

GENERAL

- All work shall be done in accordance with the latest edition of Idaho standards for public works construction (I.S.P.W.C.) and supplemental drawings and requirements of the City of Kuna.
- A preconstruction conference will be held a minimum of three (3) working days prior to start of work. All contractors, subcontractors and/or utility contractors should be present.
- Johnson land surveying will provide (1) set of construction stakes for the following items: rough grading, sanitary sewer, manholes and service locations, and top back of curb.
- All construction stakes must be requested a minimum of three(3) working days prior to planned use.
- The contractor(s) shall remove all obstructions both above and below the ground, as required for the construction of the proposed improvements. This shall include clearing and grubbing which consists of clearing the ground surface of all trees, stumps, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris, rubbish, and such material which, in the opinion of the engineer, is unsuitable for the foundation of pavement and/or structures. All material not suitable for the future use on site shall be disposed of off site at the contractor's expense.
- Certain control points will be set by the engineer, or its representative, which are critical to the construction staking of the project. These points will be designated at the time they are set and the contractor so notified. Destruction of these points by the contractor or his subcontractors shall be grounds for charging the contractor for cost of re-establishing said points.
- The contractor(s) shall maintain all existing drainage facilities within the construction area until the drainage improvements are in place and functioning.
- All contractors working within the project boundaries are responsible for compliance with all applicable safety laws of any jurisdictional body. The contractor shall be responsible for all barricades, safety devices and control of traffic within and around the construction area. Contractor must also meet muted requirements.
- Contractors must furnish proof that all materials installed on this project meet the requirements of the approving agencies or as set forth herein, when requested by the agency and/or engineer.
- The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages that occur by his failure to exactly locate and preserve any and all underground utilities.
- All costs of retesting for previously failed tests shall be backcharged to the contractor by the owner.
- All costs to the contractor incurred in correcting deficient work shall be to the contractors account. Failure to correct such work will be cause for a stop work order and possible termination.
- Work subject to approval by any political subdivision and/or agency must be approved by Johnson Engineering and the city of Kuna prior to: (a) placing of concrete, (b) placing of aggregate base, (c) placing of asphalt paving, (d) backfilling trenches for pipe. Work done without such approval shall not relieve the contractor from the responsibility of performing the work in an acceptable manner.
- All contractors working within the public road right-of-way are required to secure a right-of-way construction permit from the city of Kuna, Ada County Highway District, Idaho Department of Transportation at least 24 hours prior to any construction.
- The contractor is responsible for filing the notice of intent (noi) for storm water discharge associated with industrial activity under the n.p.d.e.s. General permit with the epa, as required.
- No pit run, ballast or subbase aggregate shall be placed on any road or street until the subgrade has been approved by Johnson Engineering & A.C.H.D..
- In areas where rock excavation is required all blasting for other utilities shall occur prior to installation of any sewer mains, water mains or service line crossings.
- The City has the right to inspect the work at any time during construction. Any work that does not conform the approved plans and specifications shall be rejected.

SEWER

- All sewer mains and appurtenances shall be constructed in accordance with the latest edition of the Idaho standards for public works construction (I.S.P.W.C.).
- Final approval and acceptance of all sewer construction will be by the city of Kuna.
- Sewer inspections will be by city of Kuna and their decisions should be considered as final. Such approval shall not relieve the contractor from the responsibility of performing the work in an acceptable manner.
- Prior to final acceptance, after all utilities are in and prior to paving, an air test shall be conducted. In accordance with I.S.P.W.C. the contractor shall contact the city of Kuna a minimum of 24 hours prior to testing.
- All manholes shall be constructed so as to be watertight and with the top of cone located within one (1) foot of the finished grade. The sewer contractor shall supply all lid assemblies and the required number of riser and grade rings. The sewer contractor shall field verify the elevations of the top of the manhole cone to assure that all ring elevations match final street grades. Manholes shall have 12 inch maximum of grade rings.
- Sewer service lines shall be installed prior to street improvement.
- Where it is necessary for sewer and water to cross each other and the sewer line is less than 18" below or above the water main, the sewer line crossing shall be cement lined cast iron pipe with water-tight joints, or equal construction (gasketed C-900), for a distance of ten (10) feet on both sides of water line. One full length of both water main and sewer line shall be centered over the crossing point so that all joints will be as far from the crossing as possible. In lieu of constructing or reconstructing the sewer to conform to water main standards, the water line or sewer line or both may be encased in four (4) inches of concrete, measured at the bell.

- Sewer lines shall maintain a 10' horizontal separation from water lines except as noted in note 8 above.
- Sewer services that will cross joint utility trenches must be stubbed 10 feet inside property line behind joint utility trench.
- The contractor shall air test all the sewer lines after backfilling and settling of the trenches and shall furnish all equipment and personnel required to perform the test. The contractor shall retest all sewer lines after all utilities have been installed and prior to installation of the street surfacing.
- Sewer service lines shall be placed in six (6) inch diameter water class pipe conduits where seepage trenches are encountered.
- Johnson Land Surveying Inc. will provide one (1) set of construction stakes for each of the following items: sewer lines, manholes and service connections. (see general note no.4).
- All sewer pipe and fittings shall be Poly-vinyl-chloride (PVC) conforming to the provisions of ASTM D-3034, SDR-35 for sizes 4-inch through 15-inch; ASTM F-679, SDR 35, T-1 wall for sizes 18-inch through 27-inch; or ASTM F-794 T-46 for sizes 18" through 36".
- All installed sewer lines shall be tested for leakage in accordance with Section 506 of the ISWPC Specifications following installation of all utilities and prior to paving. The testing must be observed by a representative of the City. Deflection tests and/or television inspection may be required at the option of the City. The contractor will notify the city of Kuna a minimum of 24 hours prior to construction.

PRESSURIZED IRRIGATION

The following notes shall be incorporated into all plans for pressurized irrigation systems:

- Ten feet of horizontal separation shall be maintained between water mains and non-potable water lines.
- Where it is necessary for irrigation and domestic water to cross each other, one full length of both water grade pipe and water line shall be centered over the crossing point so that all joints will be over the crossing point so that all joints will be as far from the crossing point as possible. 18" of vertical separation shall be maintained.
- All pressurized irrigation shall be inspected by the city of Kuna forty-eight (48) hours advance notice is required.
- Pressure irrigation main line piping shall be constructed of Poly-vinyl-chloride (PVC), 200 psi, SDR 21, conforming to ASTM D2241, for pipes 3" and larger, and Schedule 40, conforming to ASTM D2466 for pipes 2.5" and smaller. All joints on pipe 3" and larger rubber gasketed. All plastic pipe shall be installed with a #12 direct burial tracer wire placed along the north and east side of the main. The tracer wire shall be looped from the main line to each service box along the service pipe and back to the main line. The tracer wire shall be accessible at all valve boxes and shall be extended along the outside of the lower portion of the valve box and along the inside of the upper portion. Minimum burial depth for all irrigation mains shall be 2'-6" feet from finish grade to the top of pipe if the pipe is free-draining except within roadways. Under roadways or in areas where the pipe is not free-draining, a minimum of 3-1/2 feet of cover shall be required from finish grade.
- All pipe shall be clearly marked with type, class and/or thickness as applicable. Lettering shall be legible and permanent under normal conditions or handling and storage.
- All fittings shall be cast iron, ductile iron, PVC, brass or stainless steel, and shall have a minimum pressure rating equal to or greater than the main line pressure rating. All fittings 4-inches and larger shall be ductile iron with flanged or mechanical joints.
- Valves for sizes up to 3-inch shall be rising stem, solid double wedge disc, screw bonnet, with hand wheels. The valve body, bonnet, disc and stem shall be bronze. Valve boxes for sizes up to 3-inch shall be 4-inch diameter PVC or ABS pipe with a female adapter, and threaded plug with square nut. Valves 3-inch and larger shall be resilient wedge valves conforming to the requirements of AWWA C509, with mechanical or flanged joints and 2-inch square operating nut. Valve boxes for valves 3-inch and larger shall be a standard cast iron 5-1/4 inch diameter adjustable valve box.
- All irrigation lines shall be installed such that they automatically vent air during the filling and draining process. Automatic air/vacuum relief valves shall be installed at all high points in the system in as detailed in the attached City of Kuna Standard Drawing IRRIG-01.
- All irrigation pipe shall be installed with fender tape. Tape shall be 2 inches wide, metallic red or purple in color, with the words DANGER UNSAFE WATER or NON-POTABLE WATER clearly marked along the length of the tape. Tape shall be placed between 6 inches below the surface and 18 inches above the top of the pipe.
- All irrigation system construction shall conform to the latest edition of the Idaho Standards for Public Works construction (ISPWC), Uniform Plumbing Code, and laws of the State of Idaho.
- Individual irrigation services shall be installed for each lot as outlined above. The irrigation service shall be constructed as detailed in the attached City of Kuna Standard Drawing IRRIG-02. Each service shall be equipped with a metal or plastic tag with "NON-POTABLE WATER DO NOT DRINK".
- All irrigation mains shall be designed to freely drain at the end of the irrigation season. The drain system shall be manually operated drainage facilities as detailed in the attached City of Kuna Standard Drawing IRRIG-03.
- All installed irrigation systems shall be tested for leakage in accordance with Section 404 of the ISWPC Specifications following installation of all utilities and prior to paving. Minimum test pressure shall be 90 psi. Test water shall be potable water from the municipal water system. The testing must be observed by a representative of the City. Upon successfully passing the final pressure test the irrigation system shall be drained.
- All pipe, mains and services, shall be bedded with Type I bedding. In areas of rock excavation bedding shall be 6-inches below the pipe.

ROADWAY

- All roadway construction shall meet the minimum requirements of the city of Kuna or as approved on the construction plans.
- All tops of valve boxes and sewer manholes shall be set flush with the slope of the finished street grades.
- All storm drainage appurtenances shall be inspected and approved by the city of Kuna & Johnson Engineering.
- All water-valves, blow-offs and manholes shall be placed so as not to conflict with any concrete curb and gutter, valley gutter and sidewalk improvements.

WATER

- The water system shall be constructed to conform with the standards set forth in the "Idaho rules for public drinking water systems" (I.R.P.W.S.), the Idaho standards for public works construction (I.S.P.W.C.) and the city of Kuna supplemental specifications and standards.
- Johnson land surveying will provide one (1) set of construction stakes for each of the following items. Water, main lines, fire hydrants and service connections.
- Contractor shall notify Johnson Engineering and the city of Kuna engineering department three (3) working days before initial construction begins and shall also request the city of Kuna engineering dept. Inspection of water lines and appurtenances twenty-four (24) hours in advance of backfilling. Contractor shall make requests to the Kuna water department for mainline taps or operation of valves.
- Contractor to field verify that all valve box lid elevations match final grade, and that all meter lid elevations are set as staked by Johnson Land Surveying.
- The contractor may pressure test all water lines after disinfecting and flushing but prior to installation of other utilities. After all utilities are installed and prior to paving the contractor shall perform a final pressure test with the engineer in attendance. The contractor shall furnish all personnel and equipment necessary to conduct the test with the city of Kuna in attendance.
- All water mains shall be Poly-vinyl-chloride (PVC) conforming to the provisions of AWWA C-900, Class 150, SDR 18, or Class 150 Cement Mortar Lined Ductile Iron conforming to AWWA C-104 and AWWA C-151. All fittings shall be mechanical joint ductile iron conforming to AWWA C-110. All plastic pipe shall be installed with a #12 direct burial tracer wire placed along the north and east side of the main. The tracer wire shall be accessible at all valve boxes and shall be extended along the outside of the lower portion of the valve box and along the inside of the upper portion. Minimum burial depth for all water mains shall be 4-feet from finish grade to the top of pipe.
- All main line water valves shall be resilient-seated gate valves conforming to AWWA C-509. All water valves shall be furnished with a standard cast iron 5-1/4 inch diameter adjustable valve box. The cast iron cover shall be marked with the work "WATER" as an integral part of the cover.
- All fire hydrants shall be dry barrel fire hydrants conforming to AWWA C-502. Hydrants shall have a 5-foot setting; minimum 5-1/4 inch valve opening; 150 psi working pressure; one 4-1/2 inch diameter National Standard pumper nozzle; and two 2-1/2 inch diameter National Standard Thread fire hose nozzles. The valve operator shall be on the left (counter-clockwise). The hydrant shall be equipped with a breakable traffic flange; a drain that automatically opens when the hydrant is closed; and a 6-inch mechanical joint connection. The hydrant shall be equipped with a 6-inch flanged by mechanical joint resilient-seat gate valve with cast iron valve box attached directly to the main line tee. Hydrants shall be installed such that the breakable traffic flange is set 2-inches minimum, 6-inches maximum above the back of sidewalk or finish grade as applicable. Fire hydrants shall be a CLOW Medallion Hydrant, Waterous Paer 100 Hydrant, or Mueller A423. No others will be accepted. Hydrant spacing shall be 450'. Hydrant locations shall be approved in writing by the Kuna Rural Fire Department. A copy of the preliminary plat showing all fire hydrant locations with the Fire Department's approval shall be submitted with the construction plans for final review and approval by the City Engineer.
- Individual water services shall be installed for each connection. The water service shall consist of a pipe saddle with 1-inch corporation stop; 1-inch class 200, SDR 7.3 polyethylene pipe conforming to AWWA C-901; 18-inch tall 5/8"x3/4" copper meter setter with lockable shut-off valve and check valve; and 18-inch diameter by 30-inch tall insulated meter box as manufactured by "Mid-States Plastics, Inc.", or approved equal; and a cast iron frame and cover topped with a 1-inch diameter hole for the city autoread meter sensor; approved by the City. The 1" water service shall be extended a minimum of 10 feet on the house side of the meter, or as required to extend past to other utilities located in the 10 foot easement. Water meters shall be furnished and installed by the City.

Multiple taps in the same pipe joint shall be staggered and shall be separated by a minimum of one foot. The centerline of the meter setter shall be located 18-inches below finish grade. Meters shall be placed 18-inches inside the property line and 18-inches away from the side lot line. Dual services off one service line will not be allowed.

- All installed water lines shall be tested for leakage in accordance with Section 404 of the ISWPC Specifications following installation of all utilities and prior to paving. Each meter setter shall be opened to verify that the corporation stop is open and the service is functional prior to paving. The testing must be observed by a representative of the City. All installed water lines shall be disinfected in accordance with Section 405, of the ISWPC Specifications and satisfactorily pass a bacteriological test conducted by the City prior to being put into service.

- All pipe, mains and services, shall be bedded with Type I bedding meeting ISWPC sect. 802. In areas of rock excavation bedding shall be 6-inches below the pipe.
- The separation requirements as outlined in Section 406, Separations of Water Mains and Sewers, of the ISWPC Specifications shall apply to both mainlines and service lines. Where sewer mains and services do not conform to the separation requirements water class pipe

PHONE NUMBERS

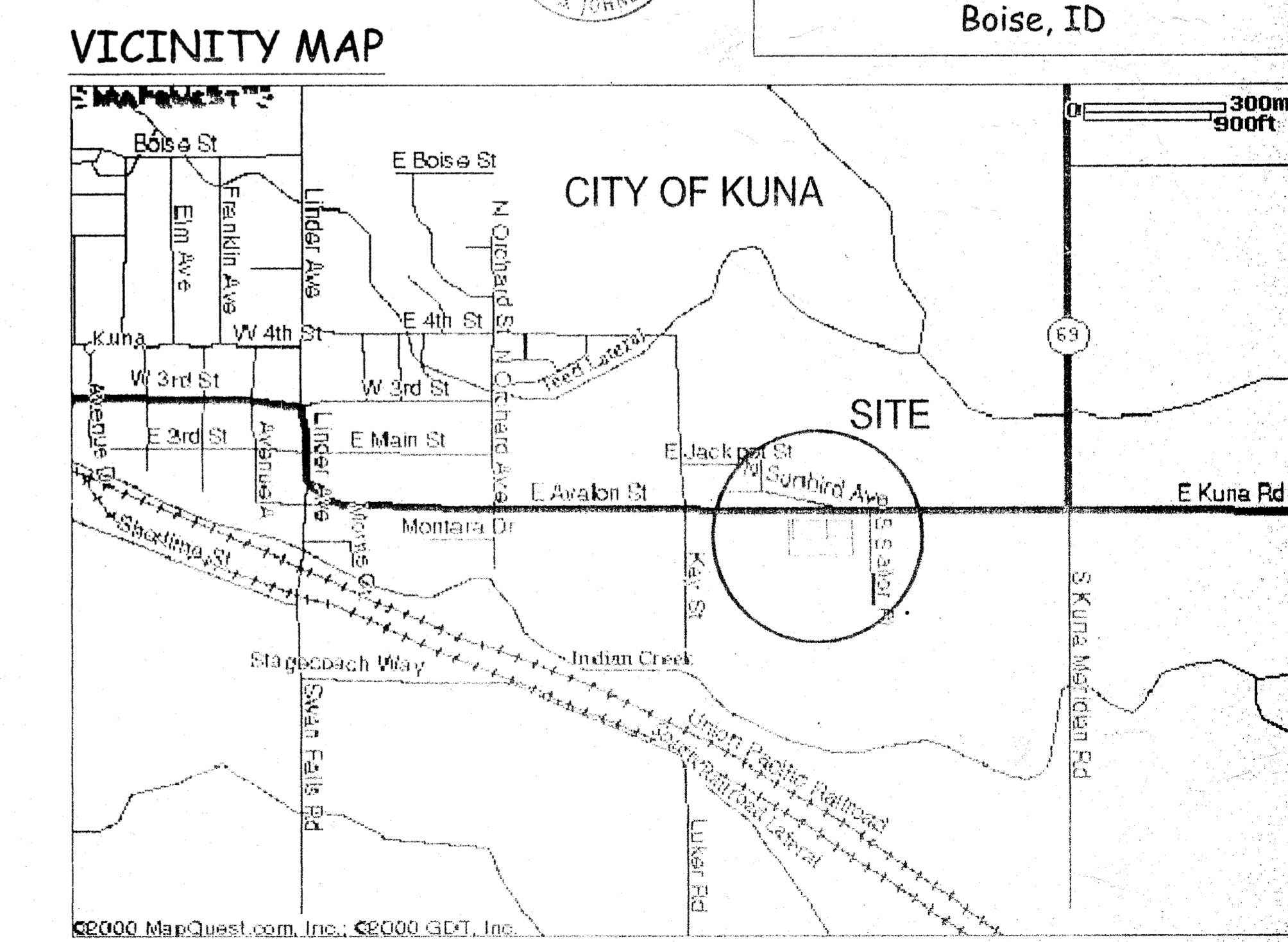
Surveyor: 322-9000
 Engineer: 323-7563
 Developer:
 Tim Mussell: 859-6111
 Calvin Taber: 250-8555
 Kuna: 922-5274
 Digline: 1-800-342-1585

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Developer:
 Central Park Development
 Boise, ID



Empty Pockets Construction Notes
 Date: 09/15/01
 Scale: 1"=50'
 Construction Plans Cover/Notes
 Surveyor: Johnson Land Surveying Inc. 9272 Caldwell Blvd. Suite F Boise, ID 83725 (208) 922-9000
 Engineer: Johnson Engineering PE/LS 2024
 Sheet 1 of 3

