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**AIRPORT DESIGN AND DEVELOPMENT
STANDARDS MANUAL
2025 EDITION**



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1 Introduction

1.1 Purpose and Scope

This Airport Design and Development Standards Manual (“DDSM” or “manual”) establishes specific design criteria and guidelines for all development to be undertaken at the New Braunfels National Airport (“BAZ” or “Airport”). The manual is not intended to limit, subvert, or dismiss the experience, knowledge, or talent of the designer, nor to discourage the need for such qualified designers. Adherence to these criteria should result in project development that conforms to the standards of the City of New Braunfels, Texas (“City”) as well as the Federal Aviation Administration (“FAA”). The intent of this manual is to provide guidance to Designers building on Airport property and to serve as a roadmap for navigating the City’s permit process.

1.2 Applicability

The criteria in this manual applies to all improvements and projects on Airport property, both publicly and privately funded, within the City and within its Extra-Territorial Jurisdiction (ETJ). Criteria in this manual applies to any capital improvement or other development project, plat, master plan, or building permit, except as otherwise noted in the manual.

NOTICE

This Design and Development Standard Manual is intended to act solely as a helpful resource for the requirements and necessary processes for development at the New Braunfels National Airport. This is not an Ordinance item nor is it intended to serve in place of any New Braunfels City Ordinance, Federal Aviation Administration Regulation, or other local, state or federal regulations. This manual intends to provide the minimum requirements of the most stringent regulation. If any City Ordinance, Federal Aviation Administration Regulation, Airport Rules and Regulations, Airport Minimum Standards, or other local, state, or federal regulations are found to be more stringent, then that document holds supreme.

1.3 Abbreviations

AC	Advisory Circular
ADA	Americans with Disabilities Act
ADG	Aircraft Design Group
ADO	Airport District Office
AHU	Air Handling Unit
AIP	Airport Improvement Program
ALP	Airport Layout Plan
AOA	Air Operations Area
ATCT	Air Traffic Control Tower
BAZ	New Braunfels National Airport
BRL	Building Restriction Line
CSPP	Construction Safety Phasing Plan
DCM	Drainage Criteria Manual
DDSM	Design and Development Standard Manual
ETJ	Extra-Territorial Jurisdiction
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FOD	Foreign Object Debris
IFC	International Fire Code
LOB	Lines of Business
MOS	Modifications of Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NBU	New Braunfels Utility
OFA	Object Free Area

OFZ	Obstacle Free Zone
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
SPCC	Spill Prevention Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
TAS	Texas Accessibility Standard
TCEQ	Texas Commission on Environmental Quality
TDLR	Texas Department of Licensing and Regulation
TIA	Traffic Impact Analysis
TLOFA	Taxilane Object Free Area
TOFA	Taxiway Object Free Area
TSA	Taxiway Safety Area
TxDOT	Texas Department of Transportation
UL	Underwriters Laboratory

1.4 Definitions

Airport	Refers to New Braunfels National Airport.
Airside	All parts of the Airport operating inside secure areas. May also be referred to as "AOA" or "Secured Area".
Airport Layout Plan	A scaled drawing or set of drawings, in either hardcopy or electronic form, of existing and future airport facilities that provides a graphic representation of the existing and long-term development plan for the airport and demonstrates the preservation and continuity of safety, utility, and efficiency of the airport to the FAA's satisfaction.
AOA	Air Operations Area is the paved and unpaved areas of an airport intended to facilitate aeronautical operations where local security measures apply. Typically, the air operations area encompasses that part of the airport within the perimeter fence.
Building Restriction Line	A line which identifies suitable building area locations on the Airport.
City	Refers to the City of New Braunfels. Term will also be interpreted to refer to the City representative(s) with authoritative approval of the various components of a project.
Contractor	Entity completing construction activities on Airport property. This may be the Designer of the project or an agent acting on their behalf.
Development Design Documents	Set of documents defining the construction scope of work to be completed by the contractor, including drawings, technical specifications, CSPP, and contract documents written for the contractor's action. These documents must be signed and sealed by a Design Professional, licensed in the State of Texas.
Designer	A Registered Design Professional, Developer, or Contractor responsible for design, permitting, and/or construction at the Airport. The Designer may or may not have a direct contract with the City.
Object Free Area	An area centered on the surface of a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by remaining clear of objects, except for objects that need to be

	located in the Object Free Area for air navigation or aircraft ground maneuvering purposes.
Runway	A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of aircraft.
Shoulder	An area adjacent to the defined edge of paved runways, taxiways, or aprons designed to: transition between the pavement and the adjacent surface, support aircraft and emergency vehicles deviating from the full-strength pavement, facilitate drainage, and provide blast protection.
Taxilane	A defined taxi path designed for low speed and precise maneuvering of aircraft. Taxilanes provide access from a taxiway to aircraft parking positions and other terminal areas. Taxi speeds on taxilanes are generally not more than 15 mph.
Taxiway	A defined path established for the taxiing of aircraft from one part of an airport to another. Taxi speeds on taxiways will typically range from 15 mph to 35 mph.

1.5 Principal Changes

The following table summarizes the key revisions to the DDSM from the prior version:

Table 1-1: Principal Changes

Section	Topic	Description of Change

2 Airport Development Process

The following sections outline the necessary processes for any Designer to complete a development project at the Airport. These guidelines serve as a general reference and may be modified by the City or Airport as needed. All Designers must contact the Airport prior to starting the design of any development on Airport property.

2.1 Pre-Design Process

2.1.1 Airport Development Pre-Design Meeting

A meeting with the Airport is required to review schematic design elements of the proposed project prior to starting design. At a minimum, the Designer must come prepared to address the following:

1. Scope of work – include a preliminary site plan
2. Lease Boundary Survey
3. Environmental impacts (National Environmental Policy Act [NEPA])
4. Project alignment with Airport Master Plan and Airport Layout Plan (ALP)
5. Design and construction schedule – include discussion of permitting, reporting and key project submittals
6. Preliminary construction phasing – include discussion of construction traffic and access, and airfield closures if applicable

All project elements must be reviewed and approved by the Airport before design work begins. During this meeting the Airport and the Designer must agree on the number of submittal stages that will be reviewed by the Airport. For projects utilizing federal and/or municipal funds, 30%, 60%, and 90%, interim design review submittals will be required.

2.1.2 Pre-Design Documentation Approval

2.1.2.1 Airport Layout Plan Update

All development on Airport property must be incorporated into the ALP before construction can begin. The ALP requires review and approval by the FAA. Designers must provide the necessary information to the Airport to verify whether the development is already included in the ALP or if a revision will be required. Refer to **Section 4.1 Airport Layout Plan**, for specific requirements.

2.1.2.2 Environmental Documentation

The Designer must coordinate with the Airport and provide the required NEPA supporting documentation prior to start of design and construction. Supporting documentation may include, but is not limited to, project descriptions and supporting exhibits. Refer to **Section 4.10.2 National Environmental Policy Act** in this manual for more information.

No construction activity may occur prior to obtaining necessary NEPA documentation approvals.

2.2 Design Phase

The Airport must be informed of, and review, all development design documents outlined in **Section 3 Permit Submittal Requirements** or as agreed upon during the development pre-design meeting.

For projects involving airfield closures, the Designer must engage the Airport to approve construction phases. Additionally, the Designer is responsible for securing all necessary approvals from external agencies, such as FAA, New Braunfels Utilities (NBU), Texas Department of Transportation (TxDOT), and Texas Commission on Environmental Quality (TCEQ), before submitting a permit application.

2.2.1 FAA Form 7460-1 Notice of Proposed Construction or Alteration

Once construction phasing and design elements are finalized, the Designer must submit Form 7460-1, Notice of Proposed Construction or Alteration, temporary and/or permanent, through the Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) website.

<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

For all project occurring inside the secured area and all AIP funded projects, in addition to both temporary and permanent Form 7460-1 submittals, the Designer must submit a Construction Safety Phasing Plan (CSPP) through the OE/AAA website for FAA review.

Refer to FAA AC 150/5300-20 Submission of On Airport Proposals for Aeronautical Study, current version for more information on applicability and procedures.

Once a Form 7460-1 is submitted, the FAA initiates the coordination of an aeronautical study. After the FAA completes an aeronautical study, it will issue an agency determination, which focuses on the safety and efficiency of navigable airspace and the safety of people and property on the ground. This determination does not approve or disapprove the physical development itself, nor does it relieve the Designer from complying with other laws or regulations of the FAA

In accordance with 14 CFR Part 77, referred to as Part 77, Designers must provide at least 45 working days' notice before filing a construction permit application. Filing the notice 60-90 working days in advance is recommended, and notices more than 90 working days prior are encouraged for complex projects involving runways, taxiways, or navigational aids. Early coordination with the local FAA Airport District Office (ADO) or Regional Office (RO) is advised. The FAA's aeronautical study process involves evaluations by various FAA Lines of Business (LOB), and there is no guarantee that a final determination will be issued within the 45-day period. Part 77 does not allow for waivers or exemptions, and there is no way to shorten or bypass this process.

Determinations may have an expiration date. If the Designer cannot complete the project 15 days before it expires, they must request an extension at least 15 days in advance. The FAA may grant an extension of up to 12 months. If the work is not completed before the extension expires, a new notice is required.

The determination letters in addition to the CSPP must be included in the permit application submitted to the City.

2.2.2 Airport Concurrence Review

After design is complete, the Designer must submit the development design documents to the Airport for concurrence with the final proposed project. This is intended to ensure that the proposed project aligns with the Airport's development goals and objectives. The review must be completed, and written concurrence must be obtained prior to submitting for permit.

2.3 Permitting Phase

2.3.1 Requirements

The City requires development design documents to be complete before starting the permit application. Once the design is complete and the project has received Airport concurrence, the Designer must submit final development design documents listed in the permit application checklist. All development design documents to be submitted for permit review must be signed and sealed by a Professional Engineer and/or Architect registered in the State of Texas.

All development design documents must be submitted through the City's [Online Permitting Portal](#). Refer to the [Permit Portal & Online Payment Guide](#) for information on how to use the online portal and permitting fees.

A plan reviewer will check for completeness. If documents are missing, they will be returned for correction. If complete, the application will be routed for review. Review comments are uploaded to the City's online permit portal during this period. If additional information is needed, the City will send correspondence requesting additional information. Once approved, the plan reviewer will calculate fees, issue a permit, and notify the Designer. No development can occur without a permit issued by the City.

2.3.2 Checklist for Permit Application

Please refer to the City of New Braunfels permit checklists for airport property development found in **Appendix A**. Complete and submit the applicable checklist with the permit application. Two checklists are available, based on development type.

- **Checklist for Airport Buildings Development Permit Submittals** – This checklist is intended for all building projects designed and constructed within the airport property, including, but not limited to, Hangar, T-Hangar, Terminal, etc.
- **Checklist for Airport Horizontal Development Permit Submittals** -This checklist is intended for all horizontal projects designed and constructed within the airport property, including, but not limited to, Aprons, Taxiways, Runways, General Pavement, Parking Lots, Fencing, Arfield and Landside Electrical, Utility Improvements, Drainage, Wastewater, and Landside or Airside Roads.

For projects that include both buildings and horizontal components, the Checklist for Airport Buildings Development Permit Submittals will apply.

2.4 Construction Phase

The project must be constructed in accordance with the approved development design documents. The project is subject to inspection by representatives of the City, the Airport, the FAA or TxDOT. The Contractor must provide unrestricted access to the site for inspection purposes during the entire construction phase.

The Contractor must keep the Airport informed and engaged throughout the construction phase. Any changes during construction to the approved Construction Safety Phasing Plan (CSPP), impacting Airport operations, must be communicated to, and approved by the Airport before implementation. Additionally, changes to the CSPP may also require approval from the FAA.

No person, firm, corporation, or any other entity may engage in any construction activity of any size or duration without first obtaining all applicable permits and complying with all applicable requirements of the City.

2.5 Project Closeout

The Contractor must keep a complete set of the development design documents onsite for the purpose of recording "As-built" conditions in order to develop a record of constructed work. The Contractor must complete daily work reports and record all changes and deviations between development design documents and work completed in the field. These "As-built" conditions must be submitted to the Designer to complete the closeout documentation.

The Designer must submit closeout documentation to the Airport as noted in the Checklist attached to **Appendix B**. The designer is required to submit the signed closeout checklist before the City can issue the Certificate of Occupancy.

1. Set of Record Drawings in CAD and PDF format.
 - When preparing record drawings, all items must be shown in actual location installed. Any deviation between development design documents and the work completed must be recorded.
 - All underground utility structures encountered in performing the work must be correctly located on such drawings by means of physical ties or dimensions to permanent monuments or structures. The contractor's surveyor must locate and record actual locations of utilities installed along with the type, size, material, and depth of utility installed.
2. As-Built survey data in CAD and native format.

3. Certificate of Completion
 - The Certificate of Completion must include certification that all punch list items identified during the Final Inspection have been completed in accordance with the development design documents.
4. Testing and Commissioning Reports.
5. Project Operation and Maintenance (O&M) Manual(s) (if required).
6. Final Hardware Schedule (if required).
7. Owner Training of Systems (if required).
 - Training of systems, subsystems, and/or equipment must include instruction on their operation, adjustment, and maintenance.
 - Training Videos and Training Session Logs must be included in closeout documentation.
8. Airport Diagram Update (if required, Designer must coordinate update with Airport).
9. Airport Layout Plan Update (if required, Designer must coordinate update with Airport).
10. Closeout Documents as required in the Contract Documents (For Federal funded projects refer to FAA General Provisions Section 90-11 Contractor Final Project Documentation).

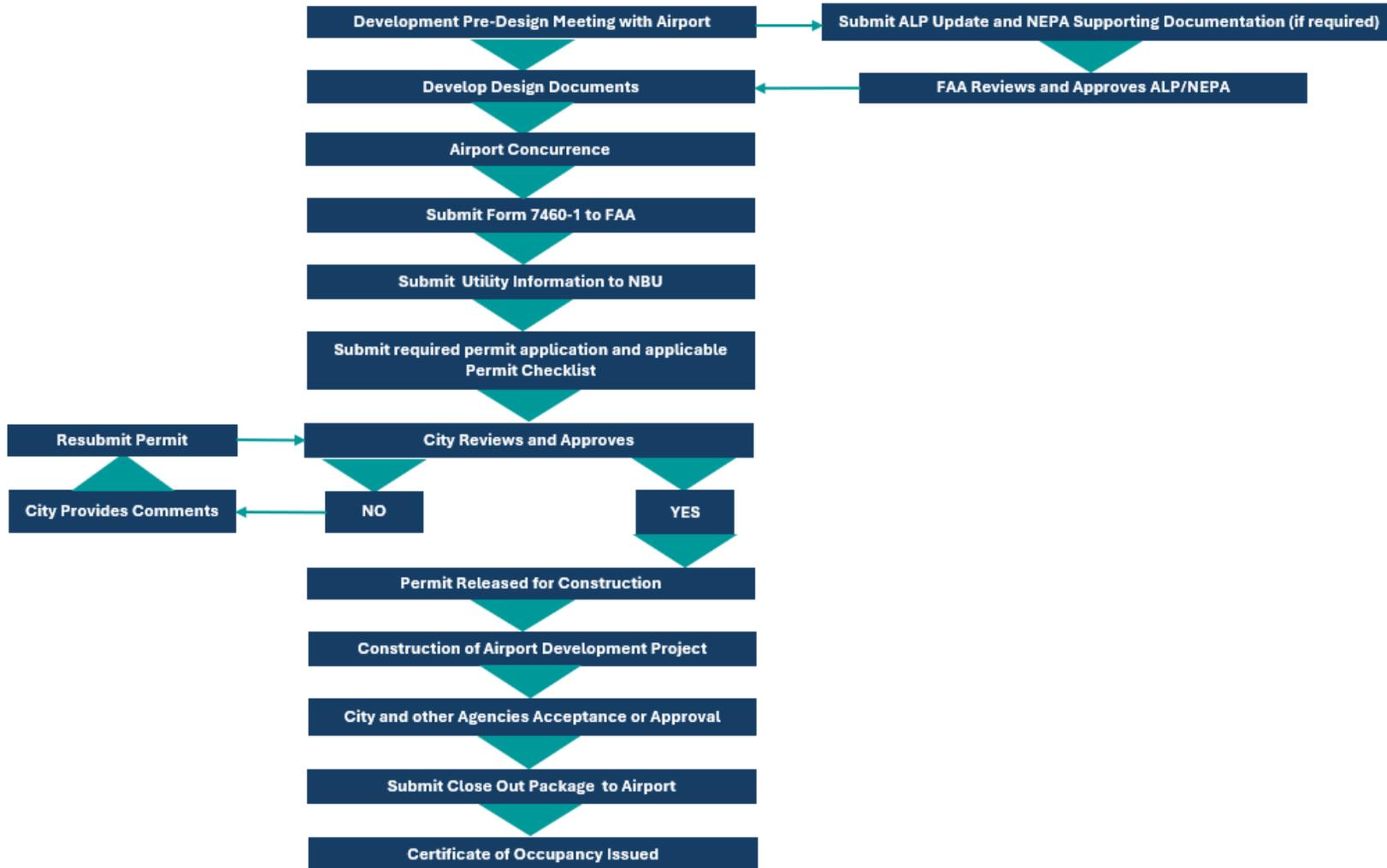
2.6 Project Roadmap

The City permitting processes are outlined in the flowchart as shown in Figure 2-1 on the following page.

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Figure 2-1 : Airport Construction Permitting Process

CITY OF NEW BRAUNFELS AIRPORT CONSTRUCTION PERMITTING PROCESS



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3 Permit Submittal Requirements

The Designer must ensure that the permit submittal includes the minimum requirements outlined in the appropriate permit checklist detailed in **Section 2.3.2 Checklist for Permit Application**. The following sections expand on the requirements for what must be included.

The Designer must also comply with the requirements of the BAZ DCM. All documents must be complete, including design, drafting, coordination, dimensioning, and cross-references. Agency plan comments must be fully addressed, and feedback from the Airport and approved tenants from all prior reviews must be incorporated into the documents or otherwise resolved to the Airport's satisfaction.

The Designer must include the City's Construction Plan Notes and Requirements in all development design documents. These requirements can be found on the City's website ([Engineering | New Braunfels, TX - Official Website](#)).

Additionally, all development design documents must be signed and sealed by a licensed professional registered in the state of Texas as part of the permit submittal.

3.1 Certification

The Designer must certify in writing that all development design documents are in conformance with the BAZ DDSM, all code agency requirements, and that the documents are complete. Any variances to the standards must be submitted in writing during the permit application process.

3.2 Airport Horizontal Development Design Documents

The Designer must prepare development design documents based upon the scope of work approved by the Airport during the pre-design meeting and include the following items as a minimum:

3.2.1 Horizontal Site Development Plans

Horizontal Site Development Design Plans must include the following plan sheets, if applicable.

- Detailed site and grading plan with dimension control. The plans must include driveways, roads, airfield pavement geometrics, Airport security fencing layout, sidewalks, parking layout, dumpster and outside trash receptacle areas, proposed and existing grades, and site utilities.
- Detailed demolition plan. The plans must include all existing conditions and proposed demolition items.
- Detailed Drainage Plan and Profile. The plans must include existing and proposed contours, right-of-way limits, existing and proposed drainage easements, horizontal layout of infrastructure, drainage infrastructure locations, and access ramps and paths. The plans must also include effective FEMA floodplains and floodways with base flood elevations (BFE) identified. The profiles must include utility crossings, hydraulic grade lines for the 25-year and 100-year events, pipe slopes, sizes, and materials, flow line elevations, profiles of

existing and proposed grades along centerlines, as applicable, vertical layout of infrastructure, channel cross sections indicating channel depth, and energy dissipation measures. The plans must include tables of calculations showing discharge rates for all required storm frequencies, as well as velocities and flow depths for the 2-year storm, design storm, and check storm frequencies. The design and check storm frequencies vary depending on the proposed drainage facility, and it is the developer's responsibility to determine the required frequencies in accordance with the City's Drainage and Erosion Control Design Manual.

- Pre-Development and Post-Development Drainage Area Maps. The pre-development drainage area map must include existing contours, existing drainage infrastructure, drainage easements on and adjacent to the site, watershed delineations, off-site contributing areas, time of concentration paths, flow arrows, points of discharge, drainage area calculation summary tables, and flow summary tables at each point of discharge. The post-development drainage area map must include all items required on the pre-development drainage area map and proposed contours, proposed site layout, proposed drainage infrastructure, and a comparison of flows to the pre-development conditions.
- Detailed Airfield Pavements, and Roadways Plan. Include plans, profiles, and pavement details for the proposed parking, roadways, and airfield surfaces. Ensure compliance with all applicable FAA, City, and TxDOT standards.
- Detailed Airfield Marking Plan. The plans must include all proposed layout of airfield pavement markings, clearly shown and labeled per FAA AC 150/5340-1 Standards for Airport Markings.
- Detailed Parking Plan. All site paving, parking, site ingress and egress must be shown on the site plan. Show the number, size, and layout of parking spaces, including accessible parking spots. Detail entry and exit points, driveway widths, turning radii, and connections to public roads. Designate pedestrian walkways, crosswalks, and pathways as applicable. Include structural details for the proposed parking and drive isle surfaces.
- Detailed Utility Plan and Profile. The plans must include the horizontal layout of existing and proposed water, gas, fiber, electrical and wastewater facilities and appurtenances. The profiles must include the vertical layout of existing and proposed water and wastewater facilities and appurtenances, pipe size, slope, material, station numbers, existing and proposed ground lines, and flow line elevations. Should a sanitary sewer lift station be required, plans detailing the lift station wet well, pumps and valves, and a control panel must also be provided.
- Detailed Detention Plan. The plans must include the horizontal layout of any existing and proposed detention facilities, existing and proposed contours, maintenance access, 100-year water surface elevations with 1-foot freeboard, stage, storage, and discharge summary table for the 2-year, 10-year, 25-year, and 100-year events, location and details of the spillway and outfall control structure(s), vegetation requirements, concrete pilot channels to convey runoff from entry points to the outlet, and cross sections indicating side slopes.
- Stormwater Pollution Prevention Plan (SWPPP) and soil erosion and sediment control plan.
- Detailed Airfield Lighting and Signage Plan. The plans must include all existing underground utilities affecting electrical work, clearly shown and labeled. Additionally, all

existing and proposed cable circuits, lighting, signage, and associated electrical elements must be shown and labeled. Signs must meet offset criteria as established by FAA AC 150-5340-18, current version. Airfield Lighting must meet spacing requirements outlined in FAA AC 5340-30, current version.

- Electrical Site Plans. The plans must include the location of exterior lights, lighting fixtures, including street lights, security lights, or parking lot lights. The plans must also depict the location of the electrical meter, service panel, and main electrical distribution point, showing how power enters the site. Additionally, include details on light poles, fixture, and other control devices.

For a further detailed description of what is required on each sheet, refer to the City of New Braunfels Construction Plan Set and Report Requirements, current version.

(<https://www.newbraunfels.gov/DocumentCenter/View/16860/Construction-Plan-Set-and-Report-Requirements-2019-12-12>)

All NBU Utilities must be approved prior to permit approval. The designer must show all utilities in the development design documents

3.3 Airport Buildings Development Design Documents

The Designer must prepare development design documents based upon the scope of work approved by the Airport during the pre-design meeting and include the following items as a minimum:

3.3.1 Architectural Plans

- Life Safety and Code Plans.
- Site Plan.
- Floor Plans.
- Roof Framing Plans and Details.
- Roof Plan.
- Exterior Elevations.
- Building Sections and Wall Details.
- UL assembly numbers for any fire rated walls or partitions.
- Plans must be completely coordinated with other disciplines.
- Door and Window Schedule.
- Necessary Detail Drawings.
- Necessary Civil Components.
- Americans with Disabilities Act (ADA) Plan with elevations.
- Solid Waste Plan per City's Code of Ordinances, Section 110-58.
- For a conditioned space, building thermal envelope compliance report must be submitted (e.g. COMcheck).

3.3.2 Horizontal Site Plans

- Requirements listed in **Section 3.2 Airport Horizontal Development Design Documents** will apply if the project includes civil elements.
- Plans must be completely coordinated with other disciplines.

3.3.3 Structural Plans

- Floor plans showing structural foundations systems and sub-slab construction, horizontal and vertical framing systems, suspended slab openings, depressed slab locations, lateral load cross bracing, and typical construction details; final structural design criteria; foundation design criteria; preliminary sizing of major structural components; critical clearances; outline specifications.
- Engineered drawings are required for the foundation, pre-engineered/ manufactured metal building, pre-engineered trusses or joists, etc.
- Plans must be completely coordinated with other disciplines.

3.3.4 Mechanical Plans

- Mechanical plans must incorporate dimensions, symbols, reference to codes, conventions, schedules, diagrams in describing the size and routing of pipes, material to be used, equipment criteria, duct sizes and shapes, amount of flow and the temperature of material in pipes and ducts, valve types and location, floor and wall penetrations, tank construction, equipment, piping insulation, and other facets of mechanical design as required.
- Mechanical plans must include information on exterior or roof mounted air handling units (AHUs), cooling towers, etc. and be coordinated with architecture plans and elevations.
- Provide a legend sheet indicating symbols, line types, and abbreviations used in the contract plans.
- Mechanical Compliance Report (e.g. COMcheck).
- Schedule of mechanical equipment.
- Plans must be completely coordinated with other disciplines.

3.3.5 Plumbing Plans

- Plumbing plans must incorporate requirements for construction of the facility design, including pertinent services, equipment, and other features required for the performance of the plumbing equipment. These drawings incorporate dimensions, symbols, reference to codes, conventions, schedules, diagrams, etc. in describing the size and routing of pipes, the kind of material to be used, equipment criteria, duct sizes and shapes, amount of flow and temperature of material in pipes and ducts, valve types and location, floor and wall penetrations, tank construction, equipment, piping insulation, and other facets of mechanical design as required.
- Floor Drains within the hangar space may be required if there are going to be aircraft washing or similar operations within the hangar. If the hangar is only going to be used for aircraft, a floor drain is not required. Be sure to advise the Fire Department if the

intended use is aircraft storage only and have them clarify the requirement beforehand. Buildings having floor drains (located in other than restrooms) connected to the sanitary sewer must provide an oil water separator and inspection manholes on the site outside the building. Floor drains must never be connected to stormwater drainage systems.

- Provide a legend sheet indicating all symbols, line types, and abbreviations used in the contract plans.
- Schedule of plumbing equipment.
- Plans must be completely coordinated with other disciplines.

3.3.6 Electrical Plans

- Electrical plans must generally include, as required, the following types of delineations:
 - Block Diagrams.
 - One Line Diagrams.
 - Schematic Diagrams.
 - Connection Diagrams.
 - Facility electrical power distribution plans.
 - Facility lighting plans.
 - Facility lightning protection plans.
 - Panel, circuit, and other schedules.
 - Detail drawings.
 - Schedule of electrical equipment.
- The number of delineation drawings for a project must be kept to a minimum, consistent with clarity for constructability.
- Interior and exterior lighting compliance report must be submitted (e.g. COMcheck).
- Drawings must be completely coordinated with other disciplines.

3.3.7 Communications and Security Plans

- Facility communications plans and risers.
- Schedule of communications equipment.
- Security camera locations.
- Door access hardware requirements.

3.3.8 Fire Protection Plans

- Fire protection plans delineate the components required to provide fire protection to the facility. This includes all methods of fire protection including, but not limited to:
 - Wet-pipe and dry-pipe.
 - Rise Room/FDC location.
 - Deluge systems, clean agent systems, foam systems, and pre-action systems.
 - Fire extinguishers, fire hoses, and standpipes.
 - These drawings must establish procedures for construction of the fire protection system design, including water connections to the fire main, sprinkler heads, piping, alarms, valves, etc. The delineation for these drawings must incorporate dimensions, codes, conventions, schedules, diagrams, etc., in describing the fire protection system design.

- Fire alarm plans and risers.
- Drawings must be completely coordinated with other disciplines.

3.4 Engineer's Design Report

3.4.1 Drainage Report

For all projects on Airport property, a drainage report must be submitted. The design report must be in its final format, signed and sealed by a licensed engineer in the state of Texas, and must include, at a minimum, the following data:

- Narrative of work
- Pre- and post-project Runoff Calculations
- Hydrologic and hydraulic calculations addressing mitigation for peak flows, volumes, and velocities
- Floodplain Study identifying the 1% Annual Chance (AC) Ultimate Development (UD) floodplain as mapped by the City. Any impacts to the floodplain shall be identified and fully mitigated to ensure the development will not cause adverse impacts to any property upstream or downstream of the development and will not cause a rise in the 1% AC UD floodplain water surface elevation. The City will issue a floodplain development permit upon receiving and reviewing a signed report from an engineer, licensed to practice in the State of Texas. The report shall consist of all supporting information, data and calculations and shall be accompanied with exhibits to support their 1% AC UD flows and floodplain delineation.

3.4.2 FAA Engineer's Design Report

For projects utilizing federal and/or municipal funding a complete Engineer's Design Report must be submitted. The design report must address how the information gained from the design evolution reviews has been carefully coordinated, cross-referenced, and incorporated into the development design documents, how the development design documents address further developments in design characteristics, code compliance issues, and description of how the design meets or differs from the requirements of the scope of work. The design report must be in its final format, signed and sealed by a licensed engineer in the state of Texas, and must include, at a minimum, the following data:

- Executive summary
- Existing site conditions
- Utilities
- Contractor access and phasing plan
- Airfield and Roadway Geometrics
- Pavement design
 - Airfield pavements must be designed with FAARFIELD, current version.
- Potential coordination conflicts/phasing issues
- Coordination of maintenance and operational issues

- Code report and compliance issues
- Environmental Considerations (SWPPP)
- Delineation of Airport Improvement Program (AIP) Non-Participating Work (Applicable to FAA funded projects)
- Drainage Report
 - Narrative of work
 - Pre- and post-project runoff calculations
 - Hydrologic and hydraulic calculations addressing mitigation for peak flows, volumes, and velocities
 - Floodplain mitigation
- Geotechnical Investigation Report
- Modifications to standards (MOS)

3.5 Specifications

The specifications must be in the final format, signed and sealed by a licensed Professional, registered in the State of Texas, in the most recent edition of the FAA, State, or MasterSpec format and must address all applicable subdivisions and must contain adequate technical information to supplement the drawings to quantify sizes, capacities, and qualify grade, strength, workmanship finishes, and other characteristics of applicable materials and equipment. Provide a list of sole-source items included in the development design documents and provide sole-source justifications for all items not on the pre-approved list.

3.5.1 FAA Specifications Requirements

For project elements utilizing federal and/or municipal funding, these elements must follow the requirements outlined in the most recent edition of the FAA AC 150/5370-10 Standard Specifications for Construction of Airports or TxDOT Specifications for Construction, as applicable, and must contain adequate technical information to supplement the drawings. The specifications must be submitted in final format, with all engineer's edits made.

3.6 General Airport Design Documents

The development design documents must include the following information, if applicable.

- **Texas Department of Licensing and Regulation (TDLR).** Projects with \$50,000.00 worth of pedestrian elements must be registered. Project Registration Confirmation Page <https://www.tdlr.texas.gov/TABS/>
- **Asbestos Survey Report** (for interior renovation or building and/or utilities are demolished)
- **Outdoor Lighting Plan.** Include the location, height, and details of all proposed outdoor lighting. Provide cut sheets or specifications for the lighting that provides fixture and shielding detail. All exterior lighting must be fully shielded and must be included in the 7460-1 submittal to the FAA. A photometric plan may be required by the Airport for review and approval.

- **Landscape Plan**

The designer will be required to provide a landscaping plan for approval by the airport. The landscaping plan must include the information outlined in Section 5.3, Chapter 144 of the City's Code of Ordinances.

Additionally, the landscaping plan must specify the distance from trees or shrubs to airport security fences or airfield pavements.

All trees must be submitted using Form 7460-1 for FAA review.

3.7 Additional FAA Required Documentation

3.7.1 Construction Safety Phasing Plan

In addition to the requirements specified in the City of New Braunfels Construction Plan Set and Report Requirements, a CSPP must be submitted to the FAA for all projects occurring within the Airport's secured area. The CSPP must be submitted through the Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) website: <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>

The Designer must coordinate with the Airport regarding all safety and security provisions of the project. Other considerations, depending on the project scope, include temporary modifications to pavement markings, airfield signage, and airfield lights, as well as required special provisions to fit the project. Provisions must be made for and included in all contract documents pertaining to safety during construction, construction sequencing, access to the site, contractor's staging area, haul routes, barricades, fencing, traffic control, etc. Follow AC 150/5370-2 (current edition) Operational Safety on Airports During Construction, which contains how construction may be accomplished within the AOA.

The Designer must refer to the current version of FAA AC 150/5370-2, Operational Safety on Airports During Construction, for the latest CSPP requirements. Below is a summary of some key items included in these requirements:

- CSPP Report
 - The report must be developed in accordance with the guidelines specified in the current version of FAA Advisory Circular (AC) 150/5370-2. Key topics to address are outlined in Section 2.4, 'Meet CSPP Requirements,' of the same Advisory Circular.
- Graphical Representation
 - Construction safety drawings should be included in the CSPP as attachments. Elements that need to be shown in these drawing include, but are not limited, to the following:
 - Existing Conditions.
 - Proposed Improvements.
 - Location of Airport Security Fence.
 - Temporary Modifications to Pavement Markings.
 - Location of Stockpile and Staging Areas.

- Haul Route to Project Area, Outside and Inside Airport Security Fence.
- Construction Access Gate Location.
- Flagger Locations.
- Phasing Plan.
- Construction Work Area.
- Airfield Closure Areas.
- Low-Profile Barricade Location for Airfield Projects.
- Height restrictions of all temporary construction equipment.
- Temporary Lighting, Signage and Airport Users Protection Elements.

3.7.2 FAA Form 7460-1 Notice of Proposed Construction or Alteration

The Designer must obtain FAA clearance for the proposed facility, infrastructure, and/or temporary construction objects for all projects on or near Airport property through the FAA's Obstruction Evaluation Group. Temporary construction objects include, but are not limited to, construction equipment, staging area, haul route, concrete batch plants, and cranes. Refer to **Section 2.2.1 FAA Form 7460-1 Notice of Proposed Construction or Alteration** for more information on how to submit the FAA Form 7460-1.

4 Airport Development Design Standards

The City of New Braunfels reserves the right to designate specific Airport areas in which Commercial and Non-Commercial Aeronautical activities and Services may be conducted. Such designation must consider the nature and extent of the activities, the land and improvements that are available, and the preferred development of the Airport as described in the most recently completed Master Plan, ALP, and/or Land Use Plan.

4.1 Airport Layout Plan

The ALP is a scaled graphic presentation of existing and ultimate airport facilities, as approved by the FAA. Reference is made to FAA AC 150/5070-6 (current edition) for ALP requirements. The ALP is a public document, which serves as a record of land and facility requirements, both present and future, as well as a source document for land use proposals. All proposed development must comply with the ALP. Any such project must be submitted through the Building Official to the FAA to determine if the project follows the ALP or if the ALP can be changed to accommodate the proposed project.

4.2 Site Plans

A site plan must be prepared for all projects. The site plan must delineate all existing and proposed facilities and features, as well as survey property boundaries. The site plan must provide a clear schematic of the intended land use, project or building layout, site and project dimensions, access points, proximity to existing structures, etc. This plan will be used to initiate coordination among the Airport departments, the FAA, and tenants on and adjacent to the site. The site plan is also used to initiate changes to the ALP and to address potential line-of-sight issues. The maximum building or equipment height must be indicated on the site plan prior to determining line-of-sight acceptability. The Site plan must also include dumpster locations, if applicable.

4.3 Building Development Standards

4.3.1 Code Compliance

All structures must comply with the City building codes and airport zoning and land use ordinances. Refer to the City of New Braunfels website for a list of adopted international codes (<https://www.newbraunfels.gov/3436/Building-Code>).

4.3.2 Building Standards

All development must adhere to the standards established in the City of New Braunfels Code of Ordinances, at the time of development.

(https://library.municode.com/tx/new_braunfels/codes/code_of_ordinances)

All construction must be authorized by the City and must comply with all permitting procedures established by the City.

Below is a list of preferred materials for building development. The intent is to provide cohesion and consistency to enhance the visual appeal of the Airport. All proposed materials must be clearly identified in the documents submitted to the Airport for review. The Airport reserves the right to reject any proposed material.

4.3.2.1 Exterior

- Preferred public facing building envelope and exterior materials
 - Engineered Stone
 - Limestone
 - Copper
 - Composite metal panel systems
 - Potential restrictions
 - Materials that produce glare, which could interfere with aircraft operations. Locations of these materials must be closely reviewed with the Airport to avoid creating conflict to aircraft operations.
- Paint colors
 - All exterior paint colors must be reviewed and coordinated with the Airport.
 - Potential restrictions:
 - Metallic colors that may cause reflectivity. Locations of these materials must be closely reviewed with the Airport to avoid creating conflict to aircraft operations.
- Trash receptable location
 - The Designer must refer the New Braunfels National Airport Rules and Regulations Subpart 6.15 for requirements on trash containers.
<https://www.newbraunfels.gov/DocumentCenter/View/34703/Airport-Rules-and-Regulations>
 - If a dumpster containment is built, it must be constructed per specifications set forth in Section 110-58 of the City of New Braunfels code of ordinances. Additionally, it is preferred the structure exterior match the primary facility being built.
 - The Airport has identified locations for providing regional trash services collection points. In lieu of providing site specific trash, Designer may coordinate with the Airport for use of regional facilities. This may result in an additional fee for use of the facility.
- Lighting
 - Lighting requirements must follow the Code of Ordinances.
 - Part 77 height restriction must be reviewed prior to installation of any outdoor lighting.
 - All exterior fixtures must include full cut off housings to prevent pilot glare.
- Photovoltaic (PV) Panels
 - PV Panel locations must be coordinated with the Airport to avoid creating conflict to aircraft operations.
 - Include FAA Glint and Glare analysis as required.

4.3.2.2 Interior

- Preferred flooring
 - Terrazzo tile
 - Porcelain tile
 - Natural/Engineered stone slab
 - Concrete
 - Stone
 - Carpet tile (in non-circulation areas)
- Doors
 - Preferred door finish is painted
 - Door hardware must be commercial grade
 - Designer must coordinate alarm requirements from public to secured areas.
- Preferred wall finishes
 - Stainless steel
 - Natural/Engineered stone slab
 - Porcelain
 - Exposed concrete
 - Wood for accent walls only
 - Gypsum board, painted
- Lighting locations
 - To be coordinated with ceiling grid
- Preferred ceilings
 - Gypsum board, painted
 - Linear metal ceilings
 - Linear wooden ceilings
 - Open to structures

4.3.2.3 Hangar Building Dimensions

A hangar typically consists of three walls, a roof, and a large door and serves to keep parked aircraft out of the elements. Hangars can be built of any size and dimension to meet the needs of the airport, tenant, and aircraft type. If and where there is a conflict in these rules or between rules and the Federal Aviation Rules, the latter takes precedence. See **Table 4-1** below for typical hangar sizes for Group I and II aircraft.

Table 4-1: Typical Hangar Sizes (Group I & II Aircraft)

Hangar Size	Square Footage	Door Height	% of fleet	Sample Aircraft
60x60	3,000	16 feet	~28	Citation CJ2
70x70	4,900	20 feet	~70	Hawker 850
80x80	6,400	24 feet	~84	Falcon 50
100x100	10,000	26 feet	~98	Gulfstream GIV
120x120	14,000	26 feet	~98	Gulfstream GIV

SOURCE: ACRP REPORT 113 GUIDEBOOK ON GENERAL AVIATION FACILITY PLANNING

Below are typical standards for new hangar construction:

- Refer to the Airport Minimum Standards, current edition, for minimum square footage requirements of leased premises. Refer to the City's website for the Airport Minimum Standards file location (<https://newbraunfels.gov/3488/Airport>)
- Hangar to Hangar separation must comply with National Fire Protection Association (NFPA) 409, current version.
- Hangar to Road/parking separation must comply with local building codes and Fire Marshall requirements.
- No structures may be erected beyond the Building Restriction Line (BRL) or in conflict with the approved ALP.
- Hangar to Airfield separation must follow FAA safety areas per FAA AC 150/5300-13, current version, and Part 77 standards.

4.4 Horizontal Development Standards

4.4.1 Code Compliance

All horizontal development must comply with applicable TxDOT or FAA standards.

4.4.2 Airfield Design Standards

The Designer must comply with all current federal requirements for National Airports.

For airfield design, the Designer must adhere to FAA criteria for runways, taxiways, taxilanes, and aprons, covering all design elements, including but not limited to geometrics, pavement design, markings, lighting, and signage. The most common use standards are outlined in the FAA Advisory Circulars (ACs) listed below. The Designer must use the ACs' most current version.

- FAA AC 150/5210-5 – Painting, Marking, and Lighting of Vehicles Used on an Airport
- FAA AC 150/5300-13 – Airport Design
- FAA AC 150/5320-6 – Airport Pavement Design and Evaluation
- FAA AC 150/5335-5 – Standardized Method of Reporting Airport Pavement Strength - PCR
- FAA AC 150/5340-1 – Standards for Airport Markings
- FAA AC 150/5340-26 – Maintenance of Airport Visual Aid Facilities
- FAA AC 150/5370-2 – Operational Safety on Airports During Construction
- FAA AC 150/5370-10 – Standards for Specifying Construction of Airports
- FAA AC 150/5340-18 – Standards for Airport Sign Systems
- FAA AC 150/5340-30 – Design & Installation Details for Airport Visual Aids.
- FAA AC 150/5345-44 – Specification for Runway and Taxiway Signs
- FAA AC 150/5345- 46 – Specification for Runway and Taxiway Light Fixtures
- FAA AC 150/5345 -53 – Airport Lighting Equipment Certification Program

The Designer must visit the FAA website for the complete list of available FAA ACs.

During design, the Designer must ensure that the airport safety area requirements are met. These requirements are outlined in FAA AC 150/5300-13 Airport design. Key areas to ensure project compliance are the following:

- Building Restriction Line (BRL)
- Obstacle Free Zone (OFZ)
- Runway Object Free Area (ROFA)
- Runway Protection Zone (RPZ)
- Runway Safety Area (RSA)
- Taxilane Object Free Area (TLOFA)
- Taxiway Object Free Area (TOFA)
- Taxiway Safety Area (TSA)

4.5 Airport Hazard and Compatible Land Use

4.5.1 Height Restrictions

All construction of improvements and infrastructure must conform to the applicable statutes, ordinances, building codes, rules and regulations of the City and the FAA, and such other authorities as may have jurisdiction over the Airport, the Premises or Service Provider's operations herein.

The height of any structure on the Premises must be within the limits of the FAA regulations governing objects affecting airspace, as set forth in 14 C.F.R., Part 77. The Airport will have the right to review all plans and specifications for any improvements to be constructed on the Premises to determine compliance with such regulations. The approval by the Airport must not constitute a representation or warranty as to such conformity or compliance, but responsibility therefore must always remain with the Service Provider.

Compliance with Part 77 is mandatory. Part 77 protects airspace and navigation from obstructions or interference. Any person/organization who intends to sponsor on-airport construction or construction within 5 miles of an airport must notify the FAA via the FAA Form 7460-1 available on oaaaa.faa.gov.

4.5.2 Land Use

Proposed development should be consistent with compatible land use identified in the current approved ALP. If a Designer proposed to change a land use designation, this must be coordinated with the Airport prior to development.

4.5.3 Fire Protection

The City has adopted the 2021 International Fire Code (2021 IFC) with local amendments. Refer to the City of New Braunfels Code of Ordinances Section 54-86 for a full list of all amendments. The Designer must meet aircraft hangar fire suppression requirements in accordance with NFPA 409.

4.6 Site Plan Criteria

The site plan information must be sufficient for the necessary departmental reviews and must include, but not be limited to the following:

- A copy of the signed leased boundary survey for the site, even if the property is owned by the City of New Braunfels, that clearly delineates the exact boundaries of the property, including dimensions and adjacent properties.
- A survey with the site identification number and description.
- A description of the access roads and parking areas to be utilized for non-airport operational vehicles on the site plan.
- Existing and proposed easements for utilities (both public and private). Right-of-way areas and existing utilities on lease sites serving other sites must also be identified and shown on the site plan. Any existing utilities needing to be relocated fall under the sole responsibility of the Designer including the coordination of all easements.
- All hardstands, taxilanes, taxiways, access roads, buildings, and any other operational airport facilities on an area around the property line. Include the exact location, size, and orientation of the proposed building(s) on the site.
- All site paving, parking, site ingress and egress must be shown on the site plan. Show the number, size, and layout of parking spaces, including accessible parking spots. Detail entry and exit points, driveway widths, turning radii, and connections to public roads. Designate pedestrian walkways, crosswalks, and pathways as applicable. Include structural details for the proposed parking and drive isle surfaces.
- Fire lanes and fire hydrant locations must be shown on the site plan and comply with the City of New Braunfels' adopted Fire Code. Due to FAA marking requirements, fire lane markings on the airside may differ slightly from those on the landside; however, they must still be approved by the Fire Department
- A site location map on the sheet drawing containing the site plan.
- A layout of fencing, security gates, and a plan for the separation of vehicles and aircraft.
- Any new facility construction along an airport access roadway must have a minimum set-back distance of 10 ft. from the roadway curb to the structure to allow for public utility easement pathways. All new leases abutting airport access roads must proceed all the way to the curb or the associated right-of-way and all lease holders must maintain pavement, landscaping and aesthetics to the curb while not constructing any structure within the 10ft set-back utility pathway. Leases abutting taxiways or taxilanes must proceed all the way to the Object Free Area (OFA) for that taxiway or taxilane.

4.7 Landscaping

Landscaping on Airport property must minimize wildlife hazards and adhere to best practices outlined in FAA AC 150/5200-33, Hazardous Wildlife Attractants on or Near Airports (current version). This includes avoiding plants and vegetation that may attract hazardous wildlife, such as fruit-bearing trees, seed-producing grasses, or species known to provide food, water, or cover for wildlife. Vegetation should be carefully selected to ensure compatibility with airport safety and operational needs.

Landscaping of facilities visible along public street or roadways is required to align with the City's landscape code for consistency and aesthetics. Plants should be located along public roads or designated green spaces outside the security fence, in areas where they will not obstruct airfield safety zones, flight paths, or affect the operation of airport infrastructure. Plants must be positioned in such a way that they do not encroach on airfield safety areas or in locations where it might compromise safety or encourage wildlife presence, including areas near approach or departure airspace. This includes maintaining clear zones that do not obstruct visibility. Compliance with Part 77 regulations, including the establishment of imaginary surfaces for airspace protection, is mandatory. Any plant that could penetrate these surfaces, even temporarily, is prohibited. Any proposed trees must be approved by the Airport. Planting must occur at least 10 feet from the airport security fence to ensure clear sightlines for security personnel and minimize interference with airport operations.

All plants selected for planting must be native species to the region to align with the City's landscape code for consistency and aesthetics. The Designer shall specify drought-resistant native plant species that require minimal irrigation once established, reducing long-term water use.

Prior to planting, proper ground preparation must be conducted to ensure successful establishment and growth of the native plants. This includes proper grading to ensure that water does not pond around plants or along the security fence, avoiding areas of poor drainage that could lead to plant stress or failure. An efficient and sustainable irrigation system must be installed to support plant growth. Refer to **Section 4.9.4 Irrigation Systems** for requirements.

4.8 Transportation Criteria

While the City follows TxDOT's Roadway Design Guide as the primary document for geometric design of street facilities; the City still maintains standard details as linked below. Should items be specified that are not covered by the City standard details, TxDOT standard details should be used.

- Airport Road Standards
 - <https://www.newbraunfels.gov/DocumentCenter/View/33271/ST-007>
- Curb and Gutter
 - <https://www.newbraunfels.gov/DocumentCenter/View/1081/ST-013-Curb--Gutter?bidId=4>
- Airport Driveway Standards - Follow City of New Braunfels Standard:
 - [https://www.newbraunfels.gov/DocumentCenter/View/1084/ST-0151-Driveway- Commercial---Multi-Family---Industrial?bidId=](https://www.newbraunfels.gov/DocumentCenter/View/1084/ST-0151-Driveway-Commercial---Multi-Family---Industrial?bidId=)

4.8.1 Pavement Design Requirements

Airfield pavement design must meet the requirements outlined in the current version of FAA AC 150/5320-6. The Designer must include a signed and sealed pavement design in the engineer's report. Landside pavements and vehicle service roads that do not intersect with aprons or taxiways must adhere to City standards as described in **Section 4.8 Transportation Criteria**.

4.8.2 Parking Lot Requirements

Refer to **Table 4-2** for recommended vehicle spaces based on the facility type. The Designer may submit a variance if recommended parking is not applicable for the type of operation proposed at the Airport.

General requirements of space sizes and dimensions can be found in the City of New Braunfels Code of Ordinances Sec. 144-5.1. Federal ADA and Texas Accessibility Standard (TAS) requirements will apply to the parking lot requirements. Parking inside hangars does not count toward parking requirements.

Table 4-2: Recommended Number of Vehicle Spaces per Facility Type

Facility Type	Vehicle Spaces Requirements	Minimum Vehicle Spaces
Storage Hangar	1 space per 2,000 SF of hangar floor space	3 spaces
T-Hangar	1 space for 50% of units	
Maintenance/Paint Hangar	1 space per 1,000 SF of hangar floor space 1 per 750 SF of maintenance/shop space	5 spaces
Corporate/Executive Hangar	1 space per 2,000 SF of hangar floor space 1 space per 200 SF of office space	3 spaces
Based Aircraft Apron	1 space for 50% of based tie-down spaces	

SOURCE: ACRP REPORT 113 – GUIDEBOOK ON GENERAL AVIATION FACILITY PLANNING WITH CITY OF NEW BRAUNFELS MODIFICATIONS

For non-aeronautical use facility parking requirements refer to the City of New Braunfels Code of Ordinances Sec. 144-5.1.

4.8.3 Traffic Impact Analysis Requirements

A Traffic Impact Analysis (TIA) worksheet or study is required for all landside development projects that will generate and distribute vehicular traffic along the Airport’s roadway network.

The TIA worksheet can be found in the City’s website ([Traffic Impact Analysis | New Braunfels, TX - Official Website](#)).

4.8.4 Authorized Signs

No signs, equipment, portable buildings or house trailers may be erected, moved in or installed on the Airport property except as may be specifically authorized by the Airport.

4.9 Utilities Criteria

4.9.1 General Design Criteria

4.9.1.1 Purpose and Scope

Sections 4.9.1, 4.9.2, 4.9.3, 4.9.4, 4.9.5, and 4.9.6 of this manual are to be used by engineering professionals for use in design and construction of water and wastewater systems owned and operated by the Airport.

This technical resource is not intended to substitute for any professional engineering judgement by the designer who will assume ultimate responsibility for selection, reference, and appropriate application of the utility sections.

4.9.2 Water Utility Distribution

The Airport's water utility system is within the NBU jurisdiction; and as such, water utility system design must conform to the most recent version of the NBU's Water and Wastewater Design Criteria manual. Additionally, water distribution mains must be designed in conformance with "30 TAC §290: Public Drinking Water", as enforced by TCEQ, Latest Edition, and with all applicable laws, regulations, codes, and standards.

4.9.3 Use of Reclaimed Water

The Airport's water utility system is within the NBU jurisdiction; and as such, reclaimed water utility system design must conform to the most recent version of the NBU's Water and Wastewater Design Criteria manual. Additionally, any use of reclaimed water must be designed in conformance with "30 TAC §210: Use of Reclaimed Water", as enforced by Texas Commission on Environmental Quality (TCEQ), Latest Edition, and with all applicable laws, regulations, codes, and standards.

4.9.4 Irrigation Systems

The Airport's water and reclaimed water utility system is within the NBU) jurisdiction; and as such, irrigation design must conform to the most recent version of the NBU's Water and Wastewater Design Criteria manual. Additionally, any use of reclaimed water must be designed in conformance with "30 TAC §344: Landscape Irrigation", as enforced by TCEQ, Latest Edition, and with all applicable laws, regulations, codes, and standards.

4.9.5 Sanitary Sewage Utilities

The Airport's sanitary sewer utility system is within the NBU jurisdiction; and as such, sanitary sewer utility system design must conform to the most recent version of the NBU's Water and Wastewater Design Criteria manual. Additionally, all new connections and modifications must be in accordance with "30 TAC §217: Design Criteria for Domestic Wastewater Systems".

4.9.6 Drainage Criteria

Airport drainage will adhere to the most recent revision of the City of New Braunfels Drainage and

Erosion Control Design Manual (Refer to City of New Braunfels Drainage Criteria Manual 2.3.1) in addition to this section.

1. The Designer must provide calculations showing the ponding limits within the airfield during a 5-year storm event does not encroach on the taxiway and runway pavements, including paved shoulders, and that the ponding will be limited around an apron inlet such that the ponding depth does not exceed 4 inches.
2. The Designer must provide calculations showing the center fifty percent of runways and the center fifty percent of taxiways serving these runways must be free from ponding resulting from storms of a 10-year frequency.
3. The headwater depth ratio for all culverts during the 25-year storm event must not exceed 1.25:

$$\frac{HW}{D} \leq 1.25$$

where,

HW = Headwater Depth, in feet

D = Depth of box culvert or diameter of pipe, in feet

4. If open-grate drainage trenches are used as a collection means for runoff from fueling aprons, such open trenches, including branches, must not be over 125 feet in length with a minimum interval of 6 feet between open-trench sections to act as fire stops. Each 125 foot section must be individually drained through underground piping. Open trenches must not be used where they are in the line of pedestrian or passenger traffic.

For design frequencies and freeboard requirements, refer to City of New Braunfels Drainage and Erosion Control Design Manual (DECDM), Table 2-2. The designer should also refer to Chapter 3, Table 3-1 of the DECDM for runoff calculations based on the NOAA Atlas 14 precipitation study.

The elevation of the lowest finished floor must be elevated 10 inches above the finished grade of the surrounding ground as prescribed in the building regulations and Code of Ordinances. Finished grades must be sloped to direct stormwater away from the structure. Developments adjacent to stormwater conveyance structures must be elevated 12 inches above the 100-year hydraulic grade line (in the conveyance structure) to the same elevation that a development adjacent to a 100-year floodplain would be required to meet.

If a development activity changes stormwater runoff characteristics in a manner that creates a point or points of concentrated flow, where previously there was sheet flow or lesser intensity flow pattern, or any increase in discharge rates or velocities for the 2, 10, 25 and 100-year frequency storms, the flow must outfall into right-of-way or drainage easement that has the capacity for the discharge. An impact analysis is required to verify the capacity and/or required size of the downstream facility clearly demonstrating no adverse impact and/or no rise.

4.10 Environmental Considerations

The Designer must evaluate available resources to identify potential environmental issues, including possible soil or groundwater contamination, during the preliminary design phase of any utility and earth-disturbing projects.

During its operations at the airport, the Designer must strictly comply with all applicable environmental laws, airport environmental policies and procedures, and generally accepted industry environmental best management practices and standards, including adherence to the TCEQ's "Stormwater General Permit for Construction Activities, TXR150000". Without limiting the generality of the foregoing provision, the Designer must not use or store hazardous materials on or at the airport except as reasonably necessary in the ordinary course of Designer's permitted activities at the airport, and then only if such hazardous materials are properly labeled and contained. The Designer must not discharge, release, or dispose of any hazardous materials on the airport or surrounding air, land, or water. The Designer must promptly notify the City of New Braunfels of any hazardous material spills, releases, or other discharges by the Designer at the airport and promptly abate, remediate, and remove the same. The Designer must provide the City of New Braunfels with copies of all reports, complaints, claims, citations, demands, inquiries, or notices relating to the environmental condition of the airport, or any alleged material noncompliance with environmental laws by the Designer at the Airport within ten (10) days after such documents are generated by or received by the Designer. If the Designer uses, handles, treats, or stores hazardous materials at the Airport, the Designer must have a contract in place with an Environmental Protection Agency or the TCEQ approved waste transport or disposal company, and must identify and retain spill response contractors to assist with spill response and facilitate waste characterization, transport and disposal. Complete records of all disposal manifests, receipts and other documentation must be retained by the Designer and made available to the City of New Braunfels for review upon request.

The Service Provider is solely responsible for its hazardous materials. It must assume full liability for all environmental claims resulting from or related to its use, handling, treatment, storage, disposal, discharge, or transportation of hazardous materials at the airport. This includes claims arising from violations of environmental laws or failure to comply with the terms of this article. If the City of New Braunfels incurs any costs or expenses (including attorney, consultant, and expert witness fees) due to the Service Provider's hazardous materials activities, the Service Provider must promptly reimburse the City upon demand. Additionally, the Service Provider is responsible for all reporting obligations under environmental laws regarding spills, releases, or discharges of hazardous materials at the airport. The Designer must coordinate with the Airport and comply with the Spill Prevention Control and Countermeasure (SPCC) plan.

The Designer must adhere to United States EPA and TCEQ rules and regulations for per- and polyfluoroalkyl substances (PFAS).

Underground fuel tanks are not permitted on Airport property. For any above-ground fuel tanks, the Designer must coordinate with the TCEQ and the Airport before installation.

4.10.1 Sustainability

The Designer must adhere to the FAA sustainability plan.

- Solar Panels
 - The Designer must submit a request to the Airport including an ocular analysis of potential impacts to ATCT cabs that must be conducted to ensure that a proposed solar energy system will not result in ocular impacts.
- Water Conservation Efforts
 - Rainwater collection is permitted, provided the collection method does not create a wildlife hazard and the recycled water is designed to meet applicable TAC standards and requirements.

4.10.2 National Environmental Policy Act

The Designer must submit to the Airport the necessary documentation to allow the FAA to make a determination regarding FAA approval authority under Section 743 of the FAA Reauthorization Act of 2024. If the FAA determines that they do not have approval authority, no NEPA documentation would be required. If the FAA determines that they do have approval authority, then the Designer must work with the Airport to prepare and submit appropriate NEPA documentation for the project. Refer to NEPA's website for more information on the NEPA Review Process (<https://www.epa.gov/nepa>).

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Appendix A – Permit Checklist

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This Checklist is intended for all Building projects designed and constructed within the New Braunfels National Airport property line. This page is intended as a guide and may not be completely exhaustive of all requirements. Please see the following pages for detailed information. If you have any questions, please feel free to contact the appropriate reviewing division listed on page 3. For non-applicable items, denote N/A on the check line.

1. Completed **Building Permit** Application
2. Upload a **complete set of plans in PDF form** for review to include the following:
 - All plans must be submitted in a clear and legible format.
 - All plans must be signed and sealed by an Architect or Professional Engineer licensed in Texas.
 - All plans shall be drawn to scale, dimensioned, noted, clear and legible
 - a. **Cover Sheet** w/Code Analysis, Type of Construction, Occupancy Classification, Fire Protection System, Allowable Area, etc.
 - b. **Architectural Plan**
 - c. **ADA Plan** w/Elevations
 - d. **Horizontal Site Plan** w/Required Parking Calculations and Landscape Plan
 - e. **Structural Plan**
 - f. **Mechanical Plan**
 - g. **Plumbing Plan**
 - h. **Electrical Plan**
 - i. **Communications and Security Plan**
 - j. **Fire Protection site/floor Plan** specific site plan w/ fire lanes (New or existing), Hydrant locations, fire protection systems noted (alarm/sprinkler), riser room/FDC location (if applicable), exterior/interior doors, floor plan, etc. Plan provided will be used to determine if the permit meets applicable 2021 (or current version as noted in the City Website) IFC requirements specific to Fire Department review.
 - k. **Special Inspections Form (If required)**
 - l. **Traffic Control Plan (MOT) (If required)**
 - m. **Construction Safety Phasing Plan (If required and approved by Airport)** (See page 4)
 - n. **Any additional information related to the proposed development.**
3. Upload a **complete set of technical specifications**.
4. Upload the **Engineer's Design and Drainage Report**. Report must be signed and sealed by a Texas licensed Engineer. (See pg. 4)
5. Signed Lease Boundary
6. **Area of Construction is in the Approved Airport Layout Plan (ALP) Yes No**
7. **Texas Department of Licensing and Regulation (TDLR)**. If required projects over \$50,000.00 must be registered. Project Registration Confirmation Page <https://www.tdlr.texas.gov/TABS/>
8. **Asbestos Survey Report** (if a building is remodeled or demolished or utilities are demolished)
9. **COMcheck Compliance Certificate** to include Envelope, Mechanical, Lighting, www.energycodes.gov (2021 IECC or current version as noted in the City Website)
10. **Engineered Foundation Plan for new construction and addition over 500 sq ft** (or attach driveway, sidewalk, or foundation standard that is going to be used) **Engineered foundation letter** on Engineer's letterhead (New Construction/Additions over 500 sq ft)

- 11. _____ **Landscape Plan** (See pg. 7 – Permits will not be issued without Planning Division approval)
- 12. _____ **Environmental Health Division requirements:** Food service **menu** to be provided for all occupancies offering food or beverages, including alcohol. (See page 5)
- 13. _____ **Utility Vendors** This permit or application for permit does not relieve the applicant from any construction requirements that may need to be addressed with the Utility Vendor. Failure to comply with utility vendors standards may result in non-compliance and would have to be corrected at the applicant's expense. Please contact your utility vendor prior to construction.

Utility Vendors for the New Braunfels Area	
New Braunfels Utility	(830) 629-8400

- 14. _____ **Federal Aviation Administration (FAA) Notice of Proposed Construction or Alteration.** Upload the FAA determination letter from the agency's Obstruction Evaluation Group (See pg. 8)
- 15. _____ **FAA National Environmental Policy Act (NEPA) Documentation**
- 16. _____ **Traffic Impact Analysis (TIA) Approval and Worksheet.** *(Refer to Section 4.8.3 in the Airport DDSM)*
- 17. _____ **Airport Concurrence.** Submit Airport concurrence letter. *(Refer to Section 2.2.2 in the Airport DDSM)*
- 18. _____ **Variances.** Denote any variances from the Airport Design and Development Standards Manual

If any of the above listed information is not included with the Building Permit Application, application may be returned to the Contractor and/or Design Professional and may not be accepted until all information is resubmitted.

THE FOLLOWING PAGES CONTAIN DETAILED CHECKLISTS WHICH WILL ASSIST COSTUMERS TO PROVIDE ALL REQUIRED DOCUMENTATION ON FIRST SUBMISSION.

IF YOU HAVE ANY QUESTIONS, FEEL FREE TO CONTACT THE REVIEWING DIVISIONS LISTED BELOW:

- BUILDING DIVISION Phone: (830) 221-4041
- ENGINEERING DIVISION Phone: (830) 221-4275
- ENVIRONMENTAL HEALTH DIVISION Phone: (830) 221-4041
- FIRE DIVISION Phone: (830) 221-4200
- PLANNING DIVISION Phone: (830) 221-4041
- NEW BRAUNFELS NATIONAL AIRPORT Phone: (830) 221-4290

ENGINEERING DIVISION

AIRPORT PERMIT INFORMATION REQUIREMENTS

Submittal items required (signed and sealed by a Texas licensed professional engineer) but not limited to:

Yes No N/A

Yes	No	N/A	
<input type="checkbox"/>	<input type="checkbox"/>		Drainage Report <i>(Refer to Section 3.4.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engineer's Report <i>(Refer to Section 3.4 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>		Specifications <i>(Refer to Section 3.5 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>		Driveway, Sidewalk, Airfield, Airport Security Fence, and Drainage Details, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction Safety Phasing Plan (CSPP). <i>(Refer to Section 3.7.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Site and Grading Plan with Dimension Control <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Drainage Plan and Profile. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pre-Development and Post-Development Drainage Area Maps. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Utility Plan and Profile. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Detention Plan. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stormwater Pollution Prevention Plan and soil erosion and sediment control plan. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Traffic Impact Analysis (TIA) Approval and Worksheet. <i>(Refer to Section 4.8.3 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Braunfels Utilities (NBU) Approval
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Texas Department of Transportation (TXDOT) driveway and drainage permit approval for projects on State roads (FM 758).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trash receptacle locations. <i>[Ref. Sec. 110-58]</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Airfield Lighting and Signage Plan. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction Plan Checklist signed by design engineer (available on City's Engineering website).

Comment:

- (1) All requested documents are to be included as part of the completed design documents submitted for permit application.

ENVIRONMENTAL HEALTH DIVISION

AIRPORT PERMIT INFORMATION REQUIREMENTS

Commercial Permit: List of Health Division Food Service Requirements:

<u>Yes</u>	<u>No</u>	<u>N/A</u>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intended food service menu.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plumbing schematics/layout (grease waste vs. sanitary waste delineation, grease trap sizing, water heater sizing, sample well). Clearly identify screening requirements of MEP equipment.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kitchen floor plan (equipment layout, interior and exterior seating, interior finish schedule)

Commercial Sewage Disposal Requirements: (check applicable)

- Method of sewage disposal to be utilized:

___ New Braunfels Utilities (NBU)

___ Other Publicly Operated Treatment Works (POTW)

___ Private On-Site Septic System

- Does this property currently contain an existing operating on-site septic system?

Yes No N/A

- Does this project intend to connect to the existing operating on-site septic system? (Instead of developing a new system)

Yes No N/A

PLEASE NOTE: All activity related to the installation, alteration, extension, or repairs of a septic system, including disturbing the soils through such connections, requires prior approval and permitting through the TCEQ Designated Agent, i.e., City of New Braunfels Environmental Health Division at (830) 221-4070.

FIRE DIVISION

AIRPORT PERMIT INFORMATION REQUIREMENTS

<u>Yes</u>	<u>No</u>	<u>N/A</u>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Occupant load for Assembly uses.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hydrant locations and distance from buildings.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire wall/barrier listings.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire lanes as required per the International Fire Code.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hose Pull from Fire Apparatus Road (IFC Section 503.1.1)

Fire sprinkler/alarm as required per the International Fire Code.

Fuel spill containment per the National Fire Protection Association (NFPA) code if there is fueling on the ramp.

PLANNING DIVISION

AIRPORT PERMIT INFORMATION REQUIREMENTS

Yes No N/A

[References are to the New Braunfels Code of Ordinances or Airport DDSM]

Zoning. State district: _____ (e.g., C-1, C-2A, etc.)

Legal Description, including Lot and Block number, name of Subdivision and Unit number, if applicable. If the property has not been platted, provide documentation (legal deed of record) that it has existed in its current configuration since prior to January 23, 1984.

Site Plan, (scaled and dimensioned) to include the following information:

- A. Building Setbacks – front, side, and rear. Corner and residential adjacency setbacks as required. *[Airport DDSM]*
- B. Lot dimensions.
- C. All easements.
- D. Dumpster and outside trash receptacle areas.
- E. Locations of all existing and proposed structures with distances between structures.
- F. Gross Floor Area (GFA) of all existing and proposed structures with a summary table that details the area of each use. (example below, required for parking and Roadway Impact Fee calculation)

Use Summary (example)		
	Use	Area
Existing Use	Storage Hangar	8,000 sq. f.t
Proposed Use	Storage Hangar	10,000 sq. ft.
Total		2,000 sq. ft.

- G. Driveway approach detail, including flares/radii, with and spacing between driveways and distance from intersection. *[Ref. Sec.114-98 (d) and (f), Chapter 114]*
- H. Location and width of sidewalks.
- I. Location and dimensions of airfield pavements.
- J. Dimensions from Airport Security fence to building.

Elevation Plan, (scaled and dimensioned) to include the following information: *[Ref. Sec. 5.22, Chapter 144]*

- A. Height of structure.
- B. Building design elements.
- C. Roof treatment/type.
- D. Entryway.
- E. Customer entrance treatment and pedestrian route (for buildings over 60,000 sq. ft.)
- F. Details and calculations of horizontal and vertical articulation for facades facing a public street, as required.

- G. Exterior building material summary table with details of the proposed exterior finish (example below):

Exterior Finish Summary (example)			
Material	Location	Area	Percentage
Stone	4' wainscot	1,000 sq. ft.	42%
Stucco	Front, side, rear walls	1,000 sq. ft.	42%
Metal	Decorative elements	400 sq. ft.	16%
Total		2,400 sq. ft.	100%

Landscape Plan, (scaled and dimensioned) to include the following information: [Ref. Airport DDSM]

- A. Plans must be drawn to readable scale.
- B. Location, size, and common name of existing trees that are greater than or equal to an eight-inch diameter measured 4 1/2' above the ground, except those listed in Appendix B. Any tree which is proposed to be saved as credit for the landscaping requirements in this Article shall also be marked and shown.
- C. Location, size (container size, planted height, etc.) and common name of all trees and shrubs to be planted as part of the landscape plan.
- D. Trees and shrubs height. All trees and shrubs must be included in FAA's determination letter.
- E. Landscape Summary Table (example below)

Landscape Summary (example)			
Type	Common Name	Size	Number
Street shade tree	Red oak	3"	2
Street shrub	Red yucca	5 gallon	5

- F. Location and design of all landscaping materials to be used, including paving, screens, earthen berms and ponds.
- G. Spacing of plant material where appropriate.
- H. Trees and shrubs distance to airport security fence or airfield pavements.
- I. Site distance and visibility triangles.
- J. Layout and description of irrigation, hose bibs, or water systems including location of water sources.
- K. Description of maintenance provisions.
- L. Name, address and email of the person(s) responsible for the preparation of the landscape plan including the name and address of the project.
- M. North arrow/symbol.
- N. A legible location map showing where the property is located.
- O. Fences/boundary walls by height and material and any other screening devices or vegetation, including fence clearance per TSA requirements.
- P. Date of the landscape plan.
- Q. Tree protection plan. [Ref. Sec. 5.3-1(c)]
- R. *Please note: a separate tree removal permit must be submitted to the Planning Division if there are any protected trees that are to be removed from the property.*

Parking Plan, (scaled and dimensioned) to include the following information: [Ref. Sec. 5.1, Chapter 144]

- A. Parking space dimensions and slopes.

- B. Maneuvering space dimensions.
- C. Marked accessible spaces including van accessible.
- D. Distance from parking spaces to Airport Security Fence.
- E. Drive through facility subject to additional standards. [Ref. Sec. 5.2, Chapter 144]
- F. Parking summary table with the following minimum information (example below):
 1. Existing and proposed use(s) on the property and the minimum number of required spaces with calculation detail.
 2. Total number of parking spaces proposed on the property.

Parking Summary (example)				
	Use	Area	Ratio	# of spaces
Parking required for existing development	Storage Hangar	8,000 sq.ft.	1/2,000	4
Parking required for proposed development	Storage Hangar	10,000 sq.ft.	1/2,000	5
Total Requirement				9
Total Provided				9

Elevation certificate/flood proof certificate, if property is located in a flood plain. [Ref. Chapter 58, Floods]

Flood Study, if property is located in a flood way.

FAA Requirements (Refer to Section 3.7 in the Airport DDSM)

Outdoor Lighting Plan. Include the location, height, and details of all proposed outdoor lighting. Provide cut sheets or specifications for the lighting that provides fixture and shielding detail. A photometric plan may be required by the Airport for review and approval. All exterior lighting must be fully shielded and shall not trespass onto Part 77. [Ref. Sec. 5.3-3, Chapter 144]

I, the undersigned, have verified that all required information is submitted with the Building Permit Application.

Signature of Applicant

Date of Filing

Permit Technician



CHECKLIST FOR AIRPORT HORIZONTAL DEVELOPMENT PERMIT SUBMITTALS

This Checklist is intended for all horizontal civil projects designed and constructed within the New Braunfels National Airport property line. This page is intended as a guide and may not be completely exhaustive of all requirements. Please see the following pages for detailed information. If you have any questions, please feel free to contact the appropriate reviewing division listed on page 3. For non-applicable items, denote N/A on the check line.

1. Completed **Engineering Infrastructure Construction** Application
2. Completed **Building Permit** Application
3. Upload a **complete set of plans in PDF form** for review to include at the minimum the following:
 - All plans must be submitted in a clear and legible format.
 - All plans must be signed and sealed by a Professional Engineer licensed in Texas.
 - All plans shall be drawn to scale, dimensioned, noted, clear and legible
 - a. **Cover Sheet**
 - b. **Horizontal Site Development Plan** w/Required Parking Calculations and Landscape Plan
 - c. **ADA Plan** w/Elevations (if required)
 - d. **Traffic Control Plan (MOT)** (If required)
 - e. **Construction Safety Phasing Plan (If required and approved by Airport)** (See page 4)
 - f. **Any additional information related to the proposed development.**
4. Upload a **complete set of technical specifications.**
5. Signed Lease Boundary
6. Upload the **Engineer’s Design and Drainage Report.** Report must be signed and sealed by a Texas licensed Engineer. (1 copy - See pg. 4)
7. **Area of Construction is in the Approved Airport Layout Plan (ALP) Yes No**
8. **Texas Department of Licensing and Regulation (TDLR).** If required projects over \$50,000.00 must be registered. Project Registration Confirmation Page <https://www.tdlr.texas.gov/TABS/>
9. **Asbestos Survey Report** (if a building is remodeled or demolished or utilities are demolished)
10. **Landscape Plan** (See pg. 5 – Permits will not be issued without Planning Division approval)
11. **Utility Vendors** This permit or application for permit does not relieve the applicant from any construction requirements that may need to be addressed with the Utility Vendor. Failure to comply with utility vendors standards may result in non-compliance and would have to be corrected at the applicant’s expense. Please contact your utility vendor prior to construction.

Utility Vendors for the New Braunfels Area	
New Braunfels Utility	(830) 629-8400

12. **Federal Aviation Administration (FAA) Notice of Proposed Construction or Alteration.** Upload the FAA determination letter from the agency’s Obstruction Evaluation Group (See pg. 6)

13. _____ **FAA National Environmental Policy Act (NEPA) Documentation**
14. _____ **Traffic Impact Analysis (TIA) Approval and Worksheet.** *(Refer to Section 4.8.3 in the Airport DDSM)*
15. _____ **Airport Concurrence.** Submit Airport concurrence letter. *(Refer to Section 2.2.2 in the Airport DDSM)*
16. _____ **Variances.** Denote any variances from the Airport Design and Development Standards Manual

If any of the above listed information is not included with the Building Permit Application, application may be returned to the Contractor and/or Design Professional and may not be accepted until all information is resubmitted.

THE FOLLOWING PAGES CONTAIN DETAILED CHECKLISTS WHICH WILL ASSIST COSTUMERS TO PROVIDE ALL REQUIRED DOCUMENTATION ON FIRST SUBMISSION.

IF YOU HAVE ANY QUESTIONS, FEEL FREE TO CONTACT THE REVIEWING DIVISIONS LISTED BELOW:

- BUILDING DIVISION Phone: (830) 221-4041
- ENGINEERING DIVISION Phone: (830) 221-4275
- ENVIRONMENTAL HEALTH DIVISION Phone: (830) 221-4041
- FIRE DIVISION Phone: (830) 221-4200
- PLANNING DIVISION Phone: (830) 221-4041
- NEW BRAUNFELS NATIONAL AIRPORT Phone: (830) 221-4290

ENGINEERING DIVISION

AIRPORT PERMIT INFORMATION REQUIREMENTS

Submittal items required (signed and sealed by a Texas licensed professional engineer) but not limited to:

<u>Yes</u>	<u>No</u>	<u>N/A</u>	
<input type="checkbox"/>	<input type="checkbox"/>		Drainage Report <i>(Refer to Section 3.4.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engineer's Report <i>(Refer to Section 3.4 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>		Specifications <i>(Refer to Section 3.5 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>		Driveway, Sidewalk, Airfield, Airport Security Fence, and Drainage Details, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction Safety Phasing Plan (CSPP). <i>(Refer to Section 3.7.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Site and Grading Plan with Dimension Control <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Drainage Plan and Profile. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pre-Development and Post-Development Drainage Area Maps. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Utility Plan and Profile. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Detention Plan. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stormwater Pollution Prevention Plan and soil erosion and sediment control plan. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Traffic Impact Analysis (TIA) Approval and Worksheet. <i>(Refer to Section 4.8.3 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New Braunfels Utilities (NBU) Approval
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Texas Department of Transportation (TXDOT) driveway and drainage permit approval for projects on State roads (FM 758).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trash receptacle locations. <i>(Ref. Sec. 110-58)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detailed Airfield Lighting and Signage Plan. <i>(Refer to Section 3.2.1 in the Airport DDSM)</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction Plan Checklist signed by design engineer (available on City's Engineering website).

Comment:

- (1) All requested documents are to be included as part of the completed construction plans submitted for permit application.

PLANNING DIVISION

AIRPORT PERMIT INFORMATION REQUIREMENTS

Yes No N/A

[References are to the New Braunfels Code of Ordinances or Airport DDSM]

Zoning. State district: _____ (e.g., C-1, C-2A, etc.)

Legal Description, including Lot and Block number, name of Subdivision and Unit number, if applicable. If the property has not been platted, provide documentation (legal deed of record) that it has existed in its current configuration since prior to January 23, 1984.

Site Plan, (scaled and dimensioned) to include the following information:

- A. Lot dimensions.
- B. All easements.
- C. Locations of all existing and proposed structures with distances between structures.
- D. Driveway approach detail, including flares/radii, with and spacing between driveways and distance from intersection. *[Ref. Sec.114-98 (d) and (f), Chapter 114]*
- E. Location and width of sidewalks.
- F. Dimensions from Airport Security fence to building.

Landscape Plan, (scaled and dimensioned) to include the following information: *[Ref. Airport DDSM]*

- A. Plans must be drawn to readable scale.
- B. Location, size, and common name of existing trees that are greater than or equal to an eight-inch diameter measured 4 1/2' above the ground, except those listed in Appendix B. Any tree which is proposed to be saved as credit for the landscaping requirements in this Article shall also be marked and shown.
- C. Location, size (container size, planted height, etc.) and common name of all trees and shrubs to be planted as part of the landscape plan.
- D. Trees and shrubs height. All trees and shrubs must be included in FAA's determination letter.
- E. Landscape Summary Table (example below)

Landscape Summary (example)			
Type	Common Name	Size	Number
Street shade tree	Red oak	3"	2
Street shrub	Red yucca	5 gallon	5

- F. Location and design of all landscaping materials to be used, including paving, screens, earthen berms and ponds.
- G. Spacing of plant material where appropriate.
- H. Trees and shrubs distance to airport security fence or airfield pavements.
- I. Site distance and visibility triangles.
- J. Layout and description of irrigation, hose bibs, or water systems including location of water sources.
- K. Description of maintenance provisions.
- L. Name, address and email of the person(s) responsible for the preparation of the landscape plan including the name and address of the project.
- M. North arrow/symbol.
- N. A legible location map showing where the property is located.
- O. Fences/boundary walls by height and material and any other screening devices or vegetation, including fence clearance per TSA requirements.

- P. Date of the landscape plan.
- Q. Tree protection plan. [Ref. Sec. 5.3-1(c)]
- R. *Please note: a separate tree removal permit must be submitted to the Planning Division if there are any protected trees that are to be removed from the property.*

Parking Plan, (scaled and dimensioned) to include the following information: [Ref. Sec. 5.1, Chapter 144]

- A. Parking space dimensions and slopes.
- B. Maneuvering space dimensions.
- C. Marked accessible spaces including van accessible.
- D. Distance from parking spaces to Airport Security Fence.
- E. Drive through facility subject to additional standards. [Ref. Sec. 5.2, Chapter 144]
- F. Parking summary table with the following minimum information (example below):
 1. Existing and proposed use(s) on the property and the minimum number of required spaces with calculation detail.
 2. Total number of parking spaces proposed on the property.

Parking Summary (example)				
	Use	Area	Ratio	# of spaces
Parking required for existing development	Storage Hangar	8,000 sq.ft.	1/2,000	4
Parking required for proposed development	Storage Hangar	10,000 sq.ft.	1/2,000	5
Total Requirement				9
Total Provided				9

Elevation certificate/flood proof certificate, if property is located in a flood plain. [Ref. Chapter 58, Floods]

Flood Study, if property is located in a flood way.

FAA Requirements (Refer to Section 3.7 in the Airport DDSM)

Outdoor Lighting Plan. Include the location, height, and details of all proposed outdoor lighting. Provide cut sheets or specifications for the lighting that provides fixture and shielding detail. All exterior lighting must be fully shielded and must not trespass onto Part 77. [Ref. Sec. 5.3-3, Chapter 144]

I, the undersigned, have verified that all required information is submitted with the Building Permit Application.

Signature of Applicant

Date of Filing

Permit Technician

Appendix B – Project Closeout Checklist

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CHECKLIST FOR AIRPORT DEVELOPMENT PROJECT CLOSEOUT SUBMITTAL

This Checklist is intended for all projects constructed within the New Braunfels National Airport property line. This page serves as a guide and may not be completely exhaustive of all requirements. Please coordinate with the Airport for project specific questions. For non-applicable items, denote N/A on the check line.

1. _____ Set of Record Drawings in CAD and PDF format
2. _____ As-Built survey data in CAD and native format
3. _____ Certificate of Completion
4. _____ Testing and Commissioning Reports (if required)
5. _____ Project Operation and Maintenance (O&M) Manual(s) (if required)
6. _____ Final Hardware Schedule (if required)
7. _____ Owner Training of Systems, Subsystems, and/or Equipment
8. _____ Airport Diagram Update (if required, Designer must coordinate update with Airport)
9. _____ Airport Layout Plan Update (if required, Designer must coordinate update with Airport)
10. _____ Closeout Documents as required in the Contract Documents (For federal funded projects refer to FAA General Provisions Section 90-11 Contractor Final Project Documentation)

I, the undersigned, have verified that all required information has been submitted to the New Braunfels National Airport.

Signature of Applicant

Date of Filing

Airport Representative

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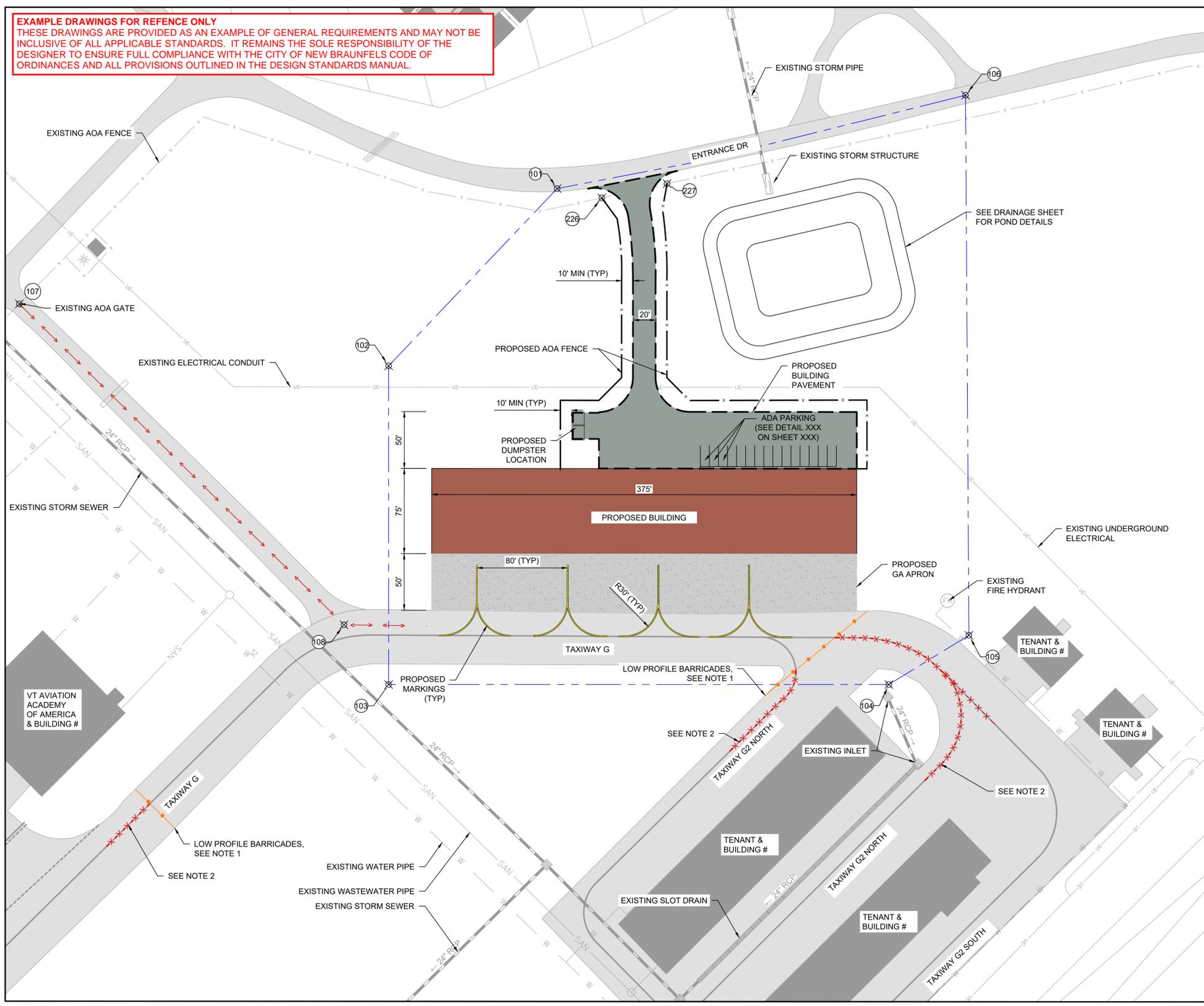
Appendix C – Example Drawings

NOTICE

Example Drawings are for reference only. These drawings serve as an example of general requirements and may not be inclusive of all applicable standards. It remains the sole responsibility of the designer to ensure full compliance with the City of New Braunfels Code of Ordinances and all provisions outlined in the Design Standards Manual.

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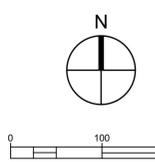
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LEGEND

	PROPOSED LANDSIDE PAVEMENT		SAN	EXISTING SANITARY SEWER
	PROPOSED APRON PAVEMENT		SD	EXISTING STORM DRAIN
	PROPOSED BUILDING		UE	EXISTING UNDERGROUND ELECTRICAL LINE
	EXISTING BUILDING			CONSTRUCTION LIMITS
	PROPOSED AIRFIELD PAVEMENT MARKING			CONSTRUCTION TRAFFIC ROUTE
	EXISTING AOA FENCE			BLACKOUT EXISTING MARKING
	PROPOSED AOA FENCE			LOW PROFILE BARRICADES
	EXISTING WATER LINE			

- GENERAL NOTES FOR DESIGNER/DEVELOPER:
- THE CONSTRUCTION SAFETY PHASING PLAN SHALL FOLLOW THE GENERAL GUIDANCE INCLUDED IN FAA AC 150/5370-2, CURRENT VERSION. ITEMS THAT NEED TO BE DEPICTED IN THE CSPP INCLUDE, BUT NOT LIMITED TO, ARE THE FOLLOWING:
 - AREAS AFFECTED BY CONSTRUCTION ACTIVITY
 - IDENTIFY AIRFIELD PAVEMENTS TO BE CLOSED OR PARTIALLY CLOSED.
 - IDENTIFY OR DIRECT CONTRACTOR TO PROVIDE ACCESS ROUTES USED BY AIRPORT VEHICLES.
 - IDENTIFY AREAS FOR CONSTRUCTION, CONTRACTOR PARKING, STAGING, STOCKPILE, FIELD OFFICE AND SPECIFY MAXIMUM CONSTRUCTION HEIGHT REQUIREMENTS.
 - ADDRESS TEMPORARY CHANGES TO TAXI OPERATIONS.
 - ADDRESS MAINTENANCE OF ESSENTIAL UTILITIES AND UNDERGROUND INFRASTRUCTURE
 - CONTRACTOR ACCESS
 - ADDRESS PROPER VEHICLE OPERATIONS, INCLUDING REQUIREMENTS FOR ESCORTS, MARKINGS AND LIGHTING OF VEHICLES, AND TRAINING REQUIREMENTS FOR VEHICLE DRIVERS.
 - DESCRIBE TWO-WAY RADIO COMMUNICATIONS PROCEDURES.
 - ADDRESS MAINTENANCE OF THE SECURED AREAS OF THE AIRPORT.
 - ADDRESS FOD MANAGEMENT PROCEDURES.
 - INCLUDE WORK AREAS AND TEMPORARY CONSTRUCTION EQUIPMENT HEIGHT.
 - INCLUDE REMOVAL OF CENTERLINE MARKINGS LEADING TO CLOSED AIRFIELD AREAS
 - REFER TO AC 150/5300-20 FOR ADDITIONAL INFORMATION REGARDING SUBMISSION OF ON-AIRPORT PROPOSALS FOR AERONAUTICAL STUDY.



POINT TABLE

POINT	DESCRIPTION	NORTHING	EASTING	GROUND ELEVATION	LATITUDE	LONGITUDE	MAX CONSTRUCTION HEIGHT	MAX CONSTRUCTION ELEVATION
101	WORK AREA	13805707.76	2275285.80	632'	S005° 42' 11.74"	W102° 32' 52.96"	50'	682'
102	WORK AREA	13805551.72	2275137.14	634'	S005° 42' 13.08"	W102° 32' 54.15"	50'	684'
103	WORK AREA	13805271.18	2275137.14	640'	S005° 42' 15.41"	W102° 32' 54.07"	50'	690'
104	WORK AREA	13805271.18	2275578.44	638'	S005° 42' 15.28"	W102° 32' 50.41"	50'	688'
105	WORK AREA	13805314.55	2275649.05	638'	S005° 42' 14.90"	W102° 32' 49.84"	50'	688'
106	WORK AREA	13805789.92	2275646.10	631'	S005° 42' 10.96"	W102° 32' 50.00"	50'	681'
107	HAUL ROUTE	13805606.22	2274811.26	635'	S005° 42' 12.72"	W102° 32' 56.86"	50'	685'

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NEW BRAUNFELS NATIONAL AIRPORT & FBO
 2333 FM758, NEW BRAUNFELS, TX 78130

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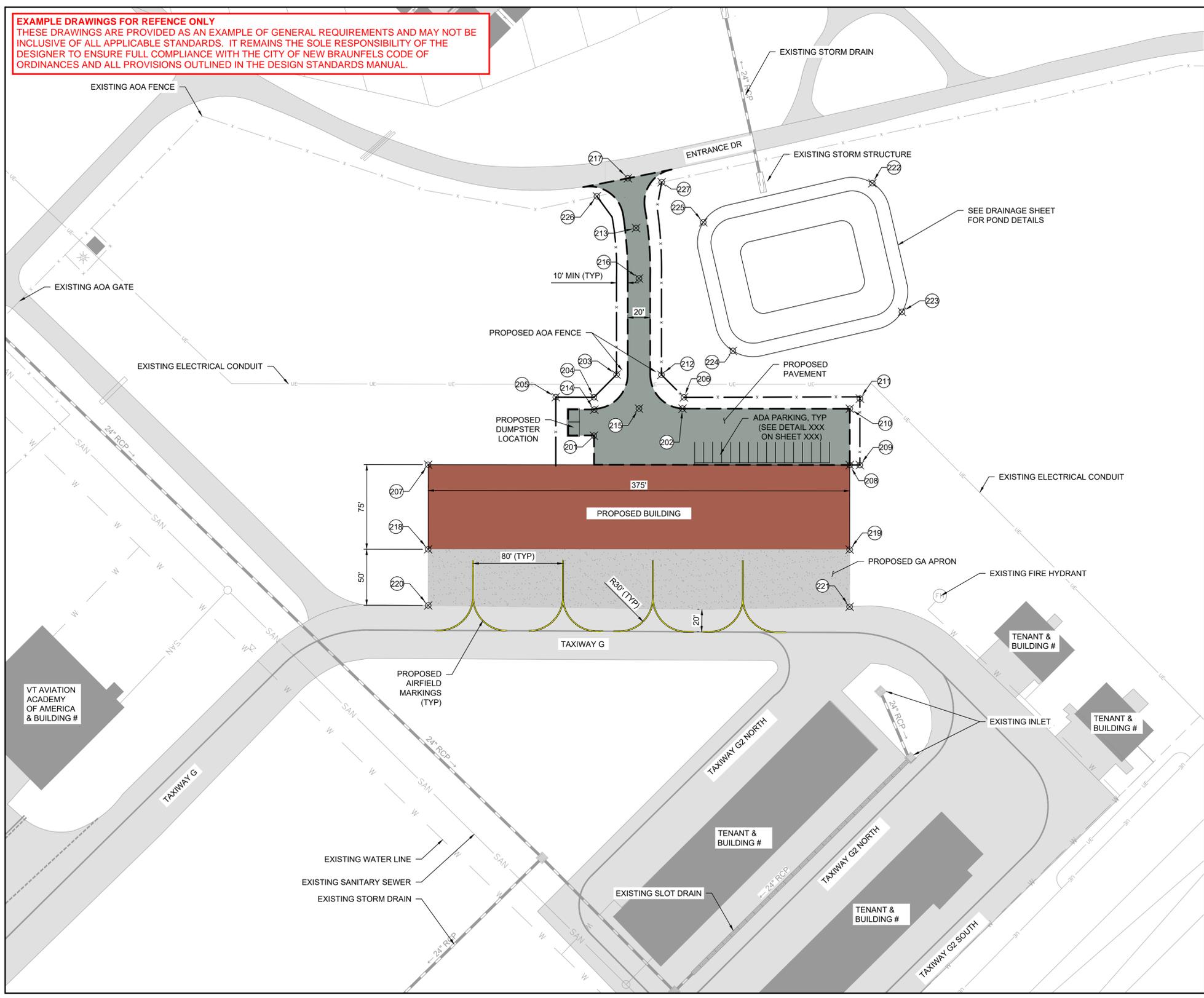
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NEW BRAUNFELS NATIONAL AIRPORT
CONSTRUCTION SAFETY PHASING PLAN -EXAMPLE

CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

DRAWING NUMBER
EX01

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LEGEND

	LANDSIDE PAVEMENT		EXISTING WATER LINE
	APRON PAVEMENT		EXISTING SANITARY SEWER
	PROPOSED BUILDING		EXISTING STORM DRAIN
	EXISTING BUILDING		EXISTING UNDERGROUND ELECTRICAL LINE
	PROPOSED AIRFIELD PAVEMENT MARKING		
	EXISTING AOA FENCE		
	PROPOSED AOA FENCE		

- GENERAL NOTES FOR DESIGNER/DEVELOPER:
- ALL PROPOSED DEVELOPMENT ON PUBLIC-USE AIRPORT PROPERTY IS SUBJECT TO AN AIRPORT AIRSPACE ANALYSIS AND MUST BE SUBMITTED FOR REVIEW THROUGH THE OE/AAA WEBSITE.
 - IF CORNERS OF PROPOSED BUILDINGS ARE NOT THE TALLEST POINTS, ENSURE THE POINTS INCLUDE THE HIGHEST ELEVATION OF THE STRUCTURE; E.G. ROOF PEAK OR APPURTENANCES (AC UNITS, ANTENNAS, FLAG POLES, ETC.).
 - THE APPROPRIATE ELEVATION OF PROPOSED AIRFIELD PAVEMENTS IS THE TAIL HEIGHT OF THE MOST DEMANDING AIRCRAFT THAT REGULARLY USES THE PAVEMENT.
 - REFER TO AC 150/5300-20 FOR ADDITIONAL INFORMATION REGARDING SUBMISSION OF ON-AIRPORT PROPOSALS FOR AERONAUTICAL STUDY.



POINT TABLE

POINT	DESCRIPTION	NORTHING	EASTING	GROUND ELEVATION	LATITUDE	LONGITUDE	STRUCTURE HEIGHT	MAX STRUCTURE ELEVATION
201	DRIVEWAY	13805487.11	2275322.55	635'	S005° 42' 13.56"	W102° 32' 52.59"	20'	652'
202	AOA FENCE	13805511.15	2275401.35	632'	S005° 42' 13.34"	W102° 32' 51.95"	9'	641'
203	AOA FENCE	13805541.36	2275342.62	634'	S005° 42' 13.11"	W102° 32' 52.44"	9'	643'
204	AOA FENCE	13805521.29	2275322.62	634'	S005° 42' 13.28"	W102° 32' 52.60"	9'	644'
205	DRIVEWAY	13805521.36	2275288.62	634'	S005° 42' 13.29"	W102° 32' 52.89"	20'	655'
206	AOA FENCE	13805521.18	2275402.61	634'	S005° 42' 13.26"	W102° 32' 51.94"	9'	645'
207	BUILDING	13805461.36	2275175.10	636'	S005° 42' 13.82"	W102° 32' 53.81"	20'	656'
208	BUILDING	13805461.06	2275550.10	635'	S005° 42' 13.72"	W102° 32' 50.70"	20'	655'
209	AOA FENCE	13805461.06	2275559.10	635'	S005° 42' 13.71"	W102° 32' 50.63"	9'	644'
210	DRIVEWAY	13805511.06	2275550.14	634'	S005° 42' 13.30"	W102° 32' 50.72"	20'	654'
211	AOA FENCE	13805520.06	2275559.14	634'	S005° 42' 13.22"	W102° 32' 50.64"	9'	643'
212	AOA FENCE	13805541.18	2275382.62	634'	S005° 42' 13.10"	W102° 32' 52.11"	9'	643'
213	AOA FENCE	13805671.38	2275360.00	631'	S005° 42' 12.02"	W102° 32' 52.34"	9'	640'
214	DRIVEWAY	13805510.25	2275322.82	632'	S005° 42' 13.37"	W102° 32' 52.60"	20'	652'
215	DRIVEWAY	13805511.21	2275362.61	634'	S005° 42' 13.35"	W102° 32' 52.27"	20'	654'
216	DRIVEWAY	13805626.64	2275362.62	632'	S005° 42' 12.39"	W102° 32' 52.30"	20'	652'
217	DRIVEWAY	13805715.59	2275352.75	631'	S005° 42' 11.66"	W102° 32' 52.41"	20'	651'
218	BUILDING	13805386.38	2275175.07	639'	S005° 42' 14.44"	W102° 32' 53.79"	50'	689'
219	BUILDING	13805386.08	2275550.03	638'	S005° 42' 14.34"	W102° 32' 50.68"	50'	688'
220	APRON	13805336.53	2275175.12	640'	S005° 42' 14.85"	W102° 32' 53.77"	20'	660'
221	APRON	13805335.34	2275550.01	638'	S005° 42' 14.76"	W102° 32' 50.67"	20'	658'
222	POND	13805711.18	2275570.19	632'	S005° 42' 11.63"	W102° 32' 50.61"	20'	658'
223	POND	13805597.05	2275596.52	632'	S005° 42' 12.57"	W102° 32' 50.36"	1'	633'
224	POND	13805562.37	2275446.18	632'	S005° 42' 12.90"	W102° 32' 51.59"	1'	633'
225	POND	13805676.51	2275419.85	632'	S005° 42' 11.96"	W102° 32' 51.84"	1'	633'
226	AOA FENCE	13805699.57	2275325.14	632'	S005° 42' 11.80"	W102° 32' 52.63"	9'	633'
227	AOA FENCE	13805712.08	2275382.81	632'	S005° 42' 11.68"	W102° 32' 52.16"	9'	633'

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NEW BRAUNFELS NATIONAL AIRPORT & FBO
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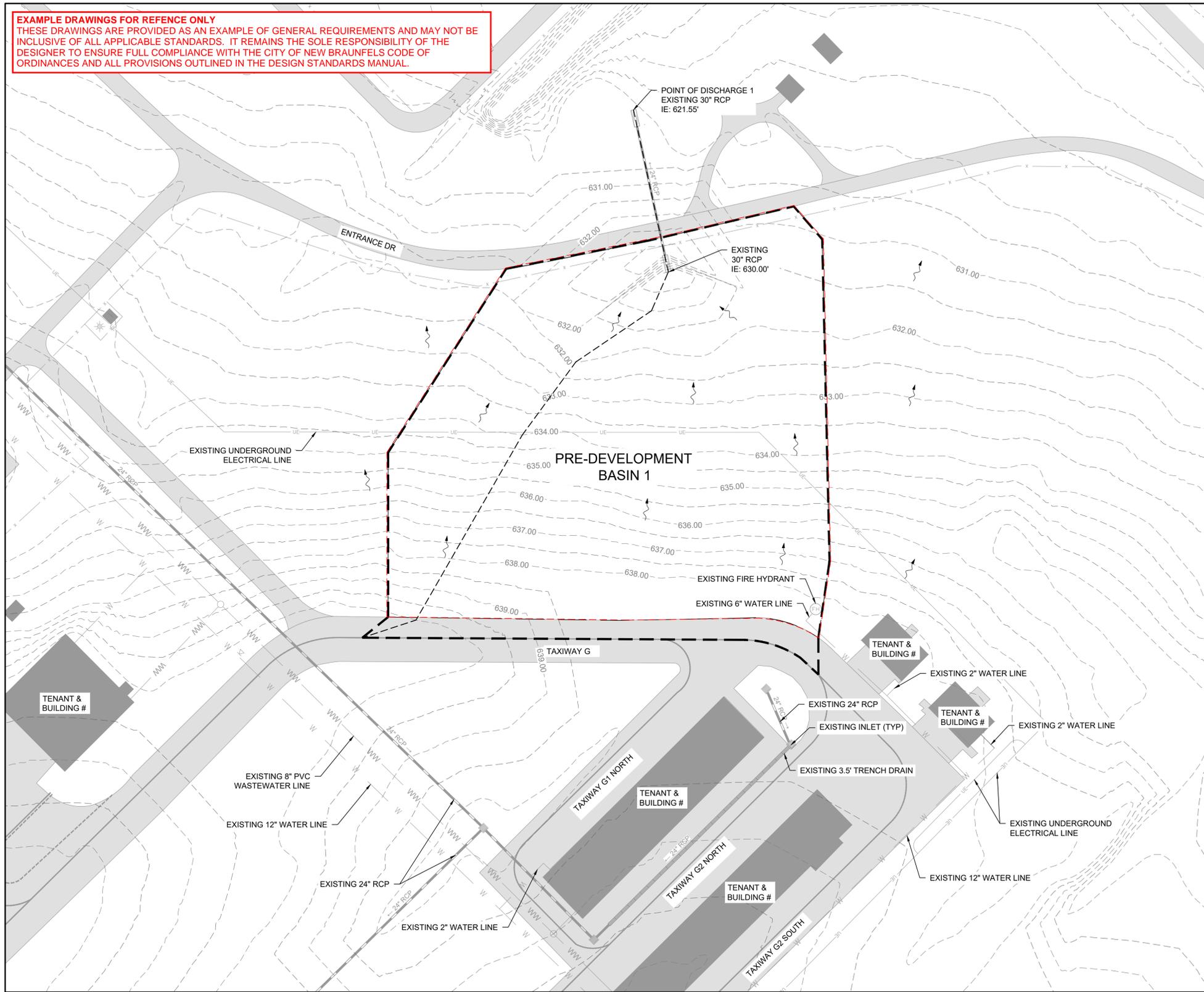
NEW BRAUNFELS NATIONAL AIRPORT
PERMANENT 7460 EXHIBIT EXAMPLE

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DRAWING NUMBER
EX01

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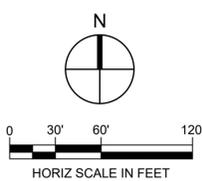
LEGEND

- EXISTING BUILDING
- EXISTING IMPERVIOUS PAVEMENT
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING STORM PIPE
- EXISTING INLET
- EXISTING SAFETY END TREATMENT
- BASIN OUTLINE
- LIMITS OF CONSTRUCTION
- TIME OF CONCENTRATION PATH
- SURFACE FLOW ARROW
- PIPE FLOW ARROW

BASIN NUMBER	OVERLAND FLOW					CHANNEL FLOW				TOTAL TRAVEL TIME (TC) (MIN)
	FLOW LENGTH (FT)	dE (FT)	SLOPE (FT/FT)	RETARDANCE COEFFICIENT (N)	TRAVEL TIME (MIN)	FLOW LENGTH (FT)	dE (FT)	SLOPE (FT/FT)	TRAVEL TIME (MIN)	
1	701	10.0	0.0263	0.4	14.7	N/A	N/A	N/A	N/A	27.06

DRAINAGE AREA CALCULATIONS							
BASIN NUMBER	IMPERVIOUS AREA (AC)	IMPERVIOUS AREA, C1	PERVIOUS AREA (AC)	PERVIOUS AREA, C2	TOTAL AREA (AC)	COMPOSITE RUNOFF, C	TIME OF CONCENTRATION (MIN)
1	0.25	0.90	3.96	0.35	4.21	0.38	27.06

FLOW SUMMARY TABLE	
STORM EVENT FREQUENCY	EXISTING PEAK FLOW (CFS)
Q 2 YR, 24 HR	2.79
Q 5 YR, 24 HR	3.38
Q 10 YR, 24 HR	3.97
Q 25 YR, 24 HR	4.51
Q 100 YR, 24 HR	6.64



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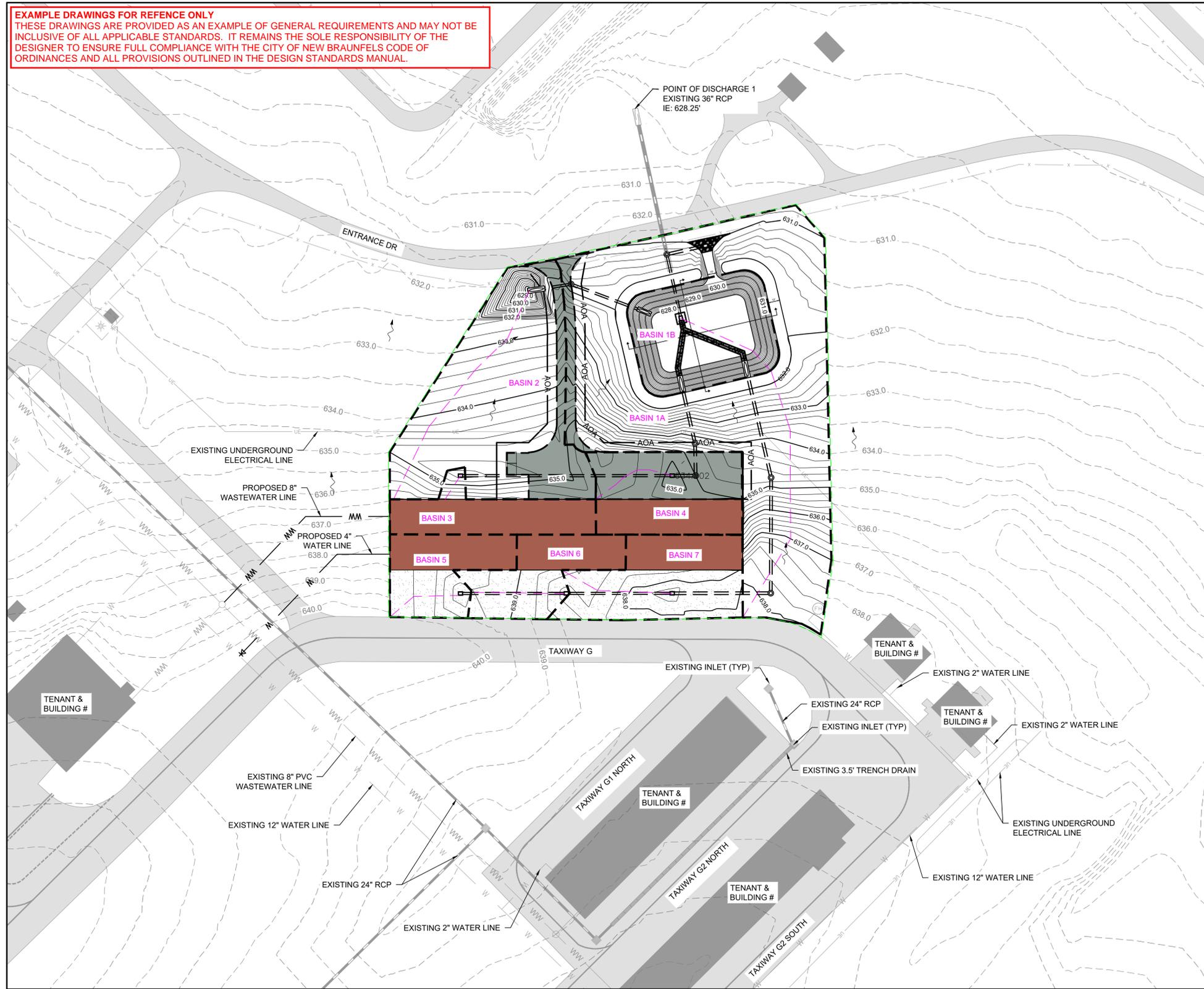
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NEW BRAUNFELS NATIONAL AIRPORT
PRE-DEVELOPMENT DRAINAGE MAP
 CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

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CG201

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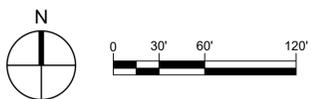


LEGEND

- EXISTING BUILDING
- EXISTING IMPERVIOUS PAVEMENT
- EXISTING MINOR CONTOUR (0.5')
- EXISTING MAJOR CONTOUR (1.0')
- EXISTING STORM PIPE
- EXISTING INLET
- EXISTING SAFETY END TREATMENT
- PROPOSED LANDSIDE PAVEMENT
- PROPOSED APRON PAVEMENT
- PROPOSED CONCRETE PILOT CHANNEL
- PROPOSED CONCRETE PILOT CHANNEL
- PROPOSED BUILDING
- PROPOSED MINOR CONTOUR (0.2')
- PROPOSED MAJOR CONTOUR (1.0')
- PROPOSED INLET
- PROPOSED MANHOLE
- PROPOSED STORM PIPE
- PROPOSED SAFETY END TREATMENT
- PROPOSED GRADING LIMITS
- BASIN OUTLINE
- TIME OF CONCENTRATION PATH
- SURFACE FLOW ARROW
- EXISTING GRADE PROFILE LINE
- PROPOSED GRADE PROFILE LINE

DRAINAGE AREA CALCULATIONS						
BASIN NUMBER	IMPERVIOUS AREA (AC)	IMPERVIOUS AREA, C1	PERVIOUS AREA (AC)	PERVIOUS AREA, C2	COMPOSITE RUNOFF, C	TIME OF CONCENTRATION (MIN)
1A	0.39	0.9	0.51	0.35	0.48	18.27
1B	0.13	0.9	N/A	N/A	0.35	10.79
2	0.14	0.9	0.22	0.45	0.45	15.17
3	0.02, 0.16	0.9, 0.85	N/A	N/A	0.86	10.00
4	0.16, 0.11	0.9, 0.85	N/A	N/A	0.88	11.47
5	0.10	0.85	0.03	0.35	0.63	11.80
6	0.08	0.85	0.04	0.35	0.57	13.30
7	0.09	0.85	0.08	0.35	0.51	17.21

FLOW SUMMARY TABLE								
STORM EVENT FREQUENCY	PROPOSED PEAK FLOW (CFS)							
	BASIN 1A	BASIN 1B	BASIN 2	BASIN 3	BASIN 4	BASIN 5	BASIN 6	BASIN 7
Q 2 YR, 24 HR	0.15	0.43	0.45	0.14	0.24	0.12	0.12	0.19
Q 5 YR, 24 HR	0.18	0.54	0.56	0.17	0.30	0.15	0.15	0.23
Q 10 YR, 24 HR	0.23	0.67	0.70	0.21	0.37	0.18	0.19	0.29
Q 25 YR, 24 HR	0.26	0.77	0.80	0.25	0.43	0.21	0.22	0.33
Q 100 YR, 24 HR	0.33	0.99	1.02	0.32	0.55	0.27	0.28	0.43



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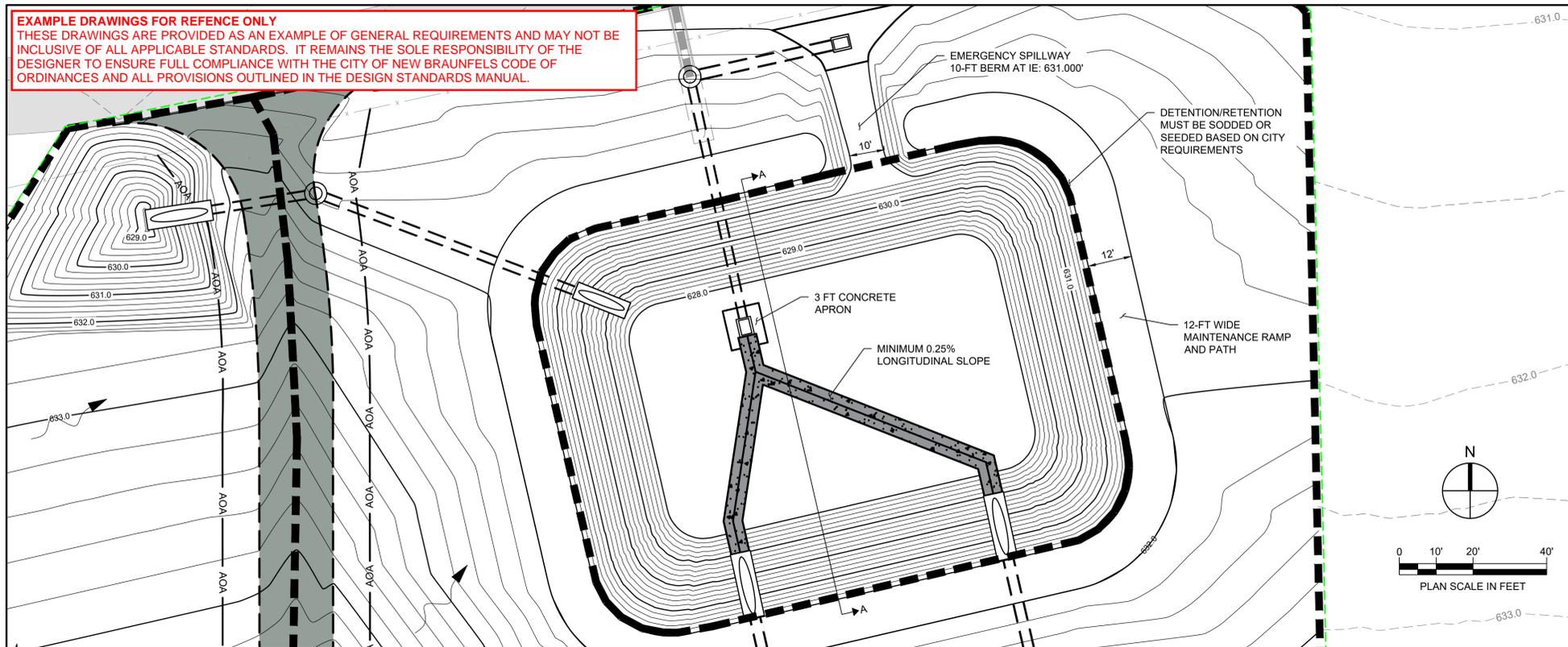
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POST-DEVELOPMENT DRAINAGE AREA MAP
 CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

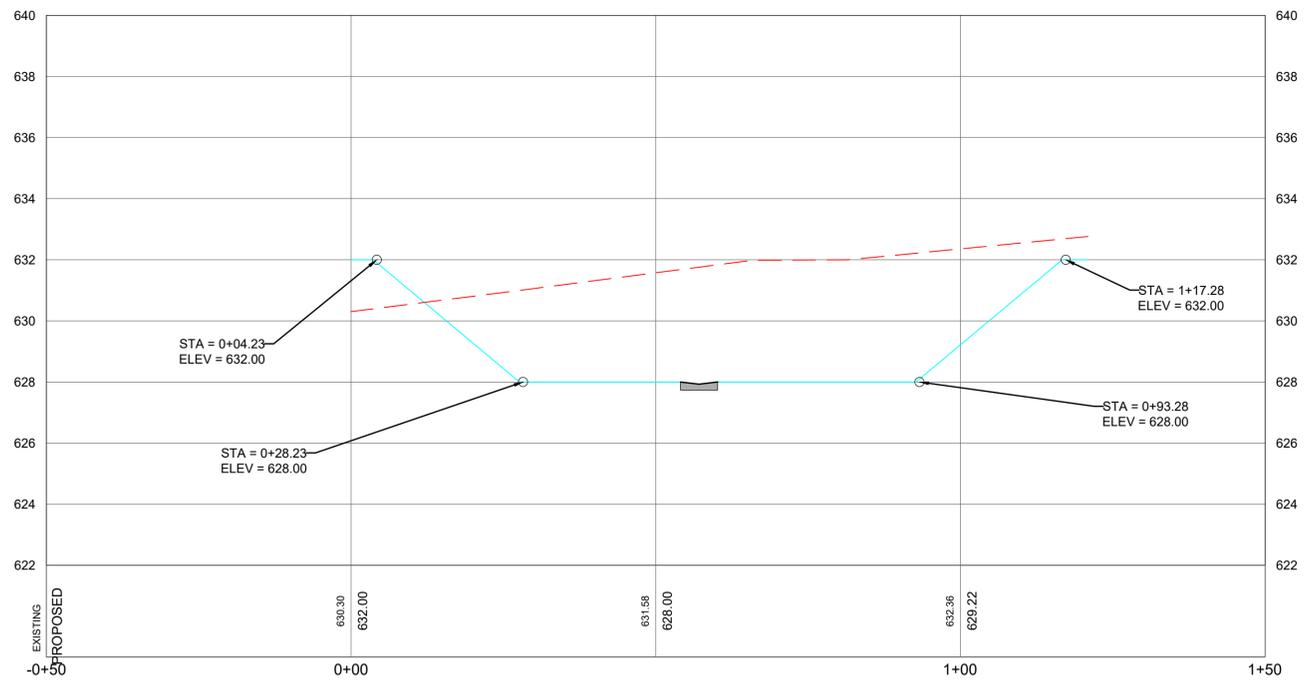
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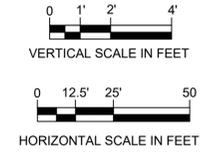


LEGEND

	EXISTING BUILDING
	EXISTING IMPERVIOUS PAVEMENT
	EXISTING MINOR CONTOUR (0.5')
	EXISTING MAJOR CONTOUR (1.0')
	EXISTING STORM PIPE
	EXISTING INLET
	EXISTING SAFETY END TREATMENT
	PROPOSED LANDSIDE PAVEMENT
	PROPOSED APRON PAVEMENT
	PROPOSED CONCRETE PILOT CHANNEL
	PROPOSED CONCRETE PILOT CHANNEL
	PROPOSED BUILDING
	PROPOSED MINOR CONTOUR (0.2')
	PROPOSED MAJOR CONTOUR (1.0')
	PROPOSED INLET
	PROPOSED MANHOLE
	PROPOSED STORM PIPE
	PROPOSED SAFETY END TREATMENT
	PROPOSED GRADING LIMITS
	BASIN OUTLINE
	TIME OF CONCENTRATION PATH
	SURFACE FLOW ARROW
	EXISTING GRADE PROFILE LINE
	PROPOSED GRADE PROFILE LINE



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**NEW BRAUNFELS NATIONAL AIRPORT
 DRAINAGE ATTENUATION
 PLAN**

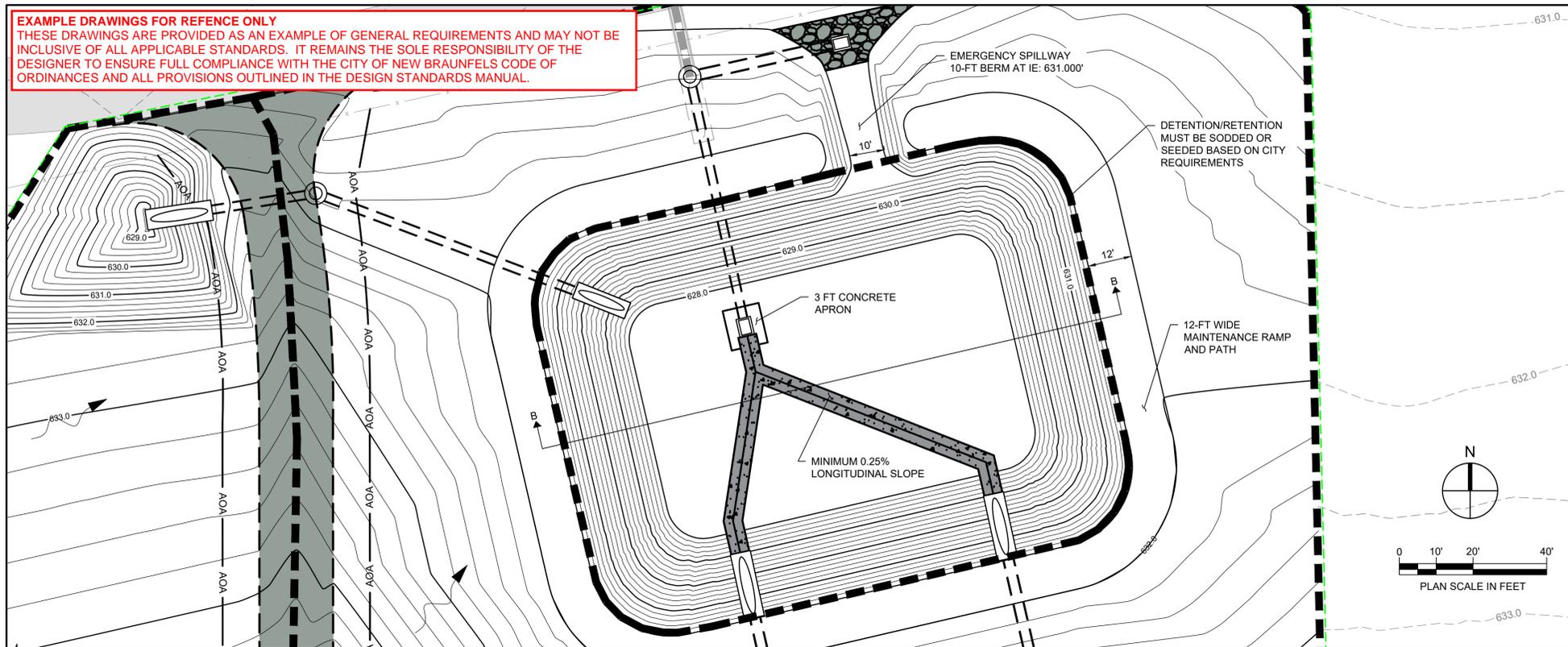
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PERMIT NUMBERS:

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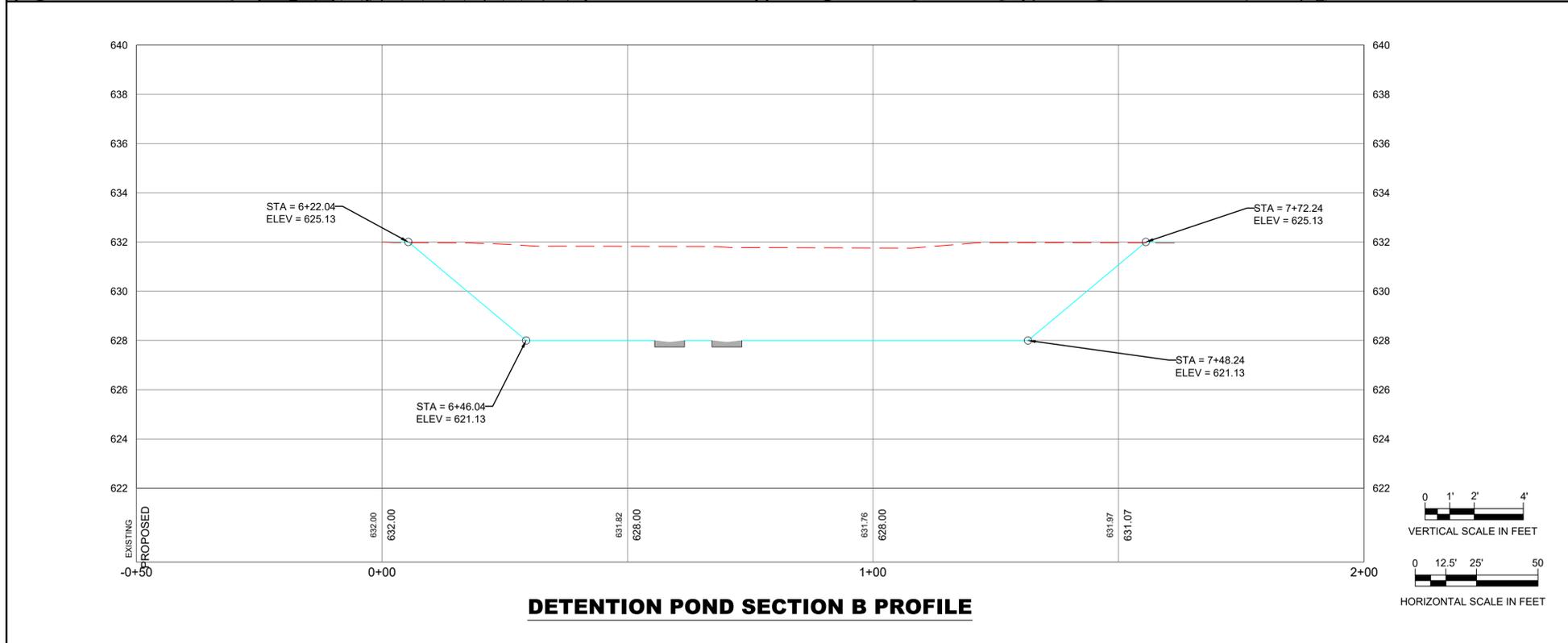
CG002

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LEGEND

[Symbol]	EXISTING BUILDING
[Symbol]	EXISTING IMPERVIOUS PAVEMENT
[Symbol]	EXISTING MINOR CONTOUR (0.5')
[Symbol]	EXISTING MAJOR CONTOUR (1.0')
[Symbol]	EXISTING STORM PIPE
[Symbol]	EXISTING INLET
[Symbol]	EXISTING SAFETY END TREATMENT
[Symbol]	PROPOSED LANDSIDE PAVEMENT
[Symbol]	PROPOSED APRON PAVEMENT
[Symbol]	PROPOSED CONCRETE PILOT CHANNEL
[Symbol]	PROPOSED CONCRETE PILOT CHANNEL
[Symbol]	PROPOSED BUILDING
[Symbol]	PROPOSED MINOR CONTOUR (0.2')
[Symbol]	PROPOSED MAJOR CONTOUR (1.0')
[Symbol]	PROPOSED INLET
[Symbol]	PROPOSED MANHOLE
[Symbol]	PROPOSED STORM PIPE
[Symbol]	PROPOSED SAFETY END TREATMENT
[Symbol]	PROPOSED GRADING LIMITS
[Symbol]	BASIN OUTLINE
[Symbol]	TIME OF CONCENTRATION PATH
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[Symbol]	PROPOSED GRADE PROFILE LINE



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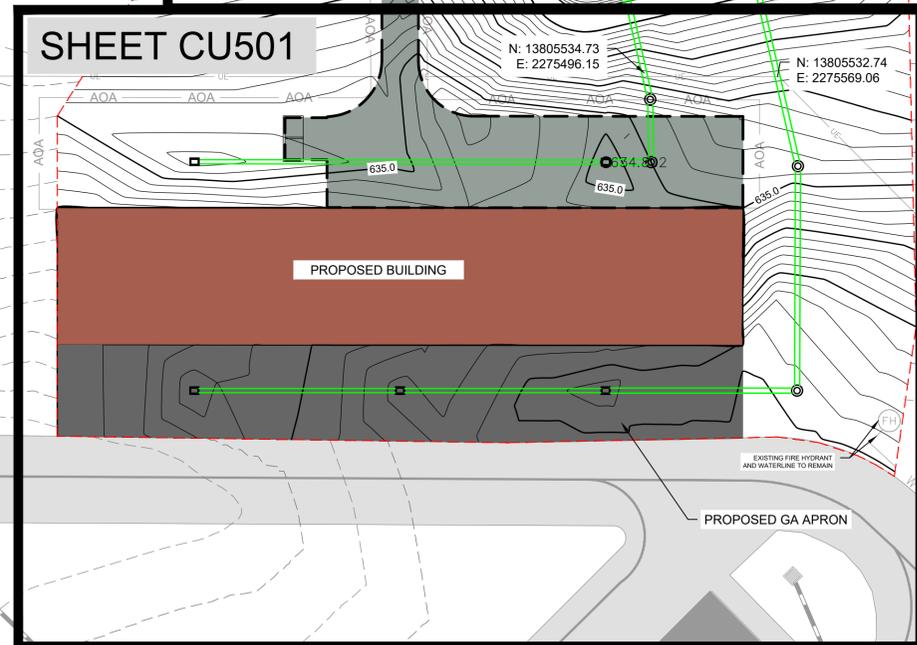
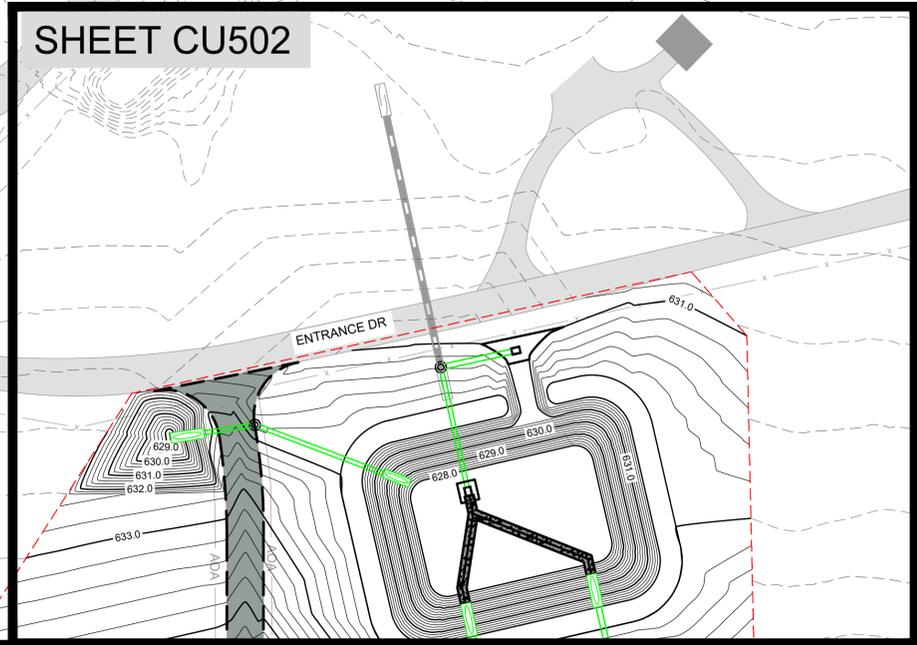
NEW BRAUNFELS NATIONAL AIRPORT DRAINAGE ATTENUATION PLAN

CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

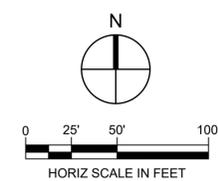
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CG003

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- LEGEND**
- EXISTING BUILDING
 - EXISTING IMPERVIOUS PAVEMENT
 - EXISTING MINOR CONTOUR
 - EXISTING MAJOR CONTOUR
 - EXISTING STORM PIPE
 - EXISTING INLET
 - EXISTING SAFETY END TREATMENT
 - PROPOSED LANDSIDE PAVEMENT
 - PROPOSED TAXILANE PAVEMENT
 - PROPOSED CONCRETE PILOT CHANNEL
 - PROPOSED CONCRETE PILOT CHANNEL
 - PROPOSED BUILDING
 - PROPOSED MINOR CONTOUR
 - PROPOSED MAJOR CONTOUR
 - PROPOSED INLET
 - PROPOSED MANHOLE
 - PROPOSED STORM PIPE
 - PROPOSED SAFETY END TREATMENT
 - PROPOSED GRADING LIMITS



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NEW BRAUNFELS NATIONAL AIRPORT & FBO
 2333 FM758, NEW BRAUNFELS, TX 78130

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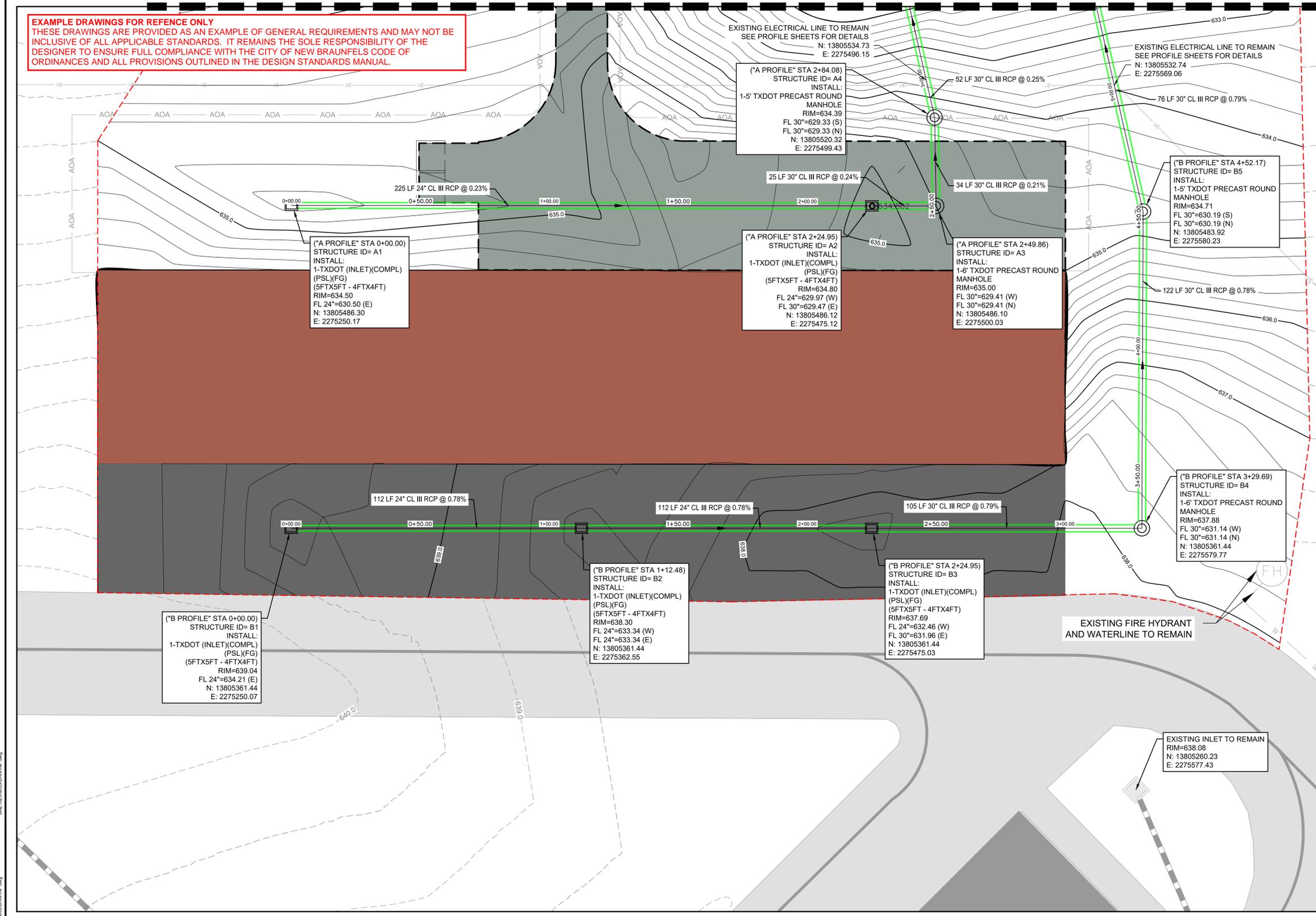
NEW BRAUNFELS NATIONAL AIRPORT
DRAINAGE INFRASTRUCTURE PLAN (OVERALL MAP)
 CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

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CU500

SCALE(S) AS NOTED ON THIS SHEET ARE BASED ON A FULL SIZE 22 X 34 SHEET.

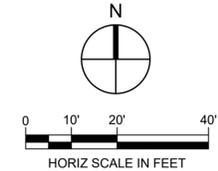
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MATCHLINE
 SEE SHEET CU502



LEGEND

- EXISTING BUILDING
- EXISTING IMPERVIOUS PAVEMENT
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING STORM PIPE
- EXISTING INLET
- EXISTING SAFETY END TREATMENT
- PROPOSED LANDSIDE PAVEMENT
- PROPOSED TAXILANE PAVEMENT
- PROPOSED CONCRETE PILOT CHANNEL
- PROPOSED CONCRETE PILOT CHANNEL
- PROPOSED BUILDING
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED INLET
- PROPOSED MANHOLE
- PROPOSED STORM PIPE
- PROPOSED SAFETY END TREATMENT
- PROPOSED GRADING LIMITS



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NEW BRAUNFELS NATIONAL AIRPORT
DRAINAGE INFRASTRUCTURE PLAN
 (SHEET 1 OF 2)

CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

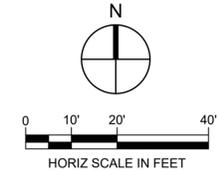
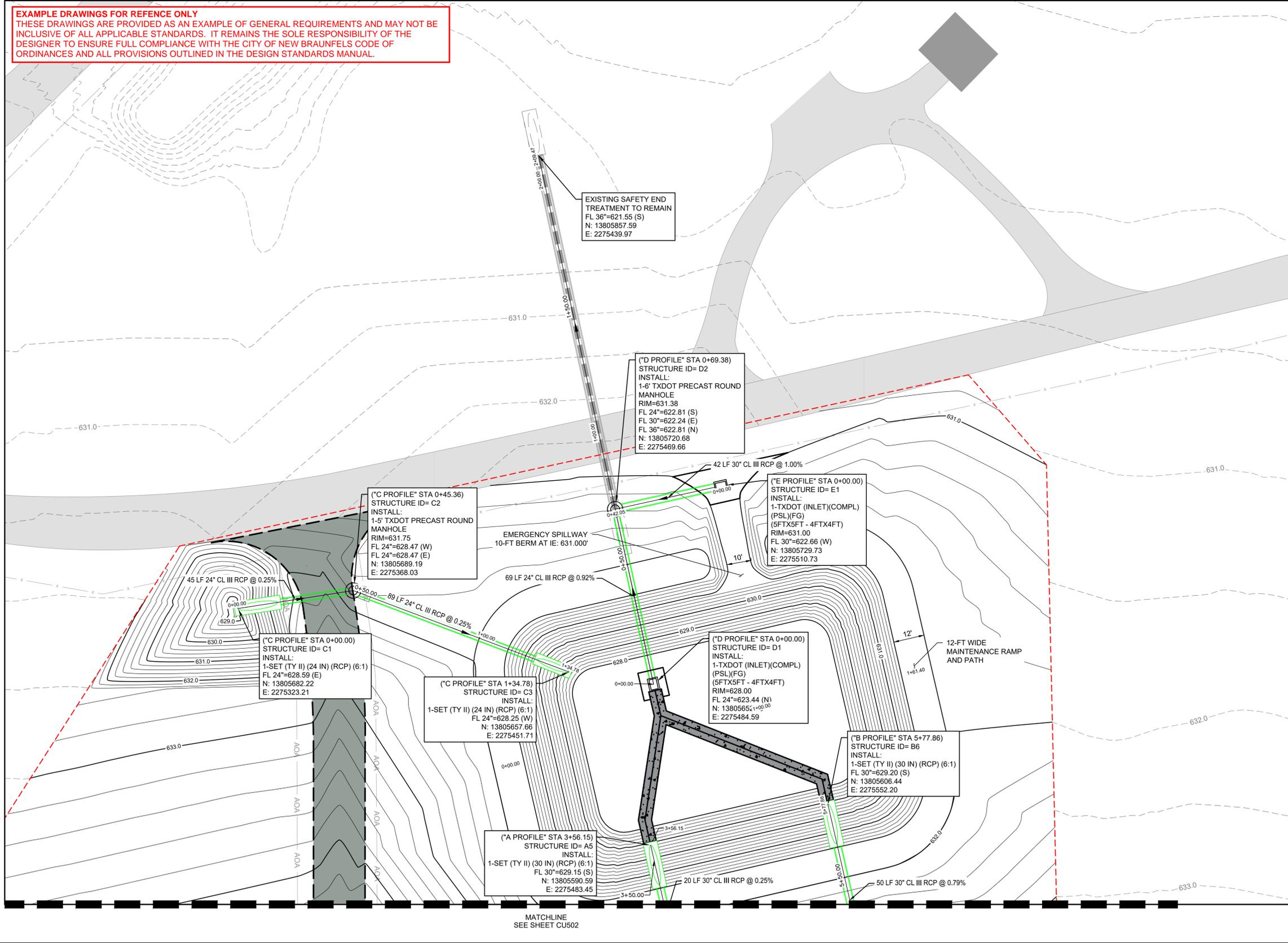
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LEGEND

	EXISTING BUILDING
	EXISTING IMPERVIOUS PAVEMENT
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING STORM PIPE
	EXISTING INLET
	EXISTING SAFETY END TREATMENT
	PROPOSED LANDSIDE PAVEMENT
	PROPOSED TAXILANE PAVEMENT
	PROPOSED CONCRETE PILOT CHANNEL
	PROPOSED CONCRETE PILOT CHANNEL
	PROPOSED BUILDING
	PROPOSED MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED INLET
	PROPOSED MANHOLE
	PROPOSED STORM PIPE
	PROPOSED SAFETY END TREATMENT
	PROPOSED GRADING LIMITS



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DRAINAGE INFRASTRUCTURE PLAN
 (SHEET 2 OF 2)

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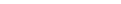
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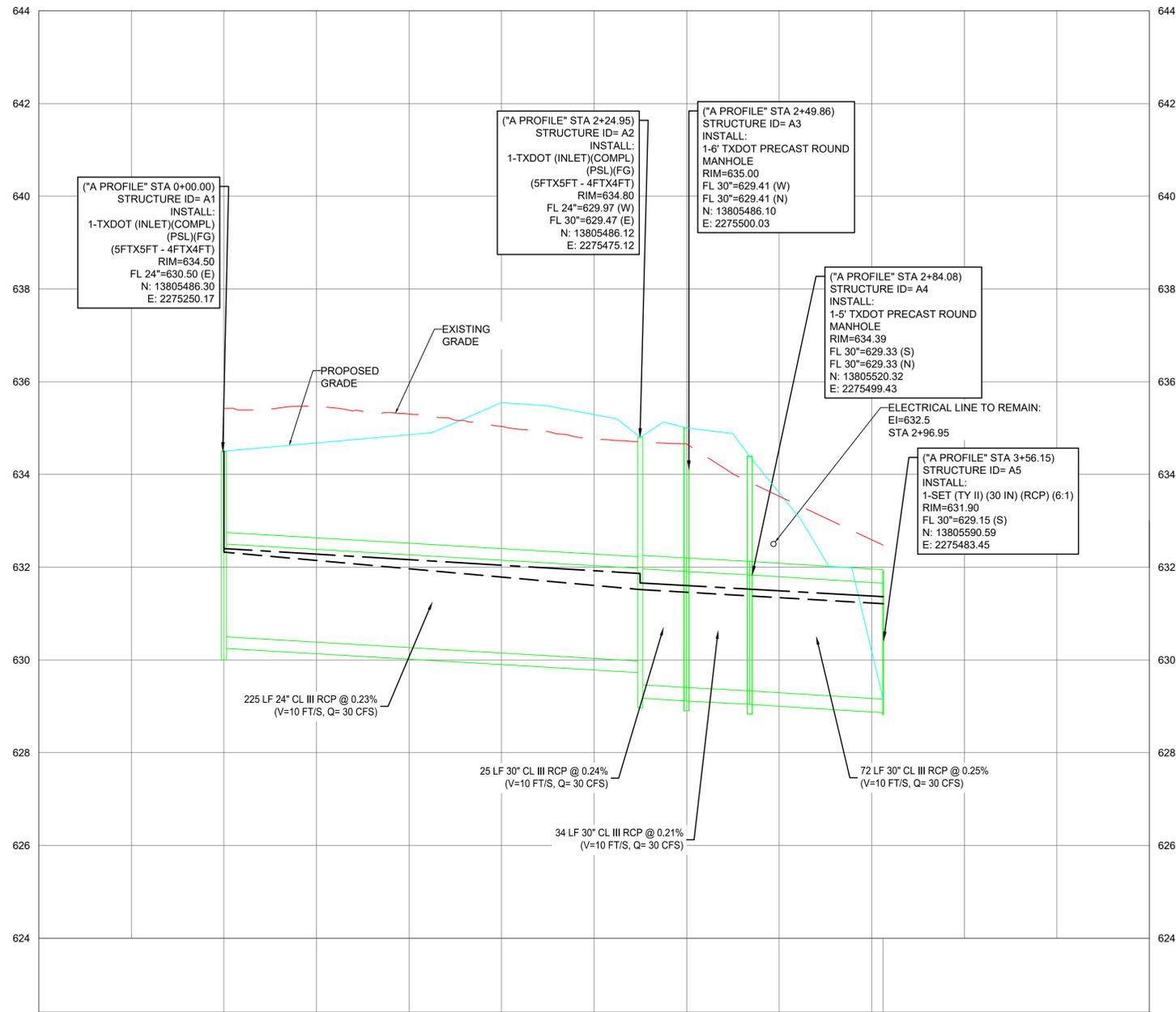
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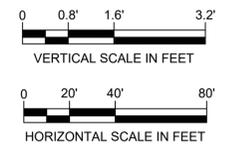
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LEGEND

-  EXISTING GRADE
-  PROPOSED GRADE
-  100 YR HYDRAULIC GRADE LINE
-  25 YR HYDRAULIC GRADE LINE
-  PROPOSED STORM INFRASTRUCTURE



A PROFILE



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 DRAINAGE INFRASTRUCTURE
 PROFILES (SHEET 1 OF 4)

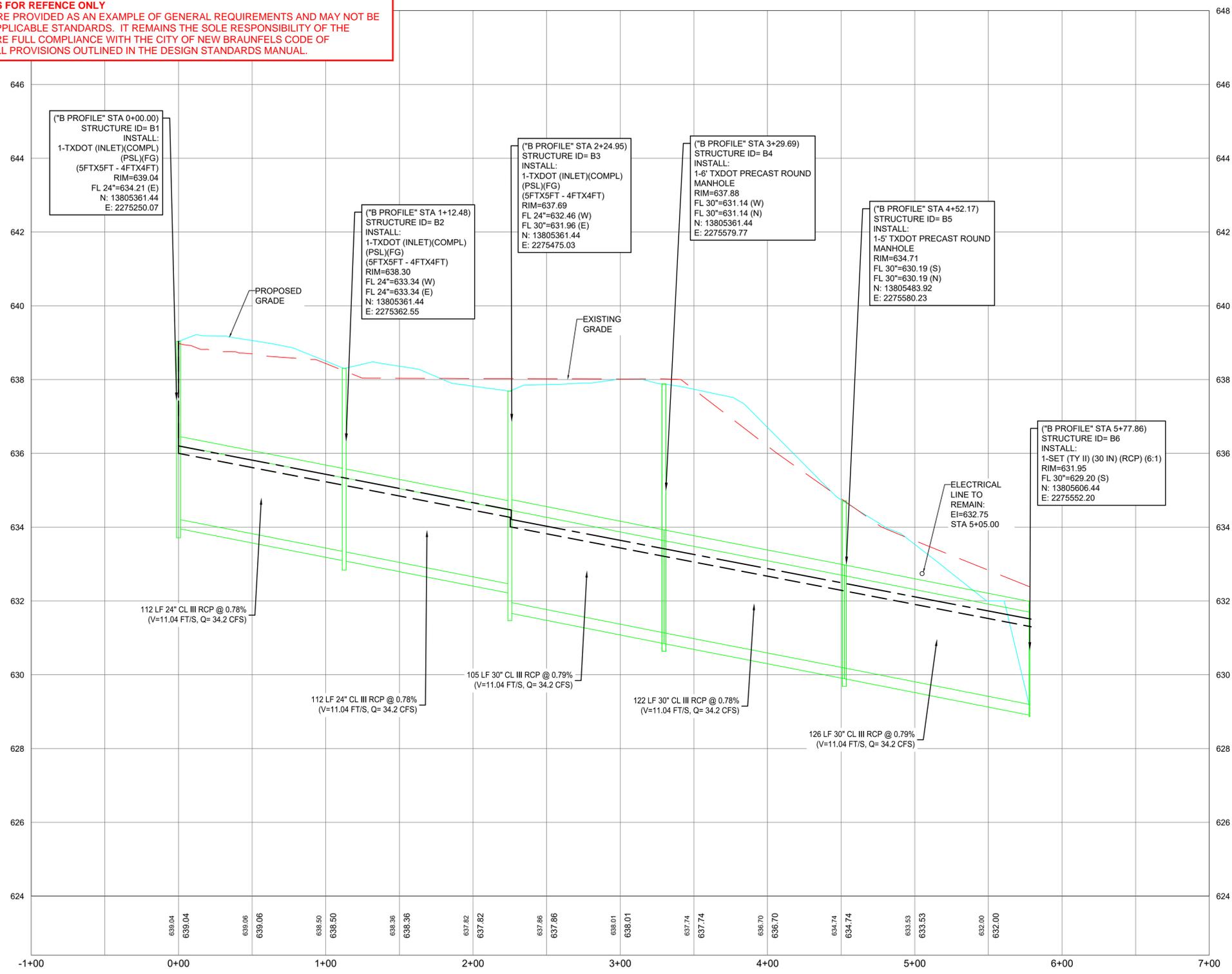
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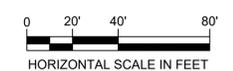
CU550

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LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- 100 YR HYDRAULIC GRADE LINE
- 25 YR HYDRAULIC GRADE LINE
- PROPOSED STORM INFRASTRUCTURE



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NEW BRAUNFELS NATIONAL AIRPORT DRAINAGE INFRASTRUCTURE PROFILES (SHEET 2 OF 4)

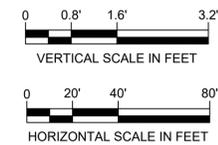
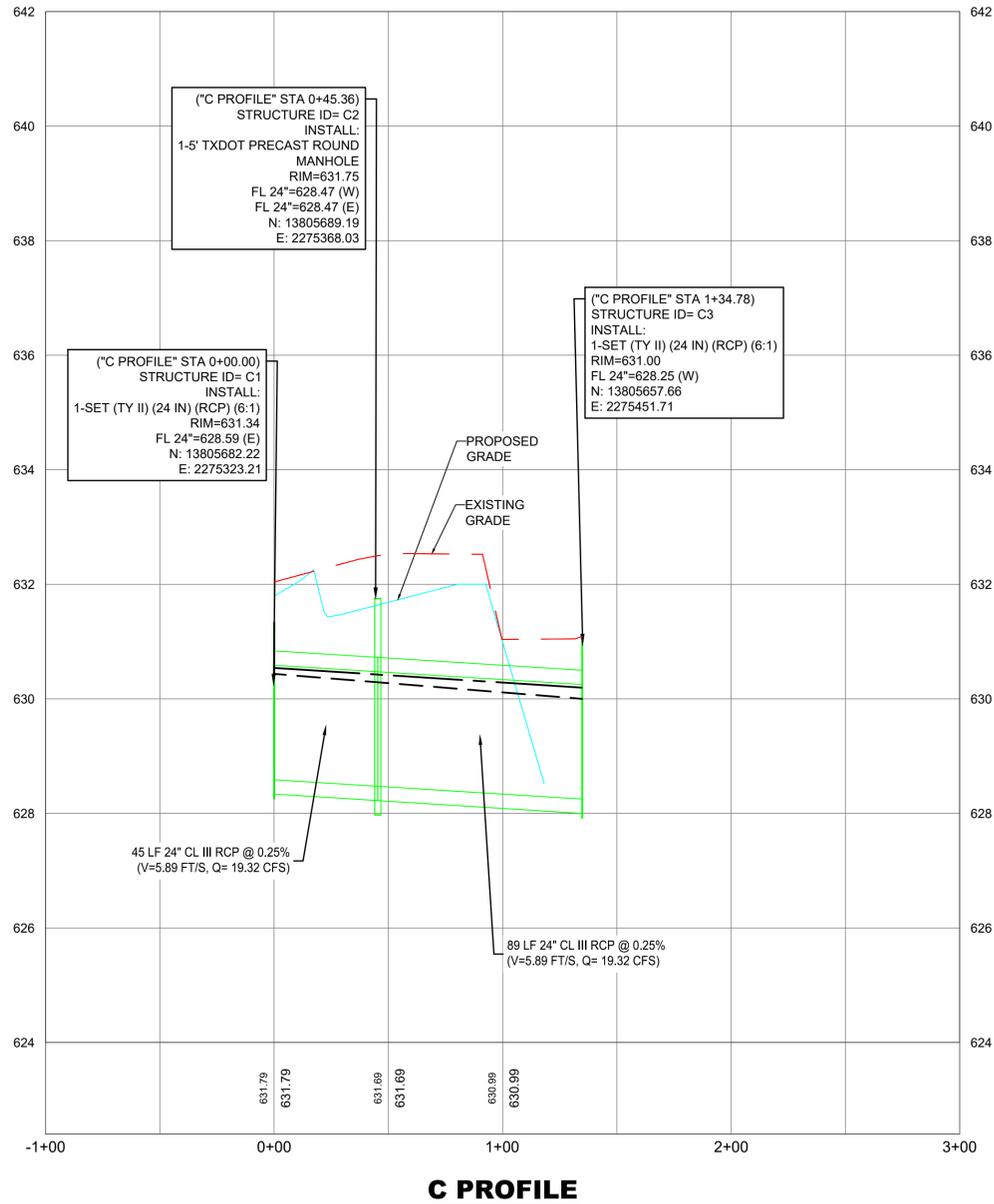
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DRAWING NUMBER
CU551

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LEGEND

- — — — — EXISTING GRADE
- PROPOSED GRADE
- · — · — 100 YR HYDRAULIC GRADE LINE
- · — · — 25 YR HYDRAULIC GRADE LINE
- ==== PROPOSED STORM INFRASTRUCTURE



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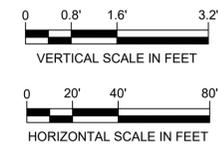
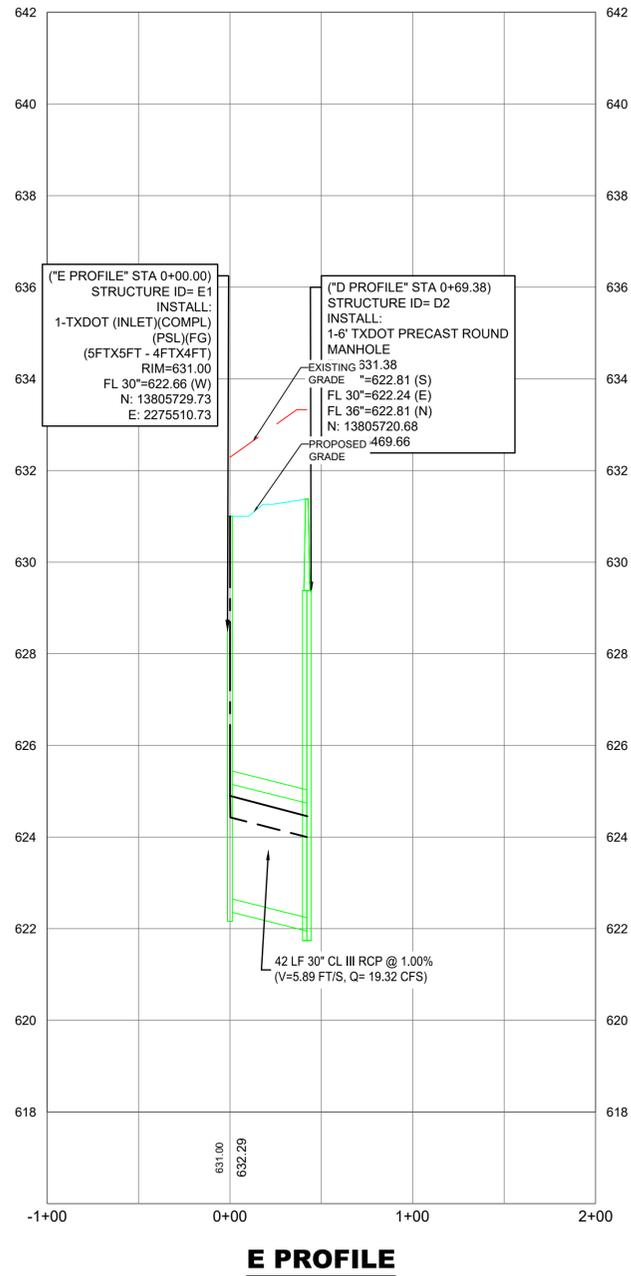
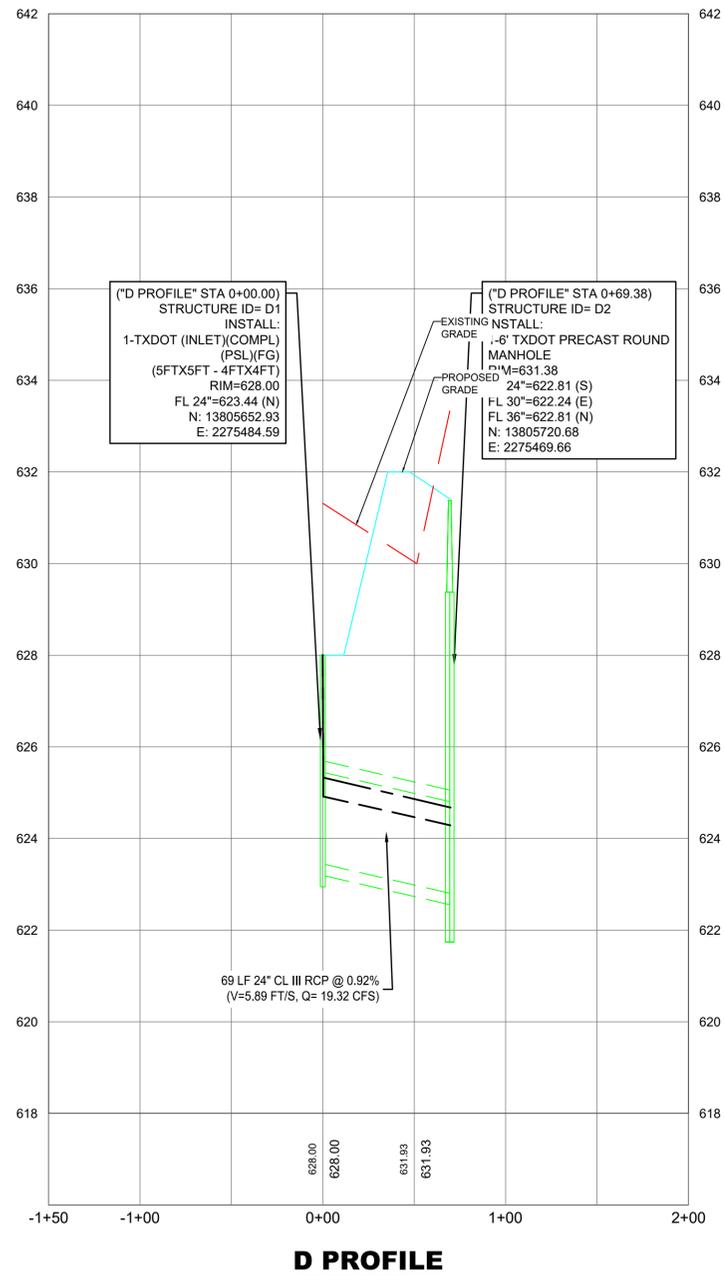
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DRAINAGE INFRASTRUCTURE PROFILES (SHEET 3 OF 4)
 CONTRACT NUMBER: _____ PERMIT NUMBERS: _____

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LEGEND

-  EXISTING GRADE
-  PROPOSED GRADE
-  100 YR HYDRAULIC GRADE LINE
-  25 YR HYDRAULIC GRADE LINE
-  PROPOSED STORM INFRASTRUCTURE



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CU553

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