505 Telser Road Lake Zurich, Illinois 60047

> Phone (847) 540-1696 Fax (847) 726-2182 LakeZurich.org

# APPLICATION PZC 2018-3

PZC Meeting Date: March 21, 2018

#### **AGENDA ITEM 4.B**

#### **STAFF REPORT**

To:	Chairperson Stratman and Members of the Planning & Zoning Commission
From:	Sarosh Saher, Community Development Director
CC:	Katie Williams, Associate Planner Mary Meyer, Building Services Supervisor
Date:	March 21, 2018
Re:	Final Plan Approval for 449 South Rand Road True North Energy – Gasoline Service Station and Convenience Store (Redevelopment of the former Omega Restaurant Site)

#### SUBJECT

True North Energy (the "Applicant") requests Final Plan Approval of a Planned Unit Development for the redevelopment of the former Omega Restaurant site, commonly known as 449 South Rand Road, legally described in Exhibit A attached hereto (the "Subject Property").

#### **GENERAL INFORMATION**

Requested Action:	Final Plan Approval of a Planned Unit Development					
Current Zoning:	B-3 Regional Shopping District					
Existing Use	Vacant Restaurant Building					
Proposed Uses:	Gasoline Service Station (SIC #554) and Convenience Store					
Property Location:	449 South Rand Road					
Applicant:	True North Energy					



Owner:	True North Energy LLC
Staff Coordinator:	Katie Williams, Associate Planner

#### LIST OF EXHIBITS

- A. Legal Description
- B. Public Hearing Sign
- C. Site Photos
- D. Aerial Map
- E. Zoning Map
- F. Parcel Map
- G. Final Plan Documents
- H. Development Review Comments

#### BACKGROUND

True North Energy (the "Applicant"), is the Applicant for the proposed Planned Unit Development located at 449 South Rand Road, and legally described in Exhibit A attached hereto (the "Subject Property"). The Applicant filed an application with the Village of Lake Zurich received on February 22, 2018 (the "Application") seeking:

• Final Plan Approval for a Planned Unit Development to construct a Gasoline Service Station and Convenience Store (SIC #554)

The Subject Property is located within the Village's B-3 Regional Shopping Zoning District. The existing building on the property has been vacant since 2007 and is in need of significant repair or redevelopment.

Pursuant to public notice published on March 6, 2018, in the Daily Herald, a public meeting has been scheduled with the Lake Zurich Planning & Zoning Commission for March 21, 2018, to consider the Final Plan. On March 6, 2018, the Village posted a public hearing sign on the Subject Property (Exhibit B).

#### **Prior Development Concept Plan (Preliminary Plan) Approval:**

On January 2, 2018, the Applicant was granted Development Concept Plan (Preliminary Plan) approval for the development through Ordinance No. 2018-01-238, specifically granting the following zoning approval:

1. The approval of a Special Use Permit to authorize a Planned Unit Development and Approval of a Development Concept Plan on the Property in accordance with the procedure and standards set forth in Chapter 22, Section 9-22-4 entitled "Procedure" and 9-22-5 entitled "Standards for Planned Unit Developments"; and

#### Community Development Department PZC Hearing Date: March 21, 2018

- 2. The approval of a preliminary Site Plan and Exterior Appearance of the Building and Structures, consistent with the Planned Unit Development Concept Plan, as contained within the Development Plans and Elevations entitled True North Energy prepared by RTM Engineering Consultants Sheet no. Cl dated August 21, 2017 and last revised on December 11, 2017; and
- 3. The approval of modifications to the Land Development and Zoning Codes related to Bulk Requirements, Landscape Material, Parking Spaces and Exterior Lighting in the B-3 Regional Shopping District as described in Section 4.

A Copy of Ordinance No. 2018-01-238 containing the terms and conditions of the development is attached for reference as **Exhibit A**. The video stream of the Village Board meeting when the approval was granted can be viewed at the following link: http://view.earthchannel.com/PlayerController.aspx?&PGD=lakezurichil&eID=369

Staff offers the following additional information:

- A. PZC Approval of the Development Concept Plan. The project was presented to the Planning and Zoning Commission on September 20, 2017 at a public hearing. The video from the PZC meeting can be accessed via the link: http://view.earthchannel.com/PlayerController.aspx?&PGD=lakezurichil&eID=356
- **B. Zoning District**. The property is located within a B-3 Regional Shopping District. The purpose of the B-3 Regional Shopping district is intended to provide locations for major retail centers. The regulations are designed to encourage a broad range of attractive retail and compatible service uses in those centers.

#### **GENERAL FINDINGS**

Staff of the Community Development Department and its Development Review Team (DRT) have evaluated the Final Plan in accordance with the requirements for evaluation provided within Section 9-11-4.C entitled "Final Plan."

The final plan is intended to particularize, refine, and implement the development concept plan and to serve as a complete, thorough, and permanent public record of the planned unit development and the manner in which it is to be developed. Such final plan is required to be in substantial conformity with the approved development concept plan.

As this PUD consists of a single site development without any contemplated subdivision of land, there is no Final Plat of Subdivision to be considered.

#### *Evaluation of the Final Plan:*

Per the requirements of the zoning code, the Planning and Zoning Commission (PZC), with the assistance and advice of village staff and consultants (DRT) is required to review and act on the plan. The PZC is required to consider:

- 1. Whether the final plan is in substantial conformity with the approved development concept plan; and
- 2. The merit or lack of merit of any departure of the final plan from substantial conformity with the approved development concept plan; and
- 3. Whether the final plan complies with any and all conditions imposed by approval of the development concept plan; and
- 4. Whether the final plan complies with the provisions of this zoning code and all other applicable federal, state, and village codes, ordinances, and regulations.

#### **Approved Preliminary Plan modifications indicated in Final Plan**

The Preliminary plan was approved by the Village Board on January 2, 2018 through Ordinance 2018-01-238 entitled "An Ordinance Granting Approval for a Planned Unit Development, Development Concept Plan, Special Use Permits, and Modifications to the Zoning and Land Development Code." Just prior to consideration by the Village Board, the applicant had been in contact with IDOT regarding the access to the property from Rt 22.

On discussing the plan in further detail with representatives from IDOT, the developer was informed that IDOT required the access to the property from Route 22 to be located farther to the west from the intersection. The discussions were predicated on a site visit to the property by Mr. Tom Gallenbach, Traffic Permit Engineer at IDOT, to examine first-hand the topographic conditions on the site that would determine the location of such access. Mr. Gallenbach provided the developers with his recommendations to relocate the access to a point farther west that will not be affected by the changing topography. The developers indicated that that this would resolve the issue of access, but required minor revisions to the site plan.

The site plan was revised to meet the recommendations of IDOT. These revisions necessitated a minor reorientation of the building resulting in adjustment of the accompanying landscape material. Due to the limited space on the site, the quantities of landscape material had to be reduced requiring further modification to the code. These adjustments were presented to the Village Board and were approved through Ordinance No. 2018-01-238.

The Final Plan is consistent with the modifications to the zoning code that were approved by Ordinance No. 2018-01-238. Such approved modifications are as follows:

#### 1. Bulk, Space and Yard Requirements.

- a. **Maximum Height**: Section 9-4-10 A requires that principal structures be constructed with a maximum height of 35 feet and comprise of no more than 3 stories. The development proposes a maximum structure height of 42 feet at its highest point to the top of the decorative cupola.
- b. **Minimum Yards**: Section 9-4-10 C requires that the interior side yard be 15 feet. The development proposes a minimum interior side yard of 5.89 feet.

2. **Parking**: Section 9-10-1 F2b(2) requires parking spaces for gasoline service stations to be provided at the rate of 3 for each service bay plus 1 for each employee, or 21 spaces in the case of the subject property. The development proposes the construction of 19 spaces on the subject property.

#### **3.** Exterior Lighting:

a. Section 9-8B-3 D requires that the maximum permitted illumination at any time at any point within a property shall be 10.0 foot-candles. The development is proposing illumination in the amount of 19 foot-candles under the canopy. These illumination levels are consistent with departures that have been granted to recently approved gas stations along Rand Road.

#### 4. Landscape Material:

- a. **East Lot Line Landscaping Along South Rand Road (Route 12).** Section 9-8-107.A requires 15 trees and 45 shrubs to be provided along the tree bank adjacent to Rand Road. Due to space constraints, the applicant is proposing 14 trees and 41 shrubs within this area.
- b. **South Lot Line Landscaping Along West Main Street (Route 22).** Section 9-8-107.A requires 9 trees and 41 shrubs to be provided along the tree bank adjacent to Route 22. The applicant is proposing 5 trees, and 43 shrubs, to compensate for reduced plant material along both tree banks.

#### 5. **Raised Planter Beds along Route 12 and Route 22.**

The PZC added an additional condition to their findings of fact recommending that "Raised planter beds be further researched and considered for the landscape islands adjacent to Rt 12 and Rt 22 in order to screen the asphalt." The applicant consulted with IDOT on this requirement and was informed that IDOT was unwilling to approve these raised planter beds because such features are not allowed within 10' of the right-of-way line of an IDOT controlled arterial. Our village engineer has further clarified IDOT's determination stating that such response refers to Public Act 86-616 which prohibits construction of an earthen berm within 10 feet of the right-of-way for issues relates to drainage. The existing topography shows that the right-of-way drains toward the site from back-of-curb. Any raised planting beds would additionally have to allow this drainage to pass onto the site, as opposed to redirecting drainage toward the back-of-curb.

The developer indicated that based on the restricted space conditions, installation of the raised berms in these areas while meeting the design and drainage parameters would not be logistically viable and requested relief from this condition. Such relief was granted through the approved ordinance.

#### RECOMMENDATION

The recommendation of the Planning and Zoning Commission should be based on the standards included in the following Sections of the Lake Zurich Municipal Code:

• Section 9-11-4.C Final Plan

Based on the review of staff, the general conditions for approval provided for in Ordinance No. 2018-01-238 are met, with the exception of the condition requiring the applicant to obtain approval of all necessary road access permits from the Illinois Department of Transportation (IDOT) prior to this consideration.

The applicant continues to work with IDOT in obtaining its permits. Acknowledging that the developer has addressed the recommendations of IDOT to relocate the access to a point farther west along Rt 22, Staff has conditioned its recommendation on such approvals being obtained and submitted to the village prior to final approval of any permits for construction of the project.

Other than that, the requirements for evaluation have been met and the Final Plan is in substantial conformity with the approved development concept plan. Staff therefore recommends that the Planning and Zoning Commission make these findings a part of the official record of the Application.

Staff of the Community Development Department recommends the approval of PZC 2018-3, subject to the following conditions:

- 1. Substantial conformance with the following documentation submitted as part of the application and subject to revisions required by Village Staff, Village Engineer, Village Landscape Consultants and applicable governmental agencies:
  - a. Development Plans and Elevations prepared by F.A. Ross Architects, dated January 25, 2018, inclusive of the following sheets:
    - i. Sheet A100-A103 Foundation Plan and Details
    - ii. Sheets A200-A207 Floor and Roofing Plan
    - iii. Sheets A4-A8 Building Plans Buildings 1 and 2
    - iv. Sheets A300-A306 Rest Room and Back Room Details
    - v. Sheets A400-A401 Building Elevations
    - vi. Sheets A500-A506 Wall Details
    - vii. Sheet SU-1 Site Utility
    - viii. Sheets P-1-P-7 Plumbing Details
    - ix. Sheets M-1-M-3 Mechanical Plans and Details
    - x. Sheets E-1-E10 Lighting and Power Plan
    - xi. Sheet LS-1 Life Safety Plan
  - b. Landscape Plans prepared by Design Perspectives, dated December 11, 2017.
  - c. Onsite and Offsite Engineering Plans prepared by RTM Engineering Consultants and dated February 19, 2018.
  - d. Photometric Plan prepared by Red Leonard Associates and dated August 8, 2017.

- e. Traffic Study prepared by Gewalt Hamilton Associates, Inc., dated June 29, 2017.
- f. Sign Package prepared by Jenkins Sign Company and Federal Heath Visual Communications, dated January 24, 2018.
- g. Stormwater Report prepared by RTM Associates dated August 21, 2017.
- 2. The developer shall obtain approval of the required access permit from the Illinois Department of Transportation (IDOT) and submit such approval to the village prior to final approval of any permits for construction of the project.
- 3. The development shall be in compliance with all other applicable codes and ordinances of the Village of Lake Zurich.

Respectfully Submitted,

Katie Williams Associate Planner

#### LAKE ZURICH PLANNING & ZONING COMMISSION FINAL FINDINGS & RECOMMENDATIONS

#### 449 SOUTH RAND ROAD March 21, 2018

The Planning & Zoning Commission recommends approval of Application <u>PZC 2018-3</u>, and the Planning & Zoning Commission adopts the findings as contained within the Staff Report dated March 21, 2018, for this Application and subject to any changes or approval conditions as listed below:

- 1. Substantial conformance with the following documentation submitted as part of the application and subject to revisions required by Village Staff, Village Engineer, Village Landscape Consultants and applicable governmental agencies:
  - a. Development Plans and Elevations prepared by F.A. Ross Architects, dated January 25, 2018, inclusive of the following sheets:
    - i. Sheet A100-A103 Foundation Plan and Details
    - ii. Sheets A200-A207 Floor and Roofing Plan
    - iii. Sheets A4-A8 Building Plans Buildings 1 and 2
    - iv. Sheets A300-A306 Rest Room and Back Room Details
    - v. Sheets A400-A401 Building Elevations
    - vi. Sheets A500-A506 Wall Details
    - vii. Sheet SU-1 Site Utility
    - viii. Sheets P-1-P-7 Plumbing Details
    - ix. Sheets M-1-M-3 Mechanical Plans and Details
    - x. Sheets E-1-E10 Lighting and Power Plan
    - xi. Sheet LS-1 Life Safety Plan
  - b. Landscape Plans prepared by Design Perspectives, dated December 11, 2017.
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  - e. Traffic Study prepared by Gewalt Hamilton Associates, Inc., dated June 29, 2017.
  - f. Sign Package prepared by Jenkins Sign Company and Federal Heath Visual Communications, dated January 24, 2018.
  - g. Stormwater Report prepared by RTM Associates dated August 21, 2017.
- 2. The developer shall obtain approval of the required access permit from the Illinois Department of Transportation (IDOT) and submit such approval to the village prior to final approval of any permits for construction of the project.

3. The development shall be in compliance with all other applicable codes and ordinances of the Village of Lake Zurich.

- □ Without any further additions, changes, modifications and/or approval conditions.
- □ With the following additions, changes, modifications and/or approval conditions:

Planning & Zoning Commission Chairman

#### EXHIBIT A

#### LEGAL DESCRIPTION OF SUBJECT PROPERTY

THAT PART OF THE WEST HALF OF THE NORTH EAST QUARTER OF SECTION 19, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE CENTER OF SAID SECTION 19; THENCE EAST ON THE EAST AND WEST QUARTER SECTION LINE OF SECTION 19, 792.6 FEET; THENCE NORTH AT RIGHT ANGLES TO THE SAID OUARTER SECTION LINE 21.55 FEET TO A POINT IN THE NORTHERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 22, SAID POINT BEING THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE NORTH ON A PROLONGATION OF THE LAST DESCRIBED COURSE, 479.0 FEET TO A POINT IN THE SOUTHWESTERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 60 (ALSO KNOWN AS U.S. ROUTE NO. 12); THENCE SOUTHEASTERLY ON SAID RIGHT OF WAY LINE (SAID RIGHT OF WAY LINE BEING A CURVED LINE. CONCAVE EASTERLY AND HAVING A RADIUS OF 3445.46 FEET) 495.2 FEET; THENCE SOUTHERLY AND WESTERLY ON A CURVED LINE TO THE RIGHT, TANGENT TO THE LAST DESCRIBED CURVED LINE AND HAVING A RADIUS OF 25 FEET FOR A DISTANCE OF 55.07 FEET; THENCE WESTERLY ON A LINE TANGENT TO THE LAST DESCRIBED CURVED LINE AND PARALLEL TO AND 50 FEET NORTH OF THE CENTER LINE OF S.B.I. ROUTE NO. 22, FOR A DISTANCE OF 15.84 FEET: THENCE ON A CURVE TO THE LEFT. HAVING A RADIUS OF 505 FEET AND TANGENT TO THE LAST DESCRIBED COURSE FOR A DISTANCE OF 100.62 FEET; THENCE ON A CURVE TO THE RIGHT HAVING A RADIUS OF 505 FEET AND TANGENT TO THE LAST DESCRIBED CURVED LINE FOR A DISTANCE OF 100.62 FEET TO A POINT OF TANGENCY IN THE NORTH RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 22; THENCE WEST ON SAID RIGHT OF WAY LINE, 20.6 FEET TO THE POINT OF BEGINNING (EXCEPTING FROM THE AFOREDESCRIBED TRACT OF LAND ALL THAT PART THEREOF LYING NORTHERLY OF A STRAIGHT LINE DRAWN FROM A POINT ON THE WEST LINE OF SAID TRACT. 250.0 FEET NORTH OF (AS MEASURED ALONG THE WEST LINE OF SAID TRACT) THE EAST AND WEST QUARTER SECTION LINE OF SECTION 19, AFORESAID TO A POINT ON THE NORTHEASTERLY LINE OF SAID TRACT, (BEING ALSO THE SOUTHWESTERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 60) SAID POINT BEING 216.0 FEET SOUTHEASTERLY OF (AS MEASURED ALONG THE NORTHEASTERLY LINE OF SAID TRACT) THE MOST NORTHERLY CORNER OF SAID TRACT); ALSO EXCEPTING THAT PART THEREOF LYING SOUTHERLY AND EASTERLY OF THE FOLLOWING DESCRIBED COURSES: COMMENCING AT THE SOUTHEAST CORNER OF LOT 4 IN NORTH LAKE COMMONS SUBDIVISION; THENCE NORTH ALONG THE EAST LINE OF SAID LOT 4, 19.43 FEET FOR THE POINT OF BEGINNING OF THIS EXCEPTION; THENCE SOUTH 89 DEGREES 03 MINUTES 11 SECONDS EAST, A DISTANCE OF 123.52 FEET; THENCE NORTH 81 DEGREES 02 MINUTES 15 SECONDS EAST, A DISTANCE OF TO A POINT OF CURVATURE; THENCE NORTHEASTERLY AND 83.46 FEET, NORTHWESTERLY ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 39.5 FEET, AND AN ARC DISTANCE OF 79.69 FEET, TO A POINT ON THE SOUTHWESTERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 60 (ALSO KNOWN AS U.S. ROUTE NO. 12) AND THE POINT OF TERMINUS OF THIS EXCEPTION, ALL IN LAKE COUNTY, ILLINOIS.

#### Community Development Department PZC Hearing Date: March 21, 2018

#### **EXHIBIT B** HEARING SIGN ON SUBJECT PROPERTY





#### **Exhibit C: Site Photos**



Figure 1: Looking west from Rand Road towards the existing building which is proposed to be demolished



Figure 2: Looking southwest from Rand Road towards the existing building which is proposed to be demolished



Figure 3: Looking south from Batteries + Bulbs towards the existing building which is proposed to be demolished



Figure 4: Looking east from the North Lake Commons property towards the rear of the existing building which is proposed to be demolished



Figure 5: Looking north from Route 22 towards the existing building which is proposed to be demolished



Figure 6: Looking south from the Subject Property towards Route 22 and Village Square Retail Center



Figure 7: Looking southeast from the Subject Property towards the intersection of Route 22 and Route 12



Figure 8: Looking east from the Subject Property towards Rand Road and the adjacent development



Figure 9: Looking north from the Subject Property to the Batteries + Bulbs store



Figure 10: Looking northwest towards the rear of the Subject Property



Figure 11: Looking west from the Subject Property towards the adjacent North Lake Commons development

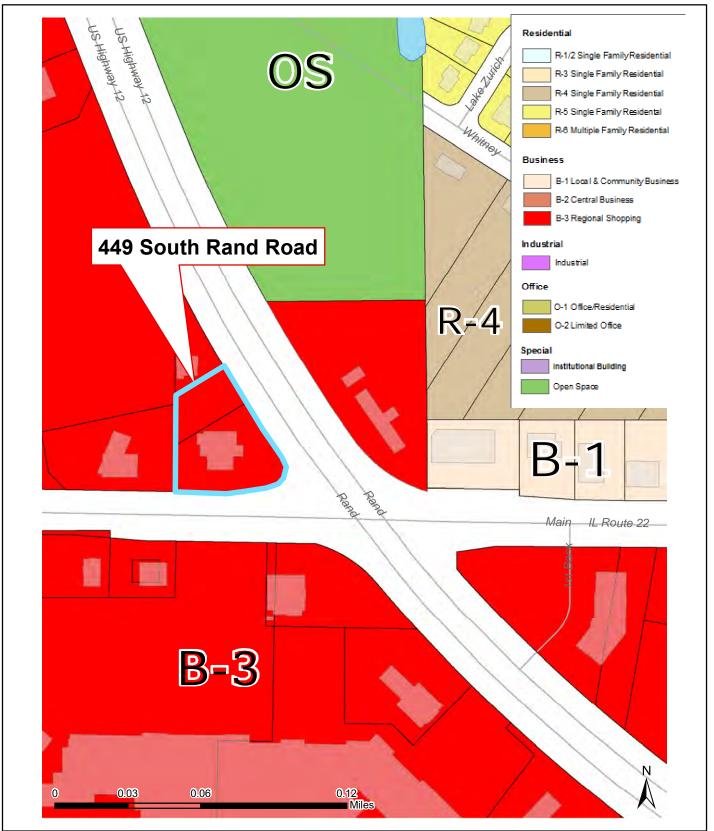


Figure 12: Looking west from the Subject Property towards the steep grade that leads down to the Bank of America building



Aerial Map of 449 S Rand Road, Lake Zurich

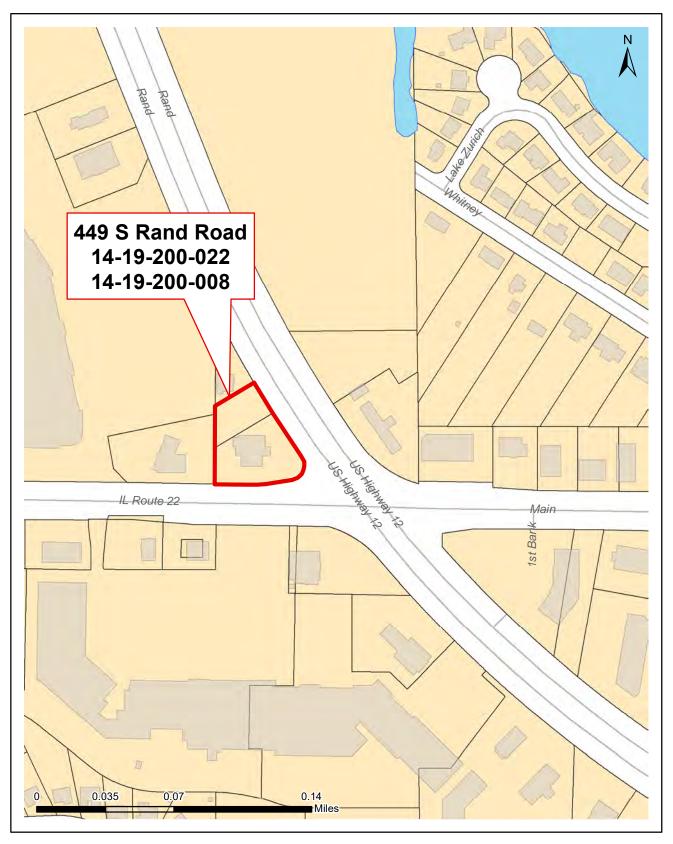




Zoning Map of 449 S Rand Road, Lake Zurich



#### Community Development Department PZC Hearing Date: March 21, 2018



Parcel Map of 449 South Rand Road, Lake Zurich



(Reason Types or Brint)	ANNEXATION AND ZONING APPLICATIO Community Development Departme 505 Telser F Lake Zurich, IL 600 Phone: (847) 540-16 Fax: (847) 540-17
(Please Type or Print)	Attn. Sarosn
1. Address of Subject Property: _4	49 South Rand
2. Please attach complete legal des	cription
3. Property Identification number(s	s): <u>14-19-200- 008 &amp;022</u>
4. Owner of record is: Too No	1.m Entroy Phone: 440 - 792 - 4200
E-Mail	Address: 10346 Brocksville
	wner): <u>True North Energy</u> Phone: <u>440-792-4200</u> Address: <u>10346 Brecksville Rd., Brecksville, OH 44141</u>
6. Applicant's interest in the prope	rty (owner, agent, realtor, etc.): <u>Developer</u>
	ents on the property are: Vacant restaurant with associated site and
Parking and site improvements	
	erty are: Gasoline station with Convenience store
8. The proposed uses on the prop	erty ale. Gasonine station with convenience store
	restrictions concerning the use, type of improvements, setbacks, area, or height Property and now of record and the date of expiration of said restrictions:
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(Notary Public)

My Commission Expires

Please indicate what form of zoning relief your application requires. For assistance, please contact Staff:

Zoning Code Map Amendment to change zoning of Subject Property from \_\_\_\_\_ to \_\_\_\_\_

Zoning Code Text Amendment to amend the following section(s) of the Zoning Code \_\_\_\_\_

(See Section 18-103 of the Lake Zurich Zoning Code for specific standards. If a specific parcel is the subject of this amendment, then provide the additional information listed in Section 18-103C.)

Special Use Permit/Amendment for <u>Gasoline Service Station</u>

(See Section 19-103 of the Lake Zurich Zoning Code for specific standards.)

Planned Unit Development/Major Adjustment/Amendment

(Planned Unit Developments are a distinct category of special use and are intended to create a more desirable environment than through strict application of the zoning and subdivision regulations. See Section 22-105 of the Lake Zurich Zoning Code for specific standards. Please list all the 'modifications' requested in the cover letter.)

Variation for \_\_\_\_\_

(See Section 17-104 of the Lake Zurich Zoning Code for specific standards. Please indicate what your specific hardships are in the cover letter.)

□ Modification to the Land Development Code (includes retaining walls more than 2 feet in height) (See Section 10-6-18 of the Land Development Code for specific standards.)

Preliminary Plat of Subdivision

Final Plat of Subdivision or Amendment to Plat of Subdivision

(See Sections 10-5-2 and 10-5-9 of the Land Development Code for specific standards.)

Site Plan Approval/Major Adjustment/Amendment (See Section 20-103 of the Lake Zurich Zoning Code for specific standards.)

Exterior Appearance Approval or Amendment

(See Section 21-103 of the Lake Zurich Zoning Code for specific standards.)

#### **APPLICATION TO ANNEX CERTAIN TERRITORY**

All land annexed to the Village is classified automatically after such annexation in the R-1\2 Single Family Residential District. The owner must file an application for a Zoning Map amendment if he or she desires a different zoning classification for the Subject Property.

- Petition to Annex Certain Territory (Please complete attached petition)
- Application to Annex Certain Territory

#### COMPREHENSIVE PLAN APPLICATION

Comprehensive Plan Map Amendment for \_\_\_\_\_\_

Comprehensive Plan Text Amendment for \_\_\_\_\_

LEGEND EXISTING / PROPOSED EXISTING / PROPOSED VALVE VAULT WATERMAIN PIPE ⊗ ● WATER B-BOX STORM SEWER PIPE ☑ ■ WATER VALVE BOX STORM UNDERDRAIN 💢 🕱 FIRE HYDRANT SANITARY SEWER PIPE COMBINED SEWER PIPE W WELL HEAD ELECTRICAL DUCT BANK STRE DEPARTMENT CONNECTION STORM INLET NATURAL GAS LINE () STORM MANHOLE COMMUNICATIONS LINE CHILLED WATER SUPPLY CHILLED WATER RETURN O STORM CLEANOU
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TELEPHONE CABLE

FIBER OPTIC CABLE

CONSTRUCTION LIMITS

AERIAL WIRES

EASEMENT LINE

HIGH WATER LINE

NORMAL WATER LINE

CHAIN LINK FENCE

BARBED-WIRE FENC

WOODEN FENCE

DECIDUOUS TREE

SHRUB OR BUSH

EVERGREEN TREE

SILT FENCE

VENT LINE

# **ONSITE** FINAL ENGINEERING PLANS FOR TRUE NORTH ENERGY 449 S. RAND ROAD

LAKE ZURICH, ILLINOIS

LOCATION MAP

SANITARY MANHOLE

S SANITARY CLEANOU

(1) TELEPHONE MANHOLE

🌣 🌲 LIGHT POLE

✓ ✓ POWER POLE

D D GAS VALVE

🐨 🖝 GAS METER

HH HAND HOLE

M MAIL BOX

ΤV

(C) (D) ELECTRICAL MANHOLE

SOIL BORING

SPOT ELEVATION

🗡 SURFLACE FLOW

7 100-YEAR OVERFLOW

CABLE TV PEDESTA

TELEPHONE PEDESTAI

LOCATION W. MILLER RD. . MAIN RD. -22 W. MAIN RD. W. CUBA RD. W. CUBA RD. LONG GROVE RD. E. MAIN ST. E. MAIN ST.

### DEVELOPER

TERRACO INC. 3201 OLD GLENVIEW ROAD WILMETTE, IL 60091 847.679.6660

TRUENORTH 10346 BRECKSVILLE ROAD BRECKSVILLE, OH 44141 440.792.4200

## BENCHMARKS

SOURCE BENCHMARK: (DATUM: NAVD 88) STEEL ROD IN SLEEVE AS DESCRIBED FROM NGS DATA SHEET DESIGNATED AS LAKE ZURICH (PID AJ3081).

ELEVATION=871.32 SITE BENCHMARK 1: SOUTH EAR OF HYDRANT LOCATED ON THE NORTHEAST SIDE OF U.S. ROUTE 12 (A.K.A. RAND ROAD). NORTH OF THE INTERSECTION OF ROUTE 12 AND ROUTE 22. 52' SE'LY

OF THE OUT-RIGHT EXIT ROAD AND 11' NE'LY FROM THE BACK OF CURB. ELEVATION=848.63

SITE BENCHMARK 2: SQUARE CUT ON THE SOUTH EAST CORNER OF ELECTRIC TRANSFORMER PAD LOCATED NORTHEAST OF THE NORTHEASTERLY PROPERTY LINE

ELEVATION=845.92

## DUTY TO INDEMNIFY

THE CONTRACTOR SHALL DEFEND, INDEMNIFY, KEEP AND SAVE HARMLESS THE MUNICIPALITY, OWNER, AND ENGINEER, AND THEIR RESPECTIVE BOARD MEMBERS, REPRESENTATIVES, AGENTS AND EMPLOYEES, IN BOTH INDIVIDUAL AND OFFICIAL CAPACITIES, AGAINST ALL SUITS, CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES, CAUSED BY, GROWING OUT OF, OR INCIDENTAL TO, THE PERFORMANCE OF THE WORK UNDER THE CONTRACT BY THE CONTRACTOR OR ITS SUBCONTRACTORS TO THE FULL EXTENT AS ALLOWED BY THE LAWS OF THE STATE OF ILLINOIS AND NOT BEYOND ANY EXTENT WHICH WOULD RENDER THESE PROVISIONS VOID OR UNENFORCEABLE. THIS OBLIGATION INCLUDES BUT IS NOT LIMITED TO, THE ILLINOIS LAWS REGARDING STRUCTURAL WORK (IL. REV. STAT. CH. 48, PAR.60 AT SEQ.). AND REGARDING THE PROTECTION OF ADJACENT LANDOWNERS (IL. REV. STAT. CH.17 1/2 PAR.51 ET. SEQ.). IN THE EVENT OF ANY SUCH INJURY (INCLUDING DEATH) OR LOSS OR DAMAGE, OR CLAIMS THEREFORE, THE CONTRACTOR SHALL GIVE PROMPT NOTICE TO THE OWNER.

## NOTES

- 1. SITE ACCESS CONTROL INCLUDING SAFETY FENCES AND TRAFFIC CONTROL, ALL CONSTRUCTION MEANS AND METHODS, AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR
- 2. THE CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. ALL UTILITIES SHOWN IN THE PLANS ARE FROM RECORDS OR FIELD OBSERVABLE IN FORMATION LOCATED BY SURVEYOR. ANY UTILITY LOCATIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.

Sheet	List	Table	
Sheet N	lumber	ſ	
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 1 2 3			



IHPA IDNR IDOT IEPA-DWPC IEPA-NOI VILLAGE WDO

<u>NUI</u> XXX XXXX XXX \_\_\_\_ \_\_\_

Sheet Title COVER SHEET DEMOLITION PLAN SITE PLAN UTILITY PLAN GRADING PLAN SOIL EROSION CONTROL PLAN SOIL EROSION SPECS-DETAILS SPECIFICATIONS DETAILS DETAILS DETAILS DETAILS LAKE ZURICH VILLAGE DETAILS LAKE ZURICH VILLAGE DETAILS LAKE ZURICH VILLAGE DETAILS

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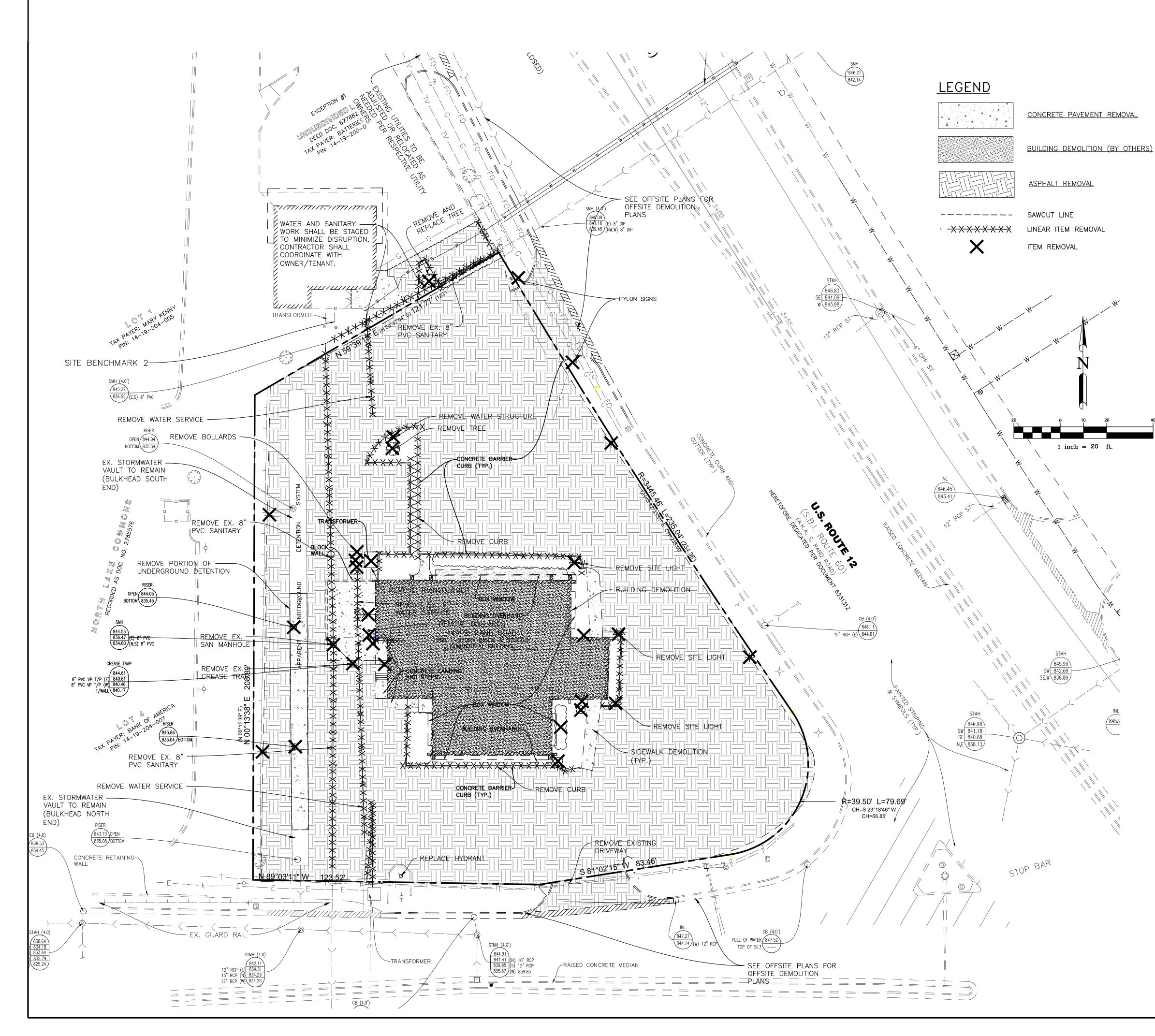
CALL JULIE, TOLL FREE AT 1-800-892-0123, AT LEAST 48 HOURS PRIOR TO DIGGING, EXCLUDING SAT. SUN. AND HOLIDAYS.



PROVIDE THE FOLLOWING INFORMATION:

COUNTY: LAKE COUNTY CITY/TWP: LAKE ZURICH 1/4 SEC: <u>NE 1/4 19</u> TOWNSHIP: 43 N RANGE: <u>10 E</u>

650 E. Algonquin Rd., Ste 250,Schaumburg, IL. 60173 T.847.756.4180 www.rtmassociates.com
LAKE ZURICH, IL
9 S. RANU RUAU

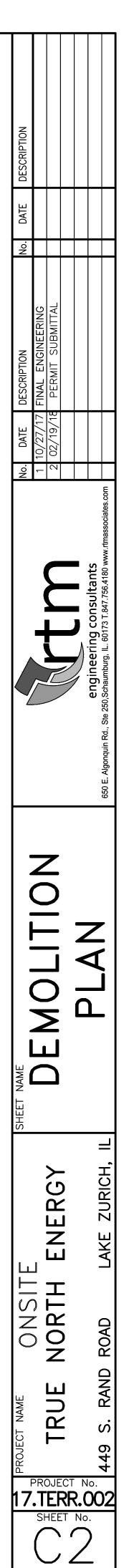


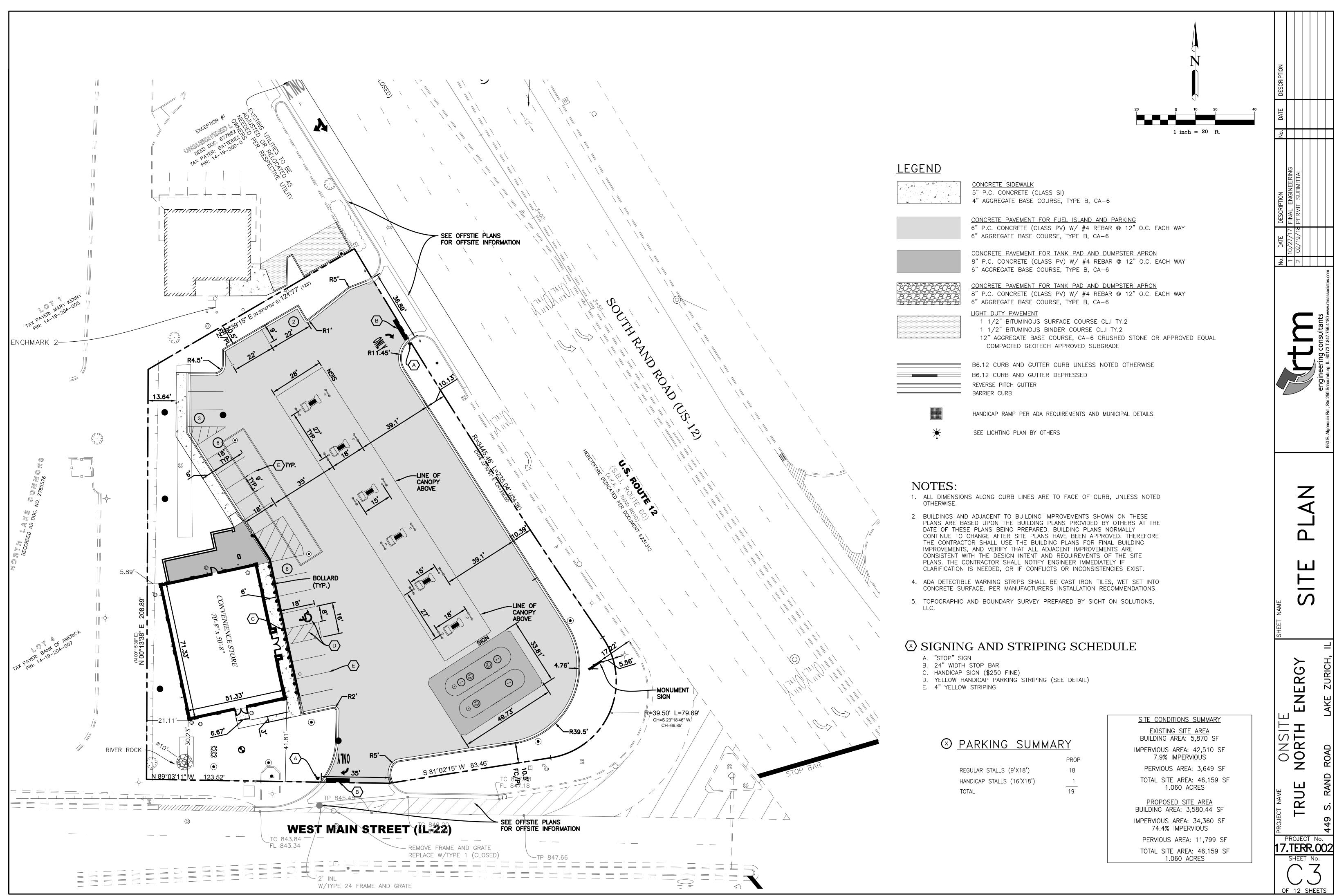
### NOTES:

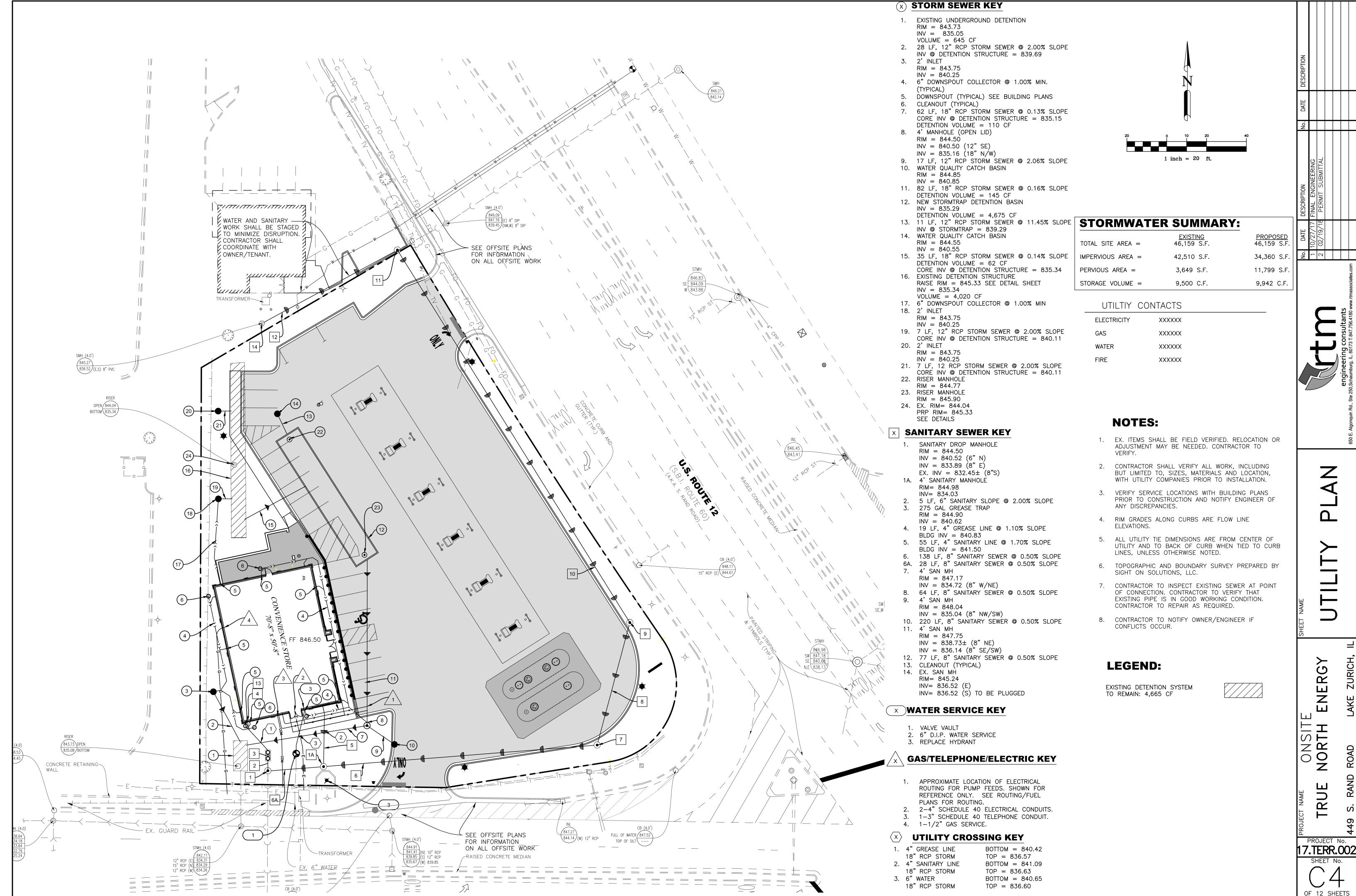
- 1. SITE ACCESS CONTROL INCLUDING SAFETY FENCES AND TRAFFIC CONTROL, ALL CONSTRUCTION MEANS AND METHODS, AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 2. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.
- 3. ALL SITE CLEARING, TOPSOIL STRIPPING, EXCAVATION, EMBANKMENT, GRADING, COMPACTION, SUB GRADE PREPARATION AND OTHER WORK HEREIN CONTEMPLATED SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ILLINOIS DEPARTMENT OF TRANSPORTATION, JANUARY 2016 EDITION, (HEREINAFTER REFERRED TO AS STANDARD SPECIFICATIONS) EXCEPT THAT PAYMENT WILL BE DEFINED AS DETAILED IN THE STANDARD SPECIFICATIONS FOR WATER AND SEWER SIXTH EDITION, 2009.
- 4. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHALL BE INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING WORK IN THE CONSTRUCTION AREA. EXCAVATION IN THE VICINITY OF EXISTING STRUCTURES AND UNDERGROUND UTILITIES SHALL BE PERFORMED BY HAND. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING FACILITIES, MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES AND FIBER OPTIC CABLE INSTALLATIONS.
- 5. THE CONTRACTOR IS TO UNCOVER ALL LINES BEING TIED INTO AND VERIFY GRADES BEFORE ANY CONSTRUCTION.
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL STREET AND SIDEWALK CLOSURES WITH THE MUNICIPALITY.
- 7. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS AND SPOILS TO INSURE MINIMAL INTERFERENCE WITH OWNER OPERATIONS.
- 8. INSURE SAFE PASSAGE OF PERSONS AROUND AREAS OF DEMOLITION. REMOVE FROM SITE ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FORM DEMOLITION AND LAWFULLY DISPOSE OF SAME.
- 9. ALL ITEMS TO BE REMOVED SHALL BE PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
- 10. AT LOCATIONS OF UTILITY REMOVAL, ANY OPEN TRENCHES REQUIRED, SHALL BE BACKFILLED WITH COMPACTED TRENCH BACKFILL.
- 11. NOTIFY UTILITY OWNER 72 HOURS IN ADVANCE OF ANY UTILITY SHUTDOWN.
- 12. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL ITEMS DESIGNATED TO BE REMOVED OR RELOCATED.
- 13. IF ANY ITEMS ARE ENCOUNTERED IN THE FIELD THAT ARE NOT SHOWN ON THE PLAN WHICH REQUIRE DEMOLITION OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE A/E IMMEDIATELY.
- 14. THE SURVEY BASE PROVIDED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY. THE OWNER, ARCHITECT & ENGINEER(S) ARE NOT RESPONSIBLE FOR ANY MISCHARTED OR UNCHARTED UTILITIES, OR OTHER DESCREPENCIES DETECTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SITE CONDITIONS.
- 15. THE CONTRACTOR WILL PROTECT ALL UTILITIES, STREETS, STRUCTURES, VEGETATION, AND ADJACENT PROPERTY DESIGNATED TO REMAIN. ANY DAMAGE BY THE CONTRACTOR TO UTILITIES, STREETS, STRUCTURES, VEGETATION AND ADJACENT PROPERTY WILL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 16. THE CONTRACTOR WILL PAY ALL REQUISITE FEES TO THE MUNICIPALITY, AND ANY OTHER AGENCY REQUIRED, FOR COMPLETION OF DEMOLITION WORK.
- 17. CONTRACTOR TO ADJUST RIMS OF EXISTING STRUCTURES WITHIN SCOPE OF WORK TO FINAL GRADE ELEVATIONS.
- 18. EXISTING LATERAL CONNECTIONS FOR UTILITIES SHALL BE COORDINATED WITH THE CORRESPONDING UTILITY COMPANY FOR CAPPING AND CUT OFF WITHIN THE SCOPE OF WORK.
- 19. THE CONTRACTOR IS TO COMPLY WITH FEDERAL, STATE, AND LOCAL ORDINANCES WITH REGARD TO REMOVAL AND DISPOSAL OF MATERIALS FOR ALL ITEMS TO BE DEMOLISHED. WORK INCLUDES THE COMPLETE REMOVAL AND LEGAL DISPOSAL OF ALL OBJECTS AND MATERIALS (REGARDLESS OF THEIR NATURE) INCLUDING BUT NOT LIMITED TO TREE ROOTS, ORGANIC SOIL, DRUMS, TIRES, WOOD, BROKEN CONCRETE PIECES, AND FENCES ABOVE THE REQUIRED ELEVATION.
- 20. BURNING ON OWNERS PROPERTY IS NOT PERMITTED.

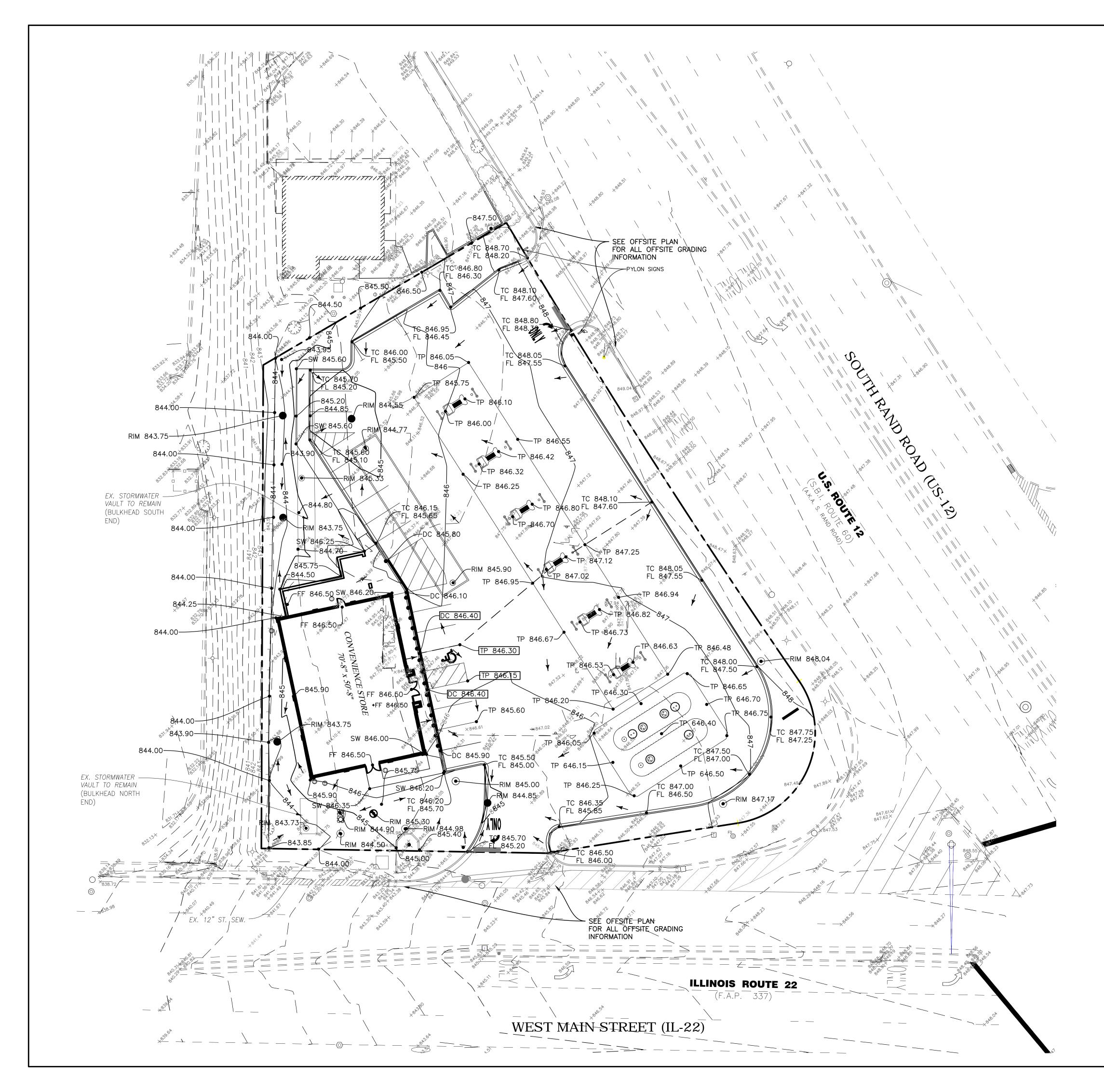
EXISTING PAVEMENT TO REMAIN.

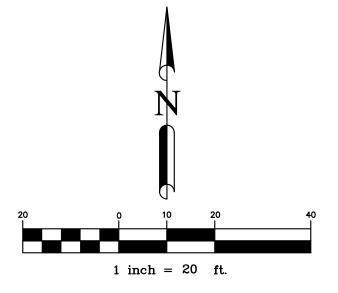
- SIDEWALK DEMOLITION SAWCUTS SHALL BE AT THE NEAREST EXISTING JOINT.
   FULL DEPTH SAWCUTS ARE REQUIRED FOR PAVEMENT REMOVALS, ADJACENT TO
- 23. SAWCUT ALL TREE ROOTS ENCOUNTERED IN LIEU OF USING SHOVELS (HAND SHOVELS OR MECHANICAL).
- 24. ALL ABANDONED STORM SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.
- 25. WATER AND SANITARY WORK SHALL BE STAGED TO MINIMIZE DISRUPTION. COORDINATE WITH TENANT/OWNER.











#### NOTES:

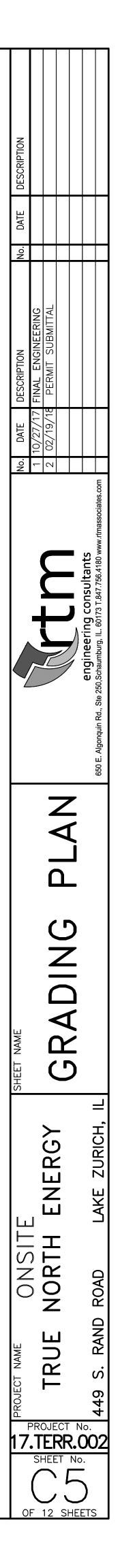
- PROPOSED ELEVATIONS SHOWN ON PROPOSED CURB LINES ARE FLOW LINE ELEVATIONS UNLESS NOTED OTHERWISE. ADD 0.50' TO OBTAIN TOP OF CURB ELEVATIONS.
- 2. A CONSTANT SLOPE SHALL BE MAINTAINED BETWEEN SPOT GRADES.
- 3. 2% MINIMUM SLOPE AND 3:1 MAXIMUM SLOPE IN TURF AREAS AND 1% MINIMUM SLOPE AND 5% MAXIMUM SLOPE IN PAVED AREAS.
- 4. RIM GRADES ALONG CURBS ARE FLOW LINE ELEVATIONS.
- 5. BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY SIGHT ON SOLUTIONS, LLC.

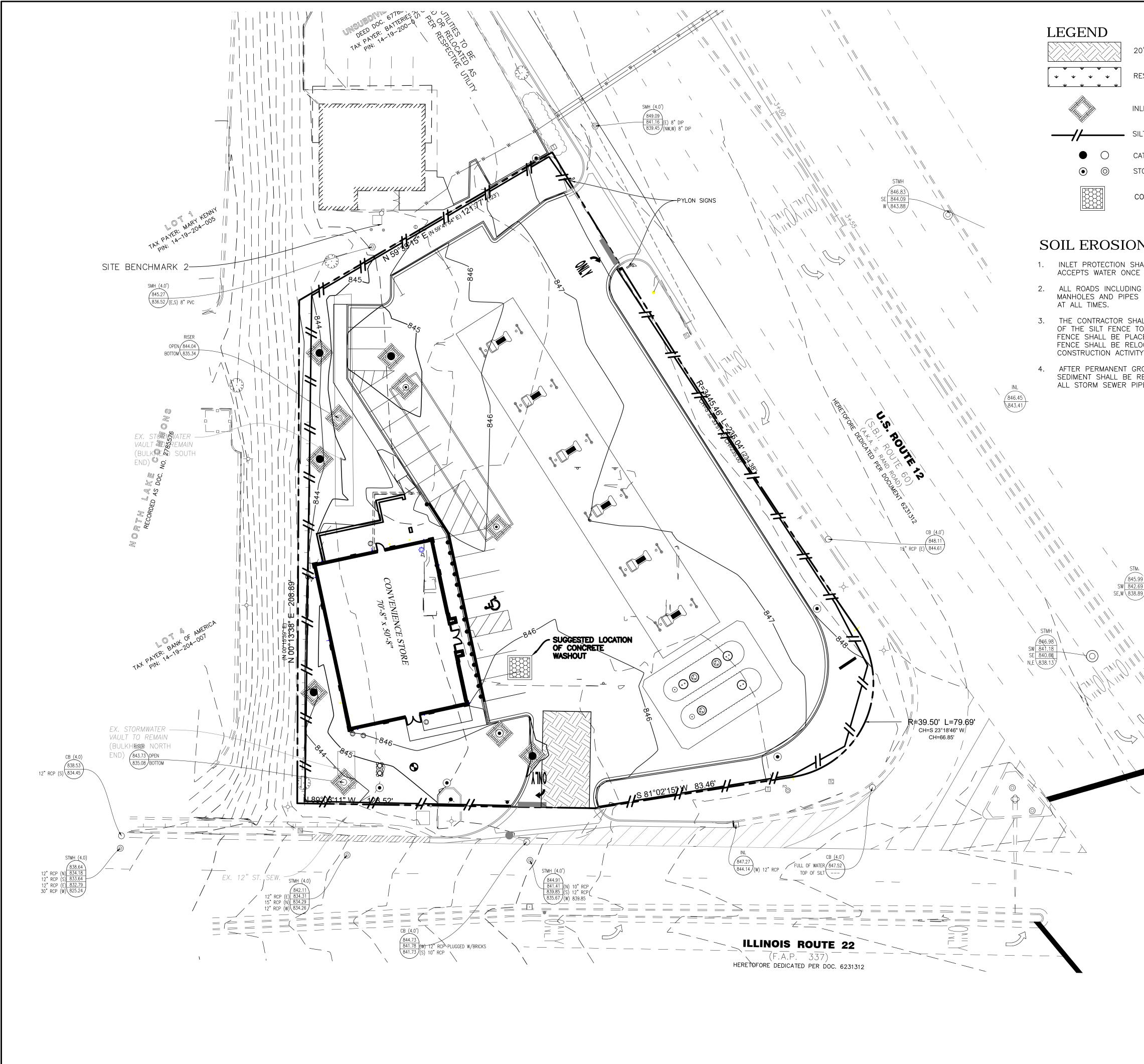
#### LEGEND

	EXISTING	
1 FOOT CONTOUR		<u> </u>
5 FOOT CONTOUR		<u> </u>
SURFACE ELEVATION	× 0.00	
RECORD SURFACE ELEVATION	× 0.00	
DIRECTION OF FLOW		
OVERLAND OVERFLOW		
CATCH BASIN / INLET	$\bigcirc \square$	
MANHOLE	$\bigcirc$	
WATERMAIN VALVE	$\otimes$	
SAWCUT LINE	-	
RIDGE LINE	-	
GRADE CHANGE SLOPE AREA	-	
TOP OF CURB		Т
TOP OF DEPRESSED CURB		Т
FLOW LINE		F
TOP OF PAVEMENT		Т
TOP OF SIDEWALK		S
TOP OF FINISHED GRADE		F
TOP OF UTILITY STRUCTURE		R
TOP OF WALL		Т
FINISHED FLOOR		F
MATCH OR MEET EXIST GRADE		(
CRITICAL GRADE		Τ

PROPOSED
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TDC 000.00
FL 000.00
TP 000.00
SW 000.00
FG 000.00
RIM 000.00
T/WALL 000.00
F/F 000.00
(XX 000.00±) M.E.
TP 000.00





20' X 40' CONSTRUCTION ENTRANCE, SEE DETAILS.

RESTORE PER LANDSCAPE PLANS

INLET PROTECTION, AND INLET BASKET FILTERS, SEE DETAILS.

\_\_\_\_\_ SILT FENCE, SEE DETAILS.

CATCH BASIN/INLET

STORM SEWER MANHOLE

CONCRETE WASHOUT FACILITY

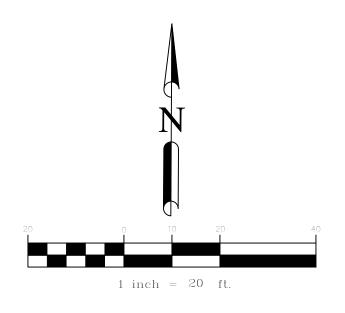
### SOIL EROSION AND SEDIMENT CONTROL NOTES:

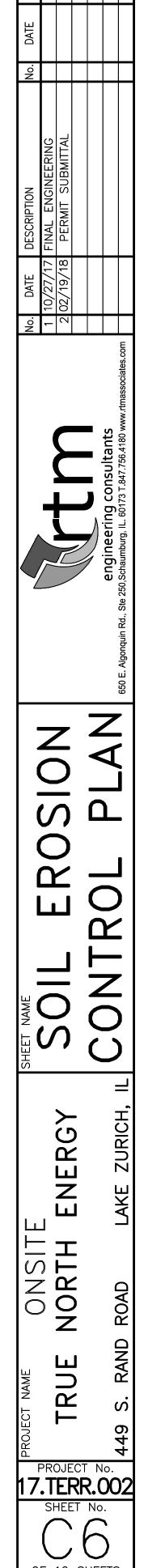
1. INLET PROTECTION SHALL BE INSTALLED AT EACH DRAINAGE STRUCTURE THAT ACCEPTS WATER ONCE THAT STRUCTURE IS ABLE TO RECEIVE WATER.

2. ALL ROADS INCLUDING ADJACENT ROADWAYS, SWALES, DRAINAGE STRUCTURES, MANHOLES AND PIPES MUST BE KEPT CLEAN AND FREE OF DIRT, SILT AND DEBRIS

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD ADJUSTING THE LOCATION OF THE SILT FENCE TO ACCOMMODATE CONSTRUCTION ACTIVITIES. RELOCATED SILT FENCE SHALL BE PLACED TO PREVENT SILT FROM RUNNING OFF THE SITE. SILT FENCE SHALL BE RELOCATED BACK TO ORIGINAL LOCATION AS NECESSARY AFTER CONSTRUCTION ACTIVITY IN THE EFFECTED AREA IS COMPLETED.

AFTER PERMANENT GROUND COVER IS ESTABLISHED THROUGHOUT THE SITE, THE SEDIMENT SHALL BE REMOVED FROM THE UNDERGROUND DETENTION SYSTEM AND ALL STORM SEWER PIPES AND STRUCTURES.





GENERAL EROSION CONTROL REQUIREMENTS

- SOIL EROSION CONTROL SHALL MEET THE FOLLOWING REQUIREMENTS AS APPLICABLE:
- A. THE GOVERNING MUNICIPALITIES EROSION CONTROL REQUIREMENTS. INCLUDING FIELD REQUIRED ADDITIONAL OR MODIFIED REQUIREMENTS AS DIRECTED BY THE MUNICIPALITY'S REPRESENTATIVE.
- THE APPLICABLE STATE OR FEDERAL NPDES PERMIT REQUIREMENTS.
   DETAILS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL" 1995 OR LATEST EDITION.
- D. "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS" REVISED JULY 1988 OR LATEST EDITION.
   E. THE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.
- F. THESE PLANS, DETAILS AND SPECIFICATIONS.
- 2. REASONABLE CARE MUST BE TAKEN TO MINIMIZE SOIL EROSION. ANY DISTURBED AREAS SHALL BE KEPT TO A PRACTICAL MINIMUM AND SHALL BE SEEDED, SODDED, MULCHED OR PAVED AS SOON AS POSSIBLE.
- . CONTRACTOR SHALL ASSURE THAT SEDIMENT OR ANY OTHER SITE MATERIAL IS NOT INADVERTENTLY TRANSPORTED FROM THE SITE BY STORM WATER RUNOFF, VEHICLES AND EQUIPMENT, PREVAILING WINDS OR ANY OTHER MEANS.
- 4. THE FOLLOWING COMPANY WILL BE RESPONSIBLE FOR THE OVERALL OPERATION OF THE CONSTRUCTION ACTIVITIES:

 TELEPHONE NUMBER:
 \_\_\_\_\_

 FACSIMILE NUMBER:
 \_\_\_\_\_

DUTIES SHALL INCLUDE:

\_\_\_\_\_

- A. IMPLEMENT THE EROSION CONTROL PLAN REQUIREMENTS.B. OVERSEE THE MAINTENANCE OF EROSION CONTROL MEASURES.
- C. SUPERVISE EMPLOYEE AND SUBCONTRACTOR IMPLEMENTATION OF THE EROSION CONTROL MEASURES.
- D. CONDUCT OR OVERSEE INSPECTION AND MONITORING ACTIVITIES.
- E. IDENTIFY ANY NEEDED FIELD MODIFICATIONS TO THE EROSION CONTROL PLAN.F. ENSURE THAT ANY MODIFICATIONS TO THE PLAN ARE IMPLEMENTED.
- G. THEY SHALL BE FAMILIAR WITH EROSION CONTROL PRINCIPLES AND PRACTICES.
- 5. THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURE SELECTION FLOW CHART AND THE ILLINOIS URBAN MANUAL SHALL BE USED BY THE DESIGNATED RESPONSIBLE INDIVIDUAL TO MAKE NECESSARY FIELD MODIFICATIONS TO THE EROSION CONTROL PLAN.

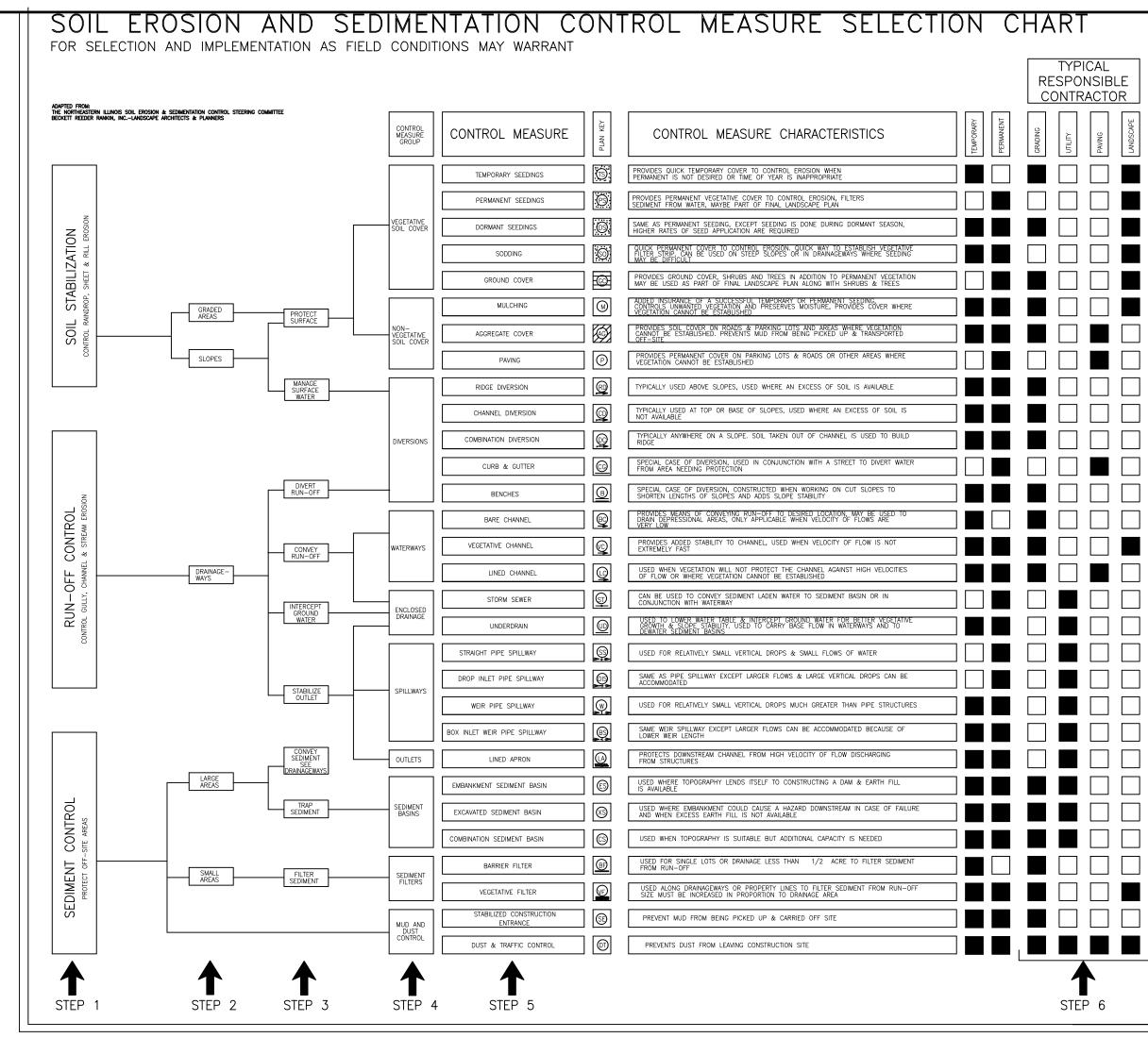
6. INSPECTIONS:

QUALIFIED PERSONNEL (PROVIDED BY THE CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICE OF EROSION AND SEDIMENT CONTROLS, AND WHO POSSESSES THE SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORM WATER QUALITY AND TO ASSESS THE EFFECTIVENESS OF ANY SEDIMENT AND EROSION CONTROL MEASURES SELECTED TO CONTROL THE QUALITY OF STORM WATER DISCHARGES FROM THE CONSTRUCTION ACTIVITIES.

- A. DISTURBED AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, SEDIMENT ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.
- B. BASED ON THE RESULTS OF THE INSPECTION, SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.
  C. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PARAGRAPH B ABOVE SHALL BE MADE AND RETAINED AS PART OF THE CONTRACTORS RECORDS FOR AT LEAST THREE YEARS FROM THE DATE THAT THE NPDES PERMIT COVERAGE EXPIRES OR IS TERMINATED. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH THE NPDES
- PERMIT.
   D. THE PERMITTEE SHALL COMPLETE AND SUBMIT WITHIN 5 DAYS AN "INCIDENCE OF NONCOMPLIANCE" (ION) REPORT FOR ANY VIOLATION OF THE NPDES PERMIT OBSERVED DURING AN INSPECTION CONDUCTED, INCLUDING THOSE NOT REQUIRED BY THE PLANS. SUBMISSION SHALL BE ON FORMS PROVIDED BY THE IEPA AND INCLUDE SPECIFIC INFORMATION ON THE CAUSE OF NONCOMPLIANCE, ACTIONS WHICH WERE TAKEN TO PREVENT ANY FURTHER CAUSES OF NONCOMPLIANCE, AND A STATEMENT DETAILING ANY ENVIRONMENTAL IMPACT WHICH MAY HAVE RESULTED FROM THE NONCOMPLIANCE.
- E. ALL REPORTS OF NONCOMPLIANCE SHALL BE SIGNED BY A RESPONSIBLE AUTHORITY AS DEFINED IN THE NPDES PERMIT.

F. ALL REPORTS OF NONCOMPLIANCE SHALL BE MAILED TO THE AGENCY AT THE FOLLOWING ADDRESS:

- ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF WATER POLLUTION CONTROL
- COMPLIANCE ASSURANCE SECTION
- 1021 NORTH GRAND AVENUE EAST
- POST OFFICE BOX 19276 SPRINGFIELD, IL 62794-9276
- 7. AS PART OF THE INSPECTION REPORTING THE CONTRACTOR SHALL MAINTAIN A RECORD OF THE DATES WHEN MAJOR GRADING ACTIVITY OCCURS, WHEN CONSTRUCTION ACTIVITY HAS BEEN TEMPORARILY OR PERMANENTLY CEASED ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED AND COMPLETED.
- 8. EXCEPT AS PROVIDED IN PARAGRAPHS (A) AND (B) BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- A. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
- B. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
- 9. STOCKPILES FOR WHICH GRADING HAS CEASED SHALL HAVE A TRENCH, BERM, SILT FENCE, OR COMBINATION THEREOF INSTALLED ALONG THE PERIMETER OF THE BASE AND SHALL BE VEGETATED SUFFICIENTLY TO CONTROL EROSION FROM BOTH WIND AND WATER.
- 10. EXPOSED SOILS SHALL BE SPRAYED WITH WATER AS NEEDED TO AVOID EROSION FORM WIND AND TO CONTROL DUST.
- 11. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION SHALL BE FILTERED OR ROUTED THROUGH THE SEDIMENTATION AND SOIL EROSION CONTROL MEASURES PRIOR TO DISCHARGE.
- 12. MAINTENANCE OF CONTROL MEASURES:
- BASED ON THE RESULTS OF THE PERIODIC INSPECTIONS, THE FOLLOWING MINIMUM MAINTENANCE MEASURES SHALL BE IMPLEMENTED WITH RESPECT TO EROSION AND SEDIMENT CONTROL ITEMS: A. SILT FROM SILT FENCES, INLET PROTECTION, DITCH CHECKS, ETC. SHALL BE REMOVED WHEN THE SILT REACHES 1/3 OF THE HEIGHT OF THE BARRIER. DAMAGED OR DOWNED SILT FENCE, INLET PROTECTION, DITCH CHECKS, ETC.
- SHALL BE REPAIRED OR REPLACED.
  B. CLEAN STREETS OF TRACKED MATERIAL ONGOING AND AS NEEDED, WITHIN 24 HOURS OF DEPOSITION.
  C. SEDIMENT FROM SEDIMENT TRAPS SHALL BE REMOVED WHEN THE AVAILABLE SEDIMENT CAPACITY IS REDUCE BY 1/2 FROM THE ORIGINAL SEDIMENT CAPACITY.
- D. TEMPORARY OR PERMANENT SEEDING SHALL BE REPLACED AT BARE SPOTS, WASHOUTS ETC. ONGOING AND AS NEEDED.
   ALL MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES SHALL OCCUR AS SOON AS PRACTICAL, BUT NO
- LATER THAN SEVEN DAYS AFTER INSPECTION, NO LATER THAN THE NEXT RAINFALL, OR NO LATER THAN THE NEXT PERIODIC INSPECTION UNLESS MORE STRINGENT REQUIREMENTS APPLY.
- 13. INLETS, CATCH BASINS, MANHOLES, PIPES, SWALES, ROADS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES, AND SHALL BE CLEANED BEFORE IMPROVEMENTS WILL BE ACCEPTED AT TIME OF FINAL TURNOVER.
- 14. AFTER PERMANENT GROUND COVER IS ESTABLISHED THROUGHOUT THE SITE THE SEDIMENT SHALL BE REMOVED FROM THE DETENTION SYSTEM.
- 15. EROSION CONTROL DEVICES SHALL NOT BE REMOVED OR DISABLED PRIOR TO PERMANENT STABILIZATION OF THEIR RESPECTIVE UPSTREAM TRIBUTARY AREAS.
- 16. 16. REPLACE SOIL EROSION CONTROL DEVICES WITH TOPSOIL AND SOD AT THE COMPLETION OF THE PROJECT, OR PER THE PERMANENT VEGETATIVE CONTROL MEASURES SPECIFIED ON THE LANDSCAPE PLANS BY OTHERS



FROSION CONTROL VEGETATION CHART

<u>TUSIUN UUI</u>	<u> </u>	LVL	GETA			<u> 1 71 </u>						DEC.
ABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	>
RMANT SEEDINGS	Α ——		>							Α	>	
MPORARY SEEDINGS				в —								>
JLCHING	C			_								
	U											

A = SAME AS B INCREASE SEED BY 50% AND ADD 2 TONS OF STRAW MULCH PER

ACRE. B = CLASS 7 TEMPORARY TURF COVER MIX

(IDOT)

64 LBS / AC PERENNIAL RYEGRASS

64 LBS / AC OATS, SPRING C = 2 TONS / ACRE STRAW MULCH

EROSION CONTROL VEGETATION NOTES

 VEGETATIVE PLANTINGS – SPRING PLANTINGS SHALL BE CHECKED DURING SUMMER & EARLY FALL.
 MOWING – DRAINAGEWAYS, DITCHES & OTHER AREAS THAT SUPPORT A DESIGNED FLOW OF WATER WILL BE MOWED REGULARLY TO MAINTAIN THAT FLOW.
 FERTILIZATION – SEEDED AREAS WHERE THE SEED HAS NOT PRODUCED A GOOD COVER, WILL BE INSPECTED & FERTILIZED AS NECESSARY.
 ANY REQUIREMENTS CONTAINED IN THE LANDSCAPE PLANS SHALL SUPERSEDE THESE MEASURES.

#### 

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (ILR 10) THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

CONTRACTOR SIGNATURE	TI'	TLE	DATE
NAME OF FIRM		TELEPHO	ONE NUMBER
ADDRESS	CITY	STATE	ZIP CODE
TYPICAL CONST	RUCTION SEQUENCE		
	CONSTRUCTION ENTRANCE A		
	G AND STOCKPILING WITH APP		
CONTROL MEASUR			
<u>TYPICAL CONSTI</u> 1. INSTALL STABILIZE 2. TOPSOIL STRIPPIN CONTROL MEASUR	RUCTION SEQUENCE D CONSTRUCTION ENTRANCE A G AND STOCKPILING WITH APP	ND SILT FENCE. ROPRIATE EROSION	ZIP COD

APPLICABLE SE & SC MEASURES.

- TEMPORARY VEGETATIVE SOIL COVER IN AREAS WHERE WORK HAS CEASED.
- REPEAT TEMPORARY MEASURES THROUGHOUT CONSTRUCTION AS NEEDED.
   UNDERGROUND / UTILITY CONSTRUCTION INCLUDING INLET PROTECTION
  - AND OTHER APPLICABLE SE & SC MEASURES.
- 6. PAVING OPERATIONS
- TOPSOIL RE-SPREAD IN APPLICABLE AREAS.
   INSTALL PERMANENT VEGETATION AND STABILIZATION.
- 9. REMOVE SEDIMENT AND TEMP MEASURES AFTER FINAL STABILIZATION.

STEPS IN THE SELECTION AND IMPLEMENTATION OF CONTROL MEASURES STEP 1: IDENTIFY CONTROL PROBLEM

ON ANY CONSTRUCTION SITE THE OBJECTIVE IN SOIL EROSION AND SEDIMENT CONTROL (SE & SC) IS TO PREVENT OFF SITE SEDIMENTATION DAMAGE. THE THREE BASIC METHODS USEFUL TO CONTROL CONSTRUCTION SITES ARE SOIL STABILIZATION, RUNOFF CONTROL, AND SEDIMENT CONTROL. CONTROLLING EROSION SHOULD BE USED AS THE FIRST LINE OF DEFENSE WHERE SOIL PROPERTIES AND TOPOGRAPHY OF THE SITE MAKE THE DESIGN OF SEDIMENT TRAPPING FACILITIES IMPRACTICAL OR WHERE MUCH OF THE SITE WILL NOT BE DISTURBED AND MUCH OF THE EXISTING VEGETATION CAN BE PRESERVED. CONTROLLING EROSION IS VERY EFFECTIVE FOR SMALL DISTURBED AREAS SUCH AS SINGLE LOTS OR SMALL AREAS OF A DEVELOPMENT THAT DO NOT DRAIN TO A SEDIMENT TRAPPING FACILITY.

SEDIMENT TRAPPING FACILITIES SHOULD BE USED ON LARGE DEVELOPMENTS WHERE MASS GRADING IS PLANNED, WHERE IT IS IMPOSSIBLE OR IMPRACTICAL TO CONTROL EROSION, AND WHERE SEDIMENT PARTICLES ARE RELATIVELY LARGE. A MINIMUM OF COST FOR SE & SC IS USUALLY ACCOMPLISHED BY USING A COMBINATION OF EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES.

#### STEP 2: IDENTIFY PROBLEM AREAS

ONCE A METHOD OF CONTROL IS SELECTED, POTENTIAL SE & SC PROBLEM AREAS ARE IDENTIFIED. AREAS WHERE EROSION IS TO BE CONTROLLED WILL USUALLY FALL INTO CATEGORIES OF SLOPES, GRADED AREAS OR DRAINAGE WAYS. SLOPES INCLUDE GRADED RIGHTS-OF-WAY, STOCKPILE AREAS, AND ALL CUT OR FILL SLOPES. GRADED AREAS INCLUDE ALL STRIPPED AREAS OTHER THAN SLOPES. DRAINAGE WAYS ARE AREAS WHERE CONCENTRATIONS OF WATER FLOW NATURALLY OR ARTIFICIALLY AND THE POTENTIAL FOR GULLY EROSION IS HIGH. PROBLEM AREAS WHERE SEDIMENT IS TO BE CONTROLLED FALL INTO CATEGORIES OF LARGE OR SMALL DRAINAGE AREAS. SMALL AREAS ARE USUALLY CONSIDERED TO BE AREAS OF 1 ACRE OR LESS WHERE FILTERING OF SEDIMENT CAN BE ACCOMPLISHED. LARGE AREAS INCLUDE ANY DRAINAGE AREA LARGER THAN 1 ACRE WHERE SEDIMENT MUST USUALLY BE TRAPPED.

#### STEP 3: IDENTIFY REQUIRED STRATEGY

THE THIRD STEP IN SE & SC SELECTION IS TO FOLLOW THE SELECTION CHART FROM THE PROBLEM AREA TO THE STRATEGY THAT CAN BE TAKEN TO SOLVE THE PROBLEM. THERE MAY BE SEVERAL STRATEGIES USED INDIVIDUALLY OR IN COMBINATION TO PROVIDE THE SOLUTION. FOR EXAMPLE, IF THERE IS A CUT SLOPE TO BE PROTECTED FROM EROSION, THE STRATEGIES MAY BE TO PROTECT THE GROUND SURFACE, DIVERT WATER FROM THE SLOPE OR SHORTEN IT. ANY COMBINATION OF THE ABOVE CAN BE USED. IF NO RAINFALL EXCEPT THAT WHICH FALLS ON THE SLOPE HAS THE POTENTIAL TO CAUSE EROSION AND IF THE SLOPE IS RELATIVELY SHORT, PROTECTING THE SOIL SURFACE IS OFTEN ALL THAT IS REQUIRED TO SOLVE THE PROBLEM.

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#### STEP 4 IDENTIFY CONTROL MEASURE GROUP

ONCE REQUIRED STRATEGIES ARE IDENTIFIED, THE SELECTION CHART LEADS TO THE GROUP OR GROUPS OF CONTROL MEASURES THAT WILL ACCOMPLISH ONE STRATEGY. CONTROL MEASURES WITHIN EACH GROUP HAVE SIMILAR PURPOSE, SCOPE, APPLICATION, DESIGN CRITERIA, STANDARD PLANS, AND CONSTRUCTION SPECIFICATIONS. THEREFORE, ANY MEASURE WITHIN A GROUP MAY SOLVE THE PROBLEM IN QUESTION.

#### STEP 5: SELECT SPECIFIC CONTROL MEASURE

THE FIFTH STEP IN SE & SC SELECTION IS ACCOMPLISHED BY SELECTING A MEASURE. THIS INCLUDES ADAPTATION OF ANY CONTROL MEASURE WITHIN A GROUP TO SOLVE THE SPECIFIC SE & SC PROBLEM. FROM DESCRIPTIONS GIVEN TO THE RIGHT OF EACH CONTROL MEASURE THE MEASURE WHICH IS MOST ECONOMICAL, PRACTICAL, EFFICIENT, AND ADAPTABLE TO THE SITE SHALL BE CHOSEN.

ONCE THE SPECIFIC CONTROL MEASURE HAS BEEN SELECTED, THE PLAN KEY SYMBOL GIVEN IN THE SELECTION CHART SHALL BE ADDED TO THE EROSION CONTROL PLAN TO SHOW WHERE FIELD IMPLEMENTED CONTROL MEASURES SHALL BE USED. <u>STEP 6: IMPLEMENT SPECIFIC CONTROL MEASURE</u>

THE GENERAL CONTRACTOR THROUGH THEIR DESIGNATED QUALIFIED INDIVIDUAL SHALL BE RESPONSIBLE FOR ENSURING THAT ALL SUBCONTRACTORS PERFORM THEIR RESPECTIVE CONTROL MEASURES, IN ADDITION THE QUALIFIED INDIVIDUAL SHALL ENSURE ANY AND ALL ADDITIONAL MEASURES NOT SPECIFICALLY ASSIGNED TO A SUBCONTRACTOR SHALL BE PROPERLY IMPLEMENTED, INSPECTED AND MAINTAINED.

		SPECS-DE
GALVANIZED STEEL FRAME		ONSITE NORTH ENERGY
STAINLESS STEEL OVERFLOW FEATURE STAINLESS STEEL OVERFLOW FEATURE GEOTEXTILE FILTER BAG OUTER MESH All Products Shall be: TO BE PROVIDED AT A	Type 1 Inlet Filter Assembly Inlet & Pipe Protection, Inc 3535 Stackinghay Naperville, IL 60564 847 722-0690 sales@inletfilters.com OR Catch-All Marathon Materials, Inc. 25523 W. Schultz Street Plainfield, IL 60544 800 983-9493 www.marathonmaterials.com INLET FILTER ASSEMBLY PROTECTION DETAIL ALL STRUCTURES THAT TAKE WATER. REMOVE AFTER FINAL STABILIZATION.	PROJECT No. 17.TERR.00 SHEET No. OF 12 SHEETS

1. THE MUNICIPAL AUTHORITY GOVERNING THIS WORK IS THE VILLAGE OF LAKE ZURICH. 2. ALL WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING SPECIFICATIONS. IF A CONFLICT ARISES BETWEEN ANY PROVISION(S) OF THE THESE STANDARDS AND SPECIFICATIONS, THEN THE MOST RESTRICTIVE PROVISION(S) SHALL APPLY. A. ILLINOIS DEPARTMENT OF TRANSPORTATION (I.D.O.T.) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION. "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" LATEST EDITION. "ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS" AS PUBLISHED BY THE I.E.P.A. "STANDARD SPECIFICATIONS FOR SANITARY AND WATER SERVICE CONNECTIONS" BY LAKE COUNTY DEPT. OF PUBLIC WORKS. "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) LATEST EDITION. F. THE VILLAGE OF LAKE ZURICH'S "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS", LATEST EDITION AND THE VILLAGE'S MUNICIPAL AND SUBDIVISION CODES. G. DETAILS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL" 1995 OR LATEST EDITION. "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS" PUBLISHED BY THE ASSOCIATION OF ILLINOIS SOIL AND WATER CONSERVATION DISTRICTS. 3. IN THE EVENT OF CONFLICTS, ERRORS, OR AMBIGUITIES IN THE DOCUMENTS, CLIENT AND OR CONTRACTOR SHALL IMMEDIATELY, AND BEFORE ANY WORK HAS BEGUN OR COSTS INCURRED, REQUEST CLARIFICATION FROM THE ENGINEER. NEITHER CLIENT NOR CONTRACTOR SHALL TAKE ADVANTAGE OF CONFLICTS, ERRORS, OR AMBIGUITIES IN THE DOCUMENTS. CONTRACTOR SHALL CALL J.U.L.I.E. (1-800-892-0123) AND THE VILLAGE OF LAKE ZURICH FOR UTILITY LOCATIONS 48 HOURS BEFORE EXCAVATING. THE CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. ALL UTILITIES SHOWN IN THE PLANS ARE FROM RECORDS OR FIELD OBSERVABLE INFORMATION LOCATED BY SURVEYOR. ANY UTILITY LOCATIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. IF ANY EXISTING UTILITIES ARE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED PROPERLY BY THE CONTRACTOR. IF THEY ARE UTILITIES TO BE ABANDONED, THEY SHALL BE CAPPED, SEALED AND ABANDONED PROPERLY PER THEIR RESPECTIVE OWNER'S CRITERIA. 7. THE VILLAGE OF LAKE ZURICH SHALL BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO COMMENCEMENT OF ANY APPROVED CONSTRUCTION ACTIVITY AND TO SCHEDULE ALL REQUIRED INSPECTIONS.

**GENERAL PROVISIONS** 

- ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS, MUNICIPAL REGULATIONS AND STANDARDS, AND SHALL CONFORM IN ALL RESPECTS TO ALL LOCAL, STATE AND FEDERAL LAWS.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SIGNS, BARRICADES, FENCING, TRAFFIC CONTROL DEVICES AND MEASURES, AND ALL OTHER MEASURES THAT ARE NECESSARY TO PROTECT THE SAFETY OF THE SITE AT ALL TIMES.
- 10. SITE ACCESS CONTROL INCLUDING SAFETY FENCES, AND ALL CONSTRUCTION MEANS AND METHODS AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 11. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL REMOVE AND DISPOSE OF OFFSITE ANY EXCESS DIRT OR MATERIALS.
- 12. STOCKPILING OF SOIL SHALL BE AT LOCATIONS DESIGNATED BY OWNER'S REPRESENTATIVE.
- 13. ALL ROADS, SWALES, DRAINAGE STRUCTURES, MANHOLES AND PIPES MUST BE KEPT CLEAN AND FREE OF DIRT, SILT AND DEBRIS AT ALL TIMES.
- 14. ALL SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE IN PLACE BEFORE THE START OF ANY SITE WORK PER THE APPROVED EROSION CONTROL PLAN.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS BEFORE AND AFTER FINAL INSPECTION, PRIOR TO FINAL ACCEPTANCE BY THE VILLAGE ENGINEER.
- 16. DAMAGED PARKWAY LAWN AREAS SHALL BE RESTORED WITH 6 INCHES OF TOPSOIL AND SOD.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING, DOCUMENTING AND RECORDING ALL CONSTRUCTION WORK AND SHALL FURNISH THE OWNER. THE ENGINEER AND THE MUNICIPALITY WITH RECORD DRAWINGS UPON COMPLETION OF HIS WORK.
- 18. THE CONTRACTOR, BY AGREEING TO PERFORM THE WORK. AGREES TO INDEMNIFY AND HOLD HARMLESS THE OWNER. THE ENGINEER. THE MUNICIPALITY, AND ALL AGENTS AND ASSIGNS OF THOSE PARTIES, FROM ALL SUITS AND CLAIMS ARISING OUT OF THE PERFORMANCE OF SAID WORK. AND FURTHER AGREES TO DEFEND OR OTHERWISE PAY ALL LEGAL FEES ARISING OUT OF THE DEFENSE OF SAID PARTIES.
- 19. CONTRACTOR SHALL PURCHASE AND MAINTAIN FOR THE DURATION OF THE WORK INSURANCE TO PROTECT ENGINEER, OWNER, ALL OF THEIR AGENTS, EMPLOYEES, SUCCESSORS, AND ASSIGNS, VILLAGE, VILLAGE OFFICIALS, VILLAGE EMPLOYEES, AND VILLAGE ENGINEER FROM ANY AND ALL CLAIMS ARISING OUT OF THE CONSTRUCTION OF THE WORK INCLUDING NAMING THEM AS ADDITIONAL INSURED ON THE CONTRACTORS GENERAL LIABILITY POLICY. WHICH SHALL STATE THAT IT IS PRIMARY IN COVERAGE TO ANY INSURANCE CARRIED BY AGENTS, EMPLOYEES, SUCCESSORS, OR ASSIGNS.
- 20. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL DEFECTS IN MATERIALS AND WORKMANSHIP.

- 1. THE GEOTECHNICAL ENGINEER FOR THE PROJECT IS XXXXXXXXXX, THEIR REQUIREMENTS AND RECOMMENDATIONS SHALL BE FOLLOWED. A GEOTECHINCAL INVESTIGATION REPORT DATED XXXXXX XX, XXXX, IS AVAILABLE FOR CONTRACTOR'S USE UPON REQUEST.
- ALL CONSTRUCTION WORK INCLUDING EARTHWORK, GRADING AND PAVING SHALL BE GOVERNED BY THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION, ADOPTED JULY 2009, AND ALL REVISIONS AND SUPPLEMENTS THERETO, THE MUNICIPALITIES REQUIREMENTS, AND THE APPLICABLE ROADWAY AUTHORITY'S REQUIREMENTS.
- 3. ALL PROPOSED PAVEMENT AREAS SHALL BE STRIPPED OF ALL TOPSOIL AND UNSUITABLE MATERIAL AND EXCAVATED OR FILLED TO DESIGN SUBGRADE.
- 4. THE SUBGRADE SHALL BE FREE OF ALL UNSUITABLE MATERIAL AND SHALL BE COMPACTED TO A MINIMUM 95 PERCENT OF MODIFIED PROCTOR DENSITY.
- 5. THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY THE MUNICIPALITY AND THE GEOTECHNICAL CONSULTANT, PRIOR TO PLACING THE BASE MATERIAL.
- 6. STOCKPILING OF SOIL SHALL BE AT LOCATIONS DESIGNATED BY OWNER.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SPOIL MATERIAL FROM THE UNDERGROUND CONTRACTOR, PREPARING THE PAVEMENT SUBGRADE, PLACING REQUIRED DEPTH OF TOPSOIL TO FINISH GRADE, GRADING OF DRAINAGE SWALES, AND ALL OTHER TASKS AS DIRECTED BY THE OWNER OR ENGINEER.
- ANY QUANTITIES IF CONTAINED IN THESE DOCUMENTS ARE APPROXIMATE AND ESTIMATED, 8. AND ARE PRESENTED AS A GUIDE TO THE CONTRACTOR IN DETERMINING ALL QUANTITIES AND TO BECOME FAMILIAR WITH THE SITE AND SOIL CONDITIONS.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT THE CONCLUSION OF EACH WORKING DAY.
- 10. THE PAVING CONTRACTOR IS RESPONSIBLE FOR THE FINAL SUBGRADE PREPARATION, THE PAVEMENT BASE, BINDER, AND SURFACE, AND ALL FINAL CLEAN-UP AND RELATED WORK ASSOCIATED WITH THE PAVING OPERATION.
- 11. ALL CONCRETE SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH 5-8% AIR ENTRAINMENT, 6.0 BAG MIX, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI. AT 14 DAYS.
- 12. ALL CONCRETE SHALL BE BROOM FINISHED.
- 13. CURING AND PROTECTION OF ALL CONCRETE SHALL BE IN CONFORMANCE WITH SECTION 1020.13 OF THE IDOT STANDARD SPECIFICATIONS PREVIOUSLY REFERENCED.
- 14. ALL GRASS AREAS SHALL BE RESTORED WITH 4" MINIMUM TOPSOIL AND SOD. TOPSOIL SHALL BE PULVERIZED AND FREE OF ROCKS, DEBRIS, ETC.

#### STANDARD UTILITY PROVISIONS

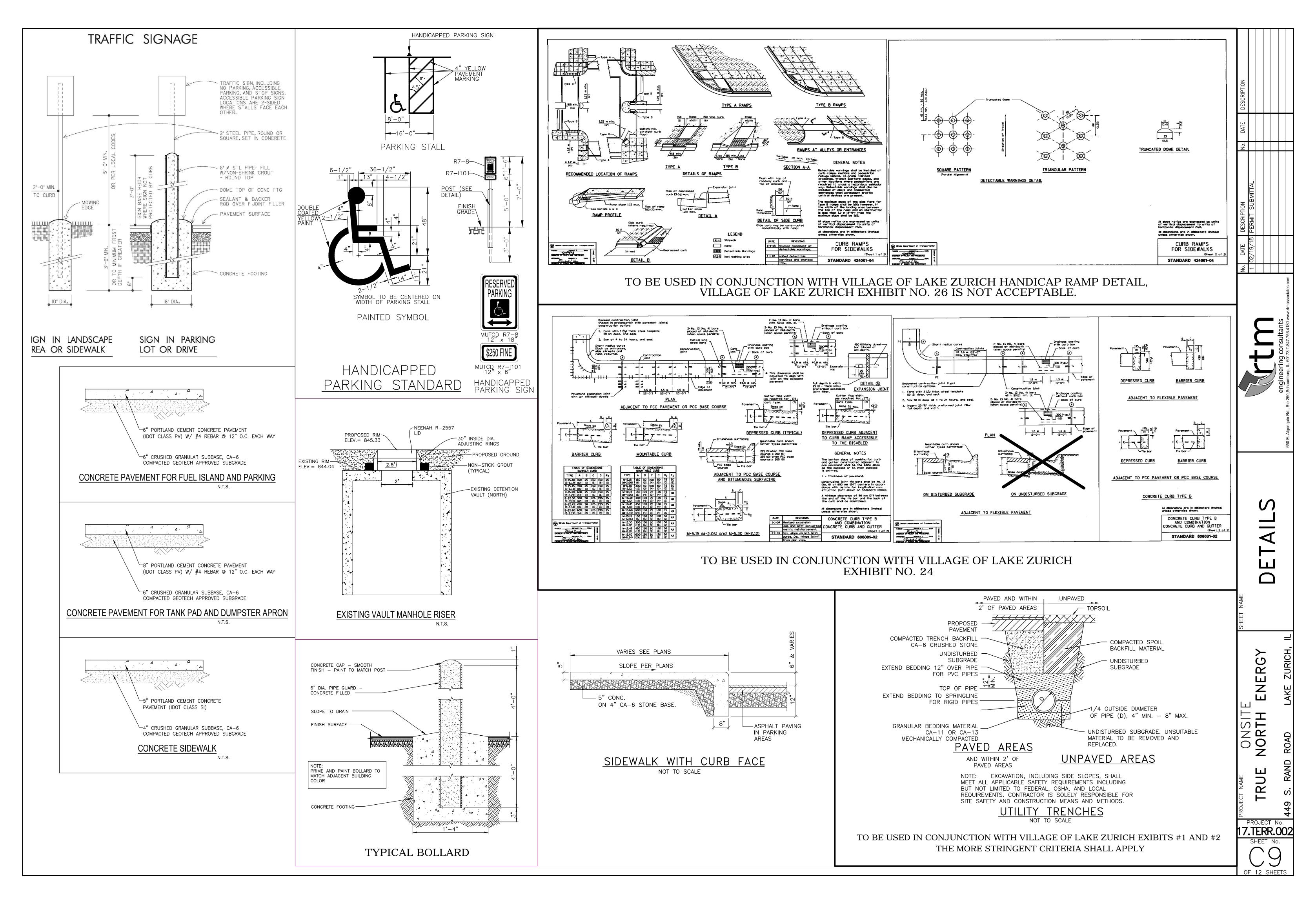
- 1. ALL UTILITY TRENCHES UNDER AND WITHIN TWO FEET OF PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. SHALL BE BACKFILLED WITH CA-6 CRUSHED STONE (GRADE 8 OR 9), COMPACTED IN 8" LIFTS TO 95% OF MODIFIED PROCTOR. ADDITIONAL REQUIREMENTS OF THE GEOTECHNICAL ENGINEER AND MUNICIPALITY SHALL BE FOLLOWED.
- 2. UTILITY CONNECTIONS WITHIN THE STREET RIGHT OF WAY SHALL BE ACCOMPLISHED BY SAW CUTTING AND REMOVING EXISTING PAVEMENT. BACKFILL AND RESTORATION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STREET JURISDICTIONAL AUTHORITY.
- EXISTING FIELD TILES ENCOUNTERED DURING DESIGN OR CONSTRUCTION SHALL BE REDIRECTED OR INCLUDED IN A MANNER ACCEPTABLE TO THE VILLAGE ENGINEER. ANY AND ALL FIELD TILES ENCOUNTERED SHALL BE IMMEDIATELY REPORTED TO THE VILLAGE ENGINEER OF FIELD REPRESENTATIVE.
- 4. IF ANY EXISTING UNDERGROUND UTILITIES ARE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED PROPERLY BY THE CONTRACTOR. IF THERE ARE UTILITIES TO BE ABANDONED, THEY SHALL BE CAPPED, SEALED AND ABANDONED PROPERLY PER THEIR RESPECTIVE OWNERS CRITERIA.
- 5. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL REMOVE AND DISPOSE OF OFFSITE ANY EXCESS DIRT OR MATERIALS.
- 6. "BAND SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPE OR DISSIMILAR MATERIALS.
- 7. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER MAIN AND ANY SEWERS WHEN THEY ARE PARALLEL. WHENEVER A SEWER CROSSES A WATER MAIN, A MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE PIPES, AND THE SEWER JOINTS ARRANGED SO THEY ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHEN IT IS NECESSARY FOR A SEWER TO CROSS OVER THE TOP OF A WATER MAIN WITH 18" SEPARATION, OR THE SEWER CROSSES UNDER THE WATERMAIN WITH LESS THAN 18" VERTICAL SEPARATION, OR 10' HORIZONTAL SEPARATION IS NOT MAINTAINED, THEN THE
  - FOLLOWING METHOD MUST ALSO BE CONSTRUCTED: A.) THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER MAIN PIPE FOR THE LENGTH OF THE INADEQUATE HORIZONTAL SEPARATION OR FOR A DISTANCE OF TEN (10) FEET EITHER SIDE OF A CROSSING AND SHALL BE PRESSURE-TESTED TO INSURE WATER TIGHTNESS PRIOR TO BACKFILLING. B.) FOR A STORM SEWER CROSSING, THE RCP STORM SEWER SHALL BE CONSTRUCTED WITH O-RING GASKETED JOINTS (ASTM C-361) FOR A DISTANCE OF
  - TEN (10') FEET EITHER SIDE OF A CROSSING.
- 8. NOT USED.
- 9. ALL STRUCTURES SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE RING CONSTRUCTION WITH TONGUE AND GROOVE JOINTS IN CONFORMANCE WITH THE LATEST REVISION OF ASTM C-478. A MAXIMUM OF 2 PRECAST CONCRETE ADJUSTMENT RINGS LIMITED TO 8 INCHES TOTAL HEIGHT SHALL BE PERMITTED. MANHOLE STEPS SHALL BE PROVIDED. CONTRACTOR SHALL ADJUST STRUCTURES TO FINISHED GRADE AS NEEDED.
- 10. ALL STRUCTURE SECTIONS AND ADJUSTING RINGS SHALL BE SECURELY SEALED TO EACH OTHER AND TO THE FRAME AND COVER USING RESILIENT FLEXIBLE NON-HARDENING PREFORMED BITUMINOUS MASTIC (RAM-NEK OR APPROVED EQUAL) OR BUTYL RUBBER JOINT SEALER (EASY STICK OR APPROVED EQUAL).
- 11. SEE DETAIL SHEETS THIS SET FOR FURTHER INFORMATION REGARDING THE STORM, SANITARY AND WATERMAIN REQUIREMENTS.
- 12. ALL REQUIREMENTS OF VILLAGE OF LAKE ZURICH EXHIBIT NO. 13 SHALL BE ADHERED TO.

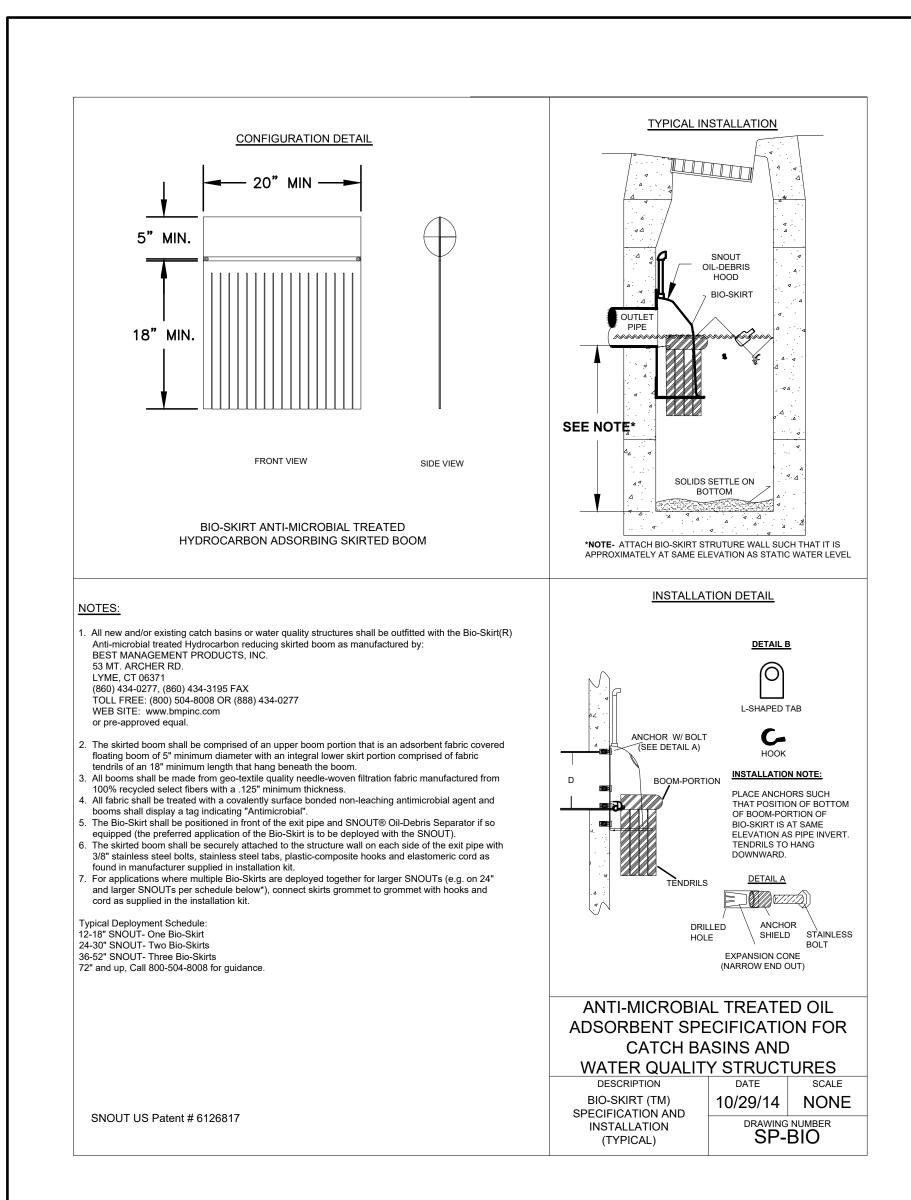
	<u>STA</u>	NDARD STORM SEWER SYSTEM PROVISIONS		
I	1.	STORM SEWER SHALL BE CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS AS SPECIFIED ON THE PLANS:		
		<ul> <li>A. POLYVINYLCHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) SDR-26 (ASTM D-3034 WITH GASKETED JOINTS PER ASTM D-3212)</li> <li>B. DUCTILE IRON PIPE CLASS 52 (ANSI A21.51 WITH ANSI A21.11 JOINTS)</li> <li>C. REINFORCED CONCRETE PIPE (ASTM C-76 WITH ASTM C-361 O-RING GASKETED JOINTS) CLASS IV.</li> </ul>	DESCRIPTION	
)	2. 3.			
		ALL STORM STRUCTURES SHALL HAVE OFFSET CONES, EXCEPT WHERE HEIGHT RESTRICTIONS REQUIRE A REINFORCE CONCRETE FLAT TOP.	DATE	
	4.	STORM SEWER MANHOLES SHALL BE PRECAST STRUCTURES WITH THE DIAMETER DEPENDENT ON THE PIPE SIZE, THE CONCRETE BOTTOM SHALL BE CAST INTEGRAL WITH THE LOWEST BARREL SECTION UNLESS NOTED OTHERWISE ON PLAN.	No.	
	5.	INLETS SHALL BE TYPE A PRECAST WITH AN INTEGRAL CONCRETE BOTTOM.		
	6.	THE FOLLOWING TYPE 1 FRAMES AND CLOSED LIDS SHALL BE USED ON ALL MANHOLES (UNLESS NOTED OTHERWISE IN PLANS):	N GINEERING SUBMITTAL	
I		<ul> <li>A. NEENAH FOUNDRY #R-1712 WITH TYPE B COVER.</li> <li>B. EAST JORDAN IRON WORKS #1050 EXHD WITH TYPE A #540 COVER.</li> <li>C. STORM MANHOLES SHALL HAVE THE WORD "STORM" IMPRINTED ON THE COVER ALONG WITH "DUMP NO WASTE" AND "DRAINS TO CREEK".</li> </ul>	DESCRIPTION FINAL ENGINEERING PERMIT SUBMITTAL	
N	7.	CATCH BASINS AND INLETS SHALL HAVE A TYPE 1 FRAME AND OPEN GRATE AS FOLLOWS UNLESS NOTED ON PLANS:	/18	
		A. NEENAH FOUNDRY #R—2504 WITH TYPE D GRATE. B. EAST JORDAN IRON WORKS #1050 EXHD WITH TYPE M1 GRATE #510. C. ALL GRATES SHALL BE IMPRINTED WITH "DUMP NO WASTE" AND "DRAINS TO CREEK".	No. DATE 1 10/27/ 2 02/19/	
١	8.	ALL ROOF DRAINS, FOOTING DRAINS, AND OUTSIDE DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.		
	9.	ALL STORM SEWERS SHALL BE INSPECTED AND TESTED IN KEEPING WITH ALL GOVERNING AGENCY REQUIREMENTS.		
	10.	SEE DETAIL SHEETS THIS SET FOR FURTHER STORM SEWER SYSTEM REQUIREMENTS.	<b>c</b>	
	<u>STAI</u>	NDARD WATER MAIN PROVISIONS	<b>5</b>	
	1.	THE MINIMUM COVER FOR ALL WATER MAIN AND WATER SERVICE PIPE IS FIVE AND ONE-HALF FEET $(5-1/2)$ FROM FINISHED GRADE TO TOP OF PIPE.	<b>∓</b>	5
	2.	ALL WATER MAIN SHALL BE PRESSURE TESTED AND CHLORINATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AWWA, THE ILLINOIS EPA, AND THE VILLAGE.		
	3.	WATER MAIN BEDDING AND BACKFILL SHALL BE PER THE BEDDING DETAILS.		1
	4.	ANY WELLS FOUND SHALL BE CAPPED/ABANDONED PER COUNTY HEALTH DEPARTMENT REQUIREMENTS.		
	5.	SEE DETAIL SHEETS THIS SET FOR FURTHER WATER MAIN REQUIREMENTS.		
	<u>STAI</u>	NDARD SANITARY SEWER PROVISIONS:		
	1.	ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER.	C	$\overline{\boldsymbol{\Lambda}}$
	2.	ALL DOWNSPOUTS, FOOTING DRAINS, AND OUTSIDE DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM OR TO GRADE.		Z
	3.	SANITARY SEWER BEDDING AND BACKFILL SHALL BE PER THE BEDDING DETAILS.		C
	4.	ALL SEPTIC TANKS (IF ANY) BEING ABANDONED SHALL BE FILLED OR REMOVED. APPROVAL MUST BE OBTAINED FROM THE APPROPRIATE HEALTH DEPARTMENTS. ALL SEWER CONNECTIONS SHALL BE MADE UPSTREAM FROM THE TANK. CONTRACTORS SHALL OBTAIN ANY NECESSARY PERMITS FOR REMOVAL.		
	5.	ALL SANITARY SEWERS SHALL BE TESTED IN KEEPING WITH ALL GOVERNING AGENCIES REQUIREMENTS. INFILTRATION SHALL NOT EXCEED 100 GALLONS/INCH DIAMETER/MILE/DAY.		ノ
	6.	ALL FLEXIBLE (PVC) PIPE SHALL BE DEFLECTION TESTED PER THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", LATEST EDITION.		_
	7.	ALL SANITARY SEWERS AND MANHOLES SHALL BE TELEVISED AND TESTED AS REQUIRED BY THE VILLAGE.		
	8.	SEE DETAIL SHEETS THIS SET FOR FURTHER SANITARY SEWER REQUIREMENTS.	NAME	
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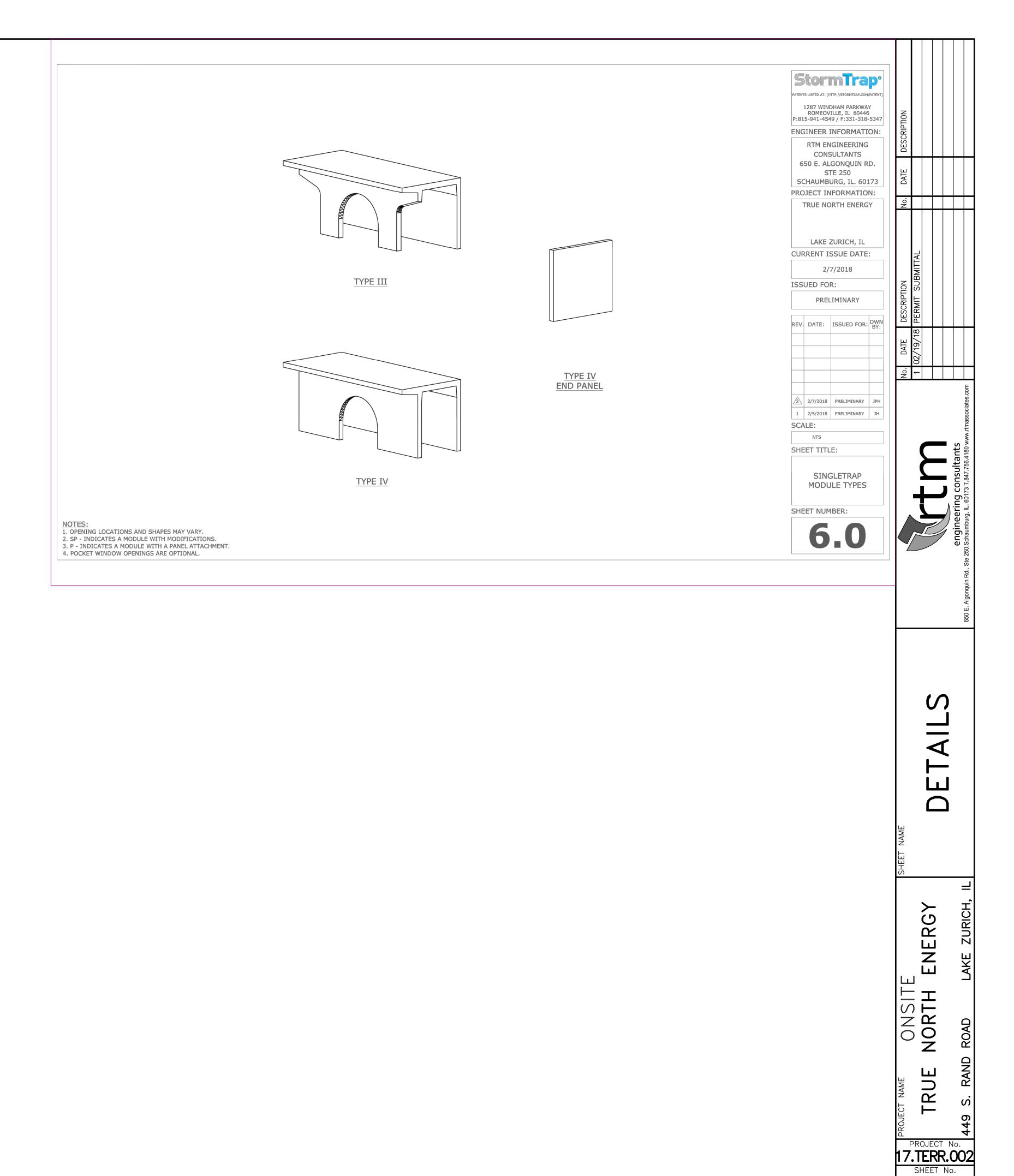
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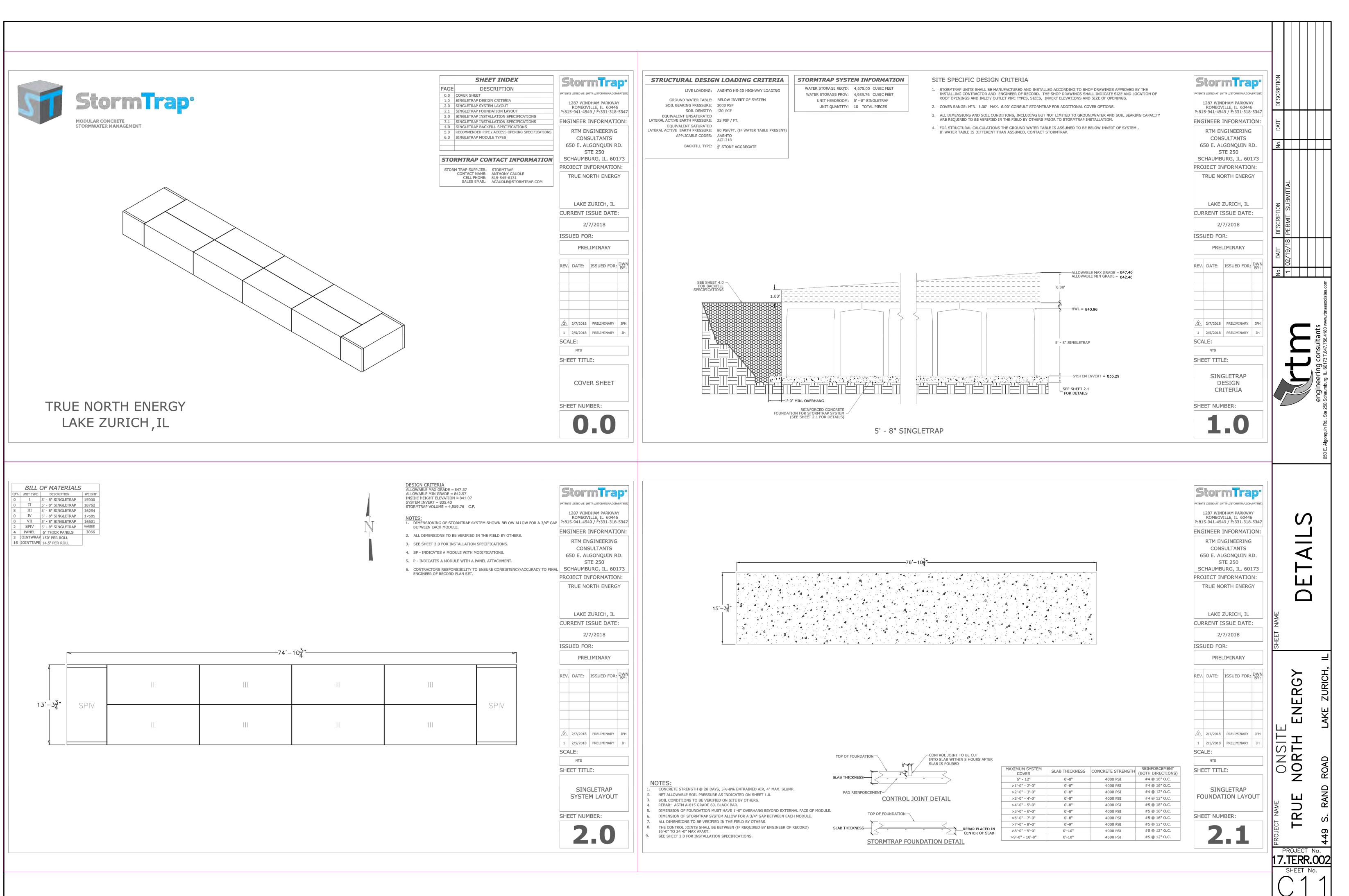


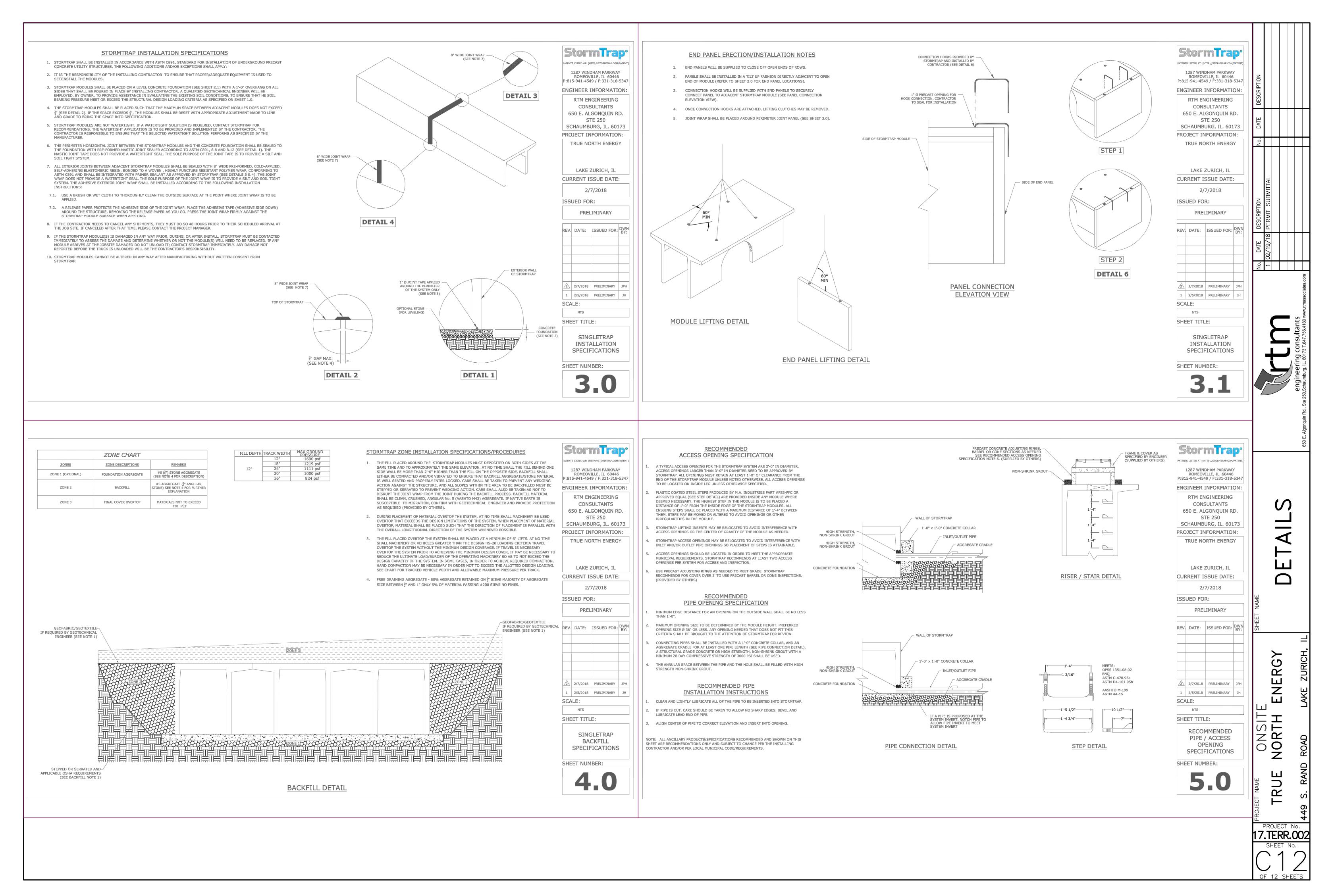


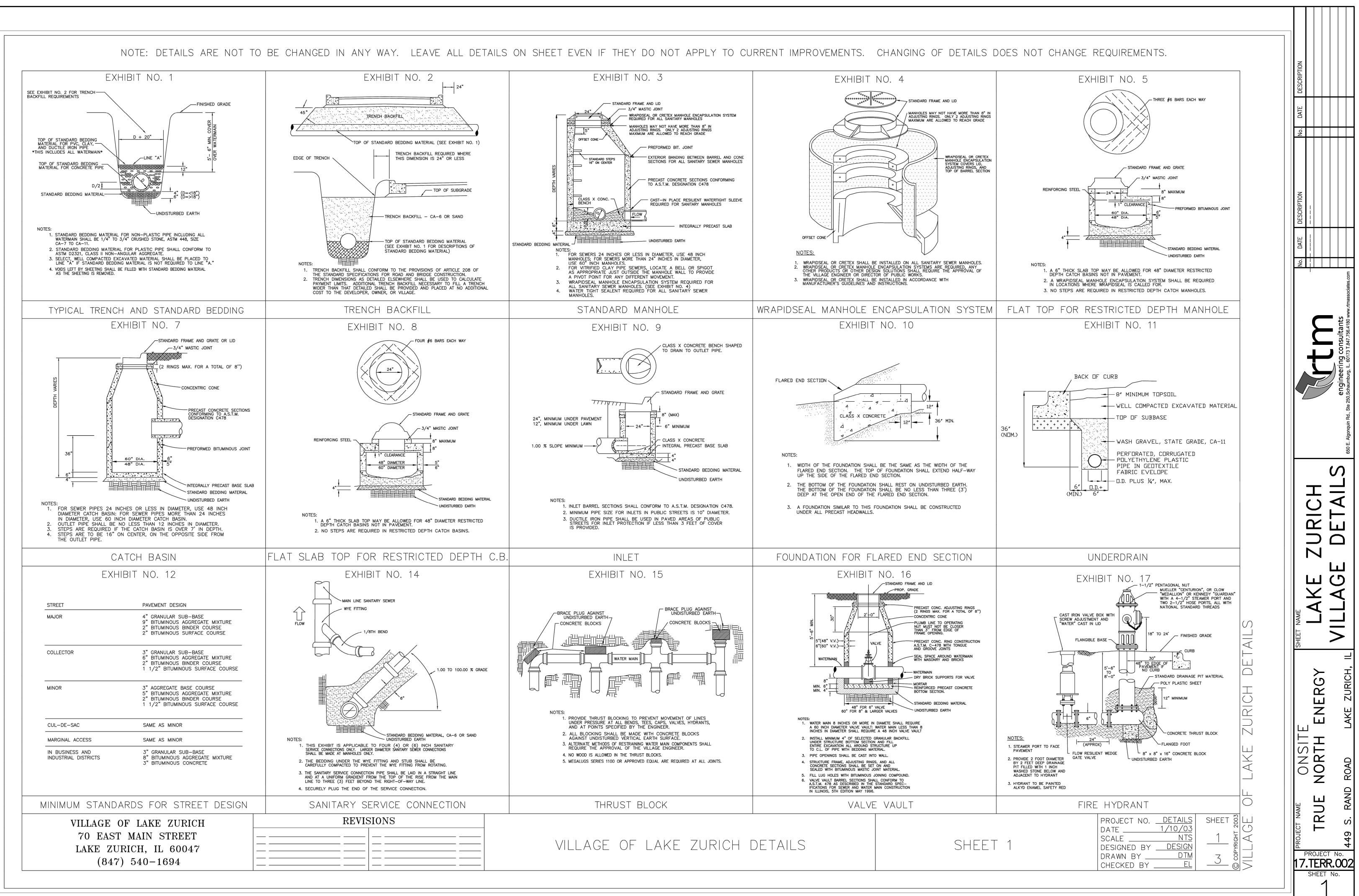


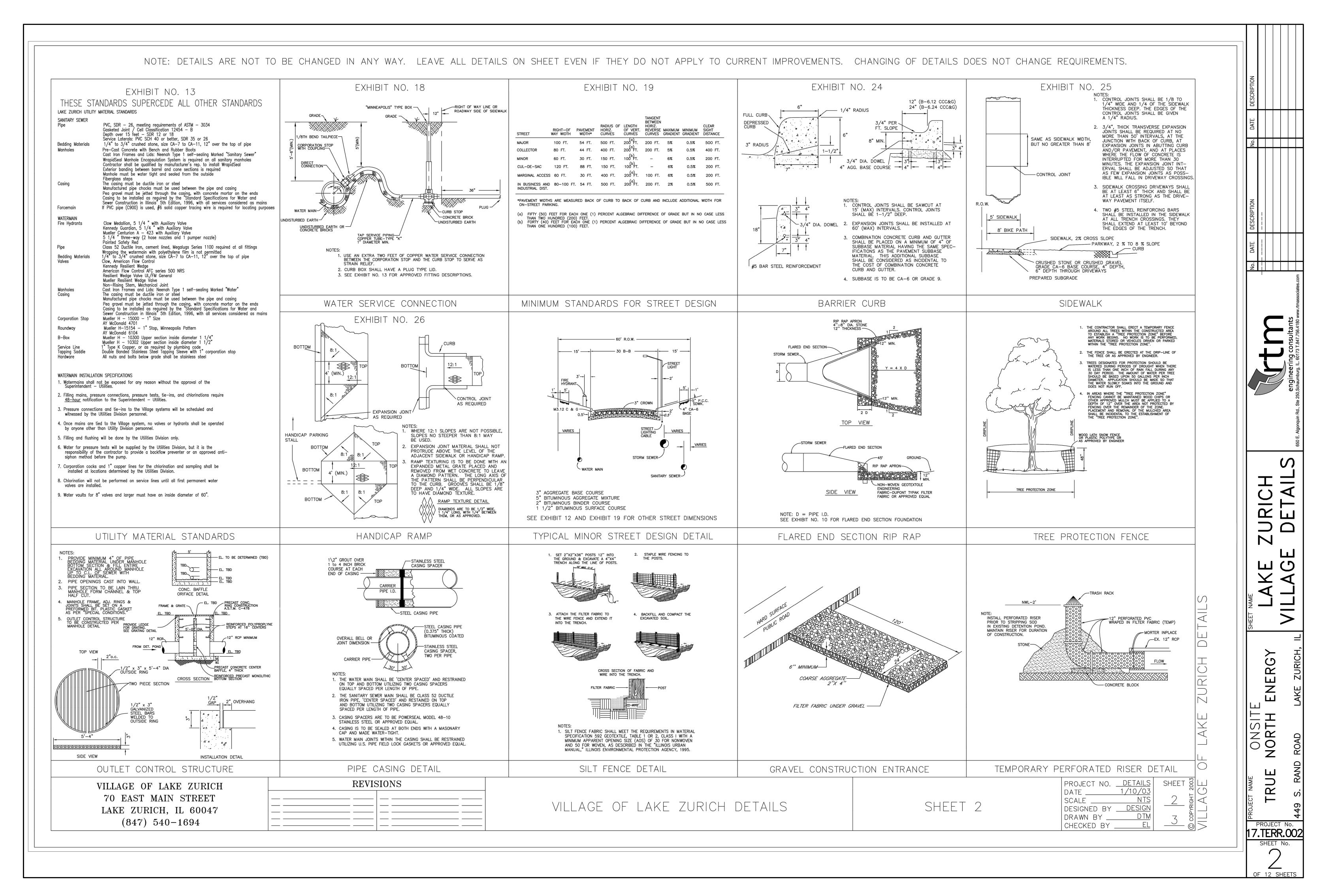
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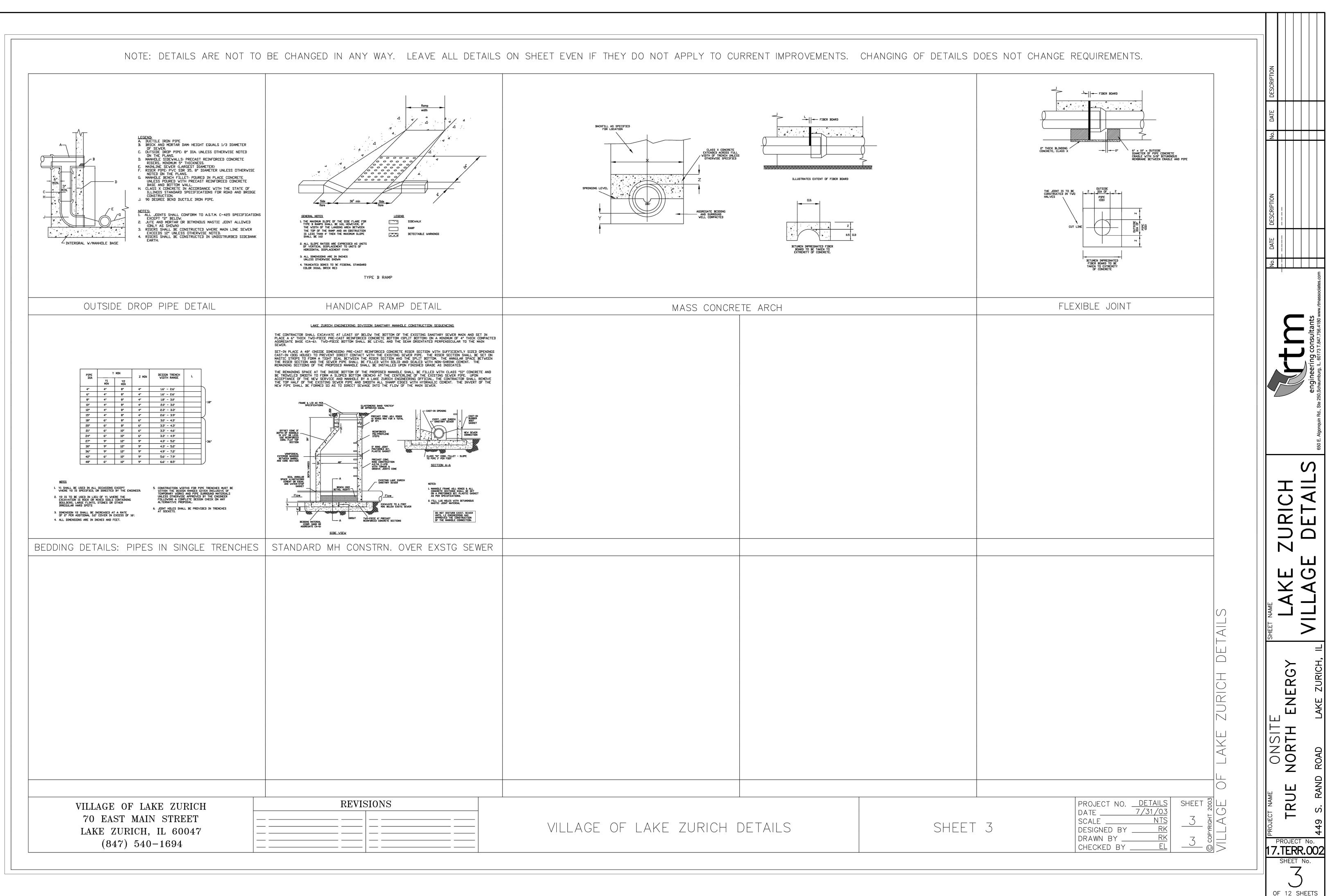
OF 12 SHEETS

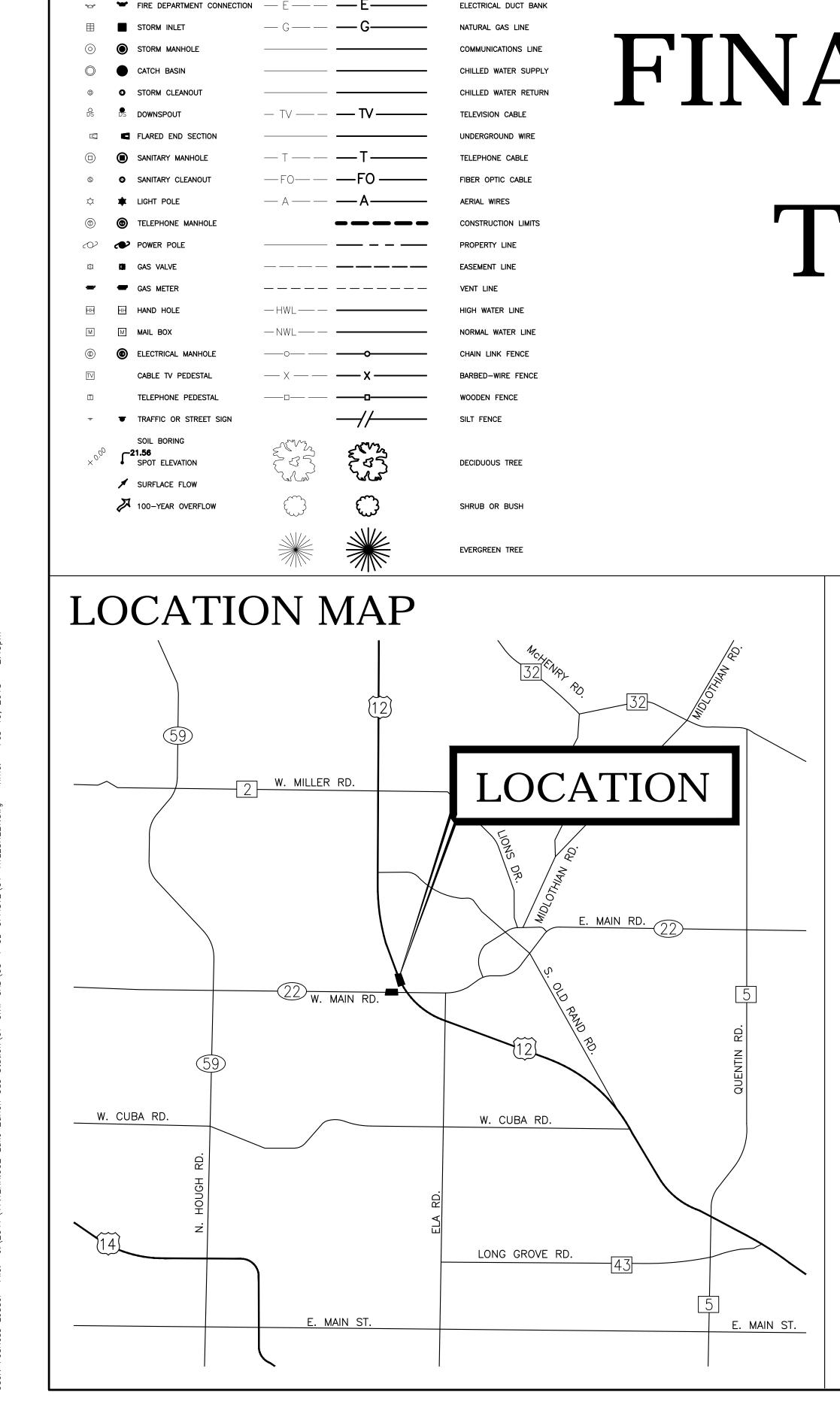












/ PROPOSED

WATERMAIN PIPE

STORM SEWER PIPE

STORM UNDERDRAIN

SANITARY SEWER PIPE

COMBINED SEWER PIPE

EXISTING / PROPOSED

⊗ ● WATER B-BOX

💢 🕱 FIRE HYDRANT

🛞 💮 WELL HEAD

☑ ■ WATER VALVE BOX

# OFFSITE FINAL ENGINEERING PLANS FOR TRUE NORTH ENERGY 449 S. RAND ROAD

LAKE ZURICH, ILLINOIS

# DEVELOPER

TERRACO INC. 3201 OLD GLENVIEW ROAD WILMETTE, IL 60091 847.679.6660

TRUENORTH 10346 BRECKSVILLE ROAD BRECKSVILLE, OH 44141 440.792.4200

## BENCHMARKS

SOURCE BENCHMARK: (DATUM: NAVD 88) STEEL ROD IN SLEEVE AS DESCRIBED FROM NGS DATA SHEET DESIGNATED AS LAKE ZURICH (PID AJ3081).

ELEVATION=871.32 SITE BENCHMARK 1: SOUTH EAR OF HYDRANT LOCATED ON THE NORTHEAST SIDE OF U.S. ROUTE 12 (A.K.A. RAND ROAD). NORTH OF THE INTERSECTION OF ROUTE 12 AND ROUTE 22. 52' SE'LY OF THE OUT-RIGHT EXIT ROAD AND 11' NE'LY FROM THE BACK OF CURB. ELEVATION=848.63

SITE BENCHMARK 2: SQUARE CUT ON THE SOUTH EAST CORNER OF ELECTRIC TRANSFORMER PAD LOCATED NORTHEAST OF THE NORTHEASTERLY PROPERTY LINE

## DUTY TO INDEMNIFY

THE CONTRACTOR SHALL DEFEND, INDEMNIFY, KEEP AND SAVE HARMLESS THE MUNICIPALITY, OWNER, AND ENGINEER, AND THEIR RESPECTIVE BOARD MEMBERS, REPRESENTATIVES, AGENTS AND EMPLOYEES, IN BOTH INDIVIDUAL AND OFFICIAL CAPACITIES, AGAINST ALL SUITS, CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES, CAUSED BY, GROWING OUT OF, OR INCIDENTAL TO, THE PERFORMANCE OF THE WORK UNDER THE CONTRACT BY THE CONTRACTOR OR ITS SUBCONTRACTORS TO THE FULL EXTENT AS ALLOWED BY THE LAWS OF THE STATE OF ILLINOIS AND NOT BEYOND ANY EXTENT WHICH WOULD RENDER THESE PROVISIONS VOID OR UNENFORCEABLE. THIS OBLIGATION INCLUDES BUT IS NOT LIMITED TO, THE ILLINOIS LAWS REGARDING STRUCTURAL WORK (IL. REV. STAT. CH. 48, PAR.60 AT SEQ.). AND REGARDING THE PROTECTION OF ADJACENT LANDOWNERS (IL. REV. STAT. CH.17 ½ PAR.51 ET. SEQ.). IN THE EVENT OF ANY SUCH INJURY (INCLUDING DEATH) OR LOSS OR DAMAGE, OR CLAIMS THEREFORE, THE CONTRACTOR SHALL GIVE PROMPT NOTICE TO THE OWNER.

## NOTES

- SITE ACCESS CONTROL INCLUDING SAFETY FENCES AND TRAFFIC CONTROL, ALL CONSTRUCTION MEANS AND METHODS, AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 2. THE CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. ALL UTILITIES SHOWN IN THE PLANS ARE FROM RECORDS OR FIELD OBSERVABLE IN FORMATION LOCATED BY SURVEYOR. ANY UTILITY LOCATIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.

Sheet	List	Table
Sheet Number		Sheet Ti
C1		COVER S
C2		ROUTE 1
С3		ROUTE 1
C4		ROUTE 2
C5		ROUTE 1
C6		SOIL ERG
C7		SOIL ERG
C8		DETAILS
С9		DETAILS
C10		SPECIFIC
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3		lake zu

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SHEET 12 DEMOLITION AND SITE PLAN 12 UTILITY AND GRADING PLAN 22 DEMO, SITE, AND GRADING PLAN 12 CROSS SECTIONS ROSION CONTROL PLAN ROSION CONTTROL SPECS AND DETAILS

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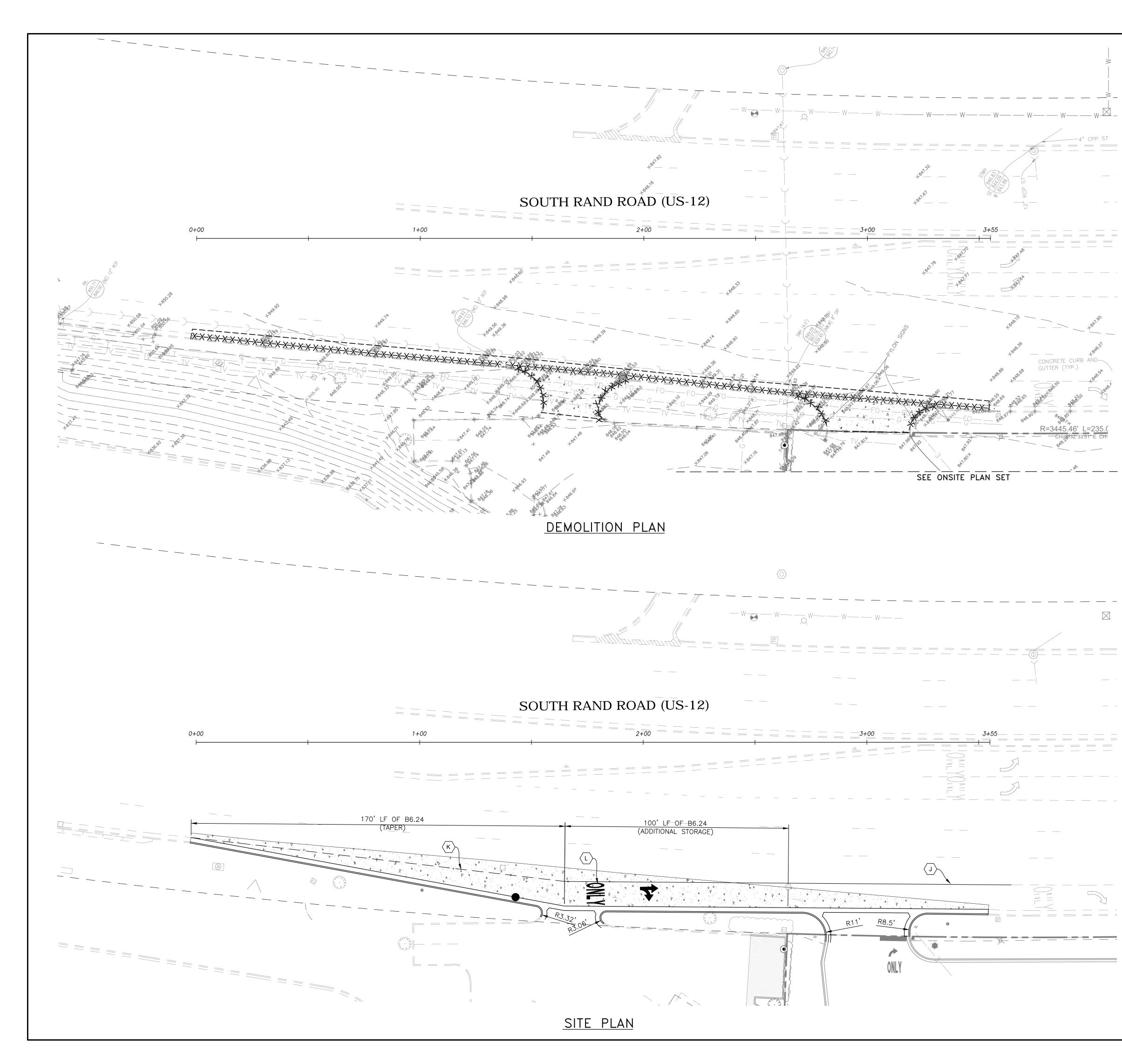
CALL JULIE, TOLL FREE AT 1-800-892-0123, AT LEAST 48 HOURS PRIOR TO DIGGING, EXCLUDING SAT. SUN. AND HOLIDAYS.



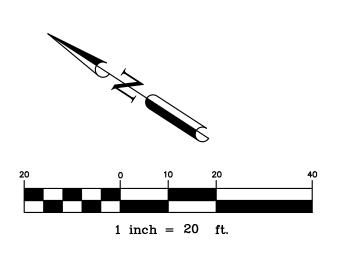
PROVIDE THE FOLLOWING INFORMATION:

COUNTY: LAKE COUNTY CITY/TWP: LAKE ZURICH 1/4 SEC: NE 1/4 19 TOWNSHIP: 43 N RANGE: 10 E

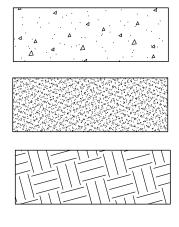
AE COVER SHEET engineering conquin Rd., Ste 250, Schaumburg, IL. 6017	No. DATE DESCRIPTION No. DATE DESCRIPTION	1 02/19/18 PERMIT SUBMITTAL	Consultants
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## <u>LEGEND</u>



CONCRETE PAVEMENT REMOVAL

BUILDING DEMOLITION (BY OTHERS)

ASPHALT REMOVAL

#### SAWCUT LINE LINEAR ITEM REMOVAL ITEM REMOVAL

## <u>LEGEND</u>

<u>CONCRETE</u>	PAVEMENT

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B6.12 CURB AND GUTTER CURB UNLESS NOTED OTHERWISE
 B6.12 CURB AND GUTTER DEPRESSED
 REVERSE PITCH GUTTER
 BARRIER CURB
 PARKING STALL COUNT
 SIGN AND STRIPING CALLOUT

HANDICAP RAMP PER ADA REQUIREMENTS AND MUNICIPAL DETAILS

SEE LIGHTING PLAN BY OTHERS

### $\langle x \rangle$ NOTES:

1. ALL DIMENSIONS ALONG CURB LINES ARE TO FACE OF CURB, UNLESS NOTED OTHERWISE.

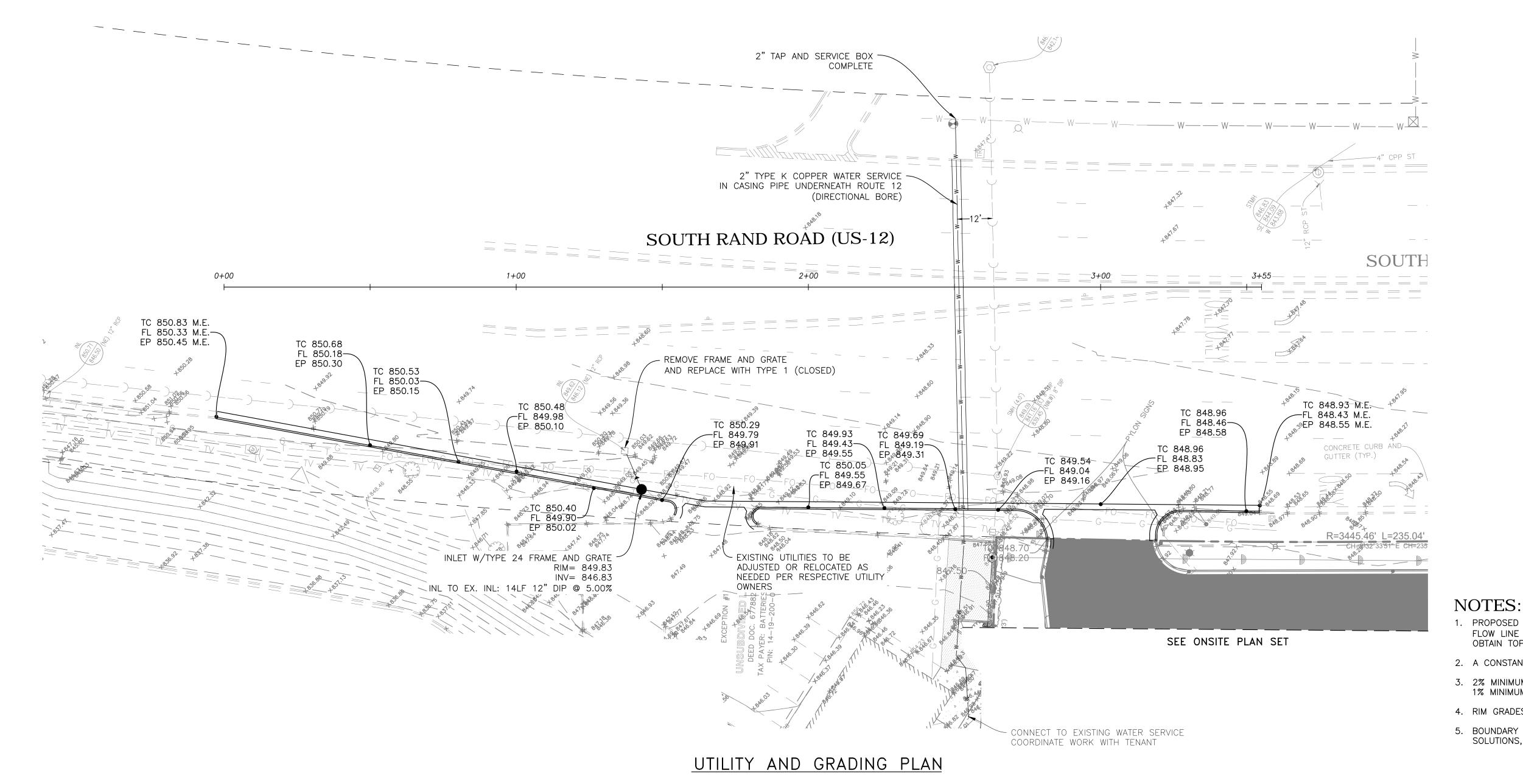
2. BUILDINGS AND ADJACENT TO BUILDING IMPROVEMENTS SHOWN ON THESE PLANS ARE BASED UPON THE BUILDING PLANS PROVIDED BY OTHERS AT THE DATE OF THESE PLANS BEING PREPARED. BUILDING PLANS NORMALLY CONTINUE TO CHANGE AFTER SITE PLANS HAVE BEEN APPROVED. THEREFORE THE CONTRACTOR SHALL USE THE BUILDING PLANS FOR FINAL BUILDING IMPROVEMENTS, AND VERIFY THAT ALL ADJACENT IMPROVEMENTS ARE CONSISTENT WITH THE DESIGN INTENT AND REQUIREMENTS OF THE SITE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF CLARIFICATION IS NEEDED, OR IF CONFLICTS OR INCONSISTENCIES EXIST.

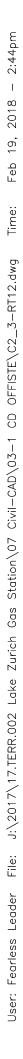
- 4. ADA DETECTIBLE WARNING STRIPS SHALL BE CAST IRON TILES, WET SET INTO CONCRETE SURFACE, PER MANUFACTURERS INSTALLATION RECOMMENDATIONS.
- 5. TOPOGRAPHIC AND BOUNDARY SURVEY PREPARED BY SIGHT ON SOLUTIONS, LLC.

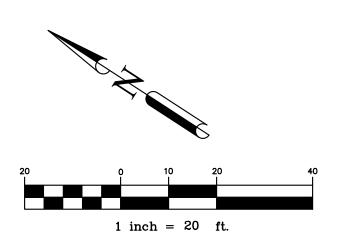
## SIGNING AND STRIPING SCHEDULE

- A. "STOP" SIGN
- B. 24" WIDTH STOP BAR C. HANDICAP SIGN (\$250 FINE)
- D. YELLOW HANDICAP PARKING STRIPING (SEE DETAIL)
- E. 4" YELLOW STRIPING F. NO LEFT TURN
- G. YELLOW CURB (10' SKIP, 15' DASH (65' TOTAL LENGTH))
- H. 6" WHITE THERMOPLASTIC DIAGONALS @ 12' O.C.
- J. 6" SOLID WHITE THERMOPLASTIC K. 6" SKIP-DASH WHITE THERMOPLASTIC
- L. THERMOPLASTIC LETTERS AND SYMBOLS

No. DATE DESCRIPTION					
DESCRIPTION					
No. DATE					
				engineering consultants	650 E. Algonquin Rd., Ste 250,Schaumburg, IL. 60173 T.847.756.4180 www.rtmassociates.com
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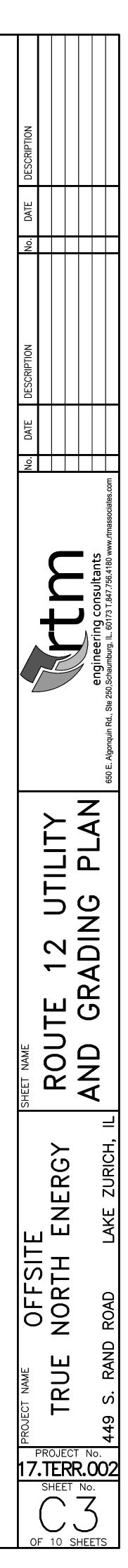


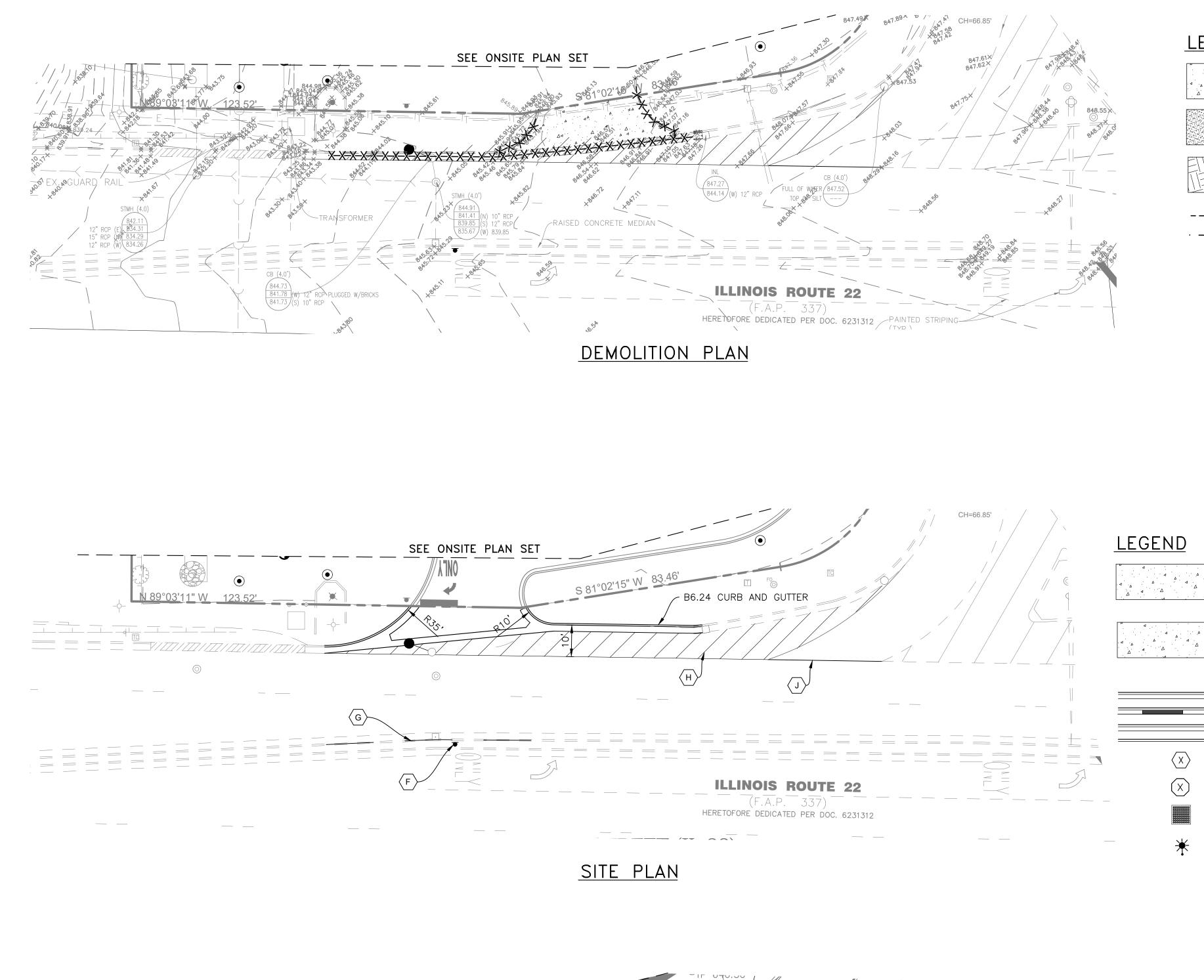


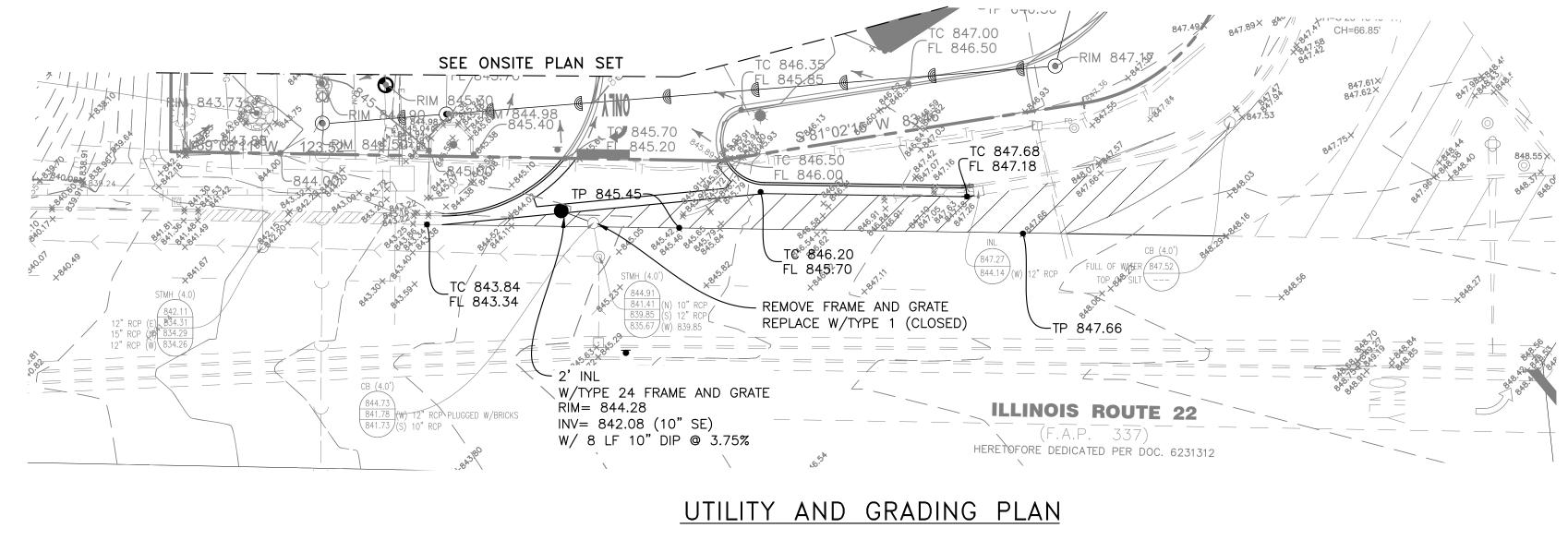
- PROPOSED ELEVATIONS SHOWN ON PROPOSED CURB LINES ARE FLOW LINE ELEVATIONS UNLESS NOTED OTHERWISE. ADD 0.50' TO OBTAIN TOP OF CURB ELEVATIONS.
- 2. A CONSTANT SLOPE SHALL BE MAINTAINED BETWEEN SPOT GRADES.
- 2% MINIMUM SLOPE AND 3:1 MAXIMUM SLOPE IN TURF AREAS AND
   1% MINIMUM SLOPE AND 5% MAXIMUM SLOPE IN PAVED AREAS.
- 4. RIM GRADES ALONG CURBS ARE FLOW LINE ELEVATIONS.
- 5. BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY SIGHT ON SOLUTIONS, LLC.

### LEGEND

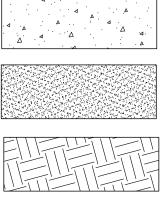
	<u>EXISTING</u>	<u>PROPOSED</u>
1 FOOT CONTOUR		
5 FOOT CONTOUR	~	
SURFACE ELEVATION	× 0.00	0.00
RECORD SURFACE ELEVATION	× 0.00	
DIRECTION OF FLOW		×
OVERLAND OVERFLOW		$ \rightarrow $
CATCH BASIN / INLET	$\bigcirc \square$	•
MANHOLE	$\bigcirc$	igodot
WATERMAIN VALVE	$\otimes$	$\Theta$
SAWCUT LINE		
RIDGE LINE GRADE CHANGE SLOPE AREA		
TOP OF CURB		TC 000.00
TOP OF DEPRESSED CURB		TDC 000.00
FLOW LINE		FL 000.00
TOP OF PAVEMENT		TP 000.00
TOP OF SIDEWALK		SW 000.00
TOP OF FINISHED GRADE		FG 000.00
TOP OF UTILITY STRUCTURE		RIM 000.00
TOP OF WALL		T/WALL 000.00
FINISHED FLOOR		F/F 000.00
MATCH OR MEET EXIST GRADE		(XX 000.00±) M.E.
CRITICAL GRADE		TP 000.00
CURB AND GUTTER CURB	=	
CURB AND GUTTER DEPRESSED	=	
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REVERSE GUTTER PITCH (AWAY F	ROM CURB)	•
STORM SEWER		
STORM SERVICE		

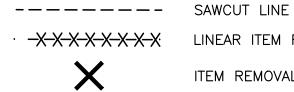












CONCRETE PAVEMENT REMOVAL

BUILDING DEMOLITION (BY OTHERS)

<u>ASPHALT REMOVAL</u>

LINEAR ITEM REMOVAL ITEM REMOVAL

CONCRETE PAVEMENT

CONCRETE SIDEWALK

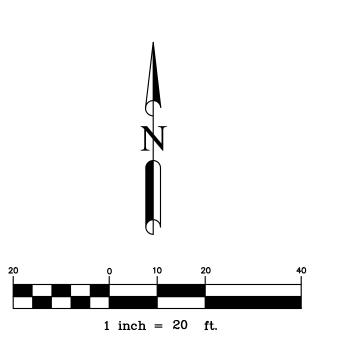
B6.12 CURB AND GUTTER CURB UNLESS NOTED B6.12 CURB AND GUTTER DEPRESSED REVERSE PITCH GUTTER BARRIER CURB

PARKING STALL COUNT

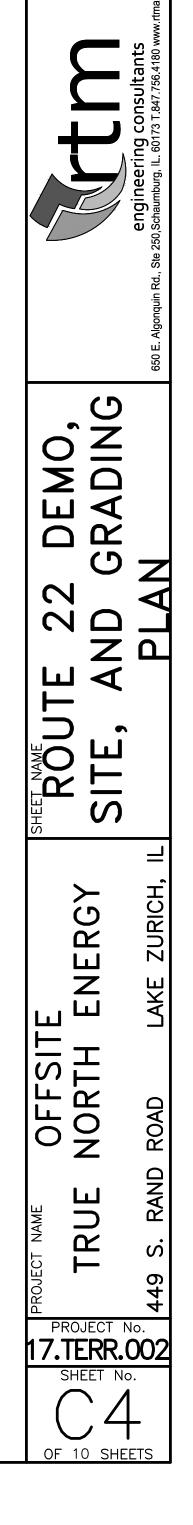
SIGN AND STRIPING CALLOUT

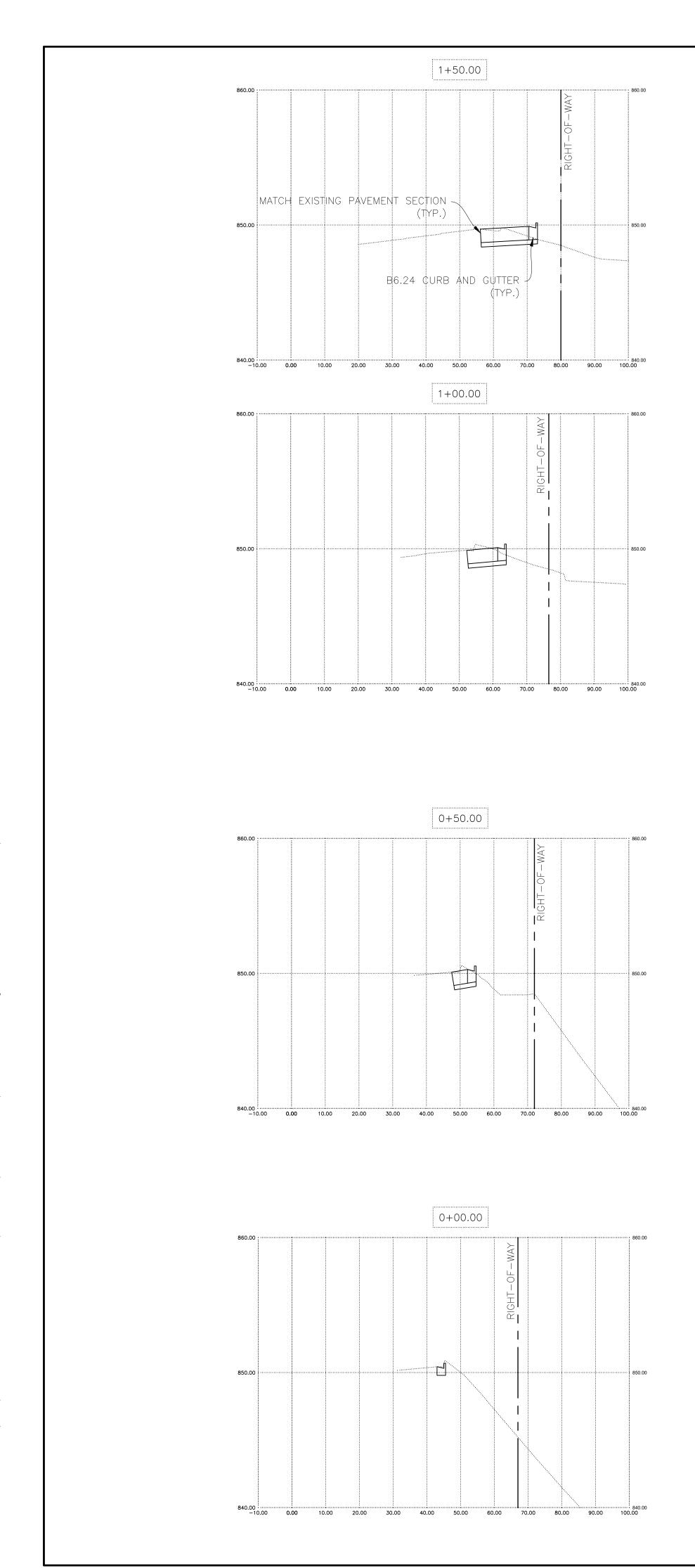
HANDICAP RAMP PER ADA REQUIREMENTS AND MUNICIP

SEE LIGHTING PLAN BY OTHERS



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		ALL DIMENSIONS ALONG CURB LINES ARE TO FACE OF CURB, UNLESS NOTED OTHERWISE.	
) OTHERWISE	2.	BUILDINGS AND ADJACENT TO BUILDING IMPROVEMENTS SHOWN ON THESE PLANS ARE BASED UPON THE BUILDING PLANS PROVIDED BY OTHERS AT THE DATE OF THESE PLANS BEING PREPARED. BUILDING PLANS NORMALLY CONTINUE TO CHANGE AFTER SITE PLANS HAVE BEEN APPROVED. THEREFORE THE CONTRACTOR SHALL USE THE BUILDING PLANS FOR FINAL BUILDING IMPROVEMENTS, AND VERIFY THAT ALL ADJACENT IMPROVEMENTS ARE CONSISTENT WITH THE DESIGN INTENT AND REQUIREMENTS OF THE SITE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF CLARIFICATION IS NEEDED, OR IF CONFLICTS OR INCONSISTENCIES EXIST.	
	4.	ADA DETECTIBLE WARNING STRIPS SHALL BE CAST IRON TILES, WET SET INTO CONCRETE SURFACE, PER MANUFACTURERS INSTALLATION RECOMMENDATIONS.	
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CIPAL DETAILS		<ul> <li>SIGNING AND STRIPING SCHEDULE</li> <li>A. "STOP" SIGN</li> <li>B. 24" WIDTH STOP BAR</li> <li>C. HANDICAP SIGN (\$250 FINE)</li> <li>D. YELLOW HANDICAP PARKING STRIPING (SEE DETAIL)</li> <li>E. 4" YELLOW STRIPING</li> <li>F. NO LEFT TURN</li> <li>G. YELLOW CURB (10' SKIP, 15' DASH (65' TOTAL LENGTH))</li> <li>H. 6" WHITE THERMOPLASTIC DIAGONALS @ 12' O.C.</li> <li>J. 6" SOLID WHITE THERMOPLASTIC</li> <li>K. 6" SKIP-DASH WHITE THERMOPLASTIC</li> <li>L. THERMOPLASTIC LETTERS AND SYMBOLS</li> </ul>	ME
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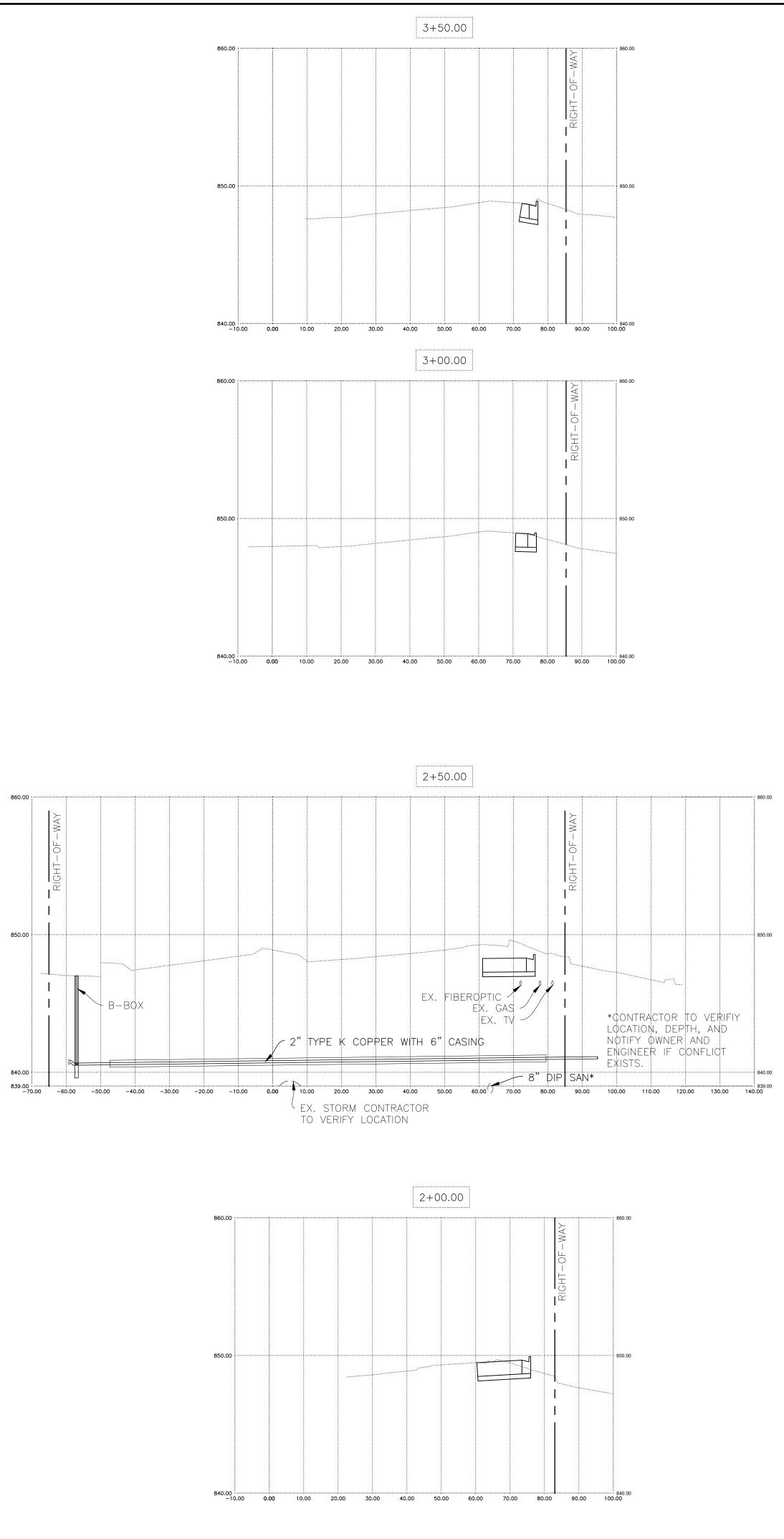


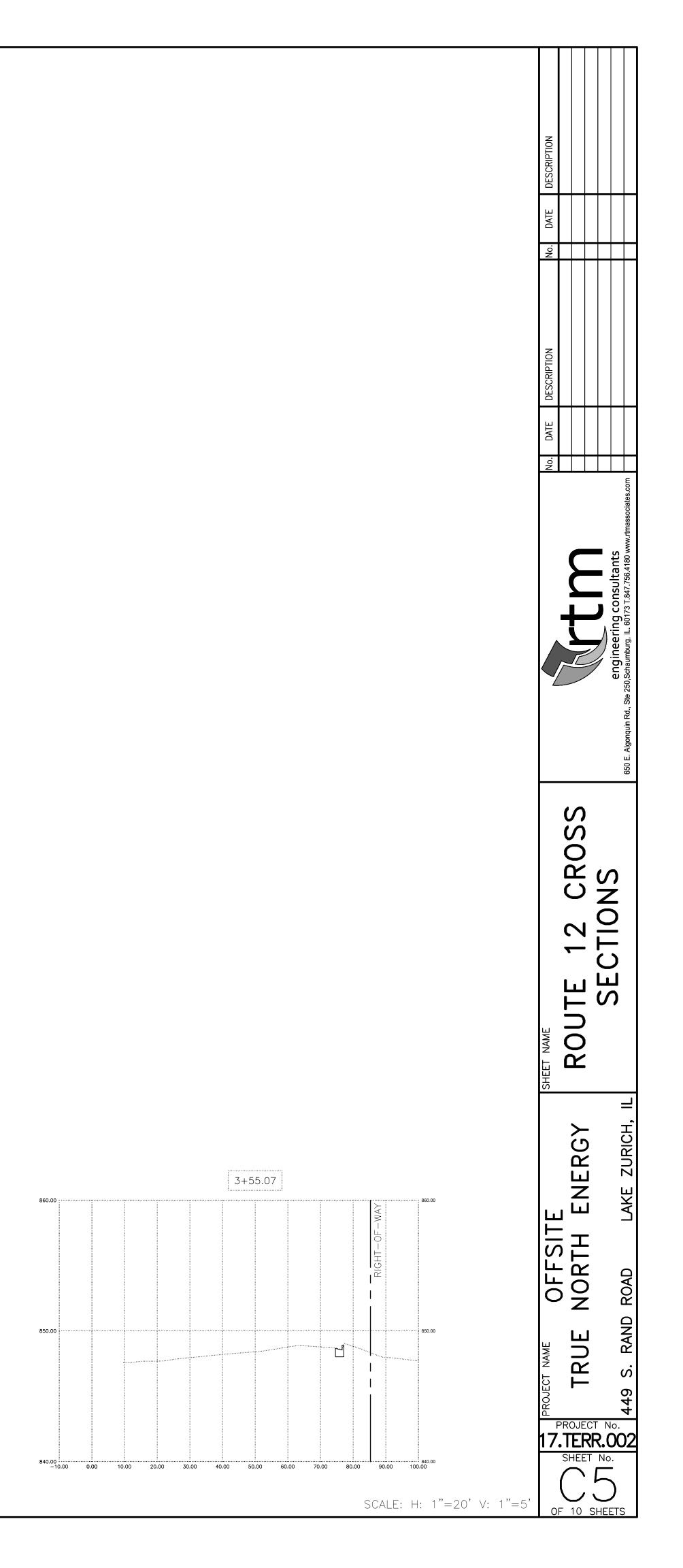


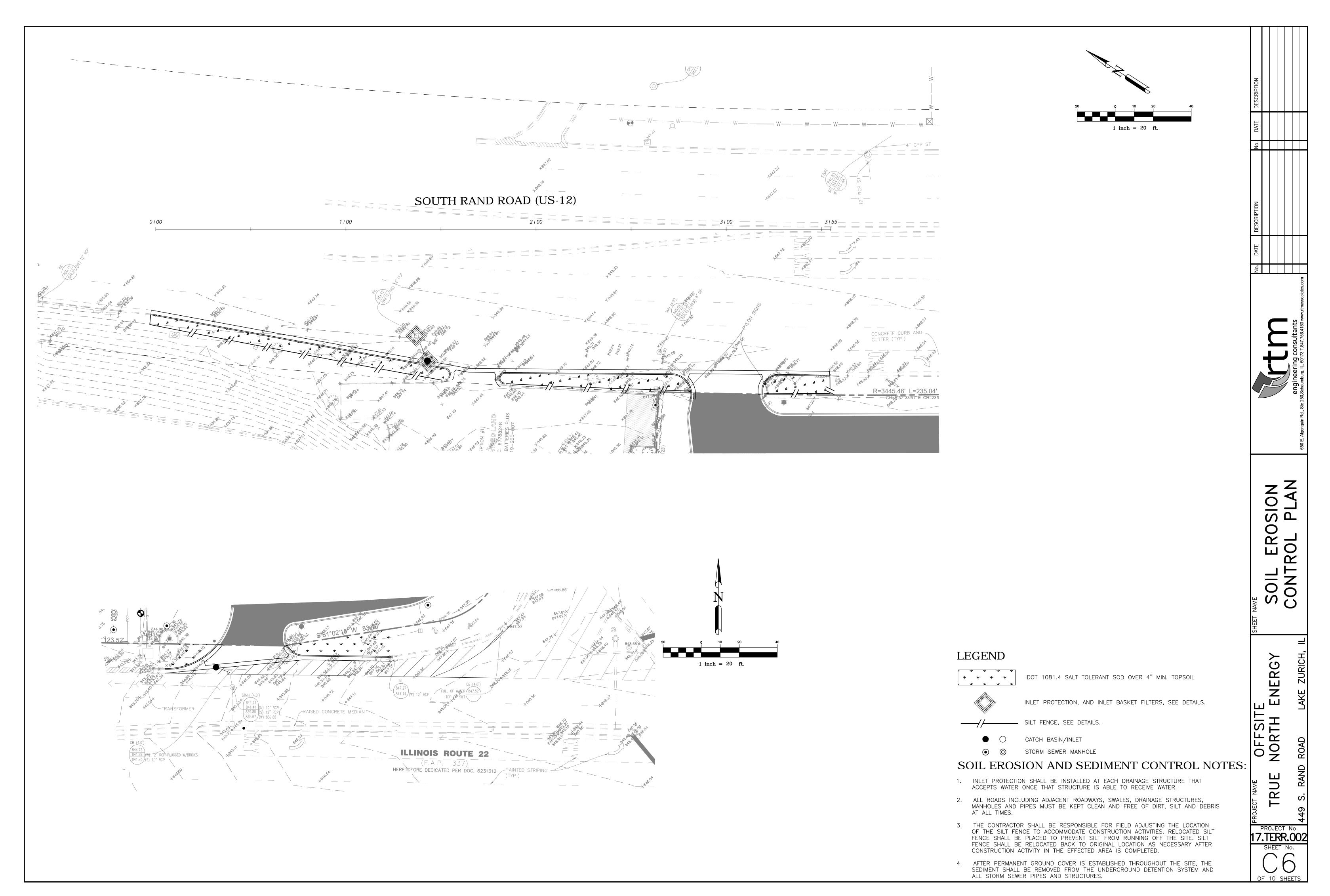
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GENERAL EROSION CONTROL REQUIREMENTS

- 1. SOIL EROSION CONTROL SHALL MEET THE FOLLOWING REQUIREMENTS AS APPLICABLE:
  - A. THE GOVERNING MUNICIPALITIES EROSION CONTROL REQUIREMENTS. INCLUDING FIELD REQUIRED ADDITIONAL OR MODIFIED REQUIREMENTS AS DIRECTED BY THE MUNICIPALITY'S REPRESENTATIVE.
  - THE APPLICABLE STATE OR FEDERAL NPDES PERMIT REQUIREMENTS.
     DETAILS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL" 1995 OR LATEST EDITION.
  - DETAILS AND SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL 1995 OR LATEST EDITION.
     "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS" REVISED JULY 1988 OR LATEST EDITION.
  - E. THE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT.
     F. THESE PLANS, DETAILS AND SPECIFICATIONS.
- 2. REASONABLE CARE MUST BE TAKEN TO MINIMIZE SOIL EROSION. ANY DISTURBED AREAS SHALL BE KEPT TO A PRACTICAL MINIMUM AND SHALL BE SEEDED, SODDED, MULCHED OR PAVED AS SOON AS POSSIBLE.
- 3. CONTRACTOR SHALL ASSURE THAT SEDIMENT OR ANY OTHER SITE MATERIAL IS NOT INADVERTENTLY TRANSPORTED FROM THE SITE BY STORM WATER RUNOFF, VEHICLES AND EQUIPMENT, PREVAILING WINDS OR ANY OTHER MEANS.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OVERALL OPERATION OF THE CONSTRUCTION ACTIVITIES DUTIES SHALL INCLUDE:
  - A. IMPLEMENT THE EROSION CONTROL PLAN REQUIREMENTS.
- B. OVERSEE THE MAINTENANCE OF EROSION CONTROL MEASURES.C. SUPERVISE EMPLOYEE AND SUBCONTRACTOR IMPLEMENTATION OF THE EROSION CONTROL MEASURES
- D. CONDUCT OR OVERSEE INSPECTION AND MONITORING ACTIVITIES.
- E. IDENTIFY ANY NEEDED FIELD MODIFICATIONS TO THE EROSION CONTROL PLAN.F. ENSURE THAT ANY MODIFICATIONS TO THE PLAN ARE IMPLEMENTED.
- G. THEY SHALL BE FAMILIAR WITH EROSION CONTROL PRINCIPLES AND PRACTICES.

5. THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURE SELECTION FLOW CHART AND THE ILLINOIS URBAN MANUAL SHALL BE USED BY THE DESIGNATED RESPONSIBLE INDIVIDUAL TO MAKE NECESSARY FIELD MODIFICATIONS TO THE EROSION CONTROL PLAN.

6. INSPECTIONS:

QUALIFIED PERSONNEL (PROVIDED BY THE CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICE OF EROSION AND SEDIMENT CONTROLS, AND WHO POSSESSES THE SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORM WATER QUALITY AND TO ASSESS THE EFFECTIVENESS OF ANY SEDIMENT AND EROSION CONTROL MEASURES SELECTED TO CONTROL THE QUALITY OF STORM WATER DISCHARGES FROM THE CONSTRUCTION ACTIVITIES. A. DISTURBED AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, SEDIMENT ENTERING THE DRAINAGE SYSTEM FROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE

- DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING. BASED ON THE RESULTS OF THE INSPECTION SEDIMENT AND FROSION CONTROL MEASURES SHALL BE
- B. BASED ON THE RESULTS OF THE INSPECTION, SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.
- 7. 'EXCEPT AS PROVIDED IN PARAGRAPHS (A) AND (B) BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
  - A. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
  - B. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
- 8. STOCKPILES FOR WHICH GRADING HAS CEASED SHALL HAVE A TRENCH, BERM, SILT FENCE, OR COMBINATION THEREOF INSTALLED ALONG THE PERIMETER OF THE BASE AND SHALL BE VEGETATED SUFFICIENTLY TO CONTROL EROSION FROM BOTH WIND AND WATER.
- 9. EXPOSED SOILS SHALL BE SPRAYED WITH WATER AS NEEDED TO AVOID EROSION FORM WIND AND TO CONTROL DUST.
- 10. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION SHALL BE FILTERED OR ROUTED THROUGH THE SEDIMENTATION AND SOIL EROSION CONTROL MEASURES PRIOR TO DISCHARGE.
- MAINTENANCE OF CONTROL MEASURES: BASED ON THE RESULTS OF THE PERIODIC INSPECTIONS, THE FOLLOWING MINIMUM MAINTENANCE MEASURES SHALL BE IMPLEMENTED WITH RESPECT TO EROSION AND SEDIMENT CONTROL ITEMS: A. SILT FROM SILT FENCES, INLET PROTECTION, DITCH CHECKS, ETC. SHALL BE REMOVED WHEN THE SILT REACHES 1/3 OF THE HEIGHT OF THE BARRIER. DAMAGED OR DOWNED SILT FENCE, INLET PROTECTION, DITCH
  - CHECKS, ETC. SHALL BE REPAIRED OR REPLACED. B. CLEAN STREETS OF TRACKED MATERIAL ONGOING AND AS NEEDED, WITHIN 24 HOURS OF DEPOSITION. C. SEDIMENT FROM SEDIMENT TRAPS SHALL BE REMOVED WHEN THE AVAILABLE SEDIMENT CAPACITY IS REDUCE
  - BY 1/2 FROM THE ORIGINAL SEDIMENT CAPACITY. D. TEMPORARY OR PERMANENT SEEDING SHALL BE REPLACED AT BARE SPOTS, WASHOUTS ETC. ONGOING AND AS NEEDED.
  - ALL MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES SHALL OCCUR AS SOON AS PRACTICAL, BUT NO LATER THAN SEVEN DAYS AFTER INSPECTION, NO LATER THAN THE NEXT RAINFALL, OR NO LATER THAN THE NEXT PERIODIC INSPECTION UNLESS MORE STRINGENT REQUIREMENTS APPLY.
- 12. INLETS, CATCH BASINS, MANHOLES, PIPES, SWALES, ROADS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES, AND SHALL BE CLEANED BEFORE IMPROVEMENTS WILL BE ACCEPTED AT TIME OF FINAL TURNOVER.
- 13. AFTER PERMANENT GROUND COVER IS ESTABLISHED THROUGHOUT THE SITE THE SEDIMENT SHALL BE REMOVED FROM THE DETENTION SYSTEM.
- 14. EROSION CONTROL DEVICES SHALL NOT BE REMOVED OR DISABLED PRIOR TO PERMANENT STABILIZATION OF THEIR RESPECTIVE UPSTREAM TRIBUTARY AREAS.
- 15. REPLACE SOIL EROSION CONTROL DEVICES WITH TOPSOIL AND SOD AT THE COMPLETION OF THE PROJECT, OR PER THE PERMANENT VEGETATIVE CONTROL MEASURES SPECIFIED ON THE LANDSCAPE PLANS BY OTHERS.

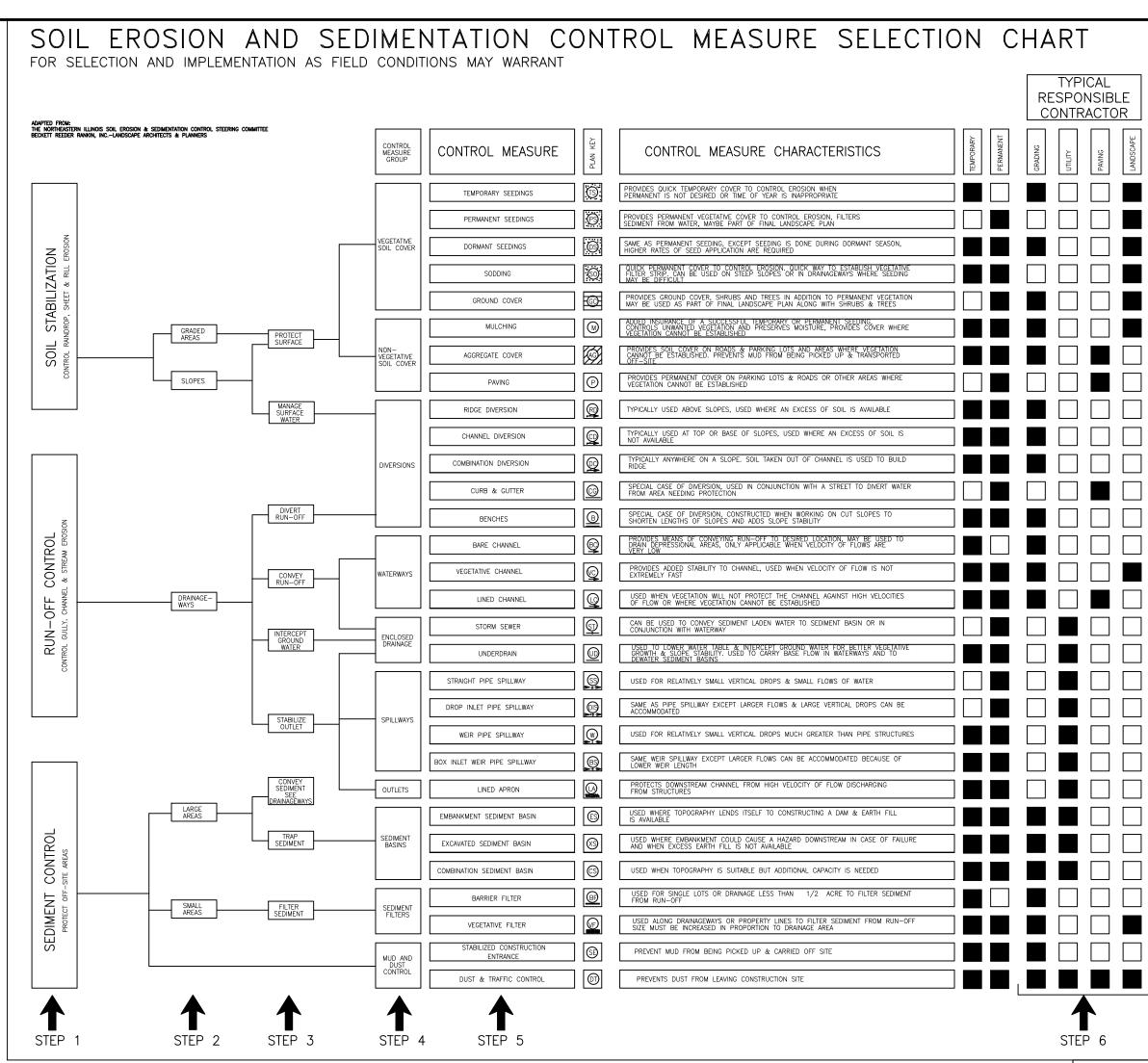
EROSION CONTROL VEGETATION CHART

STABILIZATION TYPEJAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEP. OCT. NOV. DEC.

URMANT SEEDINGS			-					$\sim$		-
EMPORARY SEEDINGS				R					>	
										/
IULCHING										
A = SAME AS	SBIN	ICREAS	E SEE	DBY	50%					

- AND ADD 2 TONS OF STRAW MULCH PER
- B = CLASS 7 TEMPORARY TURF COVER MIX
- (IDOT) 64 LBS / AC PERENNIAL RYEGRASS
- 64 LBS / AC OATS, SPRING
- C = 2 TONS / ACRE STRAW MULCH
- EROSION CONTROL VEGETATION NOTES 1. VEGETATIVE PLANTINGS – SPRING PLANTINGS SHALL BE CHECKED DURING SUMMER &
- EARLY FALL. 2. MOWING – DRAINAGEWAYS, DITCHES & OTHER AREAS THAT SUPPORT A DESIGNED FLOW
- OF WATER WILL BE MOWED REGULARLY TO MAINTAIN THAT FLOW.
- 3. FERTILIZATION SEEDED AREAS WHERE THE SEED HAS NOT PRODUCED A GOOD COVER, WILL BE INSPECTED & FERTILIZED AS NECESSARY.
- 4. ANY REQUIREMENTS CONTAINED IN THE LANDSCAPE PLANS SHALL SUPERSEDE THESE MEASURES.

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#### TYPICAL CONSTRUCTION SEQUENCE

- INSTALL INITIAL SOIL EROSION CONTROL MEASURES.
   TOPSOIL STRIPPING AND STOCKPILING WITH APPROPRIATE EROSION
- CONTROL MEASURES.
- 3. EARTHWORK CONSTRUCTION AND OTHER APPLICABLE SE & SC MEASURES.
- 4. TEMPORARY VEGETATIVE SOIL COVER IN AREAS WHERE WORK HAS CEASED. REPEAT TEMPORARY MEASURES THROUGHOUT CONSTRUCTION AS NEEDED.
- 5. UNDERGROUND / UTILITY CONSTRUCTION INCLUDING INLET PROTECTION
- AND OTHER APPLICABLE SE & SC MEASURES.
- 6. PAVING OPERATIONS
- TOPSOIL RE-SPREAD IN APPLICABLE AREAS.
   INSTALL PERMANENT VEGETATION AND STABILIZATION.
- 9. REMOVE SEDIMENT AND TEMP MEASURES AFTER FINAL STABILIZATION.



ON ANY CONSTRUCTION SITE THE OBJECTIVE IN SOIL EROSION AND SEDIMENT CONTROL (SE & SC) IS TO PREVENT OFF SITE SEDIMENTATION DAMAGE. THE THREE BASIC METHODS USEFUL TO CONTROL CONSTRUCTION SITES ARE SOIL STABILIZATION, RUNOFF CONTROL, AND SEDIMENT CONTROL. CONTROLLING EROSION SHOULD BE USED AS THE FIRST LINE OF DEFENSE WHERE SOIL PROPERTIES AND TOPOGRAPHY OF THE SITE MAKE THE DESIGN OF SEDIMENT TRAPPING FACILITIES IMPRACTICAL OR WHERE MUCH OF THE SITE WILL NOT BE DISTURBED AND MUCH OF THE EXISTING VEGETATION CAN BE PRESERVED. CONTROLLING EROSION IS VERY EFFECTIVE FOR SMALL DISTURBED AREAS SUCH AS SINGLE LOTS OR SMALL AREAS OF A DEVELOPMENT THAT DO NOT DRAIN TO A SEDIMENT TRAPPING FACILITY.

SEDIMENT TRAPPING FACILITIES SHOULD BE USED ON LARGE DEVELOPMENTS WHERE MASS GRADING IS PLANNED, WHERE IT IS IMPOSSIBLE OR IMPRACTICAL TO CONTROL EROSION, AND WHERE SEDIMENT PARTICLES ARE RELATIVELY LARGE. A MINIMUM OF COST FOR SE & SC IS USUALLY ACCOMPLISHED BY USING A COMBINATION OF EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES.

#### STEP 2: IDENTIFY PROBLEM AREAS

ONCE A METHOD OF CONTROL IS SELECTED, POTENTIAL SE & SC PROBLEM AREAS ARE IDENTIFIED. AREAS WHERE EROSION IS TO BE CONTROLLED WILL USUALLY FALL INTO CATEGORIES OF SLOPES, GRADED AREAS OR DRAINAGE WAYS. SLOPES INCLUDE GRADED RIGHTS-OF-WAY, STOCKPILE AREAS, AND ALL CUT OR FILL SLOPES. GRADED AREAS INCLUDE ALL STRIPPED AREAS OTHER THAN SLOPES. DRAINAGE WAYS ARE AREAS WHERE CONCENTRATIONS OF WATER FLOW NATURALLY OR ARTIFICIALLY AND THE POTENTIAL FOR GULLY EROSION IS HIGH. PROBLEM AREAS WHERE SEDIMENT IS TO BE CONTROLLED FALL INTO CATEGORIES OF LARGE OR SMALL DRAINAGE AREAS. SMALL AREAS ARE USUALLY CONSIDERED TO BE AREAS OF 1 ACRE OR LESS WHERE FILTERING OF SEDIMENT CAN BE ACCOMPLISHED. LARGE AREAS INCLUDE ANY DRAINAGE AREA LARGER THAN 1 ACRE WHERE SEDIMENT MUST USUALLY BE TRAPPED.

#### STEP 3: IDENTIFY REQUIRED STRATEGY

THE THIRD STEP IN SE & SC SELECTION IS TO FOLLOW THE SELECTION CHART FROM THE PROBLEM AREA TO THE STRATEGY THAT CAN BE TAKEN TO SOLVE THE PROBLEM. THERE MAY BE SEVERAL STRATEGIES USED INDIVIDUALLY OR IN COMBINATION TO PROVIDE THE SOLUTION. FOR EXAMPLE, IF THERE IS A CUT SLOPE TO BE PROTECTED FROM EROSION, THE STRATEGIES MAY BE TO PROTECT THE GROUND SURFACE, DIVERT WATER FROM THE SLOPE OR SHORTEN IT. ANY COMBINATION OF THE ABOVE CAN BE USED. IF NO RAINFALL EXCEPT THAT WHICH FALLS ON THE SLOPE HAS THE POTENTIAL TO CAUSE EROSION AND IF THE SLOPE IS RELATIVELY SHORT, PROTECTING THE SOIL SURFACE IS OFTEN ALL THAT IS REQUIRED TO SOLVE THE PROBLEM.

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STEP 4 IDENTIFY CONTROL MEASURE GROUP

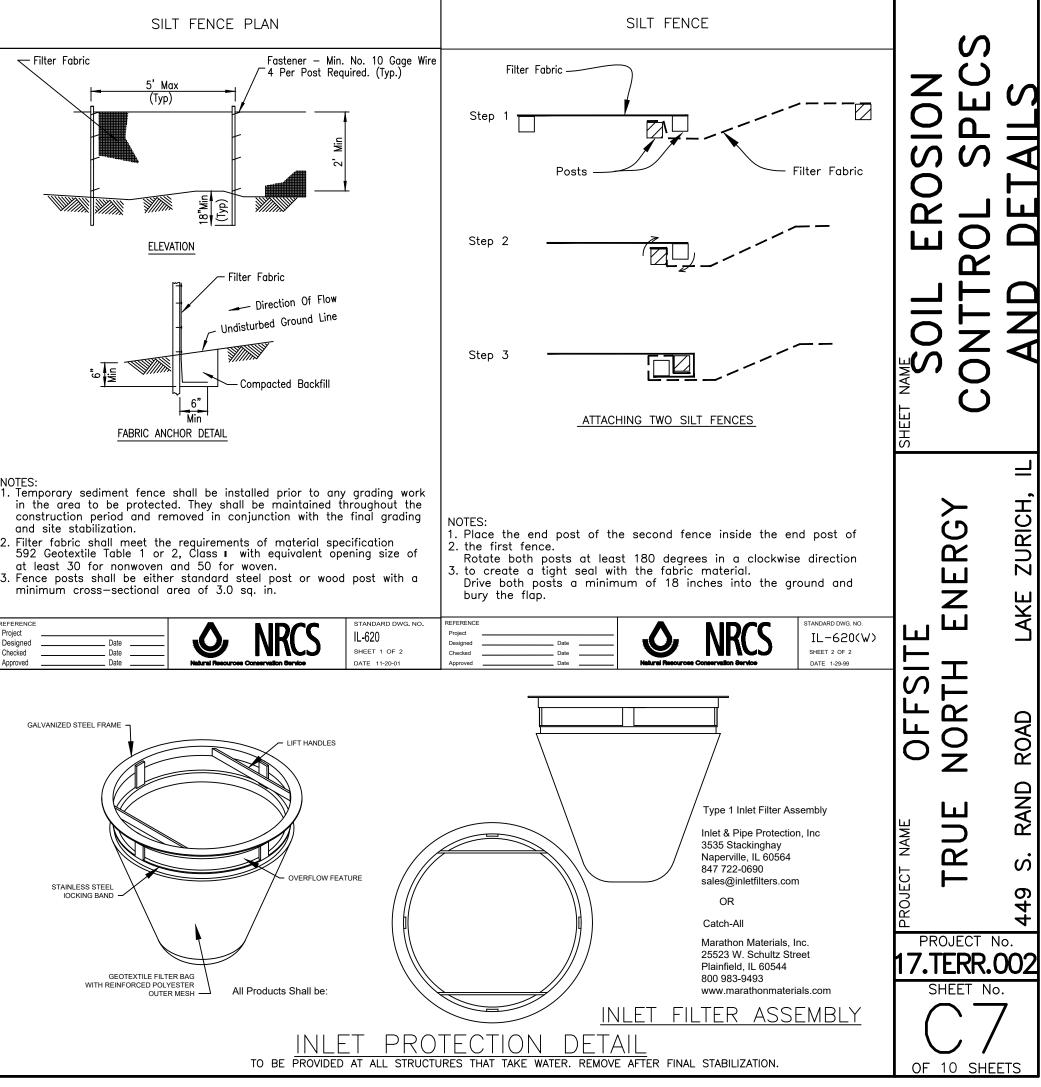
ONCE REQUIRED STRATEGIES ARE IDENTIFIED, THE SELECTION CHART LEADS TO THE GROUP OR GROUPS OF CONTROL MEASURES THAT WILL ACCOMPLISH ONE STRATEGY. CONTROL MEASURES WITHIN EACH GROUP HAVE SIMILAR PURPOSE, SCOPE, APPLICATION, DESIGN CRITERIA, STANDARD PLANS, AND CONSTRUCTION SPECIFICATIONS. THEREFORE, ANY MEASURE WITHIN A GROUP MAY SOLVE THE PROBLEM IN QUESTION.

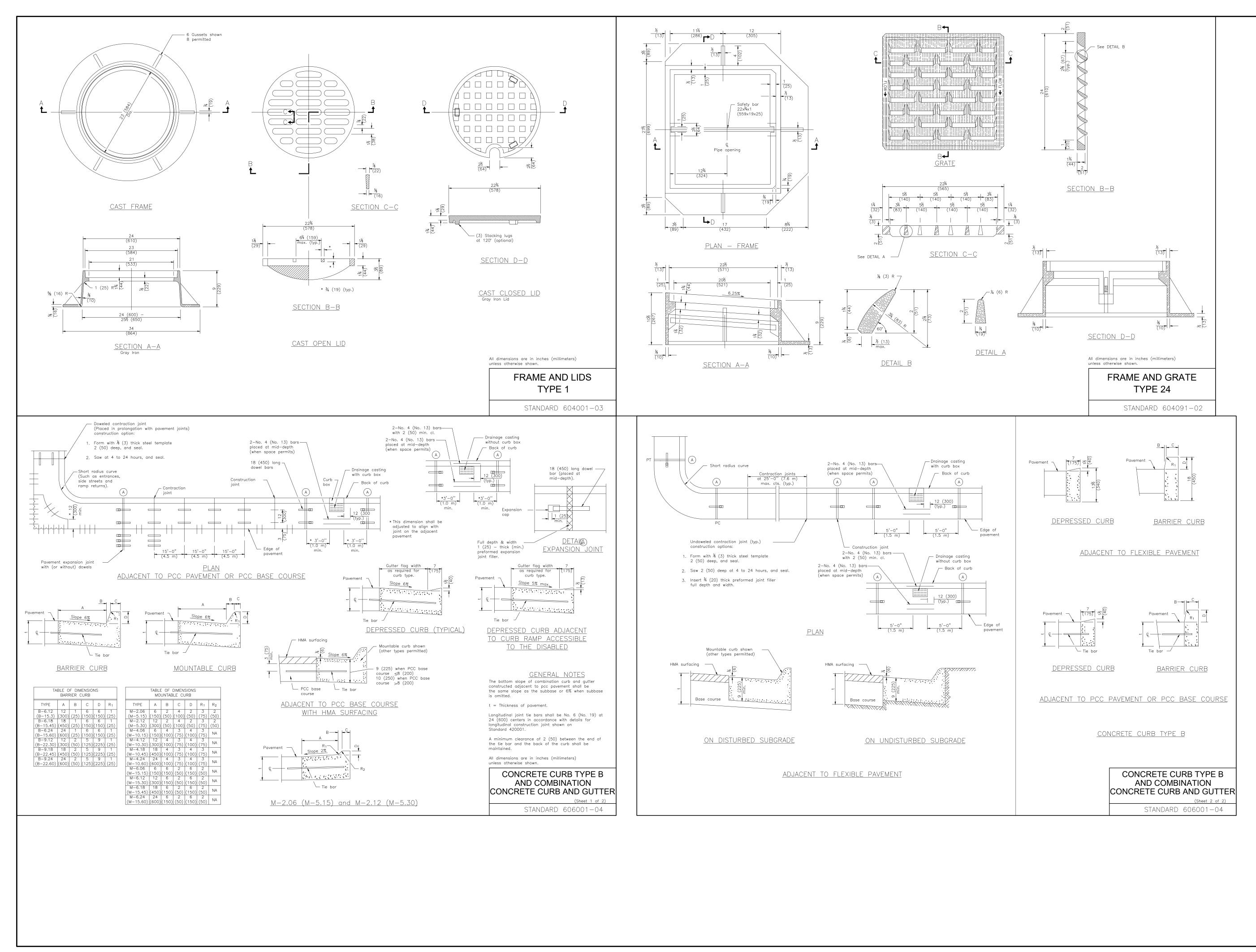
#### STEP 5: SELECT SPECIFIC CONTROL MEASURE

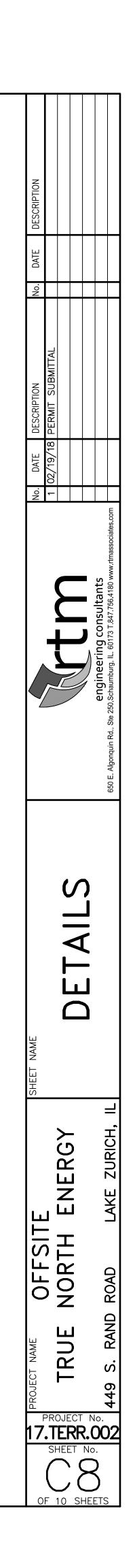
THE FIFTH STEP IN SE & SC SELECTION IS ACCOMPLISHED BY SELECTING A MEASURE. THIS INCLUDES ADAPTATION OF ANY CONTROL MEASURE WITHIN A GROUP TO SOLVE THE SPECIFIC SE & SC PROBLEM. FROM DESCRIPTIONS GIVEN TO THE RIGHT OF EACH CONTROL MEASURE THE MEASURE WHICH IS MOST ECONOMICAL, PRACTICAL, EFFICIENT, AND ADAPTABLE TO THE SITE SHALL BE CHOSEN. ONCE THE SPECIFIC CONTROL MEASURE HAS BEEN SELECTED, THE PLAN KEY SYMBOL GIVEN IN THE SELECTION CHART SHALL BE ADDED TO THE EROSION CONTROL PLAN TO SHOW WHERE FIELD IMPLEMENTED CONTROL MEASURES SHALL BE USED.

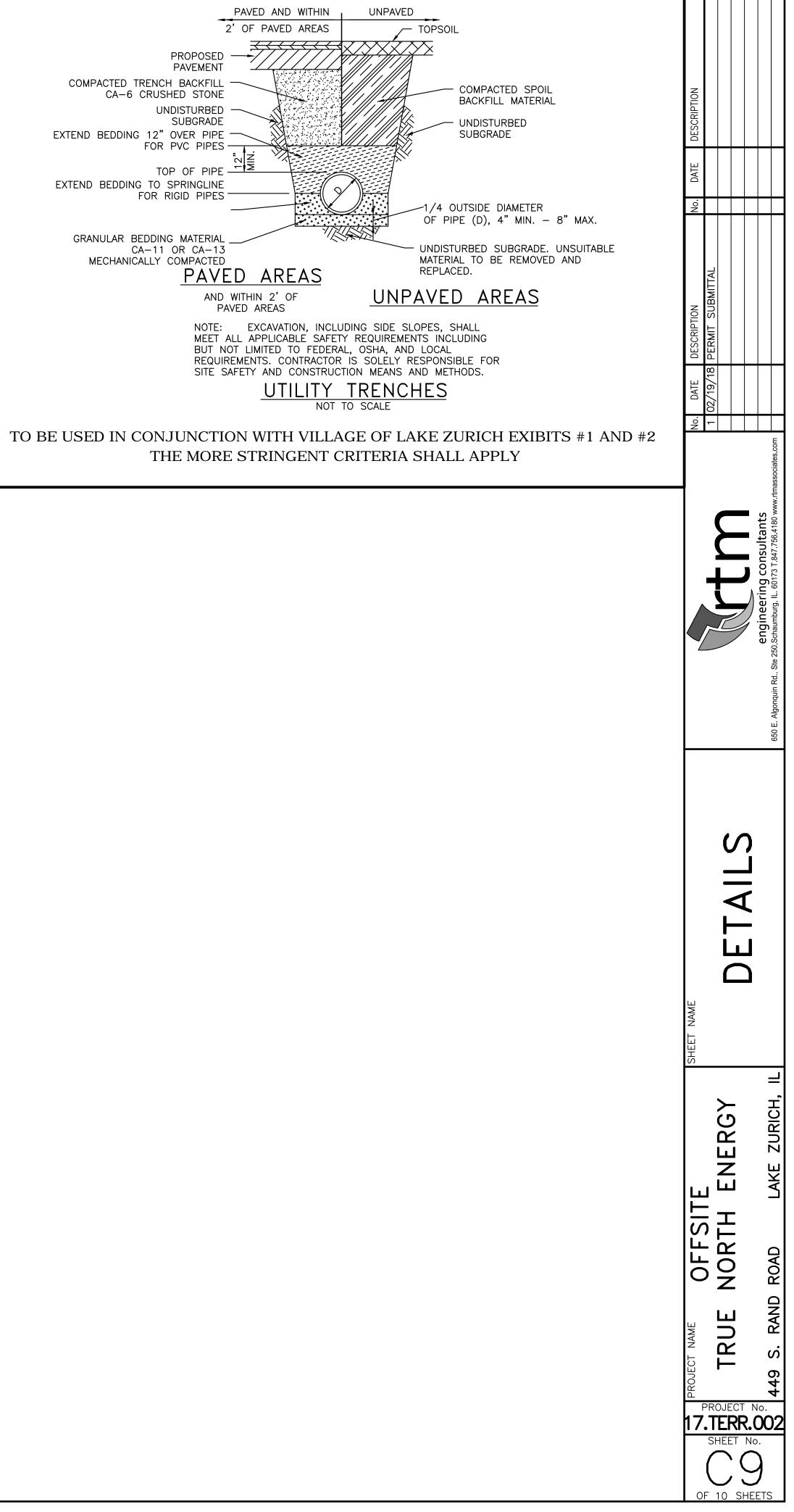
STEP 6: IMPLEMENT SPECIFIC CONTROL MEASURE

THE GENERAL CONTRACTOR THROUGH THEIR DESIGNATED QUALIFIED INDIVIDUAL SHALL BE RESPONSIBLE FOR ENSURING THAT ALL SUBCONTRACTORS PERFORM THEIR RESPECTIVE CONTROL MEASURES, IN ADDITION THE QUALIFIED INDIVIDUAL SHALL ENSURE ANY AND ALL ADDITIONAL MEASURES NOT SPECIFICALLY ASSIGNED TO A SUBCONTRACTOR SHALL BE PROPERLY IMPLEMENTED, INSPECTED AND MAINTAINED.









1. THE MUNICIPAL AUTHORITY GOVERNING THIS WORK IS THE VILLAGE OF LAKE ZURICH. 2. ALL WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING SPECIFICATIONS. IF A CONFLICT ARISES BETWEEN ANY PROVISION(S) OF THE THESE STANDARDS AND SPECIFICATIONS, THEN THE MOST RESTRICTIVE PROVISION(S) SHALL APPLY. A. ILLINOIS DEPARTMENT OF TRANSPORTATION (I.D.O.T.) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION. "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" LATEST EDITION. "ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS" AS PUBLISHED BY THE I.E.P.A. "STANDARD SPECIFICATIONS FOR SANITARY AND WATER SERVICE CONNECTIONS" BY LAKE COUNTY DEPT. OF PUBLIC WORKS. "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) LATEST EDITION. F. THE VILLAGE OF LAKE ZURICH'S "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS", LATEST EDITION AND THE VILLAGE'S MUNICIPAL AND SUBDIVISION CODES. G. DETAILS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL" 1995 OR LATEST EDITION. "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS" PUBLISHED BY THE ASSOCIATION OF ILLINOIS SOIL AND WATER CONSERVATION DISTRICTS. 3. IN THE EVENT OF CONFLICTS, ERRORS, OR AMBIGUITIES IN THE DOCUMENTS, CLIENT AND OR CONTRACTOR SHALL IMMEDIATELY, AND BEFORE ANY WORK HAS BEGUN OR COSTS INCURRED, REQUEST CLARIFICATION FROM THE ENGINEER. NEITHER CLIENT NOR CONTRACTOR SHALL TAKE ADVANTAGE OF CONFLICTS, ERRORS, OR AMBIGUITIES IN THE

**GENERAL PROVISIONS** 

DOCUMENTS.

- 4. CONTRACTOR SHALL CALL J.U.L.I.E. (1–800–892–0123) AND THE VILLAGE OF LAKE ZURICH FOR UTILITY LOCATIONS 48 HOURS BEFORE EXCAVATING.
- 5. THE CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. ALL UTILITIES SHOWN IN THE PLANS ARE FROM RECORDS OR FIELD OBSERVABLE INFORMATION LOCATED BY SURVEYOR. ANY UTILITY LOCATIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
- 6. IF ANY EXISTING UTILITIES ARE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED PROPERLY BY THE CONTRACTOR. IF THEY ARE UTILITIES TO BE ABANDONED, THEY SHALL BE CAPPED, SEALED AND ABANDONED PROPERLY PER THEIR RESPECTIVE OWNER'S CRITERIA.
- 7. THE VILLAGE OF LAKE ZURICH SHALL BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO COMMENCEMENT OF ANY APPROVED CONSTRUCTION ACTIVITY AND TO SCHEDULE ALL REQUIRED INSPECTIONS.
- 8. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA REQUIREMENTS, MUNICIPAL REGULATIONS AND STANDARDS, AND SHALL CONFORM IN ALL RESPECTS TO ALL LOCAL, STATE AND FEDERAL LAWS.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SIGNS, BARRICADES, FENCING, TRAFFIC CONTROL DEVICES AND MEASURES, AND ALL OTHER MEASURES THAT ARE NECESSARY TO PROTECT THE SAFETY OF THE SITE AT ALL TIMES.
- 10. SITE ACCESS CONTROL INCLUDING SAFETY FENCES, AND ALL CONSTRUCTION MEANS AND METHODS AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 11. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL REMOVE AND DISPOSE OF OFFSITE ANY EXCESS DIRT OR MATERIALS.
- 12. STOCKPILING OF SOIL SHALL BE AT LOCATIONS DESIGNATED BY OWNER'S REPRESENTATIVE.
- 13. ALL ROADS, SWALES, DRAINAGE STRUCTURES, MANHOLES AND PIPES MUST BE KEPT CLEAN AND FREE OF DIRT, SILT AND DEBRIS AT ALL TIMES.
- 14. ALL SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE IN PLACE BEFORE THE START OF ANY SITE WORK PER THE APPROVED EROSION CONTROL PLAN.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS BEFORE AND AFTER FINAL INSPECTION, PRIOR TO FINAL ACCEPTANCE BY THE VILLAGE ENGINEER.
- 16. DAMAGED PARKWAY LAWN AREAS SHALL BE RESTORED WITH 6 INCHES OF TOPSOIL AND SOD.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING, DOCUMENTING AND RECORDING ALL CONSTRUCTION WORK AND SHALL FURNISH THE OWNER, THE ENGINEER AND THE MUNICIPALITY WITH RECORD DRAWINGS UPON COMPLETION OF HIS WORK.
- 18. THE CONTRACTOR, BY AGREEING TO PERFORM THE WORK, AGREES TO INDEMNIFY AND HOLD HARMLESS THE OWNER, THE ENGINEER, THE MUNICIPALITY, AND ALL AGENTS AND ASSIGNS OF THOSE PARTIES, FROM ALL SUITS AND CLAIMS ARISING OUT OF THE PERFORMANCE OF SAID WORK, AND FURTHER AGREES TO DEFEND OR OTHERWISE PAY ALL LEGAL FEES ARISING OUT OF THE DEFENSE OF SAID PARTIES.
- 19. CONTRACTOR SHALL PURCHASE AND MAINTAIN FOR THE DURATION OF THE WORK INSURANCE TO PROTECT ENGINEER, OWNER, ALL OF THEIR AGENTS, EMPLOYEES, SUCCESSORS, AND ASSIGNS, VILLAGE, VILLAGE OFFICIALS, VILLAGE EMPLOYEES, AND VILLAGE ENGINEER FROM ANY AND ALL CLAIMS ARISING OUT OF THE CONSTRUCTION OF THE WORK INCLUDING NAMING THEM AS ADDITIONAL INSURED ON THE CONTRACTORS GENERAL LIABILITY POLICY, WHICH SHALL STATE THAT IT IS PRIMARY IN COVERAGE TO ANY INSURANCE CARRIED BY AGENTS, EMPLOYEES, SUCCESSORS, OR ASSIGNS.
- 20. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL DEFECTS IN MATERIALS AND WORKMANSHIP.

STANDARD EARTHWORK, GRADING AND PAVING PROVISIONS

- 1. THE GEOTECHNICAL ENGINEER FOR THE PROJECT IS XXXXXXXXXX, THEIR REQUIREMENTS AND RECOMMENDATIONS SHALL BE FOLLOWED. A GEOTECHINCAL INVESTIGATION REPORT DATED XXXXXX XX, XXXX, IS AVAILABLE FOR CONTRACTOR'S USE UPON REQUEST.
- 2. ALL CONSTRUCTION WORK INCLUDING EARTHWORK, GRADING AND PAVING SHALL BE GOVERNED BY THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION, ADOPTED JULY 2009, AND ALL REVISIONS AND SUPPLEMENTS THERETO, THE MUNICIPALITIES REQUIREMENTS, AND THE APPLICABLE ROADWAY AUTHORITY'S REQUIREMENTS.
- 3. ALL PROPOSED PAVEMENT AREAS SHALL BE STRIPPED OF ALL TOPSOIL AND UNSUITABLE MATERIAL AND EXCAVATED OR FILLED TO DESIGN SUBGRADE.
- 4. THE SUBGRADE SHALL BE FREE OF ALL UNSUITABLE MATERIAL AND SHALL BE COMPACTED TO A MINIMUM 95 PERCENT OF MODIFIED PROCTOR DENSITY.
- 5. THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY THE MUNICIPALITY AND THE GEOTECHNICAL CONSULTANT, PRIOR TO PLACING THE BASE MATERIAL.
- 6. STOCKPILING OF SOIL SHALL BE AT LOCATIONS DESIGNATED BY OWNER.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SPOIL MATERIAL FROM THE UNDERGROUND CONTRACTOR, PREPARING THE PAVEMENT SUBGRADE, PLACING REQUIRED DEPTH OF TOPSOIL TO FINISH GRADE, GRADING OF DRAINAGE SWALES, AND ALL OTHER TASKS AS DIRECTED BY THE OWNER OR ENGINEER.
- 8. ANY QUANTITIES IF CONTAINED IN THESE DOCUMENTS ARE APPROXIMATE AND ESTIMATED, AND ARE PRESENTED AS A GUIDE TO THE CONTRACTOR IN DETERMINING ALL QUANTITIES AND TO BECOME FAMILIAR WITH THE SITE AND SOIL CONDITIONS.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT THE CONCLUSION OF EACH WORKING DAY.
- 10. THE PAVING CONTRACTOR IS RESPONSIBLE FOR THE FINAL SUBGRADE PREPARATION, THE PAVEMENT BASE, BINDER, AND SURFACE, AND ALL FINAL CLEAN-UP AND RELATED WORK ASSOCIATED WITH THE PAVING OPERATION.
- 11. ALL CONCRETE SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE WITH 5-8% AIR ENTRAINMENT, 6.0 BAG MIX, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI. AT 14 DAYS.
- 12. ALL CONCRETE SHALL BE BROOM FINISHED.
- 13. CURING AND PROTECTION OF ALL CONCRETE SHALL BE IN CONFORMANCE WITH SECTION 1020.13 OF THE IDOT STANDARD SPECIFICATIONS PREVIOUSLY REFERENCED.
- 14. ALL GRASS AREAS SHALL BE RESTORED WITH 4" MINIMUM TOPSOIL AND SOD. TOPSOIL SHALL BE PULVERIZED AND FREE OF ROCKS, DEBRIS, ETC.

#### STANDARD UTILITY PROVISIONS

- 1. ALL UTILITY TRENCHES UNDER AND WITHIN TWO FEET OF PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. SHALL BE BACKFILLED WITH CA-6 CRUSHED STONE (GRADE 8 OR 9), COMPACTED IN 8" LIFTS TO 95% OF MODIFIED PROCTOR. ADDITIONAL REQUIREMENTS OF THE GEOTECHNICAL ENGINEER AND MUNICIPALITY SHALL BE FOLLOWED.
- 2. UTILITY CONNECTIONS WITHIN THE STREET RIGHT OF WAY SHALL BE ACCOMPLISHED BY SAW CUTTING AND REMOVING EXISTING PAVEMENT. BACKFILL AND RESTORATION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STREET JURISDICTIONAL AUTHORITY.
- 3. EXISTING FIELD TILES ENCOUNTERED DURING DESIGN OR CONSTRUCTION SHALL BE REDIRECTED OR INCLUDED IN A MANNER ACCEPTABLE TO THE VILLAGE ENGINEER. ANY AND ALL FIELD TILES ENCOUNTERED SHALL BE IMMEDIATELY REPORTED TO THE VILLAGE ENGINEER OF FIELD REPRESENTATIVE.
- 4. IF ANY EXISTING UNDERGROUND UTILITIES ARE ENCOUNTERED OR DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPAIRED PROPERLY BY THE CONTRACTOR. IF THERE ARE UTILITIES TO BE ABANDONED, THEY SHALL BE CAPPED, SEALED AND ABANDONED PROPERLY PER THEIR RESPECTIVE OWNERS CRITERIA.
- 5. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL REMOVE AND DISPOSE OF OFFSITE ANY EXCESS DIRT OR MATERIALS.
- 6. "BAND SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPE OR DISSIMILAR MATERIALS.
- 7. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER MAIN AND ANY SEWERS WHEN THEY ARE PARALLEL. WHENEVER A SEWER CROSSES A WATER MAIN, A MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE PIPES, AND THE SEWER JOINTS ARRANGED SO THEY ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHEN IT IS NECESSARY FOR A SEWER TO CROSS OVER THE TOP OF A WATER MAIN WITH 18" SEPARATION, OR THE SEWER CROSSES UNDER THE WATERMAIN WITH LESS THAN 18" VERTICAL SEPARATION, OR 10' HORIZONTAL SEPARATION IS NOT MAINTAINED, THEN THE
  - FOLLOWING METHOD MUST ALSO BE CONSTRUCTED:
    A.) THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER MAIN PIPE FOR THE LENGTH OF THE INADEQUATE HORIZONTAL SEPARATION OR FOR A DISTANCE OF TEN (10) FEET EITHER SIDE OF A CROSSING AND SHALL BE PRESSURE-TESTED TO INSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
    B.) FOR A STORM SEWER CROSSING, THE RCP STORM SEWER SHALL BE CONSTRUCTED WITH O-RING GASKETED JOINTS (ASTM C-361) FOR A DISTANCE OF
  - TEN (10') FEET EITHER SIDE OF A CROSSING.
- 8. NOT USED.
- 9. ALL STRUCTURES SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE RING CONSTRUCTION WITH TONGUE AND GROOVE JOINTS IN CONFORMANCE WITH THE LATEST REVISION OF ASTM C-478. A MAXIMUM OF 2 PRECAST CONCRETE ADJUSTMENT RINGS LIMITED TO 8 INCHES TOTAL HEIGHT SHALL BE PERMITTED. MANHOLE STEPS SHALL BE PROVIDED. CONTRACTOR SHALL ADJUST STRUCTURES TO FINISHED GRADE AS NEEDED.
- 10. ALL STRUCTURE SECTIONS AND ADJUSTING RINGS SHALL BE SECURELY SEALED TO EACH OTHER AND TO THE FRAME AND COVER USING RESILIENT FLEXIBLE NON-HARDENING PREFORMED BITUMINOUS MASTIC (RAM-NEK OR APPROVED EQUAL) OR BUTYL RUBBER JOINT SEALER (EASY STICK OR APPROVED EQUAL).
- 11. SEE DETAIL SHEETS THIS SET FOR FURTHER INFORMATION REGARDING THE STORM, SANITARY AND WATERMAIN REQUIREMENTS.
- 12. ALL REQUIREMENTS OF VILLAGE OF LAKE ZURICH EXHIBIT NO. 13 SHALL BE ADHERED TO.

1.	STORM SEWER SHALL BE CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS AS SPECIFIED ON THE PLANS:	
	<ul> <li>A. POLYVINYLCHLORIDE PLASTIC GRAVITY SEWER PIPE (PVC) SDR-26 (ASTM D-3034 WITH GASKETED JOINTS PER ASTM D-3212)</li> <li>B. DUCTILE IRON PIPE CLASS 52 (ANSI A21.51 WITH ANSI A21.11 JOINTS)</li> <li>C. REINFORCED CONCRETE PIPE (ASTM C-76 WITH ASTM C-361 O-RING GASKETED</li> </ul>	
	JOINTS) CLASS IV.	
2. 3.	STORM SEWER BEDDING AND BACK FILL SHALL BE PER THE BEDDING DETAILS. ALL STORM STRUCTURES SHALL HAVE OFFSET CONES, EXCEPT WHERE HEIGHT	
	RESTRICTIONS REQUIRE A REINFORCE CONCRETE FLAT TOP.	
4.	STORM SEWER MANHOLES SHALL BE PRECAST STRUCTURES WITH THE DIAMETER DEPENDENT ON THE PIPE SIZE, THE CONCRETE BOTTOM SHALL BE CAST INTEGRAL WITH THE LOWEST BARREL SECTION UNLESS NOTED OTHERWISE ON PLAN.	
5.	INLETS SHALL BE TYPE A PRECAST WITH AN INTEGRAL CONCRETE BOTTOM.	
6.	THE FOLLOWING TYPE 1 FRAMES AND CLOSED LIDS SHALL BE USED ON ALL MANHOLES (UNLESS NOTED OTHERWISE IN PLANS):	
	<ul> <li>A. NEENAH FOUNDRY #R-1712 WITH TYPE B COVER.</li> <li>B. EAST JORDAN IRON WORKS #1050 EXHD WITH TYPE A #540 COVER.</li> <li>C. STORM MANHOLES SHALL HAVE THE WORD "STORM" IMPRINTED ON THE COVER ALONG WITH "DUMP NO WASTE" AND "DRAINS TO CREEK".</li> </ul>	
7.	CATCH BASINS AND INLETS SHALL HAVE A TYPE 1 FRAME AND OPEN GRATE AS FOLLOWS UNLESS NOTED ON PLANS:	
	<ul> <li>A. NEENAH FOUNDRY #R-2504 WITH TYPE D GRATE.</li> <li>B. EAST JORDAN IRON WORKS #1050 EXHD WITH TYPE M1 GRATE #510.</li> <li>C. ALL GRATES SHALL BE IMPRINTED WITH "DUMP NO WASTE" AND "DRAINS TO CREEK".</li> </ul>	
8.	ALL ROOF DRAINS, FOOTING DRAINS, AND OUTSIDE DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.	
9.	ALL STORM SEWERS SHALL BE INSPECTED AND TESTED IN KEEPING WITH ALL GOVERNING AGENCY REQUIREMENTS.	
10.	SEE DETAIL SHEETS THIS SET FOR FURTHER STORM SEWER SYSTEM REQUIREMENTS.	
STAN	IDARD WATER MAIN PROVISIONS	
1.	THE MINIMUM COVER FOR ALL WATER MAIN AND WATER SERVICE PIPE IS FIVE AND	
2.	ONE-HALF FEET (5-1/2') FROM FINISHED GRADE TO TOP OF PIPE. ALL WATER MAIN SHALL BE PRESSURE TESTED AND CHLORINATED IN ACCORDANCE WITH	
	THE REQUIREMENTS OF THE AWWA, THE ILLINOIS EPA, AND THE VILLAGE.	
3. 4.	WATER MAIN BEDDING AND BACKFILL SHALL BE PER THE BEDDING DETAILS. ANY WELLS FOUND SHALL BE CAPPED/ABANDONED PER COUNTY HEALTH DEPARTMENT	
	REQUIREMENTS.	
5.	SEE DETAIL SHEETS THIS SET FOR FURTHER WATER MAIN REQUIREMENTS.	
<u>STAN</u>	IDARD SANITARY SEWER PROVISIONS:	
1.	ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER.	
2.	ALL DOWNSPOUTS, FOOTING DRAINS, AND OUTSIDE DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM OR TO GRADE.	
3.	SANITARY SEWER BEDDING AND BACKFILL SHALL BE PER THE BEDDING DETAILS.	
4.	ALL SEPTIC TANKS (IF ANY) BEING ABANDONED SHALL BE FILLED OR REMOVED. APPROVAL MUST BE OBTAINED FROM THE APPROPRIATE HEALTH DEPARTMENTS. ALL SEWER CONNECTIONS SHALL BE MADE UPSTREAM FROM THE TANK. CONTRACTORS SHALL OBTAIN ANY NECESSARY PERMITS FOR REMOVAL.	
5.	ALL SANITARY SEWERS SHALL BE TESTED IN KEEPING WITH ALL GOVERNING AGENCIES REQUIREMENTS. INFILTRATION SHALL NOT EXCEED 100 GALLONS/INCH DIAMETER/MILE/DAY.	
6.	ALL FLEXIBLE (PVC) PIPE SHALL BE DEFLECTION TESTED PER THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", LATEST EDITION.	
7.	ALL SANITARY SEWERS AND MANHOLES SHALL BE TELEVISED AND TESTED AS REQUIRED BY THE VILLAGE.	
8.	SEE DETAIL SHEETS THIS SET FOR FURTHER SANITARY SEWER REQUIREMENTS.	

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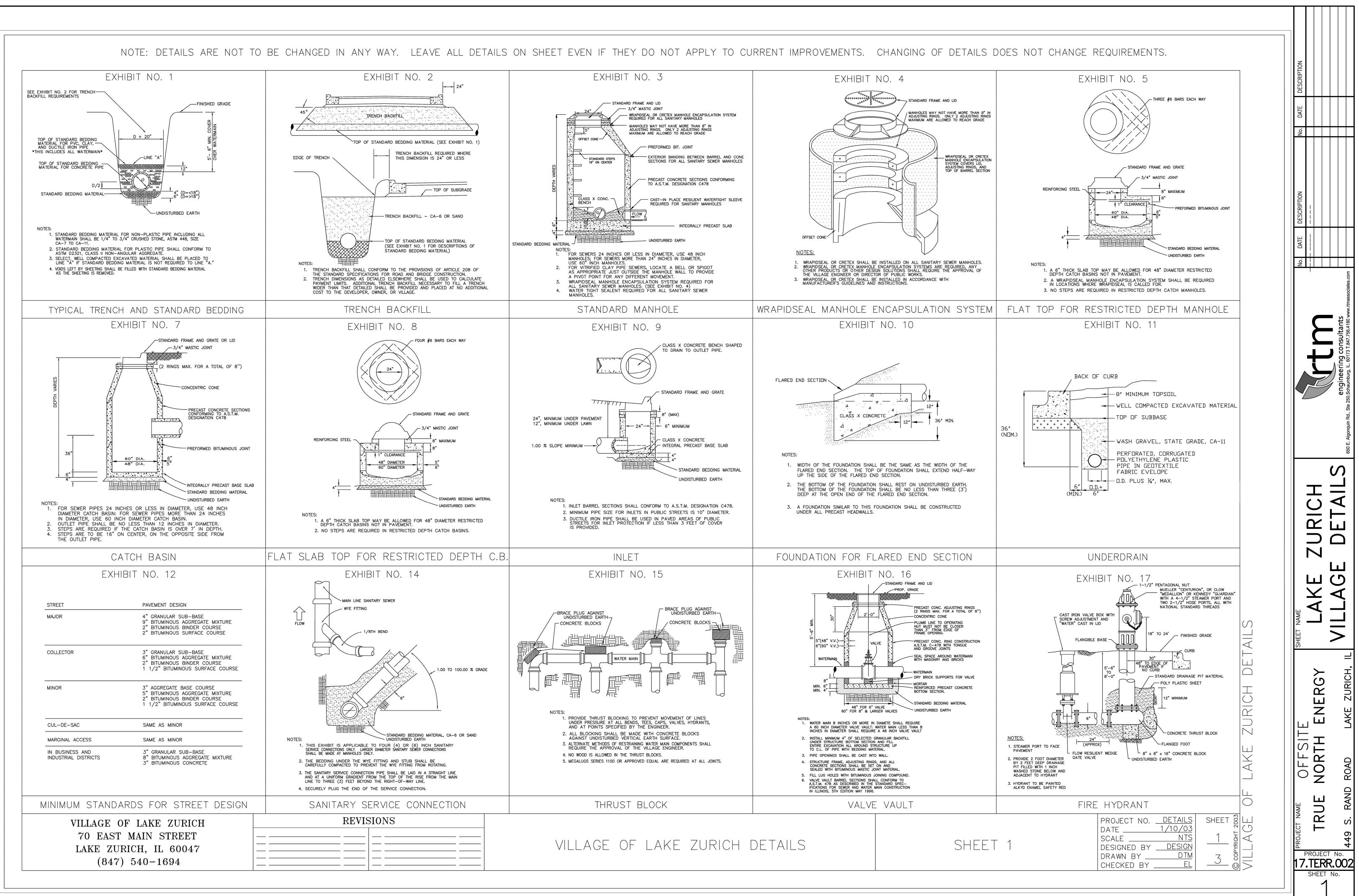
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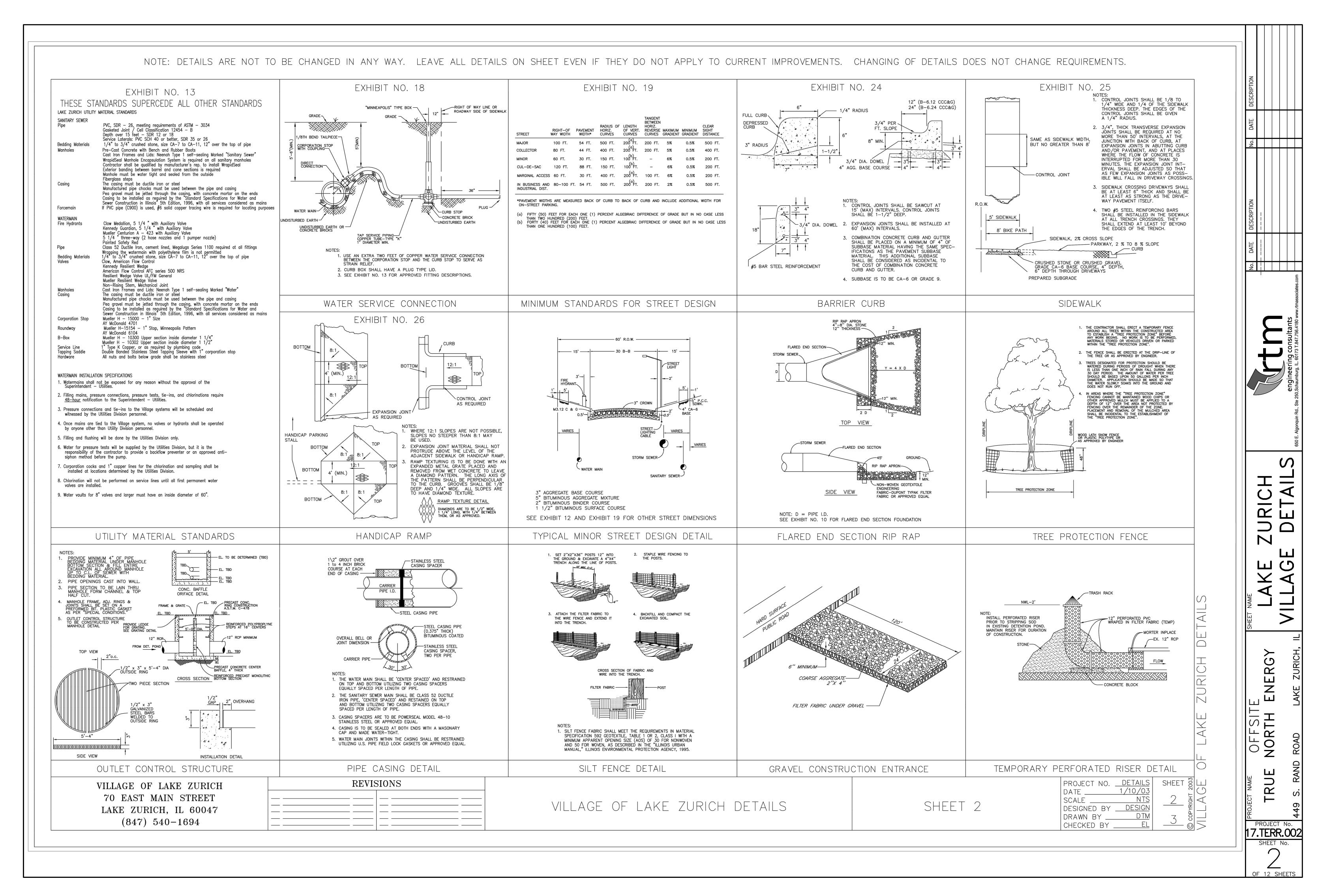
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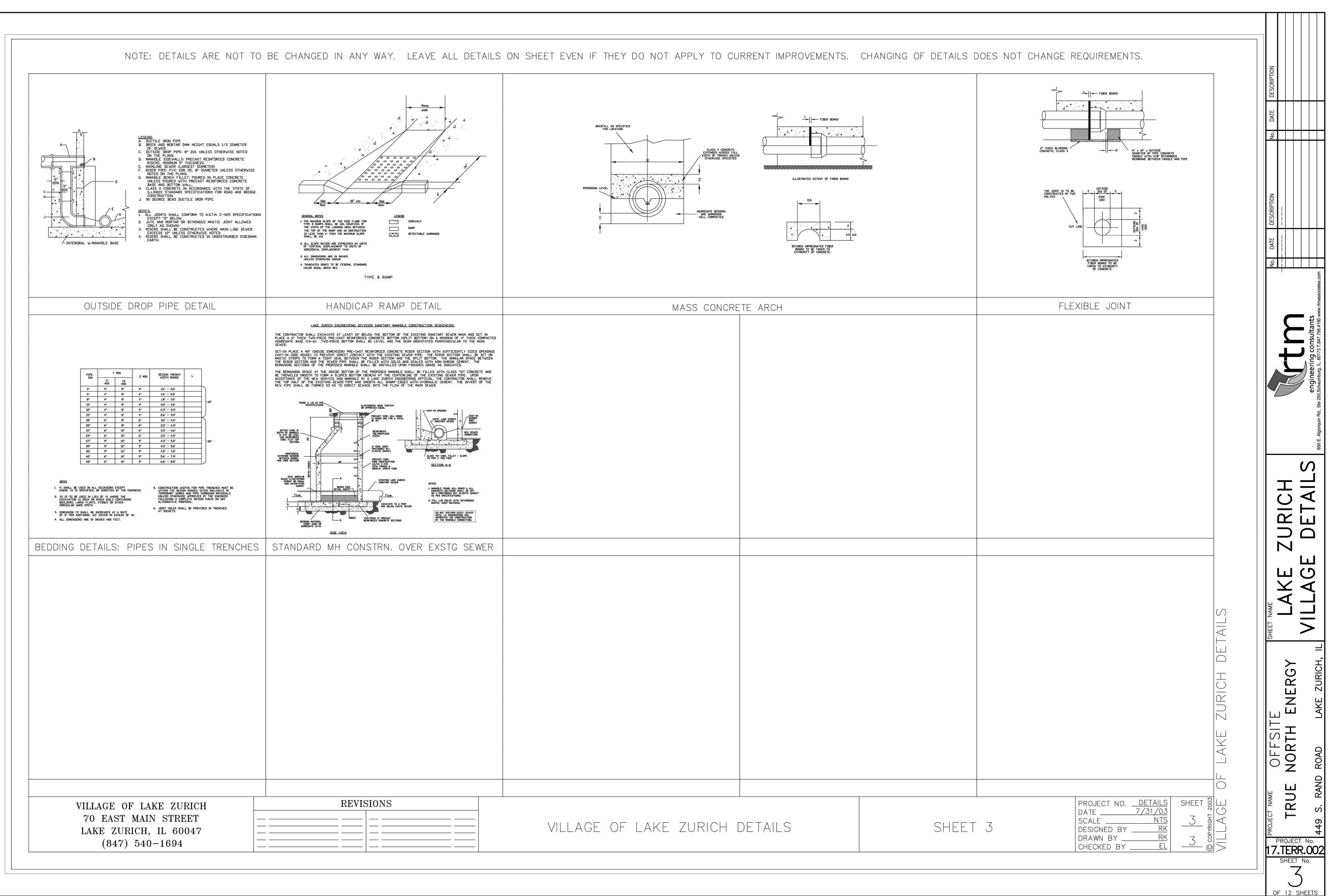
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OF 12 SHEETS







#### STORMWATER REPORT 449 South Rand

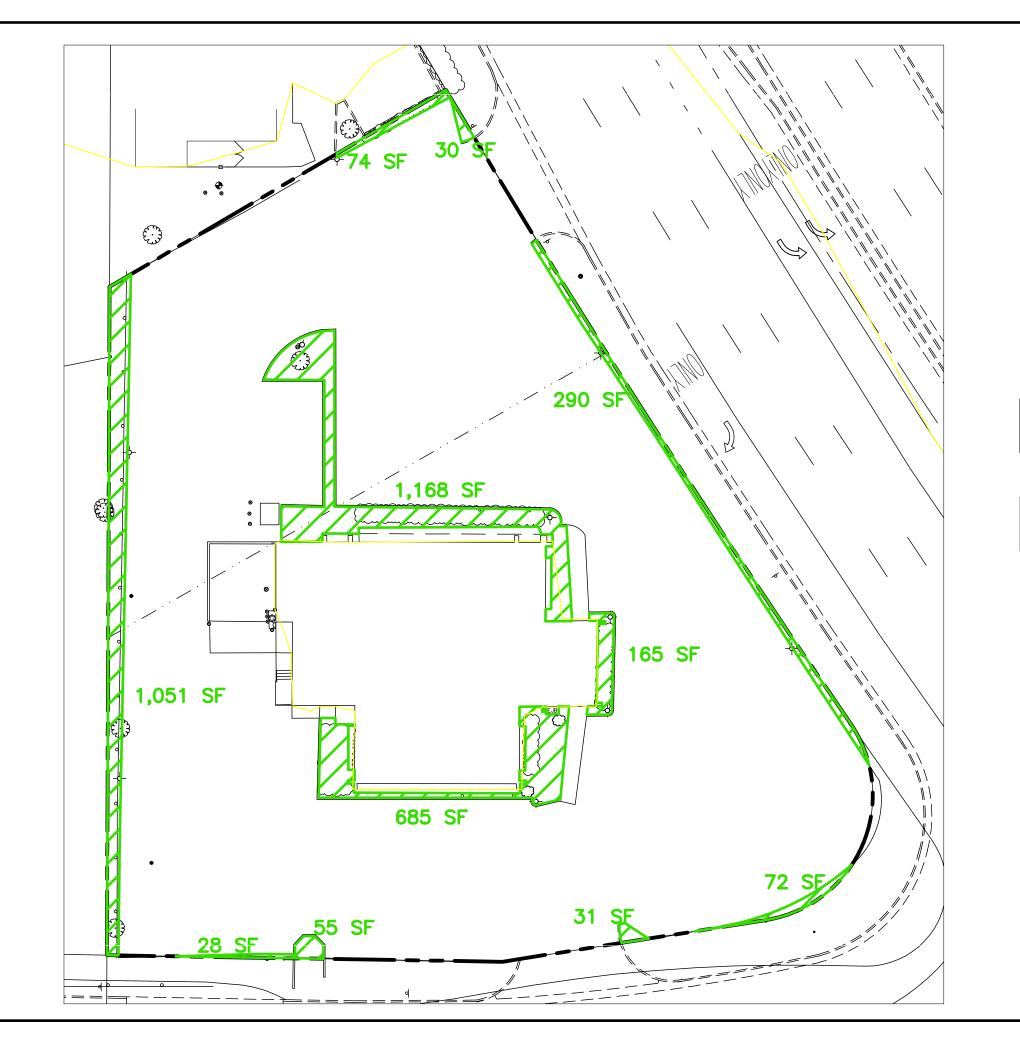
August 21, 2017

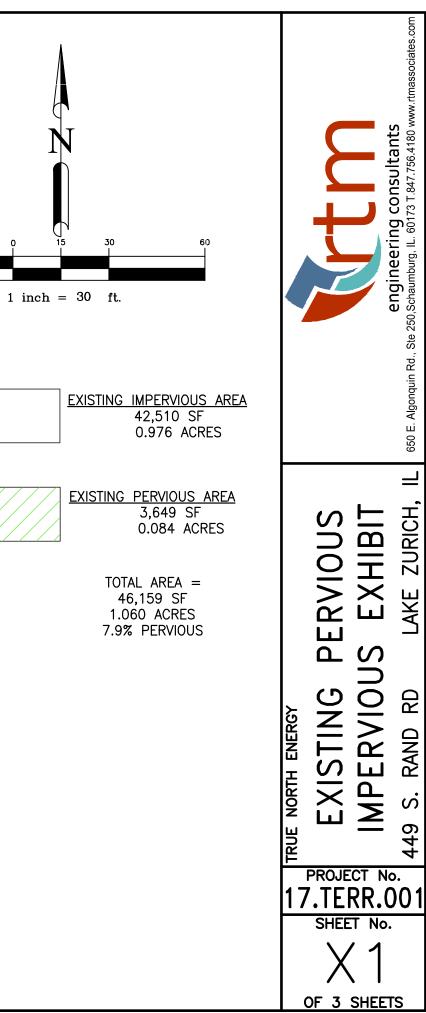
The subject property is located at the Northwest corner of South Rand Road (US-12) and West Main Street (IL-22). Currently the property contains a vacant restaurant and parking lot that is approximately 92% impervious. The proposed redevelopment is a convenience store with gasoline dispensing that will be approximately 73% impervious. Please see exhibits X1 and X2 attached.

Currently the property sheet drains from East to West with most of the drainage picked up by open lids on a cast in place tank. The proposed development drains in the same direction. A section of the existing tank will be removed for the proposed building. The missing volume will be replaced one for one with a precast stormwater storage system. The outlet works, inverts, and volume will remain the same. Please see sheet C2 attached.

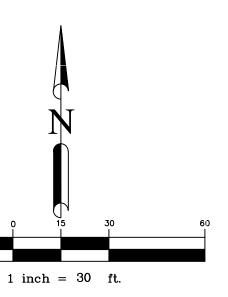
The development is a minor development per the stormwater ordinance with less impervious surface than existed prior to the effective date of the ordinance 10/18/92. Please see exhibit X3 attached.

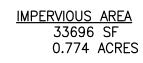
Water quality is being addressed by using water quality catch basins. The basins shall have a hood and bioskirt.

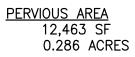




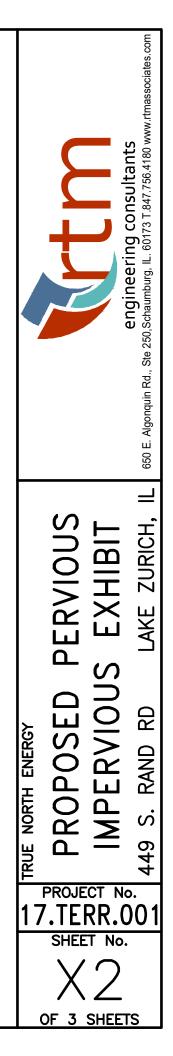


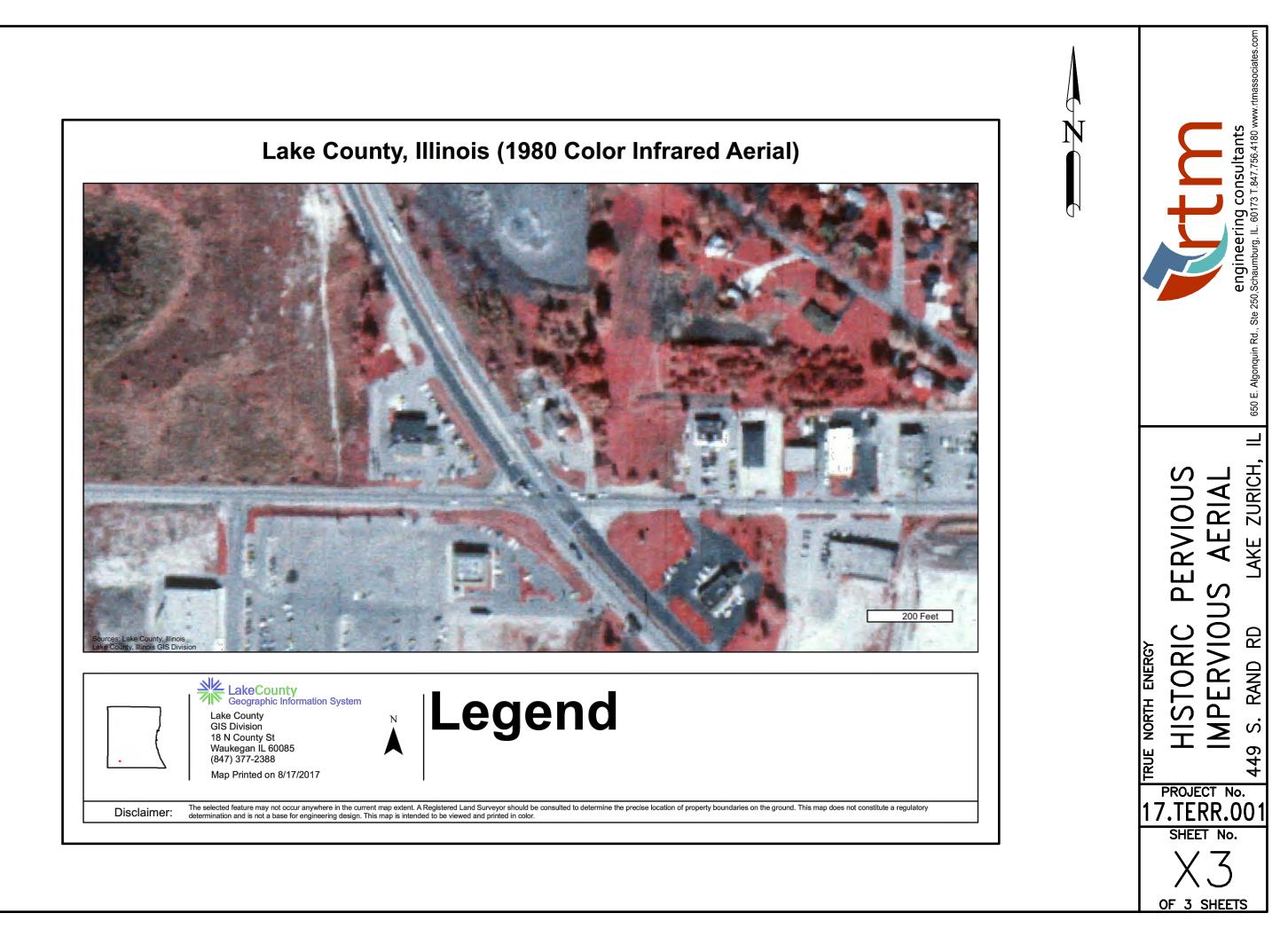


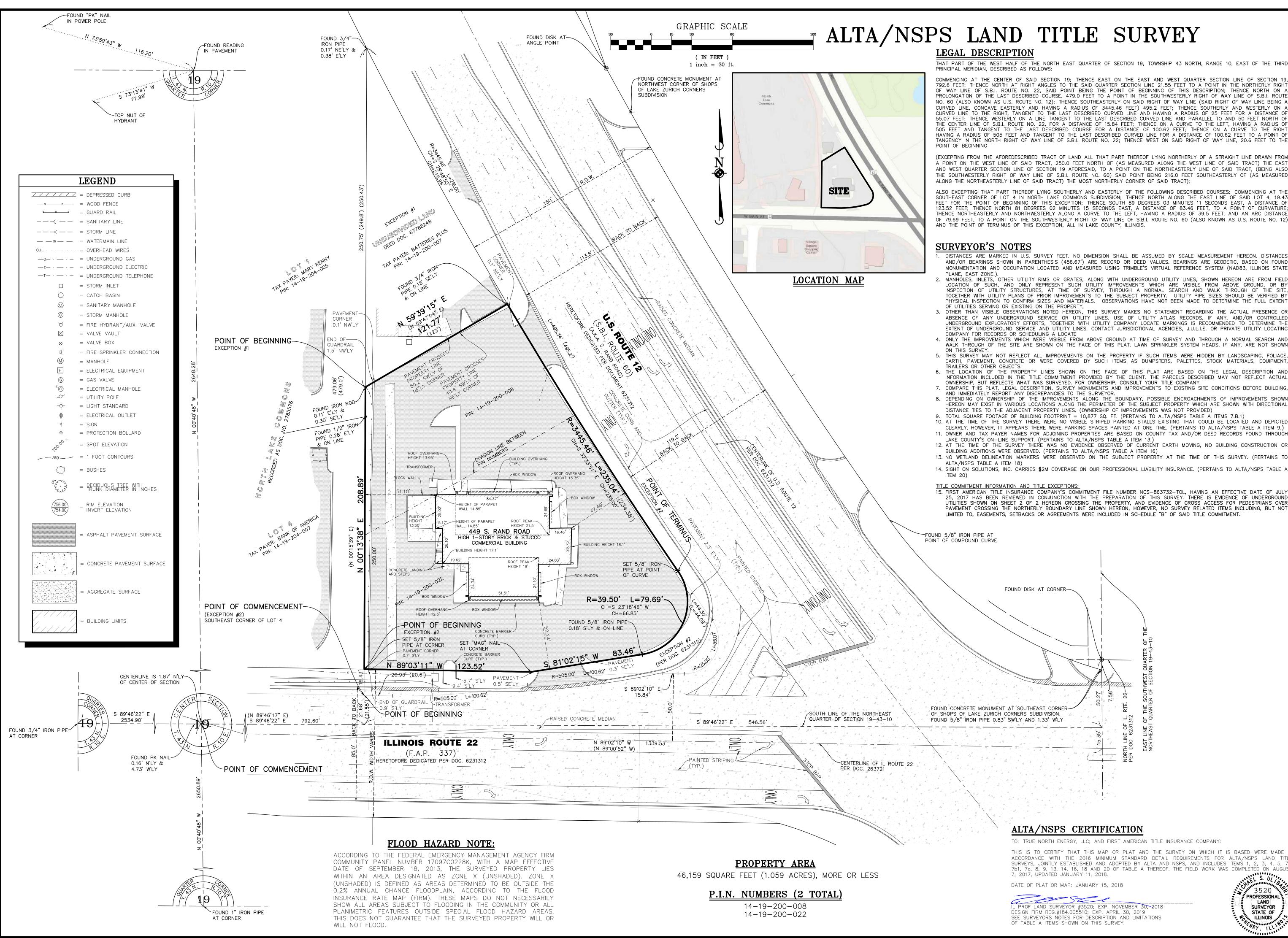




TOTAL AREA = 46,159 SF 1.060 ACRES 27% PERVIOUS







THAT PART OF THE WEST HALF OF THE NORTH EAST QUARTER OF SECTION 19, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD

COMMENCING AT THE CENTER OF SAID SECTION 19; THENCE EAST ON THE EAST AND WEST QUARTER SECTION LINE OF SECTION 19, 792.6 FEET; THENCE NORTH AT RIGHT ANGLES TO THE SAID QUARTER SECTION LINE 21.55 FEET TO A POINT IN THE NORTHERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 22, SAID POINT BEING THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE NORTH ON A PROLONGATION OF THE LAST DESCRIBED COURSE, 479.0 FEET TO A POINT IN THE SOUTHWESTERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 60 (ALSO KNOWN AS U.S. ROUTE NO. 12); THENCE SOUTHEASTERLY ON SAID RIGHT OF WAY LINE (SAID RIGHT OF WAY LINE BEING A CURVED LINE, CONCAVE EASTERLY AND HAVING A RADIUS OF 3445.46 FEET) 495.2 FEET; THENCE SOUTHERLY AND WESTERLY ON A CURVED LINE TO THE RIGHT, TANGENT TO THE LAST DESCRIBED CURVED LINE AND HAVING A RADIUS OF 25 FEET FOR A DISTANCE OF 55.07 FEET; THENCE WESTERLY ON A LINE TANGENT TO THE LAST DESCRIBED CURVED LINE AND PARALLEL TO AND 50 FEET NORTH OF THE CENTER LINE OF S.B.I. ROUTE NO. 22, FOR A DISTANCE OF 15.84 FEET; THENCE ON A CURVE TO THE LEFT, HAVING A RADIUS OF 505 FEET AND TANGENT TO THE LAST DESCRIBED COURSE FOR A DISTANCE OF 100.62 FEET; THENCE ON A CURVE TO THE RIGHT HAVING A RADIUS OF 505 FEET AND TANGENT TO THE LAST DESCRIBED CURVED LINE FOR A DISTANCE OF 100.62 FEET TO A POINT OF TANGENCY IN THE NORTH RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 22; THENCE WEST ON SAID RIGHT OF WAY LINE, 20.6 FEET TO THE

(EXCEPTING FROM THE AFOREDESCRIBED TRACT OF LAND ALL THAT PART THEREOF LYING NORTHERLY OF A STRAIGHT LINE DRAWN FROM A POINT ON THE WEST LINE OF SAID TRACT, 250.0 FEET NORTH OF (AS MEASURED ALONG THE WEST LINE OF SAID TRACT) THE EAST AND WEST QUARTER SECTION LINE OF SECTION 19 AFORESAID, TO A POINT ON THE NORTHEASTERLY LINE OF SAID TRACT. (BEING ALSO THE SOUTHWESTERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 60) SAID POINT BEING 216.0 FEET SOUTHEASTERLY OF (AS MEASURED ALONG THE NORTHEASTERLY LINE OF SAID TRACT) THE MOST NORTHERLY CORNER OF SAID TRACT);

ALSO EXCEPTING THAT PART THEREOF LYING SOUTHERLY AND EASTERLY OF THE FOLLOWING DESCRIBED COURSES: COMMENCING AT THE SOUTHEAST CORNER OF LOT 4 IN NORTH LAKE COMMONS SUBDIVISION; THENCE NORTH ALONG THE EAST LINE OF SAID LOT 4, 19.43 FEET FOR THE POINT OF BEGINNING OF THIS EXCEPTION; THENCE SOUTH 89 DEGREES 03 MINUTES 11 SECONDS EAST, A DISTANCE OF 123.52 FEET; THENCE NORTH 81 DEGREES 02 MINUTES 15 SECONDS EAST, A DISTANCE OF 83.46 FEET, TO A POINT OF CURVATURE; THENCE NORTHEASTERLY AND NORTHWESTERLY ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 39.5 FEET, AND AN ARC DISTANCE OF 79.69 FEET. TO A POINT ON THE SOUTHWESTERLY RIGHT OF WAY LINE OF S.B.I. ROUTE NO. 60 (ALSO KNOWN AS U.S. ROUTE NO. 12)

1. DISTANCES ARE MARKED IN U.S. SURVEY FEET. NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON. DISTANCES AND/OR BEARINGS SHOWN IN PARENTHESIS (456.67') ARE RECORD OR DEED VALUES. BEARINGS ARE GEODETIC, BASED ON FOUND MONUMENTATION AND OCCUPATION LOCATED AND MEASURED USING TRIMBLE'S VIRTUAL REFERENCE SYSTEM (NAD83, ILLINOIS STATE

LOCATION OF SUCH, AND ONLY REPRESENT SUCH UTILITY IMPROVEMENTS WHICH ARE VISIBLE FROM ABOVE GROUND, OR B' INSPECTION OF UTILITY STRUCTURES, AT TIME OF SURVEY, THROUGH A NORMAL SEARCH AND WALK THROUGH OF THE SITE TOGETHER WITH UTILITY PLANS OF PRIOR IMPROVEMENTS TO THE SUBJECT PROPERTY. UTILITY PIPE SIZES SHOULD BE VERIFIED BY PHYSICAL INSPECTION TO CONFIRM SIZES AND MATERIALS. OBSERVATIONS HAVE NOT BEEN MADE TO DETERMINE THE FULL EXTEN

3. OTHER THAN VISIBLE OBSERVATIONS NOTED HEREON, THIS SURVEY MAKES NO STATEMENT REGARDING THE ACTUAL PRESENCE OR ABSENCE OF ANY UNDERGROUND SERVICE OR UTILITY LINES. USE OF UTILITY ATLAS RECORDS, IF ANY, AND/OR CONTROLLED UNDERGROUND EXPLORATORY EFFORTS, TOGETHER WITH UTILITY COMPANY LOCATE MARKINGS IS RECOMMENDED TO DETERMINE THE EXTENT OF UNDERGROUND SERVICE AND UTILITY LINES. CONTACT JURISDICTIONAL AGENCIES, J.U.L.I.E. OR PRIVATE UTILITY LOCATING 4. ONLY THE IMPROVEMENTS WHICH WERE VISIBLE FROM ABOVE GROUND AT TIME OF SURVEY AND THROUGH A NORMAL SEARCH AND

5. THIS SURVEY MAY NOT REFLECT ALL IMPROVEMENTS ON THE PROPERTY IF SUCH ITEMS WERE HIDDEN BY LANDSCAPING, FOLIAGE, EARTH, PAVEMENT, CONCRETE OR WERE COVERED BY SUCH ITEMS AS DUMPSTERS, PALETTES, STOCK MATERIALS, EQUIPMENT,

6. THE LOCATION OF THE PROPERTY LINES SHOWN ON THE FACE OF THIS PLAT ARE BASED ON THE LEGAL DESCRIPTION AND INFORMATION INCLUDED IN THE TITLE COMMITMENT PROVIDED BY THE CLIENT. THE PARCELS DESCRIBED MAY NOT REFLECT ACTUAL OWNERSHIP, BUT REFLECTS WHAT WAS SURVEYED. FOR OWNERSHIP, CONSULT YOUR TITLE COMPANY. 7. COMPARE THIS PLAT, LEGAL DESCRIPTION, SURVEY MONUMENTS AND IMPROVEMENTS TO EXISTING SITE CONDITIONS BEFORE BUILDING, 8. DEPENDING ON OWNERSHIP OF THE IMPROVEMENTS ALONG THE BOUNDARY, POSSIBLE ENCROACHMENTS OF IMPROVEMENTS SHOWN HEREON MAY EXIST IN VARIOUS LOCATIONS ALONG THE PERIMETER OF THE SUBJECT PROPERTY WHICH ARE SHOWN WITH DIRECTIONAL

9. TOTAL SQUARE FOOTAGE OF BUILDING FOOTPRINT = 10,877 SQ. FT. (PERTAINS TO ALTA/NSPS TABLE A ITEMS 7.B.1) 10. AT THE TIME OF THE SURVEY THERE WERE NO VISIBLE STRIPED PARKING STALLS EXISTING THAT COULD BE LOCATED AND DEPICTED CLEARLY, HOWEVER, IT APPEARS THERE WERE PARKING SPACES PAINTED AT ONE TIME. (PERTAINS TO ALTA/NSPS TABLE A ITEM 9.) 11. OWNER AND TAX PAYER NAMES FOR ADJOINING PROPERTIES ARE BASED ON COUNTY TAX AND/OR DEED RECORDS FOUND THROUGH 12. AT THE TIME OF THE SURVEY THERE WAS NO EVIDENCE OBSERVED OF CURRENT EARTH MOVING, NO BUILDING CONSTRUCTION OR

14. SIGHT ON SOLUTIONS, INC. CARRIES \$2M COVERAGE ON OUR PROFESSIONAL LIABILITY INSURANCE. (PERTAINS TO ALTA/NSPS TABLE A

15. FIRST AMERICAN TITLE INSURANCE COMPANY'S COMMITMENT FILE NUMBER NCS-863732-TOL, HAVING AN EFFECTIVE DATE OF JULY 25, 2017 HAS BEEN REVIEWED IN CONJUNCTION WITH THE PREPARATION OF THIS SURVEY. THERE IS EVIDENCE OF UNDERGROUND UTILITIES SHOWN ON SHEET 2 OF 2 HEREON CROSSING THE PROPERTY, AND EVIDENCE OF CROSS ACCESS FOR PEDESTRIANS OVER PAVEMENT CROSSING THE NORTHERLY BOUNDARY LINE SHOWN HEREON, HOWEVER, NO SURVEY RELATED ITEMS INCLUDING, BUT NOT LIMITED TO, EASEMENTS, SETBACKS OR AGREEMENTS WERE INCLUDED IN SCHEDULE "B" OF SAID TITLE COMMITMENT.

TO: TRUE NORTH ENERGY, LLC; AND FIRST AMERICAN TITLE INSURANCE COMPANY: THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TI SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 7b1, 7c, 8, 9, 13, 14, 16, 18 AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON AUGU

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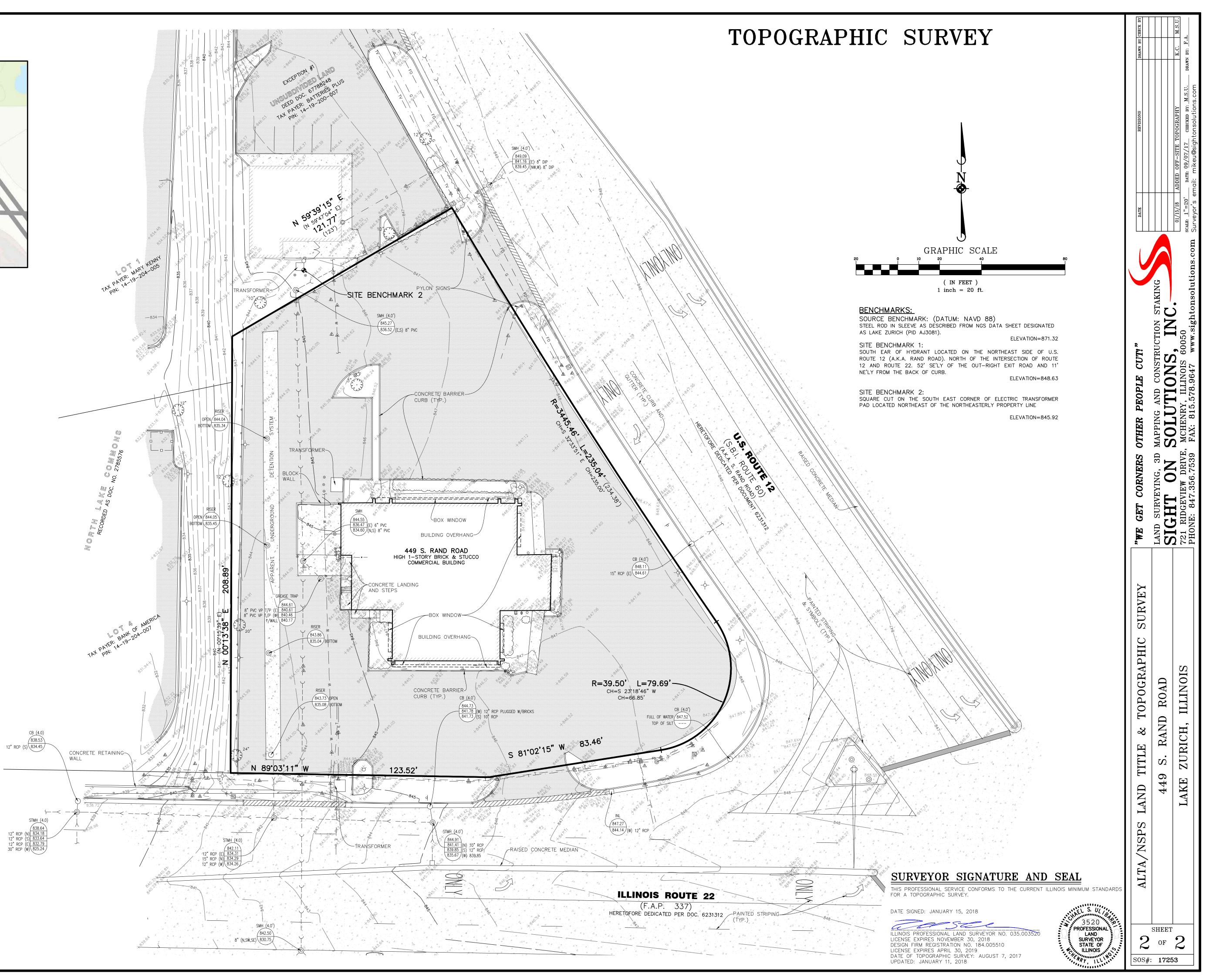
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SOS#: 17253

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		PHONE: 847.356.7539 FAX: 815.578.9647 www.sightonsolutions.com Surveyor's email: mikeu@sightonsolutions.com	om Surveyor's em	ail: mikeu@sightonsolutions.com	



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	=	CONCRETE PAVEMENT SURFACE
	=	AGGREGATE SURFACE
	=	BUILDING LIMITS



## Exhibit B-4

#### TRAFFIC PLANNING STUDY



#### CONSULTING ENGINEERS

625 Forest Edge Drive, Vernon Hills, IL 60061 TEL 847.478.9700 ■ FAx 847.478.9701

www.gha-engineers.com

To:	Dan Wander and Joe Goodman
	Terraco, Inc.

From: Bill Grieve, P.E., PTOE Senior Transportation Engineer

Date: June 29, 2017

Subject: Proposed Service Station & Convenience Store Rand Road (US 12) @ Main street (IL 22) – NW Corner Lake Zurich, Illinois

#### PART I – PROJECT CONTEXT AND SUMMARY STATEMENT

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Planning Study (TPS) for the above referenced project. As proposed, the northwest corner of the Rand Road (US 123) / Main Street (IL 22) intersection in Lake Zurich, Illinois, would be redeveloped with a gas station and convenience store from the previous sit-down restaurant.

The following summarizes our findings and provides various recommendations for your consideration. *Exhibits* and *Appendices* referenced are located at the end of this document. Briefly summarizing, although this traffic brief is not a complete Traffic Impact Study (TIS), we still believe that the development traffic generated can be integrated on the adjacent roads. Reasons include:

- The site is located along two major arterial routes, Rand Road (US 12) and Main Street (IL 22). Gas station trips can take advantage of travel patterns that will be focused on right turn in/out movements at the site access drives.
- New gas station trips added to the traffic already traveling through the US 12 / IL 22 intersection will be minimal.
- Traffic generated by the gas station will be similar in magnitude to the previous sit down restaurant. In fact, although there would be additional driveway trips, the gas station would generate fewer newer trips than the previous restaurant.
- > The parking provided exceeds Village code requirements.

#### PART II - BACKGROUND INFORMATION

#### Site Location Map and Aerial

*Exhibit 1* provides a location map and *Exhibit 2* provides an aerial perspective of the site vicinity. Pertinent comments include:

#### Land Uses

- The approximate 1.1-acre site is located in the immediate northwest corner of the Rand Road (US 12) / Main Street (IL 22) intersection in lake Zurich, Illinois.
- Retail and commercial uses are located at all four corners of the intersection. Shopping centers are found in the northwest and southwest corners, a strip retail center is in the northeast corner, and an office building is in the southeast corner.

#### Roadway Network

 Rand Road (US 12) is a major route throughout a large part of the Chicago region that traverses from northwest to southeast. US 12 is under the jurisdiction of the Illinois Department of Transportation (IDOT) and is classified as a "Strategic Regional Arterial" (SRA) route and is considered an "Other Principal Arterial" on the IDOT 5-year functional classification map.

Rand Road has three through travel lanes in each direction in the site vicinity and has dual left turn lanes on both approaches and a separate southbound right turn lane on the southbound approach at its signalized intersection with Main Street (IL 22). The posted speed limit is 45-mph.

 Main Street (IL 22) is a major east-west route that extends from US 41 in Highland Park on the east to US 14 in Fox River on the west. Il 22 is under the jurisdiction of the Illinois Department of Transportation (IDOT) and is classified as a "Strategic Regional Arterial" (SRA) route and is considered an "Other Principal Arterial" on the IDOT 5-year functional classification map.

IL 22 has two through travel lanes in each direction in the site vicinity and has separate left and right turn lanes on both approaches at its signalized intersection with Rand Road. The posted speed limit is 35-mph.

- The IDOT multi-year program (Year 2017-2022) indicates that are not any road improvements scheduled on either US 12 or IL 22 in the site vicinity.
- The vacant restaurant on-site has one driveway each on US 12 and IL 22. Both are restricted to right turns in/out only by barrier medians.

#### Non-Auto Mobility

- Sidewalk is located on the south side of IL 22 in the vicinity.
- There are no designated Pace bus routes in the site area.

#### **Existing Traffic**

GHA conducted 24-hour turning movement counts at the US 12 / IL 22 intersection in August 2015 (see *Appendix A*). *Exhibit 3* illustrates the existing Weekday Morning and Evening Peak Hour traffic volumes at the US 12 / IL 22 intersection, which occurred from 6:45 to 7:45 AM and from 5:15 to 6:15 PM. The 24-hour or Average Daily Traffic (ADT) volume are also provided as published on the IDOT website.

<u>Discussion Point.</u> As can be seen, both US 12 and IL 22 have pronounced directional splits; southeastbound and eastbound in the morning and the reverse in the evening. This pattern is consistent with the typical daily commuter trips in the Chicago region.

#### PART III – TRAFFIC EVALUATION

#### Site Plan

Attached as *Exhibit 4* is the May 20, 2016 Site Plan for the development prepared by Ambrose Design Group, LLC. As proposed, there will be 12 car fueling positions and a convenience store with 3,500 feet of merchandise and storage space. As can be seen, the development would retain the two existing access drives, one each on US 12 and IL 22, that are limited to right turns in/out only.

#### **Project Traffic Characteristics**

*Exhibit* 5 – *Part A* tabulates the traffic generation calculations for the proposed development. Traffic generations are based on historically observed trip rate data published by the Institute of Transportation Engineers (ITE) in the most recent, 9<sup>th</sup> Edition of the manual *Trip Generation*. For the proposed development, the generations on the number of fueling positions that will be provided. As can be seen, this development is expected to generate approximately 120 and 160 (combined entering and exiting) during the weekday Morning and Evening Peak Hours respectively, and 1,950 trips on a daily or 24-hour basis.

<u>Discussion Point.</u> It should be remembered that not all gas station trips would be "new". In fact, the vast majority, or at least 75% of them will be "pass-by" in nature. These are trips made by drivers already traveling US 12 and IL 22, perhaps as a stop on the way to work in the morning to refuel and purchase a cup of coffee in the C-Store.

A comparison in trip generations was made with the gas station and previous restaurant use, which is summarized in *Exhibit 5 – Part A*.

<u>Key Finding.</u> As can be seen, the gas station would generate additional driveway trips. However, the gas station would actually generate fewer new vehicle trips than the previous restaurant use.

*Exhibit* 5 – *Part B* presents the anticipated trip distribution, which is primarily based on the expected vehicle patterns and the existing traffic volumes on US 12 and IL 22, as well as the proposed access system.

#### **Traffic Assignments**

*Exhibit* 6 illustrates the site traffic assignment, which is based on the traffic characteristics summarized in *Exhibit* 5 (e.g. traffic generations and trip distribution) and the site access system. Site traffic and existing volumes (see *Exhibits* 6 and 3) were combined to produce the Total Traffic Assignment, which is illustrated in *Exhibit* 7.

<u>Discussion Point.</u> The total traffic volumes are probably overstated, because the available trip discount for pass-by trips was not taken.

#### Traffic Impact Discussion

Site traffic will represent the following volumes traveling through the US 12 / IL 22 intersection:

- During the morning peak hour (see *Exhibit 3*), there are currently almost 4200 vehicles or about 70 vehicles per minute. The gas station would add only 14 new trips or about 1 trip every 4-5 minutes.
- During the evening peak hour, there are currently over 3900 vehicles or about 65 vehicles per minute. The gas station would add only 21 new trips or about 1 trip every 3 minutes.

<u>Key Finding.</u> Based on the above, it can be concluded that no road improvements would be necessary to specifically accommodate site traffic. Thus, our recommendations focus on the on-site planning elements, such as access operations and parking.

#### **On-Site Planning Elements**

#### Site Access

- The existing access drive on US 12 would continue to operate as right turns in/out only. Exiting traffic should have Stop control.
- The existing access drive on IL 22 would continue to operate as right turns in/out only. Exiting traffic should have Stop control. If possible, the drive should be relocated a bit to the west to get it further away from the US 12 intersection.

#### Parking

- Per the site plan, 21 parking spaces are to be provided, which exceeds the Village code requirement of 18 spaces.
- Employees should be encouraged to park in the more remote spaces, such as those at the north end of the site.

#### PART IV - TECHNICAL ADDENDUM

The following *Exhibits* were previously referenced. They provide technical support for our observations, findings, and recommendations discussed in the text.

#### <u>Exhibits</u>

- 1. Site Location Map
- 2. Site Aerial
- 3. Existing Traffic
- 4. Site Plan
- 5. Project Traffic Characteristics
- 6. Site Traffic
- 7. Total Traffic

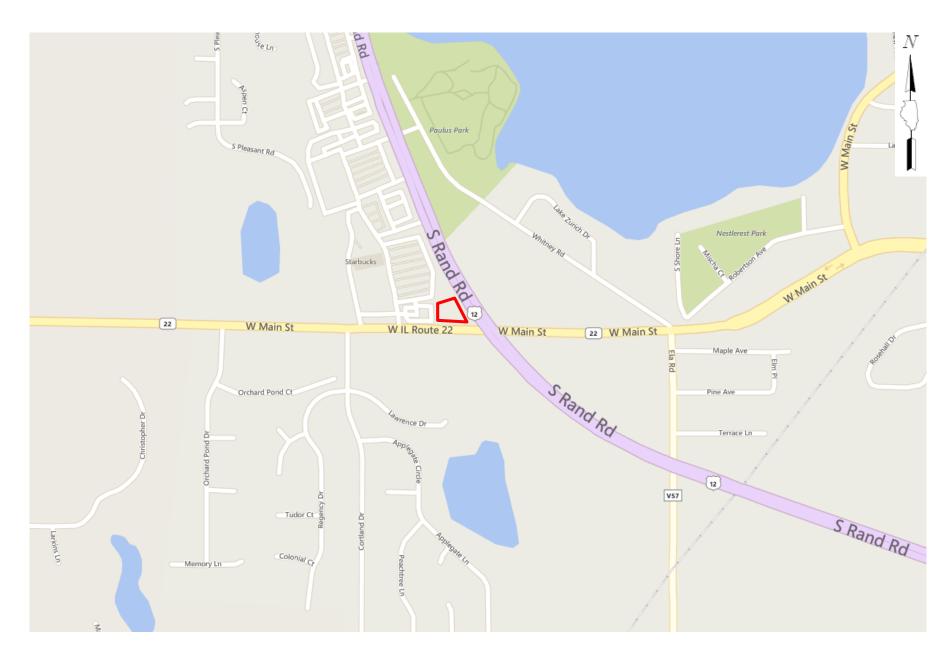
#### **Appendices**

A. Traffic Count Summaries

## **EXHIBITS**



Proposed Gas Station Lake Zurich, Illinois



Proposed TrueNorth Energy Gas Station – Lake Zurich, Illinois



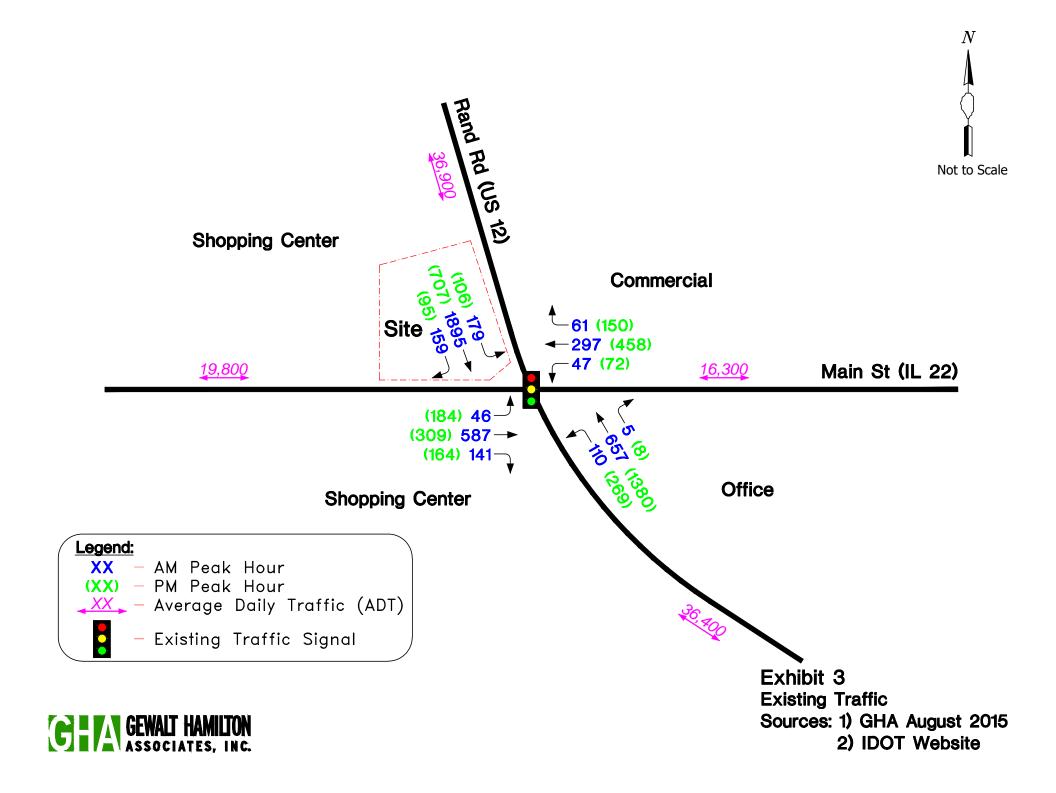
Exhibit 1 Location Map

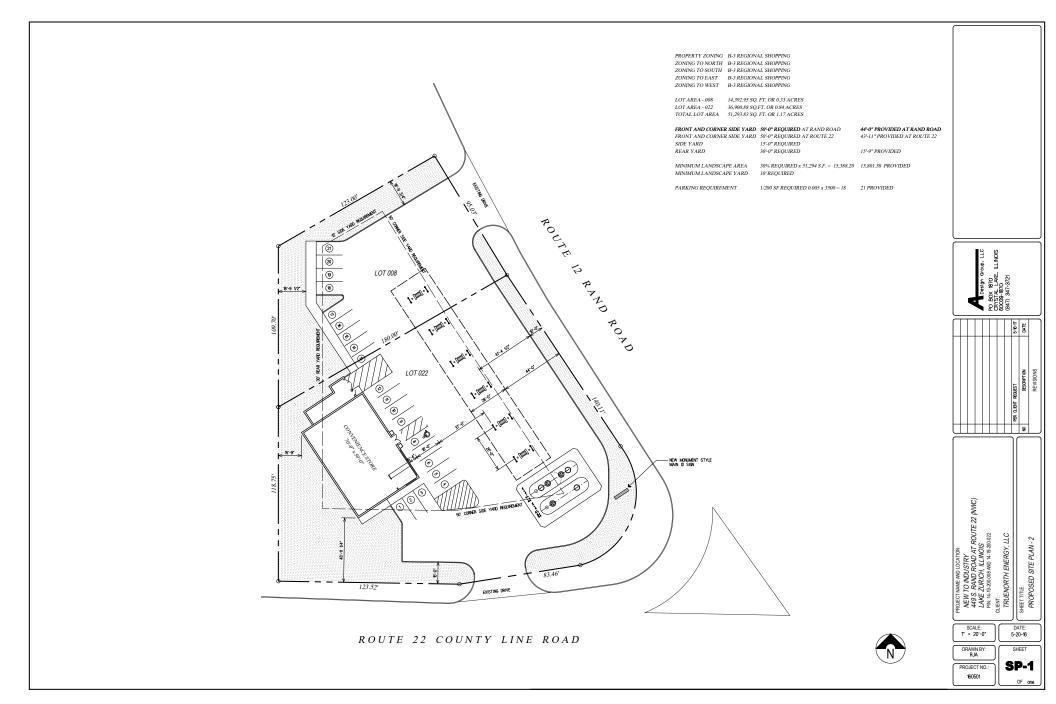


Proposed TrueNorth Energy Gas Station – Lake Zurich, Illinois



Exhibit 2 Aerial Map





#### Exhibit 5 Project Traffic Characteristics

Proposed Gas Station - Rand Road (US 12) @ Main Street (IL 22); Lake Zurich, Illinois

#### Part A. Trip Generation Calculations

	ITE	N	lorning l	Peak Ho	ur	E	vening	Daily				
Land Uses & Sizes	Code	In	Out	Sum	New	In	Out	Sum	New	Sum	New	
Step 1. Proposed Use Gas Station with C-Store - Fueling Positions = 12 - C-Store = 3,500 sq. ft.	#945	61	61	122	30	81	81	162	40	1,954	490	
<i>Step 2. Previous Use</i> Sit-Down Restauarant - 5,900 sq. ft.	#932	35	29	64	46	35	29	64	46	750	520	
Step 3. Increments (Step 1 Step 2.)		+26	+32	<b>+58</b>	-16	+46	+52	+98	-6	+1204	-30	

Notes:

a) Source: ITE Trip Generation Manual, 9th Edition.

b) Per ITE, at least 75% of gas station and 30% of restauarant trips will be "passby" in nature and not new.

#### Part B. Trip Distribution

		Percent Use by Rou						
Route & Direction		Arrive from	Depart to					
Rand Road (US 12)	-							
- North of Site		65%	0%					
- South of Main Street (IL 22)		10%	60%					
Main Street (IL 22)								
- East of Rand Road		25%	15%					
- West of Site		0%	25%					
	Totals =	100%	100%					



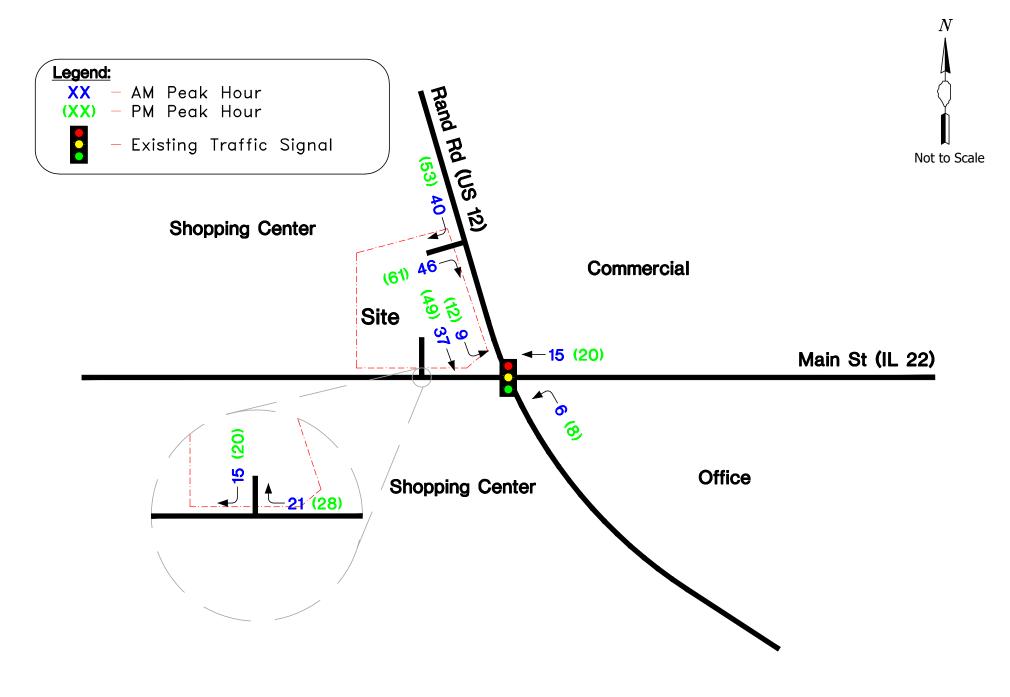




Exhibit 6 Site Traffic

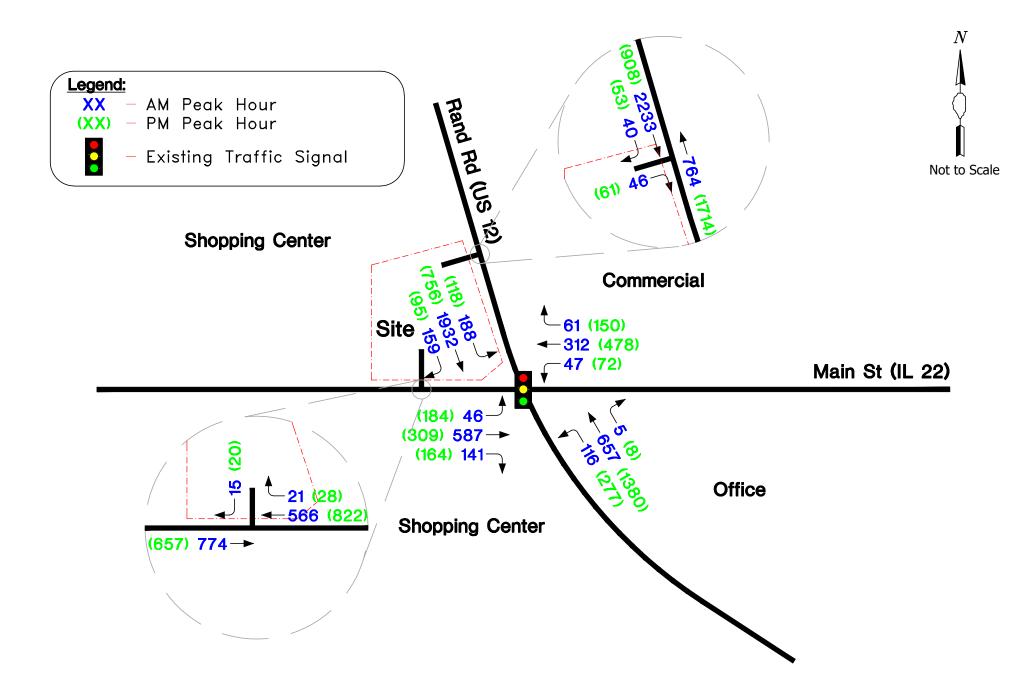




Exhibit 7 Total Traffic

#### **APPENDIX A** Traffic Count Summary Sheets



Proposed Gas Station Lake Zurich, Illinois

#### Gewalt Hamilton Associates Inc. 625 Forest Edge Drive

#### Vernon Hills, Illinois, United States 60061 (847) 478-9700 apenn@gha-engineers.com

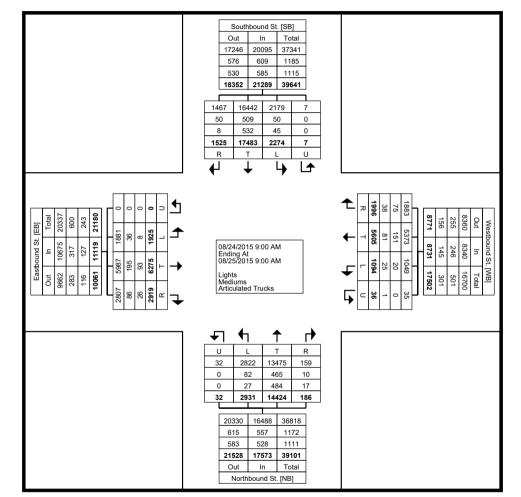
Count Name: 1270-IL 22 and Rand Site Code: Start Date: 08/24/2015 Page No: 1

#### Turning Movement Data

900 AM         84         001         157         0         122         22         280         61         1         384         9         621         151         0         781         159         383         266         383         206         382         100         682           1100 AM         109         855         163         0         1127         124         221         84         6         535         15         680         266         2         873         224         390         153         0         707           100 PM         96         907         172         1         1076         130         266         9         827         220         403         125         770           100 PM         91         816         164         1         881         143         0         970         700	running Movement Data																					
Start Time         Eight         Timu         Left         U-Tim         App         Timu         Left         U-Tim         Dift         U-Tim         Dift         U-Tim         Dift         U-Tim         Dift			S	Southbound S	St.			١	Vestbound S	st.			N	lorthbound S	St.				Eastbound St			
Hight         Thra         Left         U-Turn         App. Total         Right         Thra         Left         U-Turn         App. Total	Start Time			Southbound	l				Westbound					Northbound					Eastbound			
97         95         95         156         0         1168         97         207         68         5         437         15         622         186         3         333         206         322         100         0         686           1100 MM         109         855         163         0         1122         117         144         321         64         6         535         16         660         188         3         600         772         177         77         77         77         77         77         77         77         77         77         78         78         2         779         115         1030         174         10         78         200         60         827         220         403         743         0         787           200 PM         96         821         145         0         1120         260         602         107         5         400         9         1143         188         1183         349         373         21         0         727           100 PM         96         797         108         29         14         106         207         53         2		Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
11:00 AM       109       855       163       00       1127       124       321       64       6       555       15       650       206       2       773       224       350       113       0       7707         12:00 PM       96       6007       172       1       10076       130       326       800       0       546       15       597       206       9       827       224       441       117       0       728         30.0 PM       91       616       164       0       1071       188       433       89       1       711       18       688       184       1       801       188       349       173       0       770         400 PM       99       882       145       0       1128       226       602       107       5       940       9       1143       198       349       173       0       770         500 PM       85       707       108       2       912       150       458       72       1       681       8       1380       269       5       1662       164       309       184       0       657       730       240	9:00 AM	84	1001	157	0	1242	62	260	61	1	384	9	621	151	0	781	199	359	74	0	632	3039
120 PM       117       864       218       0       1199       191       341       98       3       633       18       696       188       3       905       224       441       117       0       782         1:00 PM       96       807       772       1       107       188       433       90       0       646       15       597       206       9       627       220       441       117       0       712         2:00 PM       104       777       150       0       1051       195       444       78       2       769       15       1030       174       0       1219       185       349       173       0       727         40 DPM       98       882       111       0       1066       266       672       117       4       1059       10       1606       185       2       1803       199       373       221       0       733       60       676       122       0       1243       151       149       90       140       96       16       3       0       207       749       149       140       141       148       3       629	10:00 AM	97	915	156	0	1168	97	267	68	5	437	15	629	186	3	833	206	362	100	0	668	3106
100 PM       96       807       172       1       100       326       90       6       66       15       597       206       9       827       220       403       122       0       748         200 PM       91       816       164       0       1011       188       433       89       1       711       18       688       184       1       681       188       354       173       0       707         400 PM       99       882       145       0       1126       226       602       107       5       640       9       1143       198       1       151       180       345       193       0       727         500 PM       65       707       108       2       912       150       488       72       1       818       1830       289       5       1662       164       309       184       0       657         700 PM       65       623       91       749       42       1       20       25       759       151       1       916       90       149       86       3337         900 PM       24       245       54	11:00 AM	109	855	163	0	1127	124	321	84	6	535	15	650	206	2	873	224	350	133	0	707	3242
91         816         164         0         1071         118         433         89         1         711         118         688         114         1         681         188         354         143         0         685           3.00 PM         99         682         145         0         1120         226         602         107         5         400         9         1133         188         1         1351         189         346         173         0         707           500 PM         85         890         11         0         1086         286         672         117         4         1099         108         164         300         164         300         164         300         164         300         148         68         0         337           90 PM         26         255         447         32         149         21         0         128         144         1         148         3         642         104         316         49         146         68         337           90 PM         26         251         118         14         1         148         3         642         0 </td <td>12:00 PM</td> <td>117</td> <td>864</td> <td>218</td> <td>0</td> <td>1199</td> <td>191</td> <td>341</td> <td>98</td> <td>3</td> <td>633</td> <td>18</td> <td>696</td> <td>188</td> <td>3</td> <td>905</td> <td>224</td> <td>441</td> <td>117</td> <td>0</td> <td>782</td> <td>3519</td>	12:00 PM	117	864	218	0	1199	191	341	98	3	633	18	696	188	3	905	224	441	117	0	782	3519
3.00 PM       104       797       150       0       1051       195       494       78       2       769       15       1030       174       0       1219       185       349       173       0       707         4.00 PM       99       882       145       0       1128       226       602       107       5       640       9       1143       108       1       1351       199       345       103       0       727         500 PM       85       6707       108       2       912       150       458       72       1       881       8       1380       269       5       1662       164       309       164       0       657         700 PM       65       629       99       1       794       105       267       53       2       427       13       1018       212       0       1243       161       126       112       0       657       112       164       309       164       0       749       49       116       5       0       223       110       116       112       0       137       110       110       640       419       116	1:00 PM	96	807	172	1	1076	130	326	90	0	546	15	597	206	9	827	220	403	125	0	748	3197
4:00 PM       99       882       145       0       1126       226       602       107       5       940       9       1143       198       1       1351       189       345       193       0       727         5:00 PM       85       960       111       0       1060       266       672       117       4       1059       10       1606       185       2       1603       199       373       221       0       723         6:00 PM       95       707       106       2       912       150       458       72       1       881       180       260       5       1662       164       309       164       0       657         800 PM       44       449       54       0       547       13       1018       212       0       149       916       33       33         9:00 PM       26       295       44       1       366       25       106       14       1       148       3       642       104       0       749       49       116       58       0       223         10:00 PM       19       148       22       0       16	2:00 PM	91	816	164	0	1071	188	433	89	1	711	18	688	184	1	891	188	354	143	0	685	3358
5:00 PM       85       890       111       0       1066       672       117       4       1059       10       1606       185       2       1803       199       373       221       0       783         6:00 PM       95       707       108       2       912       150       456       72       1       681       8       1380       269       5       1662       164       300       164       0       677         700 PM       65       629       99       1       744       105       267       53       2427       13       1018       212       0       144       98       0       337         9:00 PM       44       449       54       0       547       32       149       21       0       202       5       759       151       1       916       36       0       337       90       110       98       0       337       91       0       10       733       21       110       98       0       337         100 PM       8       83       7       1       99       10       36       3       0       21       21       11	3:00 PM	104	797	150	0	1051	195	494	78	2	769	15	1030	174	0	1219	185	349	173	0	707	3746
6:00 PM         95         707         108         2         912         150         458         72         1         681         8         1380         269         5         1662         164         309         184         0         657           7:00 PM         65         629         99         1         794         105         267         53         2         427         13         1018         212         0         1243         151         216         198         90         374         101         110         212         0         1243         151         116         58         0         333         101         111         106         111         0         72         2         353         64         0         419         29         59         29         0         117           1100 PM         8         83         7         1         9         10         36         3         0         28         1         111         15         0         117         11         17         5         0         333           1300 AM         1         39         1         0         411         9         0	4:00 PM	99	882	145	0	1126	226	602	107	5	940	9	1143	198	1	1351	189	345	193	0	727	4144
7:00 PM         65         629         99         1         794         105         267         53         2         427         13         1018         212         0         1243         151         216         112         0         479           8:00 PM         44         449         54         0         547         32         149         21         0         202         5         799         151         1         90         149         96         0         337           9:00 PM         19         148         22         0         189         10         61         1         0         72         2         353         64         0         419         29         59         29         0         117           11:00 PM         8         83         7         1         99         10         36         3         0         49         1         220         30         0         251         11         17         5         0         33           1:00 AM         1         39         1         0         41         9         0         0         15         0         62         8         0 <td>5:00 PM</td> <td>85</td> <td>890</td> <td>111</td> <td>0</td> <td>1086</td> <td>266</td> <td>672</td> <td>117</td> <td>4</td> <td>1059</td> <td>10</td> <td>1606</td> <td>185</td> <td>2</td> <td>1803</td> <td>199</td> <td>373</td> <td>221</td> <td>0</td> <td>793</td> <td>4741</td>	5:00 PM	85	890	111	0	1086	266	672	117	4	1059	10	1606	185	2	1803	199	373	221	0	793	4741
8:00 PM         44         449         54         0         547         32         149         21         0         202         5         759         151         1         916         90         149         98         0         337           9:00 PM         19         148         22         0         189         10         61         1         0         72         2         353         644         0         419         49         116         58         0         221           100 PM         18         83         7         1         99         10         36         3         0         49         1         220         30         0         251         19         30         11         0         60           1:00 PM         2         51         11         0         64         9         16         3         0         28         1         111         15         127         11         177         5         0         333           1:00 AM         0         58         0         63         5         10         0         11         0         49         3         0         52	6:00 PM	95	707	108	2	912	150	458	72	1	681	8	1380	269	5	1662	164	309	184	0	657	3912
9:00 PM         26         295         44         1         366         25         108         14         1         148         3         642         104         0         749         49         116         58         0         223           10:00 PM         19         148         22         0         189         10         61         1         0         72         2         353         64         0         419         29         59         29         0         117           11:00 PM         8         83         7         1         99         10         36         3         0         28         1         111         17         5         0         33           1:00 AM         1         39         1         0         41         1         9         0         10         0         84         6         0         90         7         12         5         0         24           2:00 AM         0         58         5         0         63         5         19         5         0         29         3         82         9         0         94         32         60         2 <td>7:00 PM</td> <td>65</td> <td>629</td> <td>99</td> <td>1</td> <td>794</td> <td>105</td> <td>267</td> <td>53</td> <td>2</td> <td>427</td> <td>13</td> <td>1018</td> <td>212</td> <td>0</td> <td>1243</td> <td>151</td> <td>216</td> <td>112</td> <td>0</td> <td>479</td> <td>2943</td>	7:00 PM	65	629	99	1	794	105	267	53	2	427	13	1018	212	0	1243	151	216	112	0	479	2943
10:00 PM       19       148       22       0       189       10       61       1       0       72       2       353       64       0       419       29       59       29       0       117         11:00 PM       8       83       7       1       99       10       36       3       0       49       1       220       30       0       251       19       30       11       0       60         12:00 AM       2       51       11       0       64       9       16       3       0       28       1       111       15       0       127       11       17       5       0       33         100 AM       1       39       1       0       41       1       9       0       0       15       0       62       8       0       70       3       8       1       0       12         300 AM       1       151       1       0       153       3       7       1       0       11       0       49       3       0       52       19       20       0       0       3       3       0       39       46	8:00 PM	44	449	54	0	547	32	149	21	0	202	5	759	151	1	916	90	149	98	0	337	2002
11:00 PM       8       83       7       1       99       10       36       3       0       49       1       220       30       0       251       19       30       11       0       60         12:00 AM       2       51       11       0       64       9       16       3       0       28       1       111       15       0       127       11       17       5       0       33         1:00 AM       1       39       1       0       41       1       9       0       0       15       0       62       8       0       70       3       8       1       0       12         3:00 AM       1       151       1       0       153       3       7       1       0       11       0       49       3       0       52       19       20       0       0       39         4:00 AM       7       362       5       0       374       5       19       5       0       29       3       82       9       0       94       32       60       20       0       94       359       600       A16       1365	9:00 PM	26	295	44	1	366	25	108	14	1	148	3	642	104	0	749	49	116	58	0	223	1486
12:00 AM       2       51       11       0       64       9       16       3       0       28       1       111       15       0       127       11       17       5       0       33         1:00 AM       1       39       1       0       41       1       9       0       0       10       0       84       6       0       90       7       12       5       0       24         2:00 AM       0       58       5       0       63       5       10       0       0       15       0       62       8       0       70       3       8       1       0       12         3:00 AM       1       151       1       0       153       3       7       1       0       11       0       49       3       0       52       19       20       0       0       389         4:00 AM       16       1365       22       0       1403       3       45       9       2       59       3       221       28       0       252       76       280       3       0       359         6:00 AM       79       1983<	10:00 PM	19	148	22	0	189	10	61	1	0	72	2	353	64	0	419	29	59	29	0	117	797
1:00 AM       1       39       1       0       41       1       9       0       0       10       0       84       6       0       90       7       12       5       0       24         2:00 AM       0       58       5       0       63       5       10       0       0       15       0       62       8       0       70       3       8       1       0       12         3:00 AM       1       151       1       0       153       3       7       1       0       11       0       49       3       0       52       19       20       0       0       39         4:00 AM       7       362       5       0       374       5       19       2       59       3       221       28       0       252       76       280       3       0       339       0       334       23       144       25       0       192       3       487       104       0       594       122       550       26       0       698       774       86       77       24       60       774       885       112       161       127 <td>11:00 PM</td> <td>8</td> <td>83</td> <td>7</td> <td>1</td> <td>99</td> <td>10</td> <td>36</td> <td>3</td> <td>0</td> <td>49</td> <td>1</td> <td>220</td> <td>30</td> <td>0</td> <td>251</td> <td>19</td> <td>30</td> <td>11</td> <td>0</td> <td>60</td> <td>459</td>	11:00 PM	8	83	7	1	99	10	36	3	0	49	1	220	30	0	251	19	30	11	0	60	459
2:00 AM       0       58       5       0       63       5       10       0       0       15       0       62       8       0       70       3       8       1       0       12         3:00 AM       1       151       1       0       153       3       7       1       0       11       0       49       3       0       52       19       20       0       0       39         4:00 AM       7       362       5       0       374       5       19       5       0       29       3       82       9       0       94       32       60       2       0       94         5:00 AM       16       1365       22       0       1403       3       45       9       2       59       3       221       28       0       252       76       280       3       0       359         6:00 AM       159       1895       179       0       223       61       297       47       0       405       5       657       110       4       76       141       587       46       0       764         8:00 AM       121 <td>12:00 AM</td> <td>2</td> <td>51</td> <td>11</td> <td>0</td> <td>64</td> <td>9</td> <td>16</td> <td>3</td> <td>0</td> <td>28</td> <td>1</td> <td>111</td> <td>15</td> <td>0</td> <td>127</td> <td>11</td> <td>17</td> <td>5</td> <td>0</td> <td>33</td> <td>252</td>	12:00 AM	2	51	11	0	64	9	16	3	0	28	1	111	15	0	127	11	17	5	0	33	252
3:00 AM       1       151       1       0       153       3       7       1       0       11       0       49       3       0       52       19       20       0       0       39         4:00 AM       7       362       5       0       374       5       19       5       0       29       3       82       9       0       94       32       60       2       0       94         5:00 AM       16       1365       22       0       1403       3       45       9       2       59       3       221       28       0       252       76       280       3       0       359         6:00 AM       79       1983       116       0       2178       23       144       25       0       192       3       487       104       0       594       122       550       26       0       698         7:00 AM       159       1895       179       0       2233       61       297       47       0       405       5       657       110       4       776       141       587       46       0       774         8:00 AM	1:00 AM	1	39	1	0	41	1	9	0	0	10	0	84	6	0	90	7	12	5	0	24	165
4:00 AM       7       362       5       0       374       5       19       5       0       29       3       82       9       0       94       32       60       2       0       94         5:00 AM       16       1365       22       0       1403       3       45       9       2       59       3       221       28       0       252       76       280       3       0       359         6:00 AM       79       1983       116       0       2178       23       144       25       0       192       3       487       104       0       594       122       550       26       0       698         7:00 AM       159       1895       179       0       2233       61       297       47       0       405       5       657       110       4       776       141       587       46       0       774         8:00 AM       121       1441       164       1       1727       75       263       48       3       389       15       639       140       1       79       1925       0       11111       Approach       72 <th< td=""><td>2:00 AM</td><td>0</td><td>58</td><td>5</td><td>0</td><td>63</td><td>5</td><td>10</td><td>0</td><td>0</td><td>15</td><td>0</td><td>62</td><td>8</td><td>0</td><td>70</td><td>3</td><td>8</td><td>1</td><td>0</td><td>12</td><td>160</td></th<>	2:00 AM	0	58	5	0	63	5	10	0	0	15	0	62	8	0	70	3	8	1	0	12	160
5:00 AM       16       1365       22       0       1403       3       45       9       2       59       3       221       28       0       252       76       280       3       0       359         6:00 AM       79       1983       116       0       2178       23       144       25       0       192       3       487       104       0       594       122       550       26       0       698         7:00 AM       159       1895       179       0       2233       61       297       47       0       405       5       657       110       4       776       141       587       46       0       774         8:00 AM       121       1441       164       1       1727       75       263       48       3       389       15       639       140       1       795       172       526       66       0       764         Grand Total       1525       17483       2274       7       21289       199       50.5       109       36       8731       186       14424       2931       32       17573       2919       6275       1925 <th< td=""><td>3:00 AM</td><td>1</td><td>151</td><td>1</td><td>0</td><td>153</td><td>3</td><td>7</td><td>1</td><td>0</td><td>11</td><td>0</td><td>49</td><td>3</td><td>0</td><td>52</td><td>19</td><td>20</td><td>0</td><td>0</td><td>39</td><td>255</td></th<>	3:00 AM	1	151	1	0	153	3	7	1	0	11	0	49	3	0	52	19	20	0	0	39	255
6:00 AM       79       1983       116       0       2178       23       144       25       0       192       3       487       104       0       594       122       550       26       0       698         7:00 AM       159       1895       179       0       2233       61       297       47       0       405       5       657       110       4       776       141       587       46       0       774         8:00 AM       121       1441       164       1       1727       75       263       48       3       389       15       639       140       1       795       172       526       66       0       764         Grand Total       1525       17483       2274       7       21289       1996       5605       1094       36       8731       186       14424       2931       32       17573       2919       6275       1925       0       11111         Approach %       7.2       82.1       10.7       0.0       -       22.9       64.2       12.5       0.4       -       1.1       82.1       16.7       0.2       -       26.3       56.4	4:00 AM	7	362	5	0	374	5	19	5	0	29	3	82	9	0	94	32	60	2	0	94	591
7:00 AM       159       1895       179       0       2233       61       297       47       0       405       5       657       110       4       776       141       587       46       0       774         8:00 AM       121       1441       164       1       1727       75       263       48       3       389       15       639       140       1       795       172       526       66       0       764         Grand Total       1525       17483       2274       7       21289       1996       5605       1094       36       8731       186       14424       2931       32       1753       2919       6275       1925       0       1111       Approach       7.2       82.1       10.7       0.0       -       22.9       64.2       12.5       0.4       -       1.1       82.1       16.7       0.2       -       26.3       56.4       17.3       0.0       -         Total %       2.6       29.8       3.9       0.0       36.3       3.4       9.5       1.9       0.1       14.9       0.3       24.6       5.0       0.1       29.9       5.0       10.7	5:00 AM	16	1365	22	0	1403	3	45	9	2	59	3	221	28	0	252	76	280	3	0	359	2073
8:00 AM         121         1441         164         1         1727         75         263         48         3         389         15         639         140         1         795         172         526         66         0         764           Grand Total         1525         17483         2274         7         21289         1996         5605         1094         36         8731         186         14424         2931         32         17573         2919         6275         1925         0         1111           Approach %         7.2         82.1         10.7         0.0         -         22.9         64.2         12.5         0.4         -         1.1         82.1         16.7         0.2         -         26.3         56.4         17.3         0.0         -           Total %         2.6         29.8         3.9         0.0         36.3         3.4         9.5         1.9         0.1         14.9         0.3         24.6         5.0         0.1         29.9         5.0         10.7         3.3         0.0         18.9           Lights         1467         16442         2179         7         20095         1883	6:00 AM	79	1983	116	0	2178	23	144	25	0	192	3	487	104	0	594	122	550	26	0	698	3662
Grand Total         1525         17483         2274         7         21289         1996         5605         1094         36         8731         186         14424         2931         32         17573         2919         6275         1925         0         1111           Approach %         7.2         82.1         10.7         0.0         -         22.9         64.2         12.5         0.4         -         1.1         82.1         16.7         0.2         -         26.3         56.4         17.3         0.0         -           Total %         2.6         29.8         3.9         0.0         36.3         3.4         9.5         1.9         0.1         14.9         0.3         24.6         5.0         0.1         29.9         5.0         10.7         3.3         0.0         18.9           Lights         1467         16442         2179         7         20095         1883         5373         1049         35         8340         159         13475         2822         32         16488         2807         5987         1881         0         1067           Wediums         50         509         50         0         629	7:00 AM	159	1895	179	0	2233	61	297	47	0	405	5	657	110	4	776	141	587	46	0	774	4188
Approach %         7.2         82.1         10.7         0.0         -         22.9         64.2         12.5         0.4         -         1.1         82.1         16.7         0.2         -         26.3         56.4         17.3         0.0         -           Total %         2.6         29.8         3.9         0.0         36.3         3.4         9.5         1.9         0.1         14.9         0.3         24.6         5.0         0.1         29.9         5.0         10.7         3.3         0.0         18.9           Lights         1467         16442         2179         7         20095         1883         5373         1049         35         8340         159         13475         2822         32         16488         2807         5987         1881         0         1067           % Lights         96.2         94.0         95.8         100.0         94.4         94.3         95.9         97.2         95.5         85.5         93.4         96.3         100.0         93.8         96.2         95.4         97.7         -         96.0           Mediums         50         509         50         0         60.9         75 <t< td=""><td>8:00 AM</td><td>121</td><td>1441</td><td>164</td><td>1</td><td>1727</td><td>75</td><td>263</td><td>48</td><td>3</td><td>389</td><td>15</td><td>639</td><td>140</td><td>1</td><td>795</td><td>172</td><td>526</td><td>66</td><td>0</td><td>764</td><td>3675</td></t<>	8:00 AM	121	1441	164	1	1727	75	263	48	3	389	15	639	140	1	795	172	526	66	0	764	3675
Total %         2.6         29.8         3.9         0.0         36.3         3.4         9.5         1.9         0.1         14.9         0.3         24.6         5.0         0.1         29.9         5.0         10.7         3.3         0.0         18.9           Lights         1467         16442         2179         7         20095         1883         5373         1049         35         8340         159         13475         2822         32         16488         2807         5987         1881         0         1067           % Lights         96.2         94.0         95.8         100.0         94.4         94.3         95.9         97.2         95.5         85.5         93.4         96.3         100.0         93.8         96.2         95.4         97.7         -         96.0           Mediums         50         50.9         50         0         60.9         75         151         20         0         246         10         465         82         0         557         86         195         36         0         317           % Mediums         3.3         2.9         3.8         2.7         1.8         0.0         2.8	Grand Total	1525	17483	2274	7	21289	1996	5605	1094	36	8731	186	14424	2931	32	17573	2919	6275	1925	0	11119	58712
Lights         1467         16442         2179         7         20095         1883         5373         1049         35         8340         159         13475         2822         32         16488         2807         5987         1881         0         1067           % Lights         96.2         94.0         95.8         100.0         94.4         94.3         95.9         97.2         95.5         85.5         93.4         96.3         100.0         93.8         96.2         95.4         97.7         -         96.0           Mediums         50         509         50         0         609         75         151         20         0         246         10         465         82         0         557         86         195         36         0         317           % Mediums         3.3         2.9         2.2         0.0         2.9         3.8         2.7         1.8         0.0         2.8         5.4         3.2         2.8         0.0         3.2         2.9         3.1         1.9         -         2.9	Approach %	7.2	82.1	10.7	0.0	-	22.9	64.2	12.5	0.4	-	1.1	82.1	16.7	0.2	-	26.3	56.4	17.3	0.0	-	-
% Lights         96.2         94.0         95.8         100.0         94.4         94.3         95.9         97.2         95.5         85.5         93.4         96.3         100.0         93.8         96.2         95.4         97.7         -         96.0           Mediums         50         509         50         0         609         75         151         20         0         246         10         465         82         0         557         86         195         36         0         317           % Mediums         3.3         2.9         2.2         0.0         2.9         3.8         2.7         1.8         0.0         2.8         5.4         3.2         2.8         0.0         3.2         2.9         3.1         1.9         -         2.9	Total %	2.6	29.8	3.9	0.0	36.3	3.4	9.5	1.9	0.1	14.9	0.3	24.6	5.0	0.1	29.9	5.0	10.7	3.3	0.0	18.9	-
Mediums         50         509         50         0         609         75         151         20         0         246         10         465         82         0         557         86         195         36         0         317           % Mediums         3.3         2.9         2.2         0.0         2.9         3.8         2.7         1.8         0.0         2.8         5.4         3.2         2.8         0.0         3.2         2.9         3.1         1.9         -         2.9	Lights	1467	16442	2179	7	20095	1883	5373	1049	35	8340	159	13475	2822	32	16488	2807	5987	1881	0	10675	55598
% Mediums         3.3         2.9         2.2         0.0         2.9         3.8         2.7         1.8         0.0         2.8         5.4         3.2         2.8         0.0         3.2         2.9         3.1         1.9         -         2.9	% Lights	96.2	94.0	95.8	100.0	94.4	94.3	95.9	95.9	97.2	95.5	85.5	93.4	96.3	100.0	93.8	96.2	95.4	97.7	-	96.0	94.7
	Mediums	50	509	50	0	609	75	151	20	0	246	10	465	82	0	557	86	195	36	0	317	1729
Articulated Trucks 8 532 45 0 585 38 81 25 1 145 17 484 27 0 528 26 03 8 0 127	% Mediums	3.3	2.9	2.2	0.0	2.9	3.8	2.7	1.8	0.0	2.8	5.4	3.2	2.8	0.0	3.2	2.9	3.1	1.9	-	2.9	2.9
	Articulated Trucks	8	532	45	0	585	38	81	25	1	145	17	484	27	0	528	26	93	8	0	127	1385
% Articulated Trucks 0.5 3.0 2.0 0.0 2.7 1.9 1.4 2.3 2.8 1.7 9.1 3.4 0.9 0.0 3.0 0.9 1.5 0.4 - 1.1	% Articulated Trucks	0.5	3.0	2.0	0.0	2.7	1.9	1.4	2.3	2.8	1.7	9.1	3.4	0.9	0.0	3.0	0.9	1.5	0.4	-	1.1	2.4

Gewalt Hamilton Associates Inc. 625 Forest Edge Drive

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Turning Movement Data Plot

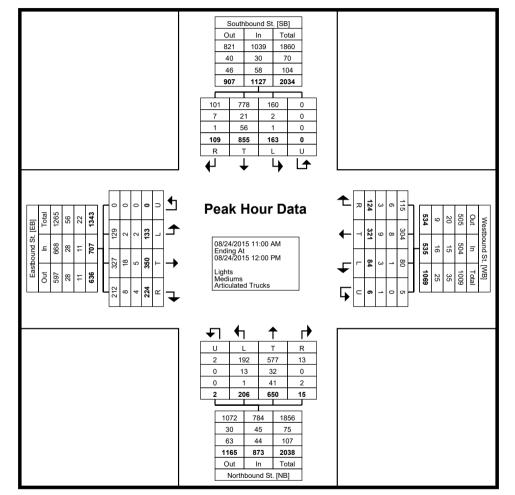
Count Name: 1270-IL 22 and Rand Site Code: Start Date: 08/24/2015 Page No: 3

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#### Turning Movement Peak Hour Data (11:00 AM)

	Southbound St. Northbound St. Eastbound St.														1						
		5	Southbound S	St.		Westbound St.						١	lorthbound S	St.							
Start Time			Southbound	ł				Westbound	1				Northbound					Eastbound			
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
11:00 AM	109	855	163	0	1127	124	321	84	6	535	15	650	206	2	873	224	350	133	0	707	3242
Total	109	855	163	0	1127	124	321	84	6	535	15	650	206	2	873	224	350	133	0	707	3242
Approach %	9.7	75.9	14.5	0.0	-	23.2	60.0	15.7	1.1	-	1.7	74.5	23.6	0.2	-	31.7	49.5	18.8	0.0	-	-
Total %	3.4	26.4	5.0	0.0	34.8	3.8	9.9	2.6	0.2	16.5	0.5	20.0	6.4	0.1	26.9	6.9	10.8	4.1	0.0	21.8	-
PHF	0.852	0.855	0.784	0.000	0.880	0.705	0.955	0.808	0.750	0.922	0.625	0.908	0.757	0.500	0.945	0.824	0.841	0.773	0.000	0.822	0.941
Lights	101	778	160	0	1039	115	304	80	5	504	13	577	192	2	784	212	327	129	0	668	2995
% Lights	92.7	91.0	98.2	-	92.2	92.7	94.7	95.2	83.3	94.2	86.7	88.8	93.2	100.0	89.8	94.6	93.4	97.0	-	94.5	92.4
Mediums	7	21	2	0	30	6	8	1	0	15	0	32	13	0	45	8	18	2	0	28	118
% Mediums	6.4	2.5	1.2	-	2.7	4.8	2.5	1.2	0.0	2.8	0.0	4.9	6.3	0.0	5.2	3.6	5.1	1.5	-	4.0	3.6
Articulated Trucks	1	56	1	0	58	3	9	3	1	16	2	41	1	0	44	4	5	2	0	11	129
% Articulated Trucks	0.9	6.5	0.6	-	5.1	2.4	2.8	3.6	16.7	3.0	13.3	6.3	0.5	0.0	5.0	1.8	1.4	1.5	-	1.6	4.0

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Turning Movement Peak Hour Data Plot (11:00 AM)

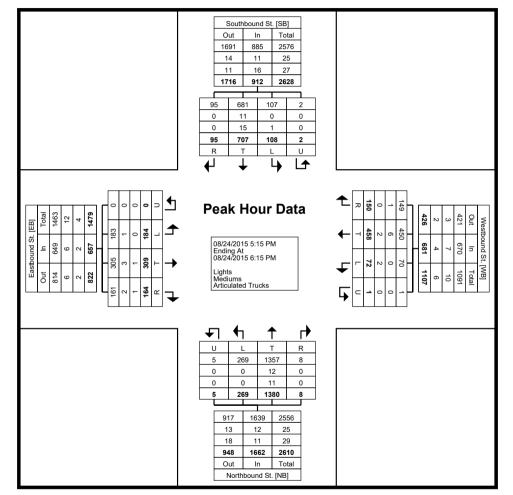
Count Name: 1270-IL 22 and Rand Site Code: Start Date: 08/24/2015 Page No: 5

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#### Turning Movement Peak Hour Data (5:15 PM)

																		1			
		S	Southbound S	St.			N	Nestbound S	St.			1	Northbound S	St.				Eastbound S	t.		
Start Time			Southbound	ł				Westbound					Northbound					Eastbound			
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
6:00 PM	95	707	108	2	912	150	458	72	1	681	8	1380	269	5	1662	164	309	184	0	657	3912
Total	95	707	108	2	912	150	458	72	1	681	8	1380	269	5	1662	164	309	184	0	657	3912
Approach %	10.4	77.5	11.8	0.2	-	22.0	67.3	10.6	0.1	-	0.5	83.0	16.2	0.3	-	25.0	47.0	28.0	0.0	-	-
Total %	2.4	18.1	2.8	0.1	23.3	3.8	11.7	1.8	0.0	17.4	0.2	35.3	6.9	0.1	42.5	4.2	7.9	4.7	0.0	16.8	-
PHF	0.932	0.949	0.811	0.000	0.942	0.781	0.824	0.673	0.750	0.868	0.625	0.901	0.832	0.500	0.895	0.863	0.932	0.893	0.000	0.943	0.937
Lights	95	681	107	2	885	149	450	70	1	670	8	1357	269	5	1639	161	305	183	0	649	3843
% Lights	100.0	96.3	99.1	100.0	97.0	99.3	98.3	97.2	100.0	98.4	100.0	98.3	100.0	100.0	98.6	98.2	98.7	99.5	-	98.8	98.2
Mediums	0	11	0	0	11	1	6	0	0	7	0	12	0	0	12	2	3	1	0	6	36
% Mediums	0.0	1.6	0.0	0.0	1.2	0.7	1.3	0.0	0.0	1.0	0.0	0.9	0.0	0.0	0.7	1.2	1.0	0.5	-	0.9	0.9
Articulated Trucks	0	15	1	0	16	0	2	2	0	4	0	11	0	0	11	1	1	0	0	2	33
% Articulated Trucks	0.0	2.1	0.9	0.0	1.8	0.0	0.4	2.8	0.0	0.6	0.0	0.8	0.0	0.0	0.7	0.6	0.3	0.0	-	0.3	0.8

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Turning Movement Peak Hour Data Plot (5:15 PM)

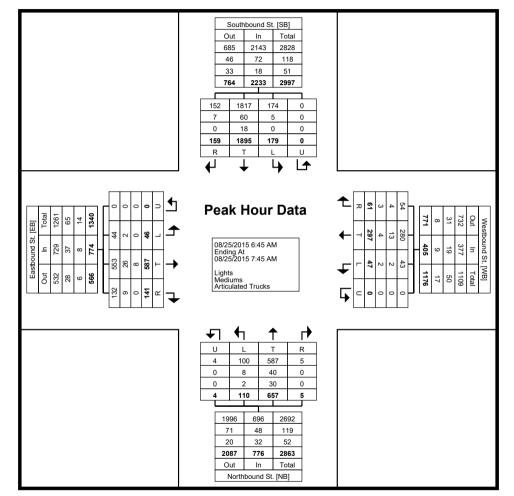
Count Name: 1270-IL 22 and Rand Site Code: Start Date: 08/24/2015 Page No: 7

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#### Turning Movement Peak Hour Data (6:45 AM)

	1			_								· ·		,	1			1			
		5	Southbound S	St.			١	Nestbound S	St.			N	Iorthbound S	St.			1	Eastbound S	t.		
Start Time			Southbound	ł				Westbound					Northbound					Eastbound			
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
7:00 AM	159	1895	179	0	2233	61	297	47	0	405	5	657	110	4	776	141	587	46	0	774	4188
Total	159	1895	179	0	2233	61	297	47	0	405	5	657	110	4	776	141	587	46	0	774	4188
Approach %	7.1	84.9	8.0	0.0	-	15.1	73.3	11.6	0.0	-	0.6	84.7	14.2	0.5	-	18.2	75.8	5.9	0.0	-	-
Total %	3.8	45.2	4.3	0.0	53.3	1.5	7.1	1.1	0.0	9.7	0.1	15.7	2.6	0.1	18.5	3.4	14.0	1.1	0.0	18.5	-
PHF	0.724	0.924	0.890	0.000	0.960	0.809	0.768	0.818	0.000	0.780	0.500	0.875	0.828	0.333	0.899	0.941	0.960	0.719	0.000	0.970	0.966
Lights	152	1817	174	0	2143	54	280	43	0	377	5	587	100	4	696	132	553	44	0	729	3945
% Lights	95.6	95.9	97.2	-	96.0	88.5	94.3	91.5	-	93.1	100.0	89.3	90.9	100.0	89.7	93.6	94.2	95.7	-	94.2	94.2
Mediums	7	60	5	0	72	4	13	2	0	19	0	40	8	0	48	9	26	2	0	37	176
% Mediums	4.4	3.2	2.8	-	3.2	6.6	4.4	4.3	-	4.7	0.0	6.1	7.3	0.0	6.2	6.4	4.4	4.3	-	4.8	4.2
Articulated Trucks	0	18	0	0	18	3	4	2	0	9	0	30	2	0	32	0	8	0	0	8	67
% Articulated Trucks	0.0	0.9	0.0	-	0.8	4.9	1.3	4.3	-	2.2	0.0	4.6	1.8	0.0	4.1	0.0	1.4	0.0	-	1.0	1.6

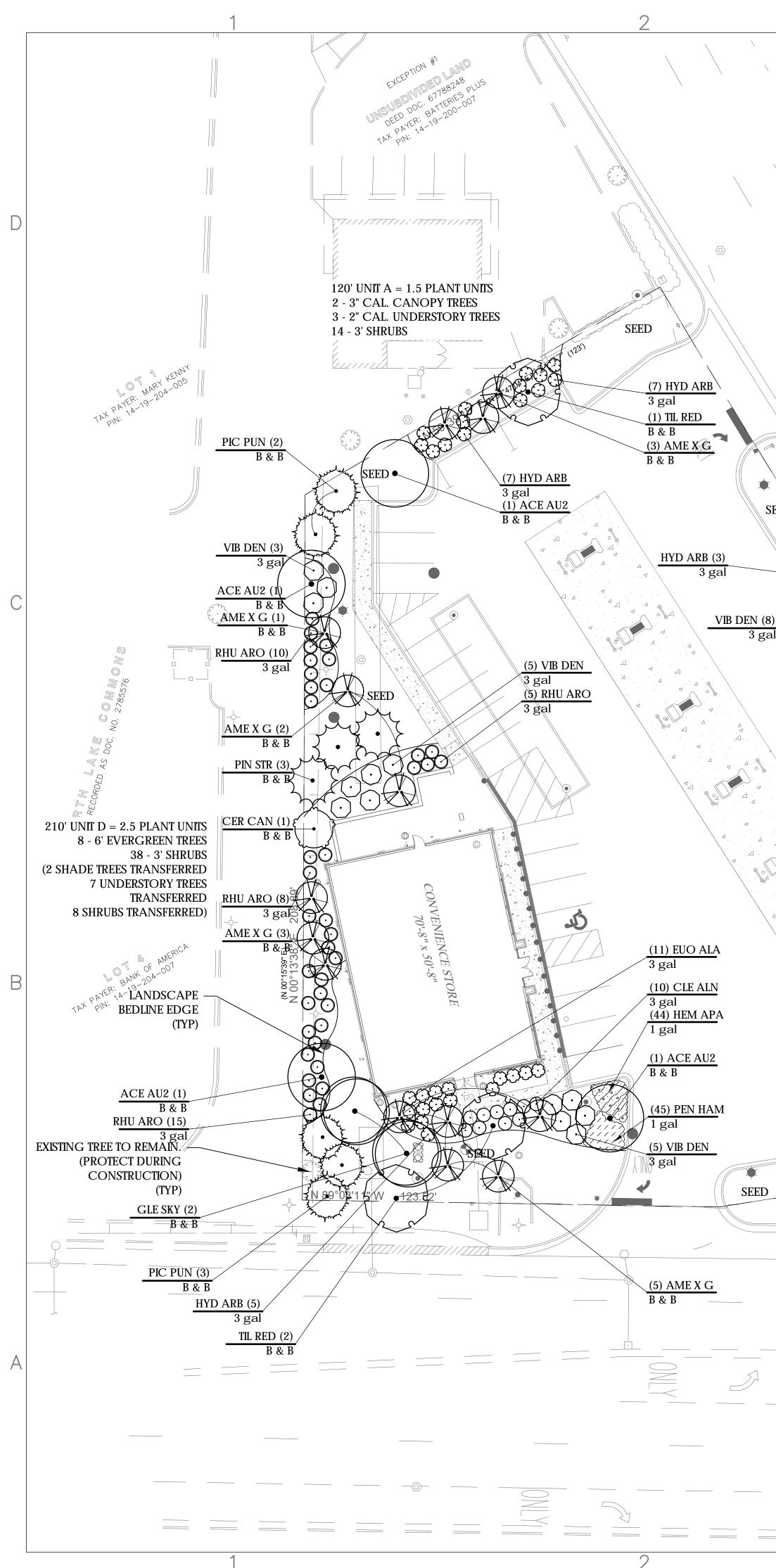
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Turning Movement Peak Hour Data Plot (6:45 AM)

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Count Name: 1270-IL 22 and Rand Site Code: Start Date: 08/24/2015 Page No: 9



### PLANT SCHEDULE

PLANI SCH	IEDOLE					
TREES ACE AU2	BOTANICAL NAME / COMMON NAME Acer freemanii `Autumn Blaze` / Autumn Blaze Maple	CONT B & B	<u>CAL</u> 2.5"Cal	<u>SIZE</u>		QTY 4
AME X G	Amelanchier x grandiflora `Cole`s Select` / Serviceberry	B & B		6` H.		14
CER CAN	Cercis canadensis `Flame` / Eastern Red Bud	B & B	2.5"Cal			1
GLE SKY	Gleditsia triacanthos `Skyline` / Skyline Honey Locust	B & B	3"Cal			5
PIC PUN	Picea pungens `Fat Albert` / Colorado Spruce	B & B		6` H.		5
PIN STR	Pinus strobus / White Pine	B & B		6` H.		3
TIL RED	Tilia americana `Redmond` / Redmond American Linden	B & B	2.5"Cal			3
<u>SHRUBS</u> BUX X G	BOTANICAL NAME / COMMON NAME Buxus x `Green Mountain` / Boxwood	<u>SIZE</u> 3 gal	<u>SIZE</u> 24" H.			$\frac{\text{QTY}}{4}$
CLE ALN	Clethra alnifolia `Hummingbird` / Summersweet	3 gal	36" H.			10
EUO ALA	Euonymus alatus `Compactus` / Compact Burning Bush	3 gal	36" H.			16
HYD ARB	Hydrangea arborescens `White Dome` / Wild Hydrangea	3 gal	36" H.			22
RHU ARO	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal	36" H.			44
RIB ALP	Ribes alpinum `Green Mound` / Green Mound Alpine Currant	3 gal	36" H.			6
ROS X K	Rosa x `Knockout` TM / Rose	3 gal	36" H.			6
SPI JAP	Spiraea japonica `Neon Flash` / Neon Flash Spirea	3 gal	36" H.			3
SPI X B	Spiraea x bumalda `Froebelii` / Frobel Spirea	3 gal	36" H.			15
SPI FR4	Spiraea x bumalda `Froebelii` / Frobel Spirea	3 gal	36" H.			15
VIB DEN	Viburnum dentatum `Autumn Jazz` / Southern Arrowwood	3 gal	36" H.			21
GROUND COVERS HEM APA	BOTANICAL NAME / COMMON NAME Hemerocallis x `Chicago Apache` / Daylily	CONT 1 gal			<u>SPACING</u> 18" o.c.	$\frac{\text{QTY}}{44}$
HEM ORO	Hemerocallis x `Stella de Oro` / Stella de Oro Daylily	1 gal			18" o.c.	33
PEN HAM	Pennisetum alopecuroides `Hameln` / Hameln Dwarf Fountain Grass	1 gal			18" o.c.	45
VIN MIN	Vinca minor `Dart`s Blue` / Dart`s Blue Periwinkle	flat			12" o.c.	31
SEED	Bluegrass, Fescue Ryegrass Blend with Blanket	10,000 \$	SF			

RIB ROS SPI J SPI X SPI VIB I SEED <u>GRC</u> HEM 235' UNIT A = 4.5 PLANT UNITS 2 - 3" CAL. CANOPY TREES (1 TRANSFER TO REAR PROPERTY LINE) HEM PEN I (3 TRANSFER TO IL-22 PROPERTY LINE) VIN 0 - 2" CAL. UNDERSTORY TREES SEEL (7 TRANSFER TO REAR PROPERTY LINE) (2 TRANSFER TO IL-22 PROPERTY LINE) (1 OMITTED) 41 - 3' HT. SHRUBS ROS X K (6) (2) GLE SKY 3 gal **B & B** SEED (15) SPI FR4 3 gal  $\mathbf{R}\mathbf{B} \mathbf{A}\mathbf{L}\mathbf{P} (3)$ (31) VIN MIN flat (3) SPI JAP 3 gal  $\mathcal{O}\mathcal{X}$ (33) HEM ORO RHU ARO (6) l gal 3 gal BUX X G (4) 80' UNIT C = 2 PLANT UNITS 0 - 3" CAL. CANOPY TREES (1 TRANSFER TO REAR PROPERTY LINE) (1 TRANSFER TO IL-22 PROPERTY LINE) R=39.50' L=79 CH=5 23°18'46" V CH=66.85' TRANSFER TO REAR SEED PROPERTY LINE) 4 - 3' EVERGREEN SHRUBS SEED S 81°02'15" W (5) EVO ALA 3 gal (15) SPI X B 3 gal (1) GLE SKY B & B (3) RIB ALP 3 gal 205' UNIT A = 2.5 PLANT UNITS **IS ROUTE 22** 4 - 3" CAL. CANOPY TREES \_\_\_\_ (3 SHADE TREES TRANSFERRED) A.P. 337) DICATED PER DOC. 6231312 (2 OMITTED) 5 - 2" CAL. UNDERSTORY TREES (2 UNDERSTORY TREES **TRANSFERRED**) (2 OMITTED) 23 - 3' SHRUBS \_\_\_\_\_ \_\_\_\_\_ 

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REV.	COMMENT	DATE
1	VILLAGE RE-SUBMITTAL	12-11-17

SEAL:



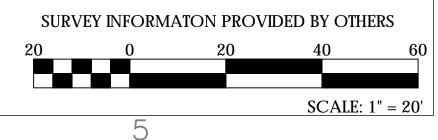
DATE: 8/18/2017 JOB NO.: DRAWN BY: TS CHECKED BY: TS

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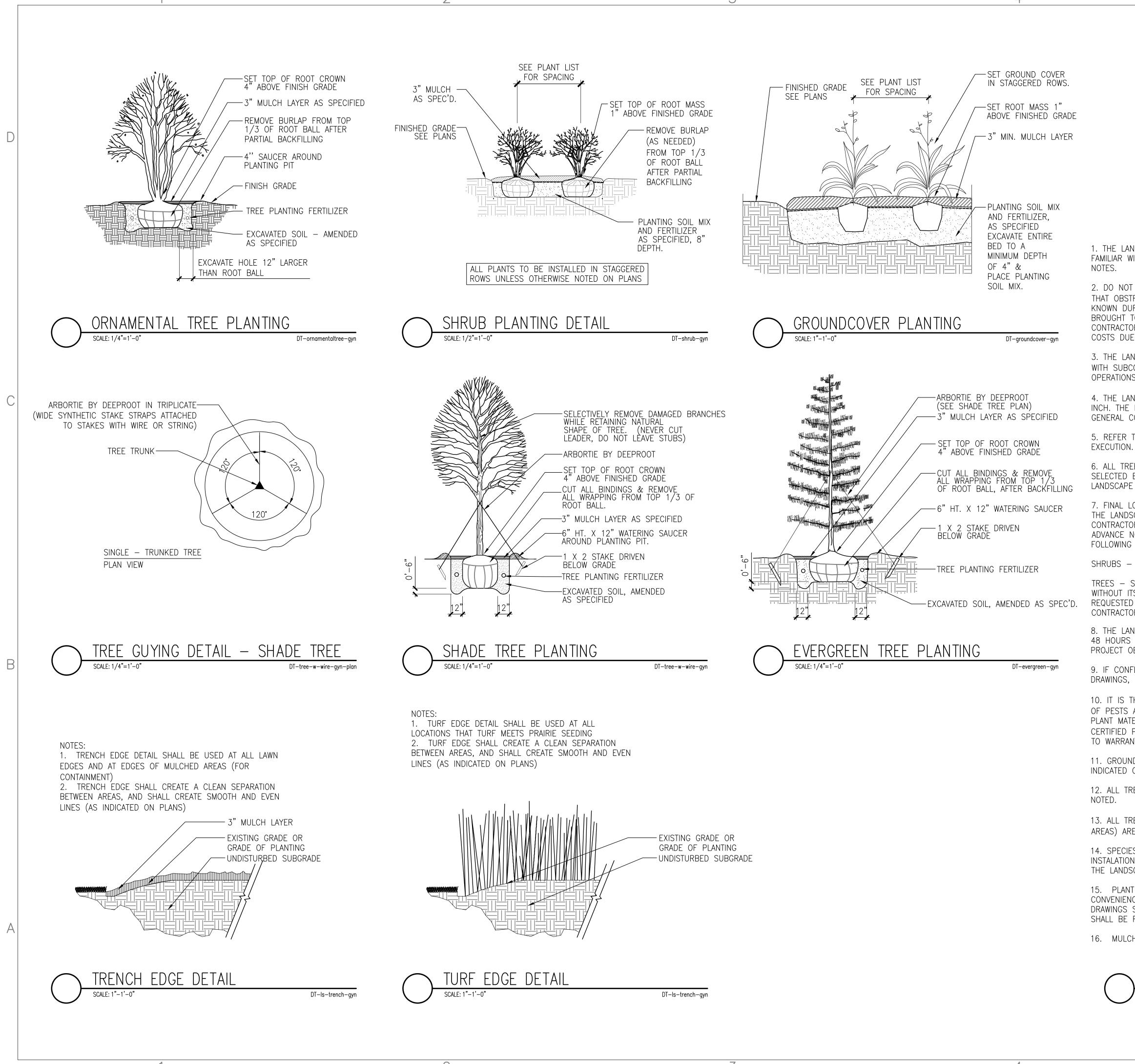
LANDSCAPE PLAN

SHEET NO .: LP-100



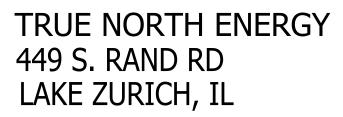


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**Design**Perspectives INC. Grounded in Creativity

1280 Iroquois Avenue Suite 110 Naperville, Illinois 60563 Telephone: (630) 428-3134 Fax: (630) 428-3159 www.design-perspectives.net

1. THE LANDSCAPE CONTRACTOR SHALL BE REPSONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES AND STRUCTURES. SEE CONSTRUCTION

2. DO NOT WILLFULLY PROCEED WITH PLANTINGS AS DESIGNED WHEN IT IS OBVIOUS THAT OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING THE DESIGN PROCESS. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE LANDSCAPE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY NECESSARY REVISIONS AND COSTS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.

3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AND/OR SUPPLIERS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.

4. THE LANDSCAPE CONTRACTOR IS TO RECEIVE THE SITE AT +/- 1/10TH OF AN INCH. THE LANDSCAPE CONTRACTOR SHALL OBTAIN A LETTER OF GRADE FROM THE GENERAL CONTRACTOR PRIOR TO BEGINNING WORK.

5. REFER TO SPECIFICATIONS FOR PLANTING REQUIREMENTS, MATERIALS, AND EXECUTION.

6. ALL TREES SHALL BE TAGGED BY THE LANDSCAPE ARCHITECT AT A NURSERY SELECTED BY THE LANDSCAPE CONTRACTOR OR AT THE DISCRETION OF THE LANDSCAPE ARCHITECT.

7. FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE SUBJECT TO APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO DIGGING ANY HOLES. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING LANDSCAPE ARCHITECT ADEQUATE ADVANCE NOTICE FOR ON-SITE APPROVALS. THE LANDSCAPE CONTRACTOR IS TO THE FOLLOWING BEFORE BEGINNING INSTALLING PLANTINGS:

SHRUBS - LAY OUT THE ACTUAL CONTAINERS ON-SITE BEFORE DIGGING HOLES.

TREES – STAKE THE LOCATIONS BEFORE DIGGING HOLES. ANY TREE PLANTED WITHOUT ITS FINAL LOCATION APPROVED BY THE LANDSCAPE ARCHITECT MAY BE REQUESTED TO BE RELOCATED AT THE SOLE EXPENSE OF THE LANDSCAPE CONTRACTOR.

8. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 48 HOURS IN ADVANCE PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT OBSERVATION SCHEDULES.

9. IF CONFLICTS ARISE BETWEEN THE ACTUAL SIZE OF AREAS ON THE SITE AND THE DRAWINGS, CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION.

10. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO FURNISH PLANTS FREE OF PESTS AND/OR DISEASES. PRE-SELECTED OR "LANDSCAPE ARCHITECT TAGGED" PLANT MATERIAL MUST BE INSPECTED BY THE LANDSCAPE CONTRACTOR AND CERTIFIED PEST AND DISEASE FREE. IT IS THE LANDSCAPE CONTRACTOR'S OBLIGATION TO WARRANTY ALL PLANT MATERIAL PER THE SPECIFICATIONS.

11. GROUNDCOVERS AND SHRUBS ARE TO BE TRIANGULARLY SPACED UNLESS INDICATED ON THE PLANS.

12. ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM, UNLESS OTHERWISE

13. ALL TREES, SHRUB AND GROUNDCOVER AREAS (EXCLUDING TURF AND SLOPE AREAS) ARE TO BE MULCHED PER DETAILS.

14. SPECIES AND SIZE OF PLANTS LISTED ARE SUBJECT TO AVAILIBILITY AT TIME OF INSTALATION. IF SUBSTITUTIONS ARE NECESSARY, PLEASE SUBMIT ALL REQUESTS TO THE LANDSCAPE ARCHITECT FOR APPROVAL.

15. PLANT QUANTITIES SHOWN ON DRAWINGS AND IN THE PLANT LIST ARE FOR CONVENIENCE ONLY. THE NUMBER OF PLANTS SHOWN ON THE LANDSCAPE PLAN DRAWINGS SUPERSEDE ANY QUANTITIES SHOWN. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ALL PLANTINGS SHOWN ON THE DRAWINGS.

16. MULCH TO BE SHREDDED BARK MULCH.

PLANTING NOTES

SCALE: NTS

DT-plantnote-gyn

 REV.
 COMMENT
 DATE

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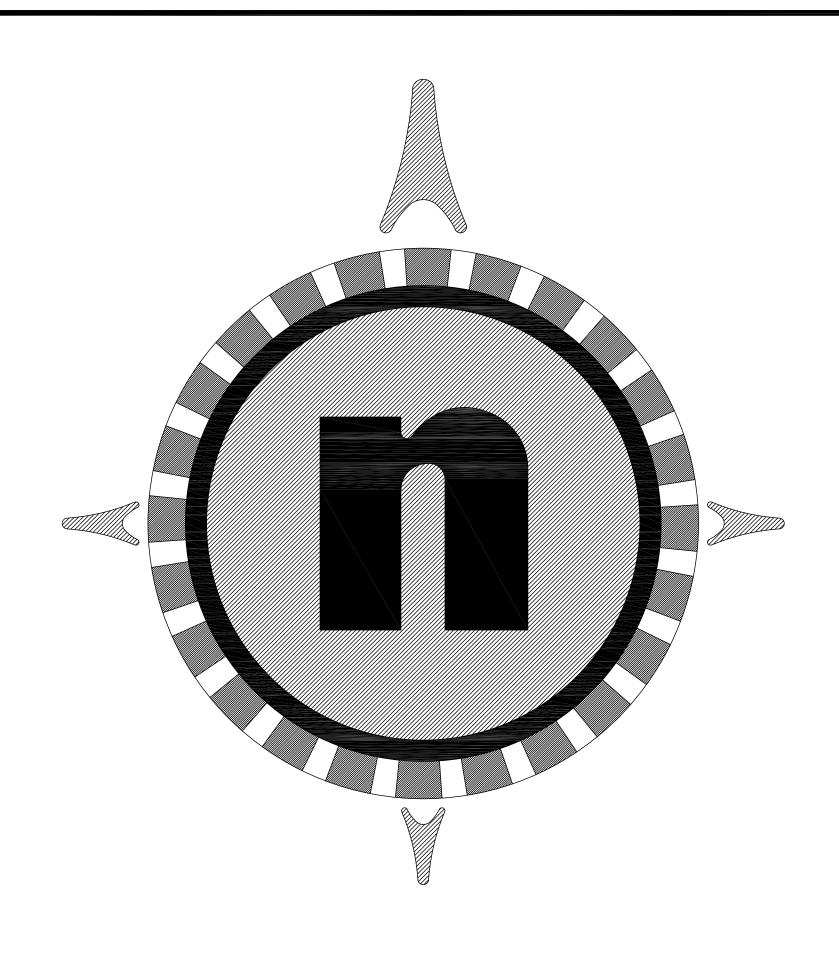
SEAL:

DATE: 8/18/2017 JOB NO.: DRAWN BY: TS CHECKED BY: TS

DRAWING TITLE:

LANDSCAPE DETAILS

SHEET NO.: LP-500







NOTE: ANY DEVIATION FROM THE SPECIFIED EQUIPMENT & MATERIALS MUST BE APPROVED PRIOR TO INSTALLATION BY THE TRUENORTH CONSTRUCTION MANAGER.

# truenorth

## 449 SOUTH RAND ROAD LAKE ZURICH, IL 60047

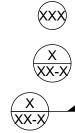


VICINITY MAP N.T.S.

FUEL S
OVER SHEET
ROPOSED PIPING PLAN
LECTRICAL CONDUIT PLAN
ATERIALS LIST
NDERGROUND STORAGE TANK INSTALLA
UBMERSIBLE PUMP SUMP DETAILS
ANK TOP DETAILS: REGULAR, PREMIUM &
ISPENSER DETAILS: 3+0
ISPENSER DETAILS: 3+1



#### LEGEND



DETAIL IDENTIFIER

EQUIPMENT IDENTIFIER

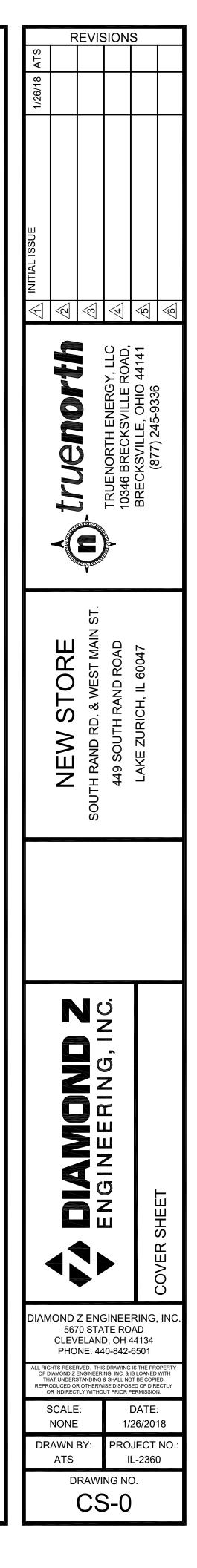
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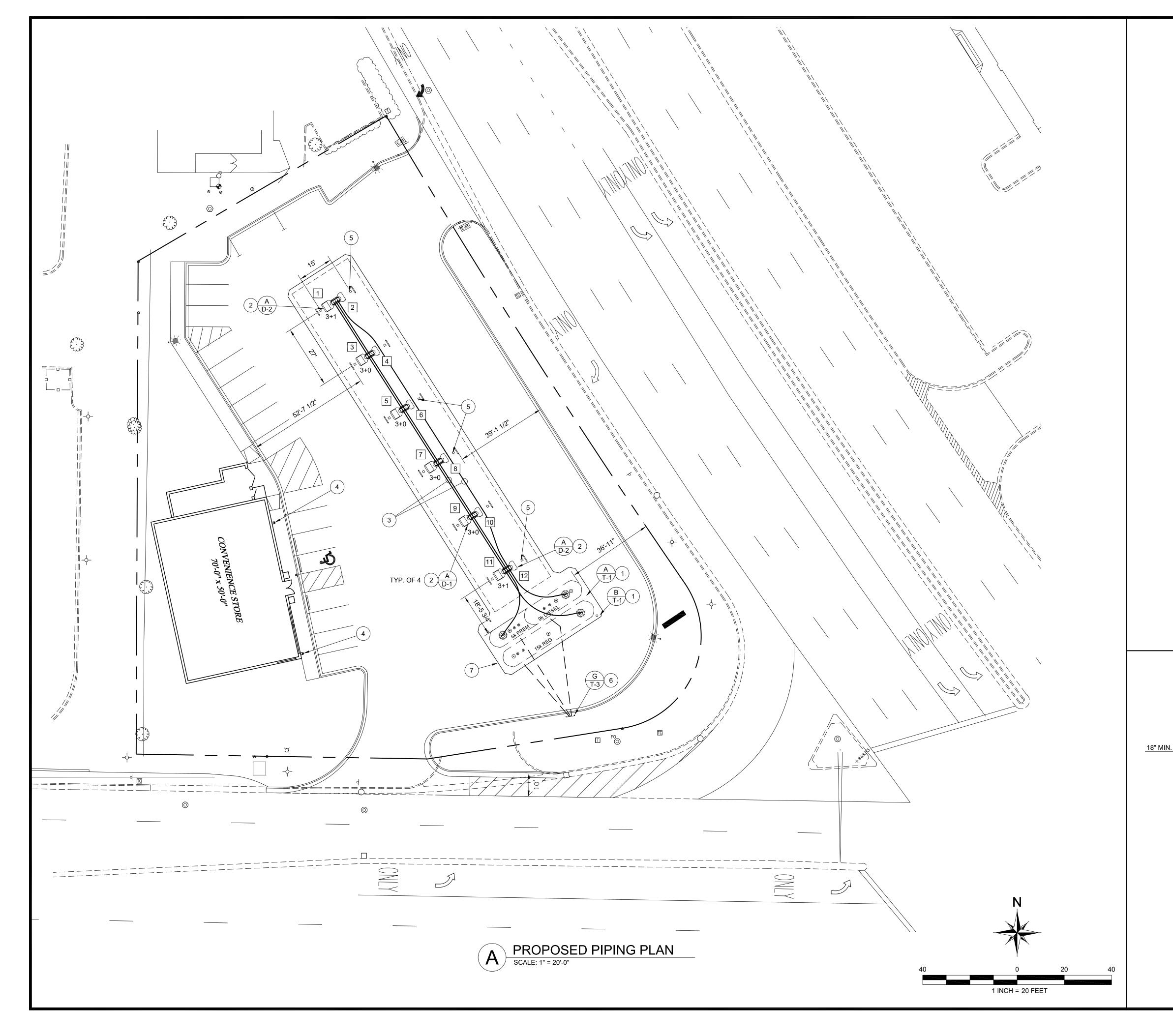


FUEL SYSTEM CONTRACTOR

ELEVATION IDENTIFIER

REV	DATE
1	1/26/2018
1	1/26/2018
1	1/26/2018
1	1/26/2018
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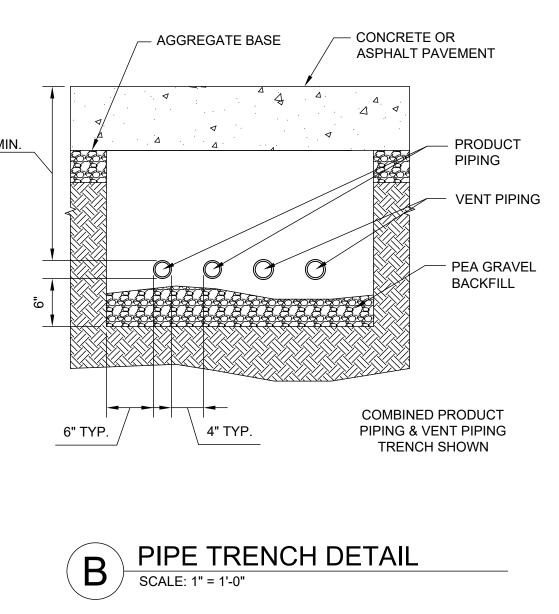
- # FUEL AND PIPING SCOPE OF WORK:
   1. INSTALL (2) 15,000 GALLON DOUBLE-WALL FIBERGLASS UNDERGROUND STORAGE TANKS (UST).
   2. INSTALL SIX (6) NEW AUTO FUELING ISLANDS, DISPENSERS AND U-BOLLARDS.
  - U-BOLLARDS.
     INSTALL NEW 1-1/2" DOUBLE-WALLED SEMI-RIGID PRODUCT PIPING.
     IN ADDITION TO THE E-STOP ACCESSIBLE TO THE ATTENDANT, INSTALL OUTSIDE E-STOP(S) AS SHOWN, MUST BE LOCATED SUCH THAT THE DISTANCE FROM EVERY DISPENSER TO AN E-STOP IS BETWEEN 20'-100'.
     INSTALL FIRE EXTINGUISHER PER DETAILS ON SHEETS D-1 & D-2.
     INSTALL VENT RISER AND 2" SINGLE-WALL SEMI-RIGID VENT DIPING

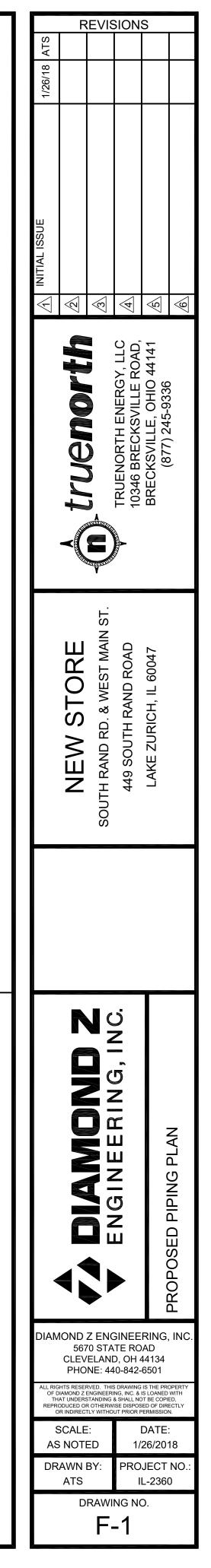
  - PIPING. 7. INSTALL 8" CONCRETE PAD OVER USTs.

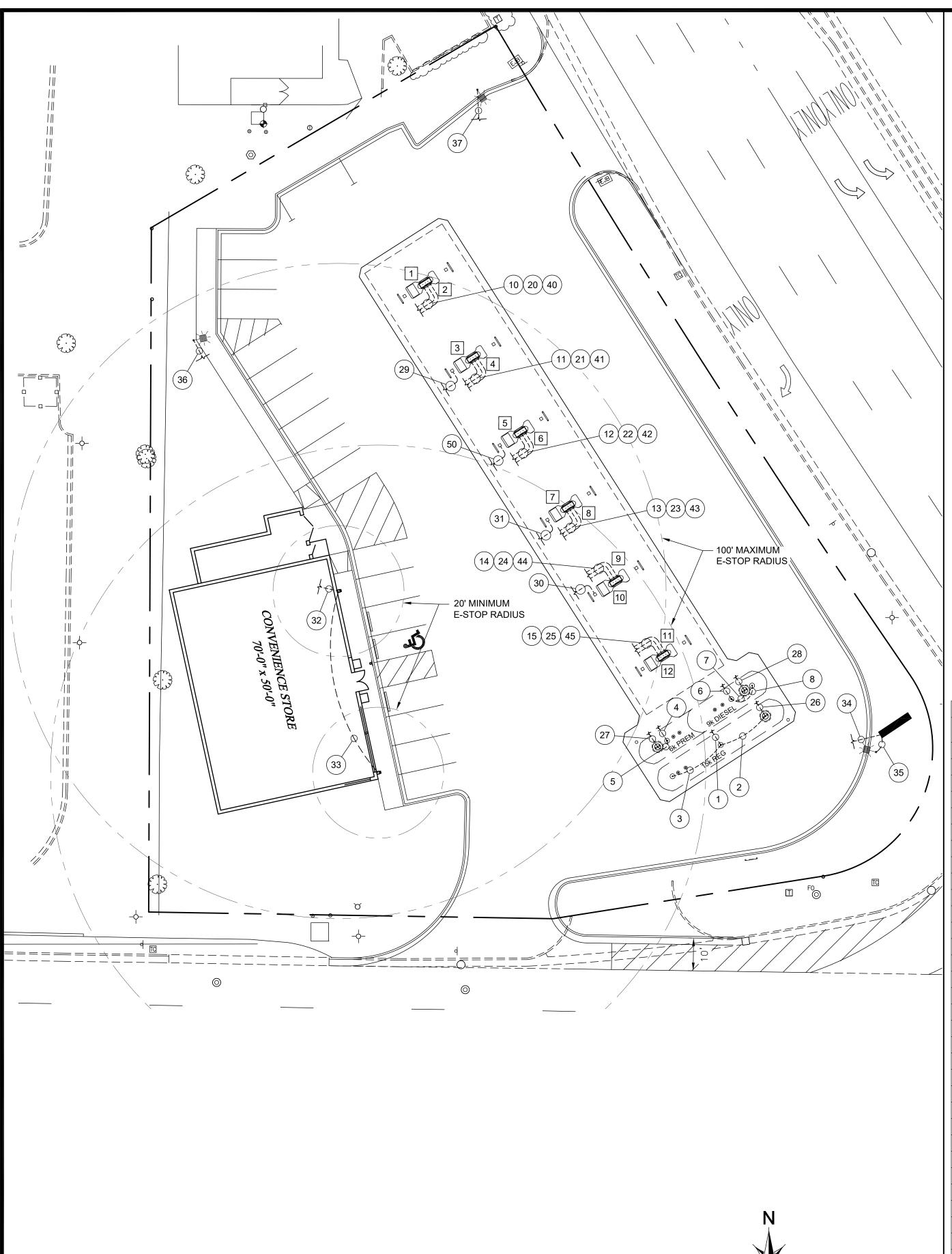
<u>NOTE:</u> REFER TO CIVIL DRAWINGS TO VERIFY EXACT DIMENSIONS AND LOCATIONS OF ALL SITE ITEMS AND UTILITIES.

#### LEGEND:

# DISPENSER FUELING POSITION NUMBER **REGULAR & PREMIUM GASOLINE** 3+0 REGULAR, PREMIUM GASOLINE & AUTO DIESEL 3+1 PRODUCT PIPING ———— VENT PIPING

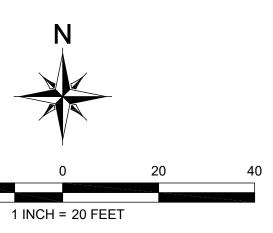






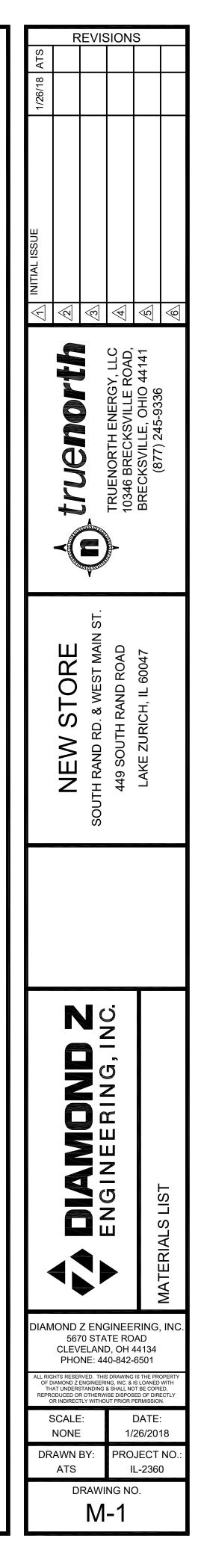
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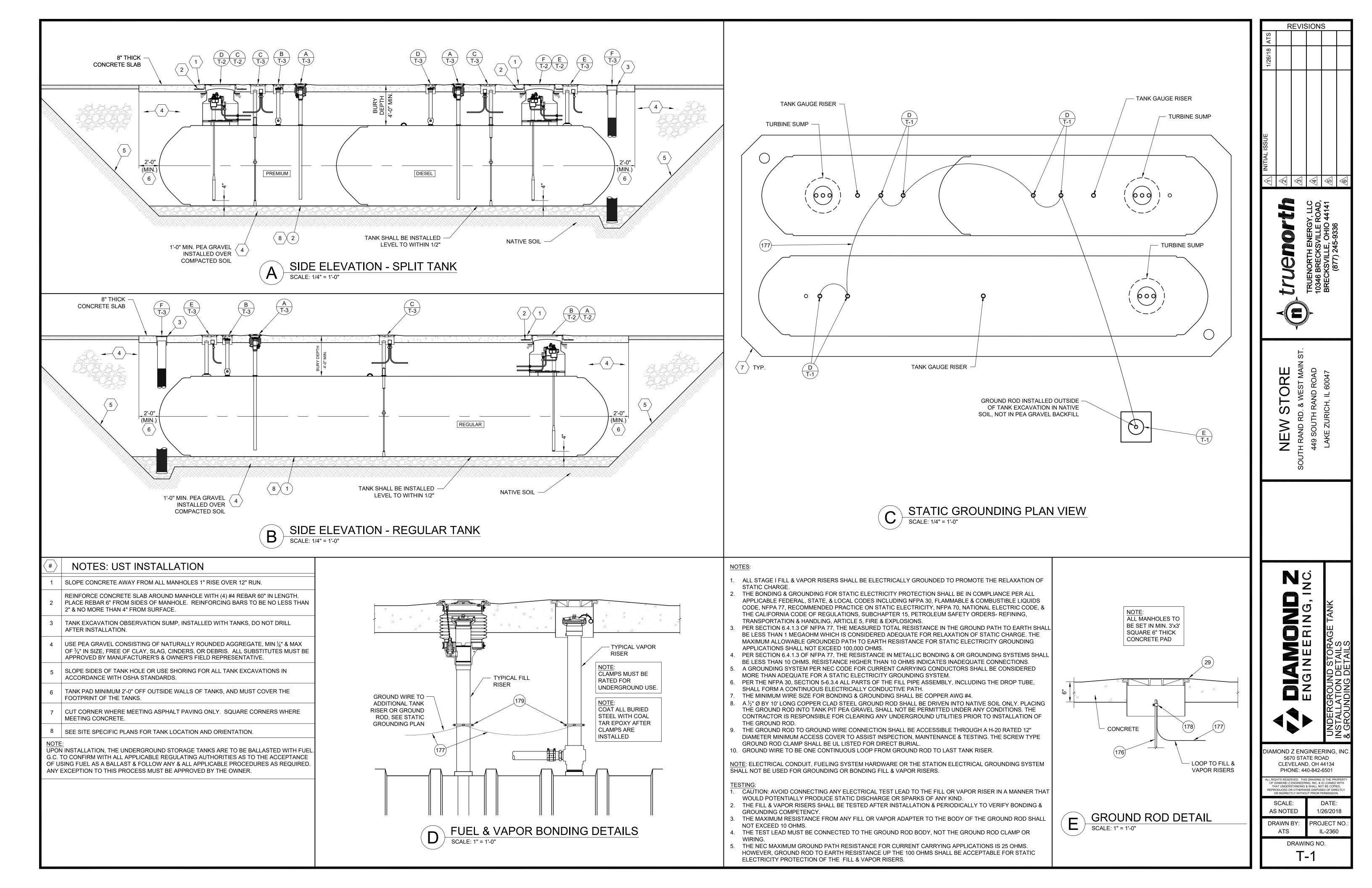
$\setminus$							ELECTRICAL NOTES:	REVISIONS
							<ol> <li>FINAL CONNECTIONS, SETUP, INSPECTION, PROGRAMMING AND START-UP OF DISPENSERS &amp;</li> </ol>	ATS
							VEEDER-ROOT SHALL BE THE RESPONSIBILITY OF THE	1/26/18
							FUEL CONTRACTOR USING AN AUTHORIZED MANUFACTURER'S INSTALLER.	1/20
							<ol> <li>ALL PVC UNDERGROUND CONDUITS SHOULD HAVE LAST</li> <li>10' AS RIGID METAL GALVANIZED CONDUIT PRIOR TO</li> </ol>	
							RISING ABOVE GRADE OR ENTERING THE BUILDING, A CONTAINMENT SUMP, OR MANHOLE. CONFIRM WITH INSPECTOR	
							THAT RMC IS NOT REQUIRED IN TANK & CANOPY AREA.	
							3. ALL UNDERGROUND CONDUITS TO HAVE A POURED SEAL OFF AS THE FIRST FITTING UPON ENTERING A	
∥							CONTAINMENT SUMP OR MANHOLE. 4. CONTRACTOR IS TO VERIFY THE WIRING LISTED ON THIS SHEET	
, <i>I</i> I,							WITH THE MOST RECENT SPECIFICATIONS BY THE RESPECTIVE EQUIPMENT MANUFACTURERS, & VERIFY THE VOLTAGE DROP PER	Щ
							NEC & LOCAL CODE REQUIREMENTS & ADJUST ACCORDINGLY PER SITE SPECIFIC CONDITIONS.	
Ì							5. CONTRACTOR TO SUPPLY ALL WIRING CONDUCTORS &	
							CABLES TO INSTALL THE SPECIFIED EQUIPMENT. 6. ALL CONDUCTORS TO BE GAS & OIL RESISTANT.	<b>4</b>
							<ul> <li>7. DISPENSER WIRING AS FOLLOWS:</li> <li>BLACK FOR POWER, 12 GA</li> </ul>	₹ ₹
$\setminus$							<ul> <li>WHITE FOR NEUTRAL, 12 GA</li> <li>GREEN FOR GROUND, 12 GA</li> </ul>	
							<ul> <li>BLACK FOR REGULAR MPD HOOK CIRCUIT, 14 GA</li> </ul>	DAD, 1141
							<ul> <li>RED FOR SUPER MPD HOOK CIRCUIT, 14 GA</li> <li>YELLOW FOR DIESEL HOOK CIRCUIT (IF APPLICABLE), 14 GA</li> </ul>	
$\setminus$							<ul> <li>RED &amp; BLACK TWISTED PAIR FOR CARD READER, 18 GA</li> <li>BLACK &amp; WHITE TWISTED PAIR FOR DATA DISTRIBUTION, 18 GA</li> </ul>	NERG OHIC
Ň							8. VEEDER-ROOT WIRING AS FOLLOWS:	EN EN EN EN EN EN
							2 WIRE BELDEN SHIELDED 88760,18 GA, WITHOUT SPLICES FOR EACH DEVICE	
							<ul> <li>9. INTERCOM WIRE AS FOLLOWS:</li> <li>4 WIRE AUDIO CABLE, 20 GA</li> </ul>	BREG (877 (877
							<ul> <li>10. SUBMERSIBLE TURBINE PUMP (STP) AS FOLLOWS:</li> <li>BLACK FOR POWER, 12 GA</li> </ul>	truenort 10346 BREC BRECKSVIL (877)
							RED FOR POWER, 12 GA	
							<ul><li>WHITE FOR NEUTRAL, 12 GA</li><li>GREEN FOR GROUND, 12 GA</li></ul>	Supervision of the second s
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// /								D RD. & UTH RA ZURICH
								AN ASC SC
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						FUEL CONDUIT LEGEND		
		SIZE 3/4"	MATERIAL PVC	TYPE VEEDER ROOT	SOURCE VEEDER ROOT RACEWAY AT BUILDING	DESTINATION REGULAR ATG	PURPOSE REGULAR TANK ATG, PLLD, LIQUID SUMP SENSOR AND INTERSTITIAL MONITOR	-  ∎   ĭ
1	2	3/4"	PVC PVC	VEEDER ROOT	REGULAR ATG	REGULAR ATG	REGULAR TANK ATG, FELD, ELGOID SOMF SENSOR AND INTERSTITIAL MONITOR	-1 <b>1</b>
/	3	3/4"	PVC	VEEDER ROOT	REGULAR ATG	REGULAR INTERSTITIAL MONITOR	REGULAR TANK INTERSTITIAL MONITOR	
	4	3/4"	PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING	PREMIUM ATG	PREMIUM TANK ATG, PLLD AND LIQUID SUMP SENSOR	
	5	3/4"	PVC	VEEDER ROOT	PREMIUM ATG	PREMIUM SUMP	PREMIUM TANK PLLD, AND LIQUID SUMP SENSOR	
	6	3/4" 3/4"	PVC PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING DIESEL ATG	DIESEL ATG DIESEL SUMP	DIESEL TANK ATG, PLLD, LIQUID SUMP SENSOR AND INTERSTITIAL MONITOR DIESEL TANK PLLD AND LIQUID SUMP SENSOR	-
	8	3/4"	PVC	VEEDER ROOT	DIESEL ATG	DIESEL INTERSTITIAL MONITOR	DIESEL TANK INTERSTITIAL MONITOR	-
j,	10	3/4"	PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING	DISPENSER 1/2	DISPENSER LIQUID SUMP SENSOR	-
¥	11	3/4"	PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING	DISPENSER 3/4	DISPENSER LIQUID SUMP SENSOR	
	12	3/4"	PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING	DISPENSER 5/6	DISPENSER LIQUID SUMP SENSOR	
	13	3/4"	PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING	DISPENSER 7/8	DISPENSER LIQUID SUMP SENSOR	
	14	3/4" 3/4"	PVC PVC	VEEDER ROOT	VEEDER ROOT RACEWAY AT BUILDING VEEDER ROOT RACEWAY AT BUILDING	DISPENSER 9/10 DISPENSER 11/12	DISPENSER LIQUID SUMP SENSOR DISPENSER LIQUID SUMP SENSOR	
$\leq$	20	3/4	PVC PVC	POWER	POWER RACEWAY AT BUILDING	DISPENSER 1/12 DISPENSER 1/2	DISPENSER LIQUID SUMP SENSOR DISPENSER POWER AND DATA	
	21	3/4"	PVC	POWER	POWER RACEWAY AT BUILDING	DISPENSER 3/4	DISPENSER POWER AND DATA	
	22	3/4"	PVC	POWER	POWER RACEWAY AT BUILDING	DISPENSER 5/6	DISPENSER POWER AND DATA	
	23	3/4"	PVC	POWER	POWER RACEWAY AT BUILDING	DISPENSER 7/8	DISPENSER POWER AND DATA	
	24	3/4" 3/4"	PVC	POWER	POWER RACEWAY AT BUILDING	DISPENSER 9/10	DISPENSER POWER AND DATA	
I	05	3/4"	PVC	POWER POWER	POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING	DISPENSER 11/12 REGULAR STP	DISPENSER POWER AND DATA STP POWER	
	25 26						STP POWER	
	25 26 27	3/4" 3/4"	PVC PVC	POWER	POWER RACEWAY AT BUILDING	PREMIUM STP	STEFOWER	
	26	3/4"		POWER POWER	POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING	PREMIUM STP DIESEL STP	STP POWER	
	26 27	3/4" 3/4" 3/4" 1"	PVC PVC PVC	POWER POWER	POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING	DIESEL STP CANOPY COLUMN	STP POWER CANOPY LIGHTS	
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	26 27 28 29 30 31 32 33 34 35 36 37 40 41	3/4" 3/4" 1" 1" 1" 3/4" 3/4" 1" 3/4" 1" 1" 1" 1"	PVC PVC PVC PVC PVC PVC PVC PVC PVC PVC	POWER POWER POWER POWER POWER POWER POWER POWER POWER INTERCOM INTERCOM	POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING E-STOP POWER RACEWAY AT BUILDING MAIN ID SIGN POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING	DIESEL STP CANOPY COLUMN CANOPY COLUMN CANOPY COLUMN E-STOP E-STOP MAIN ID SIGN YARD LIGHT YARD LIGHT YARD LIGHT DISPENSER 1/2 DISPENSER 3/4	STP POWER         CANOPY LIGHTS         CANOPY LIGHTS         CANOPY LIGHT BAND         E-STOP POWER         E-STOP POWER         MAIN ID SIGN & YARD LIGHT POWER         YARD LIGHT POWER         YARD LIGHT POWER         YARD LIGHT POWER         INTERCOM	DIAMOND Z ENGINEERING, IN 5670 STATE ROAD CLEVELAND, OH 44134 PHONE: 440-842-6501 ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPER OF DIAMOND Z ENGINEERING, INC. & IS LOANED WITT HAT UNDERSTANDING & SHALL NOT BE COPIED, REPROUCED OR THERWING & SHALL NOT BE COPIED, REPROUCED OR THERWING & SHALL NOT BE COPIED, REPROUCED OR THERWING SHALL NOT BE COPIED. REPROUCED OR THERWING A SHALL NOT BE COPIED. REPROUCED OR THERWING IS THE PROPER SCALE: DATE:
	26 27 28 29 30 31 32 33 34 35 36 37 40 41 42	3/4" 3/4" 1" 1" 1" 3/4" 3/4" 1" 3/4" 1" 1" 1" 1" 1" 1"	PVC PVC PVC PVC PVC PVC PVC PVC PVC PVC	POWER POWER POWER POWER POWER POWER POWER POWER POWER INTERCOM INTERCOM INTERCOM INTERCOM	POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING E-STOP POWER RACEWAY AT BUILDING MAIN ID SIGN POWER RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING	DIESEL STP CANOPY COLUMN CANOPY COLUMN CANOPY COLUMN E-STOP E-STOP MAIN ID SIGN YARD LIGHT YARD LIGHT YARD LIGHT DISPENSER 1/2 DISPENSER 3/4 DISPENSER 5/6	STP POWER         CANOPY LIGHTS         CANOPY LIGHTS         CANOPY LIGHT BAND         E-STOP POWER         MAIN ID SIGN & YARD LIGHT POWER         YARD LIGHT POWER         YARD LIGHT POWER         INTERCOM         INTERCOM         INTERCOM         INTERCOM         INTERCOM         INTERCOM         INTERCOM	DIAMOND Z ENGINEERING, IN 5670 STATE ROAD CLEVELAND, OH 44134 PHONE: 440-842-6501 ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPER OF INATION DE REVENCE, INC. & IS LOANED WIT THAT UNDERSTANDING & SHALL NOT BE COPIED, REPRODUCED OR OTHERWISE DISPOSED OF DIRECTL OR INDIRECTLY WITHOUT PRIOR PERMISSION. SCALE: DATE: 1"=20'-0" 1/26/2018 DRAWN BY: PROJECT NO
	26 27 28 29 30 31 32 33 34 35 36 37 40 41 42 43	3/4" 3/4" 1" 1" 1" 3/4" 3/4" 3/4" 1" 3/4" 1" 1" 1" 1" 1" 1" 1"	PVC PVC PVC PVC PVC PVC PVC PVC PVC PVC	POWER POWER POWER POWER POWER POWER POWER POWER POWER INTERCOM INTERCOM INTERCOM	POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING E-STOP POWER RACEWAY AT BUILDING MAIN ID SIGN POWER RACEWAY AT BUILDING POWER RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING INTERCOM RACEWAY AT BUILDING	DIESEL STP CANOPY COLUMN CANOPY COLUMN CANOPY COLUMN E-STOP E-STOP MAIN ID SIGN YARD LIGHT YARD LIGHT YARD LIGHT DISPENSER 1/2 DISPENSER 3/4 DISPENSER 5/6 DISPENSER 7/8	STP POWER         CANOPY LIGHTS         CANOPY LIGHTS         CANOPY LIGHT BAND         E-STOP POWER         E-STOP POWER         MAIN ID SIGN & YARD LIGHT POWER         YARD LIGHT POWER         YARD LIGHT POWER         INTERCOM         INTERCOM         INTERCOM         INTERCOM	DIAMOND Z ENGINEERING, IN         5670 STATE ROAD         CLEVELAND, OH 44134         PHONE: 440-842-6501         ALL RIGHTS RESERVED. THIS DRAWING IS THE PROPER         OF DIAMOND Z ENGINEERING, INC. 81 LOANED WIT         OR INDERCTLY WITHOUT PRIOR PERMISSION.         SCALE:       DATE:         1"=20'-0"       1/26/2018         DRAWN BY:       PROJECT NO         ATS       IL-2360

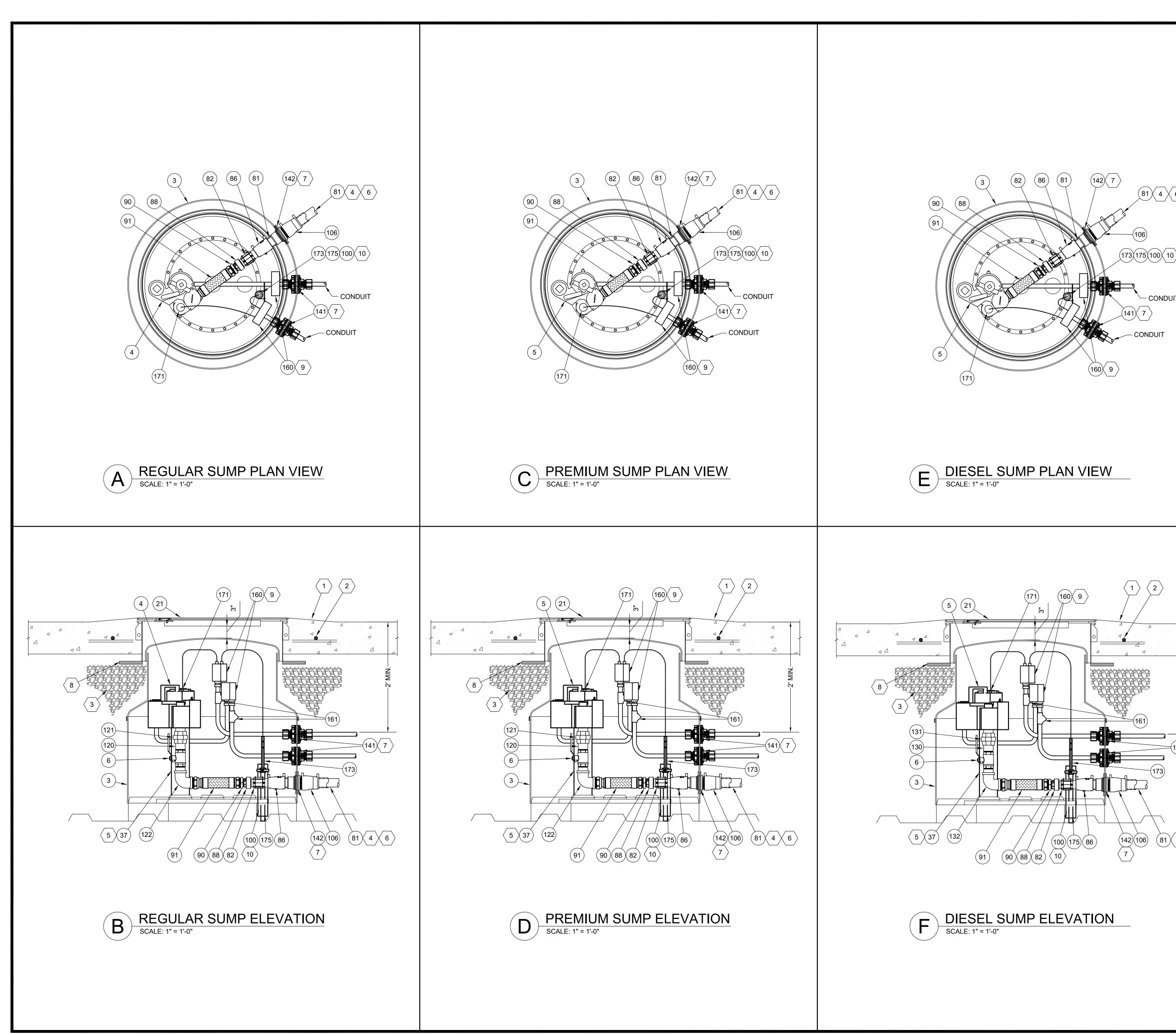


1 2 3 4 5 6 7	DESCRIPTION 15,000 GALLON, 8' DIAMETER, DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK WITH DRY ANNULAR SPACE, 22" MANWAY 15,000 GALLON SPLIT (9k DIESEL, 6k PREMIUM), 8' DIAMETER, DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK WITH DRY ANNULAR SPACE, (2) 22" MANWAYS 42" DIA ROUND CONTAINMENT SUMP WITH 33" DIA WATER TIGHT LID SUBMERSIBLE TURBINE PUMP, 2 HP, HIGH PRESSURE	MAKE CONTAINMENT SOLUTIONS CONTAINMENT SOLUTIONS	MODEL 	<b>QTY</b>	SUPPLIED BY OWNER	GC
1 2 3 4 5 6 7	WITH DRY ANNULAR SPACE, 22" MANWAY 15,000 GALLON SPLIT (9k DIESEL, 6k PREMIUM), 8' DIAMETER, DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK WITH DRY ANNULAR SPACE, (2) 22" MANWAYS 42" DIA ROUND CONTAINMENT SUMP WITH 33" DIA WATER TIGHT LID	SOLUTIONS CONTAINMENT SOLUTIONS		1	OWNER	GC
2 3 4 5 6 7	UNDERGROUND FIBERGLASS STORAGE TANK WITH DRY ANNULAR SPACE, (2) 22" MANWAYS 42" DIA ROUND CONTAINMENT SUMP WITH 33" DIA WATER TIGHT LID	SOLUTIONS				_
4 5 6 7				1	OWNER	GC
5 6 7	SUBMERSIBLE TURBINE PUMP, 2 HP, HIGH PRESSURE	CONTAINMENT SOLUTIONS		3	OWNER	GC
6 7		FRANKLIN FUELING	STPH200-VL2	1	OWNER	GC
7	SUBMERSIBLE TURBINE PUMP, 3/4 HP	FRANKLIN FUELING	STP75-VL2	2	OWNER	GC
	2" BRASS BALL VALVE, FULL PORT	OPW	21BV-0200	3	OWNER	GC
	KEY LIFT PROVISION STICK	OPW	90K-KLS	1	OWNER	GC
	OBSERVATION WELL, 12" DIAMETER, 0.020" FACTORY SLOTTED, SCHEDULE 40 PVC, CAPPED BOTTOM, 13' LENGTH	ENVIRONMENTAL MANUFACTURING	1213	2	GC	GC
9	12" MONITORING WELL MANHOLE, STEEL, BOLT DOWN	MORRISON	519-0200AM	2	OWNER	GC
20	18" MANHOLE, STEEL, 10" SKIRT	OPW	104A-1800	5	OWNER	GC
	44-1/4" CONQUISTADOR PLUS COMPOSITE COVER MANHOLE, PLAIN COVER WITH KEY-LIFT PROVISION	OPW	44CD-PLKL	3	OWNER	GC
22	SINGLE WALL SPILL CONTAINER WITH CAST IRON COVER	OPW	1C-2100-DEVR	3	OWNER	GC
23	4" FILL CAP	OPW	634TT-7085-EVR	3	OWNER	GC
24	4" FILL ADAPTER, SWIVEL, BRONZE	OPW	61SALP-1020-EVR	3	OWNER	GC
25	ALUMINUM DROP TUBE, 4" DIAMETER, OVERFILL PROTECTION VALVE	OPW	71SO-400C	3	OWNER	GC
26	PRODUCT ID TAG, REGULAR	OPW	1TAG-1010	1	OWNER	GC
27	PRODUCT ID TAG, PREMIUM	OPW	1TAG-3010	1	OWNER	GC
28	PRODUCT ID TAG, DIESEL	OPW	1TAG-4010	1	OWNER	GC
29	12" MANHOLE, STEEL, 10" SKIRT	OPW	104A-1200	4	OWNER	GC
30	3" VAPOR RECOVERY CAP	OPW	1711T-7085-EVR	2	OWNER	GC
31	4" VAPOR ADAPTER, SWIVEL, BRONZE	OPW	61VSA-1020-EVR	2	OWNER	GC
32	4" DURATUFF CAP	OPW	116-7085	1	OWNER	GC
	EXTRACTOR FITTING 4x4x2 WITHOUT CAGE	OPW	233-4420	3	OWNER	GC
	2" TANK VENT, DIESEL	OPW	23-0033	1	OWNER	GC
	2" TANK VENT, GAS	OPW	623V-2203	2	OWNER	GC
	12" LOCKING TEST WELL PLUG (BOLES CO.)	BOLES	TI-12LOCKCAP	2	OWNER	GC
	4" SCH 40 BLACK IRON RISER			AS REQ'D	GC	GC
	DISPEN				00	
ITEM	DESCRIPTION	MAKE	MODEL	QTY	SUPPLIED BY	INSTALLED I
	NON VAPOR FUEL DISPENSER	WAYNE	B12 (OVATION)	4	OWNER	GC
	NON VAPOR FUEL DISPENSER WITH DIESEL	WAYNE	B23 (OVATION)	2	OWNER	GC
	POLYETHYLENE DISPENSER SUMP W/CONDUITLESS - INCLUDES ANCHOR BOLTS	FRANKLIN FUELING	DS3915	6	OWNER	GC
	STABILIZER MOUNTING BAR KIT, PRODUCT LINE	FRANKLIN FUELING	SBK-25	14	OWNER	GC
	1-1/2" DOUBLE POPPET SHEAR VALVE, MALE THREADED-TOP	OPW	10BHMP-5830	14	OWNER	GC
-	3/4" BREAKAWAY	OPW	66REC-1000	14	OWNER	GC
	3/4" X 8" LONG WHIP HOSE	GOODYEAR	532-327-124-20869	16	OWNER	GC
	3/4" X 9'-0" DISPENSER HOSE	GOODYEAR		16	OWNER	GC
			532-327-124-00969	16		
50	NON VAPOR 3/4" HOSE SWIVEL PRESSURE SENSING AUTOMATIC SHUTOFF NOZZLE FOR DIESEL - GREEN, WITH FILLGARD (OPW# 8G-0100)	OPW OPW	241TPS-0241 11B-0100	4	OWNER OWNER	GC GC
	NON VAPOR NOZZLE - BLACK WITH FILLGARD	OPW	11BP-8400	12	OWNER	GC
61	PREFABRICATED STAINLESS STEEL ISLAND FORM, HOURGLASS 4' WIDE X 10' LONG X 13" TALL (12" END SECTION & 30" END SECTION COMBINATION)	OPW	6013SS-HGE30E12R6W 4L10	6	OWNER	GC
	4" X 41" W X 53" H STEEL "U" BOLLARD, PRIME PAINTED	OPW	6PGR4-4153	12	OWNER	GC

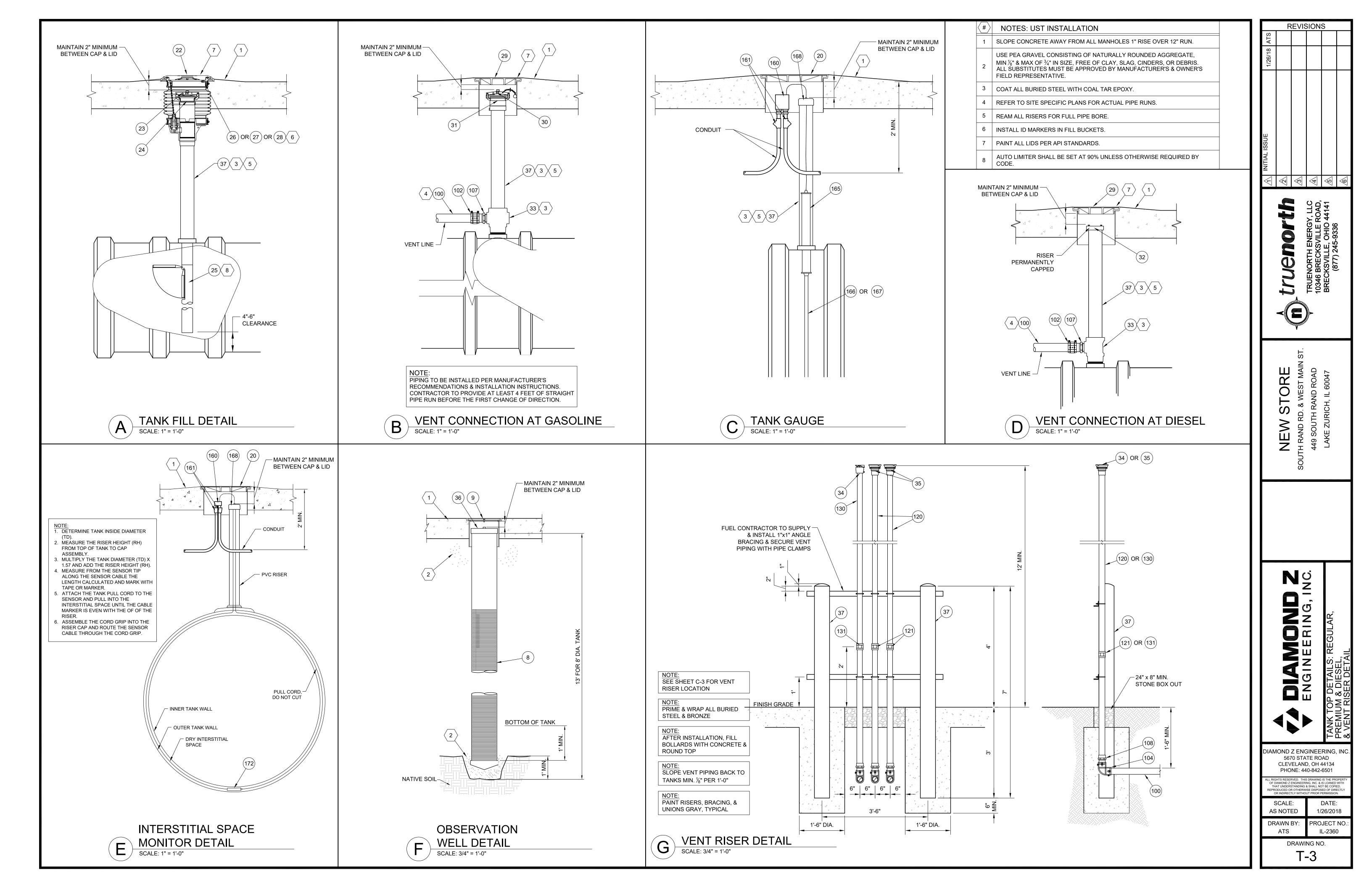
ITEM	DESCRIPTION	NG MAKE	MODEL	QTY	SUPPLIED BY	INSTALLED BY
80	1-1/2" DOUBLE WALL PIPE - STICK 28' (BETWEEN DISPENSERS)	FRANKLIN FUELING	001.063.050.028PSE	12	OWNER	GC
81	1-1/2" DOUBLE WALL PIPE - COIL 165' (BETWEEN DISPENSERS & TANKS)	FRANKLIN FUELING	001.063.050.165PSE	2	OWNER	GC
82	1-1/2" WELDING SOCKET	FRANKLIN FUELING	02-50-U	17	OWNER	GC
84	1-1/2" ELECTROFUSION 90 DEGREE ELBOW	FRANKLIN FUELING	03-050-EIF-U	3	OWNER	GC
85	1-1/2" ELECTROFUSION TEE	FRANKLIN FUELING	08-50-EIF-U	11	OWNER	GC
86	1-1/2" SECONDARY CONTAINMENT WELDING REDUCER WITH TEST PORT	FRANKLIN FUELING	49-063-050TP-U	28	OWNER	GC
87	1-1/2" MALE NPT TERMINATION FOR 1-1/2" PIPE	FRANKLIN FUELING	91-050 NPT-U	14	OWNER	GC
88	1-1/2" FEMALE NPT TERMINATION FOR 1-1/2" PIPE	FRANKLIN FUELING	92-050 NPT-U	3	OWNER	GC
90	2" NPT X 1-1/2" NPT HEX ADAPTOR	FRANKLIN FUELING	HEX 2	3	OWNER	GC
91	2" FLEXIBLE CONNECTOR, HEX MALE X MALE SWIVEL	FRANKLIN FUELING	FF20X12HMXM346	3	OWNER	GC
100	2" SINGLE WALL PIPE - STICK 19' (FOR VENT)	FRANKLIN FUELING	001.063.019V	8	OWNER	GC
102	2" WELDING SOCKET	FRANKLIN FUELING	02-063-U	10	OWNER	GC
104	2" 90 DEGREE ELBOW - ELECTROFUSION	FRANKLIN FUELING	03-063-EIF-U	3	OWNER	GC
105	2" 45 DEGREE ELBOW - ELECTROFUSION	FRANKLIN FUELING	04-063-EIF-U	AS REQ'D	OWNER	GC
106	2" SECONDARY CONTAINMENT WELDING REDUCER	FRANKLIN FUELING	49-075-063-1	3	OWNER	GC
107	2" MALE NPT TERMINATION FOR 2" PIPE	FRANKLIN FUELING	91-063 NPT-U	3	OWNER	GC
108	2" FEMALE NPT TERMINATION FOR 2" PIPE	FRANKLIN FUELING	92-063 NPT-U	3	OWNER	GC
109	LEAK DETECTION TUBE, 24" LENGTH, CONNECTORS AND VALVES	FRANKLIN FUELING	LDT 60-1	14	OWNER	GC
110	1-1/2" SCH 40 GALVANIZED PIPE			AS REQ'D	GC	GC
111	1-1/2" SCH 40 GALVANIZED PIPE UNION			AS REQ'D	GC	GC
112	1-1/2" SCH 40 GALVANIZED 90 DEGREE ELBOW			AS REQ'D	GC	GC
113	1-1/2" SCH 40 GALVANIZED 45 DEGREE ELBOW			AS REQ'D	GC	GC
115	1-1/2" SCH 40 BLACK IRON PIPE			AS REQ'D	GC	GC
116	1-1/2" SCH 40 BLACK IRON PIPE UNION			AS REQ'D	GC	GC
117	1-1/2" SCH 40 BLACK IRON PIPE 90 DEGREE ELBOW			AS REQ'D	GC	GC
118	1-1/2" SCH 40 BLACK IRON PIPE 45 DEGREE ELBOW			AS REQ'D	GC	GC
120	2" SCH 40 GALVANIZED PIPE			AS REQ'D	GC	GC
121	2" SCH 40 GALVANIZED PIPE UNION			AS REQ'D	GC	GC
122	2" SCH 40 GALVANIZED 90 DEGREE ELBOW			AS REQ'D	GC	GC
123	2" SCH 40 GALVANIZED 45 DEGREE ELBOW			AS REQ'D	GC	GC
130	2" SCH 40 BLACK IRON PIPE			AS REQ'D	GC	GC
131	2" SCH 40 BLACK IRON PIPE UNION			AS REQ'D	GC	GC
132	2" SCH 40 BLACK IRON PIPE 90 DEGREE ELBOW			AS REQ'D	GC	GC
133	2" SCH 40 BLACK IRON PIPE 45 DEGREE ELBOW			AS REQ'D	GC	GC
	PENETRATI	ON BOOTS				
ITEM	DECODIDATION				1	
	DESCRIPTION	MAKE	MODEL	QTY	SUPPLIED BY	INSTALLED BY
140	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE	MAKE FRANKLIN FUELING	<b>MODEL</b> 303-063-EIF	<b>QTY</b> 25	SUPPLIED BY OWNER	INSTALLED BY GC
140 141						
141	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE	FRANKLIN FUELING	303-063-EIF	25	OWNER	GC
141	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING	303-063-EIF REB-C-R-0075	25 6	OWNER OWNER	GC GC
141	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING	303-063-EIF REB-C-R-0075	25 6	OWNER OWNER	GC GC
141 142	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL	303-063-EIF REB-C-R-0075 FEB-075-M	25 6 3	OWNER OWNER OWNER	GC GC GC
141 142 ITEM	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE	303-063-EIF REB-C-R-0075 FEB-075-M MODEL	25 6 3 QTY	OWNER OWNER OWNER	GC GC GC INSTALLED BY
141 142 ITEM 160	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE 	303-063-EIF REB-C-R-0075 FEB-075-M MODEL 	25 6 3 <b>QTY</b> AS REQ'D	OWNER OWNER OWNER SUPPLIED BY GC	GC GC GC INSTALLED BY GC
141 142 <b>ITEM</b> 160 161	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE 	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D	OWNER OWNER OWNER SUPPLIED BY GC GC	GC GC GC INSTALLED BY GC GC
141 142 ITEM 160 161 162	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1	OWNER OWNER OWNER SUPPLIED BY GC GC OWNER	GC GC INSTALLED BY GC GC GC
141 142 <b>ITEM</b> 160 161 162 163	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1	OWNER OWNER OWNER SUPPLIED BY GC GC OWNER OWNER	GC GC INSTALLED BY GC GC GC GC
141 142 <b>ITEM</b> 160 161 162 163 164	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC
141 142 <b>ITEM</b> 160 161 162 163 164 165	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8'	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC
141 142 ITEM 160 161 162 163 164 165 166	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC
141 142 <b>ITEM</b> 160 161 162 163 164 165 166 167	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 3 2 1	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC
141 142 <b>ITEM</b> 160 161 162 163 164 165 166 167 168	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 5	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER OWNER OWNER	GC GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC
141 142 ITEM 160 161 162 163 164 165 166 167 168 169	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 5 1	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 330374-001	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 5 1 1 1	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR)	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-000 846400-001 312020-952 330843-001 330374-001 848480-001	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 3 2 1 5 1 5 1 1 3 3	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 330374-001 848480-001 794390-409	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 2 1 1 3 2 2	OWNER OWNER OWNER SUPPLIED BY GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 848480-001 794390-409 330020-012	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 5 1 1 5 1 1 3 2 9	OWNER OWNER OWNER SUPPLIED BY GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 848480-001 794390-409 330020-012 329358-001	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 9 2 9 2	OWNER OWNER OWNER SUPPLIED BY GC GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 9 LUD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NODICICRIMINATING SUMP SENSOR	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 330374-001 848480-001 794390-409 330020-012 329358-001 794380-208	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 9 2 9 2 9 9	OWNEROWNEROWNERSUPPLIED BYGCGCOWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174         175         176	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NON-DISCRIMINATING SUMP SENSOR 1/2" DIA. X 10' LONG COPPER BONDED GROUND ROD #4 AWG STRANDED BARE COPPER GROUND WIRE ACORN NUT	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 330374-001 848480-001 794390-409 330020-012 329358-001 794380-208 	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 9 2 9 2 9 2 9 1	OWNER OWNER OWNER SUPPLIED BY GC GC OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER	GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174         175         176         177         178         179	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NON-DISCRIMINATING SUMP SENSOR 1/2" DIA. X 10' LONG COPPER BONDED GROUND ROD #4 AWG STRANDED BARE COPPER GROUND WIRE ACORN NUT 4" CLAMPS (RATED FOR UNDERGROUND USE)	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 312020-952 330374-001 848480-001 794390-409 330020-012 329358-001 794380-208 	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 1 1 3 2 9 2 9 2 9 9 2 9 9 2 9 1 1 AS REQ'D	OWNEROWNEROWNERSUPPLIED BYGCGCOWNER<	GC GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174         175         176         177         178	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NON-DISCRIMINATING SUMP SENSOR 1/2" DIA. X 10' LONG COPPER BONDED GROUND ROD #4 AWG STRANDED BARE COPPER GROUND WIRE ACORN NUT 4" CLAMPS (RATED FOR UNDERGROUND USE) INTERCOM MASTER UNIT	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330020-012 329358-001 794380-208   78-6911-4796-7	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 5 1 1 3 2 9 1 2 9 9 2 9 9 2 9 9 1 1 AS REQ'D	OWNEROWNEROWNERSUPPLIED BYGCGCOWNER	GC         GC         GC         INSTALLED BY         GC         GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174         175         176         177         178         179	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NON-DISCRIMINATING SUMP SENSOR 1/2" DIA. X 10' LONG COPPER BONDED GROUND ROD #4 AWG STRANDED BARE COPPER GROUND WIRE ACORN NUT 4" CLAMPS (RATED FOR UNDERGROUND USE)	FRANKLIN FUELING FRANKLIN FUELING FRANKLIN FUELING RICAL MAKE  VEEDER ROOT VEEDER ROOT	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 330374-001 848480-001 794390-409 330020-012 329358-001 794380-208  	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 5 1 1 3 2 9 2 9 2 9 9 2 9 9 2 9 1 1 AS REQ'D 1 1 3 2 9 1 1 3 2 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 1 5 5 1	OWNEROWNEROWNERSUPPLIED BYGCGCOWNER<	GC GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174         175         176         177         178         179         181	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT DESCRIPTION EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NON-DISCRIMINATING SUMP SENSOR 1/2" DIA. X 10' LONG COPPER BONDED GROUND ROD #4 AWG STRANDED BARE COPPER GROUND WIRE ACORN NUT 4" CLAMPS (RATED FOR UNDERGROUND USE) INTERCOM MASTER UNIT	FRANKLIN FUELING         FRANKLIN FUELING         FRANKLIN FUELING         RICAL         MAKE            VEEDER ROOT         VEEDER ROOT </td <td>303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330020-012 329358-001 794380-208   78-6911-4796-7</td> <td>25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 9 2 9 2 9 2 9 2 9 2 9 2 9 1 1 AS REQ'D 1 1 3 3 2 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 5 1</td> <td>OWNEROWNEROWNERSUPPLIED BYGCGCOWNER</td> <td>GC         GC         GC         INSTALLED BY         GC         GC</td>	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330843-001 312020-952 330020-012 329358-001 794380-208   78-6911-4796-7	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 5 1 1 5 1 1 3 2 9 2 9 2 9 2 9 2 9 2 9 2 9 1 1 AS REQ'D 1 1 3 3 2 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 5 1	OWNEROWNEROWNERSUPPLIED BYGCGCOWNER	GC         GC         GC         INSTALLED BY         GC         GC
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141         142         ITEM         160         161         162         163         164         165         166         167         168         169         170         171         172         173         174         175         176         177         178         179         181         182         183	ELECTROFUSION ENTRY SEAL FOR 2" SINGLE WALL PIPE OR 1 1/2" DOUBLE WALL PIPE 3/4" RIGID ENTRY BOOT FOR ROUND SUMPS, FOR CONDUIT 2" FRP ENTRY BOOT FOR PRODUCT PIPING AT TANKS ELECT EXPLOSION PROOF JUNCTION BOX SEAL OFF TLS-350 PLUS INTERNET CARD 4 INPUT PROBE INTERFACE MODULE MAG ONE PLUS PROBE - 8' MAG PLUS FLOAT KIT - GASOLINE WITH 5' CABLE MAG PLUS FLOAT KIT - DIESEL WITH 5' CABLE 4" CAP & RING KIT 6 INPUT PLLD MODULE 3 OUTPUT PLLD MODULE PLLD (PRESSURE LINE LEAK DETECTOR) INTERSTITIAL SENSOR FOR DRY ANNULAR SPACE SUMP SENSOR MOUNTING KIT 8 INPUT LIQUID SENSOR MODULE NON-DISCRIMINATING SUMP SENSOR 1/2" DIA. X 10' LONG COPPER BONDED GROUND ROD #4 AWG STRANDED BARE COPPER GROUND WIRE ACORN NUT 4" CLAMPS (RATED FOR UNDERGROUND USE) INTERCOM INFUT/OUTPUT 4 STATION CARD INTERCOM INFUT/OUTPUT 4 STATION CARD INTERCOM INFUT/OUTPUT 4 STATION CARD	FRANKLIN FUELINGFRANKLIN FUELINGFRANKLIN FUELINGRICALMAKEVEEDER ROOTVEEDER ROOTSIM3M3M3M3M	303-063-EIF REB-C-R-0075 FEB-075-M MODEL  848290-022 330020-424 329356-002 846390-107 846400-000 846400-001 312020-952 330843-001 312020-952 330843-001 330374-001 848480-001 794390-409 330020-012 329358-001 794380-208  78-6911-4796-7 78-6911-4796-7 78-8117-3900-8 78-9236-6513-3	25 6 3 <b>QTY</b> AS REQ'D AS REQ'D 1 1 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 1 1 3 2 9 2 9 2 9 2 9 1 1 AS REQ'D 1 1 3 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 5 5 1 1 1 1 1 5 5 1 1 1 1 1 5 5 1 1 1 1 1 1 3 2 2 1 1 1 1 1 1 1 1 1 1 1	OWNEROWNEROWNERSUPPLIED BYGCGCOWNER	GC GC GC INSTALLED BY GC GC GC GC GC GC GC GC GC GC GC GC GC
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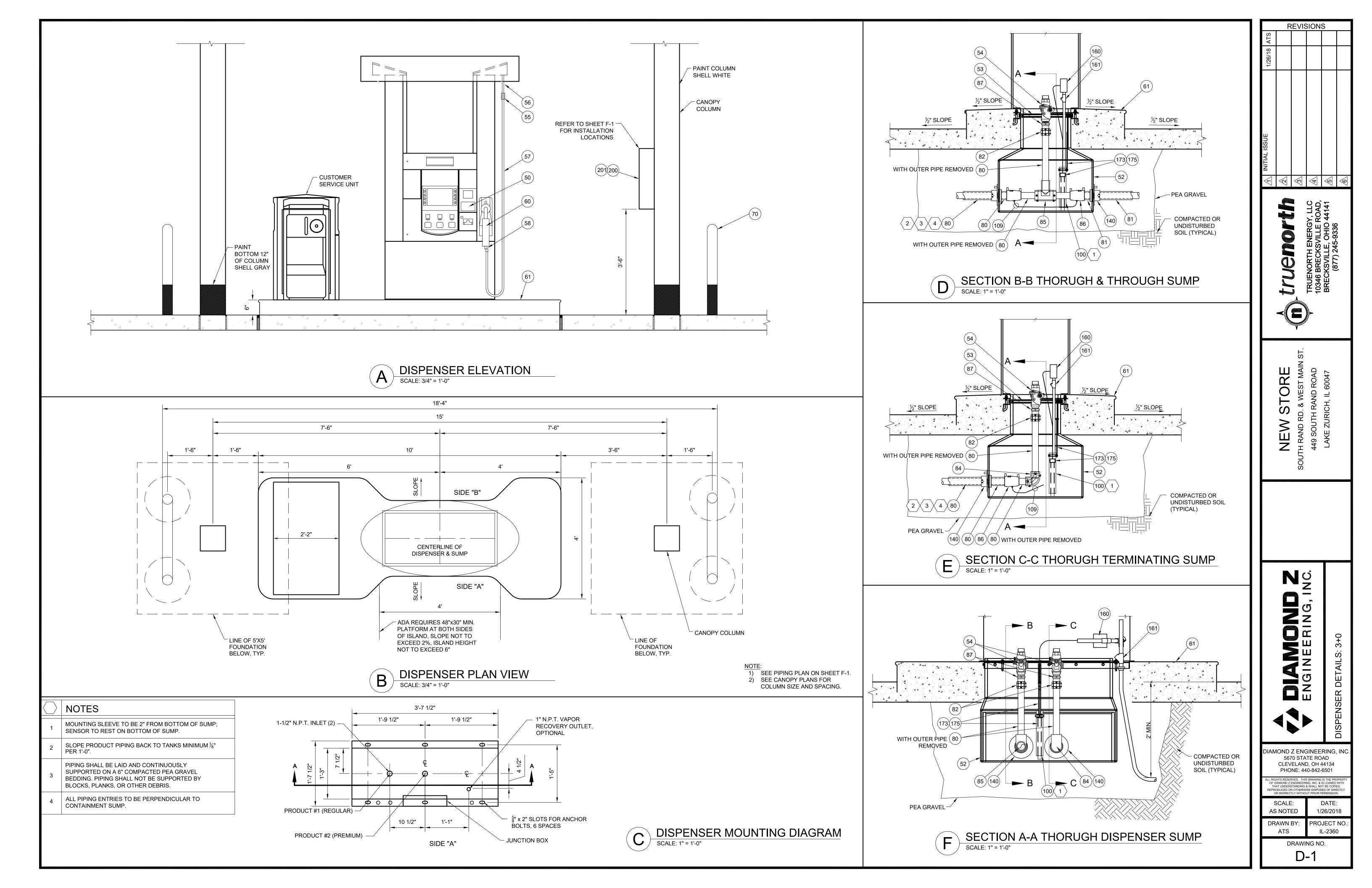


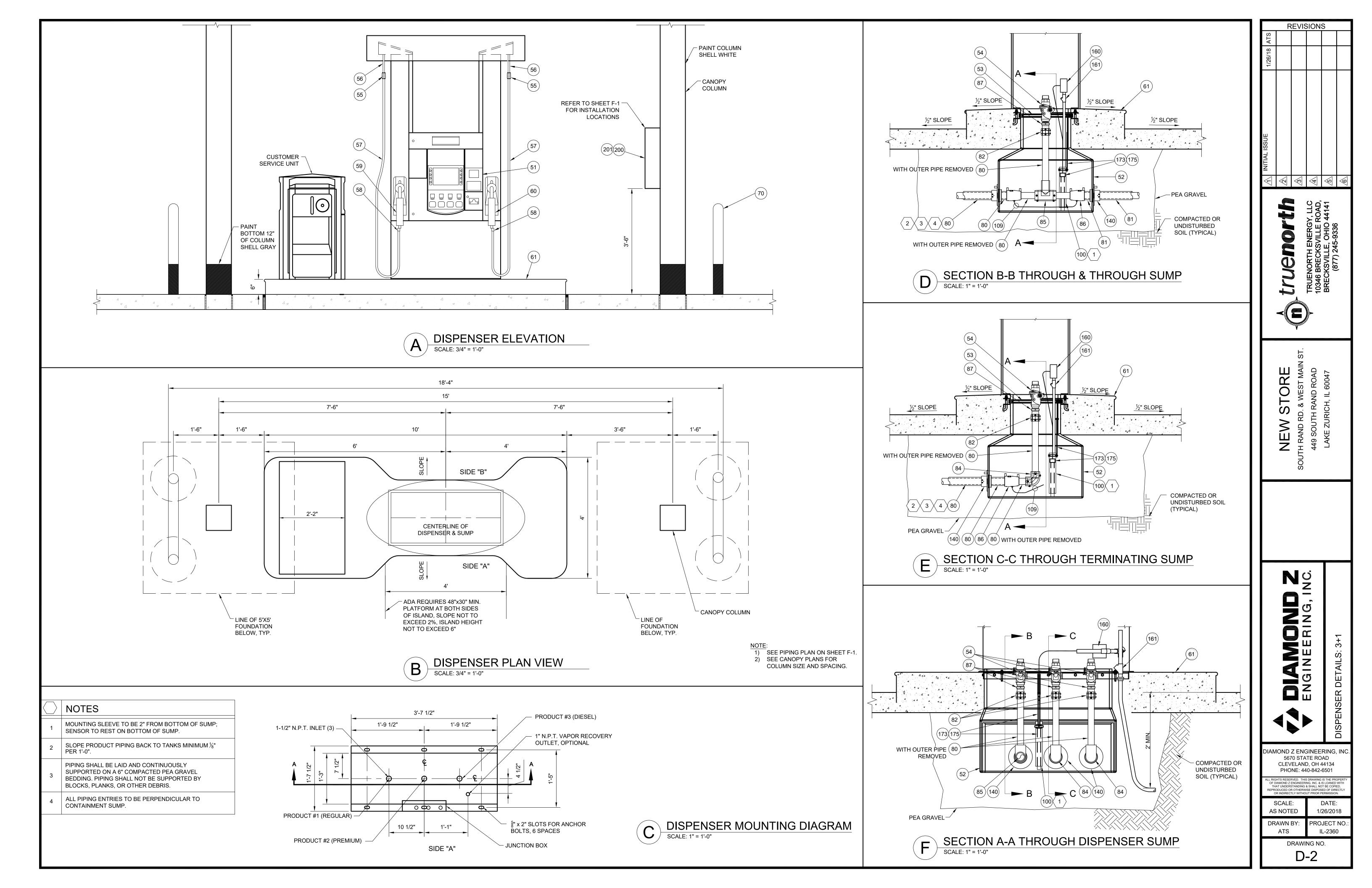




	(#)	NOTES: UST INSTALLATION			RFV	SION	S	
	1	SLOPE CONCRETE AWAY FROM ALL MANHOLES 1" RISE		ATS				
	2	OVER 12" RUN. REINFORCE CONCRETE SLAB AROUND MANHOLE WITH (4) #4 REBAR 60" IN LENGTH. PLACE REBAR 6" FROM SIDES OF MANHOLE. REINFORCING BARS TO BE NO LESS THAN 2"		1/26/18				_
	3	AND NO MORE THAN 4" FROM SURFACE. USE PEA GRAVEL CONSISTING OF NATURALLY ROUNDED AGGREGATE, MIN <sup>1</sup> / <sub>8</sub> " & MAX OF <sup>3</sup> / <sub>4</sub> " IN SIZE, FREE OF CLAY, SLAG, CINDERS, OR DEBRIS. ALL SUBSTITUTES MUST BE APPROVED BY MANUFACTURER'S & OWNER'S FIELD						
	4	REPRESENTATIVE. SLOPE PRODUCT PIPING BACK TO TANKS MINIMUM ½" PER 1'-0".	SSUF					
6	5	REAM ALL RISERS FOR FULL PIPE BORE.	NITIAI ISSUF					
	6	PIPING SHALL BE LAID AND CONTINUOUSLY SUPPORTED ON A 6" COMPACTED PEA GRAVEL BEDDING. PIPING SHALL NOT BE SUPPORTED BY BLOCKS, PLANKS, OR OTHER DEBRIS.			3	4	Ê 6	
0	7	ALL CONDUIT & PIPING ENTRIES TO BE PERPENDICULAR TO CONTAINMENT SUMP.				Y, LLC ROAD,	44141	
<u> </u>	8	PLYWOOD 48" X 48" X 3/4" PLACED TO ASSURE 2" CLEARANCE BETWEEN CONCRETE AND CONTAINMENT SUMP.				ENERG	:, OHIO 5-9336	
UIT	9	JUNCTION BOXES IN TANK SUMP TO BE MOUNTED AS HIGH AS POSSIBLE IN SUMP. CONDUIT & JUNCTION BOX TO BE OUTSIDE OF PERIMETER OF TANK ENTRY MANWAY.			truen	ΞŠ		
	10	MOUNTING SLEEVE TO BE 2" FROM BOTTOM OF SUMP; SENSOR TO REST ON BOTTOM OF SUMP.			L L	TRUE 10346	BRECKSVI (877	
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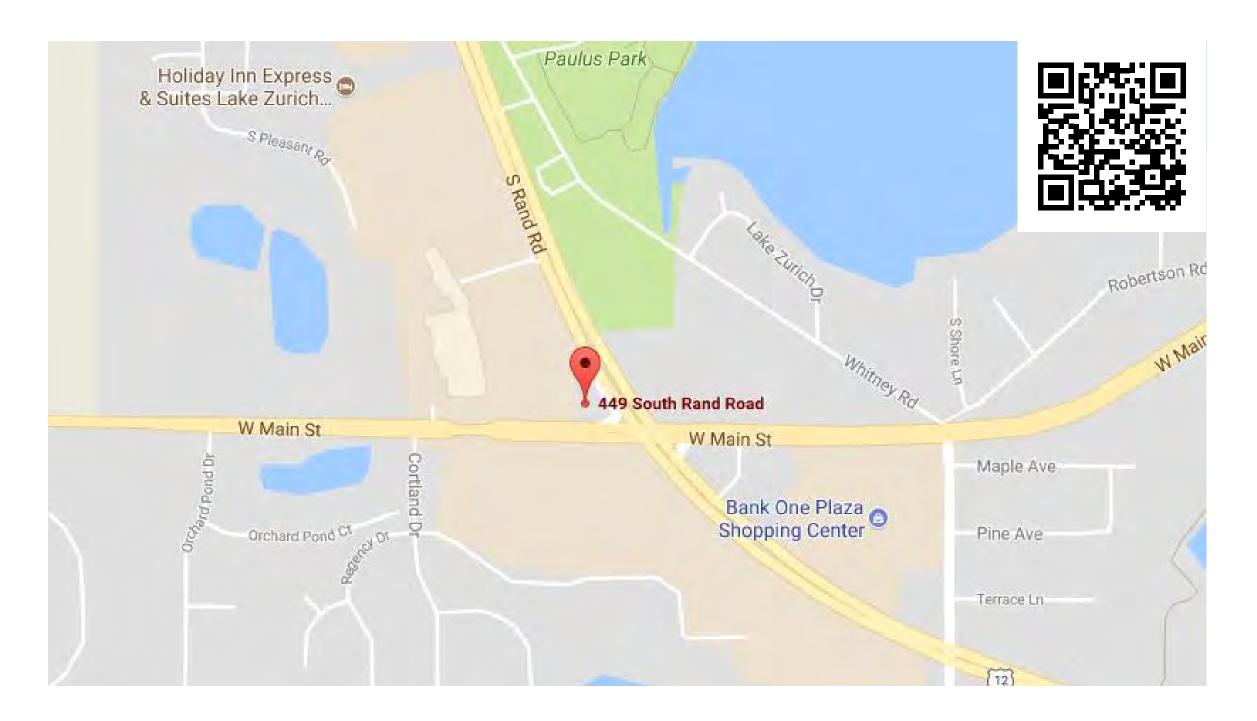
1340 KEMPER MEADOW DR. FOREST PARK, OH 45240 513-574-9500

## **TRUE NORTH**

## **449 SOUTH RAND RD.** LAKE ZURICH, IL





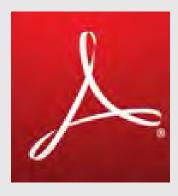




## **RL-4822-S1-R3** 12/07/17

## EXTERIOR LIGHTING LAYOUT

## **CHANGING THE INDUSTRY STANDARD** USING YOUR INTERACTIVE SITE PLAN



### TO USE THE INTERACTIVE FEATURES OF THIS PLAN, MAKE SURE YOU ARE **VIEWING IT IN ADOBE READER.**

IF YOU DO NOT HAVE ADOBE READER INSTALLED ON YOUR SYSTEM, IT IS AVAILABLE FOR DOWNLOAD AT THE FOLLOWING LINK: HTTPS://GET.ADOBE.COM/READER/

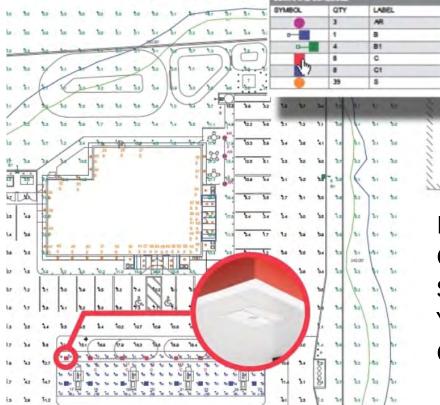
## HOW TO USE YOUR **INTERACTIVE SITE PLAN**





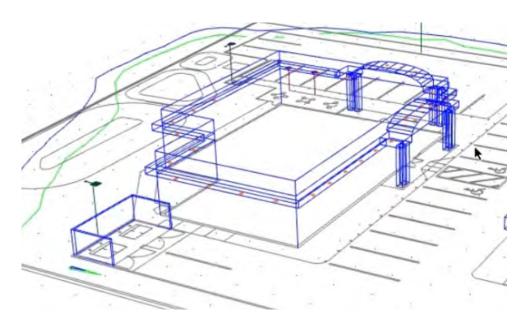
**CLICK OR SCAN** FOR INSTRUCTIONS

## **FIXTURE CALLOUTS**



BY ROLLING YOUR CURSOR OVER SYMBOLS IN THE SCHEDULE, YOU CAN VIEW VISUAL CALLOUTS OF EACH FIXTURE.

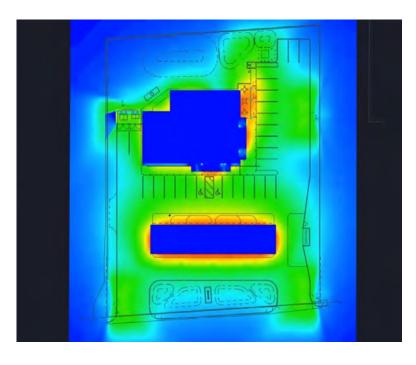
## **INTERACTIVE PLAN MODEL**



THE ISOMETRIC VIEW CAN BE CLICKED TO ACCESS AN INTERACTIVE 3D VERSION OF THE SITE PLAN.

**RIGHT-CLICK AND CHOOSE "DISABLE** CONTENT" TO RETURN TO THE ISOMETRIC PLAN VIEW.

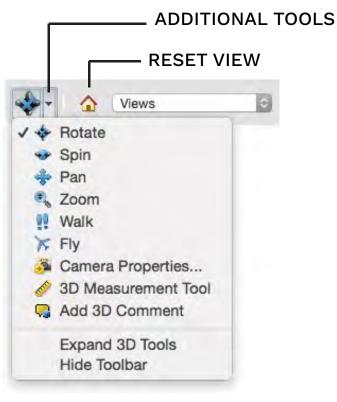
## **PSEUDO COLOR VIEWS**





## TO USE QR CODES, YOU CAN CLICK ON YOUR SCREEN OR SCAN WITH YOUR SMARTPHONE.

QR SCANNERS ARE AVAILABLE BY VISITING REDLEONARD.COM OR YOUR APP STORE.



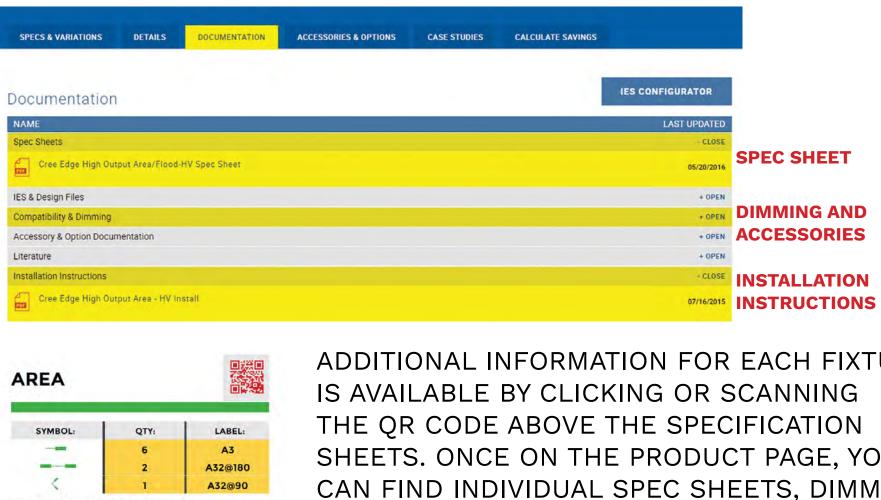
## SITE VIDEO



THE PSEUDO COLOR VIEWS CAN BE CLICKED TO ACCESS A SLIDESHOW WHERE YOU CAN PAN BETWEEN IMAGES FOR COMPARISON USING THE ARROWS.

RIGHT-CLICK AND CHOOSE "DISABLE CONTENT" TO RETURN TO THE PSEUDO COLOR PLAN VIEWS.

## **ADDITIONAL INFORMATION**



STR-LWY-3ME-HT-2-F-UL-WH-A-57K

CLICKING THE BLACK AND WHITE SITE IMAGE PLAYS A VIDEO THAT PANS AROUND THE ENTIRE SITE. YOU CAN PAUSE THE VIDEO AT ANY TIME FOR A BETTER LOOK.

**RIGHT-CLICK AND CHOOSE "DISABLE CONTENT" TO RETURN** TO THE DEFAULT IMAGE.

ADDITIONAL INFORMATION FOR EACH FIXTURE SHEETS. ONCE ON THE PRODUCT PAGE, YOU CAN FIND INDIVIDUAL SPEC SHEETS, DIMMING OPTIONS, ACCESSORIES AND ANY AVAILABLE INSTALLATION INSTRUCTIONS BY NAVIGATING TO THE "DOCUMENTATION" TAB.

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<sup>+</sup> 0.0	0.0	0.0	<sup>†</sup> ₀ <mark>0.1</mark>	ō <mark>0.1</mark>	Ⴆ <mark>ํ<mark>0</mark>.2</mark>	<sup>†</sup> 0 <mark>0.3</mark>	0 <b>0.3</b>	0 <mark>0.5</mark>	00.5	<sup>0</sup> 0.4	<sup>0</sup> 0.4	<sup>0</sup> 0.3	<sup>†</sup> d.2	<sup>†</sup> d.2	<sup>‡0</sup> ੳ.2	<sup>0</sup> <del>0</del> .2	<sup>0</sup> Ø.2	0 <mark>0</mark> .2 t	0 <mark>0.2</mark> ℃	<b>@</b> .2 <sup>†</sup> 0(	<b>2.2 <sup>†</sup>0</b> 2.1	2 <sup>†</sup> ₀0.2	2 ṫ0 <b>0</b> .3	⁺₀ <b>@</b> .5	⁺ō <b>͡@.4</b>	0.1 	<sup>†</sup> 0.1	<sup>+</sup> 0.0	80	<sup>†</sup> 0.0
<sup>†</sup> 0.0	<sup>+</sup> 0.0	0.1	<sup>†</sup> 0.1	<sup>+</sup> 0.2	<sup>+</sup> 0.6	1.8	<sup>+</sup> 2.9	3.8	<sup>+</sup> 3.9	2.9	2.1	0.8	0.5	0.4	0.4	0.4	0.4	0.4	).4 t	).4 <u>0</u> .	1 0.4	0.5	0.7	+3	2.4	1.0	<sup>†</sup> 0.2	0.1 0 1	<sup>†</sup> 0.0	0.0
<sup>+</sup> 0.0	<sup>+</sup> 0.0	0!1	<sup>†</sup> 0.1	<sup>†</sup> 0.3	<sup>+</sup> 0.8	<sup>+</sup> 1.9	<sup>+</sup> 3.5	+ A4 4.5	<sup>+</sup> 4.6	<sup>+</sup> 3.8	<sup>+</sup> 2.4	<sup>+</sup> 1.3	<sup>+</sup> 0.9	<sup>+</sup> 0.8	<sup>+</sup> 0.8	<sup>+</sup> 0.8	<sup>+</sup> 0.7	<sup>+</sup> 0.7 <sup>+</sup> 0	.7 <sup>†</sup>	0.7 <sup>†</sup> 0.	7 0.7	<sup>+</sup> 1.0	<sup>+</sup> 1.8	<sup>+</sup> 2.8	<sup>+</sup> 2.7	2.5	<sup>+</sup> 0.5	<sup>†0.2</sup> 0.1	<sup>†</sup> 0.1	<sup>†</sup> 0.0
<sup>†</sup> 0.0	÷.1	0!1	<sup>†</sup> 0.2	0.4	<sup>+</sup> 1.0	2.8	<sup>+</sup> 3.9	<sup>+</sup> 4.2	<sup>+</sup> 4.3	<sup>+</sup> 4.5	<sup>+</sup> 4.3	<sup>+</sup> 3.0	<sup>+</sup> 2.7	<sup>+</sup> 2.5	<sup>+</sup> 2.6	<sup>+</sup> 2.5	<sup>+</sup> 2.4	2.5 2	2.5 2	2.3 <sup>+</sup> 2.	2 <sup>+</sup> 1.8	1.4	<sup>+</sup> 1.4	<sup>+</sup> 1.8	<sup>+</sup> 3.3	2 <sup>+</sup> 4.1	<sup>‡</sup> 2.5	<sup>†</sup> 0.2	<b>).</b> 1∕₽.1	<sup>†</sup> 0.0
	0.1	0!1	¢.2	0.5	<sup>+</sup> 1.7	3	38 C	39 C	40 C	)	41 C	42 C	43 C	3	44 C	45 C	46 C	47 C	7	48 C	49 C		1.6	1.5	2.5	<sup>+</sup> 3.9	2.5	1.3	<b>0</b> .01	ō.o
<sup>†</sup> 0.0	> <sup>†</sup> 0.1	<b>0</b> .1	0.3	<sup>+</sup> 0.6	<sup>+</sup> 2.3	<sup>†</sup> 11	12 <b>1</b> 2	<b>†6</b> †17	17 16	• • • • • • • • • • • • • • • • • • •	6 <b>1</b> 7 1	8 <sup>†</sup> 17 <b>1</b> †1	<del>s</del> ≓¶6 <b>∎</b> e	6 <sup>1</sup> 7 <sup>1</sup> 7	13 <sup>†</sup> 14	↓15 ↓17	17 1 <b>7</b>	1 <b>6</b>	ti5 ti7	16 <b>1</b> 5 <b>1</b> 5	9 <b>1</b> 2 11	1 1	⊙ <sub>†</sub> ⊚	<b>(</b> ]3	1.3	<sup>+</sup> 3.2	<sup>‡</sup> 2.3	1.2 <b>0</b>	. <mark>5</mark> 0.2	0.0
teg	ð.1	. <b>6</b> .2	0.3	0.7	<sup>+</sup> 2.5	<sup>†</sup> 11	11 <b>–</b>	<sup>1</sup> 14 <sup>1</sup> 17	<sup>†</sup> 19 <sup>†</sup> 15	; <b>18</b> 1	7 17 1	9 <sup>1</sup> 7 <sup>1</sup> 4		4 <sup>1</sup> 19 <sup>1</sup> 19		<sup>+</sup> 14 <sup>+</sup> 17	<sup>1</sup> 19 <sup>1</sup> 17		<sup>+</sup> 14 <sup>+</sup> 19 <sup>-</sup>	17 13 🗖	<sup>•</sup> <sup>†</sup> 10 <sup>†</sup> 11		<sup>+</sup> 1.9	<sup>+</sup> 1.0	1.3	<sup>+</sup> 1.9	1.0	¢.0.5	<sup>†</sup> .2	( <sup>†</sup> 0.0
ō.9%	ý ō.1	<b>0</b> .1	0.3	<sup>+</sup> 0.6	<sup>+</sup> 2.0										$\begin{array}{c} 15 \\ 15 \\ 13 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14$					1 <u>3 12 1</u>			© ⊙ <sup>†</sup> 1.6	<b>@</b> 8	<sup>†</sup> 0.9	0.9	ō.4	0 <sub>0</sub> 32	ō.1	0.0
ō.0	0.1	<b>0</b> <sup>0</sup> . <b>?</b>	. <u>.</u>	<sup>†</sup> 0.8	<sup>+</sup> 1.6	5 C	5	6 C	7 C		8 C	9 C	C	,	C	C	13 C	C	4	15 C	16 C		• ( 1.8	• <u>+</u> 1.1	<sup>†</sup> 0.9	<b>0</b> .5	<sub>0.2</sub>	2 0.1	ð.1	<sup>†</sup> 0.0
Ō.0	<sup>+</sup> 0.1	0 <sup>0</sup> .2	<sup>†</sup> 0.4	<sup>+</sup> 1.2	<sup>+</sup> 1.5	<sup>+</sup> 1.4	<sup>+</sup> 1.8	<sup>+</sup> 2.0	<sup>+</sup> 1.8	<sup>+</sup> 1.9	<sup>+</sup> 1.9	<sup>+</sup> 1.9	<sup>+</sup> 1.9	<sup>+</sup> 1.9	<sup>+</sup> 1.9	<sup>+</sup> 1.9	<sup>+</sup> 1.8	<sup>+</sup> 1.9 <sup>+</sup>	1.8 <sup>+</sup>	.8 1.	7 <sup>†</sup> 1.6	<sup>+</sup> 1.5	<sup>+</sup> 2.1	<sup>+</sup> 2.3	 1.7 //	ō.7	0.2 0.1	ō	0.0	<sup>†</sup> 0.0
<sup>†</sup> 0.0	.1	ور م	<u>д</u> .,	<sup>+</sup> 1.8	<sup>+</sup> 2.2	1.4	<sup>+</sup> 1.3	1.2	<sup>+</sup> 0.9	<sup>+</sup> 0.8	, <sup>†</sup> 0.7	<sup>+</sup> 0.7	<sup>†</sup> 0.9	<sup>+</sup> 0.9	<sup>†</sup> 0.9	<sup>+</sup> 0.9	<sup>+</sup> 0.8	<sup>+</sup> 0.8 <sup>+</sup> 0		).7 <sup>†</sup> 0.	9 <sup>†</sup> 1.1	<sup>+</sup> 1.3	<sup>+</sup> 2.1	<sup>+</sup> 3.5	* 2,9	ō.8	<b>).2</b> 0.1	Ø(1	.0 0.0	<sup>†</sup> 0.0
<sup>†</sup> 0.0	<sup>+</sup> 0.1		<sup>†</sup> .3	27	<sup>+</sup> 3.9 4	<sup>+</sup> 2.6	<sup>+</sup> 1.7	<sup>+</sup> 1.2	<sup>†</sup> 1.1	<sup>+</sup> 0.7	<sup>†</sup> 0.6	Q.6	<sup>†</sup> 0.8	7 1.0 /	<sup>†</sup> 1.1 /	<sup>+</sup> 0.9	<sup>+</sup> 0.7	<sup>+</sup> 0.6 <sup>†</sup> 0.6	.5 <sup>†</sup> 0.5	).5 <sup>†</sup> 0.	7 <sup>†</sup> 1.1	<sup>+</sup> 1.5	<sup>+</sup> 2.7	3 A4 <sup>+</sup> 4.6 /	<sup>+</sup> 2.3	/0.2		.0	<sup>+</sup> 0.0	Į.
<sup>†</sup> 0.0	<sup>†</sup> 0.0	- - - - - - - - - - - - - - - - - - -	1.0	+ 2.6	+ 3.8	± + 4.0	<sup>+</sup> 3.5	* 2.4	1.4	0.6	1.0.4	0.6		<sup>+</sup> 2,4	<sup>+</sup> 2/2	<sup>+</sup> 1/5	¢.9	<sup>+</sup> 0.7 <sup>+</sup> 0.7	.6 <sup>†</sup>	).5 <sup>†</sup> 0.	7 <sup>†</sup> 1.1	<sup>+</sup> 1.8			, 2.6	/0.3 ₀₂		<u>у</u> ō.о	ō.o,	ν δ.ο
<sup>†</sup> 0.0		0. 0.1	). <b>1</b>	0.4	<b>/</b>					<sup>†</sup> 0.3			A	0	<sup>+</sup> 4.4	±1	1.5	<sup>†</sup> 1.2 <sup>†</sup>	i.o/ †	o.7/ <sup>†</sup> o.	3 <sup>†</sup> 1.5	<sup>+</sup> 2.4	<sup>+</sup> 2.7	<sup>+</sup> 2.4	<b>0</b> .	.4 0.2 /		<sup>†</sup> ο /	No of the second	<sup>†</sup> 0.0
τ			0.2 0.1	$\checkmark$		<sup>†</sup> 0.9					L		26 17 S G 27	20 G	<b>P</b> 18 G 21			89 1		.0 0.	, .7	<sup>+</sup> 0.9	<sup>+</sup> 1.5	/	⁄0.3 5 <sup>ō.1</sup>	//	/	<b>1</b> .0	ō.o	
				0.2 <sup>†</sup> 0.0	0.0							29 9/S	5		G	24 <sub>37</sub> S1 <sub>S1</sub>	25 S1 22	P		.2 0.0				4	5 0.1	ō.o	5.0 5.0 A	S	0.0 0.0	
))), U	+	+				р.	.1					31 /S 33	Сс	DNVEN	IENCE 5		G	19 G 23						2				≥ 0.0 ± -		
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Ō.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	0.0	TO.O	0.0	ō.0						0.0 0.0					3	S S		.5 <sup>†</sup> 0.4	/	0.1 0.1				0.0		0.0	<sup>†</sup> 0.0	0.0
<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	0.0	ō.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	7.0 7.0 7	0.0 <sup>†</sup>			36 S	• ±	4.9 Č	0.7 <sup>†</sup> 0.:	² <b>/0</b> !.1	0.1	0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0
<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0				<sup>†</sup> 0.0				<sup>†</sup> 0.0			0.0							0.1 <sub>0.1</sub>					<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0
<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	+ <b>0.0</b> 0.0	0.0 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.2 <sup>†</sup> 0.2	.2 Č	0.1 0. 0.1 0.		∕ <sup>†</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0 ILL
<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0 (	0 <u>.</u> 8 0.	<sup>†</sup> 0.1 <sup>†</sup> 0.1 <sup>†</sup> 0.1	0.1 <sup>†</sup> 0.	.0 <sup>†</sup> 0. <b>0</b>	) <sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>†</sup> 0.0	<ul> <li>₀.0</li> <li>iLL</li> <li>₀.0</li> <li>₀.0</li> </ul>
<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0 0.0 0.0	0.0 t	0.0 <sup>†</sup> 0.	0.0 <sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0
<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0 <sup>†</sup> 0.0	.o †	0.0 <sup>†</sup> 0.	0.0 <sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>†</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0	<sup>+</sup> 0.0

LUMINA SYMBO 

REV. BY DATE R1 BJM 9/18/17 R2 BJM 9/25/17 R3 BJM 12/07/17

DESCRIPTION REVISED PER CITY REQUIREMENTS REVISED CANOPY LIGHTING LEVELS PER CLIENT REQUEST

REVISED LAYOUT PER NEW SITE PLAN

#### NOTE: ALL AREA LIGHTS ON NEW 15 FT. POLES MOUNTED ON 2 FT. CONCRETE BASES

MINAIRE SCHEDU	ULE										
MBOL Q	QTY	LABEL	ARRANGEMENT	LUMENS	LATF	DIMMING LUMEN MULTIPLIER	LLF	ARR. WATTS	TOTAL WATTS	MANUFACTURER	DESCRIPTION
4	4	A4	SINGLE	6807	1.030	1.000	1.030	101	404	Cree Inc	BXSP C HT 4ME E 57K-UL WH + XA-SP1BLS
24	24	С	SINGLE	5493	1.040	0.810	0.842	40	960	BETALED, A DIVISION OF RU	CAN-228-SL-RM-03-E-UL-WH-525 (SET TO SWITCH POSITION 6)
	7	G	SINGLE	700	1.000	1.000	1.000	10	70	LSI INDUSTRIES	AD-150-10-CW-LED-UE-GWT-DO
· 1	1	S	SINGLE	968	1.000	1.000	1.030	10.88	119.68	Cree Lighting - Downlight	LR6 10L-35K-120V-A-DR + CR6
3	3	S1	SINGLE	792	1.000	1.000	1.000	15.86	47.58	Cree Inc	S-DL6-A-15L-40K-M + S-DL6T-A-SS-C

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## red leonard associates

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	CATION SUMM	ARV
LUM NO.		MTG. HT.
1	A4	17
2	A4 A4	17
3	A4 A4	17
4	A4 A4	17
5	C A4	17
6	c	15
7	c	15
8	c	15
9	c	15
9 10	c	15
10	c	15
12	c	15
12	c	15
13	C	15
14	C	15
15	C	15
10	G	15
17		12
19	G	12
20	G	12
	G	
21	G	12
22	G	12
23	G	12
24	S1	10
25	S1	10
26	S	10
27	S	10
28	S	10
29	S	10
30	S	10
31	S	10
32	S	10
33	S	10
34	S	10
35	S	10
36	S SI	10
37	S1	10
38	С	15
39	С	15
40	С	15
41	С	15
42	С	15
43	С	15
44	С	15
45	С	15
46	С	15
47	С	15
48	С	15
49	С	15

ILLUMINATION LEVELS ARE THE RESULT OF REQUESTS BY OTHERS RED LEONARD ASSOCIATES IS NOT RESPONSIBLE FOR INCIDENTS CAUSED BY INSUFFICIENT LIGHTING AND DOES NOT RECOMMEND THESE LEVELS FOR SECURITY AND SAFETY REASONS

FOOTCANDLE LEVELS CALCULATE	D AT GRAD	E USING IN	ITIAL LUME	N VALUES	
LABEL	AVG	MAX	MIN	AVG/MIN	MAX/MIN
PAVED AREA	1.71	8.9	0.1	17.10	89.00
PROPERTY LINE	0.18	0.5	0.0	N.A.	N.A.
UNDEFINED AREA	0.22	9.7	0.0	N.A.	N.A.
UNDER CANOPY	14.73	19	9	1.64	2.11

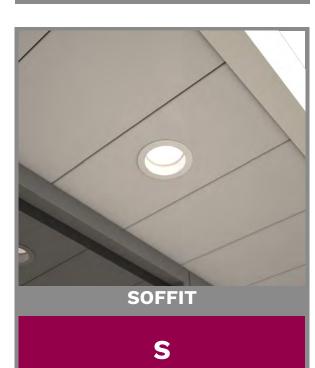
SCALE: LAYOUT BY:

TRUE NORTH LAKE ZURICH, IL DRAWING NUMBER: RL-4822-S1-R3



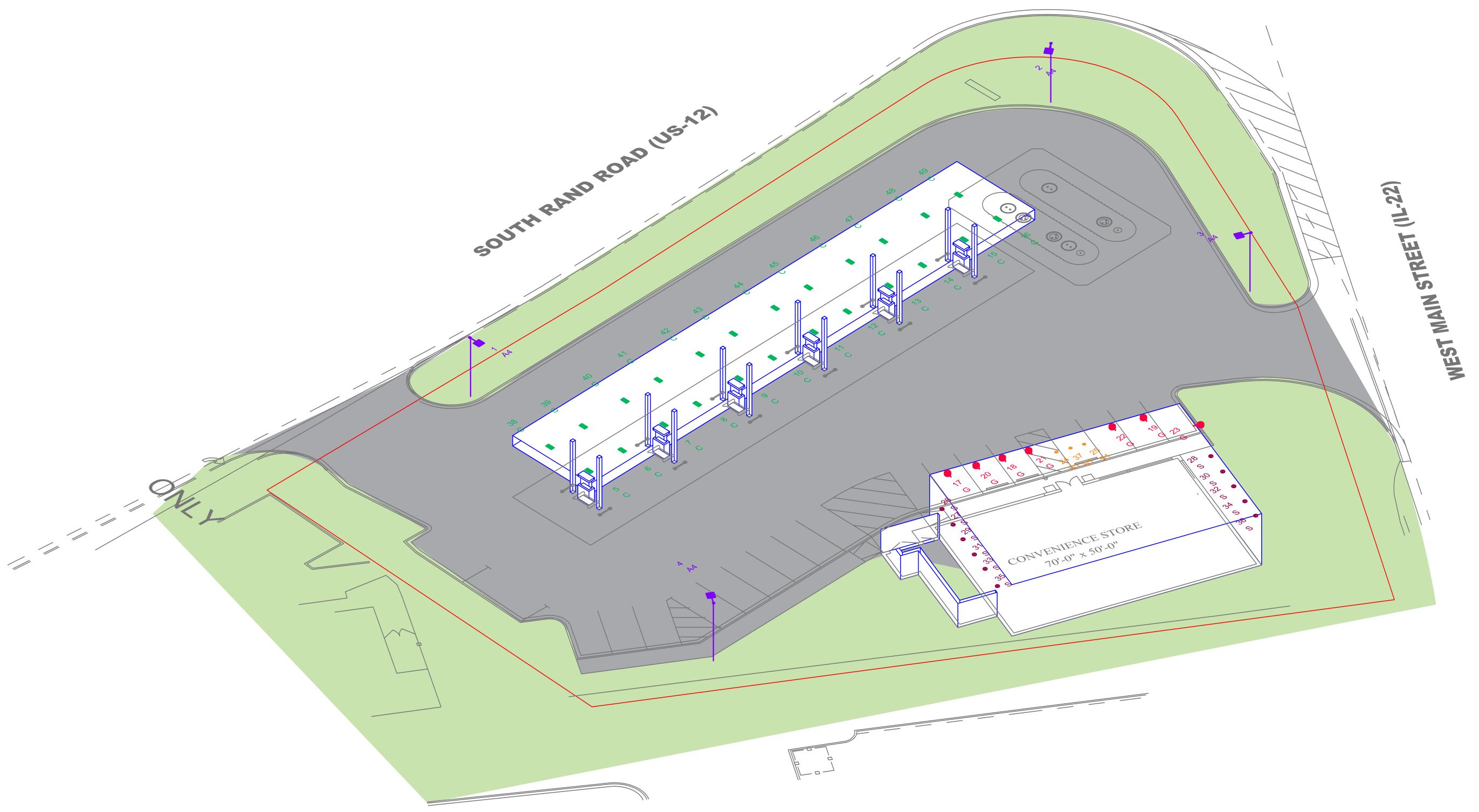
1" = 20' BJM DWG SIZE: DATE: D 8/16/17







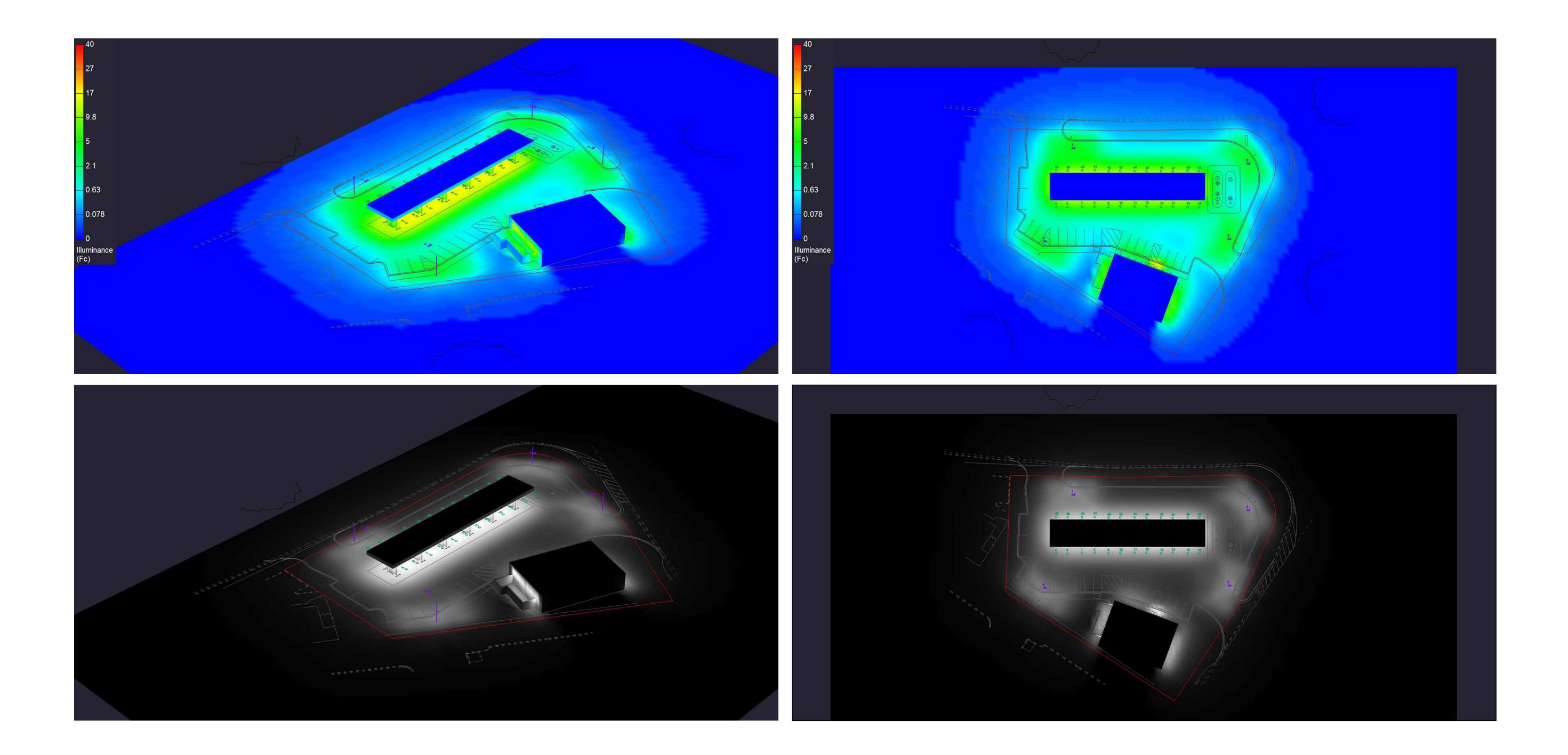




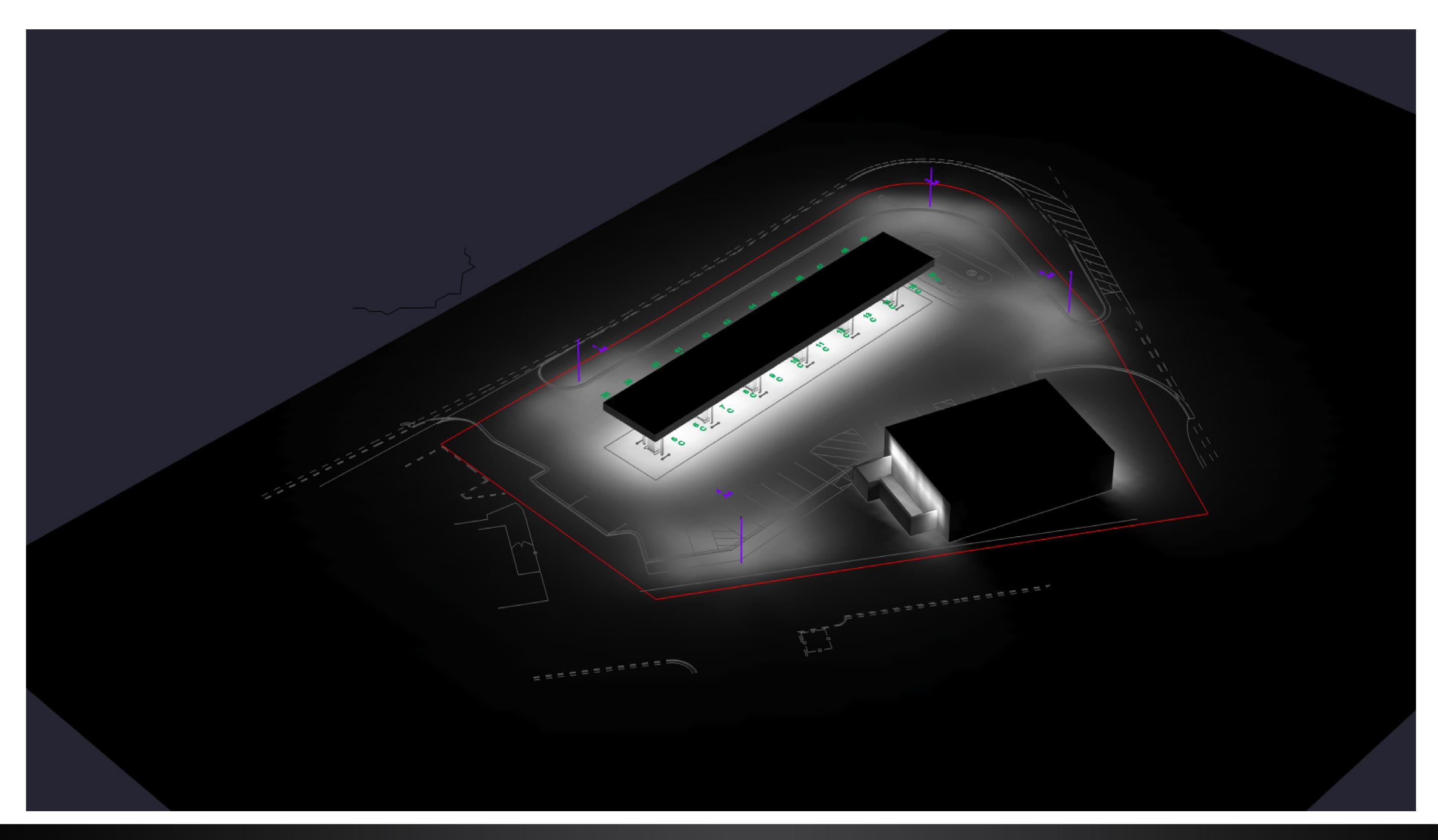
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## RL-4822-S1-R3

PAGE 4 OF 8

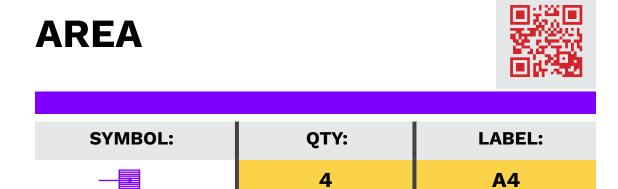


## **RL-4822-S1-R3**

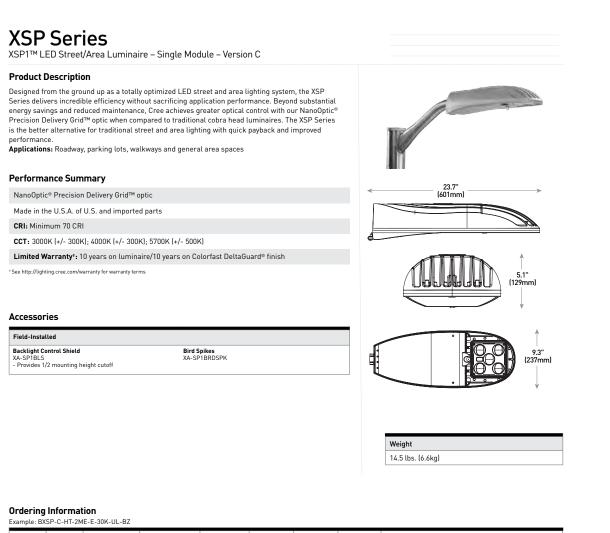


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## **RL-4822-S1-R3**



**BXSP C HT 4ME E 57K-UL WH + XA-SP1BLS** 



BXSP	С	нт		E		UL		
Product	Version	Mounting	Optic	Input Power Designator	сст	Voltage	Color Options	Options
BXSP	C	HT Horizontal Tenon	2ME* Type II Medium 2LG* Type II Long 3ME* Type II Medium 4ME* Type IV Medium	E 101W	30K 3000K 40K 4000K 57K 5700K	UL Universal 120-277V	BK Black BZ Bronze SV Sitver	<ul> <li>N-09 Utility Label and NEMA® Photocell Receptacle         <ul> <li>External wattage label per ANSI C136.15</li> <li>7-pin receptacle per ANSI C136.41</li> <li>Factory connected 0-10V dim leads</li> <li>Photocell and shorting cap by others</li> <li>Includes 00 option</li> <li>Refer to Field Adjustable Output spec sheet for details</li> </ul> </li> <li>O9 Field Adjustable Output         <ul> <li>Refer to Field Adjustable Output spec sheet for details</li> </ul> </li> <li>R MEMA® Photocell Receptacle         <ul> <li>7-pin receptacle per ANSI C136.41</li> <li>Factory connected 0-10V dim leads</li> <li>Photocell and shorting cap by others</li> </ul> </li> </ul>

Electrical Data\*

Input Power System Watts Designator 120-277V

101

Total Current (A

120V 208V

Recommended XSP Series Version C Lumen Maintenance Factors (LMF)

1.04 0.97

1.03 0.96

1.02 0.95

ata at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/- 10%

240V 277V

0.89 0.50 0.44 0.39

Initial LMF 25K hr Projected<sup>2</sup> LMF 50K hr Projected<sup>2</sup> LMF 100K hr Calculated<sup>3</sup> LMF LMF

1.01 0.94 0.88 0.82 0.77

1.00 0.93 0.87 0.81 0.76

000K and  $25^{\circ}C$  (77°F) are calculated per TM-21 based on LM-80 data and

-situ tuminaire tesung accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are thin six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ([DUT] i.e. the

packaged LED chip) In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 totat set duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip)

0.85

0.90 0.84 0.79

0.89 0.83 0.78

0.80

\* Available with Backlight Shield when ordered with field-installed accessory [see table above] NOTE: Price adder may apply depending on configuration

XSP1™ LED Street/Area Luminaire – Single Module – Version C

#### Product Specifications CONSTRUCTION & MATERIALS

- Die cast aluminum housing Tool-less entry Mounts on 1.25" (32mm) IP, 1.66" (42mm) 0.D. or 2" (51mm) IP, 2.375" (60mm) 0.D. horizontal tenon (minimum 8" [203mm] in length) and is (60mm) 0.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling) Luminaire secures with two mounting bolts
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze and silver are available

#### • Weight: 14.5 lbs. (6.6kg)

- ELECTRICAL SYSTEM Input Voltage: 120-277V. 50/60Hz
- Power Factor: > 0.9 at full load • Total Harmonic Distortion: < 20% at full load
- Class 1 driver • Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Controls by others
- 10V Source Current: 0.15mA
- **REGULATORY & VOLUNTARY QUALIFICATIONS** cULus Listed
- Suitable for wet locations • Certified to ANSI C136.31-2001, 3G bridge and overpass vibration
- standards Meets CALTrans 611 Vibration testing
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117 Meets Buy American requirements within ARRA
- DLC qualified. Exceptions apply when N-Q9 or Q9 (select adjustr
- options are ordered. Please refer to www.designlights.org/QPL for most current information
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT. Please refer to http://darksky.org/fsa/fsa-products/ for most current information

## CANOPY



ليتعلى والعتين

18.7 lt (8.5ka

23.9 lbs (10.8kg

17.2" 24.5 lbs. [437mm] [11.1kg]

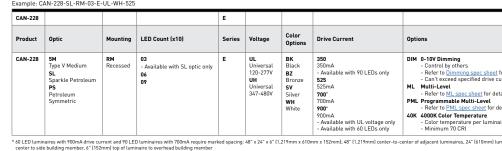
CREE ≑

Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

SYMBOL:	QTY:	LABEI
	24	С

#### CAN-228-SL-RM-03-E-UL-WH-525 (SET TO SWITCH POSITION 2)

#### 228 Series™ LED Recessed Canopy Luminaire Product Description Slim, low profile, easy mounting from below or above the deck. Luminaire sides are rugged cast aluminum with high performance extruded aluminum heat sinks specifically designed for LED. Luminaire mounts directly to the canopy deck and is secured in place with compression molded trin frame. Luminaire housing is provided with factory applied foam gasket and provides for a weathertight seal between luminaire housing and canopy deck. Suitable for use in single or double skin canopies with 12" (305mm) or 16" (406mm) wide panels. Designed for canopies of 16-22 gauge (maximum 0.065" Applications: Petroleum stations, convenience stores, drive-thru banks and restaurants, retail and Performance Summary Patented NanoOptic® Product Technology Made in the U.S.A. of U.S. and imported parts CRI: Minimum 70 CRI CCT: 4000K (+/- 300K), 5700K (+/- 500K) standard Sealed Die Cast Junction Box Limited Warranty<sup>+</sup>: 10 years on luminaire/10 years on Colorfast DeltaGuard<sup>®</sup> finish See http://lighting.cree.com/warranty for warranty terms ealed Extrud luminum Driver ompartment Accessories Field-Installed Upgrade Plate Kit 12.0" x 21.0" (305mm x 5: when replacing recessed canopies - Includes mounting chan XA-CT30F021W - 30 LED XA-CT30F021W - 40 LED - For use with canopies tha in height Upgrade Plate Kit – Plastic XA-CT30B047W - 30 LED XA-CT60B047W - 60 LED XA-CT90B047W - 90 LED Multi-Level Sensor A-CT30C241W - 30 LED A-CT60C241W - 60 LED A-CT90C241W - 60 LED Kits with backer plates fr XA-CT30F021WS - 30 LED XA-CT60F021WS - 60 LED XA-CT90F021WS - 90 LED LED Count Drive (x10) Dim. "A" Dim. "B" Weight 406mm] canopies that have a maximum of 10" (25 iameter or 10" x 10" (254mm x 254mm) cut hole Upgrade Plate Kit – Metal 130C642W - 30 LED 160C642W - 60 LED 190C642W - 90 LED 525/700mA luminaires. Painted Colorfa field cut to match luminaire XA-CTP26X24WT - 26" x 24" (660mm x (305mm) deck pane Hand-Held Remote 900mA A-CTP26X32WT 26" x 32" (660m 350mA 22.5" 21.9" 32.0 lbs. (572mm] (557mm] (14.5kg) 525/700mA 22.5" 21.9" 31.9 lbs. [572mm] [557mm] (14.5kg] Ordering Information ample: CAN-228-SL-RM-03-E-UL-W



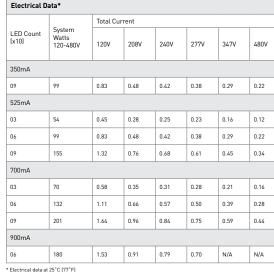
#### cULus US: lighting.cree.com/lighting T (800) 236-6800 F (262) 504-5415

228 Series™ LED Recessed Canopy Luminaire

#### Product Specifications CONSTRUCTION & MATERIALS

- Slim, low profile, easy mounting from below or above the deck
- Luminaire sides are rugged cast aluminum with high performance
   extruded aluminum heat sink specifically designed for LED Luminaire mounts directly to the canopy deck and is secured in place
- with compression molded trim frame Luminaire is provided with factory applied foam gasket and provides for
- a weathertight seal between luminaire housing and canopy deck
  Suitable for single or double skin canopies with 12" [205mm] or 16" nm) wide panels. Designed for canopies of 16-22 gauge (maximum
- 0.065" [1.65mm] thickness] Weathertight driver compartment is constructed of anodized extruded aluminum for exceptional corrosion resistance and thermal performance
- Integral weathertight junction box with 4.5" (114mm) IP threaded connection points. Rated for feed through 8 (4 in, 4 out) #12 AWG
- conductors
- Below ceiling serviceable driver tray for ease of upgrade or replacement Field adjustable drive current. Can't exceed drive current specified in part number. Exception is 90 LEDs at 350mA which can be adjusted to 525mA Exclusive Colorfast DeltaGuard<sup>®</sup> finish features an E-Coat epoxy primer
- with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available
- Weight: See Dimensions and Weight chart on page 1 ELECTRICAL SYSTEM
- Input Voltage: 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- Power Factor: > 0.9 at full load Total Harmonic Distortion: < 20% at full load</li>
- Maximum 10V Source Current: 30-60 LED: 0.15mA; 90 LED: 0.30mA Integral 10kV surge suppression protection standard To address inrush current, slow blow fuse or type C/D breaker should be used
- **REGULATORY & VOLUNTARY QUALIFICATIONS** cULus Listed
- Suitable for wet locations
- Meets FCC Part 15 Class A standards for conducted and radiated 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA DLC qualified when ordered with PS or SL optics with 60 LEDs and 525 or 700mA drive current. Please refer to www.designlights.org/QPL for most current information

US: lighting.cree.com/lighting T (800) 236-6800 F (262) 504-5415



Rev. Date: V2 08/03/2016

Recomme	nded 228 Serie	s™ Lumen Mair	ntenance Factor	rs (LMF) <sup>1</sup>
Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF
5°C (41°F)	1.04	0.99	0.97	0.95
10°C (50°F)	1.03	0.98	0.96	0.94
15°C (59°F)	1.02	0.97	0.95	0.93
20°C (68°F)	1.01	0.96	0.94	0.92
25°C (77°F)	1.00	0.95	0.93	0.91

intenance values at 20 of an exact of the calculation of ance with IESNA TM-21-11, Projected Values represent inter - if times (6X) the IESNA LM-80-08 total test duration (in f

In accordance with IESNA LM-80-08 total test dura



Iculated Values represent time durations that exceed six times ( for the device under testing ((DUT) i.e. the packaged LED chip)





## SOFFIT

SYMBOL:

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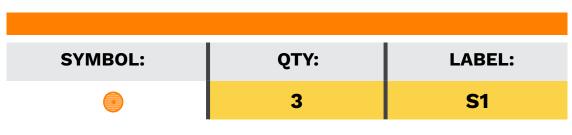
LR6 10L-35K-120V-A-DR + CR6



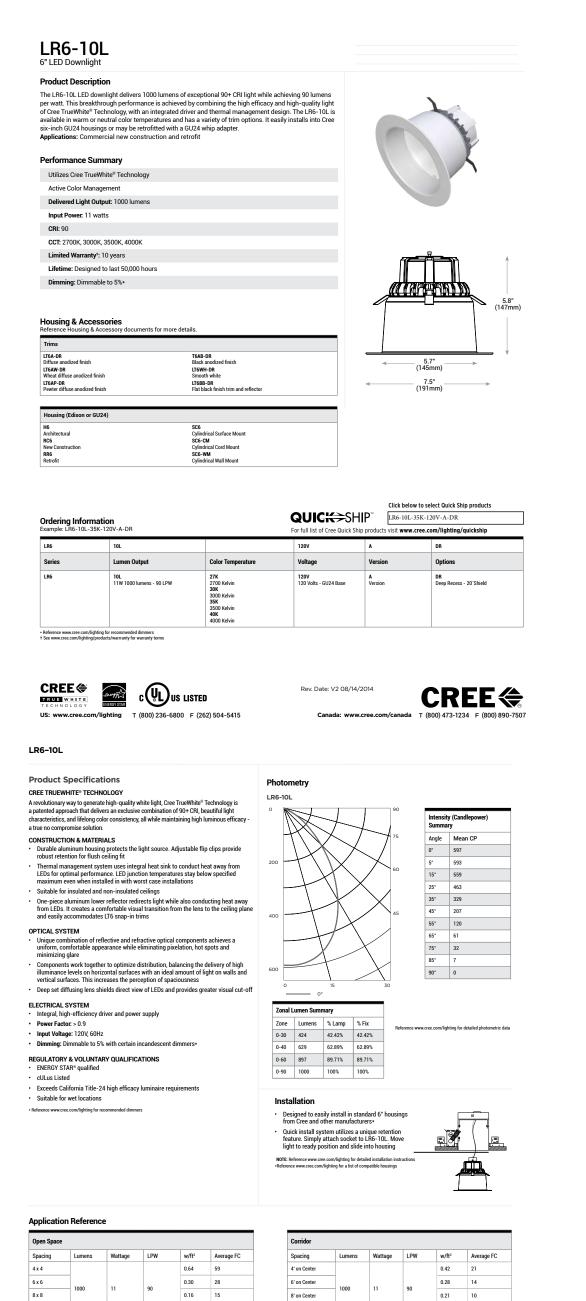
LABEL:

S

## SOFFIT



S-DL6-A-15L-40K-M + S-DL6T-A-SS-C



QTY:

11

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10 x 10

10' Ceiling, 80/50/20 Reflectances, 2.5 workplane. LLF: 1.0 Initial. Open Space: 50' x 40' x 10



	3	8.0" (203mm)			7.2" (184mr
PRODUCT DESCR					
packages, color temp reflector finish suppo performance. It's you	eratures a rted by a r r essentia	ts deliver beautiful 90+CRI ligh ind beam angles, each downlig ange of color trim options. Ess , comprehensive downlight por and renovation applications w	ht is rat entia® k tfolio fo	ed at 50,000 by Cree down or new const	) hours nlights ructior
PRODUCT SPECII	FICATIO	NS			
OVERVIEW					
<ul> <li>Initial Delivered Lur</li> <li>Input Power: 12-84</li> <li>CCT: 2700K, 3000K, 300K, 300K, 300K, 300K, 300K, 300K, 300K, 300K,</li></ul>	Watts 3500K, 400	ОК		<ul> <li>CRI: 9</li> <li>Contro to 10%</li> <li>Limite</li> </ul>	ols:0/1
	aire is com	<b>l</b> posed of two components that m 'K + <b>Trim</b> : S-DL6T-N-SSC	ust be o	ordered sepai	-ately:
HOUSING (TRIM MUS	T BE ORDI	ERED SEPARATELY)			
S-DL6					
PRODUCT	SIZE	INITIAL DELIVERED LUMENS*	сст		vo
			0.714	00001/	

ESSENTIA<sup>®</sup> | <sup>by</sup> CREE <del>\$</del>

19	S-DL	6	11L	12W, 1,030 lumens	27K	2700K	Blank
E	Essentia® by Cree	6"	15L	14W, 1,210 lumens	30K	3000K	Universal 1
	Downlight		24L	23W, 1,920 lumens	35K	3500K	
			34L	33W, 2,880 lumens	40K	4000K	
			42L	42W, 3,560 lumens			
			50L	48W, 4,180 lumens			
			63L	56W, 5,070 lumens			
			75L	72W, 6,130 lumens			
			84L	84W, 6,790 lumens			
		· ·	·		·		
Γ.							
1	TRIM (HOUSING MU	SIBEURD	EREDS	EPARATELY)			
6	S-DL6T						
1 ~	DEGI						

PRODUCT	BEAM	FINISH	REFLECTOR COLOR	
		SS Semi-Specular Painted (For White Color) VNLIGHT ERED LUMENS	C Clear BF CG Champagne Gold PE W** White Wi B Black W	

#### PRODUCT SPECIFICATIONS

ONSTRUCTION & MATERIALS	REGULATORY & VOLUNTARY G
Semi-specular clear reflector/flange finish, standard Multiple reflector/flange colors available Light engine, optics and driver accessible from below ceiling Heavy-gauge formed steel housing Mounting brackets are adjustable from above or below the ceiling Ten 1/2" and two 3/4" knockouts with pry-outs Eight knockouts with Romex® cable clamp	<ul> <li>cULus Listing pending</li> <li>Suitable for damp locations</li> <li>Suitable for thru-wiring 8#12.</li> <li>Thermally protected Type NOI the NEC and UL 1598</li> <li>Designed for indoor use</li> <li>Meets FCC Part 15, Subpart E and radiated emissions</li> </ul>
LECTRICAL SYSTEM	<ul> <li>RoHS compliant. Consult fact</li> </ul>
Power Factor: > 0.9 Total Harmonic Distortion: < 20% at full load Input Voltage: 120-277V, 50/60Hz Operating Temperature Range: 0°C - +35°C (32°F - +95°F)) 10V Source Current: 1.00mA	
CCESSORIES	
-CHANNEL HANGER BARS BH30C • Pair of 30" (762mm) rigid 3/4" x 1/2" (19mm x 13mm) c-channel bars BH22Cc-1	<b>T-BAR CLIPS</b> RARC7 • Set of four • For use with RBH24C-1 hange

R	BH24C-1
•	Pair of 24" (610mm) x 1-1/2" (38mm) x 1/2" (13mm) standard c-channel bars

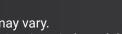
#### ELECTRICAL DATA\*

Initial	System	То	Total Current						
Delivered Lumens	Watts 120-277V	120V		208V		240V	277\	/	
11L	12	0.1	10	0.06		0.05	0.04		
15L	14	0.1	12	0.07		0.06	0.05		
24L	23	0.1	19	0.11		0.10	0.08		
34L	33	0.2	28	0.16		0.14	0.12		
42L	42	0.3	35	0.20		0.18	0.15		
50L	48	0.4	40	0.23		0.20	0.17		
63L	56	0.4	47	0.27		0.23	0.20		
75L	72	0.6	50	0.35		0.30	0.26		
84L	84	0.7	70	0.40		0.35	0.30		
<sup>6</sup> Electrical data 120-277V +/-10 BEAM ANGI		al w	attage ma	y differ	by +/-	10% when (	operating b	etwe	
Initial Deliv	ered Lumens		Beam	Angle	;				
				м			W		
111 _ 2/ 1			1/.°		22°		1.7°		

CCT

2700K

0.87		0.93		
		ESSENTIA B ACTORS (LM		
Ambient	Initial LMF	25K hr Projected² LMF	50k Cal LM	



0.93

0.91

0.90

0.89

10' on Center

10' Ceiling, 80/20/50 Reflectances, Light levels on the ground. LLF. 1.0 Initial. Corridor: 6' Wide x 100' Long

0.11 10

0.18 9

CCT MULTIPLIERS (90 CRI)

## **RL-4822-S1-R3**

**6" ROUND DOWNLIGHT** 1,030-6,790 INITIAL DELIVERED LUMENS

7.2"

VOLTAGE

,	INITIAL DELIVERED LUMENS	DIM "A"
	11L, 15L, 24L	6.8" (172mn
	34L	6.8" (173mn
$\mathcal{I}$	42L	7.3" (186mn
	50L, 63L	9.7" (247mn
	75L	9.8" (248mn
	84L	10.5" (268m

cy up to 91 lumens per watt. Available in a variety of lumen 50,000 hours and features a premium quality self-flanged e downlights are engineered to provide outstanding value and construction and renovation applications. ated ceilings or where insulation can be kept 3" from housing

Controls: 0/1-10V dimming down to 1% and Triac dimming down Limited Warranty<sup>+</sup>: 5 years

	CONTROLS
20-277 Volt	Blank 0/1-10V and Triac Dimming
	FLANGE COLOR
Bronze Pewter Wheat	Blank Matching Flange WF*** White Flange

#### LUNTARY QUALIFICATIONS

viring 8#12AWG-90°C

ed Type NON-IC in accordance with Article 410 of

, Subpart B, Class A standards for conducted Consult factory for additional details

24C-1 hanger bars

	3000K	3500K	4000K				
	0.93	0.93	1.00				
D ESSENTIA BY CREE DOWNLIGHT LUMEN							

Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Calculated³ LMF	75K hr Calculated³ LMF	100K hr Calculated <sup>3</sup> LMF		
25°C	1.00	0.94	0.89	0.84	0.80		
Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing In accordance with ESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip) In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (IDUT) i.e. the packaged LED chip)							

## red eonard associates

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isaac.cox@redleonard.com t. 573-355-1765

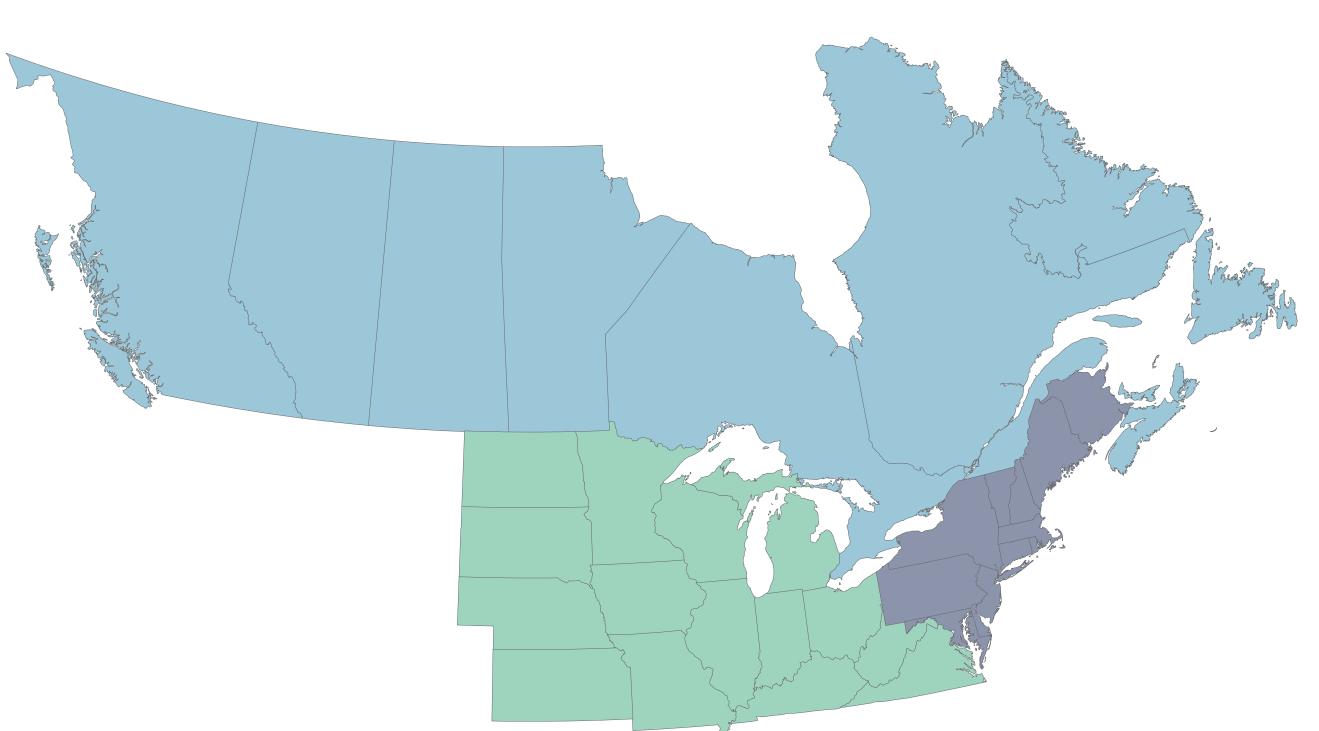
OHIO JAYME LEONARD jayme.leonard@redleonard.com t. 513-574-9500

> MARK TRAU mark.trau@redleonard.com t. 440-463-9196

CONNECTICUT MARK RITTER mark.ritter@redleonard.com t. 203-565-9801

**NEW YORK** PAUL KULICAMP paul.kulicamp@redleonard.com t. 646-660-2750

> PAUL WRIGHT paul.wright@redleonard.com t. 518-859-3400



DIRECT ACCESS. ANYWHERE. ANYTIME. ON ANY DEVICE.



OR CONTACT YOUR LOCAL RED LEONARD ASSOCIATES REPRESENTATIVE TO JOIN



#### NORTHEASTERN REGION







CLICK OR SCAN FOR INFORMATION



## **CREE LIGHTING PRODUCT CATALOG**

CLICK OR SCAN FOR INFORMATION



## **CREE PETROLEUM** UPGRADE GUIDE



CLICK OR SCAN FOR INFORMATION

NanoOptic® **TECHNOLOGY** 

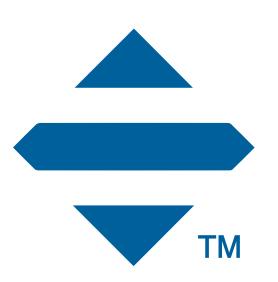


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**IP RATINGS** DEMYSTIFIED



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**CLICK** OR SCAN FOR INFORMATION

## CREE PETROLEUM **APPLICATION GUIDE**



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## CREE TRUEWHITE® & CRI (COLOR RENDERING INDEX)



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CLICK OR SCAN FOR INFORMATION



CHANGING THE INDUSTRY STANDARD WWW.REDLEONARD.COM

#### Brand Standards Bulletin

**BSB 15-01** 

Region of Origin: NA Applicable Areas: North America

#### Date: February 1, 2015

#### Title: Refresh of the North American Dispenser Graphics

The base US dispenser graphic (Livery), which has been integrated into Canada in recent years is now approximately 10 years old with only a minor change in 2009. Additionally, the dispenser V-Power door graphics still utilizes the "wave" element which is an obsolete design and is disconnected with the other V-Power graphics on the site (e.g. PID Fuels Panel, Grade labels and POP). Lastly, the 2009 update removed the Pecten and "Quality Fuels" from the valance leaving only the pump number. We have designed and field trialed a refreshed version of the dispenser livery which accomplishes the following:

- Updates the dispenser V-Power Graphic to be aligned with the current Visual Identify communications guidelines and the other V-Power element on the site.
- Relocates the dispenser V-Power graphics from the door panel to the valance which provided for better visibility from the street especially when vehicles fueling.
- The Pecten is restored to the dispenser valance.
- The current door panel graphic is replaced with the standard global tri-color graphic which provided for one design for the manufactures throughout the globe for all dispensers regardless if Shell V-power is sold thru that dispenser.







As a result of this trial, **effective immediately**, we will **transition** to these new graphics as follows:

- NTI's, KDR's, Competitive Conversions will use the new graphics as described in this bulletin
- Contract renewal sites where the existing dispenser graphics are being refreshed will use the new graphics on this bulletin. Mixing old and new graphics at a site should be avoided.
- For routine maintenance, If less than 50% of the dispensers on a site require refresh they can be refreshed in kind. However if more than 50% of the existing dispensers require refresh, then all the dispensers must be updated to the new graphics. Mixing old and new graphics at a site should be avoided.
- Note: New dispensers, existing dispensers at competitive conversions and upgrades of existing sites to RVIe after 1 March 2015 will be shipped with temporary red vinyl decals applied over the Nitro+ on the dispenser valences. A red vinyl decal will be shipped with the V-Power Nitro+ product grade label to be applied over the Nitro+ in the field by the installer/contractor at the time of installation. Once V-Power Nitro+ is introduced to the public, the red vinyl decals will cease to be applied or shipped by the supplier. These temporary decals must be removed from the valences and V-Power product grade labels upon the introduction of V-Power Nitro+ at the site.

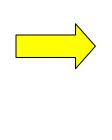
Note: Where the dispensers are updated, they are to be updated entirely to include the new door skirt graphics, updated grade labels and updated dispenser valence graphics. Individual mix and match of old and new version is not permitted.

#### Details of Changes:

#### Dispenser door graphics:

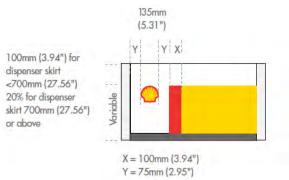
The dispenser door graphic will transition to the Global tri-color graphic which will be used for all dispensers dispensing Shell branded products.







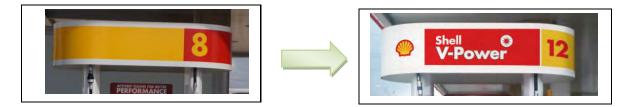
The graphics layout will vary based on the size and shape of the dispenser. Guidelines for the typical NA "H" frame dispenser are as follows:



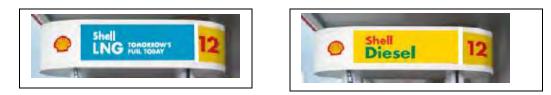
Guidelines for sizing and cropping of the tri-color graphic for all other types of dispenser designs can be found in the newly updated North American RVIE Manual.

#### Dispenser valance:

The dispenser valance changes from the generic Yellow/Red design to the V-Power graphics in its updated form to align with the PID Fuels Message V-Power panels. The new valance graphics also reinstates the Pecten in this more prominent position. This valance will be used on all dispensers that dispense V-Power fuels (gasoline or diesel).



For dedicated single product dispensers, the valance will used to identify the Shell branded product available at that dispenser (e.g. Shell LNG, and Shell Diesel).



NOTE: When Shell branded product dispenser such as Shell LNG is installed under a 3<sup>rd</sup> party branded canopy (e.g. T/A Branded Truck Canopy), the pump number can be eliminated if not needed. In this case, the background color will wrap around the end of the valance as shown below.



#### Pecten Orientation:

When installing the new valance and dispenser door graphics, each Pecten should be aligned and be closest to the ingress of the main traffic flow. To accomplish this, the dispenser door graphics are mirrored (left and right) and should be ordered accordingly.







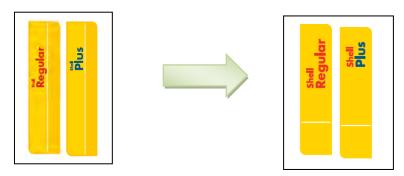


#### Dispenser Grade Decal Updates:

In conjunction with the refresh to the dispenser livery, Global Fuels has completed and update to product grade labels to bring them in alignment with the SBI Sub-Brand naming policy. The main element of the update is an increase on the size of the Shell prefix and this prefix will always be in red (except for Shell V-Power and alternative Fuels where it will remain white). In addition, the two-tone color coding for maingrade gasoline has been eliminated for simplicity.

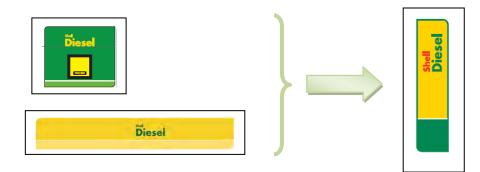
#### Maingrade Dispenser Grade Decals (US Only):

The Maingrade decals have been updated to eliminate the two-tone color and the specification has been clarified to use the actual 3M and Avery vinyl references vs the PMS reference so the yellow is the true RVI yellow that will match the other RVI elements on the site. The V-Power reference remains unchanged.

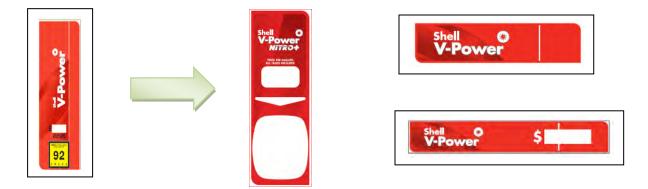


#### Branded Diesel Dispenser Grade Decals (US Only):

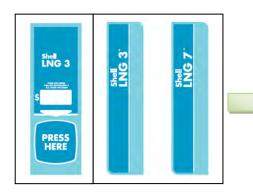
Currently there are two branded diesel decals. An all green is used when branded diesel is on a 3+1 dispenser alongside the three gasoline grades. An all yellow is used when branded diesel is used on a single product dedicated diesel dispenser. These two versions are replaced with one branded diesel grade label which is two-toned yellow and green.

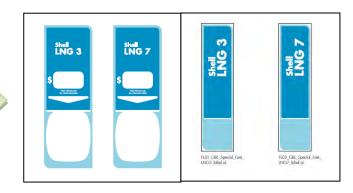


V-Power Dispenser Grade Labels (US Only):



Branded Specialty Product Dispenser Grade Decals (US and Canada):





#### <u>How to Order:</u>

These updates have been communicated to the authorized suppliers of these items. Any new orders will be compliant with this refresh. Therefore you will need to specify you need the legacy graphics when be placing orders for partial replacements (less than 50% of the site) at existing locations.

#### Questions:

Please direct questions regarding the items in this bulletin as follows:

#### General Branding and Technical questions:

Greg Morrison at 317.688.7005 or gregory.Morrison@shell.com

#### Ordering questions:

Rich Stoyko at 713.241.8292 or Richard.stoyko@shell.com

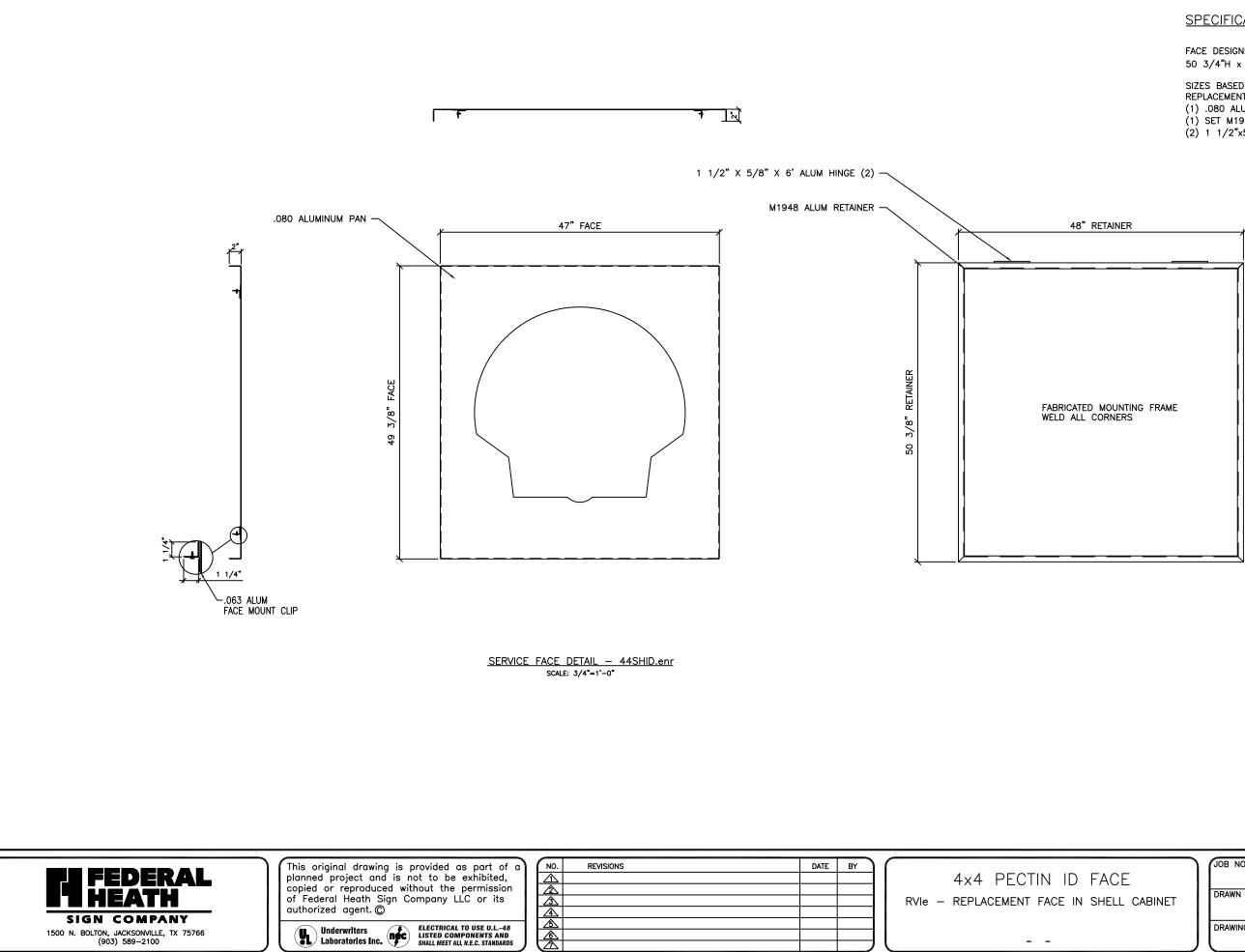
This Brand Standards Bulletin will be posted on Shell Source for future reference.

#### *Greg Morrison* Shell Oil Products US North American Engineering Advisor

BSB 15-01 Refresh of the North American Dispenser Graphics.doc

		Co	de Check	Form - Shell			
Customer Name:				Zonina:			
Store #:				Ū.			
Address:							
City:							
Olty							
Master Sign Program (MSP): Yes No	∠ıp.						
Master Sign Program (MSP): Yes No							
			Can				N/A
Is dimensional yellow fascia allowed?	Yes	No 🗌 🛛		nber of signs allowed:			
Is LED red bar allowed?	Yes	No 🗌		timum SF of signage allowed:			
If yes, are LED red bars considered a sign?	Yes	No		v many canopy sides can hav	e signs:		
Can the canopy pecten extend above roofline?	Yes	No		trictions or Conditions: lor, illumination, materials, etc.			
Are there any color requirements/restrictions?	Yes	No					
Are "canopy" signs considered "wall" signs?	Yes	No					
Formula used to calculate size of sign allowed:							
			Notes:				
			Freestand	ina Sians			N/A
Number of signs allowed:				LED pricers allowed?		Yes No	
Maximum SF allowed:				there any conditions for prici	ng?	Yes No	
				n signs be internally illuminate	-	Yes No	
Maximum Height:				trictions or Conditions for price	er and/or mes	sage panels:	
Setback: Clearance from grade?			ie. co	lor, height, content, brightness, etc.			
Is OAH calculated from grade or top base of sig							
	JII.						
Are freestanding signs allowed to be refaced?	Voc 🗌	No 🗌	Notes:				
0 0							
Is a permit required for sign reface?	Yes						
Can we replace cabinet with same SF?	Yes	No					
		Freest	anding Hi	gh- Rise Signs			N/A
Number of signs allowed:				LED pricers allowed?		Yes No	
Maximum SF allowed:				there any conditions for prici	-	Yes No	
Maximum Height:				n signs be internally illuminate			
Setback:				trictions or Conditions for pric	cer and/or mes	sage panels:	
Clearance from grade?							
Is OAH calculated from grade or top base of sig	n:						
Are freestanding signs allowed to be refaced?	Yes	No 🗌	Notes:				
Is a permit required for sign reface?	Yes	No 🗌					
Can we replace cabinet with same SF?	Yes	No 🗌					
			-	ditional Signs			N/A
Are illuminated logos allowed?	Yes	No 🗌		ber of signs allowed:			
Are vinyl logos considered a sign?	Yes	No		imum SF of signage allowed:			
Is vinyl striping allowed?	Yes	No 🔄	How	many building sides can hav	e signs:		
Are there any color requirements/restrictions? If "yes", explain below	Yes	No 🔄					
Do any decals on the top, door, or face of the ga	as pumps c	ount as si	gnage? Yes	No If yes, what are	e they consider	red?	
Notoo							
Notes:							

Permit Requirements						
Permits can be applied via: Mail Online In Person						
Permits can be obtained via: Mail Email In Person						
Persons who can apply for permits: Contractor Authorized Agent Registered Expediter						
License required: Business Contractor Electrical Other						
Signature required on application by:     Owner     Contractor     Agent						
Documents Required: Site Plan Elevations Sign Details Sealed Engineering Additional Professional Seals						
Number of Document Copies:						
Document Size: Cost of Permit:						
Length of time to secure permit: Other permit costs / fees:						
Are there any fees due upon submittal, if so how much?						
How long are permits good for after they are obtained: Can they be extended: Yes No						
Who physically reviews permits?       Contact Name:       Phone:						
What permit applications are required to put up a sign:						
Is a separate application needed for each permit type? Yes No						
Does a licensed electrician have to make the final connect? Yes No						
If electrical permit is required for ONLY the hook up of the sign, is a licensed electrician required to come in person? Yes 🗌 No 🗌						
SED's required for wall signs: Yes No Owner authorization (LOA) required: Yes No						
SED's required for free standing signs: Yes No Notice of Commencement (NOC) required: Yes No						
SED's required for re-facing signs: Yes No Original signatures required: Yes No						
SED's required for canopy signs:     Yes     No     No     No     No						
Is Landscaping required? (if "yes", provide requirements):						
Are any other review processes required prior to submitting for actual permits?						
If so please describe process?						
Are permits from the county and/or state required?						
Notes:						
Variance Procedures						
Are variances allowed? Yes No						
Likelihood of a variance being approved: % Approved: # Approved last year:						
Variance can be applied for by: Mail Authorized Agent Business Contractors						
Signature required on application: Owner Agent Lawyer						
Must attend variance hearing: Owner Agent Lawyer						
Documents required: Site Plan Elevations Sign Details Sealed Engineering Additional Professional Seals						
Quantity Required:						
Document color: Color B/W Document Size:						
Length of time to secure variance: Cost of variance:						
Notes:						



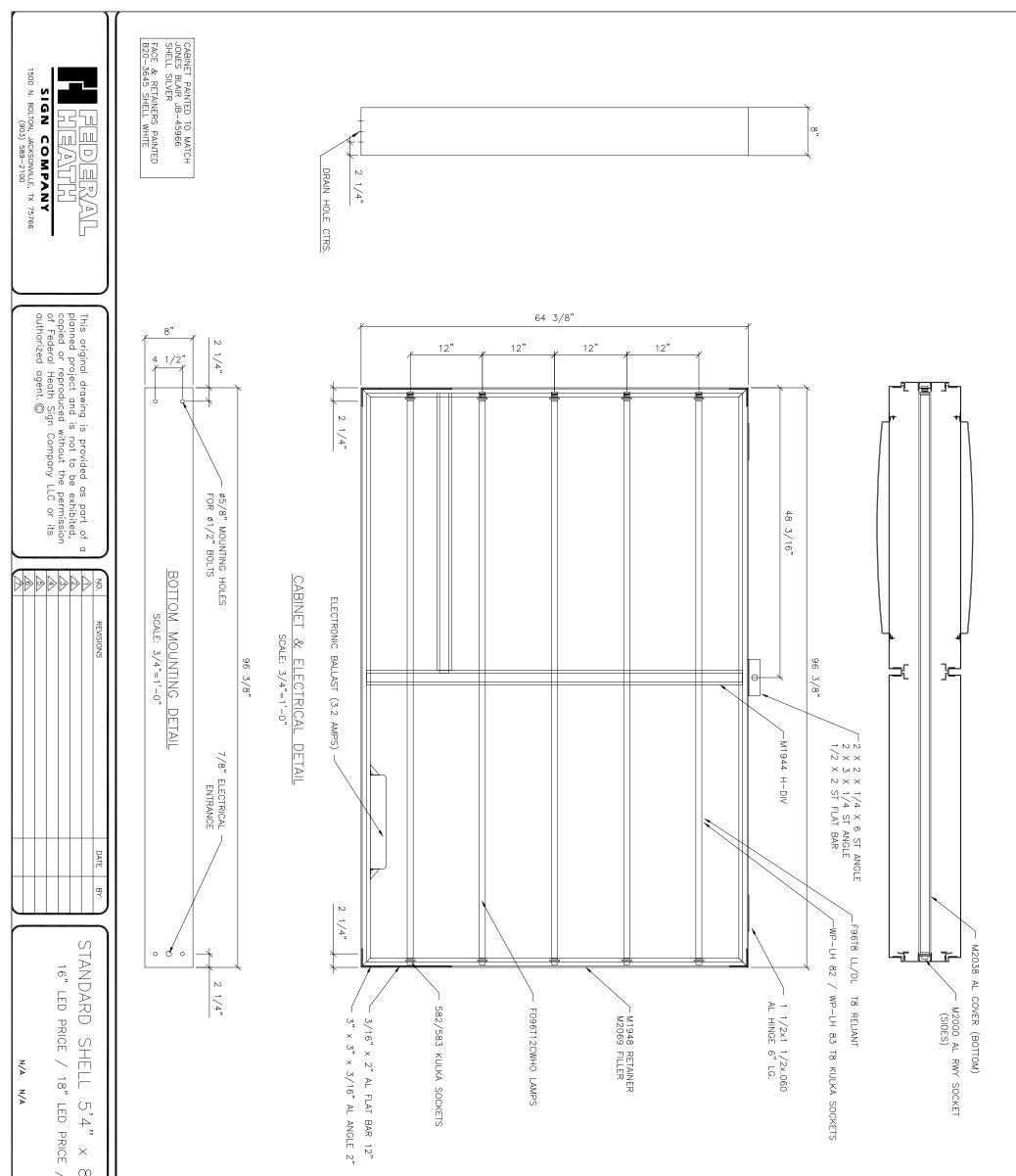
#### **SPECIFICATIONS:**

FACE DESIGNED TO FIT EXISTING CABINET 50 3/4"H × 48 3/8"W

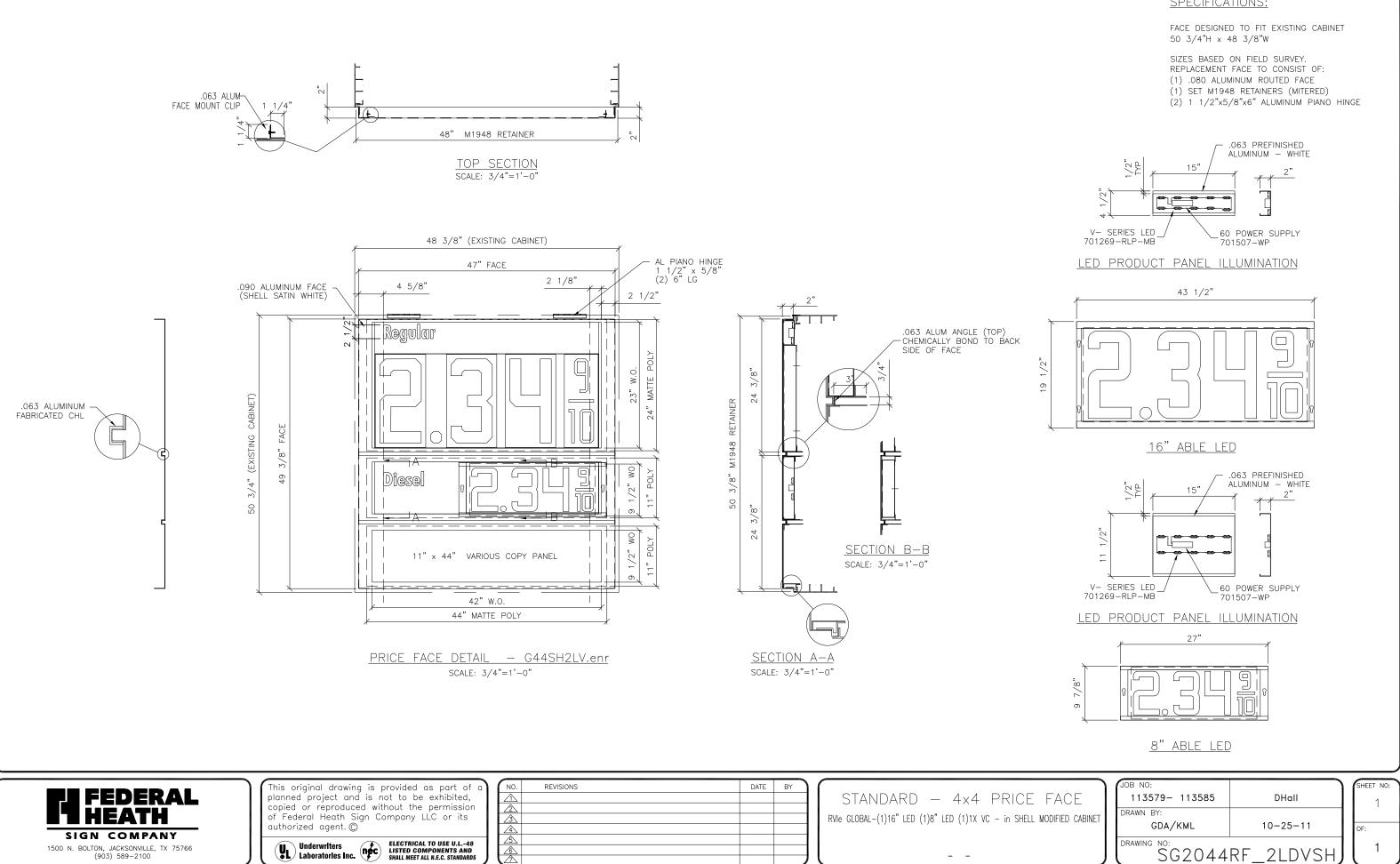
SIZES BASED ON FIELD SURVEY. REPLACEMENT FACE TO CONSIST OF: (1) .080 ALUMINUM ROUTED FACE (1) SET M1948 RETAINERS (MITERED) (2) 1 1/2"x5/8"x6" ALUMINUM PIANO HINGE

	JOB NO:		SHEET NO:
	-	DHall	1
CABINET	DRAWN BY:		
CADINET	TRose	10-06-10	OF:
	DRAWING NO: SE1C	44RF_SH	

- -



	/ 2X VC	3, GM		
58GM_2LDVV	10/23/12	S_ROWELL	SIGN SPECIFICATIONS: SIGN SPECIFICATIONS: SIGN SIZE: ACTUAL SIZE 64 3/8"x96 3/ - CIRCUITS 120 VOLTS 120 VOLTS 120	M2069 /
-	OF:	SHEET NO:		AL FILLER

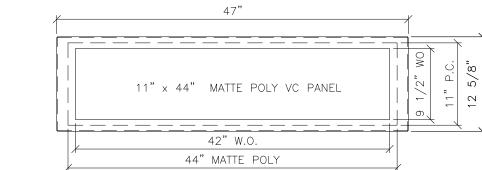


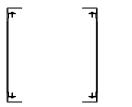


NOTE: PECTEN IS ON STREET SIDE AND PRICE ON C-STORE SIDE OF PROPERTY				
<b>FIGN COMPANY</b> 1500 N. BOLTON, JACKSONVILLE, TX 75766 (903) 589-2100	This original drawing is provided as part of a planned project and is not to be exhibited, copied or reproduced without the permission of Federal Heath Sign Company LLC or its authorized agent. Underwriters Laboratories Inc.	NO.     REVISIONS       A     A       A     A       A     A       A     A       A     A       A     A	DATE BY	STANDARD — 1×4 SERVICE rvie global- 1x various copy- in shell mod 

<u>optional panels – as req'd</u> SCALE: 3/4"=1'-0"

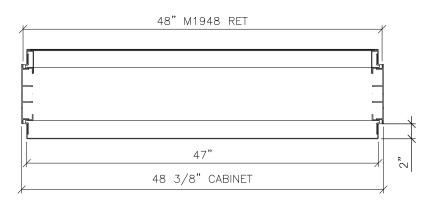
AUXILIARY PANEL - 1X SERVICE - G14SHV.enr







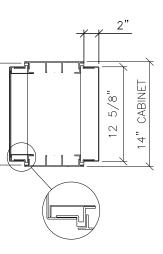




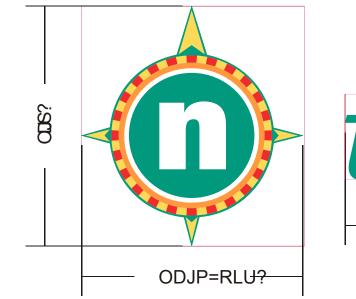
## SPECIFICATIONS:

1X VC FACE DESIGNED TO FIT EXISTING CABINET 14"H x 48 3/8"W

SIZES BASED ON FIELD SURVEY. REPLACEMENT FACE TO CONSIST OF: (1) .080 ALUMINUM ROUTED FACE (1) SET M1948 RETAINERS (MITERED) (2) 1 1/2"x5/8"x6" ALUMINUM PIANO HINGE



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	drawing no:	4RF_1XSH	

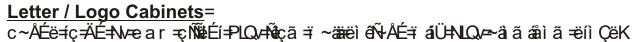




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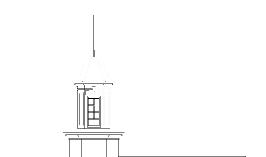
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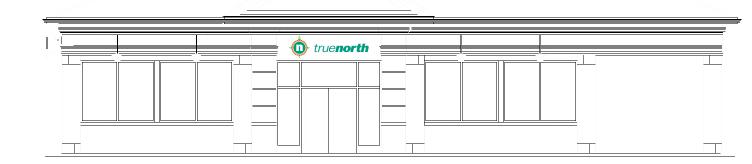
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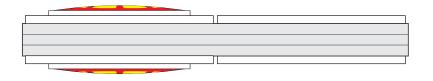
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a^qbW NCCOMU
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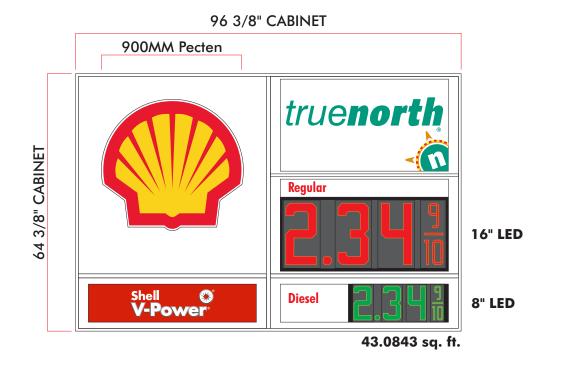
## **NEW 5'-4" x 8' RVI Evolution** Monument Cabinet.





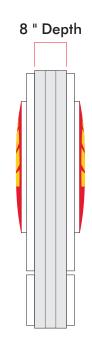
**Top View** 





**Cabinet Elevation** 

Scale: 1/2" = 1'



Side View

<b>FEEDERAL</b> <b>DISUAL COMMUNICATIONS</b> WWW.FederalHeath.com 1500 North Bolton • Jacksonville, Texas 75766	Revisions:	Account Rep: Dan Hull Project Manager: Sally Boyce Drawn By: Mike Lees Caboratoris Rep: Caboratoria Lister Caboratoris Rep: Caboratoria Lister Caboratoria Lister Caboratoria Lister Caboratoria L	CLODAL	Sheet Number:	177601 10.5.17 1 or 1 \$6177601 e	This original drawing is provided as part of a planned project and is not to be exhibited, copied or reproduced without the written permission of Federal Heath Sign Company, LLC or its
1500 North Bolton • Jacksonville, Texas 75766 (903) 589-2100 • Fax (903) 589-2101	Cilent Approval/Date: Colors Depicted In This Rendering May Not Match Actual Finished Materials. Refer To Product Samples For Exact Color Match.		CLODAL	Design Number:	SG177601_e	Company, LLC or its authorized agent. © 2008

PUBLIC WORKS DEPARTMENT



At the Heart of Community

505 Telser Road Lake Zurich, Illinois 60047

> (847) 540-1696 LakeZurich.org

March 9, 2018

Mary Meyer, Building Services Supervisor Village of Lake Zurich 505 Telser Road Lake Zurich, Illinois 60047

# FINAL ENGINEERING REVIEW #1

#### **DEVELOPMENT:**

True North Energy Gas Station 449 South Rand Road

- **ITEMS RECEIVED:** 1) Onsite Final Engineering Plans prepared by RTM Engineering revised February 19, 2018.
  - 2) Offsite Final Engineering Plans prepared by RTM Engineering revised February 19, 2018.
  - 3) Stormwater Report prepared by RTM Engineering dated August 21, 2017.
  - 4) ALTA/NSPS Land Title Survey and Topographic Survey prepared by Sight On Solutions, revised January 15, 2018.
  - 5) Traffic Planning Study prepared by Gewalt Hamilton Associates, dated June 29, 2017.
  - 6) Landscape Plan prepared by Design Perspective, Inc. dated August 18, 2017, revised December 11, 2017.

On behalf of the Village of Lake Zurich, Manhard Consulting, Ltd. has completed a review of the above referenced material for conformance with the Village ordinances and general accepted engineering practices. We reserve the right to generate additional comments on future submittals. By copy of this letter we request that the Developer address all comments in a **response letter** and submit the appropriate revisions for further review.

## GENERAL

- 1) Please update the list of permit submittals and approvals received to-date and any approvals pending.
- 2) Offsite improvements are subject to IDOT review. Engineering approval is contingent upon receipt of IDOT approval.
- 3) Provide a final Engineer's Estimate of Probable Cost.

- 4) The following preliminary engineering review comments remain to be addressed:
  - a. Provide an AutoTURN exhibit for the largest anticipated vehicle on the site.
    - b. Developer shall provide a fee in lieu of installation of sidewalk. The cost of sidewalk shall be included in the Engineer's Opinion of Probable Cost. Pricing of the sidewalk shall be for five-foot (5') sidewalk, and run the entire frontage along US-12 and IL-22.
    - c. Provide a Plat of Easement for the relocated sanitary sewer and deed restriction for the stormwater vaults. Plat of Easement and deed restrictions may be provided after construction of utilities, and must be approved prior to final acceptance. The Village may also require a cross access easement with the Batteries Plus property to the north, if one does not already exist.

#### STORMWATER REVIEW

- 5) Provide a Watershed Development Permit Application.
- 6) The original single chamber stormwater vault is being broken into three compartments with connecting pipes. To ensure proper function, provide verification that the connecting pipes have capacity to pass critical duration events, and the volume will be distributed appropriately between vaults during the design event.
- 7) Provide verification that the proposed storm inlets have capacity for a 100-yr storm event, or that there is an appropriate overland flow route to the common site outlet.
- 8) Provide quantification of hydrocarbon removal. The proposed system must meet a 70% hydrocarbon removal rate.
- Previous preliminary comment remains: Provide verification of the existing stormwater vault condition and volumetric capacity. Also provide details for the reconfiguration of the existing vaults to remain.
- 10) Provide a maintenance and monitoring plan for the stormwater management system.

## OFFSITE ENGINEERING PLANS

- 11) Consider relocating the proposed inlet on IL-22 to a location outside of the right-out drive aisle.
- 12) Maintain the 6" topsoil thickness for offsite and onsite restoration.

## DEMOLITION PLAN

- 13) Remove the proposed watermain across Rt-12 from the demolition plan.
- 14) Provide a sequenced demolition plan.
- 15) Demolition and construction on the neighboring property will require a temporary construction easement or authorization letter from adjoining property owner.

#### SITE PLAN

- 16) It shall be the Owner's responsibility to ensure compliance with the 2010 ADA Standards for Accessible Design and the Illinois Accessibility Code.
- 17) Revise the existing impervious % in the Site Conditions Summary table.
- 18) Identify the dumpster enclosure area on the plan with a callout and dimensions.
- 19) Show the existing guardrail along the west property line to be removed. The Village will discuss an alternate fence with the Owner.

#### UTILITY PLAN

20) Update the Utility Contact table and move to the Cover Sheet. Please use the contacts listed in the example table attached.

- 21) The water service for Batteries Plus appears to be terminating on True North property, please clarify.
- 22) Provide notes and callouts regarding water main and sanitary sewer crossings for both water services.
- 23) Callout #3 in the Water Service Key is shown both on the hydrant replacement and at the building service connection, please revise.
- 24) Provide a diameter for all manholes and valve vaults in the utility keys.
- 25) Please refer to the Utilities Division review for water and sanitary sewer comments.

#### **DETAILS & SPECIFICATIONS**

- 26) Remove the Lake Zurich silt fence detail and replace with the Lake County SMC silt fence detail.
- 27) Prior to final approval, all subcontractor information shall be completed in the specifications.
- 28) Complete the NPDES certification block on Sheet C7.
- 29) The construction entrance to the site is shown on IL-22, please call out no access on Rt-12 or provide a secondary construction entrance.

If you should have any questions, please do not hesitate to contact me.

Yours truly, MANHARD CONSULTING, LTD.

Peter Stoehr, P.E. Village Engineer

LZLZ87/Documents/Final Review #1

cc: Sarosh Saher, Community Development Director Betty Harrison, EQC Supervisor Nadine Gerling, Permit Coordinator Nicholle Petroff, Office Manager Katie Williams, Associate Planner

UTILITY CONTACTS				
ELECTRIC COM ED (630) 570-7094 CONTACT:	<u>WATER</u> VILLAGE OF LAKE ZURICH 505 TESLER RD LAKE ZURICH, IL 60047 (847) 540–1696 CONTACT: MIKE BROWN			
<u>GAS</u> NICOR GAS 1844 FERRY ROAD NAPERVILLE, IL 60563 (630) 388–3830 CONTACT: CONNIE LANE	<u>TELEPHONE</u> AT&T (630) 573–5450 CONTACT:			
<u>SEWER</u> VILLAGE OF LAKE ZURICH 505 TESLER RD LAKE ZURICH, IL 60047 (847) 540–1696 CONTACT: MIKE BROWN	<u>CABLE TELEVISION</u> COMCAST (630) 600–6352 CONTACT:			

200 Mohawk Trail Lake Zurich, Illinois 60047

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At the Heart of Community

## MEMORANDUM

Date: March 8, 2018

To: Deputy Chief David Anderson

From: Sergeant Tracey Goodyear

Subject: True North Gas Station, 449 S. Rand Road

The Traffic Unit reviewed the site plans for the property at 449 S. Rand Road. We also reviewed the traffic planning study that was included. The interested party is submitting approval to redevelop the property with a gas station and convenience store from the previous restaurant.

At this time, the Traffic Unit agrees with the submitted traffic planning study and makes the following recommendations:

- The site is located along two major arterial routes, Rand Road (US Route 12) and Main Street (IL Route 22). The travel patterns will be limited to right turn in/out movements at the site access drives and the both are restricted by concrete barrier medians.
- Post "Right Turn Only" signs at both exits along Route 12 and Route 22.
- Exiting traffic must have Stop signs installed at each exit.
- The access drive off of Route 22 should be located as far west as possible from the intersection of Route 12.
- Ensure all appropriate handicap parking spaces are legally marked with roadway paint and erect the appropriate signage to include the fine, for enforcement purposes.
- Complete a Traffic Enforcement Contract for Private Property owners allowing police action.
- Contact the Lake Zurich Fire Department Prevention Bureau for ordinance requirements regarding "Fire Lane" markings and signage.

The Traffic Unit reserves the right to recommend other changes as the project progresses. If you have any additional questions please feel free to contact me.

## Village of Lake Zurich Utilities Division of Public Works

# Memo

To: Katie Williams, Associate Planne	ər
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From: Betty Harrison, EQC Supervisor

Date: March 9, 2018

Re: Staff Review – March Planning & Zoning Commission Meeting

#### 1. True North – 449 S Rand Rd

- a. Hydrant removal is denoted. Hydrant replacement location is not denoted. The new hydrant can be placed in the same location as the one being removed. The new hydrant could be placed on the water service line before the valve.
- b. The cross of the water main by the storm sewer, the storm sewer must be encassed or water main quality pipe for ten feet either side of the crossing.
- c. All connection fees will be addressed upon permit submittal.
- d. The Letter of Credit amount will be addressed upon permit submittal.



COMMUNITY SERVICES DEPARTMENT Building and Zoning Division

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## Zoning Department Landscape Review

Date:March 12, 2018Address:449 S Rand RoadProject:True North Gas StationReview by:Katie Williams<br/>Associate PlannerRef Codes:2012 International Building Code, Village of Lake Zurich Amendments, Zoning Code

A landscape review of the above noted project has been completed. The plans are <u>APPROVED</u> with the following conditions/comments:

1. Landscape consultant comments were reviewed by Staff, and Staff determined that the following zoning relief was warranted and granted during the development concept review final approval by the Village Board:

## i. Landscape Material:

- a. East Lot Line Landscaping Along South Rand Road (Route 12). Section 9-8-107 A requires 10 trees and 45 shrubs to be provided along the tree bank adjacent to Rand Road. Due to space constraints, the applicant is proposing 9 trees and 41 shrubs within this area.
- b. South Lot Line Landscaping Along West Main Street (Route 22). Section 9-8-107 A requires 9 trees and 41 shrubs to be provided along the tree bank adjacent to Route 22. The applicant is proposing 5 trees, but adding 13 shrubs to compensate for reduced plant material along both tree banks.
- 1. **Raised Planter Beds along Route 12 and Route 22.** The PZC added an additional condition requiring "Raised planter beds to be further researched and considered for the landscape islands adjacent to Rt 12 and Rt 22 in order to screen the asphalt." The applicant consulted with IDOT on this requirement and was informed that IDOT was unwilling to approve these raised planter beds because such features are not



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allowed within 10' of the right-of-way line of an IDOT controlled arterial. Our village engineer has further clarified IDOT's decision stating that their response refers to Public Act 86-616 which prohibits construction of an earthen berm within 10 feet of the right-of-way for issues relates to drainage. The existing topography shows that the right-of-way drains toward the site from back-of-curb. The raised planting beds would have to allow this drainage to pass onto the site, opposed to redirecting drainage toward the back-of-curb.

The developer has indicated that based on the restricted space conditions, installation of the raised berms in these areas while meeting the design and drainage parameters would not be logistically viable and has requested relief from this condition.



#### Consultant Memorandum Via Email

- To: Katie Williams, Associate Planner Village of Lake Zurich
- Fr: Rolf C. Campbell & Associates

Date: March 9, 2018

## Re: 449 S. Rand Road – True North Energy 3rd Landscape Plan Review and Comments

Pursuant to your request, we have reviewed the third submittal of the Revised Landscape Plan (1-sheet) for the referenced project dated 2-8-18 at 24" x 36" size. The first submittal of the Landscape Plan was dated 8-18-17 and our first landscape review memo dated 9-1-17. A second submittal was dated 12-11-17 and our second review memo dated 12-20-17. In addition to the Revised Landscape Plan we have reviewed additional documents including the Revised Preliminary Site Plan, Drainage Plan, and Utility Plan dated 2-8-18 at 24" x 36" size and Lighting Plans dated 2-8-18 (8-sheets), but only as they relate to the proposed Landscape Plan. It appears that a Revised Tree Preservation Plan was not included with this round of re-submittals which should be submitted at the time of the Final Landscape Plans. We request that a response memo be provided from the Applicant as some of these comments have not yet been addressed from the first or second review memos. The following comments relating to the plans are offered for your consideration.

1. (Revised Comment) East Lot Line Landscaping along South Rand Road - Route 12 – (Arterial Road)

As mentioned in our previous review dated 12-20-17, it appears that the plant unit calculations along Route 12 require a half a point more due to the linear feet dimensions of the property line along the right-of-way of an Arterial Road. The Applicant has stated that 4.5 plant units have been provided on the plan, however the table below indicates the amount of landscaping proposed for 5 plant units.

East Lot Line Landscaping Along South Rand Road (US-12) (B-3 Zoning Adjacent to Arterial Road)				
30% Opacity Required 3' Width Min. 2 Plant Unit per 100'			U <b>nit per 100'</b>	
235 Linear Feet	5 Standard Plant Unit A provided			
5 Plant Units Required				
Types of Plants	Required	Proposed	Difference	
3" Caliper Shade Trees	5	5	0	
2" Caliper Understory Trees	10	9	Varianc <mark>e</mark> Granted	
36" Shrubs	45	41	0	

\* Applicant has stated that one ornamental tree has been omitted on landscape plan, but has not indicated why it has been omitted.

As mentioned in the previous review memos dated 9-1-17 and 12-20-17, along the East Lot Line adjacent to Rand Road, the Route 12 Corridor Design Guidelines would indicate the potential for a small berm. While there is only 10' of landscaping in this area, only a small 1-2' berm may be possible, but we question how much this may add to the streetscape in this area. Since the Route 12 Corridor Design Guidelines are "guidelines" we will look to the Village to provide comments to the Applicant as to whether this small berm is recommended. As of this date, we have not been informed as to whether a position regarding this matter has been noted by the Village.

2. (Revised Comment) South Lot Line Landscaping along West Main Street – IL-22 – (Arterial Road)

It appears that the plant unit calculations on the Landscape Plan along West Main Street only indicate 2.5 Plant Units provided for a 205 linear foot distance, however, the Village Ordinance requires 2 Plant Units per 100 linear feet. It appears the required number of Plant Units would be 4.5 Plant Units instead of the indicated 2.5 Plant Units on the Landscape Plan. While, it appears that most of the proposed plant material actually conforms to the 4.5 Plant Units required, it appears that four (4) additional 2" Caliper Understory Trees are required to meet the Village Ordinance as indicated in the table below.

South Lot Line Landscaping Along West Main Street (IL-22) (B-3 Zoning Adjacent to Arterial Road)					
30% Opacity Required	3' Width Min. 2 Plant Unit per 100'				
205 Linear Feet	2.5 Standard Plant Unit A provided				
4.5 Plant Units Required					
Types of Plants	Required	Proposed	Difference		
3" Caliper Shade Trees	5	3	Variance Granted		
2" Caliper Understory Trees	Δ	2	Varian <mark>ce</mark> Granted		
2 Caliper Oliderstory frees	т	-	Varian <mark>ee</mark> Grantea		

\* Applicant has stated that 2 ornamental trees and 2 transferred shade trees (from other lot line landscaping requirements on the site) have been omitted on landscape plan, but has not indicated why these required plantings are omitted.

- According to the Plant List, there are several trees noted at being installed at 2.5" caliper in areas that require 3" trees at installation for plant units. The Applicant is requested to install 3" caliper trees to meet the requirements of the Village Zoning Ordinance. (Same Comment as Previous Review 9-1-17 & 12-20-17)
- 4. According to the interior parking lot requirements located in the Village Code under section 10-8-16 F, trees placed in planting islands shall be installed with 4" caliper trees. The Applicant is requested to install the Autumn Blaze Maple located at the southeast corner of the proposed convenience store to be installed with a 4" caliper tree to comply with the Village Code. (Same Comment as Previous Review 9-1-17 & 12-20-17)
- 5. The Applicant is requested to provide Tree Preservation Details on the previous submittal of the Tree Preservation Plan, dated 8-18-17, identifying the height and type of tree fencing protection to be installed on the site at the time of the Final Landscape Plan submittal. (Same Comment as Previous Review 9-1-17 & 12-20-17)

6. It appears that there are five (5) shrubs that are not labeled located at the southeast corner of the convenience store. The Applicant is requested to label these groupings of shrubs on the Landscape Plan.

Please contact our office, if you have any questions or comments.

bd:am:p:lakezurich/449S.RandRoadRt12TreeNorthEngergy#001.5065RC.37/3rdLAreview3-9-18



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## ZONING REVIEW

PROJECT:	Truenorth Gas Station
LOCATION:	449 S Rand Road
<b>REVIEWED BY:</b>	Katie Williams
DATE:	March 21, 2018

Truenorth Energy, LLC proposes the demolition of the vacant restaurant and subsequent construction of a gas station with 12 gas pumps. This development will be created as a PUD. Review is as follows:

## **B-3 ZONING DISTRICT REQUIREMENTS**

A.	Zoning:	B-3 Regional Shopping
B.	Use:	Gas station – Special Use <u>Relief is sought via PUD.</u>
C.	Height:	Maximum Allowed: 35', 2 stories Proposed: Average roof height of 21.75' Height to top of decorative cupola is ~42' <u>Relief is sought via PUD.</u>
D.	Minimum Yards: a. Front:	Required: 50' Proposed: ~10'
	b. Corner:	Required: 50' Proposed: ~10'
	c. Rear:	Required: 30' Proposed: 5.89'
	d. Int. Side:	Required: 15' Proposed: ~10'

## Relief is sought via PUD

E. Maximum FAR:	Existing: Proposed:	2230 depending on use 9 59 legal Non-conforming
F. Landscaping:	Landscaping shall be reviewed by a consultant.	
G. <b>Parking</b> :	1 p 1 p 3,5 b. Pro	quired: parking space per 200 sq. ft. of net floor area per employee 600 sq. ft. / 200 + 3 employees = <b>21</b> povided: <b>19 spaces</b> <u>lief sought via PUD</u>
H. Access. Parking:	Required: a. 1 Proposed: b. 1 <u>C</u>	ompliant
I. Paving:	Required: Proposed:	9' x 20' or 9' x 18' with a landscaped curb 9' x 18' with a landscaped curb <u>Compliant</u>
J. Photometrics:	Required: Proposed:	No direct glare on neighboring properties .5 footcandles at property line 10 footcandles max anywhere on property No glare will affect any residences Up to .5 footcandles at property line Max of 19 footcandles under canopy <u>Relief sought via PUD</u>
K. <b>RTUs:</b>	Required:	All mechanical equipment located on the roof of any building, except for antennas, vent pipes, chimneys, and exhaust fans, shall be fully screened by a parapet wall or similar structure to a point not less than twelve inches (12") higher than the highest point of such equipment.
	Proposed:	No RTUs will be utilized

- <u>Conclusion</u>
  Relief will be sought for:
  Use

  - Setbacks
  - Photometrics