welded to 1.900" O.D. RS-20 galvanized steel pipe supports, and mount to the face of the deck. Unit shall be powdercoated, color as specified.

DECK LINK WITH BARRIERS: Single step sections shall be formed from 12-gauge sheet steel. Each section will accommodate an 8" rise with a perforated tread. Handrails shall be formed from 11 gauge steel tubing and attached to infill panels top and bottom made from Permalene. The steps and handrails shall be TenderTuff-coated for a non-skid surface.

OVERHEAD EVENTS

HORIZONTAL LADDER: Beams shall be formed from 2-3/8" O.D. RS-40 galvanized steel tubing, and the steel rungs are RS-20 galvanized steel and are evenly spaced and continuously welded to the beam. Unit is powdercoated as specified for a durable finish.

5" HORIZONTAL LADDER SUPPORT: This unit shall support the end of a horizontal ladder and include 5" O.D. aluminum vertical posts, a standard clamp assembly to attach to the horizontal ladder, and a rail and loop of 11 gauge steel tubing. Unit shall be powdercoated.

10' TRACK RIDE: Beams shall be a one-piece aluminum extrusion of 6061-T6 alloy with welded 5" "T" clamps at both ends. The beam shall be supported with standard posts and crossovers and powdercoated as specified. The TenderTuff-coated trolley shall have a steel body with a 1" O.D. steel tubing handle, four exterior roller skate wheels, and two guide wheels. All trolleys shall be assembled and tested in the factory. The beam shall be fitted with a one-piece molded urethane bumper/end cap at both ends.

BRIDGES AND RAMPS

ARCH BRIDGE: This short bridge is fabricated from 12-gauge sheet steel, perforated and TenderTuff coated. The side panels are solid color Permalene, with cutouts.

DISC CHALLENGE: The discs shall be rotationally molded and be comprised of a single beam 5 (for 123") or 3 (for 84") disc support poles and 4/0 chains attached to footers. The beam shall be a weldment constructed from galvanized steel tubing with cast aluminum magnesium attachment brackets. The disc support poles shall be a weldment constructed from galvanized steel tubing. The beam and support handholds shall be powdercoated to a specified color.

ATTACHMENTS/CONNECTORS

TALK TUBES: Talk tubes shall include 2 talk tubes that are formed from RS20 pipe with a powdercoated finish, 40 feet of flexible plastic tube, all clamps and hardware, and as indicated in the plans, may be attached at platforms, attached to structure posts at ground level, or stand independent to include support posts.

CHINNING BAR: The chinning bar shall consist of a TenderTuff-coated 11 gauge steel rail assembly and a post.

ROOFS

SQUARE STEEL X ROOF: This all steel roof shall have roof panels made from 14 gauge HR flat steel, and be powdercoated, color as specified. The optional Flag Pole, if specified, shall be comprised of 11 gauge steel tubing, with a solid Permalene flag, color to be specified.

FREESTANDING PLAY EQUIPMENT:

BELT SWING UNIT/ ANTI-WRAP HANGERS: This heavy duty swing unit shall be #157111 by Landscape Structures Inc., or equal, and be 8' height, with the number of seats as indicated in the drawings or specs, and shall consist of a 2 3/8" O.D. schedule 40 steel top beam that is powdercoated. The legs shall be 2 3/8" O.D. galvanized steel, with 3 legs at the ends of the unit. The swing beam hanger shall be an anti-wrap design to prevent chain from wrapping around the beam. Yoke clamps shall be sand cast aluminum alloy and powdercoated. Hardware shall be tamper proof in design. A "U" shaped bolt link shall be used for chain connections instead of "S" hooks. Belt seats shall be a blunt face slash proof type, 2 per bay. Chains shall be 4/0 straight link galvanized.

MOLDED BUCKET SEAT: This contour bucket swing seat shall be #100054 by Landscape Structures Inc., or equal, and is molded from durable polyethylene and have a supportive high back for the physically disadvantaged. The seat shall hang from 2 beam swing hangers and the chain shall make contact and hang from 4 spots on the seat.

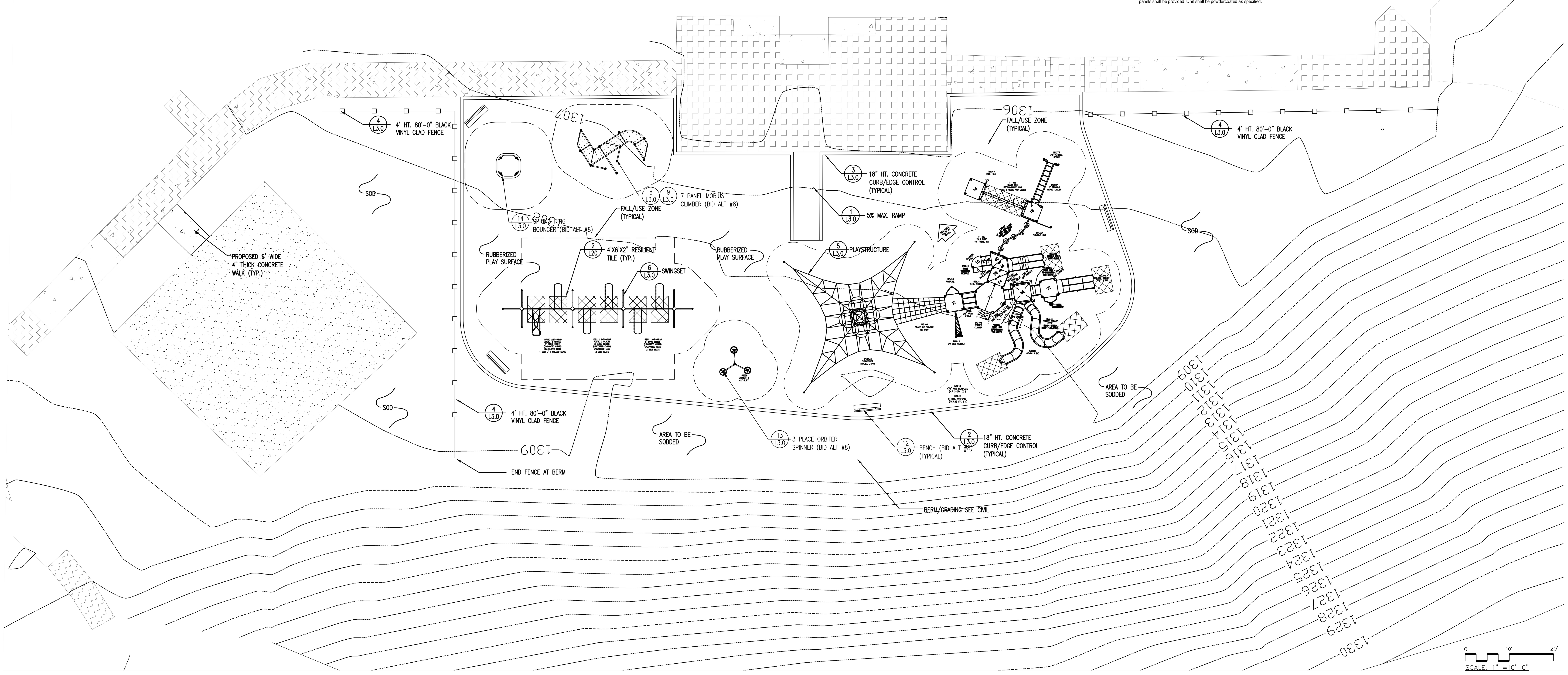
SPACE NET – (OWNER SUPPLIED): The Space Net shall be the Macro Spacenet Climber model #3140, and shall have one center posts that is 17'-7" tall, by Landscape Structures, or equal. The net shall be made completely of six-stranded and tempered Corocord rope. The steel wire cores of the six strands are heated and coated with polyamide; edge ropes are reinforced with additional steel wire core. Corocord-membrane reinforced with 4 textile layers. The mast shall be fabricated from 5" O.D. 7 GA. galvanized steel tubing, and powdercoated. Anchor bars and the mast footer shall be fabricated from galvanized flat steel and tubular steel. Hardware for connections shall be stainless steel.

MAINTENANCE PROGRAM SPECIFICATION FOR PLAYGROUND EQUIPMENT:

As recommended by the Consumer Product Safety Commission (CPSC), a project specific Maintenance Manual shall be included with the playstructure. The manual shall provide information to establish the frequency of inspections, a description of preventative maintenance and repair procedures and plan specific inspection report forms for each component part shown on the plan. It shall also include copies of the original plan, installation instructions and parts list.

Sandpaper, primer and touch-up paints shall be supplied. Primer and paints shall be in colors that match the structure and shall be compatible with the structure's powdercoating. The manufacturer shall provide a chemical cleaner of adequate strength to remove paint, ink and other common forms of graffiti from most materials/surfaces on the structure. The manufacturer shall provide wrenches or other tools needed to adjust or replace vandal resistant fasteners.

RUBBER WEAR MATS: The wear mats shall be Dynacushion Play Mats. Each mat shall be 4 feet x 6 feet x 2 inches thick (+/- ¼") composed of reclaimed tire rubber, and contain no metals. The top side of the mat shall be flat, and the bottom shall have V- shaped grooves to allow drainage and air movement under the mats. Color to be similar to the rubber surfacing submit color sample for approval.



Johnson Controls

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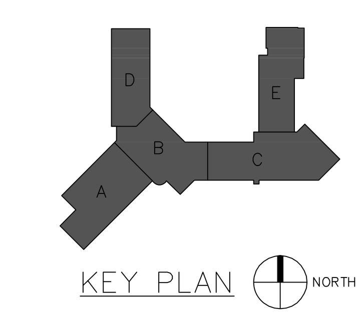

KEY PLAN NORTH

No.	Date	Revision Description

PLAYGROUND PLAN

Project	08260
Date	11.21.2008
Drawn by	ERJ
Checked by	LWS

DRAWING NUMBER
L1.0