Meeting Agenda

Zoning Board of Adjustment

Tuesday, June 20, 2023
5:00 PM
Ankeny City Council Chambers

1250 SW District Drive, Second Floor, Ankeny, Iowa

Matt Ott, Chair
Jeffrey Baxter, Vice Chair
Nichole Sungren Kristi Tomlinson Brett Walker

Zoning Board of Adjustment regular meetings are the first and third Tuesday of each month at 5:00 p.m. All Board of Adjustment meetings are open to the public. Assistive Listening Devices (ALD) are available for persons with impaired hearing.

CALL TO ORDER

A. ROLL CALL

B. AMENDMENTS TO AGENDA

C. MINUTES

Minutes of the May 2, 2023 regular meeting.

D. COMMUNICATIONS/CORRESPONDENCE

E. BUSINESS ITEMS

PUBLIC HEARINGS Public Hearings are held during the Zoning Board of Adjustment's regular meetings. Those who wish to speak will be requested to provide their name and address for the record when called upon. The order of proceedings for each application will be as follows: 1). The applicant will present testimony and evidence regarding their request; 2). City staff will summarize the project and present their findings; 3). Testimony may be heard from any members of the audience who wish to speak in support of or in opposition to the appeal; 4). The Board will give the applicant and the city staff an opportunity to present concluding summaries and arguments. At the conclusion of all public testimony, the Board will close the public hearing. The Board will discuss the issues and evidence and come to a decision. The applicant or appellant may withdraw their application or appeal at any time prior to the decision by the Zoning Board of Adjustment.

#23-11
City of Ankeny
for property located at
3755 NW Irvinedale Drive
PARCEL 2018-156 COM NW COR PARC E THN E 50F TO POB THN E 422.24F
S 170.36F W 127.57F W 295.16F N 172.57F TO POB BNG PRT PARCEL E
BK 15735 PG 812 SW 1/4 SW 1/4 SEC 3-80-24
RE: Variance - Height

#23-12
Bryon and Larissa Weyer
for property located at
2506 NE 17th Street
Lot 21, Deer Creek Estates Plat 13
RE: Variance - Rear Yard Setback

F. OLD BUSINESS:

G. NEW BUSINESS

H. REPORTS

Renewed Special Use Permits
#10-06 Lindo Jalisco Mexican,1810 SW White Birch Circle, Ste. 118
#21-06 El Molcajete, 301 E 1st Street
#16-16 Guadalajara Mexican Restaurant, 202 SE Delaware Avenue
#18-04(2019) Who's on First, 810 E 1st Street

I. ADJOURNMENT

ZONING BOARD OF ADJUSTMENT
June 20, 2023
5 : 00 PM
Print

ORIGINATING DEPARTMENT:
Planning and Building

COUNCIL GOAL:

ACTION REQUESTED:
Motion

LEGAL:

SUBJECT:
Minutes of the May 2, 2023 regular meeting.

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

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ZBOA Minutes 2023-05-02

Meeting Minutes

Zoning Board of Adjustment

Tuesday, May 2, 2023
Ankeny City Council Chambers
1250 SW District Drive, Second Floor, Ankeny, Iowa

CALL TO ORDER
Chair Matt Ott called the May 2, 2023 regular meeting of the Zoning Board of Adjustment to order at 5:00 p.m.

ROLL CALL
Members present: Jeff Baxter, Matt Ott, Kristi Tomlinson, and Nichole Sungren. Absent: Brett Walker.
Staff: E.Jensen, E.Carstens, D.Gervais, L.Hutzell, R.Kirschman.

AMENDMENTS TO THE AGENDA
There were no amendments to the agenda.

MINUTES OF THE APRIL 18, 2023 REGULAR MEETING
Motion by K.Tomlinson to approve the April 18, 2023 meeting minutes as submitted. Second by N.Sungren. All voted aye. Motion carried 4 – 0 .

COMMUNICATIONS / CORRESPONDENCE
There were no communications.

BUSINESS ITEMS
PUBLIC HEARINGS:

#23-08
Kara Bixby Rodriguez & Joel Rodriguez
for property located at
2943 SW 3rd Street
-EX W67F & N 67F ON W LN & N70.59F ON ELN RD EASS140F N 798.1F W 356.14F NW 1/4 SEC 22-80-24
RE: Variance - Front Yard Setback

Chair M.Ott opened the public hearing.

Kara Bixby, 2943 SW 3rd Street said that they purchased their home last month and are requesting a variance to allow a front yard setback of 23-feet from the roadway easement instead of a 35-feet setback. She noted that the home was built in the 1970's. She stated that they were under contract to purchase the home and when they started the process to purchase, they were notified that there was a zoning issue with the property. Kara Bixby further stated that they decided to continue with the purchase and work towards resolving the zoning issue. She respectfully asked for the Board to approve the request.

D.Gervais reported that the applicant is requesting a variance to allow the existing home to encroach approximately 12-feet into the 35-foot front yard setback for the subject property at 2943 SW 3rd Street, which is located south of SW 3rd Street and east of SW Irvinedale Drive. She noted that the subject property is not a platted lot. She stated that the subject property is zoned C-2, General Retail, Highway-Oriented, and Central Business Commercial District with neighboring properties to the north, east, and south being zoned C-2. The neighboring properties west of SW Irvinedale Drive are unincorporated and under Polk County jurisdiction, zoned Rural Residential. D.Gervais provided the Board with the history of the property and home starting back in 1973, which was when the home was to be constructed on the property. She said that during staff's research; they found that the home was partially constructed in the Roadway Easement area for SW 3rd Street. She stated that after much discussion with other City departments, including public works and municipal utilities, the recommendation was that at least 30-feet of the Roadway Easement should be retained and the private utility companies required an additional 3-feet for a total of 33-feet for the south side of the Roadway Easement, measured from the street centerline of SW 3rd Street. D.Gervais stated that on May 1, 2023, City Council approved the ordinance vacating this portion of the Roadway Easement, allowing for a free and clear 23-foot front yard setback. All property owners within 250-feet of the subject property were notified and to date, staff has not received any correspondence either for or against the request. Staff does not have concern about the future impact of this variance request on the existing neighborhood; and recommend that the Zoning Board of

Adjustment grant a variance to Ankeny Municipal Code Section 192.09(3)(D) to allow a 23-foot front yard setback for the existing home at 2943 SW 3rd Street. Staff's position is based on a determination that the existing front yard setback from home does not impair adequate supply of air and light, does not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

There was no one in the audience to speak for or against the requests.

Motion by J.Baxter to close the public hearing, and receive and file documents. Second by M.Ott. All voted aye. Motion carried 4 – 0.

The Board has no concerns with the request.

Board Action on Filing #23-08 property located at 2943 SW 3rd Street
Motion by M.Ott that the Zoning Board of Adjustment grant a variance to Ankeny Municipal Code Section 192.09(3)(D) to allow a 23-foot front yard setback for the existing home at 2943 SW 3rd Street. The Board's decision is based on a determination that the existing front yard setback from home does not impair adequate supply of air and light, does not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.
Second by N.Sungren. All voted aye. Motion carried 4 – 0.

#23-09 and #23-10
Ralph Grout
for property located at
1101 NE Trilein Drive
Lot 9, Barclay Plat 1
RE: #23-09 Variance - Rear Yard Setback, Sunroom
#23-10 Variance - Rear Yard Setback, Deck

Chair M.Ott opened the public hearing.

Ralph Grout, 1101 NE Trilein Drive, said that they bought the house last August and decided this year to add a deck. He stated that they were not aware that there was no permit pulled to screen in the deck, which is currently fully enclosed. Ralph Grout said that they are asking for a variance for the screened in deck since it was not approved by the City and a variance for the deck that they would like to build off of the screened in area. He said he would answer any questions the Board may have.

L.Hutzell reported that the subject property is located at 1101 NE Trilein Drive, east of N Ankeny Boulevard and South of NE 18th Street within the northeastern quadrant of Ankeny. She said the property is zoned R-1, One-Family Residence District and contains a single-family home with an attached sunroom on the east side of the .234-acre lot. Neighboring properties in all directions are also zoned R-1, while properties further to the west are zoned R-2. L.Hutzell stated that the home, as it sits today, has a sunroom that sits 12-feet off the east side of the house, creating a 10-foot encroachment into the required 35-foot rear yard setback. She noted that permit records indicate that the house on the subject property was constructed in 1990; however, original plans indicate that the home was built without a sunroom and is setback 37-feet from the rear property line. The existing sunroom also has an exterior staircase 4-feet. She shared that a contractor, on behalf of the property owners, submitted a permit application to construct an uncovered deck attached to the existing sunroom and at that time City staff realized the existing sunroom was never properly permitted and encroaches 10-feet into the required 35-foot rear yard setback. She said that the proposed deck is 216 square feet in size and would sit on the north side of the sunroom with access to the sunroom's existing rear door via a proposed 4-foot wide walkway. L.Hutzell stated that per City code, unenclosed decks are allowed to extend up to twelve feet into the rear yard setback, however staff realized that the sunroom's 10-foot encroachment results in the deck also encroaching 2-feet beyond the 12-feet allowed by code. Staff then informed the applicant that a second variance would be needed to approve the plans for the deck. The staff position is to grant a 10-foot variance to Ankeny Municipal Code Section 192.03(3)(E) to allow a 25-foot rear yard setback for an existing sunroom at 1101 NE Trilein Drive. Staff's position is based on a determination that the decreased rear yard setback from the existing sunroom would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code. It is also staff's position to grant a 2-foot variance to Ankeny Municipal Code Section

196.03(2B)(2), to allow an unenclosed deck to encroach two-feet beyond the allowed 12-feet by code at 1101 NE Trilein Drive. Staff's position is based on a determination that the decreased rear yard setback from the unenclosed deck would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

There was no one in the audience to speak for or against the request.

Motion by M.Ott to close the public hearing, and receive and file correspondence received. Second by K.Tomlinson. All voted aye. Motion carried 4 – 0.

The Board had no concerns with the requests.

Board Action on Filing #23-09 property located at 1101 NE Trilein Drive
Motion by J.Baxter that the Zoning Board of Adjustment grant a 10-foot variance to Ankeny Municipal Code Section 192.03(3)(E), to allow for a 25-foot rear yard setback for an existing sunroom at 1101 NE Trilein Drive. The Board's position is based on a determination that the decreased rear yard setback from the existing sunroom does not impair adequate supply of air and light, does not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code. Second by N.Sungren. All voted aye. Motion carried 4 – 0.

Board Action on Filing #23-10 property located at 1101 NE Trilein Drive
Motion by J.Baxter that the Zoning Board of Adjustment grant a 2-foot variance to Ankeny Municipal Code Section 196.03(2B)(2), to allow for an unenclosed deck to encroach two-feet beyond the allowed 12-feet by code at 1101 NE Trilein Drive. The Board's position is based on a determination that the decreased rear yard setback will not impair adequate supply of air and light, will not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code. Second by K.Tomlinson. All voted aye. Motion carried 4 – 0.

NEW BUSINESS
There was no new business.

REPORTS
There were no reports.

There being no further business, meeting adjourned at 5:26 p.m.

Submitted by Eric Carstens, Planning Manager
Zoning Board of Adjustment

ZONING BOARD OF ADJUSTMENT
June 20, 2023
5 : 00 PM
Print

ORIGINATING DEPARTMENT:	COUNCIL GOAL:
Planning and Building	Ensure Economic Vitality

ACTION REQUESTED:
Public Hearing

LEGAL:

SUBJECT:

#23-11

City of Ankeny

for property located at

3755 NW Irvinedale Drive

PARCEL 2018-156 COM NW COR PARC E THN E 50F TO POB THN E 422.24F

S 170.36F W 127.57F W 295.16F N 172.57F TO POB BNG PRT PARCEL E
BK 15735 PG 812 SW 1/4 SW 1/4 SEC 3-80-24

RE: Variance - Height

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Click to download
#23-11 Applicant Submittal
#23-11 Staff Report

#23-11

city of Ankeny
bringing it all together

APPLICATION FOR APPEAL
ZONING BOARD OF ADJUSTMENT

Applicant is: ☒ Property Owner ☐ Tenant ☐ Other _____

Applicant City of Ankeny, Don Clark, Municipal Utilities Director

Address / Phone # 1210 NW Prairie Ridge Drive, Ankeny IA, 50023, 515-963-3529

E-mail dclark@ankenyiowa.gov

Property Owner City of Ankeny

Address / Phone # 410 W. 1st Street, Ankeny IA, 50023, 515-965-6400

E-mail dclark@ankenyiowa.gov

(Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:
I hereby appeal from the decision of the Zoning Administrator rendered on _____ day of _____, 20____

Location (*address*) of the proposed variance 3755 NW Irvinedale Drive

Legal description (*Plat & Lot #*) Parcel 2018-156

Zoning C-1 Principal Use of property Vacant land

I request a variation from the current zoning requirement for:
☐ Front Yard ☐ Side Yard ☐ Rear Yard ☐ Fence ☐ Sign ☐ Parking ☒ Height
☐ Other _____

Ankeny Zoning code Section # 192.08.3.D which state(s) 35 feet is maximum height

I would propose the following in lieu of that required: A height variance of 130 feet to allow a water tower of 165 feet in height plus an additional 15 feet of height to allow for a communication antenna for a total of 145 feet height variance.

Attached hereto and made a part of this appeal, I submit the following:
a) A statement indicating the reasons for my appeal.
b) A drawing showing proposed variance requested.
c) A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review.

AFFIDAVIT
State of IOWA)ss
County of POLK)

I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Donald Clark
(Signature of Applicant)

NOTARIAL SEAL IOWA
KATHY DOZLER
Commission Number 748517
My Commission Expires
8-22-25

Signed and sworn to before me, this 1st day of May, 20 23.

Kathy Dozler
(Notary Public)

Office Use Only

Date received May 1, 2023 Paid ☐ Cash ☐ Check # N/A

Filing # 23-11 Scheduled Meeting Date _____

city of Ankeny

bringing it all together

April 28, 2023

Ankeny Zoning Board of Adjustment
City Council Chambers
1250 SW District Drive
Ankeny, IA 50023

RE: 2.5 Million Gallon Elevated Water Storage Tower
Request for Height Variance

Dear Board Members:

The City of Ankeny is requesting Zoning Board of Adjustment approval of a variance for a new 165-ft tall water tower with possible communication antennas to a maximum of 180 feet. The tower height is set to match the high-water level of both the Ash Water Tower as well as the SW Irvinedale Water Tower to maintain the static water level between the towers. This will balance the water levels within the towers meaning they will work together to handle demands throughout the City of Ankeny without water overflowing or depleting at any one tower.

At the current time, we do not anticipate having the need for cell phone antennas on the tower as there are other cell towers within close proximity. However, the water tower is designed to accommodate their future addition if necessary. We will have a small radio antenna at the top of the tower allowing the City and Des Moines Water Works to monitor water levels within the tower.

I plan to be attending the May 16, 2023, Board of Adjustment meeting and will answer any questions you may have at that time.

Sincerely,

Don Clark

Don Clark, P.E.
Director of Municipal Utilities
1210 NW Prairie Ridge Drive
Ankeny, Iowa 50023
Pf/fx/txt: 515-963-3529
DClark@AnkenyIowa.gov

city of Ankeny

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300 E Locust Street, Suite 210
Des Moines, IA 50309-1823
515-280-4940

SITE ADDRESS: 3755 NW IRVINEDALE DRIVE, ANKENY, IOWA

LOCATION MAP
NOT TO SCALE

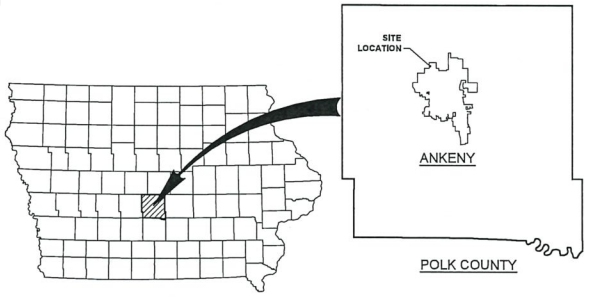
N

Contract Drawings For

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE - ELEVATED WATER STORAGE TANK

Project No.
10345779

100% Review Set
March 2023



INDEX OF DRAWINGS

SHEET	FILE	(00) - GENERAL
1	00G000	COVER SHEET
2	00G001	GENERAL ABBREVIATIONS
3	00G002	GENERAL SYMBOLS, PIPING SYSTEMS AND EQUIPMENT IDENTIFICATION LEGEND
4	00G003	GENERAL ELECTRICAL LEGEND
5	00G004	GENERAL INSTRUMENTATION LEGEND
SHEET	**FILE**	**(02) - STANDARD DETAILS**
6	02C501	SITE DETAILS
7	02S001	STRUCTURAL NOTES
8	02S501	TYPICAL CONCRETE DETAILS
9	02D501	WATER MAIN PIPING AND APPURTENANCES DETAILS
10	02D502	WATER MAIN PIPING AND APPURTENANCES DETAILS
11	02E501	ELECTRICAL DETAILS
12	02E502	ELECTRICAL DETAILS
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14	10V102	EXISTING CONDITIONS AND SURVEY - SOUTH
15	10C101	SITE LAYOUT PLAN NORTH
16	10C102	SITE LAYOUT PLAN SOUTH
17	10C103	SITE GRADING AND DRAINAGE PLAN - NORTH
18	10C104	SITE GRADING AND DRAINAGE PLAN - SOUTH
19	10C105	STORM WATER POLLUTION PREVENTION PLAN (SWPPP) - NORTH
20	10C106	STORM WATER POLLUTION PREVENTION PLAN (SWPPP) - SOUTH
21	10C107	POST CONSTRUCTION STORM MANAGEMENT PLAN
22	10L101	SITE LANDSCAPE PLAN
23	10L501	LANDSCAPE DETAILS
24	10D101	SITE PIPING PLAN
25	10E101	SITE ELECTRICAL PLAN
SHEET	**FILE**	**(20) - COMPOSITE ELEVATED STORAGE TANK (BASE BID)**
26	20U101	STRUCTURAL AND PROCESS - PLANS
27	20U301	STRUCTURAL AND PROCESS - SECTION AND ELEVATION
28	20E101	ELECTRICAL PLAN AND SECTION
29	20E601	ONE LINE DIAGRAM AND SCHEDULE
SHEET	**FILE**	**(21) - HYDROPILLAR ELEVATED STORAGE TANK (BID ALTERNATE NO. 1)**
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31	21U301	STRUCTURAL AND PROCESS - SECTION AND ELEVATION
32	21E101	ELECTRICAL PLAN AND SECTION
SHEET	**FILE**	**(30) - BULK WATER SALES STATION**
33	30U101	FOUNDATION PLAN, SECTIONS & DETAILS
34	30U102	PROCESS AND ELECTRICAL - PLANS & SECTIONS

IOWA 811 ONE CALL℠

UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES IN IOWA, CALL 1-800-292-8989.

PRELIMINARY
NOT FOR CONSTRUCTION
ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED. THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

03-2023

1	2	3	4	5	6	7	8

A/C	AIR CONDITIONING
A/E	ARCHITECT/ENGINEER
A	AMPERE
AB	ANCHOR BOLT
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
ABT	ABOUT
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACP	ACOUSTIC CEILING PANEL, ASPHALTIC CONCRETE PAVEMENT
ACST	ACOUSTIC
AD	ADDENDUM, AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGGR	AGGREGATE
AI	AREA INLET, ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ALIG	ALIGNMENT
ALT	ALTERNATE, ALTITUDE
ALUM	ALUMINUM
AM	ACOUSTICAL MATERIAL
AMB	AMBIENT
ANC	ANCHOR
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APRX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
AT	ACOUSTICAL TILE, AMP TRIP
ATC	ACOUSTICAL TILE CEILING
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
AWT	ACOUSTICAL WALL TILE
B TO B	BACK TO BACK
BAL	BALANCE
BBD	BULLETIN BOARD
BC	BASE CABINET, BOTTOM CHORD, BOLT CENTER, BOLT CIRCLE
BD	BOARD
BE	BOTH ENDS, BELL END
BF	BOTH FACES, BOTTOM FACE, BLIND FLANGE, BOARD FEET
BITUM	BITUMINOUS
BKG	BACKING
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK, BEAM
BOC	BACK OF CURB
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOL	BOTTOM OF LOUVER, BOLLARD
BOP	BOTTOM OF PIPE
BOR	BOTTOM OF REGISTER
BOT	BOTTOM
BOU	BOTTOM OF UNIT
BP	BASE PLATE
BRG	BEARING
BRGP	BEARING PLATE
BRKT	BRACKET
BS	BOTH SIDES
BTU	BRITISH THERMAL UNIT
BTW	BETWEEN
BTWLD	BUTT WELD
BU	BELL UP, BUILT-UP
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
BYP	BYPASS
C TO C	CENTER TO CENTER
C&G	CURB AND GUTTER
C	CHANNEL SHAPE, CENTIGRADE, CONDUIT
CAB	CABINET
CAP	CAPACITY
CAT	CATALOG, CATALOGIORY
CAV	CAVITY
CB	CATCH BASIN
CCB	CONCRETE BLOCK
CCW	COUNTER CLOCKWISE
CDF	CONTROLLED-DENSITY FILL
CE	CONCRETE EDGE
CER	CERAMIC
CF	CUBIC FEET (FOOT)
CFL	COUNTER FLASHING
CHBD	CHALKBOARD
CHD	CHORD
CHFR	CHAMFER
CHH	COMMUNICATION HANDHOLE
CI	CURB INLET
CIP	CAST-IN-PLACE
CIPB	CONCRETE INTERLOCKING PAVER BALLAST
CIRC	CIRCULATION, CIRCULAR
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTERLINE, CLASS, CLOSE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CMH	COMMUNICATION MANHOLE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT, CONCRETE OPENING
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATION
COMP	COMPOSITION, COMPRESSIBLE, COMPOSITE
CON	CONCENTRIC
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COOR	COORDINATE
CORR	CORROSIVE, CORRUGATED
CP	CHECKER PLATE, CONTROL POINT
CPLG	COUPLING
CRL	CORROSION-RESISTANT LINING
CSC	COMPRESSION SLEEVE COUPLING
CSK	COUNTERSINK
CSS	CLINIC SERVICE SINK
CT	CERAMIC TILE
CTJ	CONTRACTION JOINT
CTR	CENTER
CTRL	CONTROL
CVT	CULVERT
CU	COPPER, CUBIC
CW	CLOCKWISE
CY	CUBIC YARD
d	PENNY (NAIL MEASURE)
D	DEEP, DIFFUSER, DRAIN
DB	DUCT BANK, DECIBEL, DRY BULB
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
DEMO	DEMOLITION
DEP	DEPRESSED
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON, DIGITAL INPUT
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIFF	DIFFERENTIAL, DIFFERENCE
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE, DISTRIBUTION
DIV	DIVISION
DL	DEAD LOAD
DMJ	DOUBLE MECHANICAL JOINT
DMPF	DAMP PROOFING
DN	DOWN
DO	DISSOLVED OXYGEN, DIGITAL OUTPUT, DITTO
DP	DEPTH
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DOWN SPOUT
DT	DOUBLE TEE, DRIP TRAP ASSEMBLY
DUP	DUPLICATE
DWG	DRAWING
DWL	DOWEL
DWR	DRAWER
E	EAST
EA	EACH, EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EDB	ELECTRICAL DUCT BANK
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT, EFFICIENCY
EHH	ELECTRICAL HANDHOLE
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELBOW, ELEVATION
ELEC	ELECTRICAL
EMBD	EMBEDDED
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE, EQUAL SPACE, EMERGENCY SHOWER
ESEW	EMERGENCY SHOWER AND EYE WASH
EST	ESTIMATE
EW	EACH WAY, EMERGENCY EYE/FACE WASH
EWC	ELECTRIC WATER COOLER
EWEF	EACH WAY, EACH FACE
EWTB	EACH WAY, TOP AND BOTTOM
EXH	EXHAUST
EXP	EXPANSION, EXPOSED
EXST	EXISTING
EXT	EXTERIOR, EXTERNAL, EXTENSION
F TO F	FACE TO FACE
F&B	FACE AND BYPASS
FAB	FABRICATE
FB	FLOOR BEAM
FBD	FIBERBOARD
FBG	FIBERGLASS
FBM	BOARD FOOT MEASURE
FBO	FURNISHED BY OWNER
FC	FLUSHING CONNECTION
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDC	FLEXIBLE DUCT CONNECTION
FDR	FEEDER
FDTN	FOUNDATION
FE	FLANGED END
FEC	FIRE EXTINGUISHER CABINET
FES	FLARED END SECTION
FEXT	FIRE EXTINGUISHER
FF	FAR FACE, FACTORY FINISH, FLAT FACE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH
FJT	FLUSH JOINT
FL	FLOW, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLOR	FLUORESCENT
FLR	FLOOR
FLS	FLASHING, FLUSH
FN	FENCE
FO	FINISHED OPENING, FIBER OPTIC
FOB	FLAT ON BOTTOM
FOC	FACE OF CONCRETE, FACE OF CURB
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOT	FLAT ON TOP
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FRTM	FIRE RETARDANT TREATED MATERIAL
FS	FLOOR SINK, FAR SIDE
FT	FEET, FOOT
FTG	FOOTING, FITTING
FUR	FURRED, FURRING
FURN	FURNITURE, FURNISH
FUT	FUTURE
FV	FACE VELOCITY
FW	FIELD WELD, FIRE WALL
FWD	FORWARD
FWE	FURNISHED WITH EQUIPMENT
FXTR	FIXTURE
G	GRILLE, GROUND
GA	GAGE (METAL THICKNESS)
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR, GRADE BREAK
GC	GROOVED COUPLING
GD	GUARD
GEN	GENERAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFMU	GROUND FACE MASONRY UNIT
GG	GUTTER GRADE
GJ	GROOVED JOINT
GL	GLASS
GLB	GLASS BLOCK, GLULAM BEAM
GND	GROUND
GP	GUY POLE
GR	GRADE
GRTG	GRATING
GSB	GYPSUM SHEATHING BOARD
GT	GREASE TRAP
GVL	GRAVEL
GW	GUY WIRE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM HARDBOARD
H	HIGH
HB	HOSE BIBB
HBD	HARDBOARD
HC	HANDICAPPED, HOLLOW CORE, HORIZONTAL CURVE, HORIZONTAL CENTERLINE
HD	HEAD, HOT DIP
HDR	HEADER
HDW	HARDWARE
HEX	HEXAGONAL
HGR	HANGER
HH	HANDHOLE
HID	HIGH-INTENSITY DISCHARGE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HPC	HORIZONTAL POINT OF CURVATURE
HPS	HIGH-PRESSURE SODIUM
HPT	HORIZONTAL POINT OF TANGENCY
HR	HOSE REEL, HOUR
HS	HEADED STUD, HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
HTG	HEATING
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWD	HARDWOOD
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
HZ	HERTZ, CYCLES PER SECOND
ID	INSIDE DIAMETER, INTERIOR DIMENSION
IE	INVERT ELEVATION, FOR EXAMPLE
IF	INSIDE FACE
IH	INTAKE HOOD
IMP	IMPACT
IN	INCH
INC	INCLUDE, INCANDESCENT
INF	INFLUENT
INSTR	INSTRUMENTATION
INSUL	INSULATION
INT	INTERIOR, INTERSECTION
INTR	INTERMEDIATE, INTERIOR
INV	INVERT
IPS	IRON PIPE SIZE
IPT	INTERNAL PIPE THREAD
IR	INSIDE RADIUS, IRON ROD
IRR	IRRIGATION
ISO	ISOMETRIC
JB	JUNCTION BOX
JCT	JUNCTION
JF	JOINT FILLER
JST	JOIST
JT	JOINT
K	KIP
KB	KNEE BRACE
KCMIL	THOUSAND CIRCULAR MILS
KD	KNOCK DOWN
KO	KNOCK OUT
KSI	KIPS PER SQUARE INCH
KW	KILOWATT
L	ANGLE, LENGTH, LAVATORY, LINTEL
LAD	LADDER
LAM	LAMINATE
LATL	LATERAL
LB	LAG BOLT, POUND
LCTB	LIQUID CHALK AND TACK BOARD
LDG	LANDING
LDR	LEADER
LE	LIFTING EYE
LF	LINEAR FOOT
LG	LONG
LH	LEFT HAND
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LMLU	LIQUID MARKER LECTURE UNIT
LNG	LONGITUDINAL
LOC	LOCATION
LP	LOW POINT
LPS	LOW-PRESSURE SODIUM
LR	LONG RADIUS
LT	LEFT
LTD	LIMITED
LTG	LIGHTING
LTL	LINTEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
LVL	LAMINATED VENEER LUMBER
LVR	LOUVER
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
MA	MIXED AIR
MACH	MACHINED
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MEMBER
MC	MECHANICAL CONTRACTOR, MECHANICAL COUPLING, MOMENT CONNECTION
MCB	METAL CORNER BEAD
MCJ	MASONRY CONTROL JOINT
MDMJ	MODIFIED DOUBLE MECHANICAL JOINT
MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MASONRY LINTEL
MLO	MAIN LUGS ONLY
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODULAR, MODIFY
MON	MONUMENT
MPT	MALE PIPE THREAD
MRGWB	MOISTURE-RESISTANT GYPSUM WALLBOARD
MS	MOP SINK
MSL	MEAN SEA LEVEL
MT	MOUNT
MU	MASONRY UNIT
MULL	MULLION
MV	MEDIUM VOLTAGE
MW	MONITORING WELL
N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NAT	NATURAL, NATIONAL
NC	NORMALLY CLOSED
NEG	NEGATIVE
NF	NEAR FACE, NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NS	NEAR SIDE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
O TO O	OUT TO OUT
OA	OUTSIDE AIR, OVERALL
OC	ON CENTER
OCPD	OVER CURRENT PROTECTION DEVICE
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
OF	OUTSIDE FACE, OFFICE FURNISHING
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OG	ORIGINAL GROUND
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
OVFL	OVERFLOW
OVHG	OVERHANG
OW	OBSERVATION WELL
OZ	OUNCE
P	PAINT
PA	PUBLIC ADDRESS
PAR	PARALLEL, PARAPET
PB	PANIC BAR, PULL BOX
PBD	PARTICLE BOARD
PC	POINT OF CURVE, PIECE, PRECAST
PCC	POINT OF COMPOUND CURVATURE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PE	PLAIN END
PED	PEDESTAL
PEN	PENETRATION
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PF	POWER FACTOR
PFMU	PREFACED MASONRY UNIT
PH	PHASE
PI	POINT OF INTERSECTION
PKG	PACKAGE
PL	PLATE, PROPERTY LINE, PRECAST LINTEL
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PNEU	PNEUMATIC
POL	POLISH
POS	POSITIVE, POSITION
PP	POLYPROPYLENE, POWER POLE
PRC	POINT OF REVERSE CURVATURE
PREF	PREFINISHED
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE
PRES	PRESSURE
PRI	PRIMARY
PROP	PROPERTY, PROPOSED
PROT	PROTECTION
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PST	PRESTRESSED
PT	POINT, POINT OF TANGENCY
PTN	PARTITION
PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
PVMT	PAVEMENT
PWD	PLYWOOD
PWJ	PLYWOOD WEB JOIST
PZ	PIEZOMETER
Q	RATE OF FLOW
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R&R	REMOVE AND REPLACE
R&S	REMOVE AND SALVAGE
R	RADIUS, REGISTER, RISER
RA	RETURN AIR
RB	RESILIENT BASE, ROCK BERM
RCPT	RECEPTACLE
RD	ROOF DRAIN
REC	RECESS
RECD	RECEIVED
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REINF	REINFORCING
REM	REMOVE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING, RETURN
REV	REVISION, REVERSE
RF	RESILIENT FLOORING
RFG	ROOFING
RFL	REFLECTED, REFLECTOR
RGH	ROUGH
RGS	RIGID GALVANIZED STEEL
RGS-PVC	PVC COATED RGS
RH	RELIEF HOOD, RIGHT HAND, RELATIVE HUMIDITY
RJ	RESTRAINED JOINT
RL	REQUIRED LAP
RLFA	RELIEF AIR
RND	ROUND
RNG	RUNNING
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
RVT	RESILIENT VINYL TILE
RY	READY
S	SOUTH, SINK
SA	SUPPLY AIR
SAMU	SOUND-ABSORBING MASONRY UNIT
SAN	SANITARY
SB	SPLASH BLOCK
SC	SOLID CORE
SCH	SCHEDULE
SCHEM	SCHEMATIC
SCN	SCREEN
SE	STEEL/ALUMINUM EDGE
SEC	SECONDARY, SECONDS
SECT	SECTION
SEP	SEPARATE
SF	SQUARE FOOT, SILT FENCE
SG	SHEET GLASS, SEALANT GROOVE
SH	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIL	SILENCE
SIM	SIMILAR
SJ	SLAB JOINT
SL	SLOPE, STEEL LINTEL
SLTD	SLOTTED
SLV	SLEEVE
SMLS	SEAMLESS
SOG	SLAB ON GRADE
SP	SOUNDPROOF, STANDPIPE
SPA	SPACING
SPEC	SPECIFICATION
SPLY	SUPPLY
SPST	SINGLE POLE SINGLE THROW
SPT	SET POINT
SQ	SQUARE
SR	SHORT RADIUS
SS	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STR	STRUCTURAL, STRAIGHT
SUB	SUBSTITUTE
SUC	SUCTION
SUSP	SUSPENDED
SY	SQUARE YARD
SYM	SYMBOL
SYMM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T	TILE, TREAD
TA	TOILET ACCESSORY, TEMPERED AIR
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEF	TROWELED EPOXY FLOORING
TEMP	TEMPORARY, TEMPERATURE
THD	THREAD
THK	THICK
THRESH	THRESHOLD
TKBD	TACK BOARD
TOB	TOP OF BOLT, TOP OF BANK, TOP OF BEAM, TOP OF BERM
TOC	TOP OF CURB, TOP OF CONCRETE
TOD	TOP OF DUCT
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOL	TOLERANCE, TOP OF LEDGER
TOM	TOP OF MASONRY
TOP	TOP OF PLATE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB, TOP OF STEEL, TOE OF SLOPE
TOW	TOP OF WALL
TP	TOILET PARTITION, TELEPHONE POLE, TOE PLATE, TRAP PRIMER
TPD	TOILET PAPER DISPENSER
TPG	TOPPING, THROUGH PLATE GIRDER
TR	TRANSOM
TRANS	TRANSITION
TRD	TRENCH DRAIN
TYP	TYPICAL
U	URINAL
UG	UNDERGROUND
ULT	ULTIMATE
UNFN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	VENT, VELOCITY, VOLT
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARNISH, VARIABLE, VOLT AMPERES REACTIVE
VB	VAPOR BARRIER, VINYL BASE, VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE, VERTICAL CENTERLINE
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VERTS	VERTICAL REINFORCING
VG	VERTICAL GRAIN
VIF	VERIFY IN FIELD
VIN	VINYL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VS	VERSUS, VAPOR SEAL
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W/	WITH
W/O	WITHOUT
W	WATT, WEST, WIDE, WINDOW, WIRE, WIDE FLANGE BEAM
WB	WOOD BASE
WC	WATER CLOSET, WATER COLUMN
WD	WOOD, WIDTH
WF	WIDE FLANGE, WASH FOUNTAIN
WG	WIRE GLASS, WATER GAGE
WH	WALL HYDRANT, WEEP HOLE
WI	WROUGHT IRON
WL	WATER LEVEL
WLD	WELDED
WM	WIRE MESH
WP	WEATHERPROOF
WS	WATERSTOP, WATER SURFACE
WSCT	WAINSCOT
WT	WEIGHT, WATER TIGHT
WTHP	WATERPROOF, WORKING POINT
WWF	WELDED WIRE FABRIC
XP	EXPLOSION-PROOF
XS	EXTRA STRONG
XSECT	CROSS SECTION
XXS	DOUBLE EXTRA STRONG
YH	YARD HYDRANT
YS	YIELD STRENGTH

GENERAL NOTES:

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING AND "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.
4. SEE INSTRUMENTATION LEGEND SHEET FOR PROJECT-SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

D

C

B

A

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3/14/2023 8:47 AM
Keyhill, Pat

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ISSUE	DATE	DESCRIPTION
4	03-10-2023	100% REVIEW SET
3	02-08-2023	90% INTERNAL REVIEW SET
2	12-21-2022	90% CLIENT REVIEW SET
1	09-08-2022	50% REVIEW SET

PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

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03-2023

city of Ankeny
bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

GENERAL ABBREVIATIONS

0 1" 2"

FILENAME 00G001.dwg
SCALE NONE

SHEET
00G001

SITE PLAN SYMBOLOGY

- HORIZONTAL CP-X, CONTROL POINT
- BENCHMARK
- TH-"X" — IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE
- MONUMENT FOUND, ORIGIN UNKNOWN UNLESS OTHERWISE NOTED
- (P) — PLATTED
- (M) — MEASURED
- UTILITY POLE
- LP — UTILITY POLE W/ LIGHT
- BRACE POLE
- BB — BREAKER BOX
- ELECTRICAL BOX
- YARD LIGHT
- DEADMAN ANCHOR
- OHE — OVERHEAD POWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- G — UNDERGROUND GAS LINE
- WATER LINE VALVE
- WATER MANHOLE
- WATER METER
- FIRE HYDRANT
- W — WATER LINE
- SANITARY SEWER MANHOLE
- CO — SANITARY SEWER CLEAN-OUT
- SS — SANITARY SEWER LINE
- STORM SEWER MANHOLE
- TELEPHONE PEDESTAL
- T — UNDERGROUND TELEPHONE LINE
- FO — UNDERGROUND FIBER OPTIC CABLE
- STREET SIGN
- BUSINESS SIGN
- STEEL BOLLARD
- FP — FLAG POLE
- MB — MAIL BOX
- DP — DECORATIVE BLUE PIPE
- SP — SENSOR POLE
- GP — GATE POST
- CHAIN LINK FENCE
- WROUGHT IRON FENCE
- 20" — DECIDUOUS TREE W/ SIZE
- 24" — EVERGREEN TREE W/ SIZE
- BUSH
- TREE STUMP
- 1260 — 1' CONTOUR INTERVAL
- 71.50 / 71.75 — SPOT ELEVATION AT TOP AND FLOWLINE OF CURB (ADD 1200)
- X 997.95 — SPOT ELEVATION AT GROUND/PAVEMENT
- B/B — BACK OF CURB TO BACK OF CURB
- RIGHT OF WAY

PIPING SYSTEMS

CIP	CAST IRON PIPE
CON	CONCRETE PIPE
CS	CENTRAL SERVICE
DIP	DUCTILE IRON PIPE
DRN	DRAIN
OV/FL	OVERFLOW
PWC	POTABLE WATER COLD
SAN	SANITARY (GRAVITY)
SMP	SAMPLE
STM	STORM
TR	TRANSITE
VT	VENT
WH	WEST HILLS
WTR	POTABLE WATER

MATERIALS IN PLAN/SECTION

- ACOUSTICAL CEILING TILE (SECTION)
- ASPHALT (PLAN OR SMALL SCALE SECTION)
- ASPHALT (LARGE SCALE SECTION)
- BATT INSULATION (SECTION)
- BRICK MASONRY (PLAN/SECTION)
- CHECKERED PLATE (PLAN)
- CONCRETE (PLAN/SECTION)
- CONCRETE MASONRY (PLAN/SECTION)
- DEMOLITION (PLAN/SECTION)
- EARTH (SECTION)
- FILTER POINT MAT (PLAN)
- FINISHED WOOD (SECTION)
- GLU-LAM LUMBER (SECTION)
- GRANULAR FILL (SECTION)
- GRATING (SECTION)
- GRATING (PLAN)
- GRAVEL
- GROUT (SECTION)
- GYPSUM BOARD (SECTION)
- METAL (SECTION)
- ORIENTED STRAND BOARD (SECTION)
- PARTICLE BOARD (SECTION)
- PLYWOOD (LARGE SCALE SECTION)
- PLYWOOD (SMALL SCALE SECTION)
- PRECAST CONCRETE (PLAN/SECTION)
- RIGID INSULATION (SECTION)
- RIPRAP (PLAN/SECTION)
- SAND (SECTION)
- SOD (SECTION)
- WEEP JOINT MORTAR PROTECTION SYSTEM (SECTION)
- WOOD - CONTINUOUS (SECTION)
- WOOD BLOCKING (SECTION)

GENERAL SYMBOLOGY

ARROW INDICATES DIRECTION OF PLAN NORTH

N

NORTH ARROW

PLAN
1/4" = 1'-0"
PLAN TITLE

ARROW INDICATES DIRECTION OF SECTION CUT
SECTION LETTER
SHEET WHERE SECTION IS LOCATED
X / XXX

FULL BUILDING SECTION CUT MARKER

SECTION LETTER
FLAG INDICATES DIRECTION OF SECTION CUT
SHEET WHERE SECTION IS LOCATED
X / XXX

SECTION CUT MARKER

SECTION LETTER
SECTION
3/8" = 1'-0"
SHEET WHERE SECTION VIEW IS FIRST CUT *
X / XXX

SECTION TITLE

DETAIL NUMBER
SHEET WHERE DETAIL IS LOCATED *
/ XXX

DETAIL MARKER

FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.

DETAIL NUMBER
DETAIL
1/4" = 1'-0"
SHEET WHERE DETAIL IS LOCATED *
X / XXX

DETAIL TITLE

* EXCEPTIONS WHERE THE SHEET NUMBER IS REPLACED BY A DASH (-).
1) FOR COMMON DETAILS, SECTIONS, ELEVATIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS.
2) SECTIONS, ELEVATIONS OR DETAILS THAT ARE LOCATED ON THE SAME SHEET THEY ARE CUT OR CALLED OUT ON.

ARROW INDICATES POINT OF VIEW
ELEVATION NUMBER
SHEET WHERE ELEVATION IS LOCATED *
INTERIOR — EXTERIOR
X / XXX

SINGLE ELEVATION OR PHOTO MARKER

ELEVATION NUMBER
ARROW INDICATES POINT OF VIEW ELEVATION
INDICATES SHEET WHERE ELEVATION IS LOCATED
X / XXX

MULTIPLE ELEVATION OR PHOTO MARKER

ELEVATION IDENTIFICATION NUMBER
ELEVATION
3" = 1'-0"
SHEET WHERE POINT OF VIEW MARKER CAN BE FOUND *
X / XXX

ELEVATION TITLE

TARGET ELEVATION

ARCHITECTURAL

ROOM NAME / XX-XX — ROOM NUMBER
XXX / X — DOOR NUMBER
A — COLUMN GRID LINE
X — WALL TYPE
X — WINDOW TYPE
X — LOUVER
X — ACCESSORY, FURNITURE, AND MISCELLANEOUS EQUIPMENT IDENTIFIER

KEY NOTE DESIGNATION

KEY NOTE NUMBER
#

GENERAL NOTES:

1. THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

IDENTIFICATION SYMBOLOGY

PIPING:

FIGURE	36-PLE	EXAMPLE
LINE SIZE		36"
SERVICE		PLANT EFFLUENT

EXISTING PIPING:

FIGURE	6-DIP-SCO	EXAMPLE
LINE SIZE		6"
MATERIAL		DUCTILE IRON PIPE
SERVICE		SCUM

EQUIPMENT TAG NUMBERS:

AAEEE-SSS
- PROCESS AREA
- EQUIPMENT ABBREVIATION
- SEQUENTIAL NUMBER

SHEET NAMING CONVENTION

AREA DESIGNATION

TO BE EDITED ON AN A PROJECT BASIS. TO BE DETERMINED BY THE PROJECT MANAGER, THEN ADDED TO THE GENERAL LEGEND.

EXAMPLE:

00	GENERAL
02	STANDARD DETAILS
10	SITE PLANNING
20	COMPOSITE ELEVATED STORAGE TANK (BASE BID)
21	HYDROPILLAR ELEVATED STORAGE TANK (BID ALTERNATE NO. 1)
30	BULK WATER SALES STATION

DISCIPLINE DESIGNATOR & DISCIPLINE ORDER

G	GENERAL
V	SURVEYING/MAPPING
X	DEMOLITION
C	CIVIL
L	LANDSCAPING
U	MULTI-DISCIPLINE
S	STRUCTURAL
A	ARCHITECTURAL
D	PROCESS
M	MECHANICAL (HVAC)
P	PLUMBING
F	FIRE PROTECTION
E	ELECTRICAL
Y	INSTRUMENTATION

DRAWING TYPE DESIGNATOR

0	GENERAL (SYMBOLS, LEGENDS)
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES AND DIAGRAMS
8	PROFILES
9	3D REPRESENTATIONS

EXAMPLE

SITE LAYOUT PLAN (10C101)
SITE PLANNING, CIVIL, PLAN VIEW, SHEET 01

1	0					AREA 10
AREA DESIGNATION						
		C				CIVIL DISCIPLINE
DISCIPLINE DESIGNATOR						
			1			PLAN TYPE
SHEET TYPE DESIGNATOR						
				0	1	SHEET NUMBER 01
SHEET NUMBER						
1	0	C	1	0	1	
SAMPLE SHEET NUMBER						

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ELEVATED WATER
STORAGE TANK

GENERAL
SYMBOLS, PIPING SYSTEMS
AND EQUIPMENT IDENTIFICATION LEGEND

0 1" 2"
FILENAME 00G002.dwg
SCALE NONE
SHEET 00G002

LOW - VOLTAGE CIRCUIT BREAKER (CB), RATINGS AND NO. OF POLES AS SHOWN. WHEN SPECIFIC TYPE IS REQUIRED, X INDICATES TYPE.

TYPES:
MCCB - MOLDED CASE
ICCB - INSULATED CASE
LVP - LOW - VOLTAGE POWER
MCP - MOTOR CIRCUIT PROTECTOR (RATING PER CONNECTED LOAD)

SEPARATELY MOUNTED CIRCUIT BREAKER; SEE ELECTRICAL ONE - LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

GROUND FAULT PROTECTION

MEDIUM - VOLTAGE CIRCUIT BREAKER

FUSE, SIZE, AND NUMBER OF FUSES AS NOTED

FUSED CUTOUT, CURRENT RATING, FUSE SIZE, AND NUMBER OF POLES AS NOTED

FUSIBLE SWITCH, CURRENT RATING, FUSE SIZE, AND QUANTITY AS NOTED

NON-FUSED SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

DISCONNECT OR DRAWOUT CONNECTION

MAGNETIC MOTOR STARTER AND SEPARATELY MOUNTED COMBINATION MAGNETIC MOTOR STARTER

MOTOR CONTROLLER AND SEPARATELY MOUNTED MOTOR CONTROLLER WITH SHORT CIRCUIT PROTECTION AND DISCONNECT

MOTOR STARTER AND CONTROLLER SUBSCRIPTS:

A - MAGNETIC STARTER NEMA SIZE

B - STARTER TYPE
NONE - FULL VOLTAGE NON-REVERSING (FVNR)
FVR - FULL VOLTAGE REVERSING
2S - TWO SPEED
RVAT - REDUCED VOLTAGE AUTO TRANSFORMER

C - CONTROL DIAGRAM OR CONTROLS SCHEDULE NUMBER (IF REQUIRED)

D - CONTROLLER TYPE
VFD - VARIABLE FREQUENCY DRIVE
SS - SOLID STATE

SEPARATELY MOUNTED COMBINATION MOTOR STARTER OR CONTROLLER; SEE ELECTRICAL ONE - LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

THERMAL OVERLOAD ELEMENT

THERMAL OVERLOAD RELAY CONTACT

DISCONNECT OR SAFETY SWITCH, 30A, 3P, NON-FUSED UNLESS OTHERWISE NOTED

MOTOR WITH DESIGN HORSEPOWER (WHEN INDICATED)

GENERATOR

TRANSFER SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

ATS - AUTOMATIC
MTS - MANUAL

TRANSFORMER

3-PHASE, 3-WIRE DELTA CONNECTION

3-PHASE, 4-WIRE GROUNDED WYE CONNECTION

SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

NON-MOTOR LOAD WITH DESIGN KVA, KW, OR AMP

CONTROL POWER TRANSFORMER (CPT)

VOLTAGE TRANSFORMER (VT OR PT)

CURRENT TRANSFORMER (CT)

UTILITY WATT-HOUR METER PER UTILITY REQUIREMENTS

DIGITAL METERING PACKAGE

RUN TIME METER

GROUND

LIGHTNING ARRESTER

LOW VOLTAGE SURGE PROTECTIVE DEVICE

ELECTRICAL CONNECTION

NO ELECTRICAL CONNECTION

SOLENOID VALVE

CONTROL/RELAY COIL; X INDICATES TYPE, Y INDICATES LOOP NO, WHEN USED

TYPES:
CR - CONTROL RELAY
DP - DEFINITE PURPOSE RELAY
LC - LIGHTING CONTACTOR
M - MOTOR STARTER
PC - PHOTO CELL
TC - TIME CLOCK
TR - TIMING RELAY

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS DE-ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS DE-ENERGIZED

NORMALLY OPEN TEMPERATURE SWITCH; CLOSE ON RISING TEMPERATURE

NORMALLY CLOSED TEMPERATURE SWITCH; OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH; CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH; OPEN ON INCREASING FLOW

NORMALLY OPEN LEVEL SWITCH, CLOSE ON RISING LEVEL

NORMALLY CLOSED LEVEL SWITCH, OPEN ON RISING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN LIMIT SWITCH, CLOSE ON REACHING LIMIT

NORMALLY CLOSED LIMIT SWITCH, OPEN ON REACHING LIMIT

FIELD WIRING EXTERNAL TO CONTROL PANEL

INTERLOCK; X INDICATES TYPE

TYPES:
E - ELECTRICAL M - MECHANICAL K - KEY

3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS; UNLESS OTHERWISE NOTED, 2-POSITION SIMILAR

NORMALLY OPEN PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY CLOSED PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

INDICATING LIGHT, X INDICATES LENS COLOR

PUSH TO TEST INDICATING LIGHT, X INDICATES LENS COLOR

LENS COLORS:
R - RED
G - GREEN
B - BLUE
Y - YELLOW W - WHITE A - AMBER

TRANSFORMER

SELECTOR SWITCH

PUSHBUTTON

INSTRUMENTATION/CONTROL DEVICE

CONTROL PANEL INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

CONTROL PANEL WITH DISCONNECT SWITCH INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

JUNCTION OR PULL BOX

ELECTRICAL EQUIPMENT ENCLOSURE: PANELBOARD, SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, OR OTHER EQUIPMENT AS INDICATED

PHOTOCELL

CEILING/PENDANT-MOUNTED LUMINAIRE

WALL-MOUNTED LUMINAIRE

CEILING-MOUNTED LUMINAIRE

WALL-MOUNTED LUMINAIRE

CEILING/PENDANT-MOUNTED LUMINAIRE NORMAL/EMERGENCY

WALL-MOUNTED LUMINAIRE NORMAL/EMERGENCY

EMERGENCY LIGHT, 2 ATTACHED HEADS AS SHOWN

EMERGENCY LIGHT, REMOTE MOUNTED HEAD

DOUBLE-FACED CEILING OR WALL-MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

SINGLE-FACED CEILING OR WALL-MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

AREA OR ROADWAY LIGHT - POLE-MOUNTED

LIGHTING FIXTURE SUBSCRIPTS:

X - INDICATES FIXTURE TYPE PER LIGHTING FIXTURE SCHEDULE
Y - INDICATES CIRCUIT NUMBER FROM PANELBOARD
z - INDICATES CONTROLLING SWITCH (IF REQUIRED)

TOGGLE SWITCH

SUBSCRIPTS:
X - INDICATES TYPE
NONE - SINGLE POLE
3 - THREE-WAY
4 - FOUR-WAY
HP - TOGGLE SWITCH, HORSEPOWER RATED
K - KEY SWITCH
TE - MANUAL MOTOR STARTER WITH THERMAL ELEMENT
P - PILOT LIGHT
L - LIGHTED HANDLE
Y - INDICATES CONTROLLING SWITCH (IF REQUIRED)

PIR OCCUPANCY SENSOR, EQUAL TO WATTSTOPPER PW-100

SPECIAL-PURPOSE RECEPTACLE AS DEFINED ON PLANS

PLUG-IN RECEPTACLE STRIP, QUANTITY AND SPACING OF RECEPTACLES AS NOTED OR SPECIFIED

TELECOMMUNICATIONS OUTLET JUNCTION BOX

DUPLEX RECEPTACLE, NEMA 5-20R

DUPLEX RECEPTACLE, NEMA 5-20R, GFCI

SUBSCRIPTS:
X - INDICATES TYPE
WP - WEATHERPROOF

CONDUIT TURNING UP

CONDUIT TURNING DOWN

HOME RUN TO PANEL, 2 #12, 1 #12G IN 3/4"C UNLESS OTHERWISE NOTED

CIRCUIT RUN BETWEEN DEVICES EXPOSED IN NON-ARCHITECTURALLY FINISHED AREAS; CONCEALED IN ARCHITECTURALLY FINISHED AREAS. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CONDUIT RUN BETWEEN DEVICES CONCEALED IN NON-ARCHITECTURALLY FINISHED AREAS OR UNDER FLOOR SLAB. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CIRCUIT HASH MARKS (WHEN INDICATED); SHORT, LONG, SHORT, ANGLED REPRESENT PHASE, NEUTRAL, SWITCHED LEG, AND EQUIPMENT GROUND, RESPECTIVELY. #12 IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

CIRCUIT CONTINUATION

CONDUIT STUBBED OUT AND CAPPED

CONDUIT TAG OR CIRCUIT NUMBER - WIRE AND CONDUIT SIZE AS SPECIFIED IN CIRCUIT SCHEDULE ON THE SHEETS

GROUND CABLE

GROUND ROD

FIRE ALARM ANNUNCIATOR

FIRE ALARM CONTROL PANEL

FIRE ALARM MANUAL PULL STATION

UNDERGROUND CIRCUIT

FIRE ALARM CONTROL RELAY

FIRE ALARM CONTACT, FLOW SWITCH

FIRE ALARM CONTACT, TAMPER SWITCH

FIRE ALARM CONTACT, PRESSURE SWITCH

SMOKE AND DUCT DETECTOR

SUBSCRIPT:
I - IONIZATION TYPE
P - PHOTOELECTRIC TYPE

HEAT DETECTOR

SUBSCRIPT:
R/C - RATE COMPENSATION
R/F - COMBINATION RATE OF RISE AND FIXED TEMP
R - RATE OF RISE
F - FIXED

ALARM BELL

ALARM HORN

ALARM FLASHING LIGHT

ALARM BELL AND FLASHING LIGHT COMBINATION UNIT

ALARM HORN AND FLASHING LIGHT COMBINATION UNIT

SUBSCRIPT:
NONE - GENERAL ALARM DEVICE
F - FIRE ALARM DEVICE

GENERAL NOTES:

1. THIS IS A STANDARD ELECTRICAL SYMBOLOGY SHEET. NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
3. SEE P&ID LEGEND SHEET FOR PROJECT-SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

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CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

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ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED. THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT
03-2023

city of Ankeny
bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

GENERAL
ELECTRICAL LEGEND

0 1" 2"

FILENAME 00G003.dwg
SCALE NONE
SHEET 00G003

Reuss, Billie J.
00G003.dwg
3/14/2023 2:14 PM

PRIMARY ELEMENT SYMBOLOGY

- ORIFICE PLATE
- PITOT TUBE OR ANNUBAR
- FI — ROTOMETER
- SONIC OR ULTRASONIC FLOWMETER
- M — MAGNETIC FLOWMETER
- FT — MASS DISPERSION FLOWMETER
- FLUME
- WEIR
- PROPELLER OR TURBINE METER
- VENTURI TUBE
- FLOAT SWITCH
- TE — TEMPERATURE ELEMENT WITH THERMOWELL
- FG — SIGHT FLOW GLASS

LINE TYPES

- MAIN PROCESS LINE
- SECONDARY PROCESS LINE
- AUXILIARY PROCESS LINE
- DIRECTION OF FLOW
- PNEUMATIC SIGNAL
- ELECTRICAL SIGNAL
- HYDRAULIC SIGNAL
- SOFTWARE OR DATA LINK
- SIGNAL CONNECTION
- CROSSOVER - NO CONNECTION
- CAPILLARY

CROSS REFERENCE SYMBOLOGY

- Y-3 — CONTINUATION ON SHEET Y-3
- Y-3 — CONTINUATION ON SHEET Y-3

INSTRUMENT SYMBOLOGY

- LOCALLY MOUNTED FIELD INSTRUMENTATION
- MOUNTED ON PANEL FRONT
- MOUNTED INSIDE PANEL
- XXX — FRONT PANEL MOUNTED ON AUXILIARY PANEL (SUBSCRIPT INDICATES PANEL)
- MOUNTED INSIDE AUXILIARY PANEL
- PILOT LIGHT
- INSTRUMENT FUNCTIONS SHARING COMMON HOUSING
- COMPLEX INTERLOCK AS DEFINED IN CONTROL DIAGRAM OR IN SPECIFICATIONS
- SHARED DISPLAY, SHARED CONTROL, FIELD MOUNTED
- SHARED DISPLAY, SHARED CONTROL, PRIMARY LOCATION - NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, PRIMARY LOCATION - NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, FIELD MOUNTED

ACTUATOR SYMBOLOGY

- X — OPERATOR ABBREVIATIONS:
  M = MOTOR
  P = PNEUMATIC
  S = SOLENOID
- FLOAT OPERATOR
- SPRING-OPPOSED SINGLE-ACTING PNEUMATIC CYLINDER
- DOUBLE-ACTING PNEUMATIC CYLINDER
- PNEUMATIC DIAPHRAGM
- PNEUMATIC DIAPHRAGM WITH POSITIONER

TYPES OF POWER SUPPLY

A	PLANT COMPRESSED AIR
IA	INSTRUMENTATION AIR
ES	ELECTRIC SUPPLY
NG	NATURAL GAS
HYD	HYDRAULIC

INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USERS CHOICE			CONTROL	CLOSED
D	USERS CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME; RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

MISCELLANEOUS INSTRUMENTATION ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
CL2	CHLORINE (ANALYZER MODIFIER)
CO	CARBON MONOXIDE (ANALYZER MODIFIER)
CO2	CARBON DIOXIDE (ANALYZER MODIFIER)
COMB	COMBUSTIBLES (ANALYZER MODIFIER)
COND	CONDUCTIVITY (ANALYZER MODIFIER)
DEN	DENSITY (ANALYZER MODIFIER)
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DO	DISSOLVED OXYGEN (ANALYZER MODIFIER)
E/P	VOLTAGE TO PNEUMATIC
H2S	HYDROGEN SULFIDE (ANALYZER MODIFIER)
HCL	HYDROGEN CHLORIDE (ANALYZER MODIFIER)
I/O	INPUT/OUTPUT
I/P	CURRENT TO PNEUMATIC
NOX	NITROGEN OXIDE (ANALYZER MODIFIER)
OI	OPERATOR INTERFACE
O2	OXYGEN (ANALYZER MODIFIER)
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
SS	SUSPENDED SOLIDS (ANALYZER MODIFIER)
TURB	TURBIDITY (ANALYZER MODIFIER)
WAN	WIDE AREA NETWORK

CONTROL SWITCH NOTATION ABBREVIATIONS

XXX XXXX

ACK	ACKNOWLEDGE
ESTOP	EMERGENCY STOP
FAIL	FAILURE
FOR	FORWARD-OFF-REVERSE
FR	FORWARD-REVERSE
FS	FAST-SLOW
HA	HAND-AUTO
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
LL	LEAD-LAG
LLS	LEAD-LAG-STANDBY
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
LS	LEAD-STANDBY
MA	MANUAL-AUTO
OAC	OPEN-AUTO-CLOSE
OC	OPEN-CLOSE
OO	ON-OFF
OSC	OPEN-STOP-CLOSE
RJ	RUN-JOG
RJR	RUN-JOG-REVERSE
SIL	SILENCE
SS	START-STOP

VALVES

- BALL VALVE
- BUTTERFLY VALVE
- CONE VALVE
- CHECK VALVE
- DOUBLE-DISK CHECK VALVE
- BALL CHECK VALVE
- DIAPHRAGM VALVE
- GATE VALVE
- GLOBE VALVE
- KNIFE GATE VALVE
- NEEDLE VALVE
- PINCH VALVE
- PLUG VALVE
- THREE-WAY BALL VALVE
- THREE-WAY PLUG VALVE
- PRESSURE-REDUCING VALVE
- PRESSURE-REGULATING VALVE
- THREE-WAY CONTROL VALVE
- OR — PRESSURE-RELIEF VALVE
- X — AIR-RELEASE VACUUM VALVE
  A = AIR RELEASE
  VAC = VACUUM

MISCELLANEOUS SYMBOLOGY

GENERAL NOTES:

1. THIS IS A STANDARD INSTRUMENTATION SYMBOLOGY AND ABBREVIATIONS SHEET. LISTING OF SYMBOLS AND ABBREVIATIONS DOES NOT IMPLY ALL SYMBOLS AND ABBREVIATIONS HAVE BEEN USED ON THIS PROJECT.
2. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR MISCELLANEOUS PIPING SYMBOLS.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
4. VALVE SYMBOLS SHOWN HERE ARE APPLICABLE ONLY TO INSTRUMENTATION DIAGRAMS. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR VALVE SYMBOLS USED ELSEWHERE ON THE SHEETS.

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5/14/2023 8:47 AM
Kerhill, Pat

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300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

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city of Ankeny — bringing it all together

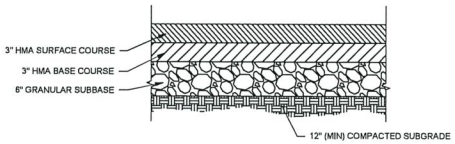
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

0 1" 2"

FILENAME 00G004.dwg
SCALE NONE

GENERAL INSTRUMENTATION LEGEND

SHEET 00G004



1 10C101 ASPHALT PAVEMENT DETAIL
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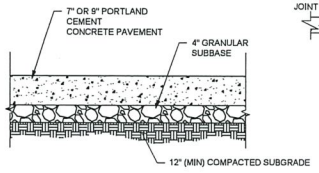

2 10C101 CONCRETE PAVEMENT DETAIL
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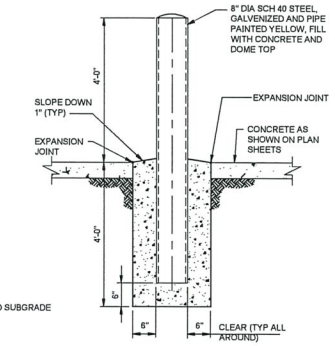

3 10C101 BOLLARD DETAIL
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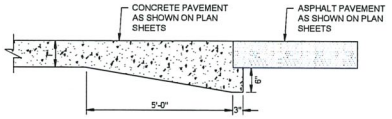

4 10C101 THICKENED EDGE JOINT
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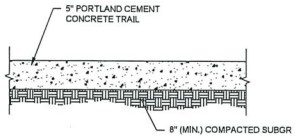

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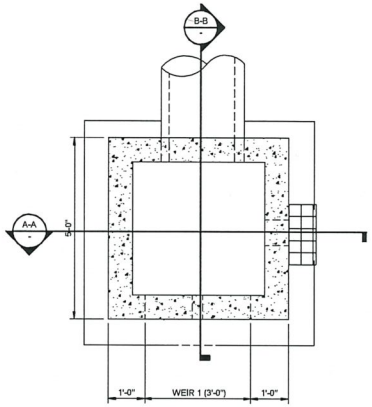
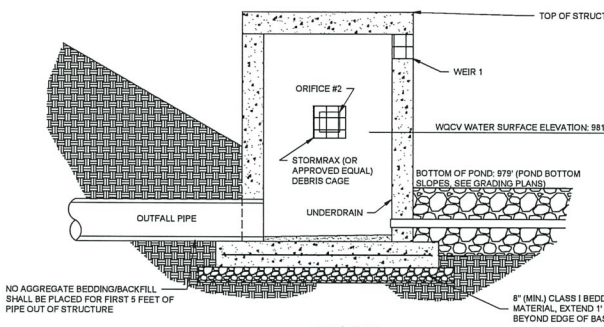
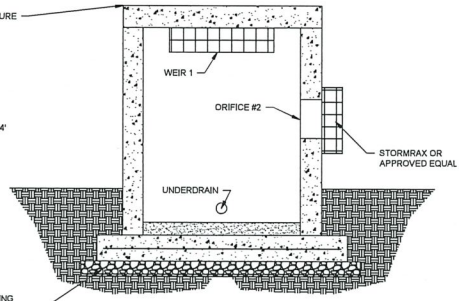
NO SCALE



PLAN



SECTION B-B



SECTION A-A

OUTLET STRUCTURE SIZING AND ELEVATIONS								
UNDERDRAIN SIZE	UNDERDRAIN INVERT ELEVATION @ DISCHARGE INTO OUTLET STRUCTURE	ORIFICE #2 (HEIGHT X LENGTH)	ORIFICE #2 FLOW LINE ELEVATION	WEIR 1 (LENGTH)	WEIR 1 ELEVATION	TOP OF STRUCTURE ELEVATION	OUTFALL PIPE SIZE	OUTFALL PIPE INVERT ELEVATION
4" DIA.	976.50	4"x4"	981.40	3'-0"	982.10	983.27	15" DIA.	976.45

NOTES:

1. STRUCTURE SHALL COMPLY WITH IOWA DOT FIGURE SW-513, EXCEPT AS MODIFIED BY THESE PLANS. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR REVIEW BY ENGINEER PRIOR TO CONSTRUCTION.
2. REFER TO DETAIL 1/02S501 FOR REINFORCING RELATED TO PROPOSED OPENINGS IN STRUCTURE.
3. TRASH RACKS SHALL BE INSTALLED PER MANUFACTURER'S STANDARDS

6 10C103 OUTLET STRUCTURE DETAIL
NO SCALE

02C501.dwg
3/14/2023 8:47 AM
Kephilt, Pat

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
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city of Ankeny
bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

STANDARD DETAILS
SITE DETAILS

0 1" 2"
FILENAME 02C501.dwg
SCALE AS NOTED
SHEET 02C501

GENERAL STRUCTURAL NOTES (GSN)

GENERAL

G1. SCOPE
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.

G2. APPLICABLE SPECIFICATIONS AND CODES
A. INTERNATIONAL BUILDING CODE (IBC) 2021 EDITION AS PROMULGATED BY INTERNATIONAL CODE COUNCIL, FALLS CHURCH VIRGINIA, AS AMENDED BY THE CITY OF ANKENY, IA., UNO.
B. ASCE 7

G3. DESIGN CRITERIA
APPLIES TO ALL STRUCTURES (UNO)

1. DEAD LOAD:
1.1. ACTUAL TRIBUTARY STRUCTURE WEIGHT

2. LIVE LOAD:

2.1. WALKWAYS, STAIRS, GRATING:	100 PSF
2.2. SLAB ON GRADE:	250 PSF

3. WIND: (ASCE 7-16 BASIS)

3.1. RISK CATEGORY:	IV
3.2. BASIC WIND SPEED:	122 MPH
3.3. EXPOSURE:	C

4. SEISMIC
4.1. ALL STRUCTURES

4.1.1. RISK CATEGORY:	IV
4.1.2. IMPORTANCE FACTOR:	1.50
4.1.3. SPECTRAL RESPONSE ACCELERATION, SS:	0.05
4.1.4. SPECTRAL RESPONSE ACCELERATION, S1:	0.06
4.1.1. SITE CLASS:	D
4.1.2. SEISMIC DESIGN CATEGORY:	A
4.1.3. SPECTRAL RESPONSE COEFFICIENT, SDS:	0.064
4.1.4. SPECTRAL RESPONSE COEFFICIENT, SD1:	0.091

5. SNOW LOAD:

5.1 GROUND SNOW LOAD:	30 PSF
5.2 IMPORTANCE FACTOR:	1.20

6. FLOOD CRITERIA:

6.1 FLOOD ELEVATION:	911.00 FT

G4. THE FOLLOWING NON-CONTRACTURAL GEOTECHNICAL REPORT WAS DEVELOPED FOR THIS PROJECT AND IS THE BASIS OF THE STRUCTURAL DESIGN:

GEOTECHNICAL FIRM NAME:	TERRACON CONSULTANTS, INC
ADDRESS:	600 SW 7TH ST, SUITE M, DES MOINES IA 50309
REPORT NUMBER:	08225107-03
REPORT DATE:	SEPTEMBER 23, 2022

EQUIPMENT PADS AND FOUNDATIONS FOR INCIDENTAL STRUCTURES:
NET ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF

G5. SAFETY
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.

G6. DO NOT BACKFILL AGAINST WALLS PRIOR TO GROUND LEVEL CONCRETE FRAMING AND SLAB HAVE REACHED THEIR 28-DAY CONCRETE DESIGN STRENGTH.

G7. OPENINGS
OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

G8. SPECIAL STRUCTURAL INSPECTION SHALL BE PERFORMED AS REQUIRED BY OWNER.

G9. STANDARD DETAILS
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.

G10. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.

G11. CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.

G12. VOIDS MAY NOT BE FORMED BY MEANS OF FILLING CAVITY WITH MATERIAL. FORM MATERIALS MAY BE LEFT IN PLACE.

CONCRETE

C1. DESIGN FOR EXTERIOR FOUNDATIONS:
CONCRETE
f'c = 4500 PSI
REINFORCING
fy = 60000 PSI

C2. CONCRETE COVER
UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS:

CONCRETE DEPOSITED AGAINST EARTH:	3"
ALL OTHER:	2"

SEE DRAWINGS FOR EXCEPTIONS

C3. SEE SPECIFICATIONS FOR REINFORCING PLACEMENT REQUIREMENTS.

C4. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON STRUCTURAL DRAWINGS.. AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

C5. PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES AND 1/2" CHAMFERS AT JOINTS AS SHOWN. NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.

C6. FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS AS INDICATED.

C7. CONTINUOUS WATERSTOP SHALL BE INSTALLED IN JOINTS SUBJECT TO STATIC WATER PRESSURE.

C8. ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.

C9. CONTRACTOR SHALL SUBMIT A CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.

C10. ALL CAST IN PLACE AND POST-INSTALLED ANCHORS INDICATED IN THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH APPENDIX D OF ACI 318 AND CHAPTER 19 OF THE IBC. ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT.

C11. UNLESS OTHERWISE SHOWN, SPLICES FOR BOTTOM REINFORCING BARS IN BEAMS AND SLABS SHALL BE CENTERED OVER THE SUPPORTS. SPLICES FOR TOP REINFORCING BARS SHALL BE LOCATED ON CENTERLINE OF SPAN.

C12. ALL REINFORCING SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.

C13. ALL BARS INDICATED AS BEING HOOKED SHALL HAVE ACI STANDARD 90 DEGREE OR 180 DEGREE HOOKS AS SHOWN.

POST-INSTALLED ANCHORS

PA1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER OF RECORD (EOR) PRIOR TO INSTALLING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

PA2. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

02S001.dwg
3/14/2023 8:17 AM
Kephilt, Pat

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

ISSUE	DATE	DESCRIPTION
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PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

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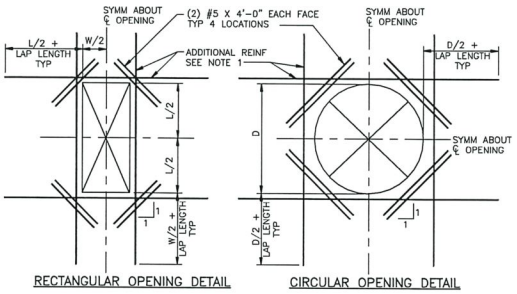
city of Ankeny
bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

STANDARD DETAILS
STRUCTURAL NOTES

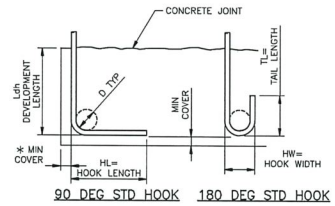
0 1" 2"
FILENAME 02S001.dwg
SCALE AS NOTED
SHEET 02S001



NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING, PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN.
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
4. OPENINGS 12" OR LESS IN SLABS AND OPENINGS 12" OR LESS IN WALLS, NO ADDITIONAL REINFORCING REQUIRED, UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE RESPACED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE.
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
6. PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

1 EXTRA REINFORCING AROUND OPENINGS
NOT TO SCALE



BAR SIZE GRADE 60	HL	HW	TL	D	f'c=4.0 OR 4.5 KSI Ldh *
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-2"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/4"	10 1/2"	9 1/2"	15"
#10	1'-10"	1'-1 1/4"	11 1/2"	10 3/4"	17"
#11	2'-0"	1'-2 3/4"	1'-1"	12"	19"

* COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED.

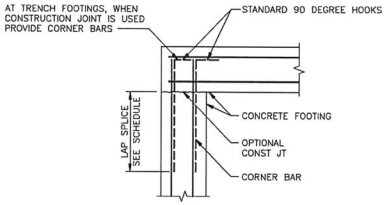
2 REINFORCING HOOK SCHEDULE
NOT TO SCALE

BAR	* MIN BAR SPACING	MINIMUM LAP SPLICE LENGTHS f'c = 4500 PSI: LAPS FOR BARS SPACED GREATER THAN MIN BAR SPACING		LAPS FOR BARS SPACED CLOSER THAN MIN BAR SPACING	
		VERTICAL	OTHER	VERTICAL	OTHER
#3	3"	1'-4"	1'-6"	1'-4"	1'-6"
#4	3"	1'-7"	2'-0"	1'-8"	2'-2"
#5	3"	1'-11"	2'-6"	2'-7"	3'-4"
#6	4"	2'-4"	3'-0"	3'-8"	4'-9"
#7	4"	3'-6"	4'-6"	4'-11"	6'-5"
#8	4"	4'-7"	5'-11"	6'-6"	8'-6"
#9	4 1/2"	5'-9"	7'-6"	8'-3"	10'-9"
#10	5"	7'-4"	9'-6"	10'-6"	13'-7"
#11	5 5/8"	9'-0"	11'-8"	12'-10"	16'-8"

NOTES:

1. ALL REBAR SPLICE LENGTHS SHALL BE AS SHOWN UNDER HEADING "VERTICAL" EXCEPT IF SPLICED BARS ARE HORIZONTAL BARS WITH 12" OR MORE CONCRETE BELOW. THEN SPLICE LENGTH SHALL BE AS SHOWN UNDER HEADING "OTHER".
2. *AT SPLICES THE BAR SPACING IS THE CENTER TO CENTER DISTANCE BETWEEN ADJACENT REBARS.
3. ALL SPLICES SHALL BE CONTACT SPLICES AND WIRED TOGETHER.
4. NO WELDED OR MECHANICAL SPLICES ARE PERMITTED UNLESS INDICATED OTHERWISE.
5. UNLESS OTHERWISE SHOWN, SPLICES FOR BOTTOM REINFORCING BARS IN BEAMS AND SLABS SHALL BE CENTERED OVER THE SUPPORTS. SPLICES FOR TOP REINFORCING BARS SHALL BE LOCATED ON CENTERLINE OF SPAN.

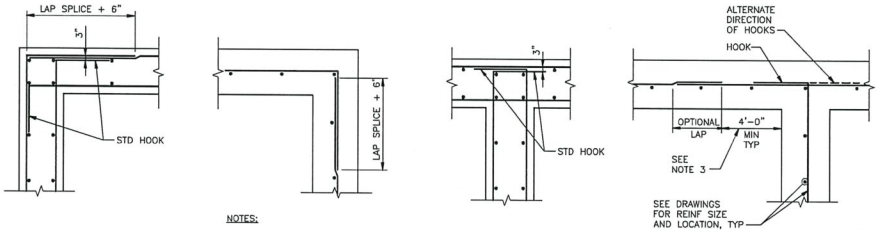
3 CONCRETE REINFORCING LAP SPLICE SCHEDULE
NOT TO SCALE



NOTE:

1. CORNER BARS TO BE SAME SIZE AND SPACING AS FOOTING REINFORCING.

4 TYPICAL FOOTING REINFORCING AT CORNER
NOT TO SCALE



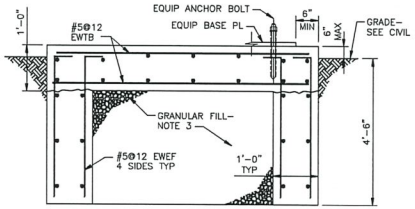
NOTES:

1. ALL HOOKS SHALL BE STD 90 DEGREE HOOKS.
2. SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BAR. STAGGER BETWEEN TYPICAL REINF SPACING. EXTEND TO 1/5 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
3. OPTIONAL LAP LOCATION. APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS TYP.

5 WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS
NOT TO SCALE

LUMP SUM RETAINING WALL WORK:

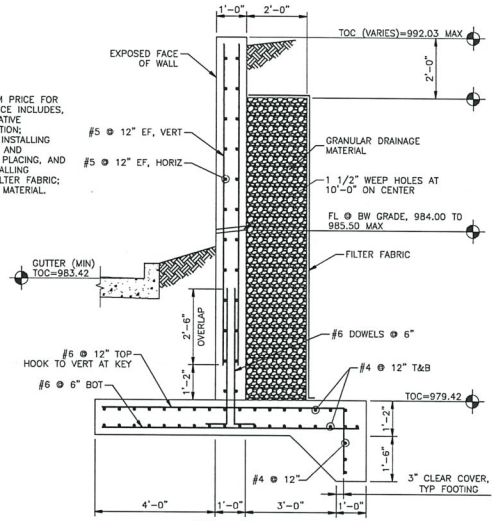
PAYMENT WILL BE MADE AT THE LUMP SUM PRICE FOR COMPLETE RETAINING WALL. LUMP SUM PRICE INCLUDES, BUT IS NOT LIMITED TO, EXCAVATION OF NATIVE MATERIALS FOR RETAINING WALL CONSTRUCTION; SUBGRADE PREPARATION; FURNISHING AND INSTALLING REINFORCING STEEL; FURNISHING, PLACING, AND STRIPPING CONCRETE FORMS; FURNISHING, PLACING, AND CURBING CONCRETE; FURNISHING AND INSTALLING GRANULAR FILL DRAINAGE MATERIAL AND FILTER FABRIC; AND BACKFILLING WITH COMPACTED NATIVE MATERIAL.

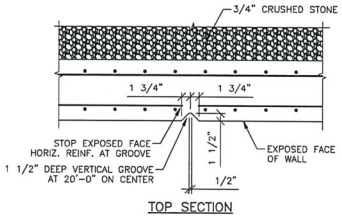


NOTES:

1. INCREASE SLAB THICKNESS AS REQUIRED TO MAINTAIN MIN 3" CONCRETE COVER BELOW EQUIPMENT ANCHOR BOLTS.
2. AT CONTRACTOR'S OPTION REPLACE GRANULAR FILL W/CONCRETE POURED WITH PERIMETER GRADE BEAM AND TOP SLAB. PROVIDE ALL REINF SHOWN IN SECTION.
3. PROVIDE OPENINGS AS REQD FOR PENETRATIONS. REINFORCE AROUND OPENINGS PER DETAIL 1/02S501.

6 TYPICAL EXTERIOR EQUIPMENT PAD
NOT TO SCALE





7 RETAINING WALL DETAIL
NOT TO SCALE

Keyhill, Pat
02S501.dwg
3/14/2023 8:47 AM

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

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PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

PRELIMINARY NOT FOR CONSTRUCTION
ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED. THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT
03-2023

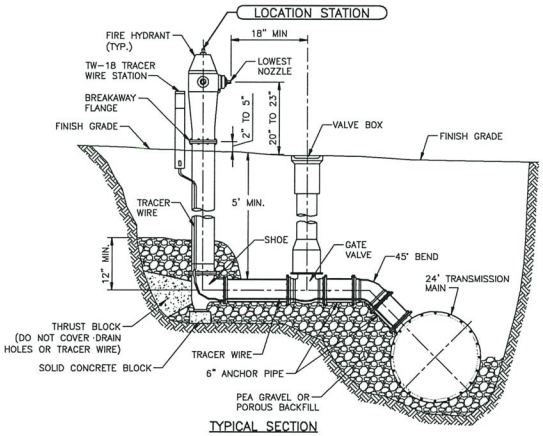
city of Ankeny — bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

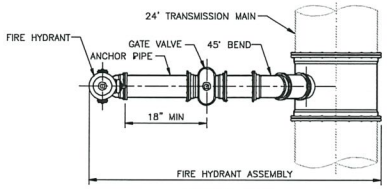
STANDARD DETAILS
TYPICAL CONCRETE DETAILS

0 1" 2"

FILENAME 02S501.dwg
SCALE AS NOTED
SHEET 02S501



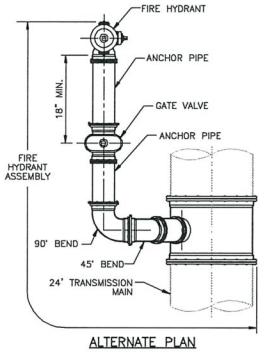
TYPICAL SECTION



TYPICAL PLAN

NOTES:

1. USE DUCTILE IRON PIPE WITH RESTRAINED MECHANICAL JOINTS FOR FIRE HYDRANT ASSEMBLY AND ANCHOR TEE.
2. SEE THE CONTRACT DOCUMENTS FOR THE LOCATION OF EACH HYDRANT AND THE LENGTH OF ANCORING PIPE.



ALTERNATE PLAN

1 LARGE DIAMETER HYDRANT ASSEMBLY DETAILS

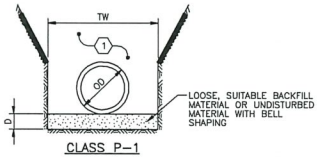
NOT TO SCALE

KEY

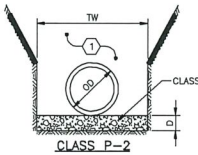
OD= OUTSIDE DIAMETER OF PIPE

TW= TRENCH WIDTH AT TOP OF PIPE:
MIN. = OD+18 INCHES OR 1.25XOD+12 INCHES (WHICHEVER IS GREATER)

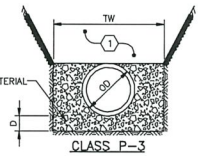
D= DEPTH OF BEDDING MATERIAL BELOW PIPE:
MIN. = OD/8 OR 4 INCHES (WHICHEVER IS GREATER)



CLASS P-1



CLASS P-2



CLASS P-3

BEDDING CLASSES

ALLOWABLE BURY DEPTH

DUCTILE IRON, AWWA C151, CLASS 52

PIPE DIAMETER (INCHES)	CLASS P-1 BEDDING	CLASS P-2 BEDDING	CLASS P-3 BEDDING
4	40'	40'	40'
6	40'	40'	40'
8	40'	40'	40'
10	36'	40'	40'
12	31'	40'	40'
14	26'	40'	40'
16	23'	37'	40'
18	20'	34'	40'
20	18'	32'	40'
24	16'	29'	38
30	13'	23'	31'
36	13'	22'	30'
42	13'	21'	29'
48	13'	19'	27'
54	13'	19'	27'

PVC, AWWA C900, DR18

PIPE DIAMETER (INCHES)	CLASS P-1 BEDDING	CLASS P-2 BEDDING	CLASS P-3 BEDDING
4	19'	23'	40'
6	19'	23'	40'
8	19'	23'	40'
10	19'	23'	40'
12	19'	23'	40'
14	19'	23'	40'
16	19'	23'	40'
18	19'	23'	40'
20	19'	23'	40'
24	19'	23'	40'

1 PLACE REMAINDER OF BEDDING AND BACKFILL MATERIAL AS SPECIFIED IN THE CONTRACT DOCUMENTS.

2 PIPE BEDDING DETAILS

NOT TO SCALE

02D501.dwg
3/14/2023 8:48 AM
Keyhill, Pat

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

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bringing it all together

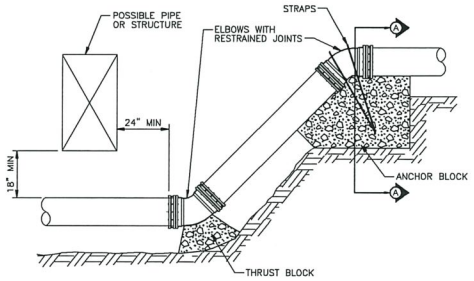
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

STANDARD DETAILS
WATER MAIN & APPURTENANCE DETAILS

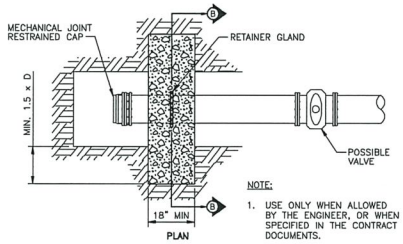
0 1" 2"

FILENAME 02D501.dwg
SCALE AS NOTED

SHEET
02D501



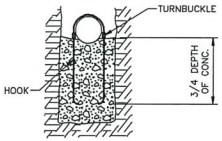
ELEVATION



PLAN

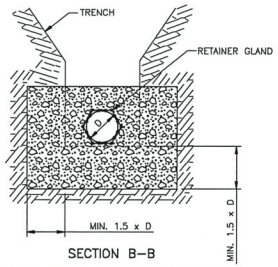
NOTE:

1. USE ONLY WHEN ALLOWED BY THE ENGINEER, OR WHEN SPECIFIED IN THE CONTRACT DOCUMENTS.



SECTION A–A

CHANGES IN PIPE DEPTH

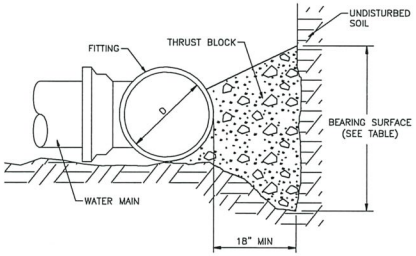


SECTION B–B

DEAD ENDS (ALTERNATE METHOD)

1 THRUST BLOCK DETAILS

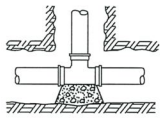
NOT TO SCALE



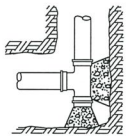
TYPICAL SECTION

NOTES:

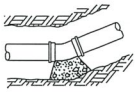
1. EXTEND THRUST BLOCKS TO UNDISTURBED SOIL. EXCAVATION INTO TRENCH WALL MAY BE NECESSARY.
2. FORM VERTICAL SURFACES OF POURED CONCRETE THRUST BLOCKS EXCEPT ON BEARING SURFACE.
3. ENCASE ALL FITTINGS IN POLYETHYLENE WRAP. DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS.



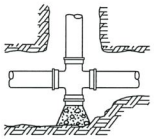
TEE



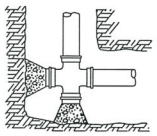
TEE



BEND

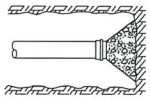


CROSS



CROSS

TYPICAL PLANS



DEAD END

DIAMETER OF PIPE, D (INCHES)	MINIMUM BEARING SURFACE (sf)				
	BENDS				TEES AND DEAD ENDS
	11¼°	22½°	45°	90°	
4	1	1	2	4	3
6	1	2	4	8	6
8	2	4	7	14	10
10	3	6	11	21	15
12	4	8	16	29	21
14	5	11	21	39	28
16	7	14	27	50	36
18	9	17	34	63	45
20	11	21	42	78	55
24	15	31	60	111	78
30	24	47	92	171	120
36	34	67	132	244	173

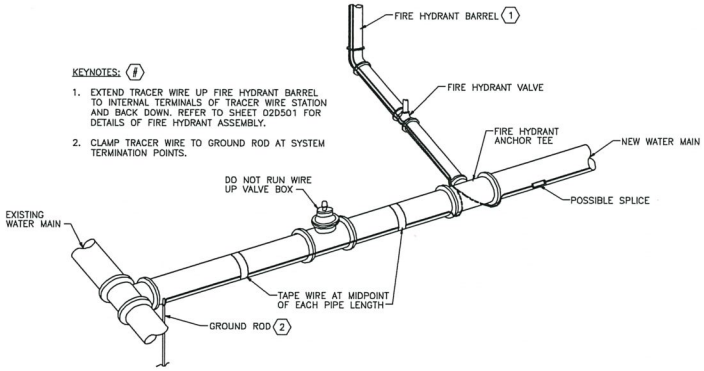
MINIMUM SURFACE AREA BASED ON WATER PRESSURE OF 150 PSI AND ALLOWABLE SOIL PRESSURE OF 1,000 PSF.

2 THRUST BLOCK DETAILS

NOT TO SCALE

KEYNOTES: (#)

1. EXTEND TRACER WIRE UP FIRE HYDRANT BARREL TO INTERNAL TERMINALS OF TRACER WIRE STATION AND BACK DOWN. REFER TO SHEET 02D501 FOR DETAILS OF FIRE HYDRANT ASSEMBLY.
2. CLAMP TRACER WIRE TO GROUND ROD AT SYSTEM TERMINATION POINTS.



3 PIPE TRACER WIRE INSTALLATION DETAILS

NOT TO SCALE

02D502.dwg
3/14/2023 8:48 AM
Keyhill, Pat

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

ISSUE	DATE	DESCRIPTION
4	03-10-2023	100% REVIEW SET
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1	09-08-2022	50% REVIEW SET

PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

PRELIMINARY NOT FOR CONSTRUCTION

ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED, THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

03-2023

city of Ankeny bringing it all together

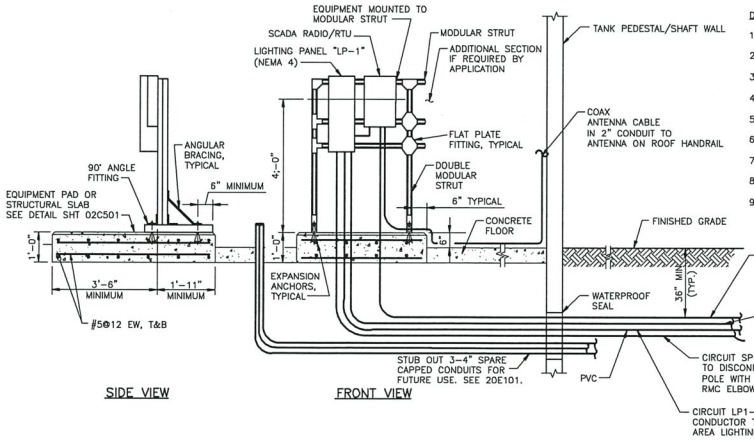
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

STANDARD DETAILS
WATER MAIN & APPURTENANCE DETAILS

0 1" 2"

FILENAME 02D502.dwg
SCALE AS NOTED

SHEET 02D502

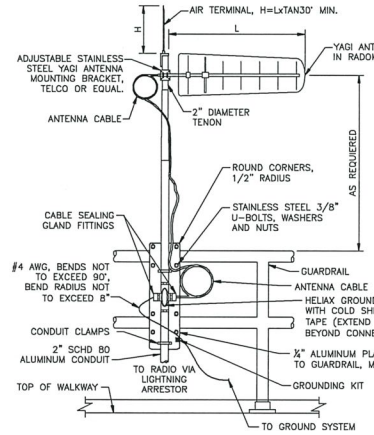


DETAIL NOTES:

1. SEE SHEET 20E101 FOR LOCATION OF EQUIPMENT RACK.
2. PROVIDE GROUNDING PER SHEET 20E101 AND SPECIFICATION 26 05 26.
3. MODULAR STRUT WIDTH: 1 5/8".
4. ADD WEATHER PROTECTED (IN USE) DUPLEX RECEPTACLE TO RACK.
5. COMBINED EQUIPMENT LOADS PER 36" SPAN SHALL NOT EXCEED 500 LBS.
6. RACK ASSEMBLY MATERIAL: STAINLESS STEEL.
7. ANCHORS: STAINLESS STEEL, 1/2" DIAMETER, 3 1/2" EMBEDMENT.
8. PROTECT SURFACES WITH DISSIMILAR MATERIALS.
9. REPAIR CUT ENDS AND DAMAGED SURFACES PER MANUFACTURER'S RECOMMENDATIONS.

1 ELECTRICAL EQUIPMENT RACK DETAIL

NOT TO SCALE



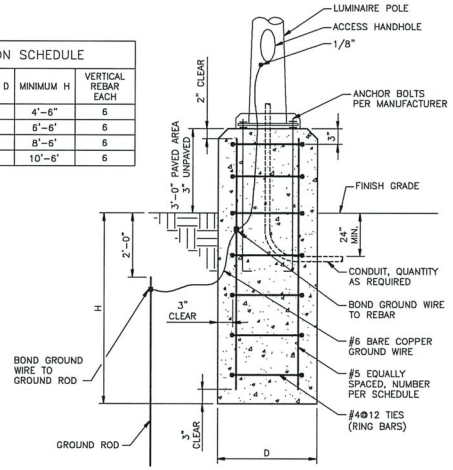
NOTES:

1. PROTECT SURFACES WITH DISSIMILAR METALS WITH COMPATIBLE EPOXY COATING.
2. ANTENNAS SHALL BE MOUNTED WITH A MINIMUM 8" SPACING FROM OTHER ANTENNAS.

2 TYPICAL GUARDRAIL MOUNTED YAGI ANTENNA MOUNTING DETAIL

NOT TO SCALE

DIMENSION SCHEDULE			
POLE HEIGHT	MINIMUM D	MINIMUM H	VERTICAL REBAR EACH
UP TO 10'	2'-0"	4'-6"	6
11' TO 20'	2'-0"	6'-6'	6
21' TO 30'	2'-0"	8'-6'	6
31' TO 50'	2'-0"	10'-6'	6



3 LIGHT POLE FOUNDATION

NOT TO SCALE

02E501.dwg
3/14/2023 2:26 PM
Reuss, Billie J.

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

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city of Ankeny — bringing it all together

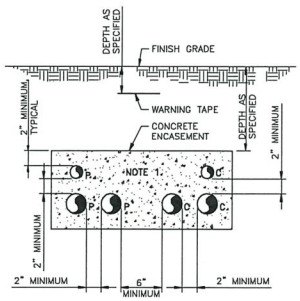
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

STANDARD DETAILS
ELECTRICAL DETAILS

0 1" 2"

FILENAME 02E501.dwg
SCALE AS NOTED

SHEET 02E501

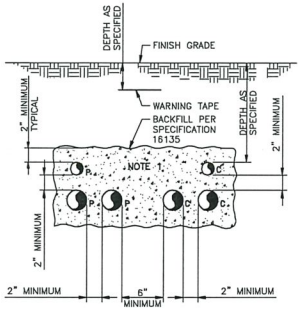


NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.

1 CONCRETE ENCASED DUCTBANK SECTION

NOT TO SCALE

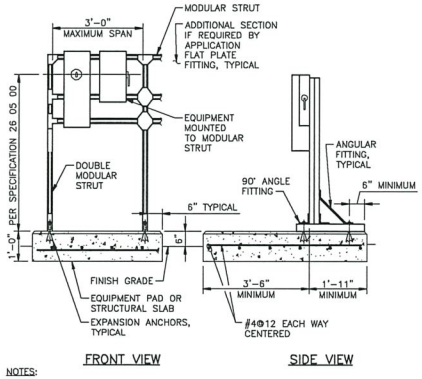


NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.

2 DIRECT BURIED CONDUIT(S) SECTION

NOT TO SCALE

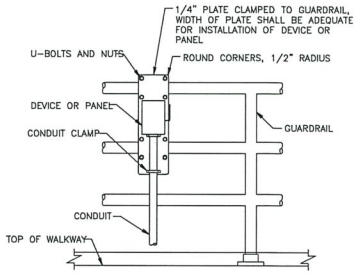


NOTES:

1. COMBINED EQUIPMENT LOADS PER 36" SPAN SHALL NOT EXCEED 500 LBS.
2. PROVIDE GROUNDING FOR OUTDOOR INSTALLATIONS, PER SPECIFICATION 26 05 26.
3. MODULAR STRUT WIDTH: 1 5/8".
4. RACK ASSEMBLY MATERIAL: AS INDICATED ON DRAWINGS OR PER SPECIFICATION 26 05 00.
5. ANCHORS: STAINLESS STEEL, 1/2" DIAMETER, 3 1/2" EMBEDMENT
6. PROTECT SURFACES WITH DISSIMILAR MATERIALS.
7. REPAIR CUT ENDS AND DAMAGED SURFACES

3 MULTIPLE PANEL/DEVICE MODULAR EQUIPMENT RACK

NOT TO SCALE

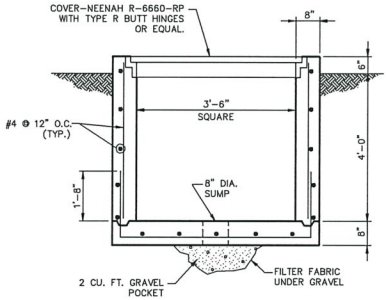


NOTES:

1. MOUNTING ASSEMBLY MATERIAL: ALUMINUM, PER SPECIFICATION 05 50 00.
2. ANCHORS: STAINLESS STEEL, 3/8" DIAMETER WITH WASHERS AND NUTS.
3. PROTECT SURFACES WITH DISSIMILAR MATERIALS

4 TYPICAL GUARDRAIL MOUNTED DEVICE

NOT TO SCALE



NOTES:

1. PRECAST MANHOLE OF SIMILAR SIZE AND TYPE WILL BE ACCEPTABLE.

5 CAST-IN-PLACE ELECTRICAL HANDHOLE

NOT TO SCALE

Reuss, Billie J.

02E502.dwg
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C:\pwworking\wmd01\d0839369\02E502.dwg, Plot: 3/14/2023 2:26:43 PM, BRIDGES

HDR

300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

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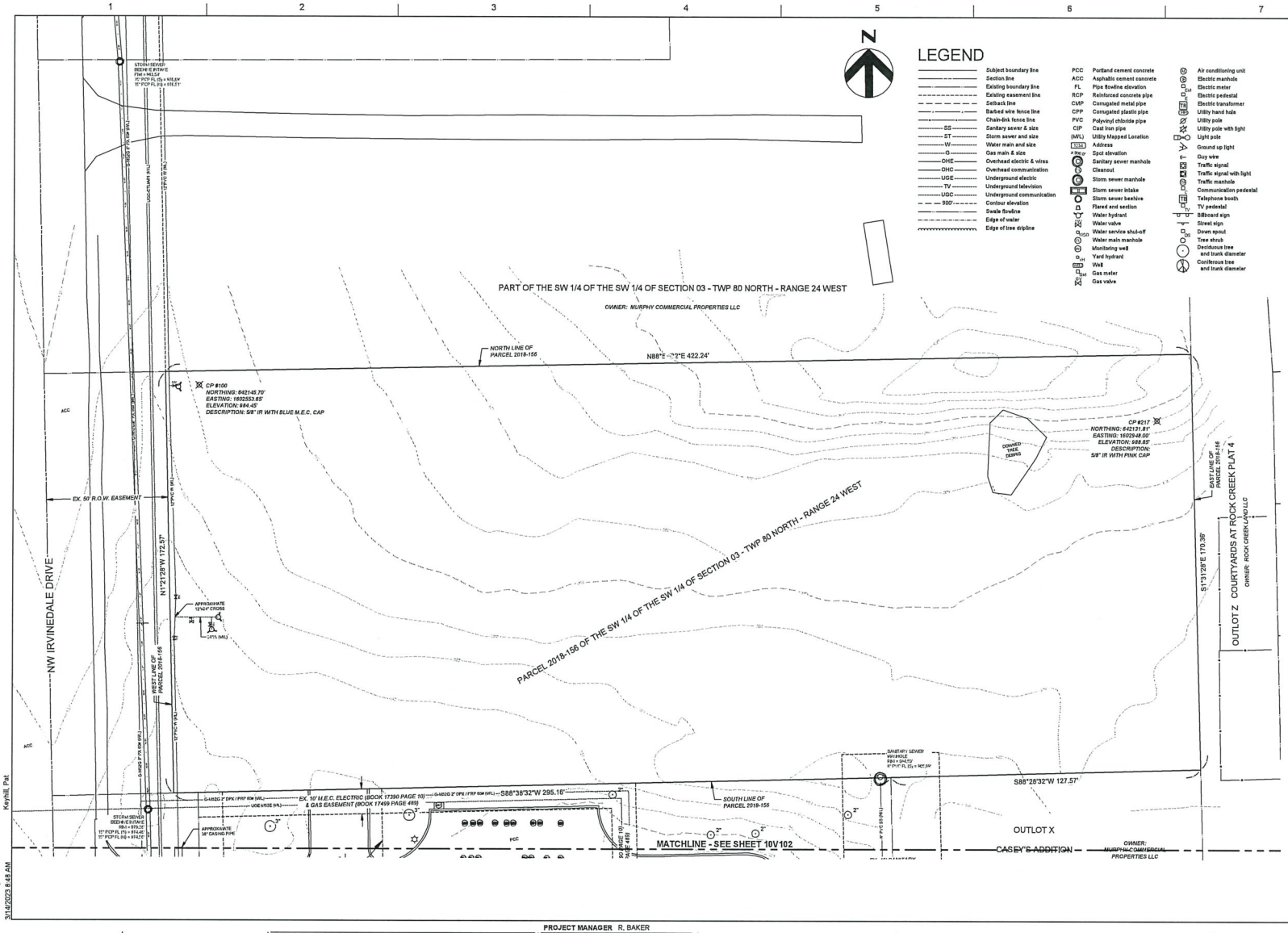
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

STANDARD DETAILS
ELECTRICAL DETAILS

0 1" 2"

FILENAME 02E502.dwg
SCALE AS NOTED

SHEET
02E502



LEGEND

Subject boundary line	PCC	Portland cement concrete	Air conditioning unit
Section line	ACC	Asphaltic cement concrete	Electric manhole
Existing boundary line	FL	Pipe flowline elevation	Electric meter
Existing easement line	RCP	Reinforced concrete pipe	Electric pedestal
Setback line	CMP	Corrugated metal pipe	Electric transformer
Barbed wire fence line	CPP	Corrugated plastic pipe	Utility hand hole
Chain-link fence line	PVC	Polyvinyl chloride pipe	Utility pole
SS Sanitary sewer & size	CIP	Cast iron pipe	Utility pole with light
ST Storm sewer and size	(M/L)	Utility Mapped Location	Light pole
W Water main and size	1234	Address	Ground up light
G Gas main & size	x 904.xx	Spot elevation	Guy wire
OHE Overhead electric & wires		Sanitary sewer manhole	Traffic signal
OHC Overhead communication		Cleanout	Traffic signal with light
UGE Underground electric		Storm sewer manhole	Traffic manhole
TV Underground television		Storm sewer intake	Communication pedestal
UGC Underground communication		Storm sewer beehive	Telephone booth
900' Contour elevation		Flared end section	TV pedestal
		Water hydrant	Billboard sign
		Water valve	Street sign
		Water service shut-off	Down spout
		Water main manhole	Tree shrub
		Monitoring well	Deciduous tree and trunk diameter
		Yard hydrant	Coniferous tree and trunk diameter
		Well	
		Gas meter	
		Gas valve	

UTILITY CONTACTS

Design Inquiry Results for Request # 552204460

(M52G) MIDAMER-GAS
Contact Name : Mickell Imerman
Contact Phone: 515-242-4289
Contact Email: mickell.imerman@midamerican.com

(AKY) CITY OF ANKENY - PUBLIC WORKS
Contact Name : Amanda Hayden
Contact Phone: 515-963-3538
Contact Email: ahayden@ankenyiowa.gov

(AKY) CITY OF ANKENY - WATER
Contact Name : Shawn Buckner
Contact Phone: 515-963-3524
Contact Email: sbuckner@ankenyiowa.gov

(AKY) CITY OF ANKENY - SANITARY SEWER
Contact Name : Roger McFarland
Contact Phone: 515-965-6483
Contact Email: rmcfarland@ankenyiowa.gov

(AKY) CITY OF ANKENY - STORM WATER
Contact Name : Jared Bright
Contact Phone: 515-963-3534
Contact Email: jbright@ankenyiowa.gov

(CTLIA01) CENTURYLINK
Contact Name : Sadie Hull
Contact Phone: 918-547-0147
Contact Email: sadie.hull@lumen.com

(ICN) IOWA COMMUNICATIONS NETWORK
Contact Name : Shannon Marlow
Contact Phone: 800-572-3940
Contact Email: icnoutsideplantiowaonecall@iowa.gov

(M52E) MIDAMER-ELEC
CONTACT NAME : Mickell Imerman
CONTACT PHONE: 515-242-4289
CONTACT EMAIL: mickell.imerman@midamerican.com

(POLKIA1) MEDIACOM
Contact Name : Kevin Collins
Contact Phone: 515-246-6668
Contact Email: KCOLLINS1@MEDIACOMCC.COM

BENCHMARKS

1. TOP OF RIM OF EXISTING SANITARY SEWER MANHOLE, LOCATED NORTHEASTERLY OF THE EXISTING CASEY'S GAS STATION, ON THE SOUTH LINE OF PARCEL 2018-156, APPROXIMATELY 132 FEET WEST OF THE SOUTHEAST CORNER OF SAID PARCEL 2018-156, ELEVATION = 984.59' (NAVD88)
2. TOP OF RIM OF EXISTING STORM SEWER BEEHIVE INTAKE, LOCATED APPROXIMATELY 23 FEET NORTH OF THE NORTHWEST ENTRANCE TO THE EXISTING CASEY'S GAS STATION, AND 13 FEET SOUTHWESTERLY OF THE SOUTHWEST CORNER OF PARCEL 2018-156. ELEVATION = 979.36' (NAVD88)

SURVEY NOTES

1. Land Area = 1.664 acres
2. Veritcal Datum is NAVD88 (GPS derived).
3. Horizontal datum is NAD83 (2011) Iowa State Plane South Zone (U.S. Survey Feet).

LEGAL DESCRIPTION

PARCEL 2018-156 OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 03, TOWNSHIP 80 NORTH, RANGE 24 WEST, OF THE 5TH PRINCIPAL MERIDIAN, LOCATED IN THE CITY OF ANKENY, POLK COUNTY, IOWA, AS SHOWN ON THE PLAT OF SURVEY RECORDED WITH THE POLK COUNTY RECORDER'S OFFICE IN BOOK 17025, PAGE 497.

CONTAINING 1.664 ACRES MORE OR LESS.

SAID PARCEL IS SUBJECT TO ANY AND ALL RESTRICTIONS, COVENANTS AND EASEMENTS OF RECORD.

NOTES:

1. THE SURVEY FOR THIS SITE WAS COMPLETED BY NILLES ASSOCIATES, INC. AND PROVIDED TO HDR ON 11/30/2022.

HDR

300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

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03-2023

city of Ankeny
bringing it all together

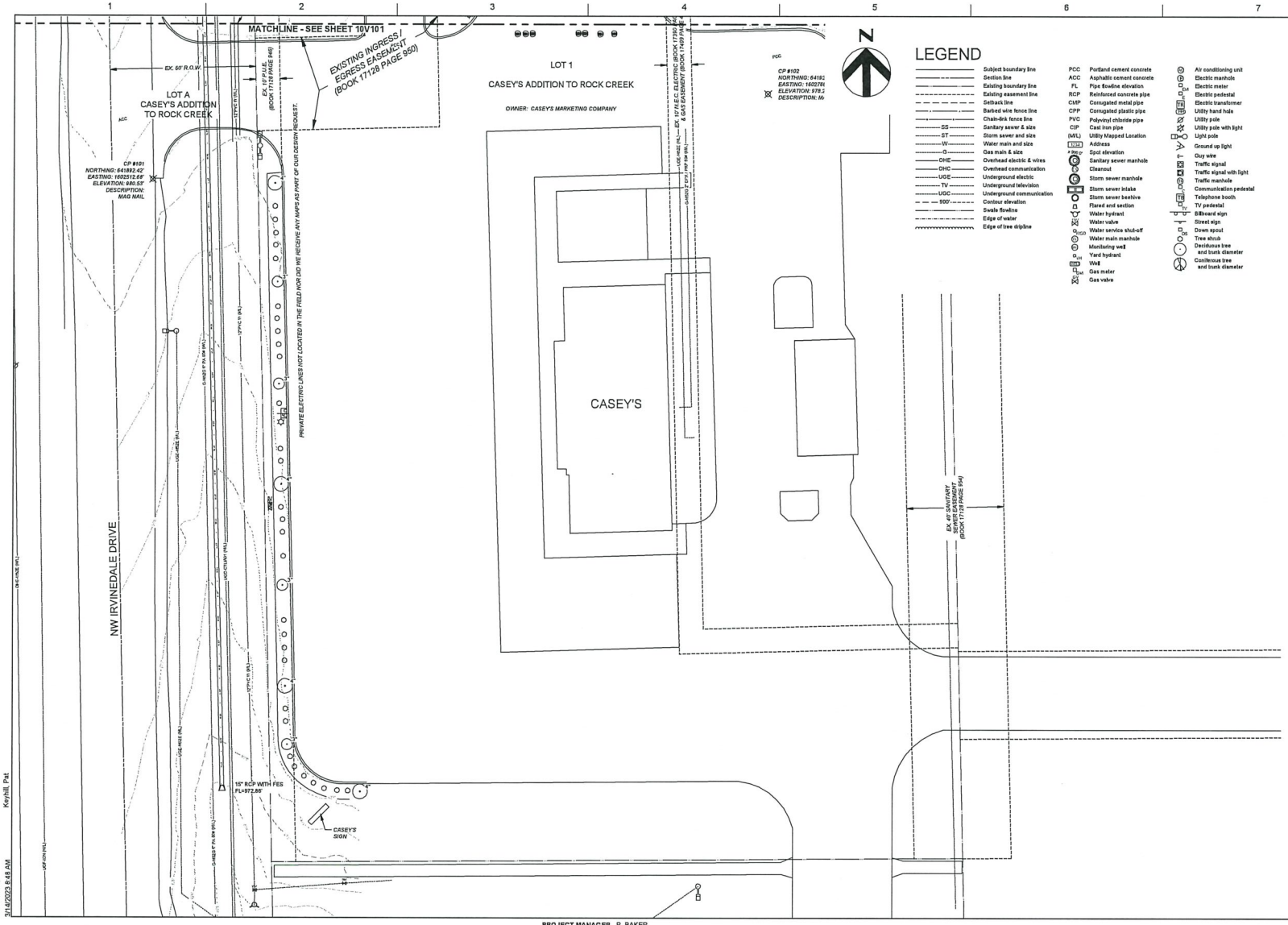
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
EXISTING CONDITIONS AND SURVEY PLAN

0 1" 2"

FILENAME 10V101.dwg
SCALE 1" = 20'

SHEET
10V101



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Barbed wire fence line	CPP	Corrugated plastic pipe	Utility hand hole
Chain-link fence line	PVC	Polyvinyl chloride pipe	Utility pole
Sanitary sewer & size	CIP	Cast iron pipe	Utility pole with light
Storm sewer and size	(M/L)	Utility Mapped Location	Light pole
Water main and size	1234	Address	Ground up light
Gas main & size	* 984.9*	Spot elevation	Guy wire
Overhead electric & wires		Sanitary sewer manhole	Traffic signal
Overhead communication		Cleanout	Traffic signal with light
Underground electric		Storm sewer manhole	Traffic manhole
Underground television		Storm sewer intake	Communication pedestal
Underground communication		Storm sewer beehive	Telephone booth
Contour elevation		Flared end section	TV pedestal
Swale flowline		Water hydrant	Billboard sign
Edge of water		Water valve	Street sign
Edge of tree dripline		Water service shut-off	Down spout
		Water main manhole	Tree shrub
		Monitoring well	Deciduous tree and trunk diameter
		Yard hydrant	Coniferous tree and trunk diameter
		Well	
		Gas meter	
		Gas valve	

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(POLKIA1) MEDIACOM
Contact Name : Kevin Collins
Contact Phone: 515-246-6668
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BENCHMARKS

1. TOP OF RIM OF EXISTING SANITARY SEWER MANHOLE, LOCATED NORTHEASTERLY OF THE EXISTING CASEY'S GAS STATION, ON THE SOUTH LINE OF PARCEL 2018-156, APPROXIMATELY 132 FEET WEST OF THE SOUTHEAST CORNER OF SAID PARCEL 2018-156, ELEVATION = 984.59' (NAVD88)
2. TOP OF RIM OF EXISTING STORM SEWER BEEHIVE INTAKE, LOCATED APPROXIMATELY 23 FEET NORTH OF THE NORTHWEST ENTRANCE TO THE EXISTING CASEY'S GAS STATION, AND 13 FEET SOUTHWESTERLY OF THE SOUTHWEST CORNER OF PARCEL 2018-156. ELEVATION = 979.36' (NAVD88)

SURVEY NOTES

1. Land Area = 1.664 acres
2. Veritcal Datum is NAVD88 (GPS derived).
3. Horizontal datum is NAD83 (2011) Iowa State Plane South Zone (U.S. Survey Feet).

LEGAL DESCRIPTION

PARCEL 2018-156 OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 03, TOWNSHIP 80 NORTH, RANGE 24 WEST, OF THE 5TH PRINCIPAL MERIDIAN, LOCATED IN THE CITY OF ANKENY, POLK COUNTY, IOWA, AS SHOWN ON THE PLAT OF SURVEY RECORDED WITH THE POLK COUNTY RECORDER'S OFFICE IN BOOK 17025, PAGE 497.

CONTAINING 1.664 ACRES MORE OR LESS.

SAID PARCEL IS SUBJECT TO ANY AND ALL RESTRICTIONS, COVENANTS AND EASEMENTS OF RECORD.

NOTES:

1. THE SURVEY FOR THIS SITE WAS COMPLETED BY NILLES ASSOCIATES, INC. AND PROVIDED TO HDR ON 11/30/2022.

10V102.dwg Keyhill, Pat 3/14/2023 8:48 AM

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

ISSUE	DATE	DESCRIPTION
4	03-10-2023	100% REVIEW SET
3	02-08-2023	90% INTERNAL REVIEW SET
2	12-21-2022	90% CLIENT REVIEW SET
1	09-08-2022	50% REVIEW SET

PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

PRELIMINARY NOT FOR CONSTRUCTION
ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED, THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT
03-2023

city of Ankeny — bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
EXISTING CONDITIONS AND SURVEY PLAN

0 1" 2"
FILENAME 10V102.dwg
SCALE
SHEET 10V102

SITE LAYOUT COORDINATE POINTS TABLE			
POINT NO.	NORTHING	EASTING	DESCRIPTION
1	642067.54	1602564.95	RADIUS POINT
2	642087.50	1602567.11	RADIUS POINT
3	642191.50	1602562.01	RADIUS POINT
4	642126.22	1602914.86	FACE OF WALL
5	642150.21	1602914.36	FACE OF WALL
6	642144.06	1602590.99	FACE OF WALL
7	642120.26	1602681.05	GATE POST
8	642152.10	1602961.08	FENCE POST
9	641989.90	1602965.39	FENCE POST
10	641981.46	1602624.66	FENCE POST
11	642095.21	1602858.59	RADIUS POINT
12	642093.67	1602778.59	RADIUS POINT
13	642010.09	1602643.77	RADIUS POINT
14	642032.80	1602782.78	FUTURE BUILDING EXTERIOR CORNER
15	642030.86	1602682.94	FUTURE BUILDING EXTERIOR CORNER
16	642104.89	1602681.34	FUTURE BUILDING EXTERIOR CORNER
17	642106.79	1602781.34	FUTURE BUILDING EXTERIOR CORNER
18	642059.87	1602829.26	EDGE OF PAVEMENT
19	642088.17	1602597.29	BACK OF CURB
20	642117.53	1602563.98	BACK OF CURB

SITE LAYOUT COORDINATE POINTS TABLE			
POINT NO.	NORTHING	EASTING	DESCRIPTION
21	642141.51	1602562.98	BACK OF CURB
22	642123.67	1602778.01	BACK OF CURB
23	642094.25	1602808.59	BACK OF CURB
24	642094.64	1602828.59	BACK OF CURB
25	642125.21	1602858.00	BACK OF CURB
26	642066.46	1602509.78	MATCH EXISTING
27	642066.58	1602514.96	MATCH EXISTING
28	642189.85	1602507.14	MATCH EXISTING
29	642189.94	1602512.04	MATCH EXISTING
30	641979.86	1602599.30	MATCH EXISTING
31	641980.45	1602624.35	MATCH EXISTING
32	642055.11	1602597.93	PAD CORNER
33	642066.93	1602588.70	PAD CORNER
34	642117.58	1602566.72	BACK OF CURB
35	642104.98	1602531.81	END SIDEWALK
36	642110.67	1602539.67	END SIDEWALK
37	642023.85	1602533.74	SIDEWALK PC
38	642024.04	1602541.73	SIDEWALK PC
39	642006.64	1602536.68	SIDEWALK PT
40	642009.13	1602544.29	SIDEWALK PT

SITE LAYOUT COORDINATE POINTS TABLE			
POINT NO.	NORTHING	EASTING	DESCRIPTION
41	641990.41	1602541.99	SIDEWALK PC
42	641992.90	1602549.59	SIDEWALK PC
43	641973.01	1602544.94	SIDEWALK PT
44	641973.18	1602552.94	SIDEWALK PT
45	642148.18	1602907.99	BACK OF CURB
46	642126.19	1602908.41	BACK OF CURB
47	642089.72	1602828.66	BACK OF CURB
48	642144.34	1602680.51	SWING GATE FENCE POST
49	642072.02	1602869.97	TANK CENTER
50	642051.06	1602809.42	BACK OF CURB
51	642032.70	1602622.84	EDGE ASPHALT PAVEMENT
52	642120.62	1602621.14	EDGE ASPHALT PAVEMENT
53	642121.59	1602671.02	EDGE ASPHALT PAVEMENT
54	642033.66	1602672.72	EDGE ASPHALT PAVEMENT
55	642145.06	1602590.97	END OF FENCE

LEGEND:

- 6" ASPHALT PAVEMENT
- 7" P.C.C
- 9" P.C.C
- TYPC C JOINT PER SUDAS FIGURE 7010.101
- TYPE L JOINT PER SUDAS FIGURE 7010.101
- TYPE KT JOINT PER SUDAS FIGURE 7010.101

KEYNOTES: (#)

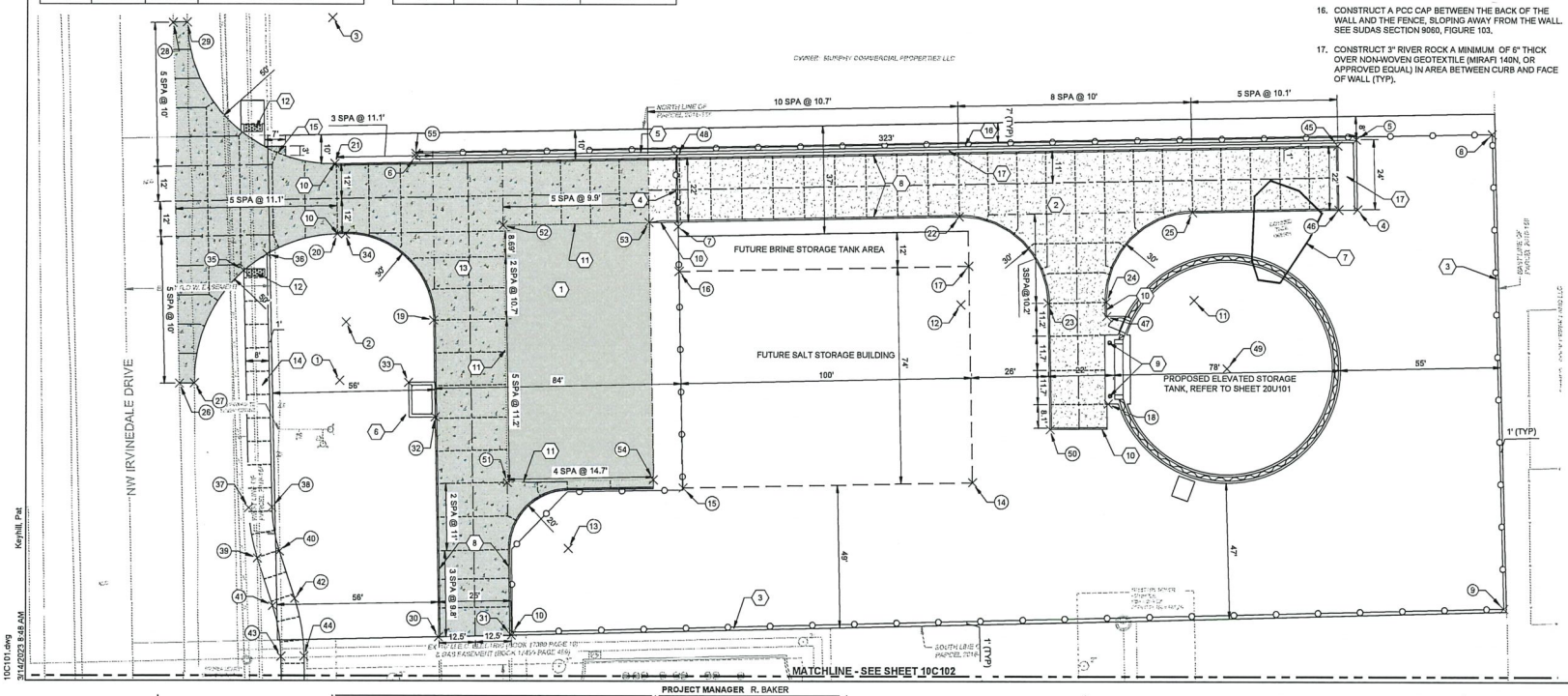
1. CONSTRUCT 6" ASPHALT PAVEMENT, SEE DETAIL 1/02C501.
2. CONSTRUCT 7" PCC PAVEMENT, SEE DETAIL 2/02C501.
3. CONSTRUCT 6' BLACK VINYL COATED CHAIN LINK FENCE, SEE SUDAS SECTION 9060, FIGURE 101.
4. CONSTRUCT 6' CHAIN LINK FENCE GATE, SEE SUDAS SECTION 9060, FIGURE 102.
5. SEE DETAIL 7/02S501 FOR RETAINING WALL.
6. BULK WATER STATION LOCATION.
7. REMOVE AND DISPOSE OF DOWNED TREE AND/OR OTHER DEBRIS.
8. CONSTRUCT 6" INTEGRAL CURB PER SUDAS SECTION 7010, FIGURE 101.
9. CONSTRUCT BOLLARD, SEE DETAIL 3/02C501.
10. CONSTRUCT CURB RUNOUT, SEE SUDAS SECTION 7010, FIGURE 102.
11. CONSTRUCT THICKENED EDGE JOINT, SEE DETAIL 4/02C501.
12. CONSTRUCT DETECTABLE WARNING PANELS PER SUDAS SECTION 7030, FIGURE 210.
13. CONSTRUCT 9" PCC PAVEMENT, SEE DETAIL 2/02C501.
14. CONSTRUCT 5" PCC TRAIL, SEE DETAIL 5/02C501.
15. REMOVE AND RELOCATE HYDRANT, SEE SHEET 10D101.
16. CONSTRUCT A PCC CAP BETWEEN THE BACK OF THE WALL AND THE FENCE, SLOPING AWAY FROM THE WALL. SEE SUDAS SECTION 9060, FIGURE 103.
17. CONSTRUCT 3" RIVER ROCK A MINIMUM OF 6" THICK OVER NON-WOVEN GEOTEXTILE (MIRAFI 140N, OR APPROVED EQUAL) IN AREA BETWEEN CURB AND FACE OF WALL (TYP).

SITE CIVIL GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH THE 2023 EDITION OF THE IOWA STATEWIDE URBAN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND CITY OF ANKENY SUPPLEMENTAL SPECIFICATIONS TO THE IOWA STATEWIDE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS UNLESS OTHERWISE NOTED IN THESE DRAWINGS OR THE PROJECT SPECIFICATIONS.
2. THE LOCATIONS OF ALL EXISTING UTILITIES (REFER TO UNDERGROUND UTILITIES NOTE ON THIS SHEET) AND STRUCTURES SHOWN ARE APPROXIMATE OR MAY NOT BE LOCATED ON THESE PLANS. THE CONTRACTOR IS TO FIELD VERIFY THE LOCATIONS OF ALL ITEMS PRIOR TO CONSTRUCTION AND PROTECT ALL ITEMS NOT NOTED FOR REMOVAL OF THROUGHOUT CONSTRUCTION.
3. UTILITY FACILITIES SHOWN ARE FROM LOCATES OR RECORDS PROVIDED BY OTHERS AND SHALL BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY EXIST, EITHER IN SERVICE OR ABANDONED, AND THEIR LOCATION MAY NOT BE PRESENTLY KNOWN OR IDENTIFIED ON THE PLANS. THE ENGINEER MAKES NO GUARANTEE THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. NOTIFY THE ONE CALL SYSTEM AT 800-292-8989 (OR 811) TO IDENTIFY THE LOCATION OF ALL UNDERGROUND UTILITY FACILITIES WITHIN THE CONSTRUCTION AREA. COORDINATE WITH THE OWNER TO IDENTIFY THE LOCATION OF ALL PRIVATE UTILITIES THAT MAY NOT BE IDENTIFIED BY ONE CALL WITHIN THE CONSTRUCTION AREA.
4. PROTECT FROM DAMAGE ALL EXISTING PAVEMENTS, STRUCTURES, UTILITIES, SIGNS, VEGETATION, AND OTHER ITEMS NOT NOTED FOR REMOVAL. ALL REPAIRED OR REPLACED ITEMS ARE AT THE EXPENSE OF THE CONTRACTOR UNLESS OTHERWISE NOTED. REPAIR OR REPLACE ITEMS TO EQUAL OR BETTER CONDITION THAN EXISTING.
5. WHERE EXISTING UTILITIES ARE SHOWN IN THE PLANS, OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES NEAR EACH UTILITY.
6. REVIEW ALL UTILITIES SHOWN IN THE PLANS AND COORDINATE WITH ALL UTILITY COMPANIES NECESSARY TO SCHEDULE WORK FOR ALL KNOWN AND POTENTIAL CONFLICTS. BE AWARE THAT UTILITY SERVICES MAY NOT BE SHOWN OR LOCATED ON THE PLANS, HOWEVER THEY MAY CONFLICT WITH THE WORK PERFORMED. DELAYS, INCONVENIENCE, OR DAMAGE CLAIMED BY THE CONTRACTOR DUE TO ANY INTERFERENCE OF UTILITIES SHOWN IN THE PLANS OR SERVICE WILL NOT BE CONSIDERED A CIRCUMSTANCE FOR ADDITIONAL TIME OR COMPENSATION.
7. KEEP ALL UTILITY LINES AND STRUCTURES CLEAN AND FREE OF DEBRIS THAT IS A RESULT OF CONSTRUCTION OPERATIONS. ANY CLEANING AND REMOVAL OF DEBRIS THAT ENTERS BECAUSE OF CONSTRUCTION WILL BE CLEANED BY THE CONTRACTOR AT THEIR EXPENSE.
8. HAUL ALL DEBRIS AND UNSUITABLE MATERIALS RESULTING FROM REMOVALS, EXCAVATION, AND CONSTRUCTION ACTIVITIES OFF-SITE AND DISPOSE OF LEGALLY. DO NOT INCORPORATE REMOVED ITEMS INTO NEW CONSTRUCTION UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN PATHWAYS OPEN AND PASSABLE DURING CONSTRUCTION UNLESS CLOSURE IS NECESSARY. COORDINATE WITH THE OWNER PRIOR TO ANY CLOSURE.
10. DO NOT OPEN NEWLY CONSTRUCTED PAVEMENT UNTIL ALL JOINTS ARE CUT AND SEALED AND PAVEMENT HAS REACHED REQUIRED STRENGTH.
11. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY TRAFFIC CONTROL WITH LOCAL AUTHORITIES.
12. ALL SIDEWALKS AND/OR ADA ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%. REFER TO GRADING PLANS FOR ADDITIONAL INFORMATION.

SITE LAYOUT NOTES:

1. PLACE A 1/2" THICK PREFORMED EXPANSION JOINT FILLER WITH SEALER BETWEEN PAVEMENT AND ALL STRUCTURES INCLUDING BUILDINGS, CURBS, WALLS AND EQUIPMENT PADS.
2. PLACE A 1/2" THICK PREFORMED EXPANSION JOINT FILLER WITH SEALANT AT A MAXIMUM OF 45'-0" ON ALL SIDEWALKS. ALSO PLACE WHERE ABUTTING ALL STRUCTURES INCLUDING BUILDINGS, CURBS, WALLS, AND EQUIPMENT PADS.
3. CONTRACTOR IS TO FIELD VERIFY AND STAKE PROPERTY LINE TO ENSURE THAT FENCE AND ASSOCIATED FITTINGS/FOOTINGS ARE ALL CONSTRUCTED WITHIN OWNER'S PROPERTY.



300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

ISSUE	DATE	DESCRIPTION
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PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

PRELIMINARY NOT FOR CONSTRUCTION

ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED. THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

03-2023

city of Ankeny — bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

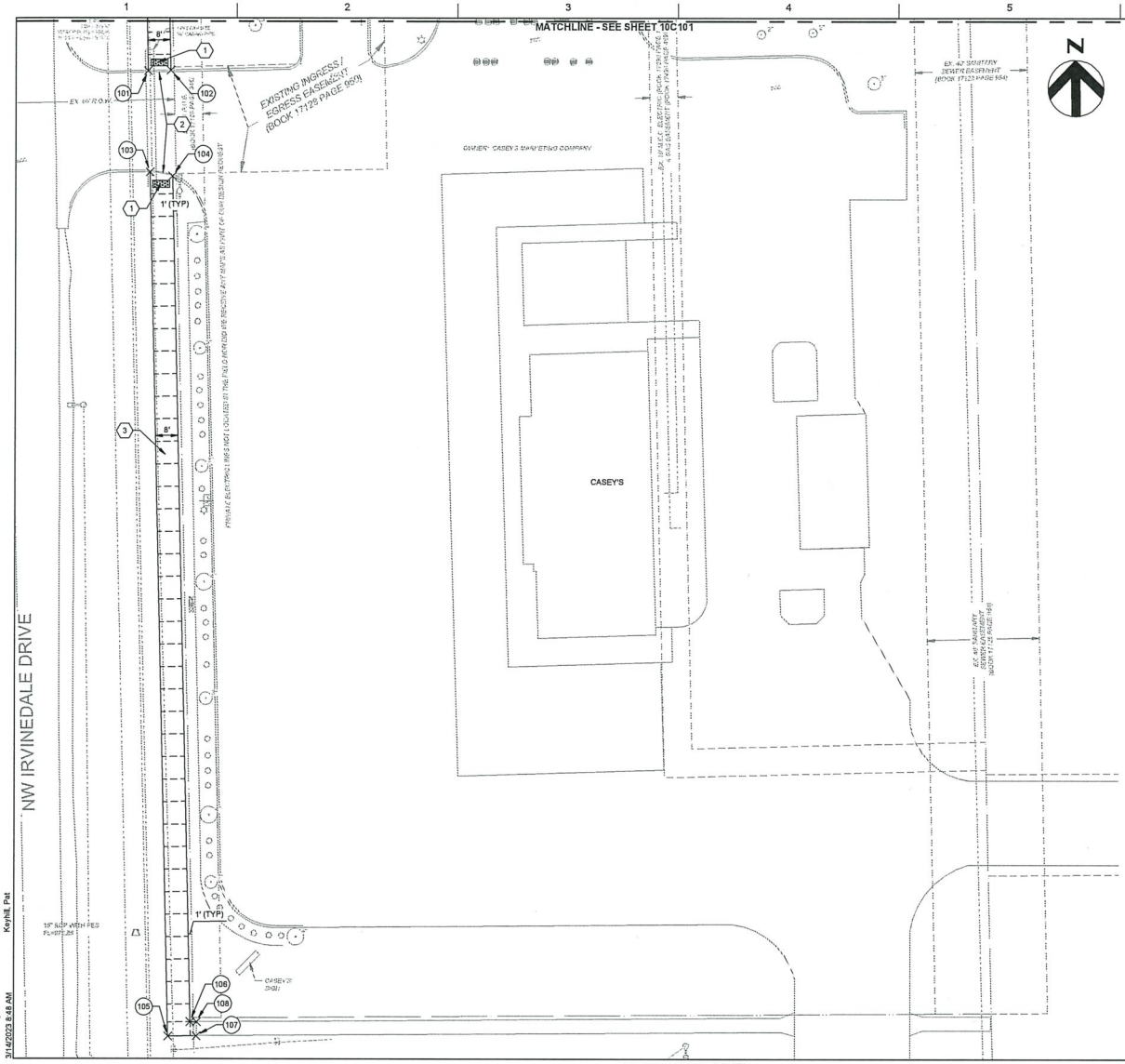
SITE PLANNING
SITE LAYOUT PLAN
NORTH

0 1" 2"

FILENAME 10C101.dwg
SCALE 1" = 20'

SHEET 10C101

Kenill, Pat
10C101.dwg
3/14/2023 9:48 AM



SITE LAYOUT COORDINATE POINTS TABLE			
POINT NO.	NORTHING	EASTING	DESCRIPTION
101	641949.03	1602545.43	END SIDEWALK
102	641949.22	1602553.43	END SIDEWALK
103	641913.00	1602546.17	END SIDEWALK
104	641911.55	1602554.20	END SIDEWALK
105	641605.81	1602553.41	CORNER SIDEWALK
106	641610.90	1602561.31	CORNER SIDEWALK
107	641605.93	1602563.60	END SIDEWALK
108	641610.92	1602563.63	END SIDEWALK

LEGEND:

– – – – TYPC C JOINT PER SUDAS FIGURE 7010.101

SITE LAYOUT NOTES:

1. SEE GENERAL NOTES ON SHEET 10C101.
2. SEE SITE LAYOUT NOTES ON SHEET 10C101.
3. COORDINATE CONSTRUCTION OF TRAIL WORK ON CASEY'S GENERAL STORE PROPERTY WITH THE CITY OF ANKENY AND PROPERTY OWNER PRIOR TO BEGINNING CONSTRUCTION.

KEYNOTES: (#)

1. CONSTRUCT DETECTABLE WARNING PANELS PER SUDAS DETAIL 7030.210.
2. CONTRACTOR TO MATCH EXISTING CURB CUTS.
3. 5" PCC TRAIL, SEE DETAIL 5/02C501.

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3/14/2023 8:48 AM
Keyhill, Pat

HDR
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city of Ankeny
bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
SITE LAYOUT PLAN
SOUTH

0 1" 2"
FILENAME 10C102.dwg
SCALE 1" = 20'

SHEET
10C102

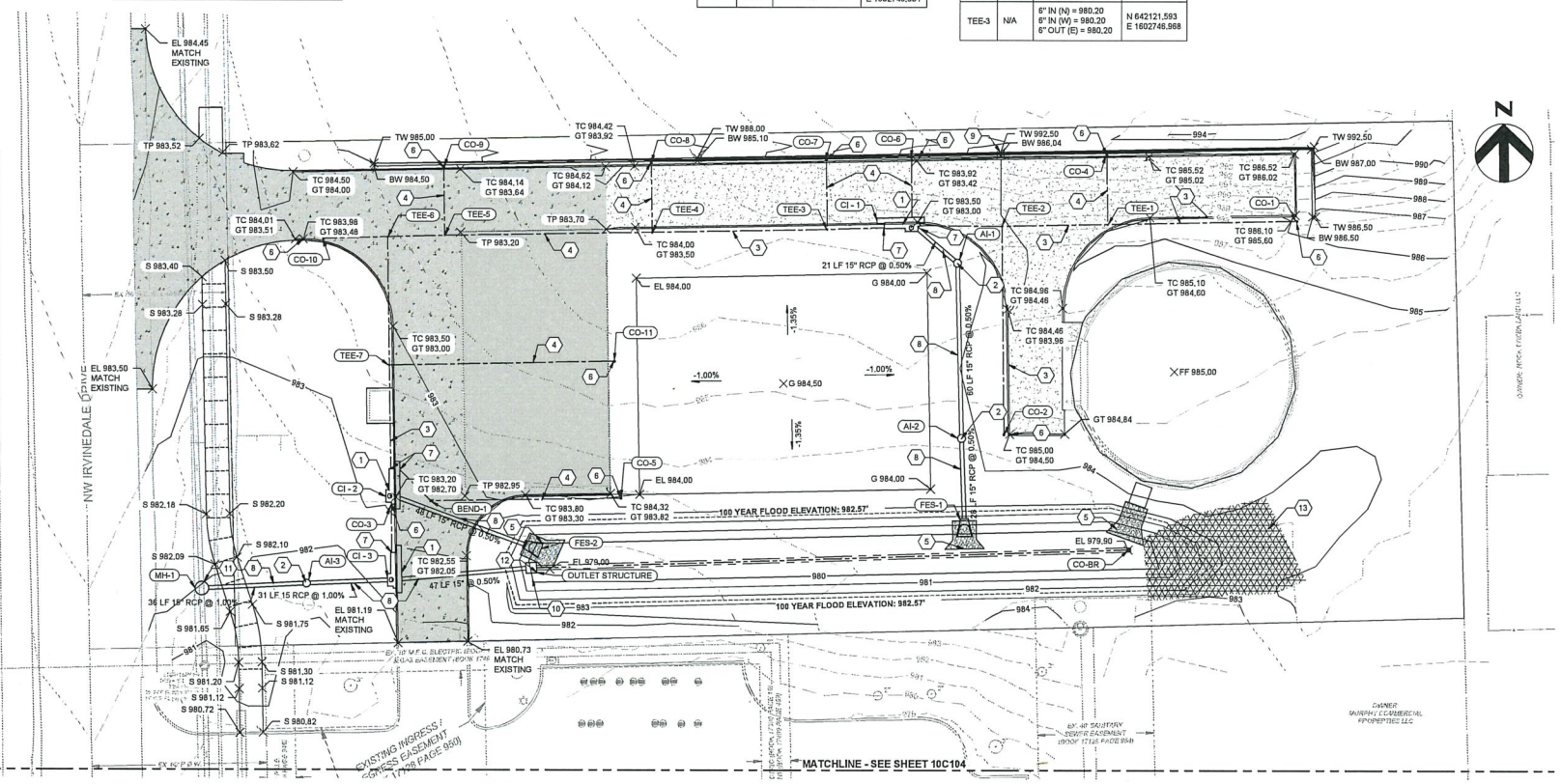
STRUCTURE TABLE			
NAME	RIM	CONNECTED PIPES	LOCATION
AI-1	983.77	15" IN (NW) = 980.54 15" OUT (S) = 980.54	N 642110.103 E 1602791.871
AI-2	983.76	15" IN (N) = 980.24 15" OUT (S) = 980.24	N 642050.175 E 1602793.416
AI-3	981.50	15" IN (E) = 975.81 15" OUT (W) = 975.71	N 642000.209 E 1602568.359
CI - 1	983.59	6" IN (E) = 980.80 6" IN (W) = 980.10 6" IN (N) = 980.80 15" OUT (SE) = 980.64	N 642123.683 E 1602775.872
CI - 2	985.14	6" IN (E) = 979.18 6" IN (N) = 979.65 15" OUT (E) = 979.80	N 642030.163 E 1602598.334
CI - 3	982.04	15" IN (E) = 976.22 6" IN (N) = 979.80 15" OUT (W) = 976.12	N 642001.435 E 1602599.009

STRUCTURE TABLE			
NAME	RIM	CONNECTED PIPES	LOCATION
FES-1	N/A	15" IN (N) = 980.10	N 642022.142 E 1602794.391
FES-2	N/A	15" IN (W) = 979.56	N 642013.564 E 1602643.550
MH-1	982.00	15" IN (E) = 975.35	N 641998.424 E 1602532.227
OUTLET STRUCTURE	982.70	4" IN (E) = 976.50 15" OUT (W) = 976.45	N 642005.590 E 1602645.526

STRUCTURE TABLE			
NAME	RIM	CONNECTED PIPES	LOCATION
BEND-1	N/A	6" IN (E) = 979.24 6" OUT (W) = 979.24	N 642028.528 E 1602610.887
CO-1	986.10	6" OUT (W) = 982.75	N 642124.623 E 1602908.446
CO-2	984.04	6" OUT (N) = 981.54	N 642051.466 E 1602807.918
CO-3	983.07	6" OUT (S) = 980.00	N 642026.752 E 1602597.358
CO-4	985.35	6" OUT (S) = 982.41	N 642147.249 E 1602843.098
CO-5	983.82	6" OUT (W) = 979.57	N 642029.554 E 1602676.369
CO-6	985.00	6" OUT (S) = 981.46	N 642146.232 E 1602775.921
CO-7	984.33	6" OUT (S) = 980.50	N 642145.379 E 1602746.501

STRUCTURE TABLE			
NAME	RIM	CONNECTED PIPES	LOCATION
CO-8	984.81	6" OUT (S) = 981.00	N 642144.360 E 1602686.323
CO-9	984.23	6" OUT (S) = 980.28	N 642142.736 E 1602614.963
CO-10	983.44	6" OUT (E) = 980.48	N 642118.278 E 1602573.789
CO-11	983.86	6" OUT (W) = 980.25	N 642076.317 E 1602673.967
CO-BR	979.90	4" OUT (W) = 977.00	N 642012.052 E 1602851.119
TEE-1	N/A	6" IN (N) = 981.67 6" IN (E) = 981.67 6" OUT (W) = 981.67	N 642123.368 E 1602843.562
TEE-2	N/A	6" IN (S) = 980.99 6" IN (E) = 980.99 6" OUT (W) = 980.99	N 642122.711 E 1602807.027
TEE-3	N/A	6" IN (N) = 980.20 6" IN (W) = 980.20 6" OUT (E) = 980.20	N 642121.593 E 1602746.988

STRUCTURE TABLE			
NAME	RIM	CONNECTED PIPES	LOCATION
TEE-4	N/A	6" IN (N) = 980.29 6" OUT (E) = 980.29 6" OUT (W) = 980.29	N 642120.432 E 1602686.793
TEE-5	N/A	6" IN (N) = 980.00 6" IN (E) = 980.00 6" OUT (W) = 980.00	N 642119.402 E 1602615.391
TEE-6	N/A	6" IN (E) = 979.90 6" IN (W) = 979.90 6" OUT (S) = 979.90	N 642118.742 E 1602595.758
TEE-7	N/A	6" IN (E) = 979.75 6" IN (N) = 979.75 6" OUT (S) = 979.75	N 642074.865 E 1602596.539



SITE GRADING NOTES:

1. SEE GENERAL NOTES ON SITE SHEET 10C101.
2. MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES THROUGHOUT CONSTRUCTION.
3. SEE SHEET 10C105 FOR THE EROSION AND SEDIMENT CONTROL PLAN AND NOTES.
4. RIPRAP SHALL MEET OR EXCEED THE REQUIREMENTS OF SUDAS AND IOWA DOT (SPEC SECTION 4130). ALL RIPRAP SHALL BE PLACED ON GEOTEXTILE FABRIC (MIRAFI 160N OR APPROVED EQUAL). THE USE OF RECYCLED PCC PAVEMENT IS NOT PERMITTED ON THIS PROJECT.

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- CASE B TYPE 1 AND CASE C TYPE 1 SUBDRAINS, SEE SUDAS 4040.231.
- POND SUBDRAINAGE, FOLLOW SUDAS STANDARD FOR CASE D TYPE 2 SUBDRAIN OR SIMILAR.
- BIORETENTION BASIN UNDERDRAIN LIMITS
- 6" ASPHALT PAVEMENT
- 9" P.C.C
- 7" P.C.C
- PERMANENT EROSION CONTROL

BW	BOTTOM OF WALL
EL	ELEVATION
FF	FINISH FLOOR
G	GRADE
GT	GUTTER
S	TOP OF SIDEWALK
TC	TOP OF CURB
TW	TOP OF WALL

KEYNOTES: #

1. CONSTRUCT SINGLE OPEN THROAT INTAKE PER SUDAS FIGURE 6010.507.
2. CONSTRUCT 24" CIRCULAR AREA INTAKE PER SUDAS FIGURE 6010.512 WITH TYPE 3B GRATE.
3. CONSTRUCT PAVEMENT SUBDRAIN - CASE B, TYPE 1, SEE SUDAS FIGURE 4040.231.
4. CONSTRUCT PAVEMENT SUBDRAIN - CASE C, TYPE 1, SEE SUDAS FIGURE 4040.231.
5. CONSTRUCT CLASS D & E RIP RAP FOR PIPE OUTLET PER SUDAS FIGURE 9040.111. WIDTH SHALL BE 3'.
6. CONSTRUCT SUBDRAIN TYPE A-1 CLEANOUT, SEE SUDAS FIGURE 4040.232.
7. CONSTRUCT SUBDRAIN OUTLET WITH RODENT GUARD, SEE SUDAS FIGURE 4040.233.
8. CONSTRUCT RCP STORM SEWER, SEE PIPE TABLES ON THIS SHEET FOR SIZE. USE CLASS R-2 BEDDING PER SUDAS FIGURE 3010.102.
9. CONSTRUCT CAST-IN-PLACE RETAINING WALL, SEE SECTION 7/02S501. TOP OF WALL SHALL BE STRAIGHT GRADED BETWEEN ELEVATIONS SHOWN.
10. CONSTRUCT OUTLET STRUCTURE, SEE DETAIL 6/02C501.
11. CONSTRUCT CIRCULAR STORM SEWER MANHOLE, SEE SUDAS FIGURE 6010.401.
12. REFER TO 10C107 BIORETENTION OUTLET DETAILS.
13. FURNISH AND INSTALL ROLLED EROSION CONTROL, NORTH AMERICAN GREEN SC-150BN, OR APPROVED EQUAL.

Kephill, Pat
10C103.dwg
3/14/2023 8:49 AM

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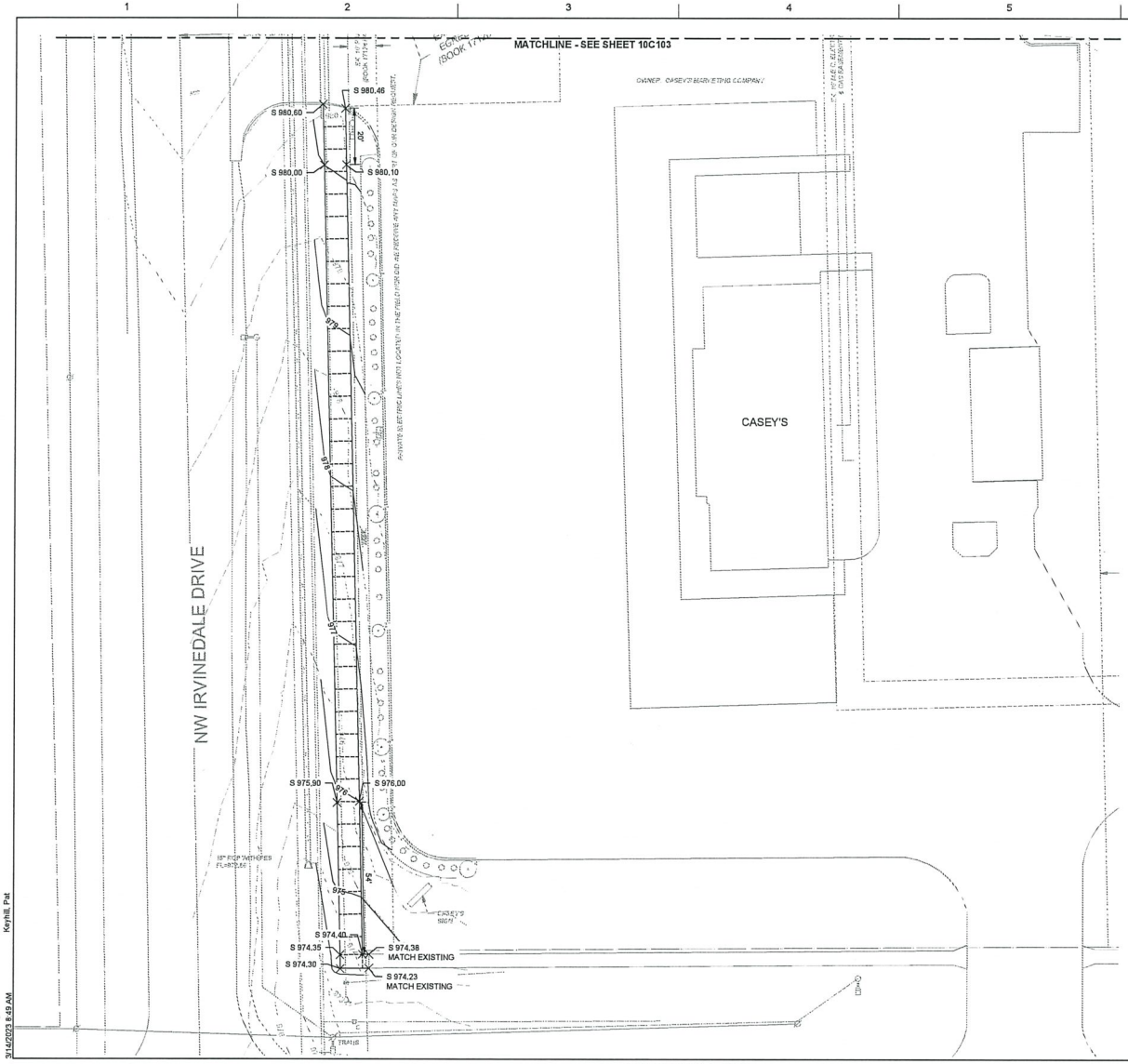
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
SITE GRADING AND DRAINAGE PLAN
NORTH

0 1" 2"

FILENAME 10C103.dwg
SCALE 1" = 20'

SHEET 10C103



N

SITE GRADING NOTES:

1. SEE GENERAL NOTES ON SITE SHEET 10C101.
2. MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES THROUGHOUT CONSTRUCTION.
3. SEE SHEET 10C105 FOR THE EROSION AND SEDIMENT CONTROL PLAN AND NOTES.

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- S TOP OF SIDEWALK

Keyhill, Pat
10C104.dwg
3/14/2023 9:49 AM

HDR

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4	03-10-2023	100% REVIEW SET
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PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

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CONSTRUCTION
ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED, THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT
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city of Ankeny
bringing it all together

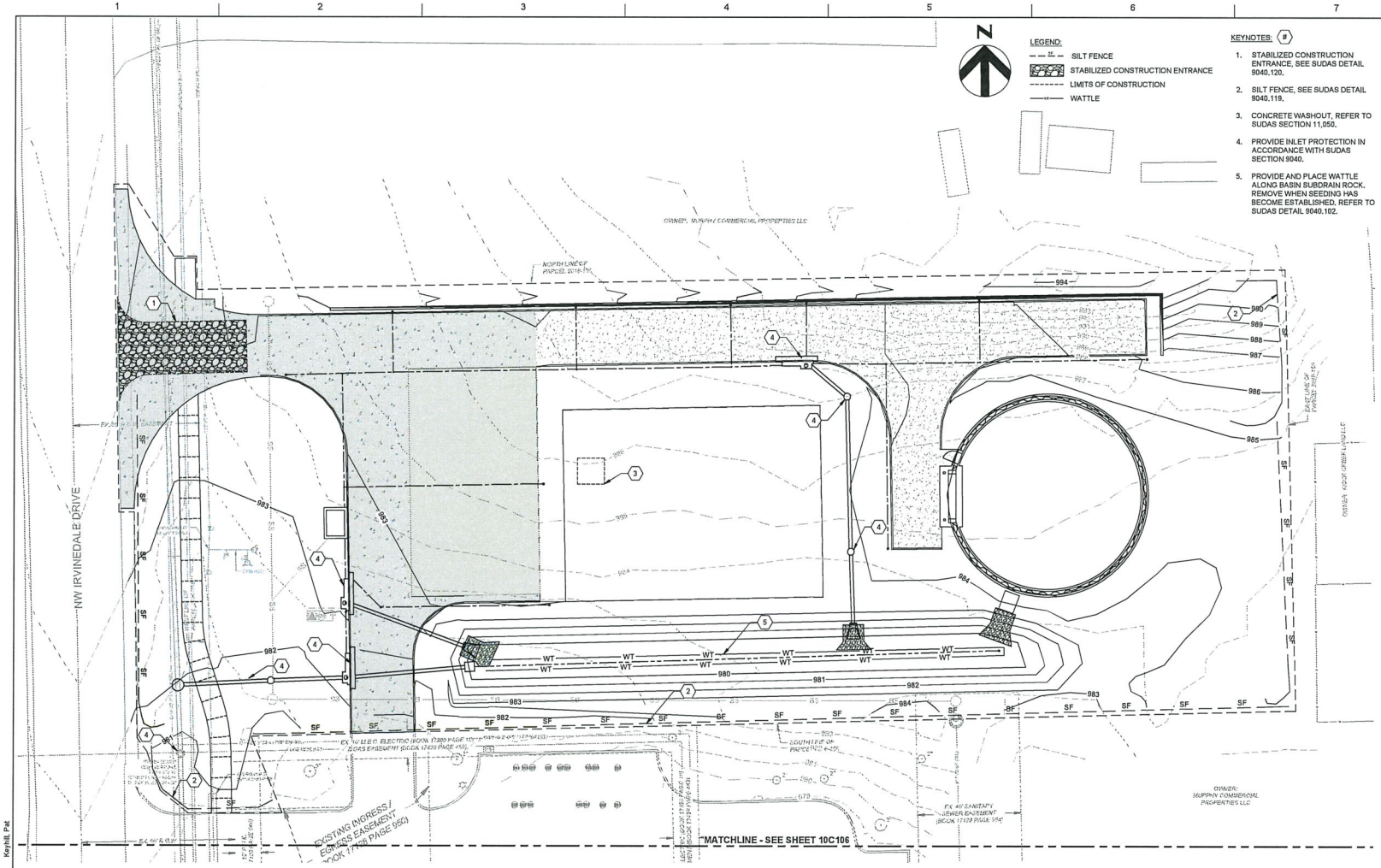
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
SITE GRADING AND DRAINAGE PLAN
SOUTH

0 1" 2"

FILENAME 10C104.dwg
SCALE 1" = 20'

SHEET
10C104



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LEGEND:

- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- LIMITS OF CONSTRUCTION
- WATTLE

KEYNOTES: (#)

1. STABILIZED CONSTRUCTION ENTRANCE, SEE SUDAS DETAIL 9040.120.
2. SILT FENCE, SEE SUDAS DETAIL 9040.119.
3. CONCRETE WASHOUT, REFER TO SUDAS SECTION 11.050.
4. PROVIDE INLET PROTECTION IN ACCORDANCE WITH SUDAS SECTION 9040.
5. PROVIDE AND PLACE WATTLE ALONG BASIN SUBDRAIN ROCK. REMOVE WHEN SEEDING HAS BECOME ESTABLISHED. REFER TO SUDAS DETAIL 9040.102.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. STABILIZED CONSTRUCTION ACCESS AND STORMWATER CONTROL BMP's SHALL COMPLY WITH APPLICABLE SUDAS REQUIREMENTS.
2. INSTALL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AS REGULATED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES (DNR).
3. INSTALL ALL SOIL EROSION SEDIMENT CONTROL MEASURES, ORANGE PLASTIC SAFETY FENCE, TRAFFIC WORKING SIGNS AND THE "CONSTRUCTION VEHICLES ONLY" SIGNS, PRIOR TO CONSTRUCTION ACTIVITIES.
4. CONTAIN ERODED MATERIALS WITHIN THE SITE AND PREVENT ERODED MATERIAL FROM ENTERING EXISTING DRAINAGE WAYS OR BODIES OF WATER.
5. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT ALL ACCESS LOCATIONS.
6. REMOVE ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NEEDED.
7. DO NOT DISTURB EXISTING VEGETATION OUTSIDE THE LIMITS OF CONSTRUCTION.
8. CLEAR TOPSOIL ONLY IN AREAS REQUIRED FOR IMMEDIATE CONSTRUCTION ACTIVITY. AVOID MASS CLEARING AND GRADING OF THE SITE.
9. SEED AND/OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED AND AS REQUIRED TO MAINTAIN COMPLIANCE WITH GRADING/NPDES PERMIT(S).
10. STABILIZE TOPSOIL STOCKPILES AND DISTURBED PORTIONS OF THE SITE, WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 14 DAYS, WITH TEMPORARY SEED AND MULCH.
11. ANCHOR MULCH IN-PLACE IMMEDIATELY AFTER PLACEMENT.
12. RECOMMENDED SEEDING DATES TO ESTABLISH PERMANENT VEGETATIVE COVER ARE AS FOLLOW:
    SPRING - MARCH 1 TO MAY 15
    LATE SUMMER - AUGUST 1 TO SEPTEMBER 15
    SEE SUDAS SECTION 9010 FOR REQUIRED SEED MIXTURES.
13. PROTECT ALL STORM DRAINAGE INLETS WITH GRAVEL FILTERS, FILTER FABRIC OR FILTER SOCKS UNTIL VEGETATION HAS BEEN ESTABLISHED OR PAVEMENT HAS BEEN INSTALLED.
14. REPAIR AND/OR RECTIFY ANY DAMAGE(S) INCURRED BY RUNOFF AND/OR EROSION.
15. ALL BMP's SHALL BE MAINTAINED WEEKLY AND AFTER EVERY 1/2-INCH RAIN. REMOVE ACCUMULATED SILT AND SPREAD IN AREAS TO BE LANDSCAPED.
16. INSPECTIONS OF ALL EROSION CONTROL MEASURES SHALL BE LOGGED WEEKLY AND AFTER EVERY 1/2-INCH RAIN BY THE CONTRACTOR OR THEIR REPRESENTATIVE. INSPECTION LOGS AND UPDATED POLLUTION PREVENTION PLANS ARE SUBJECT TO INSPECTION BY THE IOWA DEPARTMENT OF NATURAL RESOURCES, OWNER AND ENGINEER.
17. DOCUMENT AND MAINTAIN A RECORD OF ALL INSPECTION REPORTS. INCLUDE SITE EROSION CONTROL DEFICIENCIES, MAINTENANCE ISSUES, REPAIR AND OTHER CORRECTIVE MEASURES THAT WERE NOTED AND IMPLEMENTED IN THE REPORT AS REQUIRED TO MEET NPDES AND/OR PERMIT REQUIREMENTS.
18. PROVIDE CONTAINMENT DIKES OR OTHER PROTECTIVE MEASURES AROUND ALL ON-SITE FUELING AND CHEMICAL STORAGE AREAS. COMPLY WITH THE STATE OF IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) FOR THE NOTIFICATION, CONTAINMENT, INVESTIGATION, REMEDIATION AND DISPOSAL OF FUEL, OIL OR ANY HAZARDOUS MATERIAL THAT IS RELEASED.
19. PROVIDE A PORTABLE TOILET ON-SITE FOR THE DURATION OF THE SITE CONSTRUCTION ACTIVITIES.
20. INTERCEPTOR DITCHES, EROSION CONTROL MAT, SEDIMENT TRAPS AND SILT FENCING SHALL BE INSTALLED AS FIELD CONDITIONS AND CONSTRUCTION ACTIVITIES DICTATE OR AS DIRECTED BY THE OWNER OR ENGINEER.

Kenhill, Pat
10C105.dwg
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PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

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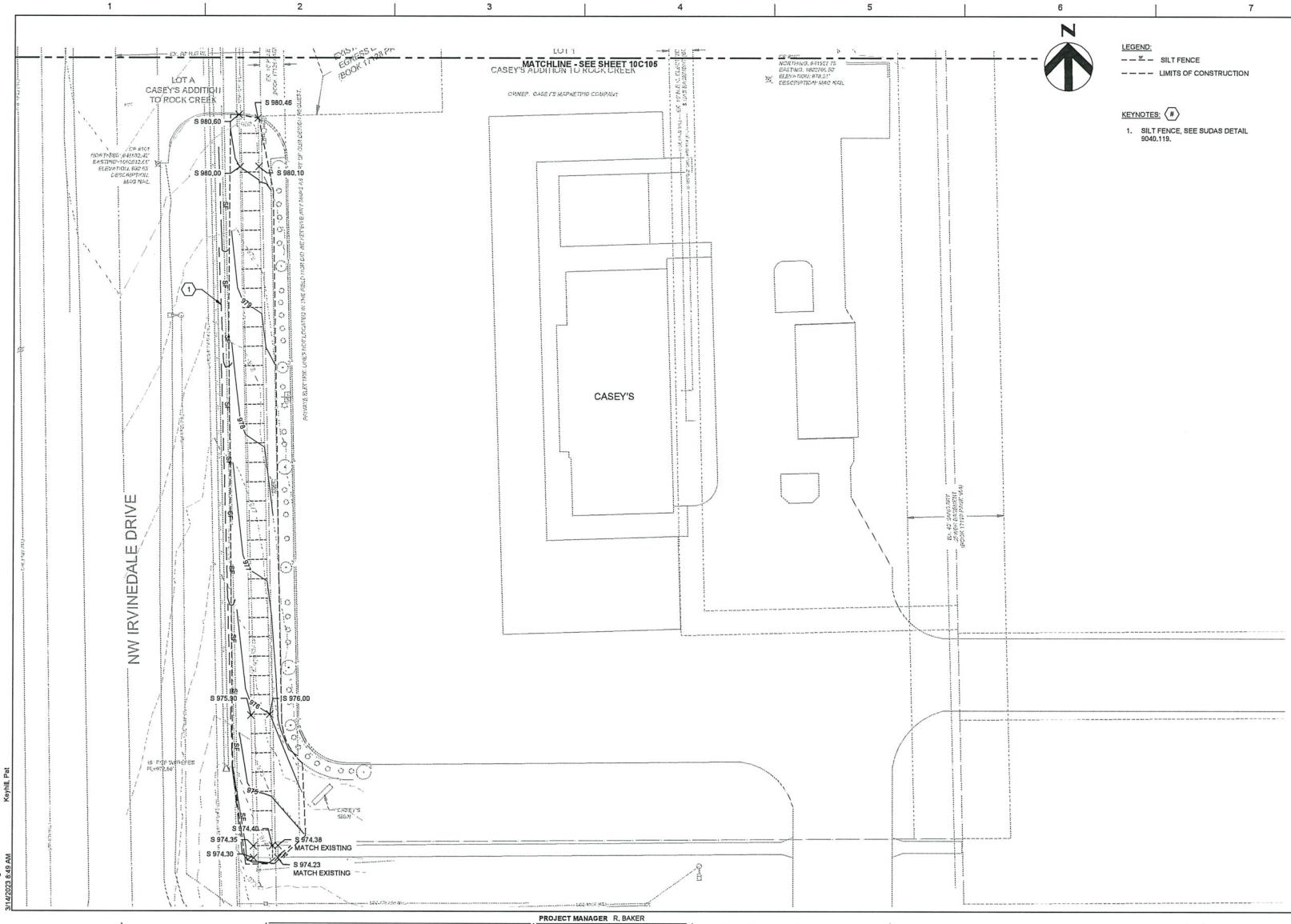
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

0 1" 2"

FILENAME 10C105.dwg
SCALE 1" = 20'

SHEET
10C105



N

LEGEND:

- SILT FENCE
- LIMITS OF CONSTRUCTION

KEYNOTES: (#)

1. SILT FENCE, SEE SUDAS DETAIL 9040.119.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. SEE SOIL EROSION AND SEDIMENT CONTROL NOTES ON SHEET 10C105.

10C106.dwg
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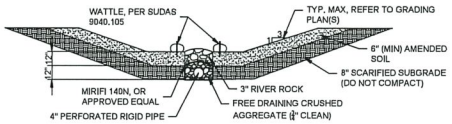
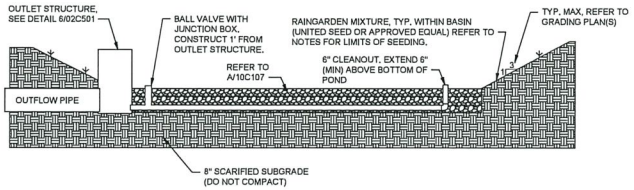
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

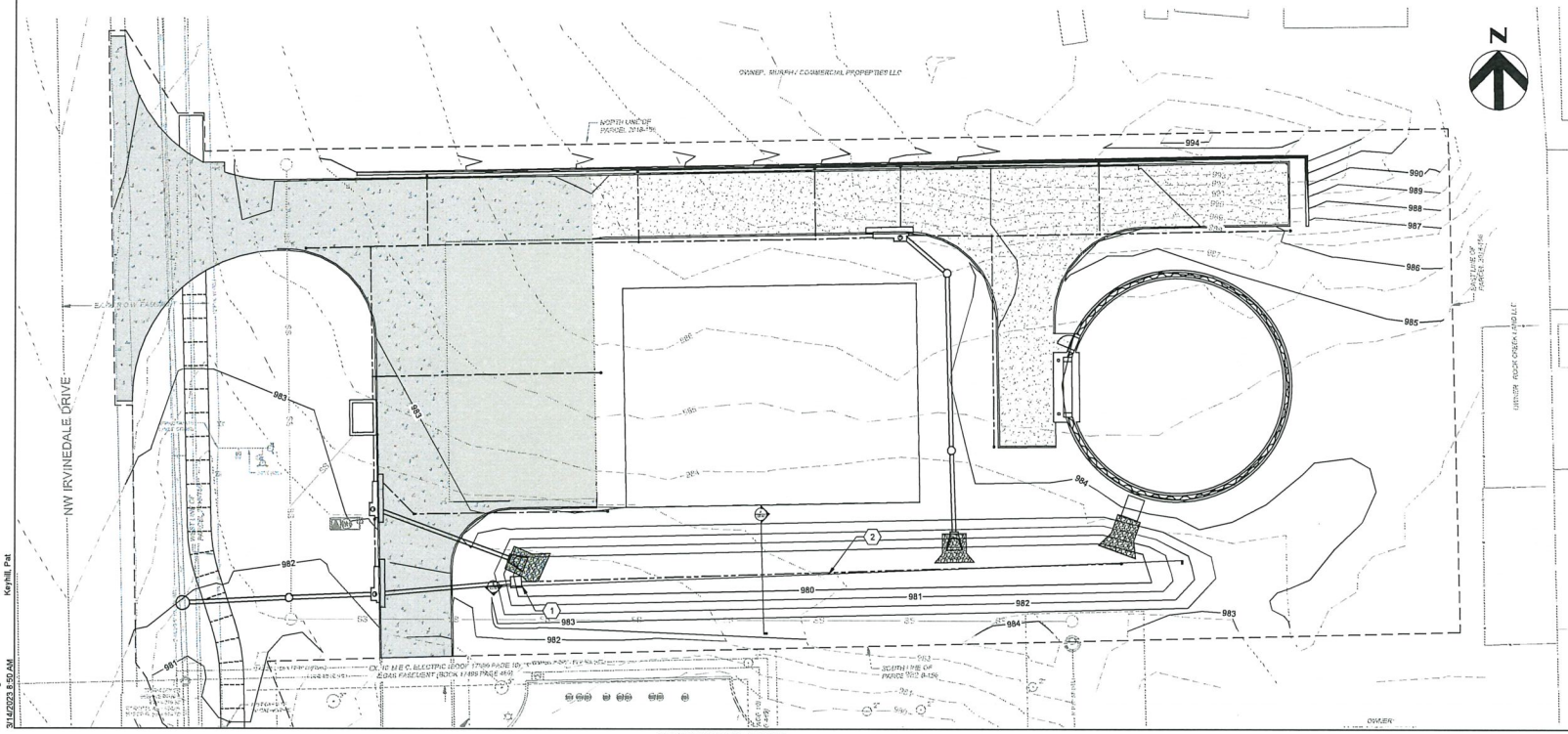
0 1" 2"
FILENAME 10C106.dwg
SCALE 1" = 20'
SHEET
10C106



A 10C107 BIORETENTION BASIN CROSS-SECTION
NO SCALE



B 10C107 BIORETENTION BASIN SECTION
NO SCALE



LEGEND:

— — — LIMITS OF CONSTRUCTION

KEYNOTES: (#)

1. BIORETENTION OUTLET, SEE DETAIL 6/02C501.
2. BIORETENTION POND SUBDRAINAGE, SEE SECTION A ON THIS SHEET.

NOTES:

1. FILTER FABRIC MUST BE ARCHED AS SHOWN.
2. OVERLAP OF FABRIC SHALL NOT EXCEED 6".
3. TOP 6" OF SOIL SHALL BE BLENDED WITH 3" OF COMPOST MIX (IOWA DEPARTMENT OF NATURAL RESOURCES). SUBMIT TO ENGINEER FOR REVIEWAPPROVAL PRIOR TO CONSTRUCTION.
4. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES AND BOTTOM OF BASIN. (NORTH AMERICAN GREEN SC-150BN OR APPROVED EQUAL)
5. RAINGARDEN MIXTURE SHALL BE PLANTED ON BOTTOM AND SLOPES (UP TO THE 983' ELEVATION) OF THE BIORETENTION BASIN.

STORMWATER CALCULATIONS:

TOTAL PROPERTY AREA: 1.66 AC
TOTAL DISTURBED AREA: 1.66 AC

TREATMENT REQUIREMENTS:

REQUIRED TREATMENT VOLUME:
(1.66 AC) * 1.25 IN = 7,532 CF

STORMWATER DETENTION:

PER HYDROFLOW HYDROGRAPHS EXTENSION FOR AUTOCAD CIVIL 3D 2020, THE PRE AND POST CONSTRUCTION RUNOFF (CFS) FOR THE 5-, 10-, AND 100-YEAR STORM EVENTS USING THE SCS METHOD ARE SUMMARIZED IN THE TABLE BELOW.

DETENTION REQUIRED: 7,532 CF
DETENTION PROVIDED: 15,000 CF

	PEAK RUN OFF (CFS)		
	5-YEAR	10-YEAR	100-YEAR
PRE-DEVELOPED	1.520	2.419	6.983
POST-DEVELOPED	1.112	1.965	6.352

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CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE PLANNING
POST CONSTRUCTION STORM MANAGEMENT PLAN
(PCSMP)

0 1" 2"

FILENAME 10C107.dwg
SCALE 1" = 20'

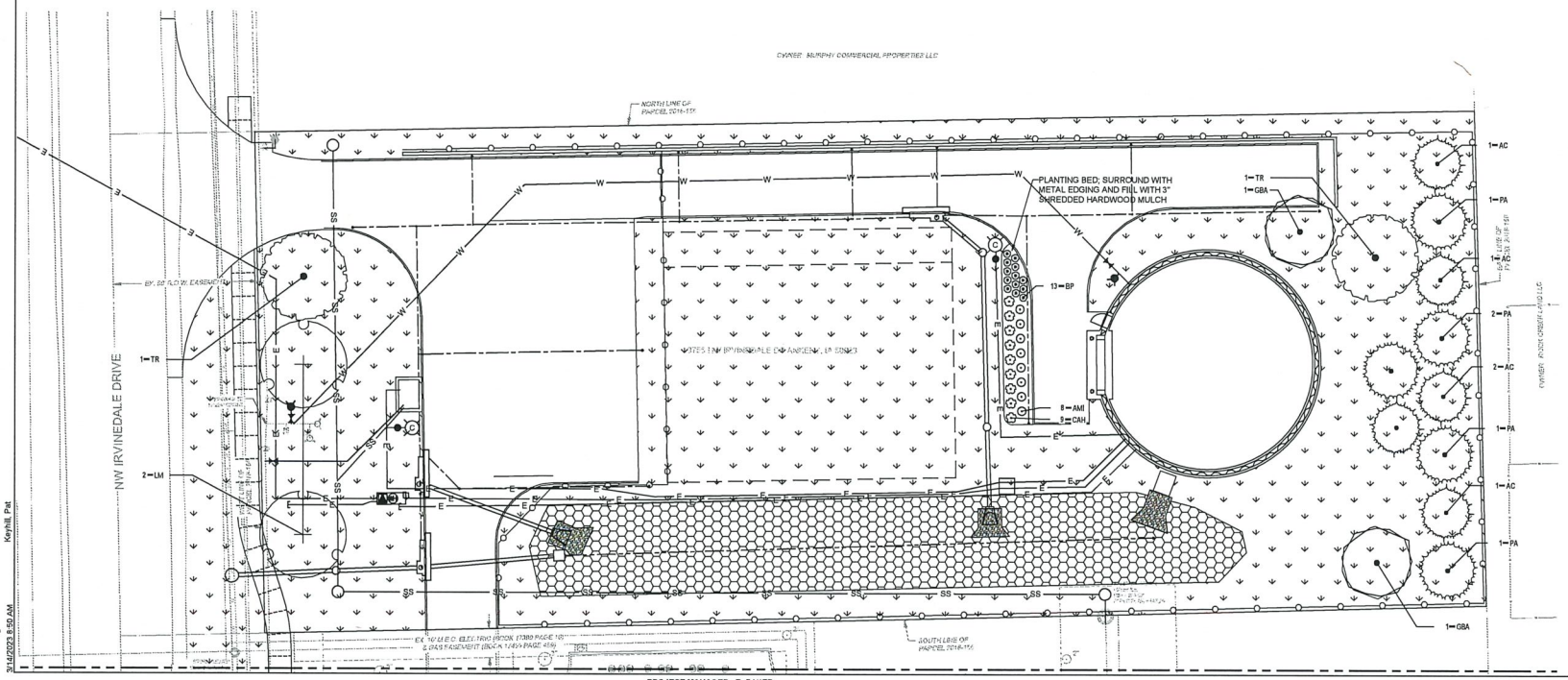
SHEET
10C107

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
	GBA	2	GINKGO BILOBA 'AUTUMN GOLD' TM	MAIDENHAIR TREE	2" CAL	B&B	
	LM	2	LIQUIDAMBAR STYRACIFLUA 'MORAINE'	MORAINE SWEET GUM	2" CAL	B&B	
	TR	2	TILIA AMERICANA 'REDMOND'	REDMOND AMERICAN LINDEN	2" CAL	B&B	
EVERGREEN TREE	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
	AC	5	ABIES CONCOLOR	WHITE FIR	6 FT MIN.	B&B	
	PA	5	PICEA ABIES	NORWAY SPRUCE	6 FT MIN.	B&B	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
	AMI	8	ARONIA MELANOCARPA 'MORTON' TM	IROQUIS BEAUTY BLACK CHOKEBERRY	2 GAL	CG	5'-0" O.C.
	BP	13	BUDDLEJA X 'PURPLE HAZE'	LO & BEHOLD® PURPLE HAZE BUTTERFLY BUSH	2 GAL	CG	3'-0" O.C.
	CAH	9	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	2 GAL	CG	5'-0" O.C.

LEGEND:

TURFGRASS SEED MIXTURE

RAINGARDEN SEED MIXTURE



LANDSCAPE PLAN NOTES:

1. CONTRACTOR SHALL LOCATE ALL UTILITY LINES AND STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, HANDHOLES, VALVES, AND HYDRANTS PRIOR TO THE START OF WORK.
2. PLANT QUANTITIES IN PLANT SCHEDULE ARE FOR CONVENIENCE ONLY AND ARE NOT GUARANTEED. QUANTITIES ON PLAN WILL PREVAIL IF DISCREPANCIES OCCUR.
3. CONTRACTOR SHALL SHOW PROOF OF PROCUREMENT, SOURCES, QUANTITIES AND VARIETIES FOR ALL PLANTS WITHIN 21 DAYS FOLLOWING THE AWARD OF CONTRACT. TIMELY PROCUREMENT OF ALL PLANT MATERIAL IS ESSENTIAL TO THE SUCCESSFUL COMPLETION AND ACCEPTANCE OF THE PROJECT.
4. SUBSTITUTIONS SHALL ONLY BE ALLOWED WHEN THE CONTRACTOR HAS EXHAUSTED ALL SOURCES FOR THE SPECIFIED MATERIAL, AND HAS PROVEN THAT THE SPECIFIED MATERIAL IS NOT AVAILABLE. THE CONTRACTOR MUST PROVIDE NAME AND VARIETY OF SUBSTITUTION TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO TAGGING OR PLANTING. SUBSTITUTIONS SHALL BE NEAREST EQUIVALENT SIZE OF VARIETY OF PLANT HAVING SAME ESSENTIAL CHARACTERISTICS.
5. ALL PLANT MATERIAL SHALL BE NURSERY GROWN, SOUND, HEALTHY, VIGOROUS, AND FREE FROM INSECTS, DISEASE AND INJURIES, WITH HAVIT OF GROWTH THAT IS NORMAL FOR THE SPECIES. SIZES SHALL BE EQUAL TO OR EXCEEDING SIZES INDICATED ON THE PLANT LIST, KIND, SIZE AND QUALITY OF PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1), MOST RECENT EDITION.
6. ALL DISTURBED AREAS WITHIN CONTRACT LIMITS, NOT COVERED BY PAVING, BUILDINGS, OR PLANTING BEDS ARE TO BE SEEDED WITH TURFGRASS OR RAINGARDEN SEED MIX.
7. THE CONTRACTOR SHALL REPORT SUBSURFACE SOIL OR DRAINAGE PROBLEMS TO THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
8. REFER TO PLANTING DETAILS FOR PROPER METHODS OF INSTALLING PLANT MATERIALS.
9. SEE SPECIFICATIONS FOR PLANT MAINTENANCE AND WARRANTY REQUIREMENTS.
10. CONTRACTOR TO PROVIDE TEMPORARY WATERING SYSTEM OR WATER TRUCK DURING WARRANTY PERIOD TO DELIVER ADEQUATE MOISTURE TO PLANT MATERIALS TO ENSURE PROPER ROOT GROWTH.
11. UTILIZE SUDAS SPECIFICATIONS FOR LANDSCAPING.

OPEN SPACE AND LANDSCAPE REQUIREMENTS PER CITY OF ANKENY CODE:

MINIMUM OPEN SPACE:

1. NOT LESS THAN 20% OF GROSS LAND AREA INCLUDED IN THE BUILDING LOT SHALL BE DEVOTED TO OPEN SPACE.
2. TREES AND SHRUBS SHALL BE PROVIDED AT A MINIMUM OF ONE LANDSCAPE UNIT PER 3,000 SQUARE FEET OF REQUIRED OPEN SPACE. ONE LANDSCAPE UNIT CONSISTS OF 2 TREES AND 6 SHRUBS, OR 3 TREES AND 3 SHRUBS.
3. GROSS LAND AREA = 72,309.6 SF
4. 20% OPEN SPACE REQUIREMENT = 72,309.6 x 20% = 14,461.9 SF.
5. LANDSCAPE UNITS = 14,461.9 / 3,000 = 4.8
6. REQUIRED TREES = 4.8 x 2 = 9.6, 10 TREES REQUIRED. 10 TREES PROVIDED.
7. REQUIRED SHRUBS = 4.8 x 6 = 28.8, 29 SHRUBS REQUIRED. 30 SHRUBS PROVIDED.

SHADING TREE CALCULATION:

1. GROSS PAVED AREA x 0.2 = REQUIRED SHADING AREA.
2. REQUIRED SHADING AREA / 706 SF = SHADING TREES REQUIRED.
3. PAVED AREA = 20,753.4 SF
4. REQUIRED SHADING AREA = 20,753.4 x 0.2 = 4,150.7
5. 4,150.7 SF / 706 SF = 5.9 TREES, 6 SHADE TREES REQUIRED, 6 SHADE TREES PROVIDED.

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CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

SITE LANDSCAPE PLAN

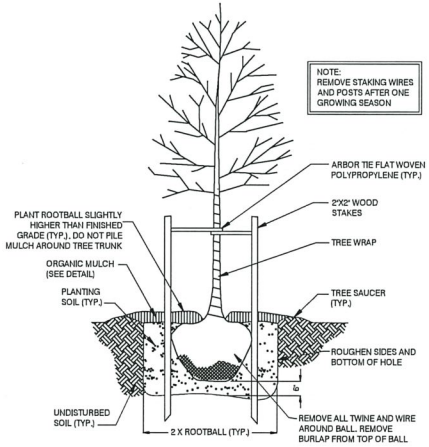
0 1" 2"

FILENAME 10L101.dwg

SCALE 1" = 20'

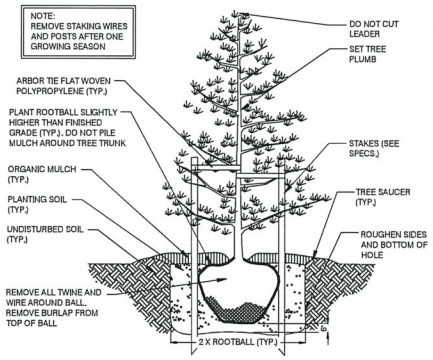
SHEET 10L101

10L101.dwg
Keyhill, Pat
3/14/2023 8:50 AM



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



CONIFEROUS TREE PLANTING DETAIL

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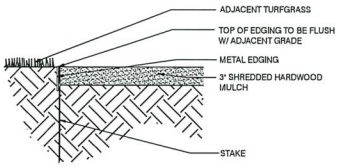
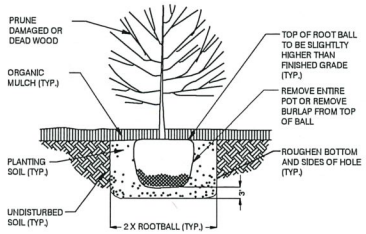


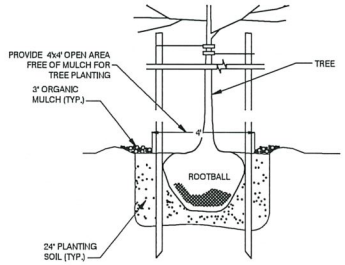
METAL EDGING DETAIL ADJACENT TO TURFGRASS

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE



ORGANIC MULCH

NOT TO SCALE

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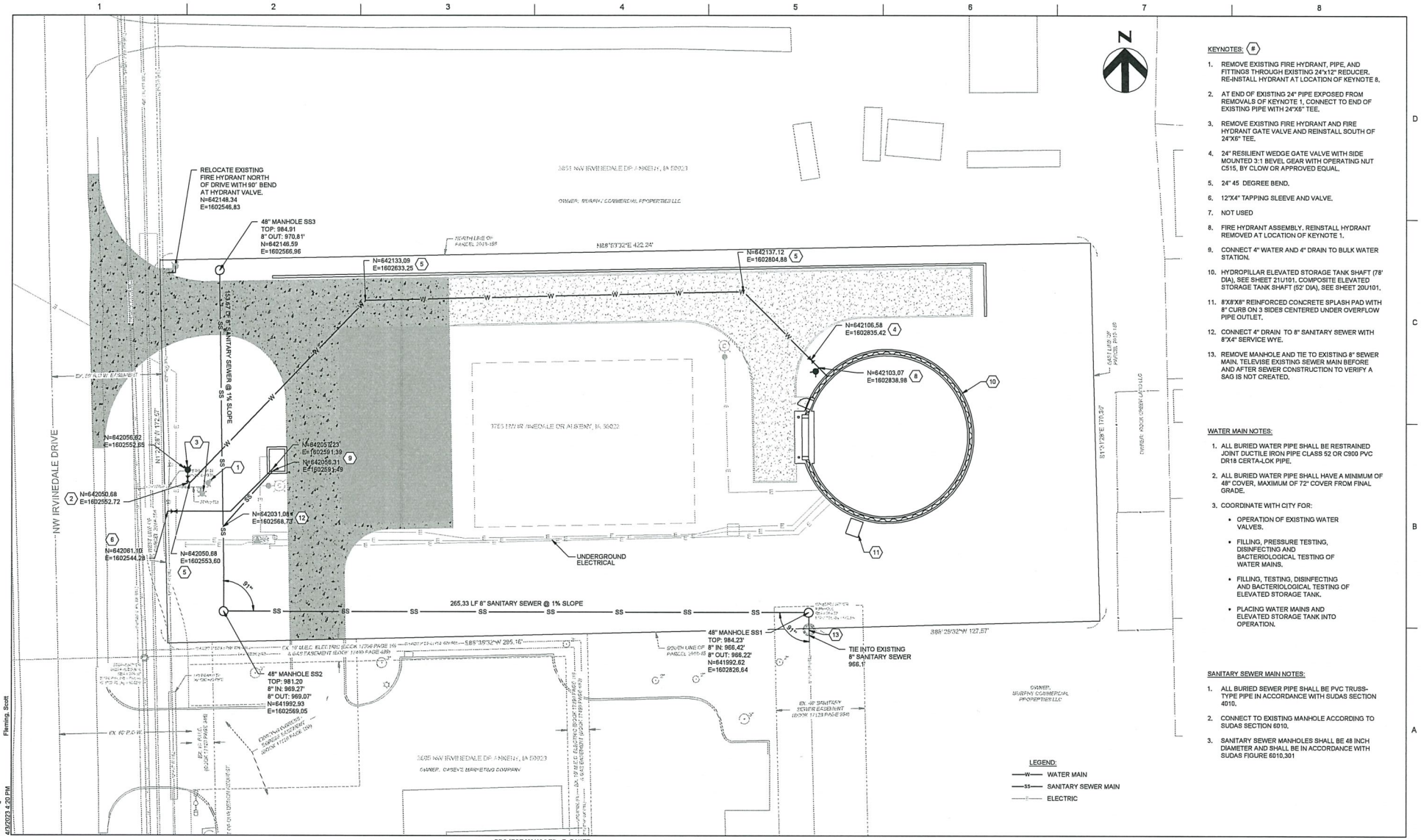
STORAGE TANK

LANDSCAPE DETAILS

0 1" 2"

FILENAME 10L501.dwg
SCALE NO SCALE

SHEET
10L501



KEYNOTES: (#)

1. REMOVE EXISTING FIRE HYDRANT, PIPE, AND FITTINGS THROUGH EXISTING 24"x12" REDUCER. RE-INSTALL HYDRANT AT LOCATION OF KEYNOTE 8.
2. AT END OF EXISTING 24" PIPE EXPOSED FROM REMOVALS OF KEYNOTE 1, CONNECT TO END OF EXISTING PIPE WITH 24"X6" TEE.
3. REMOVE EXISTING FIRE HYDRANT AND FIRE HYDRANT GATE VALVE AND REINSTALL SOUTH OF 24"X6" TEE.
4. 24" RESILIENT WEDGE GATE VALVE WITH SIDE MOUNTED 3:1 BEVEL GEAR WITH OPERATING NUT C515, BY CLOW OR APPROVED EQUAL.
5. 24" 45 DEGREE BEND.
6. 12"X4" TAPPING SLEEVE AND VALVE.
7. NOT USED
8. FIRE HYDRANT ASSEMBLY. REINSTALL HYDRANT REMOVED AT LOCATION OF KEYNOTE 1.
9. CONNECT 4" WATER AND 4" DRAIN TO BULK WATER STATION.
10. HYDROPILLAR ELEVATED STORAGE TANK SHAFT (78' DIA), SEE SHEET 21U101. COMPOSITE ELEVATED STORAGE TANK SHAFT (52' DIA), SEE SHEET 20U101.
11. 8'X8'X8" REINFORCED CONCRETE SPLASH PAD WITH 8" CURB ON 3 SIDES CENTERED UNDER OVERFLOW PIPE OUTLET.
12. CONNECT 4" DRAIN TO 8" SANITARY SEWER WITH 8"X4" SERVICE WYE.
13. REMOVE MANHOLE AND TIE TO EXISTING 8" SEWER MAIN. TELEVISE EXISTING SEWER MAIN BEFORE AND AFTER SEWER CONSTRUCTION TO VERIFY A SAG IS NOT CREATED.

WATER MAIN NOTES:

1. ALL BURIED WATER PIPE SHALL BE RESTRAINED JOINT DUCTILE IRON PIPE CLASS 52 OR C900 PVC DR18 CERTA-LOK PIPE.
2. ALL BURIED WATER PIPE SHALL HAVE A MINIMUM OF 48" COVER, MAXIMUM OF 72" COVER FROM FINAL GRADE.
3. COORDINATE WITH CITY FOR:
   - OPERATION OF EXISTING WATER VALVES.
   - FILLING, PRESSURE TESTING, DISINFECTING AND BACTERIOLOGICAL TESTING OF WATER MAINS.
   - FILLING, TESTING, DISINFECTING AND BACTERIOLOGICAL TESTING OF ELEVATED STORAGE TANK.
   - PLACING WATER MAINS AND ELEVATED STORAGE TANK INTO OPERATION.

SANITARY SEWER MAIN NOTES:

1. ALL BURIED SEWER PIPE SHALL BE PVC TRUSS-TYPE PIPE IN ACCORDANCE WITH SUDAS SECTION 4010.
2. CONNECT TO EXISTING MANHOLE ACCORDING TO SUDAS SECTION 6010.
3. SANITARY SEWER MANHOLES SHALL BE 48 INCH DIAMETER AND SHALL BE IN ACCORDANCE WITH SUDAS FIGURE 6010.301

LEGEND:

- —W— WATER MAIN
- —SS— SANITARY SEWER MAIN
- —E— ELECTRIC

10D101.dwg
4/3/2023 4:20 PM
Fleming, Scott

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

ISSUE	DATE	DESCRIPTION
4	03-10-2023	100% REVIEW SET
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PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

PRELIMINARY NOT FOR CONSTRUCTION

ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED. THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

03-2023

city of Ankeny — bringing it all together

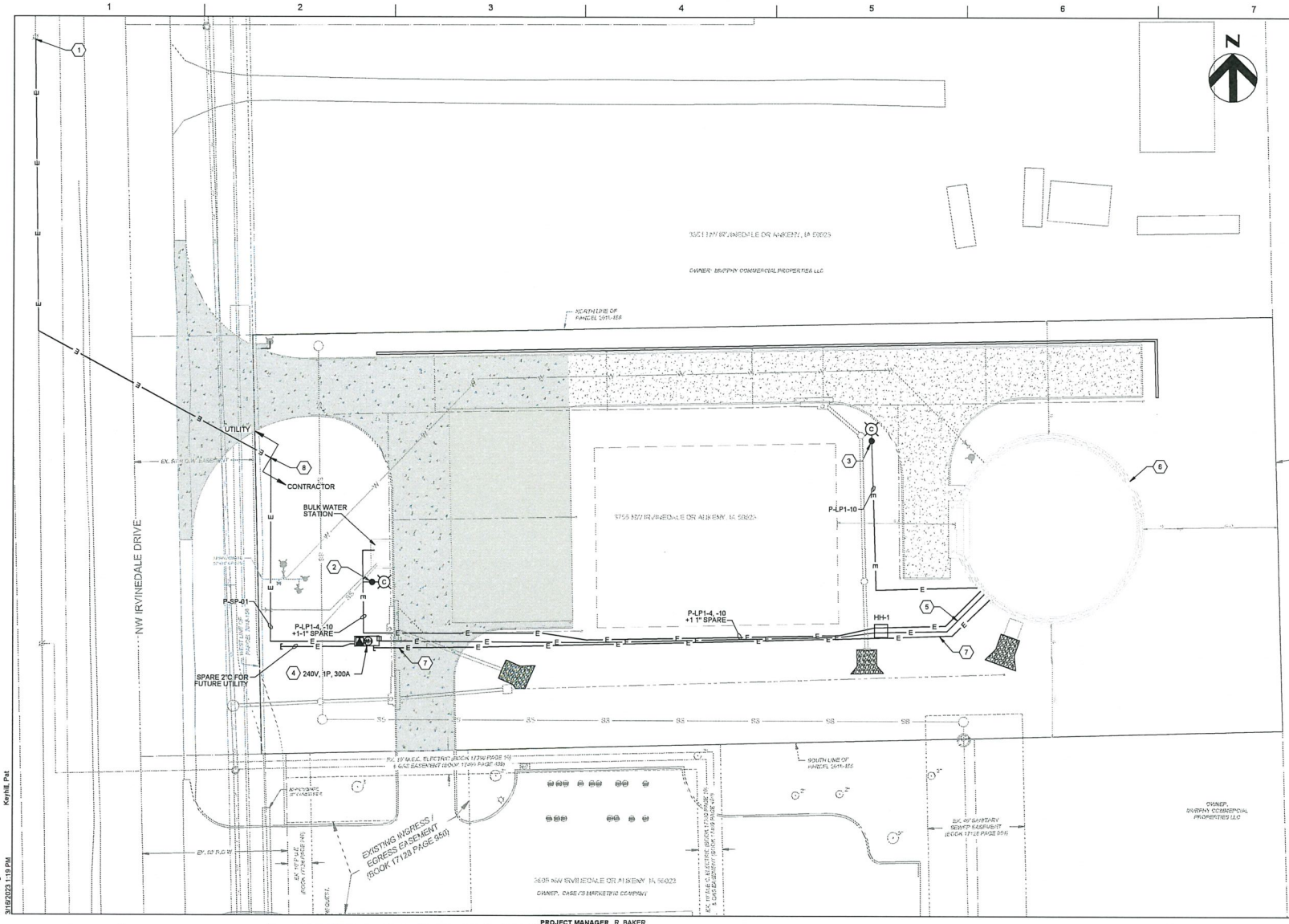
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER STORAGE TANK

SITE PLANNING
SITE PIPING PLAN

0 1" 2"

FILENAME 10D101.dwg
SCALE 1" = 20'

SHEET **10D101**



ELECTRICAL NOTES:

1. CONDUIT SHALL BE SCH 40 RIGID PVC PER NEMA TC-2 OR SCH 40 HDPE COILABLE CONDUIT IN GRAY OR BLACK WIRED STRIPE.
2. ALL SWEEPS 4" OR LESS IN DIAMETER SHALL BE STANDARD WALL FIBERGLASS PER NEMA TC14A W/FACTORY ASSEMBLED PLASTIC COUPLINGS ON EACH END TO MATE PVC OR HDPE SCH 40 CONDUIT.
3. ALL SWEEPS GREATER THAN 4" IN DIAMETER SHALL BE METAL WITH GROUND LUGS & MUST BE BONDED WHERE EXPOSED.
4. ALL 90° SWEEPS MUST HAVE A MINIMUM 48" BEND RADIUS
5. ENDS SHALL BE STUBBED ABOVE GRADE W/PULL TAPE VISIBLE
6. PRIMARY CONDUIT TO HAVE MINIMUM 42" COVER AND 48" MAXIMUM COVER.
7. SECONDARY CONDUIT TO HAVE MINIMUM 30" COVER AND MAXIMUM 36" COVER.
8. CUSTOMER TO INSTALL SYNTHETIC 1/4" 200# TEST PULL LINE IN CONDUIT

KEYNOTES: (#)

1. EXISTING POWER POLE. SEE NOTE 2
2. BULK WATER FILLING STATION POLE MOUNTED LIGHTING. SEE DETAIL SHEET 02E501.
3. POLE MOUNTED AREA LIGHTING. SEE DETAIL SHEET 02E501.
4. UTILITY TRANSFORMER PAD/METER/DISCONNECT. SEE DETAIL 4 & 5/02E501, AND ONE-LINE ON SHEET 20E601.
5. ROUTE POWER TO ELEVATED STORAGE TANK. FOR CONTINUATION SEE SHEET 20E101 AND 21E101.
6. HYDROPILLAR TANK SHOWN. SEE SHEET 21E101 FOR LIGHTING AND POWER LOCATIONS. SEE SHEET 20E101 FOR COMPOSITE TANK LIGHTING AND POWER LOCATIONS.
7. SPARE CONDUIT FOR FUTURE CITY FIBER CONNECTION.
8. CONTRACTOR TO PROVIDE 2" CONDUIT TO SOUTH SIDE OF DRIVE ENTRANCE. UTILITY TO PROVIDE 2" CONDUIT FROM SOUTH SIDE OF DRIVE ENTRANCE TO POLE.

LEGEND:

24" WATER MAIN

ELECTRIC

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CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

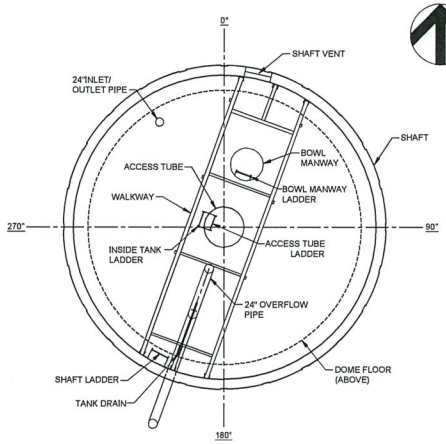
SITE PLANNING
SITE ELECTRICAL PLAN

0 1" 2"

FILENAME 10E101.dwg
SCALE 1" = 20'

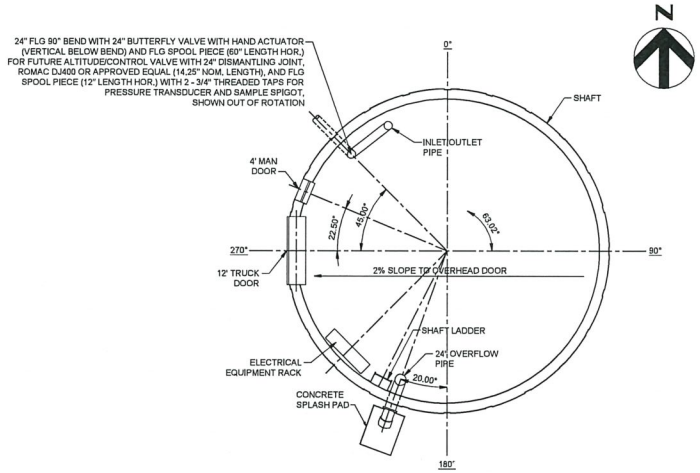
SHEET
10E101

10E101.dwg
3/16/2023 1:19 PM
Keyhill, Pat



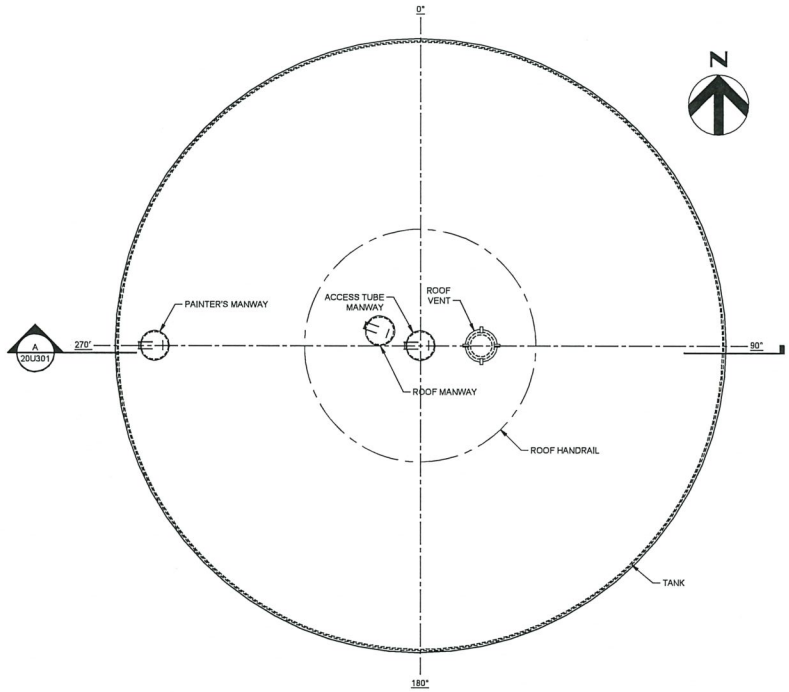
PLAN - EL=1094.0' +/- (WALKWAY)

3/32" = 1'-0"



PLAN - EL=985.0' (GROUND FLOOR)

3/32" = 1'-0"



PLAN - EL=1155.0' +/- (ROOF)

3/32" = 1'-0"

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Keyhill, Pat

HDR

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515-280-4940

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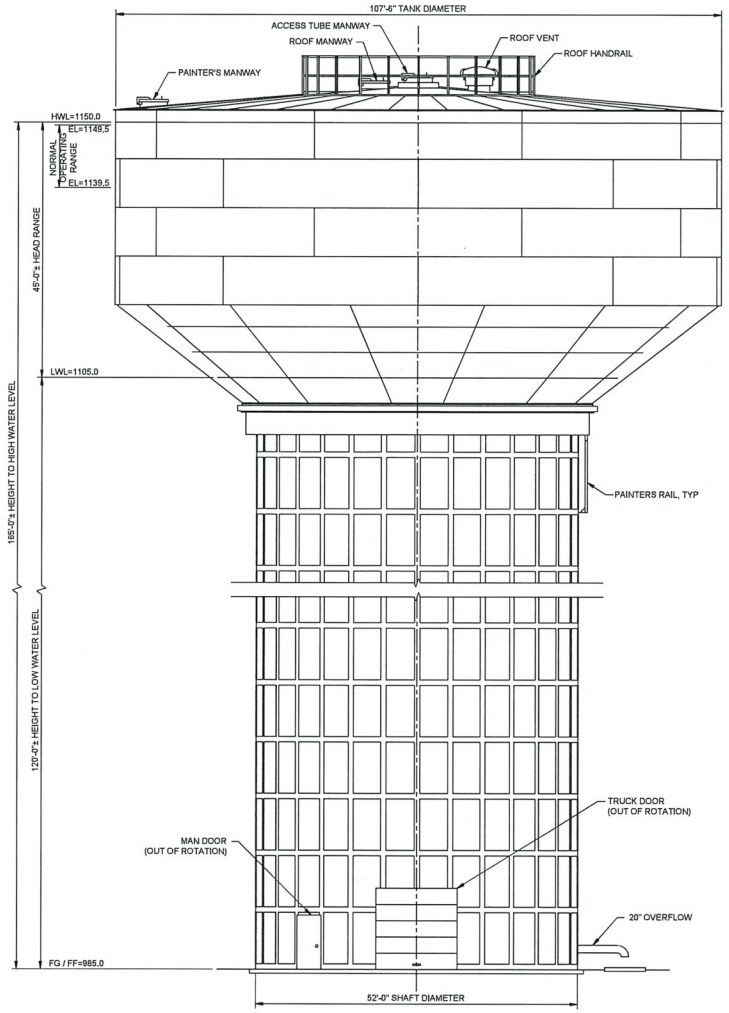
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

COMPOSITE ELEVATED STORAGE TANK
(BASE BID)
STRUCTURAL AND PROCESS PLANS

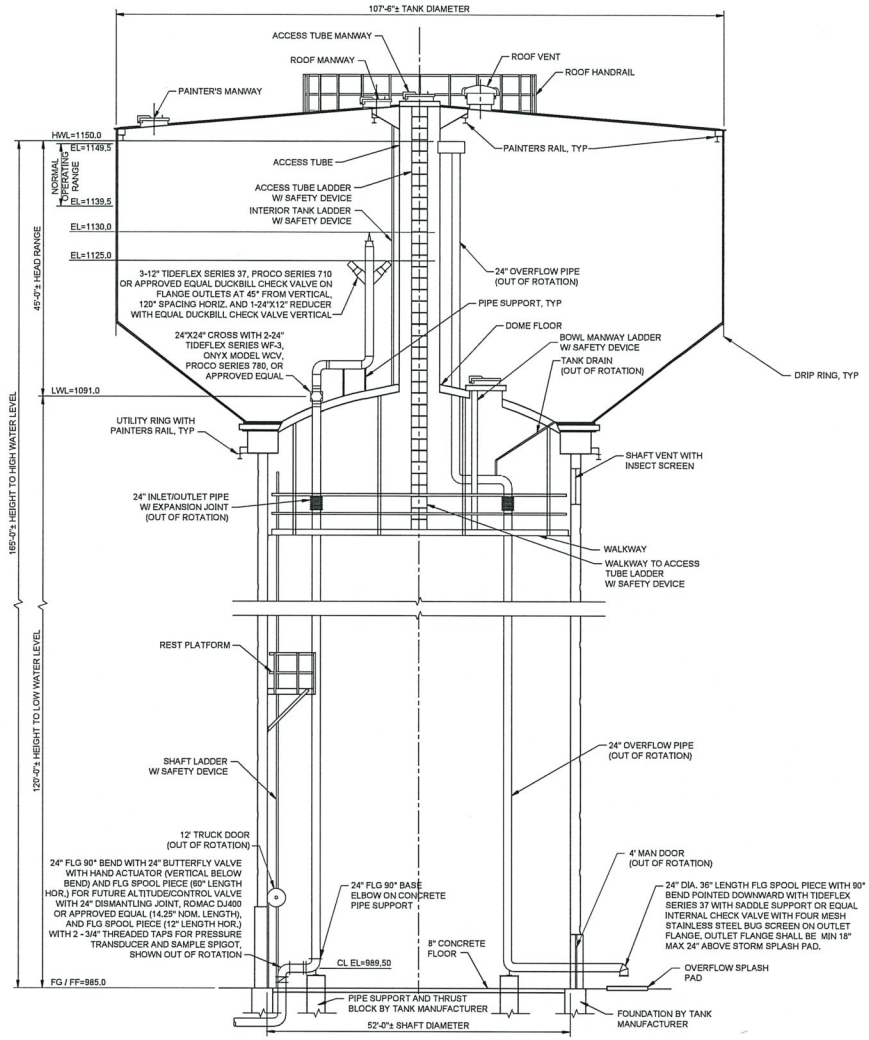
0 1" 2"

FILENAME 20U101.dwg
SCALE AS NOTED

SHEET
20U101



TANK ELEVATION
3/32" = 1'-0"



A 20U101 TANK SECTION
3/32" = 1'-0"

Keyhill, Pat
20U301.dwg
3/14/2023 8:51 AM

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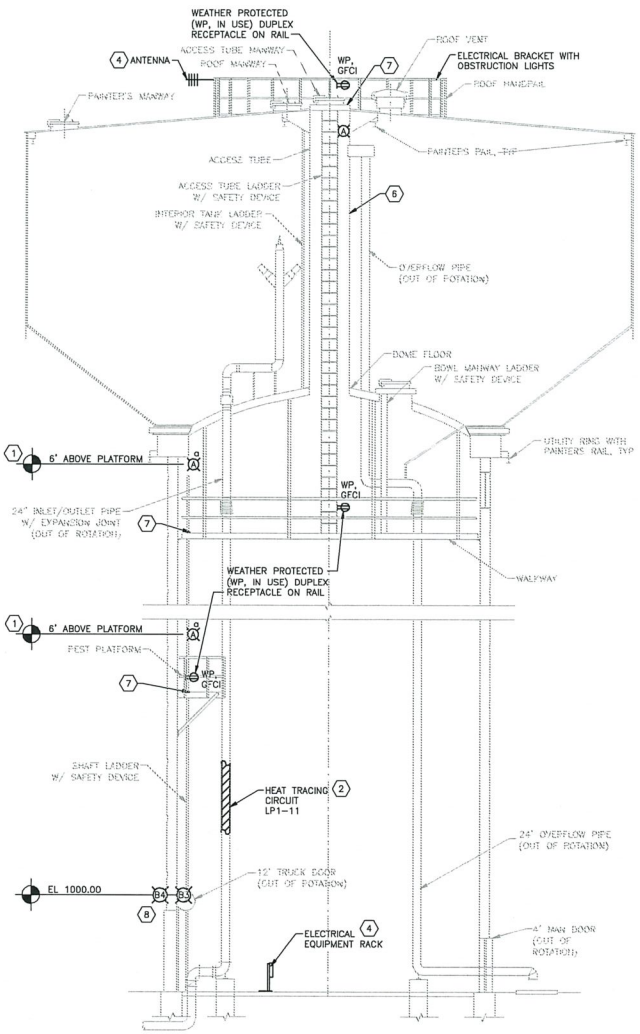
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE ELEVATED WATER STORAGE TANK

COMPOSITE ELEVATED STORAGE TANK (BASE BID)
STRUCTURAL AND PROCESS SECTION AND ELEVATION

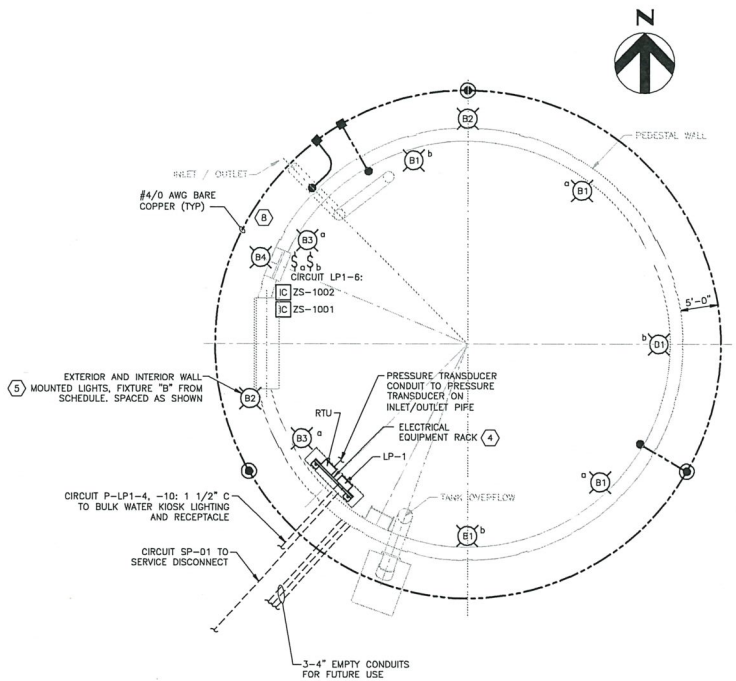
0 1" 2"

FILENAME 20U301.dwg
SCALE AS NOTED

SHEET
20U301



A TANK SECTION
3/32" = 1'-0"



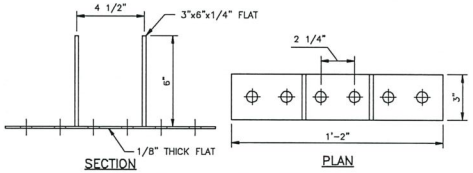
PLAN – TANK BASE
1/8" = 1'-0"

GENERAL NOTES:

1. ALL ELECTRICAL CONSTRUCTION SHALL CONFORM WITH CURRENT NFPA 70 (NEC) STANDARDS.
2. PROVIDE RACEWAYS AND ELECTRICAL CONDUIT FOR LIGHTS AS DENOTED IN THE DRAWINGS AND SPECIFICATIONS. INSTALL ELECTRICAL EQUIPMENT RACK INSIDE TANK PEDESTAL.
3. RACEWAYS AND CONDUITS SHALL NOT BE ATTACHED TO THE LADDER.
4. SEE SHEET 20E601 FOR LIGHT FIXTURE SCHEDULE AND DIAGRAM.

KEYNOTES: (#)

1. MOUNT LIGHT FIXTURES AT ELEVATIONS SHOWN, 2.5' EITHER SIDE OF LADDER (TYPE B OVER DOORWAY). POWER FROM SWITCH LOCATED INSIDE DOORWAY.
2. HEAT TRACING AND PIPE INSULATION SHALL BE INSTALLED ON 24" INLET/OUTLET PIPE IN DRY RISER, SAMPLE TAPS AND SPIGOTS. HEAT TRACING SHALL BE CHROMALOX SRL10-2C WITH RTBC LINE SENSING CONTROL THERMOSTAT AND POWER JUNCTION BOX. CONTROL SENSORS AND POWER JUNCTION BOXES SHALL BE LOCATED AT THE BOTTOM OF THE PIPE IN THE DRY RISER.
3. NOT USED
4. SEE SHEET 02E501 FOR EQUIPMENT RACK MOUNTING DETAIL. RADIO SYSTEM AND ANTENNA SHALL SEND WATER TOWER LEVEL SIGNAL TO SCADA SYSTEM AT CITY WATER DEPARTMENT OFFICE. COORDINATION WITH EXISTING SCADA SYSTEM AND MODIFICATION OF EXISTING SCADA SYSTEM AT CITY'S OFFICE TO BE DONE BY CITY'S SYSTEM INTEGRATOR UNDER A SEPARATE CONTRACT.
5. SUBMIT MOUNTING PLANS FOR LIGHTING FIXTURES.
6. PROVIDE WELDED CABLE STANDOFF BRACKETS EVERY 4.5' UP THE ACCESS MANWAY 1.5' FROM THE LADDER FOR CURRENT AND FUTURE ELECTRICAL/SCADA/TELECOM CABLE MOUNTING. BRACKETS TO BE COATED WITH TANK COATING MATERIAL.
7. PROVIDE FOUR 4" DIAMETER REINFORCED OPENINGS THROUGH LADDER PLATFORMS AND THROUGH THE ACCESS MANWAY ROOF INLINE WITH THE CABLE STANDOFF BRACKETS. SEAL OPENING THROUGH ACCESS MANWAY ROOF.
8. LIGHT B4 TO BE MOUNTED 2', CENTERED, ABOVE DOOR. REMAINDER OF EXTERIOR AND INTERIOR LIGHTS SHALL BE INSTALLED AT SAME HEIGHT, CENTER LINE OF MOUNT AS SHOWN AROUND TOWER BASE.



CABLE STAND-OFF DETAIL
NOT TO SCALE

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3/13/2023 1:21 PM
Keyhill, Pat

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DES MOINES, IA 50309
515-280-4940

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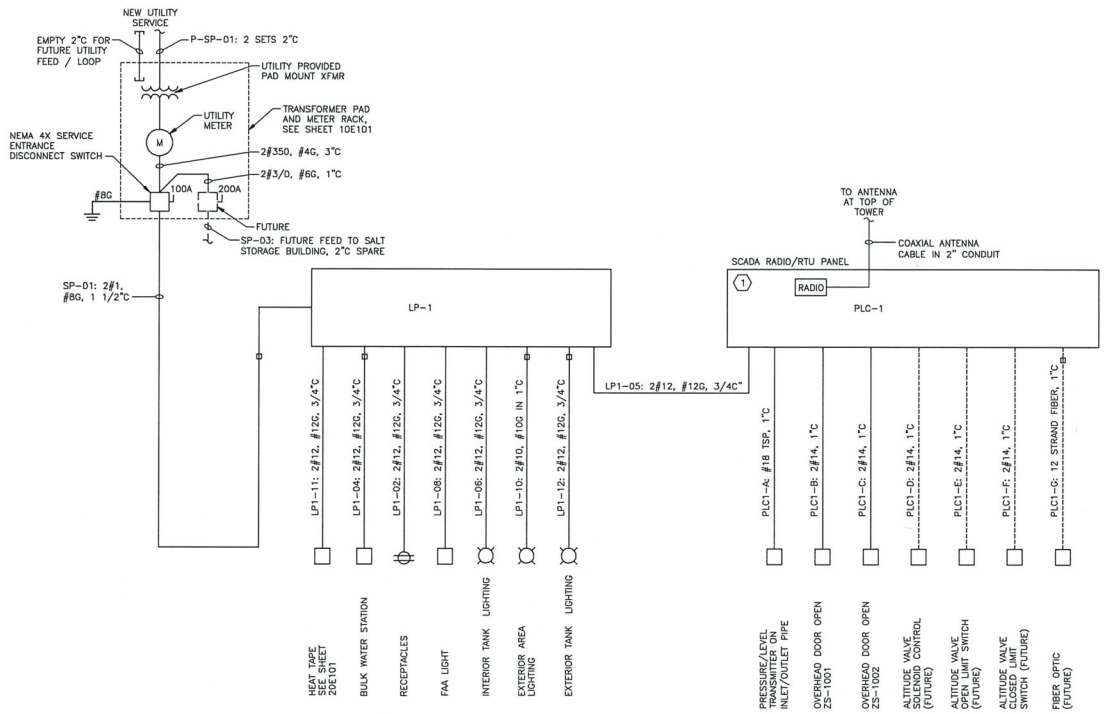
city of Ankeny
bringing it all together

CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

COMPOSITE ELEVATED STORAGE TANK
(BASE BID)
ELECTRICAL PLAN AND SECTION

0 1" 2"
FILENAME 20E101.dwg
SCALE AS NOTED
SHEET 20E101



NEW TANK AND RADIO ONE-LINE DIAGRAM

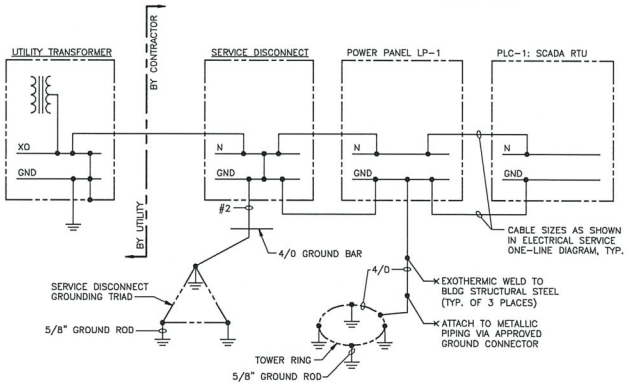
NOT TO SCALE

KEYNOTES (#)

1. CONTRACTOR TO COORDINATE WITH JETCO AT (515-967-5874) TO FURNISH A SCADA RADIO/RTU (PLC-1) AT THE NEW WATER TOWER ELECTRICAL EQUIPMENT RACK. CONTRACTOR SHALL INSTALL THE ANTENNA, AND PRESSURE TRANSDUCER, WIRES AND CONDUITS REQUIRED TO TRANSMIT WATER LEVEL READING TO SCADA SYSTEM. JETCO WILL FURNISH SCADA RADIO/RTU PANEL, ANTENNA AND ANTENNA CABLE, AND PRESSURE TRANSDUCER TO CONTRACTOR FOR INSTALLATION. JETCO WILL ALSO PROVIDE PROGRAMMING FOR PLC AND CITY SCADA SYSTEM.

GENERAL NOTES:

1. CALL MIDAMERICAN ENERGY AT (MATT NOVY 515-252-6730) FOR COORDINATING ELECTRICAL SERVICE INSTALLATION. SERVICE FEES WILL BE PAID BY CITY OF ANKENY DIRECTLY.
2. INSTALL ALL DEVICES, MATERIAL AND EQUIPMENT PER THE LATEST NEC REQUIREMENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. INSTALL A COMPLETE GROUNDING SYSTEM PER THE LATEST NEC REQUIREMENTS, SEE SHEET 20E101.
4. SEE PLAN (SHEET 20E101) FOR ELECTRICAL PANEL LOCATION, AND SHEET 10E101 FOR POWER POLE LOCATION.
5. SEE ELECTRICAL ELEVATION DRAWING (SHEET 20E101) FOR LUMINAIRE LOCATIONS AND TANK GROUNDING DETAILS.



GROUNDING DIAGRAM

NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	FIXTURE TYPE	FIXTURE LUMENS	FIXTURE WATTS	MOUNTING	NOTES
A	WET AREA FIXTURE INTERIOR LANDINGS / MANWAY HOUSING: CAST ALUMINUM GUARD, PLATINUM SILVER OPTICS: CLEAR GLASS PROTECTIVE GLOBE MFR: HUBBELL VAPORTITE VWGG-150	LED	1500 MIN	LED BULB 100W EQUIV	TOWER INTERIOR, DIRECT TO CONDUIT FITTING/DEVICE BOX	INDUSTRIAL, LOW TEMP, LED BULB TO BE STANDARD SIZED WITH 100W INCANDENCE EQUIVALENCY, 1500 LUMEN MINIMUM, 4K TEMPERATURE TO MATCH OTHER FIXTURES OUTPUT COLOR
B	ARCHITECTURAL TRAPEZOIDAL WALLPACK HOUSING: ALUMINUM, BLACK OPTICS: VISUAL COMFORT FORWARD THROW OPTIONS: INTEGRAL PHOTOCELL MFR: LITHONIA WST LED P1 40K VF 120 SF DBLXD	LED	1,639	12	SURFACE / WALL	OPTION LEGEND B1 = LIGHT ONLY B2 = LIGHT W/MOTION/AMBIENT SENSOR B3 = LIGHT W/ BATTERY B4 = LIGHT W/MOTION/SENSOR & BATTERY
C	OUTDOOR POLE MOUNTED, 18' RD TAPERED ALUMINUM POLE HOUSING: ALUMINUM, BLACK OPTICS: TYPE III MEDIUM PICOPRISM OPTIONS: SINGLE FUSE, INTEGRAL MOTION/AMBIENT SENSOR MFR: HUBBELL 1SA-ALT3-P35-120L-4K-120-BL-A30-SF-SCH-R	LED	15538	144	POLE / WALL	40K COLOR TEMPERATURE

PANEL DESIGNATION: TANK LIGHTING PANEL "LP-1"
VOLTAGE: 120/240V, 1PH,3W
AMPERES: 100

LOCATION: MCC
MAIN: 100A MAIN CIRCUIT BREAKER
PANEL MOUNTING: SURFACE

LOAD SERVED	CONNECTED LOAD (VA) L1	CONNECTED LOAD (VA) L2	CIRCUIT BREAKER AMPS	CIRCUIT BREAKER POLES	CKT NO.	CKT NO.	CIRCUIT BREAKER POLES	CIRCUIT BREAKER AMPS	CONNECTED LOAD (VA) L1	CONNECTED LOAD (VA) L2	LOAD SERVED
TVSS	–	–	30	2	1	2	1	20	900		RECEPTACLES
					3	4	1	60		2880	BULK WATER STATION
RTU	500	–	20	1	5	6	1	20*	457		INTERIOR TANK LIGHTING
SPARE	–	–	20	2	7	8	1	20		200	OBSTRUCTION LIGHT
					9	10	1	20**	180		EXTERIOR AREA LIGHTS
HEAT TRACE		1200	20**	1	11	12	1	20		180	EXTERIOR TANK LIGHTING
SPARE			20	1	13	14	1	20			SPARE
SPACE			–	1	15	16	1	–			SPACE
SPACE			–	1	17	18	1	–			SPACE
SPACE			–	1	19	20	1	–			SPACE
SUB-TOTAL	500	1200							1537	3260	SUB-TOTAL

L1: 2037 KVA = 17.0 AMPS
L2: 4460 KVA = 37.2 AMPS

TOTAL CONNECTED LOAD= 6.5 KVA:

NOTE:
NEMA 4 ENCLOSURE
BREAKERS DENOTED BY AN * SHALL BE GFI TYPE
BREAKER DENOTED BY AN ** SHALL BE GFEP TYPE

20E601.dwg
3/14/2023 3:13 PM
Reuss, Billie J.

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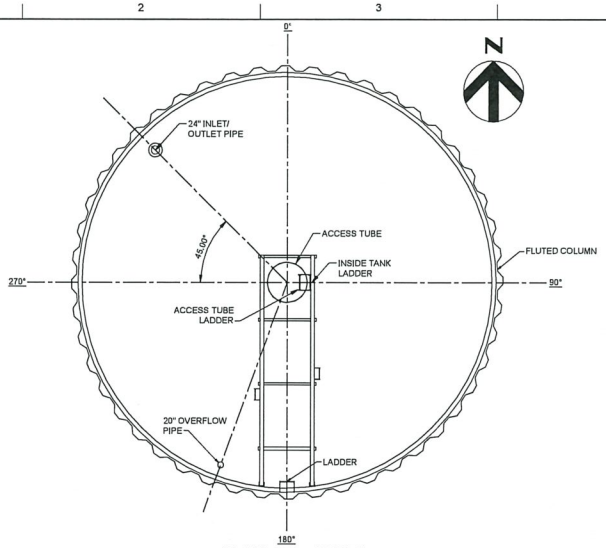
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

COMPOSITE ELEVATED STORAGE TANK
(BASE BID)
ONE LINE DIAGRAM AND SCHEDULE

0 1" 2"
FILENAME 20E601.dwg
SCALE AS NOTED
SHEET 20E601



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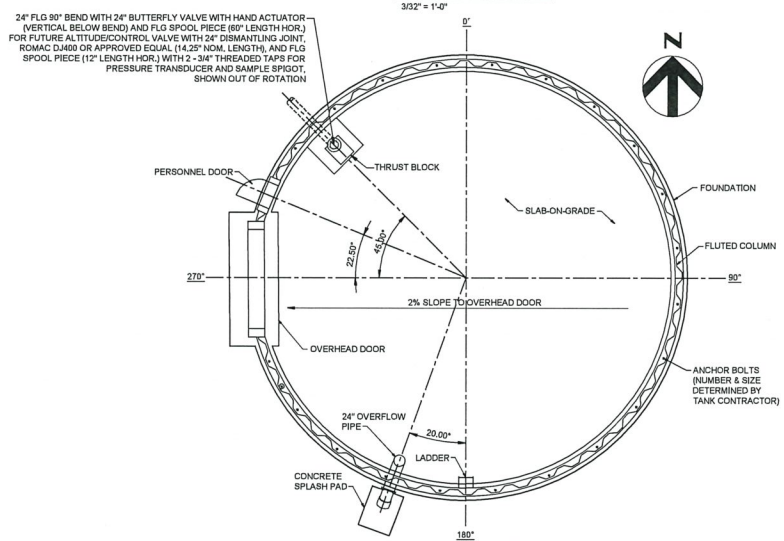

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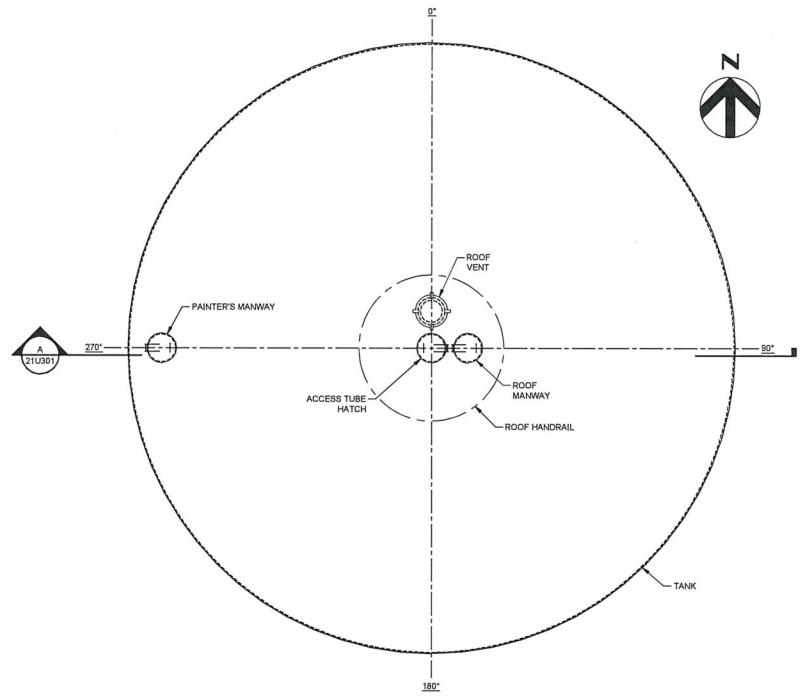

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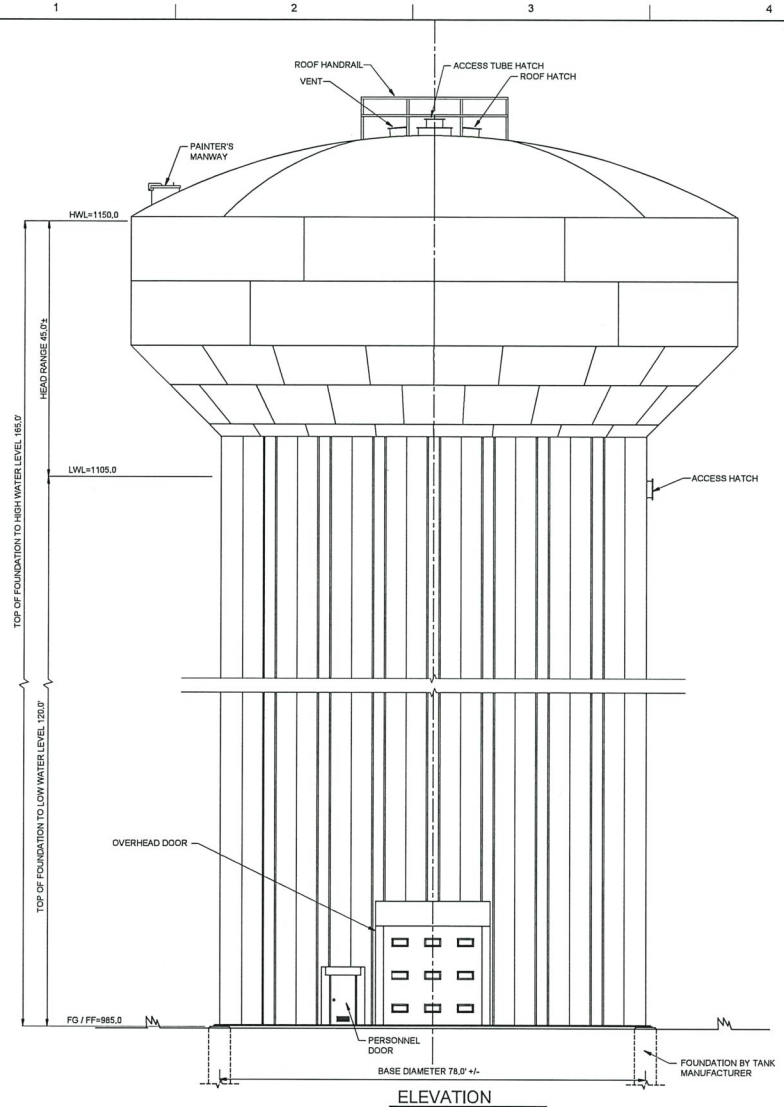
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

HYDROPILLAR ELEVATED STORAGE TANK
(BID ALTERNATE NO. 1)
STRUCTURAL AND PROCESS PLANS

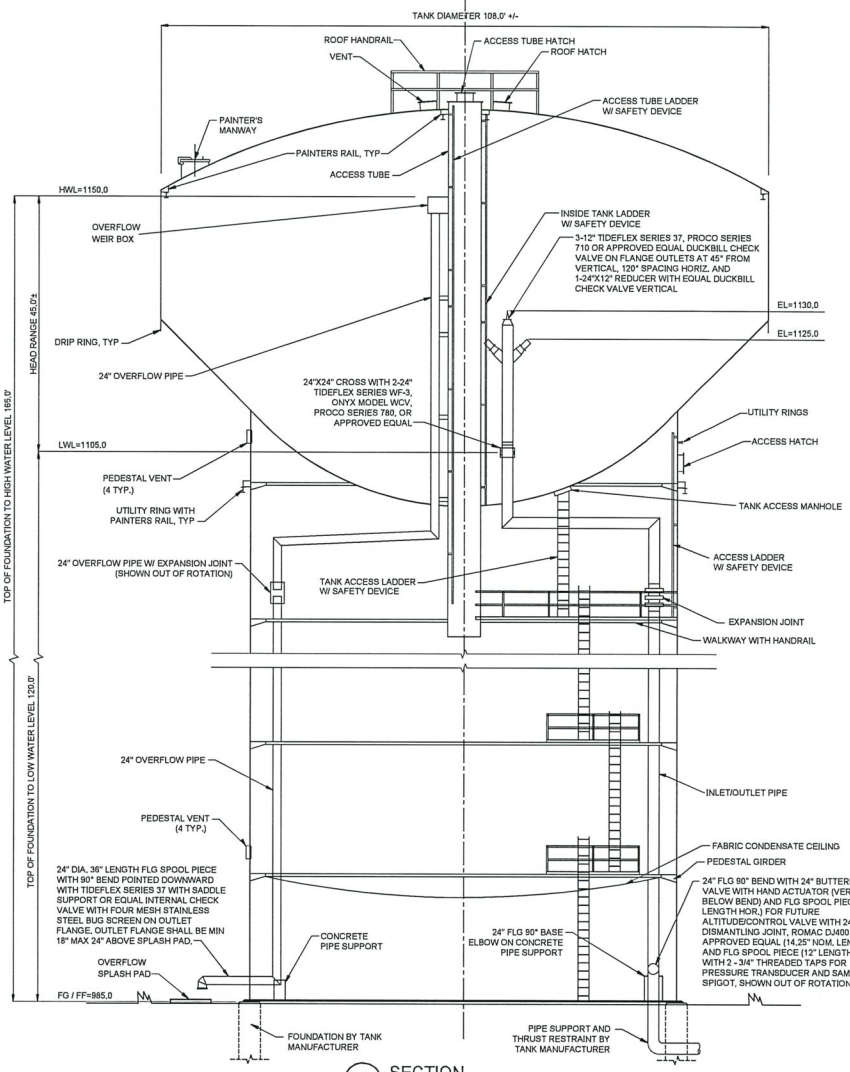
0 1" 2"

FILENAME 21U101.dwg
SCALE AS NOTED

SHEET
21U101



ELEVATION
3/32" = 1'-0"



A 21U101 SECTION
3/32" = 1'-0"

Keyhill, Pat
21U301.dwg
3/14/2023 9:51 AM

HDR
300 E LOCUST ST, SUITE #210
DES MOINES, IA 50309
515-280-4940

ISSUE	DATE	DESCRIPTION
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PROJECT MANAGER	R. BAKER
CIVIL	G. NORTON
PROCESS	R. BAKER
STRUCTURAL	D. WISEMAN
ELECTRICAL	K. BOYD
PROJECT NUMBER	10345779

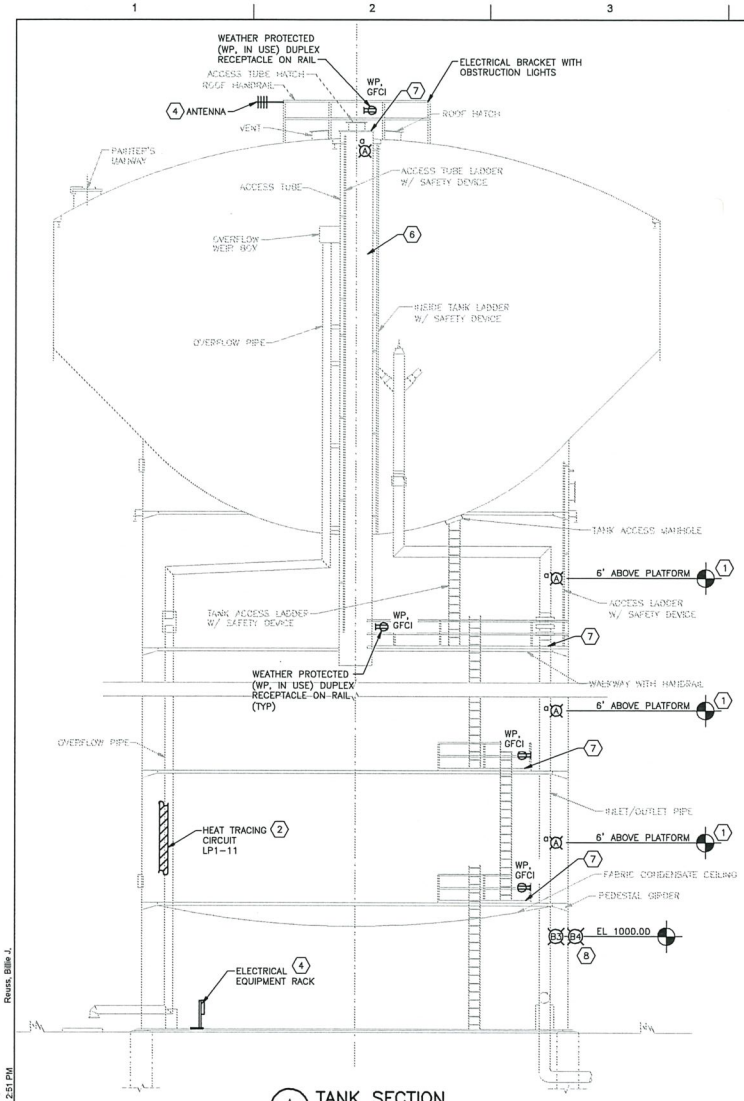
PRELIMINARY NOT FOR CONSTRUCTION
ELECTRONIC SEAL & SIGNATURE HAVE BEEN REMOVED. THIS SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT
03-2023

city of Ankeny — bringing it all together

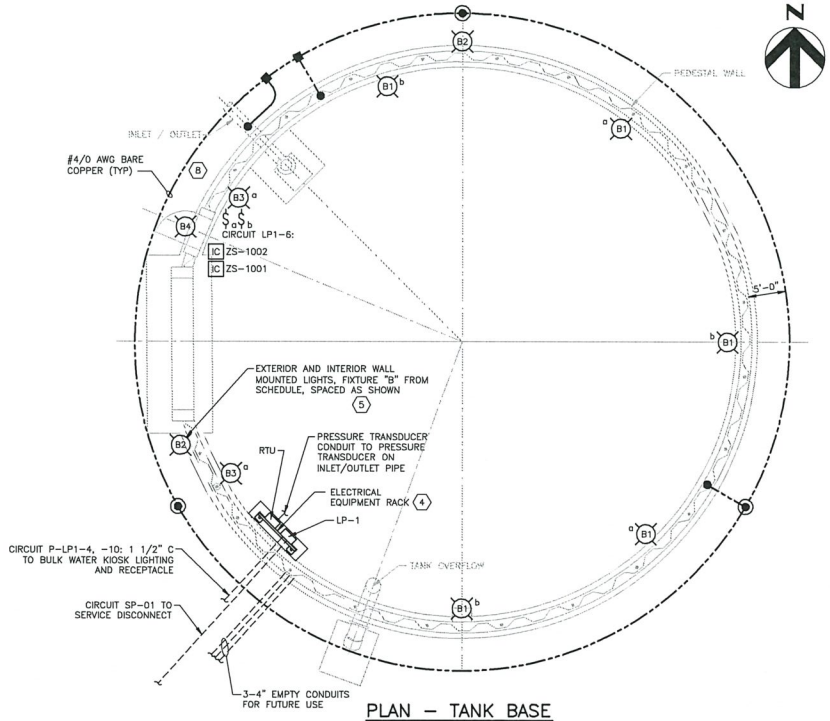
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

HYDROPILLAR ELEVATED STORAGE TANK
(BID ALTERNATE NO. 1)
STRUCTURAL AND PROCESS
SECTION AND ELEVATION

0 1" 2"
FILENAME 21U301.dwg
SCALE AS NOTED
SHEET 21U301



A TANK SECTION
3/32" = 1'-0"



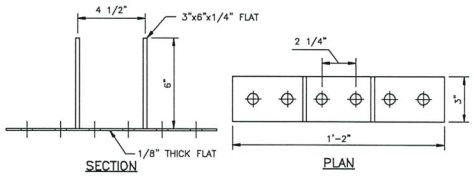
PLAN – TANK BASE
1/8" = 1'-0"

GENERAL NOTES:

1. ALL ELECTRICAL CONSTRUCTION SHALL CONFORM WITH CURRENT NFPA 70 (NEC) STANDARDS.
2. PROVIDE RACEWAYS AND ELECTRICAL CONDUIT FOR LIGHTS AS DENOTED IN THE DRAWINGS AND SPECIFICATIONS. INSTALL ELECTRICAL EQUIPMENT RACK INSIDE TANK PEDESTAL.
3. RACEWAYS AND CONDUITS SHALL NOT BE ATTACHED TO THE LADDER.
4. SEE SHEET 20E601 FOR LIGHT FIXTURE SCHEDULE AND DIAGRAM.

KEYNOTES: (#)

1. MOUNT LIGHT FIXTURES AT ELEVATIONS SHOWN, 2.5' EITHER SIDE OF LADDER (TYPE B OVER DOORWAY). POWER FROM SWITCH LOCATED INSIDE DOORWAY.
2. HEAT TRACING AND PIPE INSULATION SHALL BE INSTALLED ON 24" INLET/OUTLET PIPE IN DRY RISER, SAMPLE TAPS AND SPIGOTS. HEAT TRACING SHALL BE CHROMALOX SRL10-2C WITH RTBC LINE SENSING CONTROL THERMOSTAT AND POWER JUNCTION BOX. CONTROL SENSORS AND POWER JUNCTION BOXES SHALL BE LOCATED AT THE BOTTOM OF THE PIPE IN THE DRY RISER.
3. NOT USED
4. SEE SHEET 02E501 FOR EQUIPMENT RACK MOUNTING DETAIL. RADIO SYSTEM AND ANTENNA SHALL SEND WATER TOWER LEVEL SIGNAL TO SCADA SYSTEM AT CITY WATER DEPARTMENT OFFICE. COORDINATION WITH EXISTING SCADA SYSTEM AND MODIFICATION OF EXISTING SCADA SYSTEM AT CITY'S OFFICE TO BE DONE BY CITY'S SYSTEM INTEGRATOR UNDER A SEPARATE CONTRACT.
5. SUBMIT MOUNTING PLANS FOR LIGHTING FIXTURES.
6. PROVIDE WELDED CABLE STANDOFF BRACKETS EVERY 4.5' UP THE ACCESS MANWAY 1.5' FROM THE LADDER FOR CURRENT AND FUTURE ELECTRICAL/SCADA/TELECOM CABLE MOUNTING. BRACKETS TO BE COATED WITH TANK COATING MATERIAL.
7. PROVIDE FOUR 4" DIAMETER REINFORCED OPENINGS THROUGH LADDER PLATFORMS AND THROUGH THE ACCESS MANWAY ROOF INLINE WITH THE CABLE STANDOFF BRACKETS. SEAL OPENING THROUGH ACCESS MANWAY ROOD.
8. LIGHT B4 TO BE MOUNTED 2', CENTERED, ABOVE DOOR. REMAINDER OF EXTERIOR AND INTERIOR LIGHTS SHALL BE INSTALLED AT SAME HEIGHT, CENTER LINE OF MOUNT AS SHOWN AROUND TOWER BASE.



CABLE STAND-OFF DETAIL
NOT TO SCALE

Revisit, Billie J.
21E101.dwg
3/14/2023 2:51 PM

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515-280-4940

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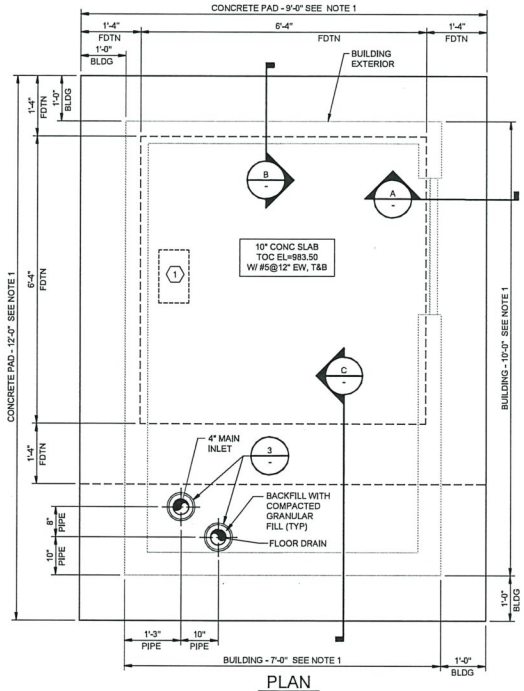
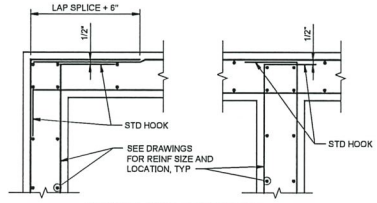
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

HYDROPILLAR ELEVATED STORAGE TANK
(BID ALTERNATE NO. 1)
ELECTRICAL PLAN AND SECTION

0 1" 2"
FILENAME 21E101.dwg
SCALE AS NOTED
SHEET 21E101



PLAN
3/4" = 1'-0"

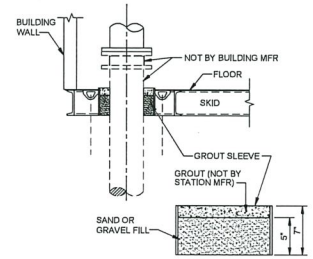


DOUBLE LAYER REINFORCING

NOTES:

1. ALL HOOKS SHALL BE STD 90 DEGREE HOOKS.
2. SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BARS. STAGGER BETWEEN TYPICAL REINF SPACING, EXTEND TO 1/5 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
3. OPTIONAL LAP LOCATION. APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS TYP.

WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS (2)
NOT TO SCALE



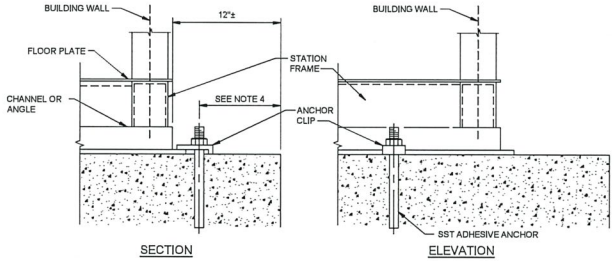
TYPICAL GROUT DETAIL (3)
NOT TO SCALE

GENERAL NOTES:

1. COORDINATE FOUNDATION DIMENSIONS, PENETRATIONS, AND EMBEDMENTS WITH EQUIPMENT FURNISHED.
2. ANCHOR BOLT DIA AND LOCATION BY EQUIPMENT MANUFACTURER.
3. DESIGN PROPERTIES:
   F'c=4,500 PSI (REINFORCED CAST-IN-PLACE)
   Fy=60,000 PSI
4. REQUIRED SOIL BEARING CAPACITY AT PERIMETER = 1,500 PSF
5. CONCRETE COVER:
   CONCRETE DEPOSITED AGAINST EARTH: 3"
   ALL OTHER: 2"
6. PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES.
7. SEE SHEET 10C101 FOR FOUNDATION SITE LAYOUT AND COORDINATE INFORMATION.
8. SEE SHEET 30U102 FOR PACKAGE BULK WATER STATION BUILDING INFORMATION.
9. FINISH GRADE ABUTTING FOUNDATION SHALL BE MINIMUM 6" BELOW TOP OF FOUNDATION AND SLOPE AWAY FROM THE FOUNDATION WITHOUT CREATING WATER PONDING CONDITION.

KEYNOTES: (#)

1. PROVIDE 1 1/2" CONDUIT (MAIN POWER) AND 3 SPARE 1 1/2" CONDUITS THROUGH 8" x 14" BLOCKOUT IN CONCRETE FLOOR AND IN FOUNDATION 24" BELOW FINISH GRADE.
2. BULK WATER STATION BUILDING SHALL BE 3' OFF ROAD PAVEMENT AND 6-8 INCHES ABOVE ROAD PAVEMENT.

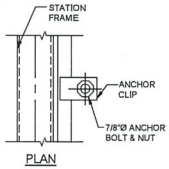


SECTION

ELEVATION

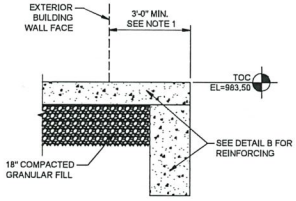
ANCHORAGE NOTES:

1. ANCHORAGE INCLUDING CLIPS AND ANCHOR BOLT SIZE SHALL BE DESIGNED BY BUILDING MANUFACTURER
2. ANCHOR CLIPS SHALL BE FURNISHED BY BUILDING MANUFACTURER.
3. ANCHOR BOLTS AND NUTS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.
4. MINIMUM EDGE DISTANCE SHALL BE 10" AS REQUIRED BY BUILDING MANUFACTURER'S ANCHOR BOLT DESIGN EDGE DISTANCE.
5. INSTALL SHIMS AT PERIMETER OF FRAME AS RECOMMENDED BY BUILDING MANUFACTURER AND AS REQUIRED TO LEVEL FRAME. TACK AND WELD ALL SHIMS AND FINISH PAINT.

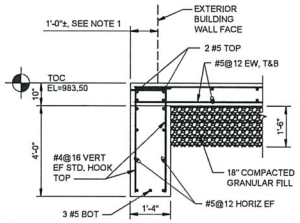


PLAN

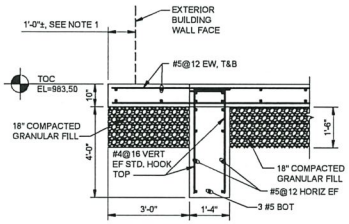
TYPICAL ANCHOR DETAIL (1)
NOT TO SCALE



SECTION (A)
NOT TO SCALE



SECTION (B)
NOT TO SCALE



SECTION (C)
NOT TO SCALE

Keyhill, Pat
30U101.dwg
3/14/2023 9:51 AM

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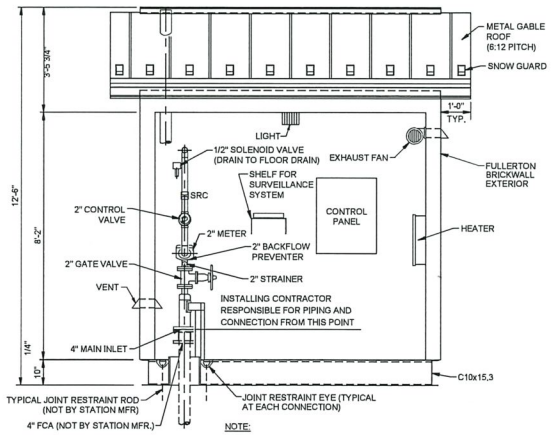
CITY OF ANKENY
POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

BULK WATER SALES STATION
STRUCTURAL FOUNDATION PLAN
SECTIONS AND DETAILS

0 1" 2"

FILENAME 30U101.dwg
SCALE AS INDICATED

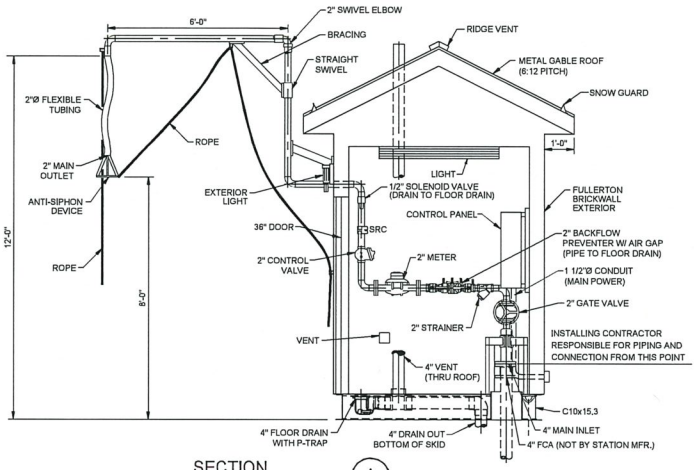
SHEET
30U101



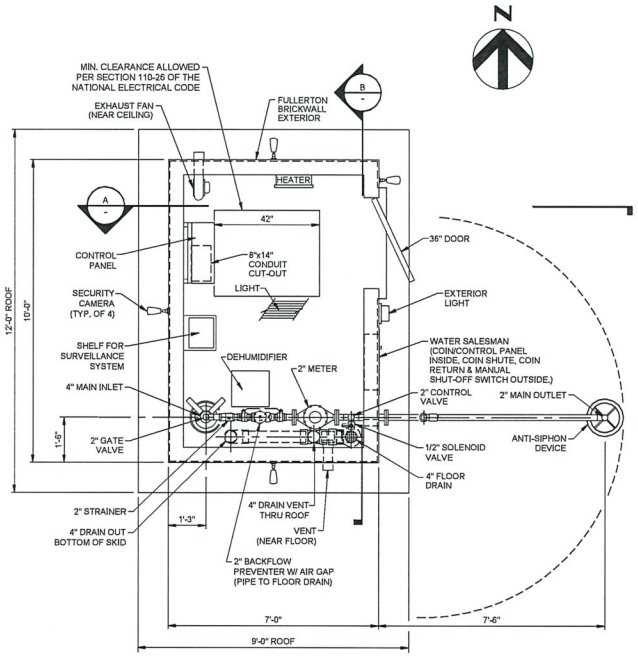
NOTE:

1. ALL EXTERIOR BURIED WATER PIPING SHALL BE RESTRAINED JOINT PIPE.

SECTION B
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"



PLAN VIEW
1/2" = 1'-0"

GENERAL NOTES:

1. COORDINATE BUILDING DIMENSIONS, PENETRATIONS, AND EMBEDMENTS WITH FOUNDATION PLAN.
2. SEE SHEET 10C101 FOR FOUNDATION SITE LAYOUT AND COORDINATE INFORMATION.
3. SEE SHEET 30U101 FOR PACKAGE BULK WATER PUMP STATION FOUNDATION INFORMATION.
4. ALL PIPING AND EQUIPMENT WILL BE ADEQUATELY SUPPORTED AND BRACED.
5. ALL BURIED WATER MAIN SHALL BE RESTRAINED.
6. EXCEPT FOR PIPE END SUPPORTS, WHICH ARE SHOWN, VERTICAL AND ANGLE PIPE BRACES ARE NOT SHOWN FOR CLARITY.

Keyhill, Pat
30U102.dwg
3/14/2023 8:51 AM

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POLK COUNTY, IOWA
NW IRVINEDALE DRIVE
ELEVATED WATER
STORAGE TANK

BULK WATER SALES STATION
PROCESS AND ELECTRICAL
PLANS AND SECTIONS

0 1" 2"

FILENAME 30U102.dwg
SCALE AS INDICATED

SHEET
30U102

N

1 inch = 250 feet

Date: 6/6/2023

#23-11 Height Variance Request
3755 NW Irvinedale Drive

Ankeny
bringing it all together.

CITY OF ANKENY
ZONING BOARD OF ADJUSTMENT
COMMUNITY DEVELOPMENT DEPARTMENT STAFF REPORT

To:	Members of the Zoning Board of Adjustment
From:	Bryan Morrissey, Associate Planner
Filing #:	23-11 EJC
Meeting Date:	June 20, 2023
Address:	3755 NW Irvinedale Drive

APPELLANT REQUEST

A variance to Ankeny Municipal Code section 192.08(3)(G) that requires Maximum Height: 35 feet, allowing for the construction of a 180-foot-tall water tower at 3755 NW Irvinedale Drive.

STAFF POSITION

That the Zoning Board of Adjustment grant a variance to Ankeny Municipal Code Section 192.08(3)(G) to allow for the construction of a 180-foot-tall water tower at 3755 NW Irvinedale Drive.

Staff's position is based on a determination that the increased maximum height allowance from the resulting water tower would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

PROJECT SUMMARY

The subject property is located at 3755 NW Irvinedale Drive, just north of the NW 36th Street and NW Irvinedale Drive intersection. The subject parcel is currently undeveloped and is zoned C-1, Neighborhood Retail Commercial District. The property is bordered by a gas station to the south and residential properties to the north and east. The parcel was acquired by the City of Ankeny in 2018 and has been the anticipated site for a future water tower for a number of years. Plans for the water tower are currently being reviewed and modified by both City Staff and an outside engineering firm. The City has decided that now is the appropriate time to request a variance to Ankeny Municipal Code Section 192.08(3)(G) to exceed the 35-foot maximum height allowance by 145 feet to construct an approximate 180-foot-tall water tower. Should the request for a variance be granted, the future final plat and site plan will need approval from the Plan & Zoning Commission and City Council prior to any construction on the site.

PROJECT REPORT

Criteria for Variance

197.01(4) Powers and Duties.

> *B. To grant a variation in the regulations when a property owner can show ...that by reason of exceptional narrowness, shallowness, or shape of a specific piece of property or by reason of exceptional topographical conditions or other extraordinary or exceptional situation, the strict application of the terms of this title actually prohibits the use of this property in the district; and that the board is satisfied under the evidence before it that a literal enforcement of the provisions of this title would result in unnecessary hardship; provided, however, that all variations granted under this clause shall be in harmony with the intended spirit and purpose of this title.*

FINDINGS OF FACT

The subject property at 3755 NW Irvinedale Drive is generally located north of NW 36th Street and east of NW Irvinedale Drive, immediately north of the Casey's General Store in the area. The subject property is approximately 1.66 acres in size, is zoned C-1, Neighborhood Retail Commercial District, and is currently undeveloped. In addition to the gas station to the south, the subject property is bordered by residential properties to the north and east. The undeveloped parcel has been the presumed site for a future water tower for some time, as the City of Ankeny purchased the site back in 2018. With development in the northwestern quadrant of the City progressing over the years, the subject site is seen as an appropriate location to serve the future needs of Ankeny's residents. A future final plat and site plan are required before any construction on the project can begin; however, a variance to the C-1 Zoning District's height restriction of 35 feet is needed prior to any plans receiving approval.

As indicated on the applicant's submittal, the proposed water tower is expected to reach a maximum of 180 feet in height, which is similar in size to the existing water towers on SW Irvinedale Drive and NW Ash Drive. The proposed tower will be located near the eastern property line, away from NW Irvinedale Drive. Access drives off NW Irvinedale Drive will allow City employees to access the water tower facility for maintenance purposes. Additionally, landscaping and fencing is proposed near the north and east property lines, along with existing greenery that will provide a sense of separation between the future water tower and the neighboring residential properties.

Proposed Project Site at 3755 NW Irvinedale Drive

Staff does not have concerns with the water tower exceeding the maximum height allowance in the C-1 Zoning District, as this is something that has not only been permitted previously, but is considered a necessity when considering Ankeny's anticipated growth. The building of similar towers has been permitted in the past with the construction of the water towers on SW Irvinedale Drive and NW Ash Drive. Staff considers the construction of this water tower to be essential when considering the growth Ankeny has experienced since the last tower was completed in 2008, particularly on the City's northwest side. As mentioned previously, a water tower on the subject parcel has been planned for some time, with signage being present on the site notifying residents of the future water tower project for multiple years.

Existing Water Tower at 1841 SW Irvinedale Drive

Furthermore, similar variance requests have been approved by the Zoning Board of Adjustment in the past. The most recent being in 2008 which allowed the City to surpass a 45-foot height limitation to construct a 173-foot-tall water tower at 1841 SW Irvinedale Drive. As is standard procedure for these kinds of requests, property owners within 250' of the subject property were notified of the proposed variance by mail, and to date, staff has not received any correspondence either for or against the variance.

The staff position is to grant a variance to Ankeny Municipal Code Section 192.08(3)(G) to allow for the construction of a 180-foot tall water tower at 3755 NW Irvinedale Drive. Staff's position is based on a determination that the increased maximum height allowance from the resulting water tower would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

ZONING BOARD OF ADJUSTMENT
June 20, 2023
5 : 00 PM
Print

ORIGINATING DEPARTMENT:	COUNCIL GOAL:
Planning and Building	Ensure Economic Vitality

ACTION REQUESTED:
Public Hearing

LEGAL:

SUBJECT:

#23-12
Bryon and Larissa Weyer

for property located at

2506 NE 17th Street

Lot 21, Deer Creek Estates Plat 13

RE: Variance - Rear Yard Setback

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Click to download
#23-12 Applicant Submittal
#23-12 Staff Report

#23-12

APPLICATION FOR APPEAL
ZONING BOARD OF ADJUSTMENT

city of Ankeny
bringing it all together

Applicant is: ☒ Property Owner ☐ Tenant ☐ Other _____

Applicant Bryon and Larissa Weyer

Address / Phone # 2506 NE 17th Street, Ankeny, IA 50021 /

E-mail bryonweyer27@gmail.com

Property Owner Bryon and Larissa Weyer

Address / Phone # 2506 NE 17th Street, Ankeny, IA 50021 /

E-mail bryonweyer27@gmail.com

(Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:
I hereby appeal from the decision of the Zoning Administrator rendered on 31 day of May, 2023

Location (*address*) of the proposed variance 2506 NE 17th St, Ankeny IA 50021

Legal description (*Plat & Lot #*) LOT 21 DEER CREEK ESTATES PLAT 13

Zoning R2 Principal Use of property Residence

I request a variation from the current zoning requirement for:
☐ Front Yard ☐ Side Yard ☒ Rear Yard ☐ Fence ☐ Sign ☐ Parking ☐ Height
☐ Other _____

Ankeny Zoning code Section # _____ which state(s) 35ft set back from rear property line

I would propose the following in lieu of that required: Covered patio 29ft from rear property line

Attached hereto and made a part of this appeal, I submit the following:
a) A statement indicating the reasons for my appeal.
b) A drawing showing proposed variance requested.
c) A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review.

AFFIDAVIT
State of Iowa)ss
County of Polk)

I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Larissa Weyer
(Signature of Applicant)

NOTARIAL SEAL IOWA
BRENDA FUGLSANG
Commission Number 745861
My Commission Expires
May 12, 2025

Signed and sworn to before me, this 31st day of May, 20 23.

Brenda Fuglsang
(Notary Public)

Office Use Only

Date received RECEIVED MAY 31 2023 CITY OF ANKENY

Paid ☐ Cash ☐ Check # cc $120.00

Filing # 23-12

Scheduled Meeting Date 6-20-2023

Brenda Fuglsang #23-12

From: Bryon Weyer <bryonweyer27@gmail.com>
Sent: Wednesday, May 31, 2023 8:14 PM
To: Brenda Fuglsang
Subject: [External] Weyer Variance Desctiption
Attachments: Variance Description.docx

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

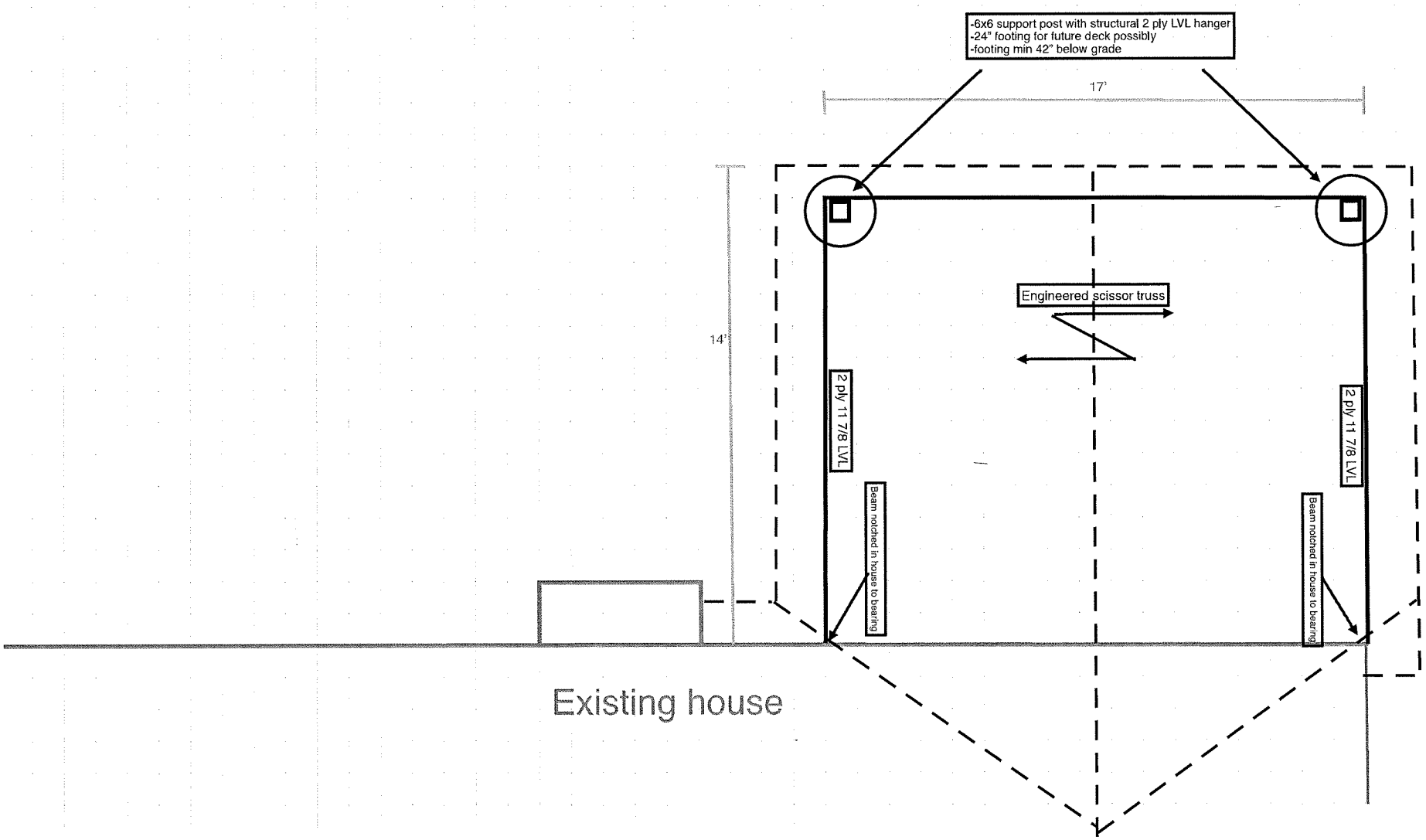
Hi Brenda - please find the variance description attached to go with our application that was submitted today.

Thanks for your help!
Larissa & Bryon Weyer

Bryon and Larissa Weyer
2506 NE 17th Street
Ankeny, IA 50021

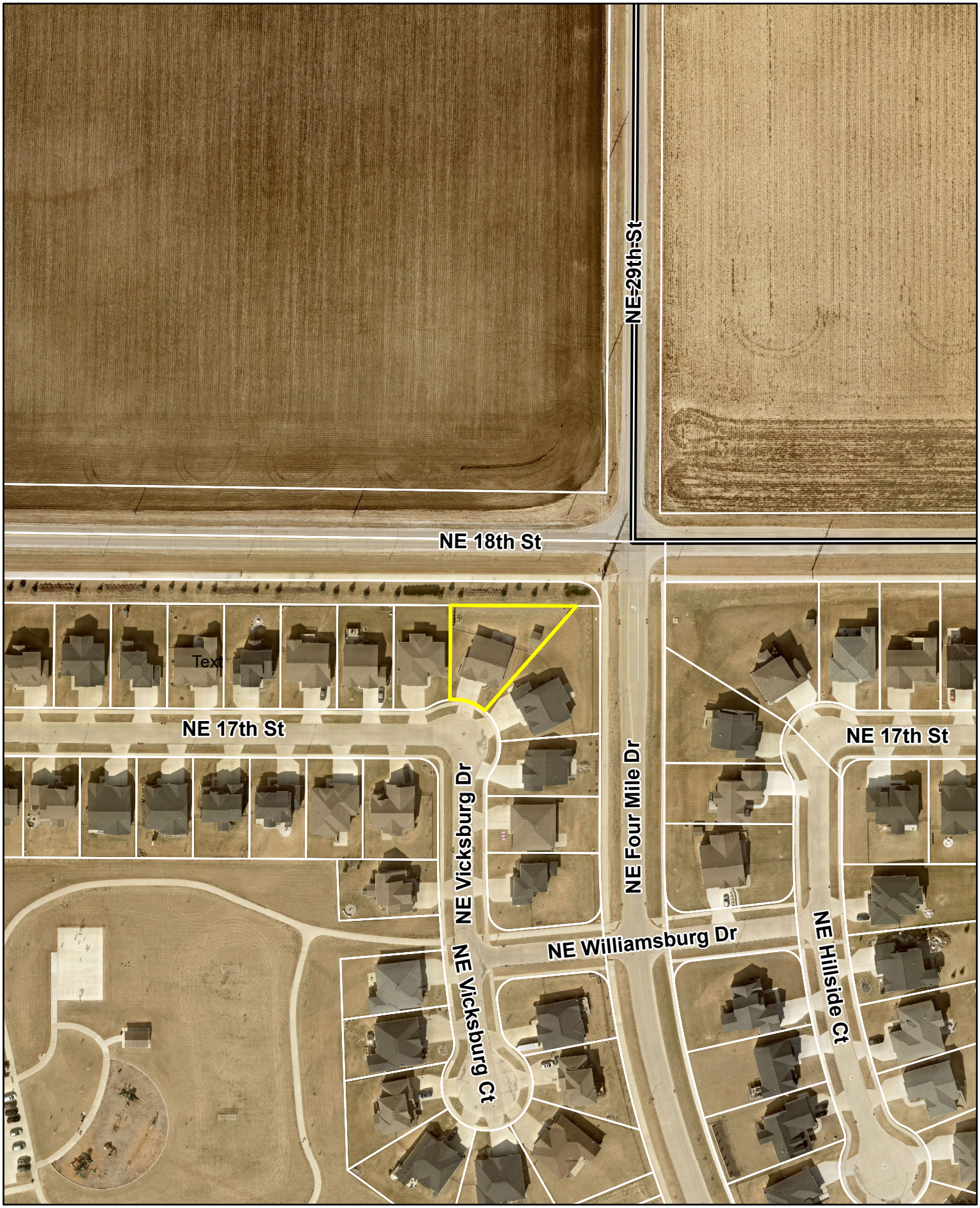
We are requesting a variance to the 35-foot set back from rear property line code. We would like to add a covered patio to the back of our house. The structure would be 14 feet deep which be 29 feet from our back property line.

#23-12


-6x6 support post with structural 2 ply LVL hanger
-24" footing for future deck possibly
-footing min 42" below grade
17'
14'
Engineered scissor truss
2 ply 11 7/8 LVL
2 ply 11 7/8 LVL
Beam notched in house to bearing
Beam notched in house to bearing
Existing house

#23-12

N
155.91
29"
17'
Covered patio
14'
2506
117.35
172.74
21
2510
46.36
24.60
R-56.5
22



N

1 inch = 152 feet

Date: 6/7/2023

2506 NE 17th Street
Rear-Yard Setback Variance
Aerial Map

Ankeny
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CITY OF ANKENY
ZONING BOARD OF ADJUSTMENT
COMMUNITY DEVELOPMENT DEPARTMENT STAFF REPORT

To:	Members of the Zoning Board of Adjustment
From:	Ryan Kirschman, Planner
Filing #:	23-12 EJC
Meeting Date:	June 20, 2023
Address:	2506 NE 17th Street

APPELLANT REQUEST

A variance to Ankeny Municipal Code Section 192.04(3)(E) that requires Rear Yard: 35-feet, allowing a 29-foot rear yard setback for a covered patio at 2506 NE 17th Street.

STAFF POSITION

Staff recommends the Zoning Board of Adjustment grant a variance to Ankeny Municipal Code Section 192.04(3)(E) to allow a 29-foot rear yard setback for the construction of a covered patio at 2506 NE 17th Street.

Staff's position is based on a determination that the decreased rear yard setback from the resulting covered patio would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

PROJECT SUMMARY

The subject property is located at 2506 NE 17th Street, south of NE 18th Street and west of NE Four Mile Drive within the northeastern quadrant of Ankeny. The subject property is zoned R-2 with restrictions, One and Two-Family Residence District restricted to single family homes and is situated on Lot 21 Deer Creek Estates Plat 13.

The applicant is requesting a variance to encroach approximately 6-feet into the 35-foot rear yard setback that will allow the owners to convert their proposed patio into a covered patio. The patio is already constructed. Should the variance for the covered patio be approved, a 29-foot rear yard setback will be the resulting setback on the west side of the property.

PROJECT REPORT

Criteria for Variance

197.01(4) Powers and Duties.

B. To grant a variation in the regulations when a property owner can show ...that by reason of exceptional narrowness, shallowness, or shape of a specific piece of property or by reason of exceptional topographical conditions or other extraordinary or exceptional situation, the strict application of the terms of this title actually prohibits the use of this property in the district; and that the board is satisfied under the evidence before it that a literal enforcement of the provisions of this title would result in unnecessary hardship; provided, however, that all variations granted under this clause shall be in harmony with the intended spirit and purpose of this title.

FINDINGS OF FACT

The subject property is located at 2506 NE 17th Street, south of NE 18th Street and west of NE Four Mile Drive within the northeastern quadrant of Ankeny. The subject property is zoned R-2 with restrictions, One and Two-Family Residence District restricted to single family homes and contains a single-family home with an attached patio on the north side of the .289-acre lot. Neighboring properties to the north are zoned R-1, Single-Family Residence District, Properties to the east, south, and west are also zoned R-2 with restrictions and contain single family homes on similarly sized lots. Permit records show the house started construction in 2015 and was completed in 2016. Per Ankeny Municipal Code Section 196.03(2)(B) unenclosed patios are allowed to extend up to twelve feet into the rear yard setbacks, while covered patios are not permitted in rear yard setbacks.

As indicated by the applicant on their submitted site plan, at its furthest point the proposed covered patio extends approximately 6' into the rear yard setback leaving approximately 29' between the patio and the rear property line. Staff is not concerned with the covered patio extending into the rear-yard setback as the property backs to a 30' wide buffer of open space owned by the homeowners association and then NE 18th Street. Additionally, the covered patio should not have any measurable impact on surrounding residences.

Furthermore, similar variance requests have been approved by the Zoning Board of Adjustment in the past. The most recent being in May of 2023, which allowed a covered deck to extend 10-feet into the rear yard setback. As is standard procedure for these kinds of requests, all property owners within 250' of the subject property were notified of the proposed variance by mail, and to date, staff has not received any correspondence either for or against the variance.

The staff position is to grant a variance to Ankeny Municipal Code Section 192.04(3)(E) to allow a 29-foot rear yard setback for the construction of a covered patio at 2506 NE 17th Street. Staff's position is based on a determination that the decreased rear yard setback from the resulting covered patio would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

192.04(3)(E) Size and Area Regulations.

C. Rear Yard: 35 feet

196.03(2)(B) Yard Setback Exceptions

(2) Rear Yard. Unenclosed, above and below, decks which project not more than 12-feet into the required rear yard.

ZONING BOARD OF ADJUSTMENT
June 20, 2023
5 : 00 PM
Print

ORIGINATING DEPARTMENT: COUNCIL GOAL:

Planning and Building

ACTION REQUESTED:

LEGAL:

SUBJECT:

Renewed Special Use Permits

#10-06 Lindo Jalisco Mexican,1810 SW White Birch Circle, Ste. 118

#21-06 El Molcajete, 301 E 1st Street

#16-16 Guadalajara Mexican Restaurant, 202 SE Delaware Avenue

#18-04(2019) Who's on First, 810 E 1st Street

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Click to download
Special Use Permit Renewals

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Outdoor Service Area Renewal Application

***Original Special Permit Resolution # 10-06**

If the conditions of your approved Special Use Permit do not allow for administrative approval of the Outdoor Service Area, or if you plan to make any changes or would like to alter the conditions of your Outdoor Service Area, please contact the Planning & Building Department (963-3550) regarding the required Board of Adjustment approval.

Name of Applicant: Primos Iowa, LLC
(Sole Proprietorship, Partnership, Corporation)

Name of Business (d/b/a): Lindo Jalisco Mexican

Address of Premise: 1810 SW White Birch Cir., Ste. 118

- Have there been any changes made to the Outdoor Service Area since last year in location, size, or type of fencing?

  ☐ Yes ☒ No

  If yes, what changes have been made. (Please include a sketch)

  _____

  _____

- Has any use of sound been added since last year or changed from what was approved by the Zoning Board of Adjustment?

  ☐ Yes ☒ No

Examples of sound uses requiring a special use permit shall include but not be limited to use of speakers to page patrons, use of a sound system to play music and the playing of live music. (Ord. 1426 Sec 1 Sub-section 5.08.100 G paragraph 5)

I hereby swear and affirm that I have complied and will continue to comply with all the requirements and attached conditions issued for the above identified property and with any subsequent modifications required by the Board of Adjustment.

The applicant hereby swears or affirms that all statements set forth herein are true and correct.

Signature

5/10/23
Date

Abraham Munguia F
Name of Applicant (printed)

***(Copy of Original Resolution attached)**

ADMINISTRATIVELY
☑ APPROVED
5/15/23 EJC

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City of Ankeny

Outdoor Service Area Renewal Application

***Special Permit Resolution # 21-06**

If the conditions of your approved Special Use Permit do not allow for administrative approval of the Outdoor Service Area, or if you plan to make any changes or would like to alter the conditions of your Outdoor Service Area, please contact the Planning & Building Department (963-3550) regarding the required Board of Adjustment approval.

Name of Applicant: **Mi Pueblo 15 LLC**
(Sole Proprietorship, Partnership, Corporation)

Name of Business (d/b/a): **El Molcajete**

Address of Premise: **301 E. 1st St.**

- Have there been any changes made to the Outdoor Service Area since last year in location, size, or type of fencing?

  ☐ Yes ☒ No

  If yes, what changes have been made. (Please include a sketch)

  _____

  _____

- Has any use of sound been added since last year or changed from what was approved by the Zoning Board of Adjustment?

  ☐ Yes ☒ No

Examples of sound uses requiring a special use permit shall include but not be limited to use of speakers to page patrons, use of a sound system to play music and the playing of live music. (Ord. 1426 Sec 1 Sub-section 5.08.100 G paragraph 5)

I hereby swear and affirm that I have complied and will continue to comply with all the requirements and attached conditions issued for the above identified property and with any subsequent modifications required by the Board of Adjustment.

The applicant hereby swears or affirms that all statements set forth herein are true and correct.

Abraham Murguia F
Signature

5/8/23
Date

Name of Applicant (printed)

ADMINISTRATIVELY
☑ APPROVED
5/12/23 EJC

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City of Ankeny

Outdoor Service Area Renewal Application

***Special Permit Resolution # 16-16**

Originally issued August 16, 2016

If the conditions of your approved Special Use Permit do not allow for administrative approval of the Outdoor Service Area, or if you plan to make any changes or would like to alter the conditions of your Outdoor Service Area, please contact the Planning & Building Department (963-3550) regarding the required Board of Adjustment approval.

Name of Applicant: **Guadalajara, LLC**
(Sole Proprietorship, Partnership, Corporation)

Name of Business (d/b/a): **Guadalajara Mexican Restaurant**

Address of Premise: **202 S. E. Delaware Ave.**

- Have there been any changes made to the Outdoor Service Area since last year in location, size, or type of fencing?

  ☐ Yes ☒ No

  If yes, what changes have been made. (Please include a sketch)

  _____

  _____

- Has any use of sound been added since last year or changed from what was approved by the Zoning Board of Adjustment?

  ☐ Yes ☒ No

Examples of sound uses requiring a special use permit shall include but not be limited to use of speakers to page patrons, use of a sound system to play music and the playing of live music. (Ord. 1426 Sec 1 Sub-section 5.08.100 G paragraph 5)

I hereby swear and affirm that I have complied and will continue to comply with all the requirements and attached conditions issued for the above identified property and with any subsequent modifications required by the Board of Adjustment.

The applicant hereby swears or affirms that all statements set forth herein are true and correct.

Signature _____ Date May 18, 2023

Jose Lopez
Name of Applicant (printed)

ADMINISTRATIVELY ☑ APPROVED
5/25/23 EJC

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Outdoor Service Area Renewal Application

***Special Permit Resolution # 18-04 (2019)**

If the conditions of your approved Special Use Permit do not allow for administrative approval of the Outdoor Service Area, or if you plan to make any changes or would like to alter the conditions of your Outdoor Service Area, please contact the Planning & Building Department (963-3550) regarding the required Board of Adjustment approval.

Name of Applicant: **What's on Second**
(Sole Proprietorship, Partnership, Corporation)

Name of Business (d/b/a): **Who's on First**

Address of Premise: **810 E 1st St.**

- Have there been any changes made to the Outdoor Service Area since last year in location, size, or type of fencing?

  ☐ Yes ☒ No

  If yes, what changes have been made. (Please include a sketch)

  _____

  _____

- Has any use of sound been added since last year or changed from what was approved by the Zoning Board of Adjustment?

  ☐ Yes ☒ No

Examples of sound uses requiring a special use permit shall include but not be limited to use of speakers to page patrons, use of a sound system to play music and the playing of live music. (Ord. 1426 Sec 1 Sub-section 5.08.100 G paragraph 5)

I hereby swear and affirm that I have complied and will continue to comply with all the requirements and attached conditions issued for the above identified property and with any subsequent modifications required by the Board of Adjustment.

The applicant hereby swears or affirms that all statements set forth herein are true and correct.

AMcCambs
Signature

5/25/23
Date

Aaron McCambs (Whos on first)
Name of Applicant (printed)

ADMINISTRATIVELY
☑ APPROVED
6/8/23 EJC