

ADDENDUM #1

Project Name:
ATOD Will Call Ramp Replacement
DAS# 9534.00
RFB 953400-01
Addendum #1
Dated: July 21, 2026

This Addendum forms a part of the bidding and contract documents. This Addendum supersedes and supplements all portions of the original bidding and contract documents dated June 22, 2026 with which it conflicts.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

1) CLARIFICATIONS

- A. The bid submittal checklist specification section has been included as an attachment below.
- B. The soils report provided by Terracon has been included as an attachment below.

2) PLANS

- A. Drawing Sheet S1.0
 - 1. Foundation Parameters
 - a. **REVISE** foundation parameters as indicated on the sheet S1.0.
 - b. **ADD** over excavation detail C1/S1.0 as indicated on sheet S1.0.
- B. Drawing Sheet S1.1
 - 1. View D1/S1
 - a. **ADD** hatched area and keynote 19 callout as indicated in sheet S1.1.
 - 2. Footing Plan Notes
 - a. **ADD** keynote 19 as indicated in sheet S1.1.

3) QUESTIONS AND CLARIFICATIONS

- A. The following questions were received during the in person pre-bid meeting:

1. Are there any locates that have been identified or need to still be identified (public &/or private)?
 - a. Public locates documentation will be provided as an attachment below. Contractor needs to assume responsibility for private locates and any additional information necessary to safely mitigate digging risk.
2. Are there any requirements for temporary enclosures?
 - a. Yes. The contractor will be responsible for provided an 8' chain link fence weighted down with sand bags & with high visibility signs attached to the chain link. This fence will need to be placed within 1' of the excavated area/jobsite area.
3. Will there be any quality control testing services required?
 - a. Yes. Samuels Group will assume responsibility of all quality control testing & will coordinate the facilitation of testing with the contractor. Testing results will be provided immediately upon receipt of the reports with any sort of repercussive actions needing to be discussed.
4. Where is the gridline for the East side of the ramp/jobsite?
 - a. The new East retaining wall will remain in same location as existing due to existing utilities & loading bay #9's location. The ramp will widen to the West.

4) SUBSTITUTION REQUESTS

- A. No items.

5) ATTACHMENTS

- A. See Bid Submittal Checklist Specification Section 00 01 16 as an attachment below.
- B. See Soils Report from Terracon below.
- C. See locates documentation as an attachment below.
- D. See updated sheets S1.0 & S1.1 attached below.

END OF ADDENDUM

SECTION 00 0116

BID SUBMITTAL CHECKLIST

PART 1 - GENERAL

1.01 BID SUBMITTAL CHECKLIST

- A. The Bidder is responsible for seeing that the bid is submitted online at IMPACS Electronic Procurement System on or before the due date and time specified. Late bids shall not be accepted.
- B. Bids shall be typewritten or in ink. All information requested shall accompany the bid. All blocks shall be completed. Errors shall be lined out and initialed.
- C. The right is reserved to reject any or all bids. The State may waive minor deficiencies or informalities in the best interest of the State of Iowa.
- D. A properly prepared and submitted bid document is the bidder's responsibility.
- E. Bids cannot be changed after the bid opening.
- F. In all cases, no verbal communications by any party will override written communications from the issuing office.
- G. The Bid Form shall be completed in full and signed and submitted by an officer of the bidder with authority to bind in a contract.
- H. If Bid Bond is called for, it shall accompany the Bid submission.
- I. If Non-discrimination Clause information is called for, it shall accompany the Bid submission.
- J. If Targeted Small Business Pre-Bid Contact information is called for, it shall accompany the Bid submission.
- K. If Certificate of Site Visit form is called for, it shall accompany the Bid submission.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

ATOD Will Call Ramp

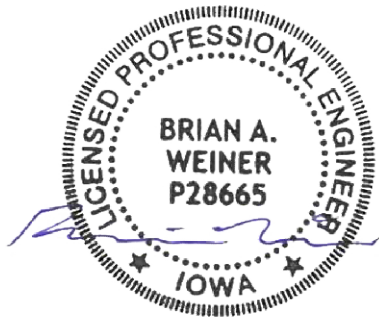
Geotechnical Engineering Report

Ankeny, Iowa

July 17, 2026 | Terracon Project No. 1000022257

Prepared for:

State of Iowa – Department of
Administrative Services
109 SE 13th Street
Des Moines, Iowa 50139



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Brian Weiner

7/17/2026

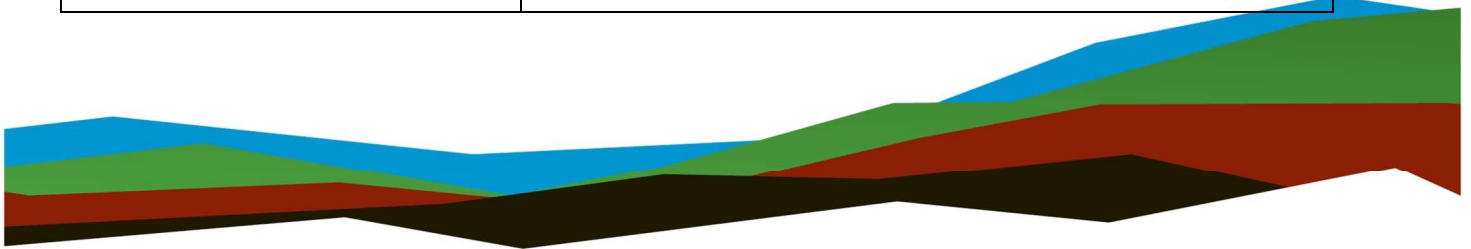
Brian A. Weiner, P.E.

Date

License Number P28665

My license renewal date is December 31, 2027.

Pages or sheets covered by this seal: All pages.



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P (515) 244-3184
Terracon.com

July 17, 2026

State of Iowa – Department of Administrative Services
109 SE 13th Street
Des Moines, Iowa 50139

Attn.: Brandon Adams
P: (515) 201-2197
E: brandon.adams@iowa.gov

Re: Geotechnical Engineering Report
ATOD Will Call Ramp
1918 SE Hulsizer Drive
Ankeny, Iowa
Terracon Project No. 1000022257

Dear Brandon Adams:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. 1000006887 dated May 27, 2026. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

A handwritten signature in black ink, appearing to read "Brian Weiner".

Brian A. Weiner, P.E.
Project Engineer

A handwritten signature in black ink, appearing to read "Theresa M. Stromberg-Murphy".

Theresa M. Stromberg-Murphy, P.E.
Senior Engineer

Table of Contents

Introduction.....	1
Project Description.....	1
Site Conditions	2
Geotechnical Characterization	2
Geotechnical Overview	3
Earthwork	3
Site Preparation.....	3
Soil Stabilization.....	4
Fill Material Types	5
Fill Placement and Compaction Requirements	6
Earthwork Construction Considerations	7
Construction Observation and Testing	7
Lateral Earth Pressures	8
Design Parameters.....	8
Subsurface Drainage for Below-Grade Walls	9
Pavements	10
Pavement Drainage.....	10
Pavement Subgrade Construction Considerations	11
Pavement Maintenance	12
General Comments	12

Figures

GeoModel

Attachments

Exploration and Testing Procedures

Site Location and Exploration Plan

Exploration and Laboratory Results

Supporting Information

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed pavement improvements to the loading dock located at 1918 SE Hulsizer Drive in Ankeny, Iowa. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Subsurface water conditions
- Site preparation and earthwork
- Lateral earth pressures
- Pavement construction

The geotechnical engineering Scope of Services for this project included the advancement of two test borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and exploration locations are shown on the [Site Location](#) and [Exploration Plan](#), respectively. Results of the laboratory testing performed on samples obtained from the site during our field exploration are included on the boring logs in [Exploration and Laboratory Results](#).

Project Description

Our understanding of the project conditions is as follows:

Item	Description
Project Description	The project includes reconstruction of the existing will call ramp at the Iowa Department of Revenue – Alcohol and Tax Operations Division (ATOD) Facility.
Free-Standing Retaining Walls	Reinforced concrete cantilever walls are expected to be constructed along either side of the ramp to achieve final grades. Wall heights of up to 5 feet are anticipated.
Pavements	We anticipate that portland cement concrete pavement sections are being considered. We anticipate the pavements will be used primarily by passenger vehicles and delivery trucks, with occasional trash collection trucks.

Terracon should be notified if any of the above information is inconsistent with the planned construction, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration.

Item	Description
Parcel Information	The project is located at 1918 SE Hulsizer Drive in Ankeny, Iowa. Latitude/Longitude (approximate): 41.7090°, -93.5885° See Site Location
Existing Improvements	Truck loading/unloading area to the south of the ATOD building
Current Ground Cover	Concrete pavement
Existing Topography	Relatively flat

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based on our review of the subsurface exploration, laboratory data, geologic setting, and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical evaluation. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in [Exploration and Laboratory Results](#) and the GeoModel can be found in [Figures](#).

As part of our review, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Surface	Generally 9 inches of portland cement concrete over 6 inches of gravel
2	Existing Fill	Varies from sandy lean clay to sand, trace clay

Model Layer	Layer Name	General Description
3	Native Clay	Sandy lean clay, trace gravel Generally medium stiff to stiff consistency

Subsurface water was observed while drilling within the boreholes at depths of 6 to 7 feet below ground surface. Groundwater conditions may change because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of drilling. Subsurface water conditions may be different at the time of construction. Long-term groundwater monitoring was outside the Scope of Services for this project.

Geotechnical Overview

Existing fill was encountered to depths of about 6½ feet below current top of pavement. Below the existing fill, native clays were encountered consisting of medium stiff to stiff sandy lean clay.

Support of pavements on or above existing fill materials is discussed in this report. However, even with the recommended construction procedures, an inherent risk remains for the Owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered. This risk of unforeseen conditions cannot be eliminated without completely removing the existing fill but can be reduced by following the recommendations contained in this report. To take advantage of the cost benefit of not removing the entire quantity of undocumented fill, the Owner must be willing to accept the risk of increased differential performance which can result in increased cracking and abrupt differential settlement. Should this risk be acceptable, pavements can be supported above the fill.

The recommendations contained in this report are based on the results of field and laboratory testing (presented in [Exploration and Laboratory Results](#)), engineering analyses, and our current understanding of the proposed project. The [General Comments](#) section provides an understanding of the report limitations.

Earthwork

Site Preparation

Site preparation within reconstructed pavement areas should commence with demolition and removal of existing pavements and granular base layers, if any. The exposed subgrade should then be proofrolled to help delineate soft, disturbed, or low-density fill zones. Proofrolling should be accomplished using a fully loaded, tandem axle dump truck

or other equipment providing an equivalent subgrade loading (minimum gross weight of 25 tons is recommended for the proofrolling equipment). Unstable areas identified by proofrolling should either be undercut to expose stable material and backfilled with structural fill or stabilized as described below.

Following proofrolling, the exposed subgrade should be scarified to a depth of 6 inches, moisture conditioned, and compacted to the density and water content ranges recommended for structural fill to ensure surficial soils are not desiccated.

Soil Stabilization

Methods of subgrade improvement, as described below, could include scarification, moisture conditioning and compaction, and removal of unstable materials and replacement with granular fill (with or without geosynthetics). The appropriate method of improvement, if required, would be dependent on factors such as schedule, weather, the size and depth of area to be stabilized, and the nature of the instability. More detailed recommendations can be provided during construction as the need for subgrade stabilization occurs. Performing site grading operations during warm seasons and dry periods would help reduce the quantity of subgrade stabilization required, which could include one of the methods outlines below.

- **Scarification and Compaction** - It may be feasible to scarify, moisture condition, and compact the exposed soils. The success of this procedure would depend primarily on favorable weather and sufficient time to dry the soils. Stable subgrades likely would not be achievable if the thickness of the unstable soil is greater than about 1 foot, if the unstable soil is at or near groundwater levels, or if construction is performed during a period of wet or cool weather when drying is difficult.
- **Granular Layer** - The use of crushed stone or crushed concrete could be considered to improve subgrade stability. To limit depths of potential undercuts, the use of a geogrid could also be considered after underground work, such as utility construction, is completed. Equipment should not be operated above the geogrid until one full lift of granular fill is placed above the geogrid. The specifications of the reinforcement product manufacturer should be verified prior to material purchase/delivery and placement at the site.

Further evaluation of the need and recommendations for subgrade stabilization can be provided during construction as the geotechnical conditions are exposed.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill and general fill. Structural fill is material used below, or within 10 feet of structures, pavements, or constructed slopes. General fill is material used to achieve grade outside of these areas.

Reuse of On-Site Soil: Excavated on-site soils may be selectively reused as low plasticity structural fill. Careful sorting of excavated materials may be needed by the Contractor during construction to ensure marginally unsuitable materials are not used as structural fill. A sample of each material type should be submitted to Terracon for evaluation prior to use on this site.

Fill Material Properties: Fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. Material property requirements for structural fill and general fill are noted in the following tables.

Property	Structural Fill	General Fill
Composition	Free of deleterious material	Free of deleterious material
Maximum particle size	3 inches	6 inches (or 2/3 of the lift thickness)
Plasticity	Liquid limit of 45 or less and plasticity index of 23 or less (ASTM D4318)	Not limited
GeoModel Layer(s) Expected to be Suitable ¹	2 and 3	2 and 3

1. Based on the materials encountered in the borings. Actual material suitability should be determined in the field at time of construction.

Soil Type ¹	USCS Classification	Acceptable Placement (for Structural Fill)
On-site Low Plasticity Cohesive ²	CL	General site grading fill
Imported Granular	GW, GP, GM, GC, SW, SP, SM, SC	Below pavements Specific material requirements will need to be satisfied based on the intended use

Soil Type ¹	USCS Classification	Acceptable Placement (for Structural Fill)
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1. Structural and general fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to Terracon for evaluation prior to use on this site.
2. By our definition, low plasticity materials should have a liquid limit of 45 or less and a plasticity index of 23 or less (ASTM D4318).

Fill Placement and Compaction Requirements

Structural and general fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	9 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 inches in loose thickness when hand-guided equipment (i.e., jumping jack or plate compactor) is used	Same as structural fill
Minimum Compaction Requirements ^{1,2}	Cohesive: 95% of maximum (98% of maximum if placed within 1 foot below pavements) Granular: 98% of maximum	92% of maximum
Water Content Range ¹	Low plasticity cohesive: -2% to +3% of optimum Granular: -3% to +3% of optimum	As required to achieve minimum compaction requirements

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D698).
2. If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 70% relative density (ASTM D4253 and D4254). Materials not amenable to density testing should be placed and compacted to a stable condition while being observed by Terracon.

Earthwork Construction Considerations

Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and compacted prior to floor slab construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendixes, and in accordance with any applicable local and/or state regulations.

Construction site safety is the sole responsibility of the Contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the Contractor's activities; such responsibility shall neither be implied nor inferred.

Excavations or other activities resulting in ground disturbance have the potential to affect adjoining properties and structures. Our Scope of Services does not include review of available final grading information or consider potential temporary grading performed by the Contractor for potential effects such as ground movement beyond the project limits. A preconstruction/ precondition survey should be conducted to document nearby property/infrastructure prior to any site development activity. Excavation or ground disturbance activities adjacent or near property lines should be monitored or instrumented for potential ground movements that could negatively affect adjoining property and/or structures.

Construction Observation and Testing

The earthwork efforts should be observed by Terracon during construction. Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, and pavements), assessment of existing fill materials left in place below pavements, delineation of areas requiring subgrade stabilization, as well as proofrolling.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by Terracon prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a standard frequency.

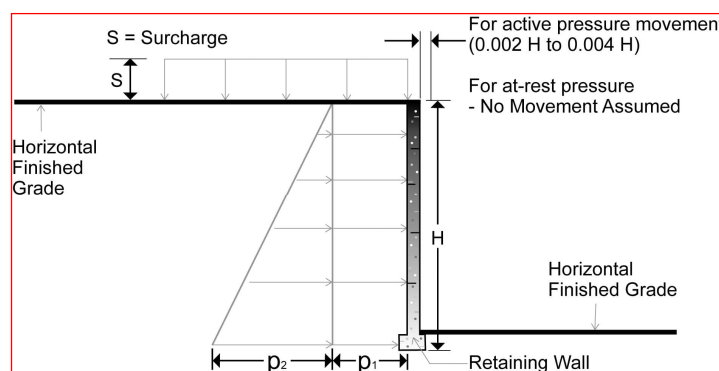
In addition to the documentation of the essential parameters necessary for construction, the continuation of Terracon's involvement during the construction phase of the project

provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Lateral Earth Pressures

Design Parameters

Structures with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to values indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction, and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown in the diagram below. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The "at-rest" condition assumes no wall movement and is commonly used for basement walls, loading dock walls, or other walls restrained at the top. The recommended design lateral earth pressures do not include a Factor of Safety and do not provide for possible hydrostatic pressure on the walls (unless stated).



Lateral Earth Pressure Design Parameters

Earth Pressure Condition ¹	Coefficient for Backfill Type ²	Surcharge Pressure ³ p ₁ (psf)	Equivalent Fluid Pressures (psf) ^{2,4}	
			Drained ⁵	Undrained ⁵
Active (K _a)	Granular - 0.31	(0.31)S	(40)H	(80)H
	Cohesive - 0.41	(0.41)S	(50)H	(85)H
At-Rest (K _o)	Granular - 0.47	(0.47)S	(60)H	(90)H
	Cohesive - 0.58	(0.58)S	(70)H	(95)H

Lateral Earth Pressure Design Parameters

Earth Pressure Condition ¹	Coefficient for Backfill Type ²	Surcharge Pressure ³ p_1 (psf)	Equivalent Fluid Pressures (psf) ^{2,4}	
			Drained ⁵	Undrained ⁵

1. For active earth pressure, wall must rotate about base, with top lateral movements 0.002 H to 0.004 H, where H is wall height. Fat clay or other expansive soils should not be used as backfill behind the wall.
2. Uniform, horizontal backfill, with a maximum unit weight of 120 pcf for cohesive soils and 130 pcf for granular soils.
3. Uniform surcharge, where S is surcharge pressure.
4. Loading from heavy compaction equipment is not included.
5. To achieve "Drained" conditions, follow guidelines in **Subsurface Drainage for Below-Grade Walls** below. "Undrained" conditions are recommended when drainage behind walls is not incorporated into the design or where walls will be submerged during heavy rain and/or flooding events.

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out and up from the base of the wall at an angle of at least 45 degrees from vertical for the active case.

Footings, floor slabs or other loads bearing on backfill behind walls may have a significant influence on the lateral earth pressure. Placing footings within wall backfill and in the zone of active soil influence on the wall should be avoided unless structural analyses indicate the wall can safely withstand the increased pressure.

The lateral earth pressure recommendations given in this section are applicable to the design of rigid retaining walls subject to slight rotation, such as cantilever, or gravity type concrete walls. These recommendations are not applicable to the design of modular block - geogrid reinforced backfill walls (also termed MSE walls). Recommendations covering these types of wall systems are beyond the Scope of Services for this project. However, we would be pleased to develop a proposal for evaluation and design of such wall systems on request.

Subsurface Drainage for Below-Grade Walls

A perforated rigid plastic drain line installed behind the base of walls and extends below adjacent grade is recommended to prevent hydrostatic loading on the walls. The invert of a drain line around an exterior retaining wall should be placed near foundation bearing level. The drain line should be sloped to provide positive gravity drainage to daylight or to a sump pit and pump. The drain line should be surrounded by clean, free-draining granular material having less than 5% passing the No. 200 sieve, such as No.

57 aggregate. The free-draining aggregate should be encapsulated in a filter fabric. The granular fill should extend to within 2 feet of final grade, where it should be capped with compacted cohesive fill to reduce infiltration of surface water into the drain system.

As an alternative to free-draining granular fill, a prefabricated drainage structure may be used. A prefabricated drainage structure is a plastic drainage core or mesh which is covered with filter fabric to prevent soil intrusion and is fastened to the wall prior to placing backfill.

Pavements

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. Islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils are particular areas of concern. The civil design for the pavements with these conditions should include features to restrict or collect and discharge excess water from the islands. Examples of features are edge drains connected to the stormwater collection system, longitudinal subdrains, or other suitable outlets and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Due to frost-susceptible soils and the possibility of shallow and/or perched groundwater, consideration should be given to installing a pavement subdrain system to control subgrade moisture, improve stability, and improve long-term pavement performance.

The use of a free-draining granular base will also reduce the potential for frost action. We recommend pavement subgrades be crowned at least 2% to promote the flow of water toward the subdrains, and to reduce the potential for ponding of water on the subgrade. The design recommendations for the subdrains are provided in the following table:

Subdrain Design Recommendations

Item	Value
Free-Draining Granular Base Thickness below Pavement	4 inches of material meeting the specifications for Iowa DOT modified subbase (Section 4123), or special backfill (Section 4132)
Minimum Drainpipe Diameter	4 inches
Drain Trench Width	16 inches or greater to provide minimum 6-inch annulus of free-draining granular material around drainpipe
Invert Depth below Subgrade Elevation	42 inches
Maximum Drainpipe Spacing	50 feet
Subdrain Trench Backfill Material	Iowa DOT porous backfill (Section 4131) or a free-draining granular material encapsulated with non-woven geotextile filter fabric (Contech C60NW or equivalent).

The subdrains should be hydraulically connected to the free-draining granular base layer. Subdrains should be sloped to provide positive gravity drainage to reliable discharge points such as the stormwater detention basin. Periodic maintenance of subdrains is required for long-term proper performance.

Pavement Subgrade Construction Considerations

Construction scheduling often involves grading and paving by separate contractors and can involve a time lapse between the end of grading operations and the commencement of paving. Disturbance, desiccation, or wetting of the subgrade soils between grading and paving can result in deterioration of the previously completed subgrade. A non-uniform subgrade can result in poor pavement performance and local failures relatively soon after pavements are constructed. Keeping heavy construction traffic off the prepared subgrade will reduce subgrade deterioration. Concrete may have to be side discharged to keep concrete trucks off the final prepared subgrade.

The pavement subgrade should be proofrolled prior to paving operations to help delineate soft, loose, or disturbed areas. Proofrolling should be accomplished using a fully loaded, tandem axle dump truck or other equipment providing and equivalent subgrade loading (minimum gross weight of 25 tons is recommended for the proofrolling equipment). Unstable areas identified by proofrolling should be undercut to expose stable material and backfilled with structural fill.

The water content of the exposed subgrade should be evaluated prior to concrete placement. Where water contents are outside the range recommended for structural fill, the exposed subgrade should be scarified, moisture conditioned, and compacted as described in [Earthwork](#). If a significant precipitation event occurs after the evaluation, or if the surface becomes disturbed, the subgrade should be reviewed by qualified personnel immediately prior to paving. The subgrade should be in its finished form at the time of the final review.

Pavement Maintenance

Preventive maintenance should be planned and provided for through an ongoing pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Pavement care consists of both localized (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Even with periodic maintenance, some movements and related cracking may still occur, and repairs will be required.

General Comments

Our analysis and opinions are based on our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained during construction, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the Owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance on the services and any work product is limited to our client and is not

intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with Contractor means and methods and are not addressed in this report. The Owner and Contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Geotechnical Engineering Report

ATOD Will Call Ramp | Ankeny, Iowa

July 17, 2026 | Terracon Project No. 1000022257



Figures

Contents:

GeoModel

GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions

#	Layer Name	General Description
1	Surface	Generally 9 inches of portland cement concrete over 6 inches of gravel.
2	Existing Fill	Varies from sandy lean clay to sand, trace clay.
3	Native Clay	Sandy lean clay, trace gravel. Generally medium stiff to stiff consistency.

Legend	
 Concrete	 Aggregate Base Course
 Fill	 Sandy Lean Clay

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

Notes:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

-  First Water Observation
-  Second Water Observation
-  Third Water Observation

Geotechnical Engineering Report

ATOD Will Call Ramp | Ankeny, Iowa

July 17, 2026 | Terracon Project No. 1000022257



Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
2	15½ and 20½	Ramp pavement areas

Boring Layout and Elevations: Terracon personnel provided the boring layout using handheld GPS equipment and referencing existing site features.

The locations of the borings are considered accurate only to the degree implied by the means and methods used to define them. If more precise elevations and boring layout are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a track-mounted, drill rig using continuous flight solid stem augers. Samples were obtained from the borings using thin-walled tube and split-barrel sampling procedures. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge was pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded subsurface water levels during drilling and sampling. The subsurface water levels are shown on the attached boring logs. For safety purposes, all borings were backfilled with auger cuttings after their completion. Pavements were patched with cold-mix asphalt and/or pre-mixed concrete, as appropriate.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Water Content
- Unit Weight
- Unconfined Compression

Based on the results of our field and laboratory programs, we described and classified the soil samples in general accordance with the Unified Soil Classification System.

Site Location and Exploration Plan

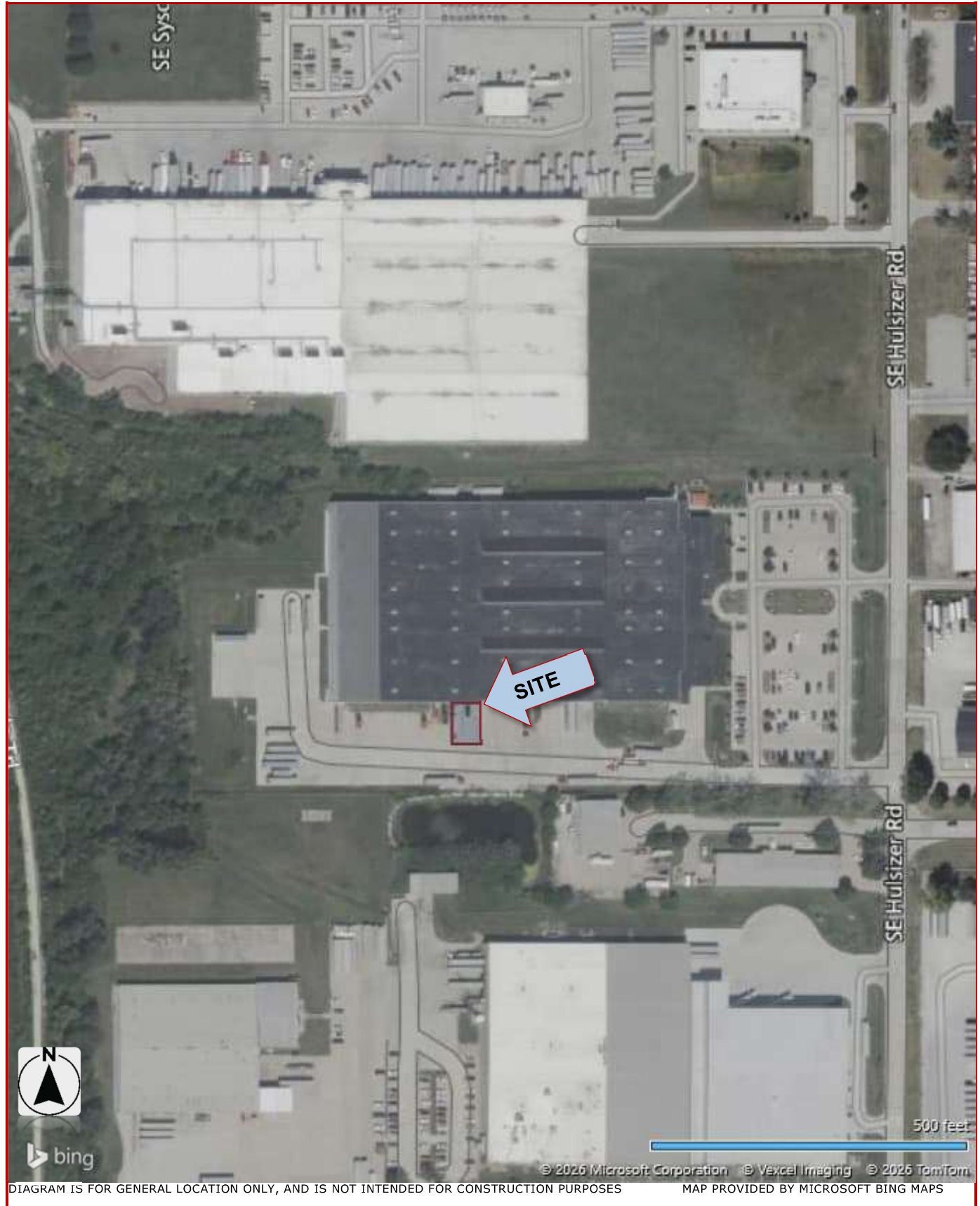
Contents:

Site Location

Exploration Plan

Note: All attachments are one page unless noted above.

Site Location



Exploration Plan



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration and Laboratory Results

Contents:

Boring Logs (Borings 1 and 2)

Note: All attachments are one page unless noted above.

BORING LOG NO. 1

Model Layer	Graphic Log	Lithology Depth (Ft.)	Material Description	Depth (Ft.)	Elevation (Ft.)	Sample Type	Recovery (In.)	Water Level Observations	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)
1		0.7	CONCRETE, Approx. 9 inches								
		1.5	AGGREGATE BASE COURSE, Approx. 6 inches								
2			FILL- SANDY LEAN CLAY , trace gravel, gray			X	12		2-3-5 N = 8	15	
		5.0	FILL- POORLY GRADED SAND , trace clay, fine to coarse grained sand, brown gray	5			19	▽		21.7	101.9
		6.5	SANDY LEAN CLAY (CL) , trace gravel, gray, medium stiff			X	5		2-3-5 N = 8	22	
3				10		X	16		2-2-4 N = 6	17	
				15		X	18	▽	2-3-4 N = 7	18	
Boring Terminated at 15.5 Ft											

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Notes

Water Level Observations

▽ 6 Ft. While drilling
▽ 14.5 Ft. At completion of drilling

Advancement Method

0-14 Ft. Solid Stem/Flight Auger

Abandonment Method

Boring backfilled with auger cuttings. Surface capped with concrete upon completion.

Equipment

1300/Mobile B-57

Driller

ND

Logged By

ZP

Start Date

06/22/2026

BORING LOG NO. 2

Model Layer	Graphic Log	Lithology Depth (Ft.)	Material Description	Depth (Ft.)	Elevation (Ft.)	Sample Type	Recovery (In.)	Water Level Observations	Field Test Results	Compressive Strength (psf)	Water Content (%)	Dry Unit Weight (pcf)
1		0.8	CONCRETE ,Approx. 9 inches									
		1.5	AGGREGATE BASE COURSE ,Approx. 6 inches									
2			FILL- SANDY LEAN CLAY ,trace gravel, dark gray			X	10		2-3-3 N = 6		23	
				5			18			1650	23	100.2
3		6.5	SANDY LEAN CLAY (CL) ,trace gravel, brown gray, stiff, occasional sand seams			X	18	▽	4-4-5 N = 9		17	
		9.0	SANDY LEAN CLAY (CL) ,trace gravel, gray, medium stiff to stiff	10		X	18		2-3-6 N = 9		15	
				15		X	18		2-2-5 N = 7		19	
				20		X	18		2-2-3 N = 5		19	
			Boring Terminated at 20.5 Ft									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Notes

Water Level Observations

Groundwater not encountered upon completion
▽ 7 Ft. While drilling

Advancement Method

0-19 Ft. Solid Stem/Flight Auger

Abandonment Method

Boring backfilled with auger cuttings. Surface capped with concrete upon completion.

Equipment

1300/Mobile B-57

Driller

ND

Logged By

ZP

Start Date

06/22/2026

Supporting Information

Contents:

General Notes

Unified Soil Classification System

Note: All attachments are one page unless noted above.

General Notes

Sampling	Water Level	Field Tests
 Auger Cuttings  Modified California Ring Sampler  Rock Core	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time  Cave In Encountered	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer
 Dynamic Cone Penetrometer  Modified Dames & Moore Ring Sampler  Dual Sampler SPT	 GeoProbe Macro Core or Large Bore  No Recovery	
 Grab Sample  Ring Sampler  Shelby Tube  Standard Penetration Test	 Texas Cone Penetrometer  Vane Shear	
 Split Spoon	Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		Consistency of Fine-Grained Soils (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	5 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	9 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	16 - 30
		Hard	> 4.00	> 30

Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu≥4 and 1≤Cc≤3 ^E	GW	Well-graded gravel ^F
			Cu<4 and/or [Cc<1 or Cc>3.0] ^E	GP	Poorly graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}
			Fines classify as CL or CH	GC	Clayey gravel ^{F, G, H}
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Cu≥6 and 1≤Cc≤3 ^E	SW	Well-graded sand ^I
			Cu<6 and/or [Cc<1 or Cc>3.0] ^E	SP	Poorly graded sand ^I
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}
			Fines classify as CL or CH	SC	Clayey sand ^{G, H, I}
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots above “A” line ^J	CL	Lean clay ^{K, L, M}
			PI < 4 or plots below “A” line ^J	ML	Silt ^{K, L, M}
		Organic:	$\frac{LL\text{ oven dried}}{LL\text{ not dried}} < 0.75$	OL	Organic clay ^{K, L, M, N} Organic silt ^{K, L, M, O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above “A” line	CH	Fat clay ^{K, L, M}
			PI plots below “A” line	MH	Elastic silt ^{K, L, M}
		Organic:	$\frac{LL\text{ oven dried}}{LL\text{ not dried}} < 0.75$	OH	Organic clay ^{K, L, M, P} Organic silt ^{K, L, M, Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

- ^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

^E $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

^F If soil contains ≥ 15% sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
- ^H If fines are organic, add "with organic fines" to group name.

^I If soil contains ≥ 15% gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

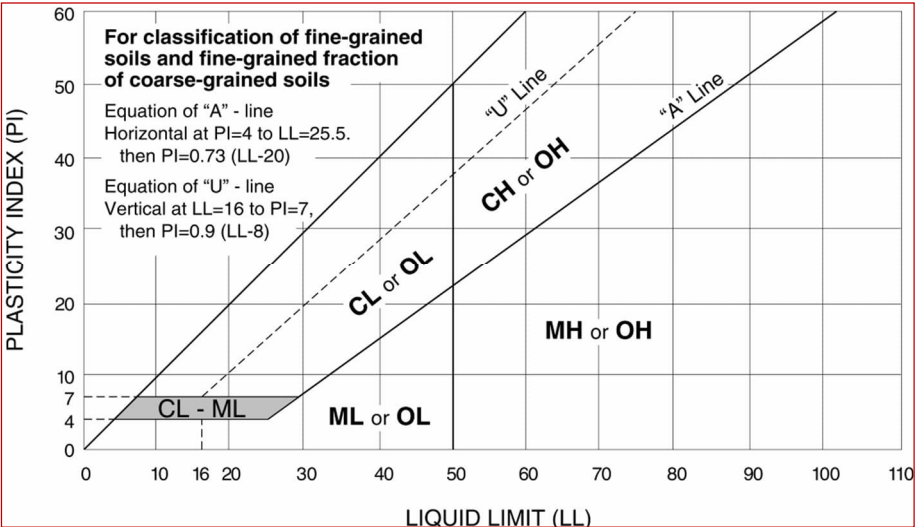
^M If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

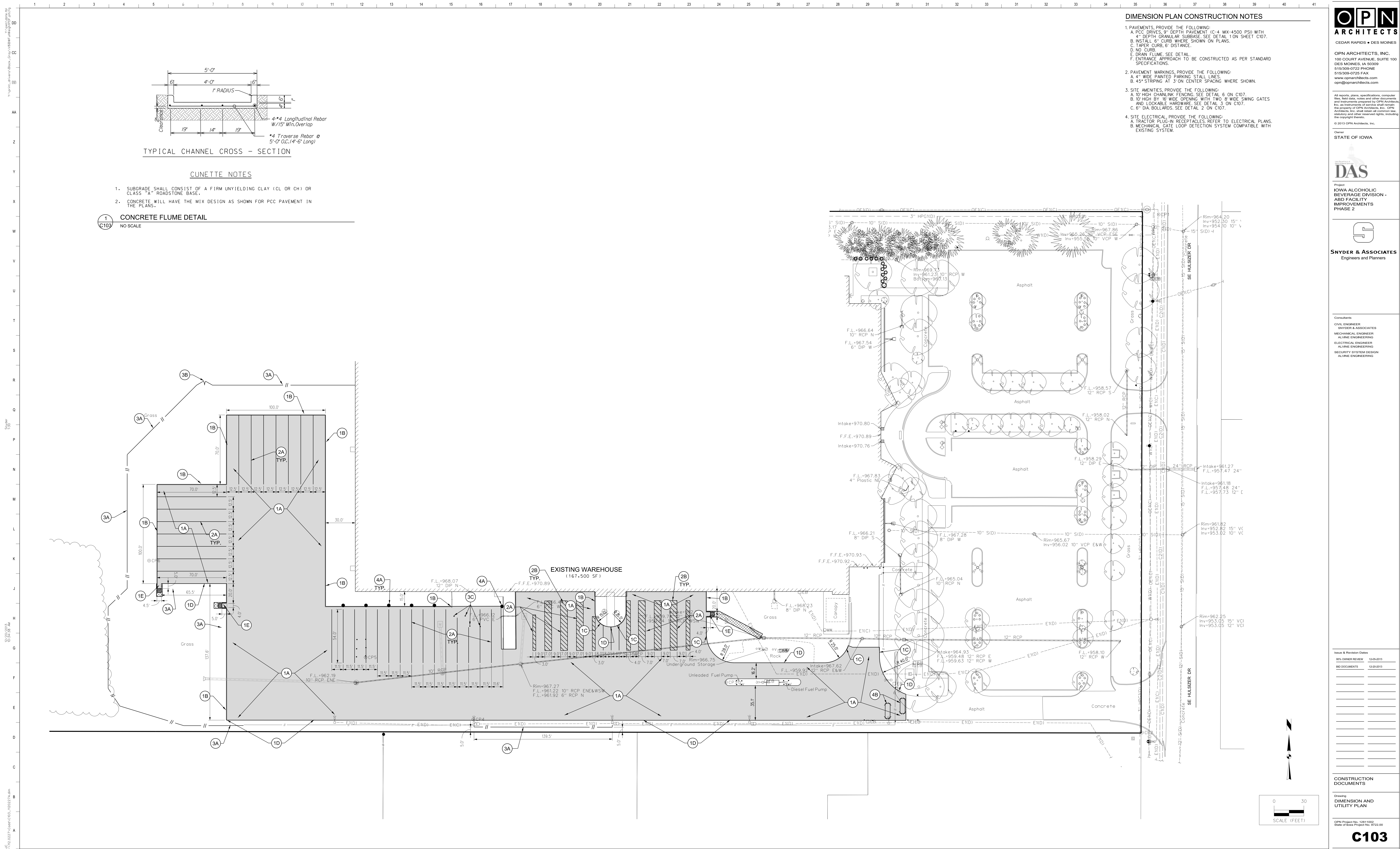
^N PI ≥ 4 and plots on or above "A" line.

^O PI < 4 or plots below "A" line.

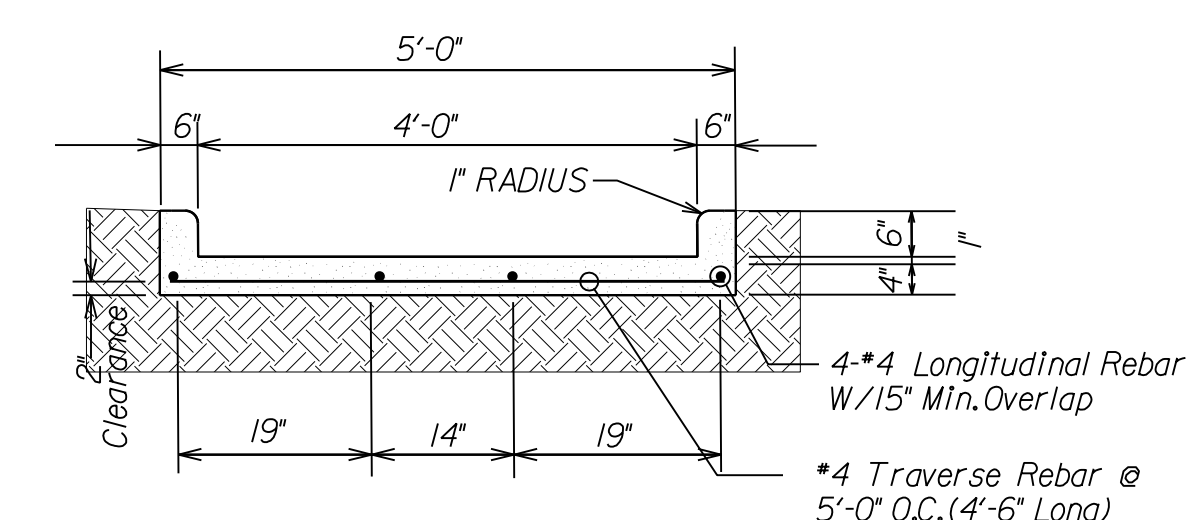
^P PI plots on or above "A" line.

^Q PI plots below "A" line.





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User: jason@opn.com
Title: 12-2013-001.dwg
Scale: 1/8"=1'-0"



TYPICAL CHANNEL CROSS - SECTION

CUNETTE NOTES

1. SUBGRADE SHALL CONSIST OF A FIRM UNYIELDING CLAY (CL OR CH) OR CLASS "A" ROADSTONE BASE.
2. CONCRETE WILL HAVE THE MIX DESIGN AS SHOWN FOR PCC PAVEMENT IN THE PLANS.

1

C103

CONCRETE FLUME DETAIL

NO SCALE

DIMENSION PLAN CONSTRUCTION NOTES

1. PAVEMENTS, PROVIDE THE FOLLOWING:
A. PCC DRIVES, 9" DEPTH PAVEMENT (C-4 MIX-4500 PSI) WITH 4" DEPTH GRANULAR SUBBASE. SEE DETAIL 1 ON SHEET C107.
B. INSTALL 6" CURB WHERE SHOWN ON PLANS.
C. TAPER CURB, 6' DISTANCE.
D. NO CURB.
E. DRAIN FLUME. SEE DETAIL.
F. ENTRANCE APPROACH TO BE CONSTRUCTED AS PER STANDARD SPECIFICATIONS.
2. PAVEMENT MARKINGS, PROVIDE THE FOLLOWING:
A. 4" WIDE PAINTED PARKING STALL LINES.
B. 45° STRIPING AT 3' ON CENTER SPACING WHERE SHOWN.
3. SITE AMENITIES, PROVIDE THE FOLLOWING:
A. 10' HIGH CHAINLINK FENCING. SEE DETAIL 6 ON C107.
B. 10' HIGH BY 16" WIDE OPENING WITH TWO 8' WIDE SWING GATES AND LOCKABLE HARDWARE. SEE DETAIL 3 ON C107.
C. 6" DIA. BOLLARDS. SEE DETAIL 2 ON C107.
4. SITE ELECTRICAL, PROVIDE THE FOLLOWING:
A. TRACTOR PLUG-IN RECEPTACLES REFER TO ELECTRICAL PLANS.
B. MECHANICAL GATE LOOP DETECTION SYSTEM COMPATIBLE WITH EXISTING SYSTEM.

OPN

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Owner
STATE OF IOWA

DESIGN

DAS

Project
IOWA ALCOHOLIC
BEVERAGE DIVISION -
ABD FACILITY
IMPROVEMENTS
PHASE 2

SNYDER & ASSOCIATES

Engineers and Planners

Consultants
CIVIL ENGINEER
SNYDER & ASSOCIATES
MECHANICAL ENGINEER
ALVINE ENGINEERING
ELECTRICAL ENGINEER
ALVINE ENGINEERING
SECURITY SYSTEM DESIGN
ALVINE ENGINEERING

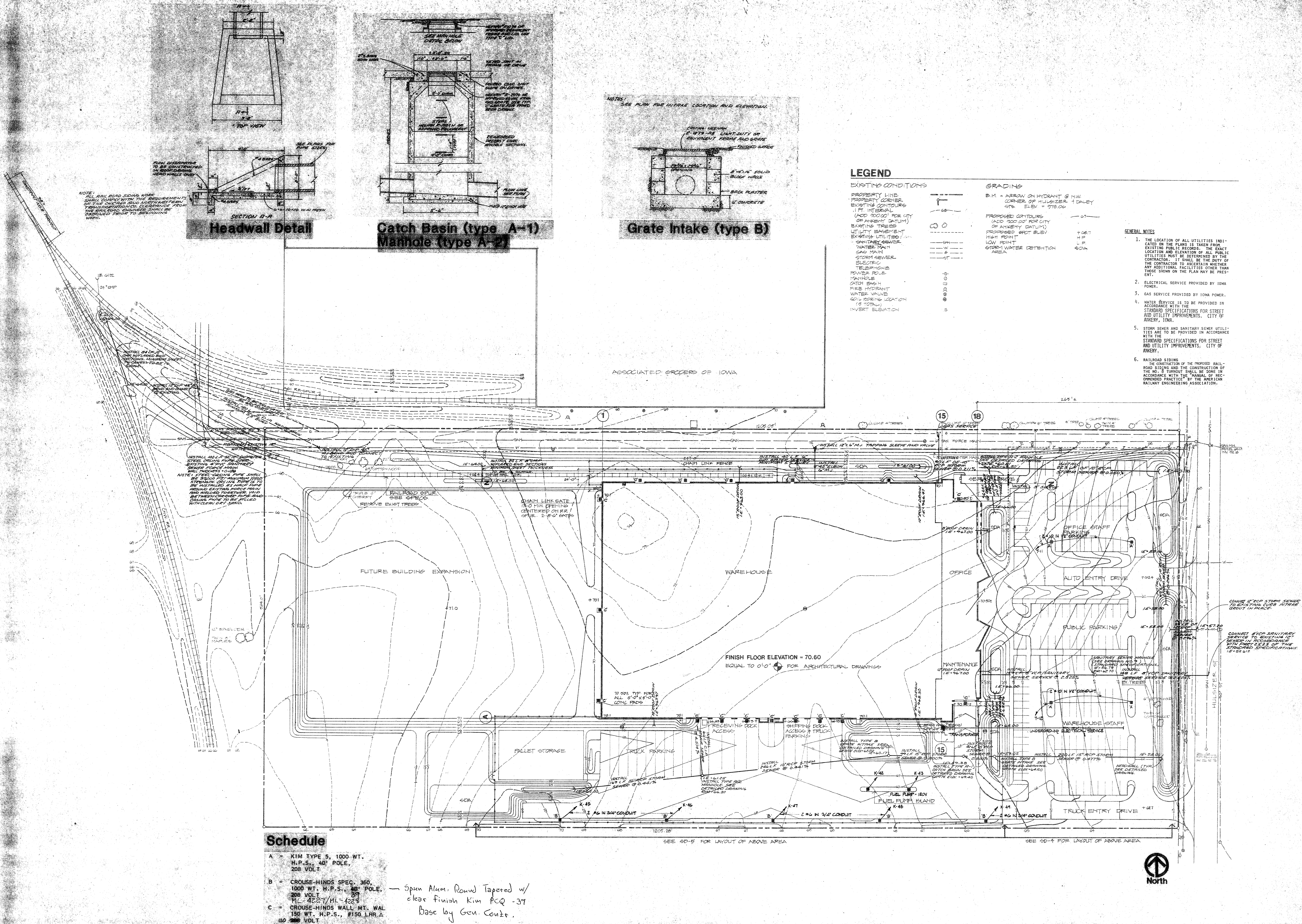
Issue & Revision Dates
95% OWNER REVIEW 12-05-2013
RD DOCUMENTS 12-20-2013

CONSTRUCTION DOCUMENTS

Drawing
DIMENSION AND
UTILITY PLAN

OPN Project No. 129.11002
State of Iowa Project No. 8722.00

C103



F	
GENERAL STRUCTURAL NOTES 1 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS FROM THESE DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK. 2 VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF ANY ITEMS. 3 DRAWINGS SHALL BE COORDINATED WITH ELECTRICAL COMPONENTS, NOT SHOWN ON DRAWINGS COORDINATE LOCATION, SIZE AND REINFORCEMENT OF ALL OPENINGS WITH RESPECTIVE TRADES BEFORE FABRICATION. REPORT ANY DISCREPANCIES AND/OR INTERFERENCE PROBLEMS TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD. 4 THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE PROVIDED, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK. 5 THE BUILDING IS NOT STRUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING AND WALLS ARE COMPLETE AND HAVE ACHIEVED FINAL DESIGN STRENGTH. CONTRACTOR IS SOLELY RESPONSIBLE TO MAINTAIN STRUCTURAL STABILITY DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL STRUCTURAL WORK IS COMPLETE. 6 CONTRACTORS CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD. 7 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MEANS, METHODS, TECHNIQUES, SEQUENCING, AND PROCEDURES NECESSARY FOR CONSTRUCTING, OVERSEEING, AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE HEALTH AND SAFETY STANDARDS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. DESIGN PARAMETERS THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE ICC INTERNATIONAL BUILDING CODE, 2015 EDITION. 2 RAMP LANDING FROST SLAB DESIGN BASED ON ACCOMMODATING A 26,000 LBS CAPACITY BOXTRUCK. 4 SNOW DESIGN PARAMETERS: GROUND SNOW LOAD (P _g) 30 PSF PLATF ROOF SNOW LOAD (P _f) 23 PSF SNOW EXPOSURE FACTOR (C _e) 1.0 SNOW LOAD IMPORTANCE FACTOR (I) 1.0 SNOW LOAD THERMAL FACTOR (C _t) 1.0 EARTHQUAKE DESIGN PARAMETERS: SEISMIC IMPORTANCE FACTOR (I _E) 1.0 S _s 0.04g S ₁ 0.04g SEISMIC SITE CLASS S _s D SHORT-PERIOD SITE COEFFICIENT (F _a) 0.07g LONG-PERIOD SITE COEFFICIENT (F _v) 2.4 SEISMIC DESIGN CATEGORY A SEISMIC-FORCE-RESISTING SYSTEM ORDINARY REINFORCED CONCRETE WALLS SEISMIC BASE SHEAR (V _b) CLASSROOM ADDITION 0.70K SEISMIC RESPONSE COEFFICIENT (C _s) N-S 0.01 SEISMIC RESPONSE COEFFICIENT (C _s) E-W 0.01 RESPONSE MODIFICATION FACTOR (R) N-S 2 RESPONSE MODIFICATION FACTOR (R) E-W 2 REDUNDANCY FACTOR (μ) N-S 1.0 REDUNDANCY FACTOR (μ) E-W 1.0 SEISMIC ANALYSIS PROCTOR SHALL BE WIND LOAD GOVERNS DESIGN EQUIVALENT LATERAL FORCE ANALYSIS (WIND LOAD GOVERNS DESIGN) 6 WIND DESIGN PARAMETERS: BASIC WIND SPEED (V) @ 3 SECOND GUST 115 MPH RISK CATEGORY C WIND EXPOSURE CATEGORY II INTERNAL PRESSURE COEFFICIENT C _{pi} -18 BASIC DESIGN PRESSURE @ WALL -18 PSF (SERVICE) 7 ALLOWABLE WALL DEFLECTIONS: EXTERIOR (CLADDING DESIGN) L/360 8 ASSUMED FUTURE CONSTRUCTION: VERTICAL NONE HORIZONTAL NONE 9 ASSUMED FUTURE CONSTRUCTION: NONE	

F	
FOOTING FOUNDATION PARAMETERS 1 SIZE AND BOTTOM ELEVATIONS OF FOOTINGS HAVE BEEN ESTABLISHED BASED ON THE SOILS REPORT FILE NO. 100002227 PREPARED BY TERRACON CONSULTANTS INC. AND DATED 07/17/26. AS EXCAVATION PROGRESSES, UNANTICIPATED SOIL CONDITIONS MAY REQUIRE CHANGES. CONTACT STRUCTURAL ENGINEER OF RECORD FOR EVALUATION OF THESE CHANGES. 2 ALLOWABLE SOIL BEARING PRESSURE: SPREAD AND ISOLATED FOOTINGS 2000 PSF RETAINING FOOTINGS (AT FOOTING TOE) 2000 PSF 3 MINIMUM FOOTING DEPTH FOR FROST PROTECTION (BELOW FINISHED GRADE) 42 IN. 4 DESIGN EARTH PRESSURES: ACTIVE 35 PCF PASSIVE 40 PCF AT REST 60 PCF 6 GEOTECHNICAL ENGINEER IS SOLE JUDGE OF THE SUITABILITY OF UNDERLYING MATERIAL TO SUPPORT FOUNDATIONS. BEARING MATERIAL SHALL BE APPROVED BY GEOTECHNICAL ENGINEER BEFORE FOUNDATION INSTALLATION. DO NOT PROCEED WITHOUT APPROVAL. SUBMITTALS 1 GENERAL CONTRACTOR TO PROVIDE A SHOP DRAWING SUBMITTAL LOG ITEMIZING ALL PROPOSED SUBMITTALS FOR APPROVAL BY STRUCTURAL ENGINEER OF RECORD. 2 ALL SHOP DRAWINGS SHALL BE CHECKED BY THE FABRICATOR AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. SHOP DRAWING REVIEW BY ENGINEER IS LIMITED TO VERIFYING GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE CONTRACT DOCUMENTS, DIMENSIONAL ERRORS, COORDINATION ERRORS, OR OMISSIONS IN SHOP DRAWINGS. 3 SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: • CONCRETE MIX DESIGNS (5 DAYS BEFORE POUR, MIN.) • CONCRETE REINFORCEMENT • EMBEDDED STEEL ITEMS • CONCRETE CURING • STEEL GUARDRAILS 4 SHOP DRAWINGS SHALL INCLUDE CONNECTIONS AS WELL AS SIZE, SPACING, AND GRADE OF ALL MEMBERS, PLANS AND ANY DETAILING NECESSARY FOR DETERMINING FIT AND PLACEMENT SHALL ALSO BE INCLUDED. 5 IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE SUBJECT TO REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER. 6 DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY THE CONTRACTOR, INCLUDE: • TEMPORARY SHORING • CONCRETE FORMWORK SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION. CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. 7 ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL BE DESIGNED TO RESIST THE LIVE LOADS INDICATED IN STRUCTURAL NOTES, DEAD LOAD, SELF WEIGHT, ANY ADDITIONAL LOADING INDICATED ON PLANS AND DETAILS, SNOW DRIFT, AND A NET WIND UPLIFT. 8 ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL INCLUDE ANY RELEVANT TECHNICAL LITERATURE FROM MANUFACTURER. ALSO PROVIDE A CERTIFICATION FROM THE MANUFACTURER SHOWING THE PRODUCT IS IN COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS. 9 FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION. 10 ALL SHOP DRAWINGS SHALL BE CHECKED BY THE FABRICATOR AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT, WHOSE REVIEW OF THE SHOP DRAWINGS IS LIMITED TO VERIFYING GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM CONTRACT DOCUMENTS, DIMENSIONAL ERRORS, COORDINATION ERRORS, OR OMISSIONS IN SHOP DRAWINGS. 11 VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF ANY ITEMS. DRAWINGS SHALL BE COORDINATED WITH MECHANICAL/ELECTRICAL COMPONENTS NOT SHOWN ON DRAWINGS. 12 FIELD VERIFY EXISTING DIMENSIONS, MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAWINGS PRIOR TO STARTING CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT. CONCRETE NOTES 1 CONCRETE WORK SHALL CONFORM TO CHAPTER 19 OF THE IBC. 2 WHERE NEW CONCRETE IS PLACED DIRECTLY AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM OF 1/4" AMPLITUDE. SEE PLAN FOR DOWELING REQUIREMENTS. 3 ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED 1/2" U.N.O. 4 CONCRETE FORMWORK: 4.1 SLEEVES, OPENINGS, CONDUIT, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO POURING CONCRETE. CONCRETE EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSIONS THAN ONE THIRD OF THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER. 4.2 VERY ALL BLOCK OUTS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING REQUIREMENTS PRIOR TO POURING. 5 CONCRETE REINFORCEMENT: 5.1 DETAILING, FABRICATION, AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO AC-308.5. 5.2 ALL REINFORCEMENT TO BE ASTM A615 GRADE 60 U.N.O. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE USING #16 ANGLEBAR WIRE. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.	

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5.3 ALL CONTINUOUS REINFORCING SHALL BE SPLICED USING CLASS B TENSION SPLICES, U.N.O. 5.4 BARS IN BEAMS AND SLABS SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS AS SPECIFIED BY THE CSI MANUAL OF STANDARD PRACTICE, MSP-1. 5.5 CONTINUE HORIZONTAL WALL BARS THROUGH PLASTERS, COLUMNS, AND INTERSECTING WALLS. REFER TO TYPICAL DETAILS FOR LAYOUT OF CORNER BARS AND BARS IN SMALL WALL SECTIONS. SLAB BARS SHALL BE HOOKED INTO WALLS OR HOOKED DOWELS SHALL BE PROVIDED TO MATCH SLAB REINFORCING. PROVIDE HOOKED DOWELS FOR MATCHING TO MATCH VERTICAL WALL REINFORCING. 5.6 ADD TWO DIAGONAL #5 BARS, FOUR FEET LONG, CENTERED, AT EACH CORNER OF FOUNDATION OR SLAB OPENING, U.N.O. 5.7 ALL SLAB REINFORCEMENT IS TO BE FULLY CHAIRED AT THE INDICATED ELEVATION PER ACI-315 REQUIREMENTS PRIOR TO CONCRETE PLACEMENT. LIFTING SLAB MAT REINFORCEMENT INTO PLACE DURING CONCRETE PLACEMENT IS NOT PERMITTED. 6 COVERAGE FOR REINFORCEMENT: 6.1 CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3" 6.2 CONCRETE EXPOSED TO EARTH AND WEATHER: 2" #6 THRU #18 BARS 1 1/2" #5 BAR 6.3 CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS, JOISTS: 3/4" #11 BAR AND SMALLER PRIMARY REINFORCEMENT: 1 1/2" TIES, STIRRUPS, SPIRALS 7 CONCRETE COMPRESSIVE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39 AND SHALL BE AS FOLLOWS: FOOTINGS f _c = 4,000 PSI SLABS ON GRADE f _c = 4,000 PSI WALLS AND PIERS f _c = 4,000 PSI 8 SPECIAL INSPECTOR SHALL BE NOTIFIED IF ANY WATER IS TO BE ADDED IN FIELD. 9 CONCRETE FOUNDATIONS: 9.1 ALL FOUNDATION EXCAVATIONS MUST BE REVIEWED AND APPROVED BY THE GEOTECHNICAL ENGINEER TO BE OF SUITABLE BEARING CAPACITY PRIOR TO PLACEMENT OF CONCRETE. 9.2 ACCURATELY SET AND SECURELY SUPPORT REINFORCING, DOWELS, AND ANCHOR BOLTS PRIOR TO PLACEMENT OF CONCRETE. WET STICKING OR FLOATING OF REINFORCING, DOWELS, AND ANCHOR BOLTS IS NOT ALLOWED. 9.3 PROVIDE CONSTRUCTION JOINTS, INSERTS, SLEEVES, DOWELS, ANCHORS, ETC., AS SHOWN. ITEMS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO USUAL ACCEPTED STANDARDS OF THE TRADE. ANCHOR BOLTS PER ASTM F1554 AS SHOWN. 9.4 ALL FOUNDATION COLD JOINTS SHALL BE KEPT. CONTINUOUS REINFORCING SHALL EXTEND ONE ELEMENT LENGTH PLUS 6". 9.5 REINFORCING SHOWN ON DETAILS IS THE REQUIRED MINIMUM. AT CONTRACTOR'S OPTION AND EXPENSE, ADDITIONAL REINFORCING MAY BE PERMITTED TO ASSIST IN EASE OF CONSTRUCTIBILITY. ADDITIONAL REINFORCING MUST BE SUBMITTED FOR REVIEW ON SHOP DRAWINGS. 10 PROVIDE MINIMUM 7000 PSI NON-SHRINK, NON-METALLIC GROUT. GROUT SHALL NOT CONTAIN GYPSUM. ENSURE ALL VOIDS ARE FILLED WITH GROUT. 11 NOT USED 12 PROVIDE CONTROL JOINTS AS FOLLOWS, U.N.O.: 12.1 SLABS (ON GRID LINE WHERE PRACTICAL) AND SLAB-ON-GRADE 17'-2" 12.2 CONTROL JOINT LAYOUT SHOULD MAINTAIN AN APPROXIMATE ASPECT RATIO OF 1:1 13 EXPOSED SLAB ON GRADE: 13.1 ALL SLAB ON GRADE CONTROL JOINTS & COLD JOINTS SHALL BE COORDINATED WITH THE ARCHITECT WHERE THE SLAB IS EXPOSED. 13.2 CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION MEETING PRIOR TO ANY EXPOSED CONCRETE SLAB ON GRADE POUR. CONTRACTOR SHALL PROVIDE ENGINEER WITH ANTICIPATED EXPOSED SLAB ON GRADE CONTROL AND COLD JOINT LOCATIONS. ENGINEER MUST APPROVE CONTROL AND COLD JOINT LOCATIONS PRIOR TO ANY EXPOSED CONCRETE SLAB POUR. 13.3 SLAB SHALL BE SUPPORTED BY REWORKED ENGINEERED COMPACTED FILL IN THICKNESS AS NOTED ABOVE. SLABS ON GRADE SHALL BE AS INDICATED ON DRAWINGS. WHERE REQUIRED BY GEOTECHNICAL ENGINEER, OVER-EXCAVATE AND RECOMPACT USING STRUCTURAL FILL. SEE SOILS REPORT FOR SPECIFIC REQUIREMENTS. PROVIDE MINIMUM 100% RELATIVE COMPACTION. PROVIDE 1/4" MIN. FILL, PROVIDE NO MORE THAN 15% FLY ASH FOR ALL FLOOR SLABS. 13.4 SLAB ON GRADE JOISTS MUST BE 18" WIDE AND 14" OF THE SLAB THICKNESS DEEP. CUTTING OPERATIONS SHALL BE FROM 4 TO 12 HOURS AFTER PLACING CONCRETE. MAXIMUM SPACING OF JOISTS SHALL BE 30 TIMES THE SLAB THICKNESS OR AS SHOWN ON THE DRAWINGS. SEE SPECIFICATION REGARDING CUTTING REQUIREMENTS AND EDGE RAVELING. CONTRACTOR TO SUBMIT SAWN JOINT LAYOUT TO ENGINEER FOR APPROVAL PRIOR TO POURING SLABS. 14 CONCRETE ACCESSORIES: 14.1 U.N.O. EXPANSION BOLTS TO BE HLT KIKWI BOLT II, SIMPSON STRONG-BOLT, OR APPROVED EQUIVALENT WITH EQUAL ICC TENSION AND SHEAR VALUES. EXPANSION ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DO NOT CUT REINFORCING IN NEW OR EXISTING CONCRETE DURING INSTALLATION. 14.2 U.N.O. EPOXY ANCHORS TO BE HLT HIT RE 800-SD, SIMPSON STRONG-BOLT, OR APPROVED EQUIVALENT WITH EQUAL ICC TENSION AND SHEAR VALUES. EPOXY ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DO NOT CUT REINFORCING IN NEW OR EXISTING CONCRETE DURING INSTALLATION. 15 PERMANENTLY EXPOSED PLATES AND GUARDRAILS TO BE HOT-DIP GALVANIZED. 16 EPOXY REPAIR ADHESIVE SHALL CONFORM TO ASTM C891 AND SHALL BE A TWO-COMPONENT, LIQUID EPOXY WITH NON-SAG CONSISTENCY AND A LONG POT LIFE. THE EPOXY ADHESIVE SHALL BE SUITABLE FOR USE IN DRY OR DAMP CONDITIONS. MINIMUM SHEAR STRENGTH SHALL BE 2,000 PSI. MINIMUM TENSILE STRENGTH SHALL BE 4,000 PSI. HOLE SIZES AND INSTALLATION SHALL BE IN STRICT COMPLIANCE WITH THE APPROVED ICC REQUIREMENTS. DO NOT CUT REINFORCING IN NEW OR EXISTING CONCRETE DURING PLACEMENT. 17 COLD WEATHER PROTECTION: 17.1 DURING COLD WEATHER CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR PROTECTING CURING CONCRETE PER ROADS OF A-2.36. 17.2 DURING COLD WEATHER CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR PROTECTING FOUNDATIONS THAT DO NOT EXTEND TO FROST DEPTH FROM HEAVING. AT CONTRACTOR'S OPTION, BOTTOM OF FOOTINGS MAY BE EXTENDED INTO THE FROST ZONE, IN ORDER OF SURFACE PROTECTION METHODS. NO ADDITIONAL REINFORCING WILL BE REQ'D AT EXTENDED FOUNDATIONS. ALL MITIGATION WORK SHALL BE PART OF THE CONTRACTOR BID AND NOT CONSIDERED BY THE ARCHITECT. 18.3 CONTRACTOR TO PROVIDE A FROST STOP PER TYP. STOOD DETAIL @ ALL EXTERIOR DOORS. SEE ARCH. FOR DOOR LOCATIONS.	

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STEEL FRAMING NOTES 1 STEEL FRAMING WORK SHALL COMPLY WITH CHAPTER 22 OF THE IBC. 2 STEEL FRAMING MATERIALS: 2.1 WWT SECTIONS ASTM A992 F _y =50,000 PSI 2.2 TUBULAR STEEL ASTM A500 GR B F _y =46,000 PSI 2.3 CHANNELS, ANGLES, BARS ASTM A36 F _y =36,000 PSI 2.4 PLATES (NON-MOMENT CONNECTIONS) ASTM A36 F _y =36,000 PSI 2.5 PLATES (MOMENT CONNECTIONS) ASTM A572 F _y =50,000 PSI 2.6 WELDING ELECTRODES E70XX 3 STEEL ERECTION SHALL COMPLY WITH ALL OSHA, STATE, LOCAL, AND UNION REGULATIONS. IN ADDITION, AT THE END OF THE WORK DAY, ALL COLLUMS MUST BE FRAMED WITH BEAMS AND/OR ORDERS IN ALL DIRECTIONS, OR ADEQUATELY GUYED OR BRACED IN ALL DIRECTIONS. TOWER GUYS/BRACING IS THE RESPONSIBILITY OF THE ERECTOR (DESIGN AND INSTALLATION). 4 DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL, AISC 360-10 INCLUDING COMMENTARY, AND THE AISC 360-10. 5 ALL BOLTS FOR STRUCTURAL STEEL CONNECTIONS PER AISC 360-10 U.N.O. AND SHALL CONFORM TO THE RCSC SPECIFICATION. BOLTS FOR STEEL JOISTS MAY BE A307. BOLTS SHALL BE SNUG-TIGHT U.N.O. 6 WELDING SHALL CONFORM TO THE AWS CODES FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH A WELDED PROCEDURE SPECIFICATION (WPS) AS REQUIRED BY AWS D1.1 AND APPROVED BY THE STRUCTURAL ENGINEER. THE WPS VARIABLES SHALL BE WITHIN THE PARAMETERS ESTABLISHED BY THE FILLER-METAL MANUFACTURER. 7 WELDS SHALL BE MADE USING E70XX ELECTRODES AND SHALL BE 3/16" MINIMUM. U.N.O. ALL WELDING FOR STRUCTURAL STEEL CONNECTIONS SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH AWS D1.1. PROTECT ALL SURFACES SURROUNDING WELDING OPERATIONS. 8 NOT USED 9 NOT USED 10 NOT USED 11 HOT-DIP GALVANIZE STEEL FOR THE FOLLOWING CONDITIONS: 11.1 STEEL ELEMENTS PERMANENTLY EXPOSED TO WEATHER. 11.2 STEEL ELEMENTS LOCATED OUTSIDE THE BUILDING THERMAL ENVELOPE. 11.3 STEEL ELEMENTS LOCATED IN AREAS WITH HIGH HUMIDITY. 11.4 WHERE PRECES REQUIRING GALVANIZATION ARE PART OF A LARGER ASSEMBLY, THE HOT-DIPPING PROCESS IS TO OCCUR AFTER COMPLETE FABRICATION OF THE ASSEMBLY. 12 CONNECTIONS: 12.1 WHERE CONNECTIONS ARE NOT SHOWN, THE CONNECTIONS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE REQUIREMENTS OF AISC SPECIFICATIONS FOR THE SHEAR CAPACITIES SHOWN BELOW. 12.2 ALL CONNECTIONS SHALL SATISFY THE REQUIREMENTS OF AISC AND OSHA. 12.3 AT STEEL CONNECTIONS WITH POST INSTALLED ANCHORS, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE HOLE DIAMETERS COMPLY WITH THE MANUFACTURER'S RECOMMENDED DRILL BIT DIAMETER. 13 (###-#) CALLOUT ON PLANS AT BEAM LOCATIONS INDICATES TOP OF BEAM U.N.O. SPECIAL INSPECTION SCHEDULE 1 SPECIAL INSPECTION PROGRAM SHALL CONFORM TO CHAPTER 17 OF THE IBC. 2 THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR TO PERFORM THE REQUIRED TESTS AND SPECIAL INSPECTIONS WITH QUALIFICATIONS DESCRIBED PER IBC CHAPTER 17 AND THE PROJECT SPECIFICATIONS. 3 SPECIAL INSPECTION REPORTS SHALL BE FURNISHED TO BUILDING OFFICIAL, OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND CONTRACTOR. 4 SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT STATING THAT THE STRUCTURAL WORK WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. 5 SPECIAL INSPECTION PROGRAM.	

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VERIFICATION AND INSPECTION STEEL 1. INSPECTION TASKS PRIOR TO WELDING: A. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE. PERFORM B. MANUFACTURER'S CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE. PERFORM C. MATERIAL IDENTIFICATION (TYPE/GRADE). OBSERVE D. WELDER IDENTIFICATION SYSTEM. OBSERVE E. CONFIGURATION & FINISH OF ACCESS HOLES. OBSERVE F. FIT-UP OF FILLET WELDS: • DIMS. (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY & LOCATION) 2. INSPECTION TASKS DURING WELDING: A. USE OF QUALIFIED WELDERS. OBSERVE B. CONTROL & HANDLING OF WELDING CONSUMABLES: • EXPOSURE CONTROL - PACKAGING • PRIMARY REINFORCEMENT TIES, STIRRUPS, SPIRALS. OBSERVE C. NO WELDING OVER CRACKED TACK WELDS. OBSERVE D. ENVIRONMENTAL CONDITIONS. OBSERVE • WIND SPEED WITHIN LIMITS - PRECIPITATION & TEMP. E. WPS FOLLOWED: • SETTINGS ON WELDING EQPT. - TRAVEL SPEED • SELECTED WELDING MATERIALS - PREHEAT APPLIED • SHIELDING GAS TYPE/FLOW RATE - PROPER POSITION (F, V, H, OH) • INTERPASS TEMP. MAINTAINED (MIN / MAX) F. WELDING TECHNIQUES: • INTERPASS & FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS 3. INSPECTION TASKS AFTER WELDING: A. WELDS CLEANED. OBSERVE B. SIZE, LENGTH & LOCATION OF WELDS. PERFORM C. WELDS MEET VISUAL ACCEPTANCE CRITERIA: • CRACK PROHIBITION - WELD SIZE • WELD / BASE-METAL FUSION - UNDERCUT • CRATER CROSS SECTION - POROSITY • WELD PROFILES D. ARC STRIKES. PERFORM E. K AREA. PERFORM F. BACKING & WELD TABS REMOVED (IF REQ'D.). PERFORM G. REPAIR ACTIVITIES. PERFORM H. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER. PERFORM 4. INSPECTION TASKS PRIOR TO BOLTING: A. MFR. CERTS. AVAILABLE FOR FASTENER MATERIALS. PERFORM B. FASTENERS MARKED IN ACCORDANCE w/ ASTM REQ'TS. OBSERVE C. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH, EXCLUDED THREADS). OBSERVE D. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL. OBSERVE E. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION & HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQ'TS. OBSERVE F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED & DOCUMENTED FOR FASTENER ASSEMBLIES & METHODS USED. OBSERVE G. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS & OTHER FASTENER COMPONENTS. OBSERVE 5. INSPECTION TASKS DURING BOLTING: A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES & WASHERS (IF REQ'D) ARE POSITIONED AS REQ'D. OBSERVE B. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION. OBSERVE C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING. OBSERVE D. FASTENERS ARE PRETENSIONED IN ACCORDANCE W/ THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID JOINT TOWARD THE FREE EDGES. OBSERVE 6. INSPECTION TASKS AFTER BOLTING: A. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNS. PERFORM 7. INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL. A. INSPECTION OF WELDING: 1) VERIFICATION OF WELDABILITY OF REINF. STEEL OTHER THAN ASTM A706. PERIODIC 2) REINFORCING STEEL RESISTING FLEXURE & AXIAL FORCES IN INTERMEDIATE & SPECIAL MOMENT FRAMES, & BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE & SHEAR REINFORCEMENT. CONT. 3) SHEAR REINFORCING STEEL. CONT. 4) OTHER REINFORCING STEEL. PERIODIC CONCRETE 1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, & PLACEMENT. PERIODIC 2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE W/ IBC TABLE 1705.2.2, ITEM 2b. CONT. 3. INSPECTION OF ANCHORS TO BE INSTALLED IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED. PERIODIC 4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. PERIODIC 5. VERIFYING USE OF REQUIRED DESIGN MIX. PERIODIC 6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP & AIR CONTENT TESTS, & DETERMINE THE TEMPERATURE OF THE CONCRETE. CONT. 7. INSPECTION OF CONCRETE & SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. CONT. 8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMP. & TECHNIQUES. PERIODIC 9. INSPECTION OF PRESTRESSED CONCRETE. CONT. A. APPLICATION OF PRESTRESSING FORCES. CONT. B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM. CONT. 10. ERECTION OF PRECAST CONCRETE MEMBERS. PERIODIC 11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE & PRIOR TO REMOVAL OF SHORES & FORMS FROM BEAMS & STRUCTURAL SLABS. PERIODIC 12. INSPECT FORMWORK FOR SHAPE, LOCATION & DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. PERIODIC	

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PROGRAM FOOTNOTES 1. THE ITEMS INDICATED ABOVE SHALL BE INSPECTED IN ACCORDANCE WITH CHAPTER 17 OF THE IBC BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL, SAMPLING AND TESTING REQUIREMENTS, REFER TO THE PROJECT SPECIFICATIONS & THE SPECIFIC STRUCTURAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING & INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, & BUILDING OFFICIAL. ANY MATERIALS WHICH FAIL TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS. 2. CONT. - CONTINUOUS SPECIAL INSPECTION. SPECIAL INSPECTOR IS PRESENT WHEN & WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED. (IBC SECTION 1702). 3. PERIODIC - PERIODIC SPECIAL INSPECTION. SPECIAL INSPECTOR IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED. 4. OBSERVE - SPECIAL INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS (IBC SECTION 1703). 5. PERFORM - SPECIAL INSPECTOR SHALL PERFORM THESE TASKS FOR EACH JOINT, CONNECTION, ELEMENT OR MEMBER (ISC 360 SECTION 16). 6. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK PERFORMED BY AN APPROVED FABRICATOR (IBC SECTION 1704.2). 7. ALL WELDS SHALL BE VISUALLY INSPECTED. 8. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY OR BY USE OF A COMPARABLE APPROVED METHOD. 9. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.	

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OVEREXCAVATION AT FOOTING SCALE: 1/2" = 1'-0"	

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TYPICAL PIPE SLEEVE SCALE: 3/4" = 1'-0"	

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SLAB AT CONTROL JOINT SCALE: 3/4" = 1'-0"	

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SLAB AT GRADE SCALE: 3/4" = 1'-0"	

C	
UTILITIES AT FTG SCALE: 1/2" = 1'-0"	

C	
TYPICAL CORNER REINFORCEMENT SCALE: 1/2" = 1'-0"	

C	
SLAB AT CONSTRUCTION JOINT SCALE: 3/4" = 1'-0"	

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SLAB AT GRADE SCALE: 3/4" = 1'-0"	

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OVEREXCAVATION AT FOOTING SCALE: 1/2" = 1'-0"	

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SLAB AT CONTROL JOINT SCALE: 3/4" = 1'-0"	

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SLAB AT GRADE SCALE: 3/4" = 1'-0"	

B	
UTILITIES AT FTG SCALE: 1/2" = 1'-0"	

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TYPICAL CORNER REINFORCEMENT SCALE: 1/2" = 1'-0"	

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SLAB AT CONSTRUCTION JOINT SCALE: 3/4" = 1'-0"	

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SLAB AT GRADE SCALE: 3/4" = 1'-0"	

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OVEREXCAVATION AT FOOTING SCALE: 1/2" = 1'-0"	

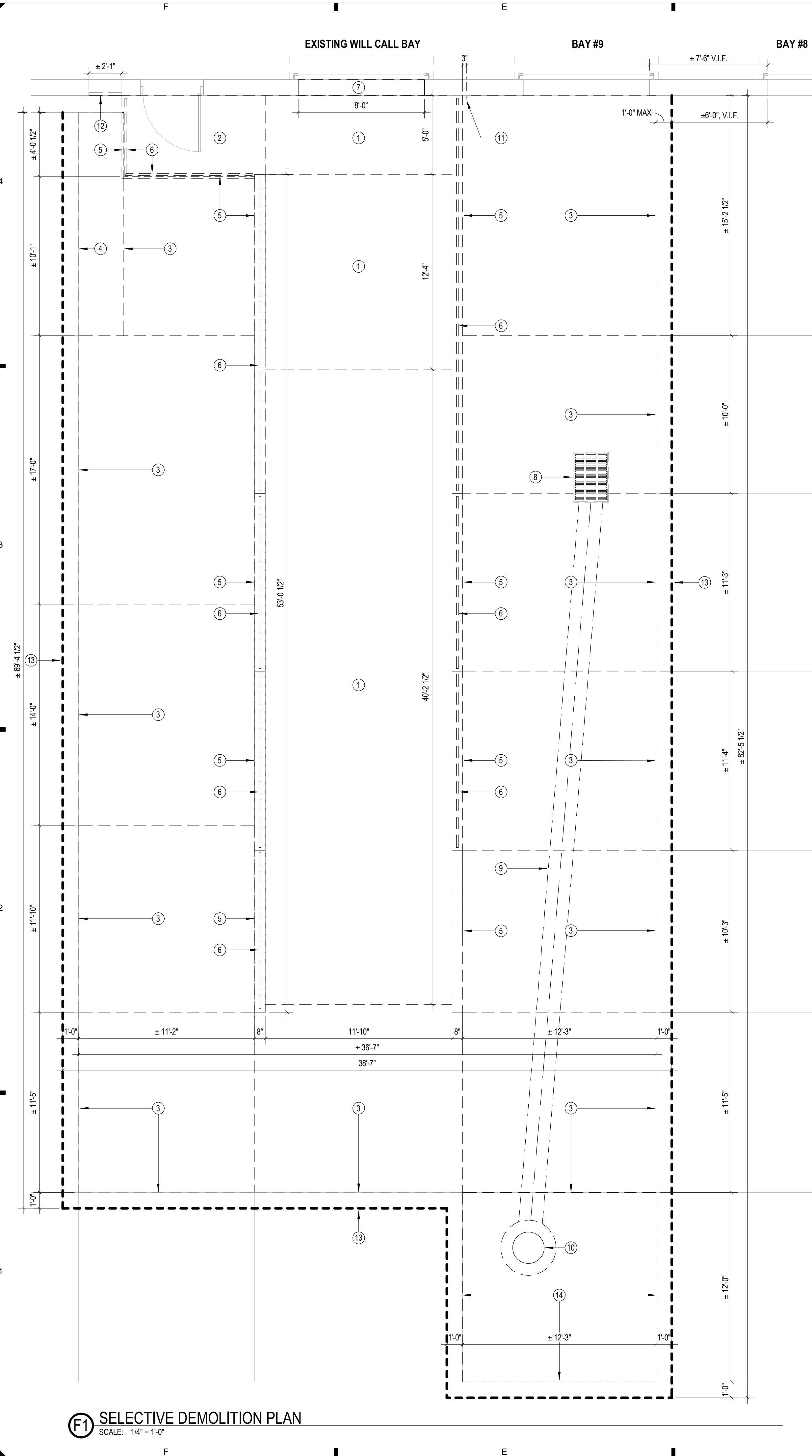
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SLAB AT CONTROL JOINT SCALE: 3/4" = 1'-0"	

B	
SLAB AT GRADE SCALE: 3/4" = 1'-0"	

A	
FOOTING SCHEDULE	
MARK	FOOTING REINFORCING
CF08	0'-8" CONT. 3'-4" #5 @ 12" O.C. VERTICAL AND HORIZONTAL
CF18	1'-6" CONT. 1'-3" (2) #5 CONTINUOUS WITH #5 @ 12" O.C. TRANSVERSE
CF24	2'-0" CONT. 1'-3" (3) #5 CONTINUOUS WITH #5 @ 12" O.C. TRANSVERSE
CF52	4'-4" CONT. 1'-3" (5) #5 TOP CONTINUOUS (5) #5 BOTTOM CONTINUOUS #5 @ 12" O.C. TRANSVERSE SETTING ON TOP ROW OF CONTINUOUS REINFORCING
SF70	5'-8" CONT. 1'-3" (6) #5 TOP CONTINUOUS (6) #5 BOTTOM CONTINUOUS #5 @ 12" O.C. TRANSVERSE SETTING ON TOP ROW OF CONTINUOUS REINFORCING

A	
FOOTING SCHEDULE	
MARK	FOOTING REINFORCING
CF08	0'-8" CONT. 3'-4" #5 @ 12" O.C. VERTICAL AND HORIZONTAL
CF18	1'-6" CONT. 1'-3" (2) #5 CONTINUOUS WITH #5 @ 12" O.C. TRANSVERSE
CF24	2'-0" CONT. 1'-3" (3) #5 CONTINUOUS WITH #5 @ 12" O.C. TRANSVERSE
CF52	4'-4" CONT. 1'-3" (5) #5 TOP CONTINUOUS (5) #5 BOTTOM CONTINUOUS #5 @ 12" O.C. TRANSVERSE SETTING ON TOP ROW OF CONTINUOUS REINFORCING
SF70	5'-8" CONT. 1'-3" (6) #5 TOP CONTINUOUS (6) #5 BOTTOM CONTINUOUS #5 @ 12" O.C. TRANSVERSE SETTING ON TOP ROW OF CONTINUOUS REINFORCING

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F1 SELECTIVE DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- FIELD VERIFY ALL EXISTING DIMENSIONS, SITE CONDITIONS, AND BUILDING CONDITIONS PRIOR TO WORK.
- THESE DEMOLITION DRAWINGS REPRESENT THE LAYOUT OF EXISTING CONDITIONS & MAJOR COMPONENTS. THEY ARE NOT TO BE CONSTRUED AS A COMPLETE REPRESENTATION OF MATERIALS & INCIDENTAL CONSTRUCTION.
- DEMOLISH AND/OR REMOVE ALL COMPONENTS AS NOTED ON THE DRAWINGS AND AS NECESSARY TO ACHIEVE NEW WORK IF NOT EXPLICITLY SHOWN AS DEMOLISHED. PATCH AND REPAIR ADJACENT SURFACES TO ACCOMMODATE NEW WORK. MAINTAIN ADJACENT SURFACES TO ORIGINAL CONDITIONS. ANY DAMAGE OF EXISTING CONDITIONS SHALL BE REPAIRED TO ORIGINAL OR BETTER CONDITION.
- ALL MATERIALS THAT HAVE BEEN DEMOLISHED SHALL BE REMOVED AND DISPOSED OF PROPERLY. NO DEMOLISHED MATERIALS SHALL BE STOCKPILED ON SITE.
- PROTECT OWNER'S PROPERTY AND PERSONS AT ALL TIMES. THIS INCLUDES ALL ITEMS AND SERVICES NECESSARY TO DEMOLISH OR DISMANTLE AND REMOVE ALL WALLS, EQUIPMENT, PIPING, AND APPURTENANCES WHICH WILL INTERFERE WITH NEW CONSTRUCTION. ALL ITEMS TO BE REMOVED SHALL BE COORDINATED WITH NEW CONSTRUCTION.
- ANY ITEMS NOT SHOWN TO BE DEMOLISHED THAT ARE DAMAGED DURING THE COURSE OF DEMOLITION OR CONSTRUCTION SHALL BE REPAIRED/REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- COORDINATE ANY SYSTEMS SHUTDOWNS WHICH MAY BE REQUIRED WITH THE OWNER.
- PROVIDE APPROPRIATE TEMPORARY OR PERMANENT SUPPORT WHEREVER OPENINGS ARE CREATED IN EXISTING CONSTRUCTION AS REQUIRED.
- EXISTING CONSTRUCTION SHALL BE PROTECTED.
- BUILDING FINISH FLOOR ELEVATION = 0'-0"

FOOTING PLAN NOTES

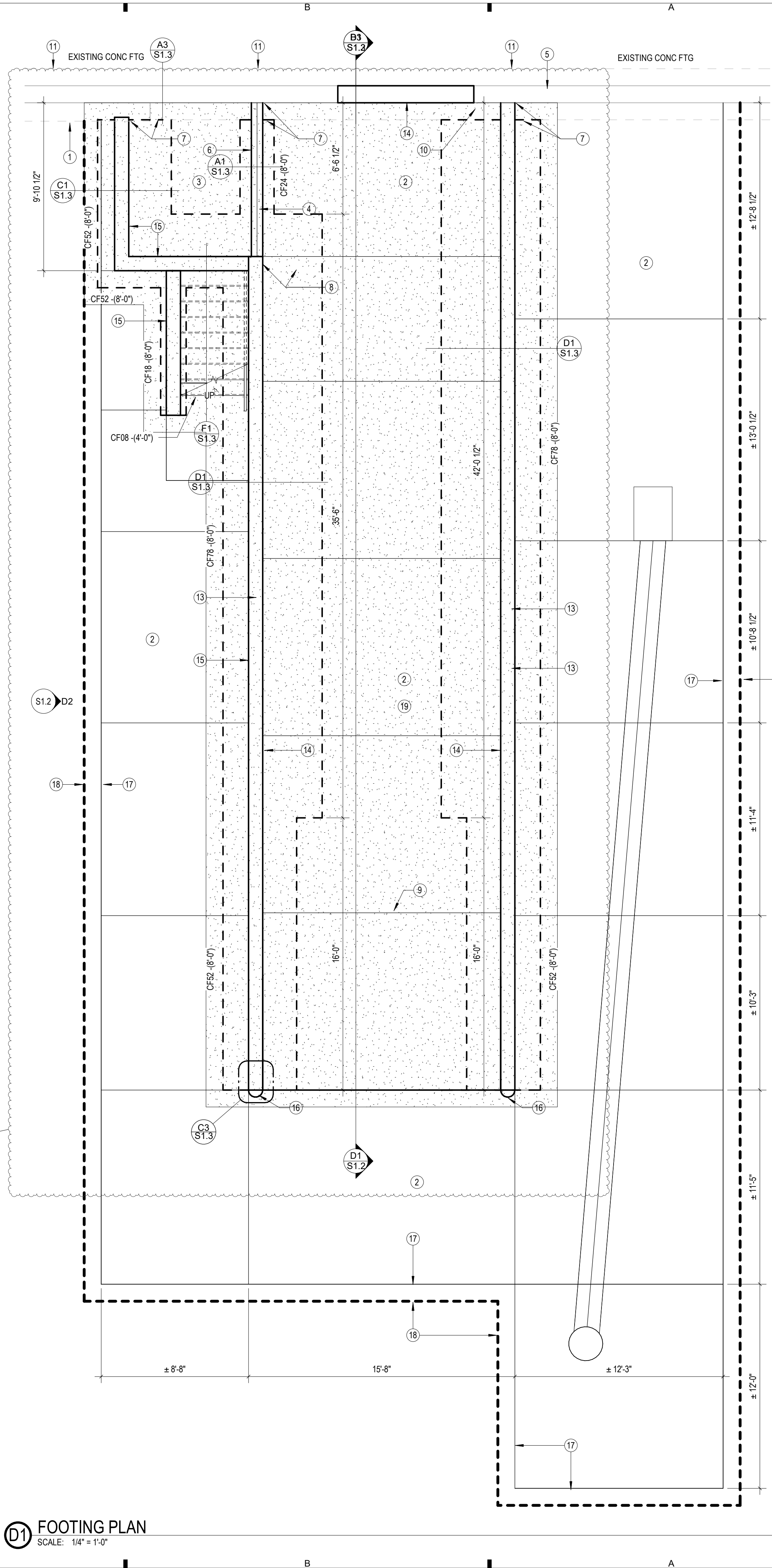
- EXISTING FOUNDATION WALL EXTENSION
- 8" CONCRETE SLAB W/ #5 AT 1'-0" O.C. BOTH WAYS OVER 6" DRAINAGE FILL OVER COMPACTED SUBGRADE
- 6" CONCRETE SLAB WITH TOP AND BOTTOM MAT OF #5 @ 1'-0" O.C. EACH WAY OVER VOID FORMS OVER COMPACTED STRUCTURAL FILL. SPLICE ALL BARS TO BENT VERTICAL REINFORCEMENT IN PERIMETER WALLS. NORTH-SOUTH REINFORCEMENT TO BE ON THE BOTTOM OF REINFORCEMENT MATS.
- PIN SLAB TO FROST SLAB WITH SMOOTH, GREASED 2'-0" LONG #6 DOWELS AT 2'-0" O.C. PROVIDE 6" MIN. DRILL, DOWEL AND EPOXY WITH 6" MIN. EMBEDMENT.
- EXISTING CONCRETE FOUNDATION WALL
- 8" CONCRETE WALL - SEE SCHEDULE FOR REINFORCING
- DRILL, DOWEL, AND EPOXY ALL PERPENDICULAR REINFORCEMENT BARS INTO EXISTING FOOTING, 6" EMBEDMENT. CLEAN AND SCARIFY FACE OF EXISTING FOOTING ACCORDING TO REQUIREMENTS IN GENERAL STRUCTURAL NOTES.
- SEE DETAILS FOR REQUIRED SPLICING AT ALL FOUNDATION WALL AND FOOTING INTERSECTIONS, TYP.
- SLAB CONTROL JOINT - SEE DETAILS.
- 6" CONCRETE-FILLED STEEL PIPE BOLLARD. EXTEND DOWN TO FOOTING.
- EXISTING FOOTING DEPTH AND THICKNESS BASED ON SITE INVESTIGATION PERFORMED BY CONTRACTOR. ALERT STRUCTURAL ENGINEER IF DIMENSIONS DISCOVERED DURING EXCAVATION DIFFER THAN THOSE SHOWN. DO NOT UNDERMINE EXISTING FOOTINGS, EITHER DIRECTLY OR WITHIN THE ANGLE OF INCIDENCE OF THE BEARING LOAD ON THE SOIL. CONTACT STRUCTURAL ENGINEER IF ANY UNDERMINING IS SUSPECTED.
- GALVANIZED STEEL GUARDRAIL WITH HORIZONTALS AT +42" AND +21" FROM FINISHED SLAB ELEVATION.
- PROVIDE EXPANSION JOINT WITH NO POSITIVE MECHANICAL ANCHORAGE BETWEEN SLAB AND WALL.
- 12" CONCRETE WALL - SEE SCHEDULE FOR REINFORCING
- CUT HSS12x0.375 WITH 1/2" EXPANSION ANCHOR AT 2'-0" O.C., FULLY GROUTED AND FULL HEIGHT OF CONCRETE WALL
- SEE DETAILS FOR REQUIRED SMOOTH BAR DOWELS AT JOINT BETWEEN NEW AND EXISTING CONCRETE SLABS.
- CHAIN LINK CONSTRUCTION FENCE - SEE SELECTIVE DEMOLITION PLAN
- HATCHED AREA INDICATES AREA OF OVEREXCAVATION. PER GEOTECHNICAL REPORT CONTRACTOR IS TO OVER EXCAVATED EXISTING FILL DOWN TO NATIVE SOILS. ESTIMATED DEPTH BELOW FOOTINGS IS 1'-6". CONTRACTOR CAN STOCK PILE REMOVED EXISTING FILL IN DESIGNATED AREA FOR REUSE AS STRUCTURAL FILL TO BE COMPACTED AS INDICATED IN THE GEOTECHNICAL REPORT. OVER EXCAVATION IS TO EXTEND PAST THE EDGE OF FOOTING BY 2/3 THE FINAL OVEREXCAVATION DEPTH. PER GEOTECHNICAL REPORT CONTRACTOR TO ACCOUNT FOR HIGH WATER TABLE AT OVER EXCAVATION AREA AND PUMP OUT ANY STANDING WATER IN THE EXCAVATION.

ADD 1

DEMO PLAN NOTES

- REMOVE RAMP CONCRETE SLAB
- REMOVE CONCRETE SLAB
- REMOVE CONCRETE PANEL TO INDICATED JOINT LINE
- SAWCUT AND REMOVE CONCRETE PANEL; EXTEND SAW CUT LINE TO FOUNDATION
- REMOVE RETAINING WALL AND ASSOCIATED FOOTING
- REMOVE GUARDRAILS
- REMOVE EXISTING THRESHOLD CURB DOWN TO TOP OF FOUNDATION WALL; PREP FOR NEW THRESHOLD CURB
- REMOVE EXISTING DRAIN INLET AND SALVAGE FOR REINSTALLATION
- EXISTING 18" DRAIN LINE, APPROXIMATELY 8'-8" BELOW FINISH FLOOR. PROTECT FOR DURATION OF CONSTRUCTION; ENSURE SLOPE IS MAINTAINED TO PROVIDE POSITIVE DRAINAGE TO COLLECTOR LINE TO SOUTH
- EXISTING STORM SEWER MANHOLE - PROTECT DURING CONSTRUCTION
- EXISTING HOSE BIBB IN EXTERIOR WALL, ±8" AFF - PROTECT DURING CONSTRUCTION
- GRIND FLUTED FINISH OF PRECAST FLUSH TO CREATE SMOOTH SURFACE FOR NEW STOOP SLAB
- MIN. 8'-FT HIGH CHAIN LINK CONSTRUCTION FENCE LOCATED WITHIN 1'-0" OF CUT EDGE OF PAVING
- REMOVE EXISTING CRACKED CONCRETE PANEL TO INDICATED JOINT LINES; PROTECT AND MAINTAIN LOCATION OF MANHOLE DURING CONSTRUCTION

ADD 1



D1 FOOTING PLAN
SCALE: 1/4" = 1'-0"