

STEAK 'N SHAKE SITE PLAN

LOCATED IN
1045 SE ALICE'S ROAD
WAUKEE, IOWA

McCLURE™
1360 NW 121st Street
Clive, Iowa 50325
P 515-964-1229
F 515-964-2370

Ankeny, IA | Carroll, IA
Cedar Rapids, IA | Clive, IA
Coralville, IA | Council Bluffs, IA
Fort Dodge, IA | Sioux City, IA
Columbia, MO | Macon, MO
North Kansas City, MO | Springfield, MO
Lenexa, KS
Portsmouth, NH

APPLICANT:
RYAN WINTER
4817 FLEUR DRIVE
DES MOINES, IA 50321
RYANWINTER@YAHOO.COM
(515)-707-6042

CIVIL ENGINEER:
McCLURE ENGINEERING COMPANY
1360 NW 121ST ST
CLIVE, IOWA 50325
MAXWELL ELLER
(515) 964-1229
MELLER@MCCLUREVISION.COM

PRINCIPAL USES:
PRINCIPAL USES ARE FOR SPECULATIVE COMMERCIAL SPACE AS PERMITTED IN C-1 ZONING.

BUILDING SUMMARY:
BUILDING PRIMARY AND SECONDARY USES: COMMERCIAL
TOTAL NUMBER OF BUILDINGS = 1
TOTAL NUMBER OF STORIES = 1
TOTAL BUILDING S.F. = 3,136 ± S.F.
BUILDING HEIGHT = 13.7'
BUILDING HEIGHT W/ ROOF SIGN = 21.4'

ZONING:
EXISTING: C-1
PROPOSED: C-1

BUILDING: FRONT YARD = 30 FT
SIDE YARD = 0 FT
REAR YARD = 30 FT

MAX. BLDG. HEIGHT = 40 FT; 2 STORIES

DEVELOPMENT SUMMARY:
GROSS LAND AREA: = 53,024 S.F. (1.21 AC.)

IMPERVIOUS AREA SUMMARY:
PAVING AREA = 29,196± SF (55.1%)
BUILDING AREA = 3,140± SF (5.9%)
TOTAL = 32,336± SF (61.0%)

PERVIOUS AREA SUMMARY:
REQUIRED OPEN SPACE = 10,454 SF± (20.0%)
PROVIDED OPEN SPACE = 20,688 SF± (39.0%)

OWNER:
DSDH WAUKEE, LLC
(F/K/A CORALVILLE AAP, LLC)
9251 WILLOW LANE
FREMONT, WISCONSIN 54940
(920)-428-9028

BUILDING SCHEDULE:
ESTIMATED CONSTRUCTION START: SPRING 2025
ESTIMATED CONSTRUCTION FINISH: FALL 2025

LEGAL DESCRIPTION:
WILLIAMS POINTE COMMERCIAL PLAT 3 LOT 1

PARKING:
REQUIRED = 47 TOTAL STALLS (15 STALLS PER 1,000 SF)
= 5 QUEUING SPACES PER DRIVE-THRU LANE

PROVIDED = 47 TOTAL STALLS
= 2 ADA STALLS
= 11 QUEUING SPACES

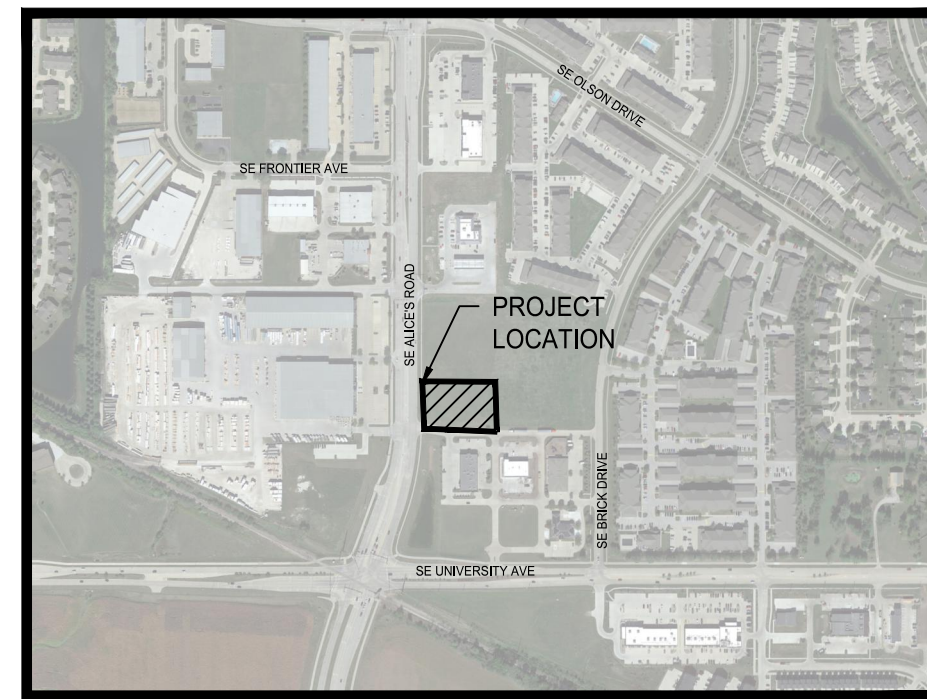
UTILITY INFORMATION

GAS, WATER & SEWER
PROVIDER: WAUKEE PUBLIC WORKS DEPARTMENT
CONTACT: TIM ROYER
PHONE #: 515-978-7920

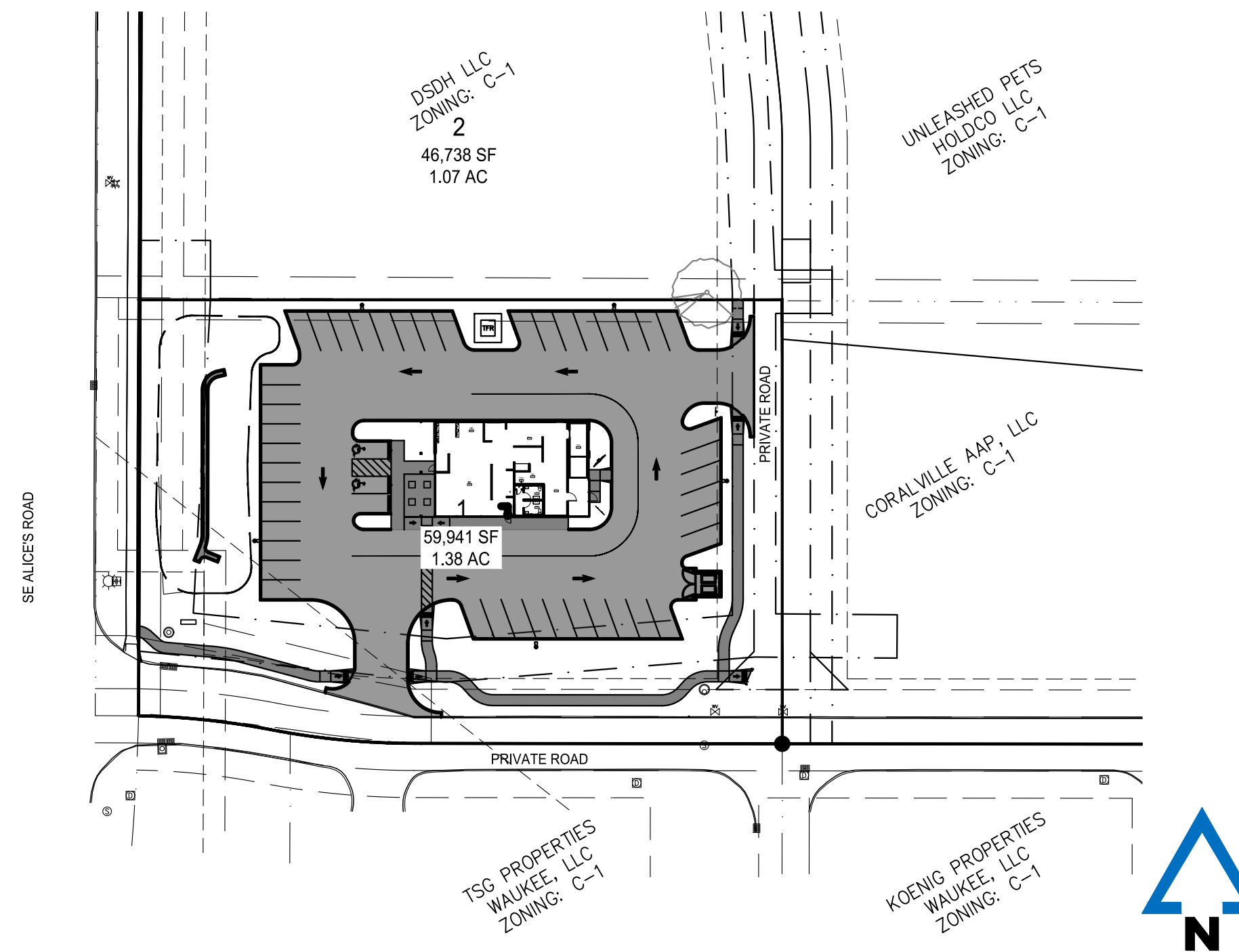
PHONE
PROVIDER: CENTURYLINK
CONTACT: TOM STURMER
PHONE #: 303-664-8090

ELECTRIC
PROVIDER: MID-AMERICAN ENERGY CO.
CONTACT: NORM TRENTMANN
PHONE #: 515-252-6621

CABLE
PROVIDER: MEDIACOM
CONTACT: PAUL MAY
PHONE #: 515-246-2252



VICINITY SKETCH
NTS

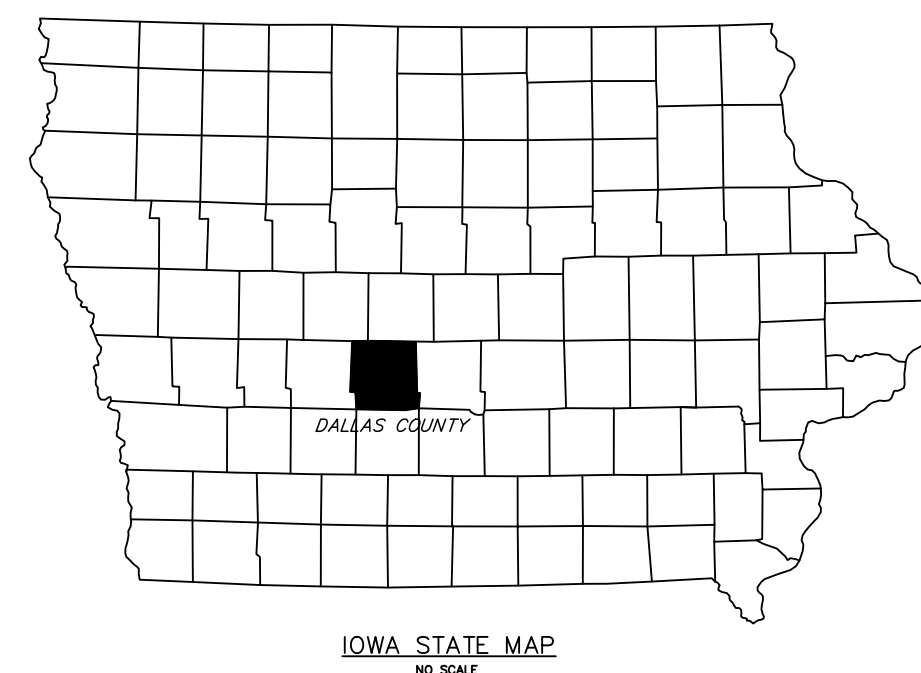


SHEET LIST TABLE

| SHEET NUMBER | SHEET TITLE |
|--------------|---------------------------------|
| C001 | COVER SHEET |
| C002 | GENERAL NOTES & LEGEND |
| C003 | EXISTING CONDITIONS & REMOVALS |
| C101 | SITE LAYOUT |
| C201 | GRADING PLAN |
| C202 | GRADING PLAN |
| C203 | EROSION & SEDIMENT CONTROL PLAN |
| C301 | UTILITY PLAN |
| C401 | LIGHTING PLAN |
| C402 | LIGHTING PLAN CUT SHEETS |
| C501 | SIGNAGE PLAN |
| C601 | DETAILS |
| C602 | DETAILS |
| C603 | DETAILS |
| L101 | LANDSCAPE PLAN |

SUBMITTAL & REVISION TABLE

| SUBMITTAL | DATE | DESCRIPTION |
|-----------|------------|-------------------|
| 1 | 11/26/2024 | CITY SUBMITTAL #1 |
| 2 | 12/17/2024 | CITY SUBMITTAL #2 |
| 3 | 1/14/2025 | CITY SUBMITTAL #3 |



ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE 2024 EDITION OF THE WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE 2024 VERSION OF SUDAS.



THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL NO LESS THAN 48 HRS. IN ADVANCE OF ANY DIGGING OR EXCAVATION.

WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

PRELIMINARY

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

MAXWELL ELLER, PE NO. P27626 DATE: _____
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2025

PAGES OR SHEETS COVERED BY THIS SEAL:
ALL C SHEETS EXCEPT C401, C402, C501

REVISIONS

PROJECT INFO

ENGINEER: M. ELLER
DRAWN BY: K. WILLIAMS
CHECKED BY: M. ELLER

STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263

COVER SHEET

DRAWING NO.
C001

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCEPTANCE WITH THE CURRENT EDITION OF THE STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) EXCEPT WHERE AMENDED BY CITY SUPPLEMENTAL SPECIFICATIONS.
- AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY/EASEMENT/ AND OR ANY CONNECTION TO PUBLIC SEWERS, STREETS, OR UTILITIES, THE CONTRACTOR SHALL CONTACT PUBLIC WORKS AND MCCLURE ENGINEERING.
- THE CONTRACTOR IS RESPONSIBLE FOR SETTING UP A PRE-CONSTRUCTION MEETING WITH WAUKEE CITY PUBLIC WORKS AT LEAST ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND PROTECT ALL UTILITIES AND STRUCTURES. DAMAGE TO UTILITIES AND STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE CITY AND OWNER.
- AS-BUILT DRAWINGS SHALL BE PROVIDED TO PUBLIC WORKS THAT INCLUDES ALL UTILITIES, GRADES, FOR DRAINAGE SWALES, OVERFLOWS, ACCESSIBLE RAMPS, AND DETENTION FACILITIES. CONTRACTOR SHALL PROVIDE INFORMATION TO PROJECT ENGINEER FOR INCLUSION ON RECORD AS-BUILT DRAWINGS.
- ALL FIELD TILES ENCOUNTERED SHALL BE REPAIRED AND CONNECTED TO STORM SEWERS WHERE POSSIBLE. LOCATIONS SHALL BE PROVIDED TO THE ENGINEER FOR NOTATION ON AS-BUILT DRAWINGS.
- ALL DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
- ALL ACCESSIBLE RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE W/ THE ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES, PROWAG, AND IOWA CODE. ACCESSIBLE RAMPS SHALL HAVE DETECTABLE WARNING.
- STAKING BY CERTIFIED ENGINEER OR LAND SURVEYOR WITH VERIFICATION BY CONTRACTOR SHALL BE DONE PRIOR TO PLACEMENT OF ANY CONCRETE RAMPS.
- CONTRACTOR SHALL PROVIDE SUBMITTALS ON ALL CONSTRUCTION MATERIALS PRIOR TO CONSTRUCTION.
- CONTRACTOR IS TO PROTECT EXISTING PAVEMENT UNLESS DESIGNATED FOR REMOVAL. DAMAGED PAVEMENT SHALL BE REMOVED AND REPLACED AT CONTRACTORS EXPENSE.
- ALL SEWERS AND DRAINAGEWAYS SHALL BE PROTECTED FROM ANY SLURRY GENERATED BY SAW CUTTING, CONCRETE GRINDING, OR ANY OTHER CONSTRUCTION ACTIVITY.
- ANY DEBRIS THAT SPILLS INTO ROW SHALL BE REMOVED AT THE END OF EACH WORK DAY AND PRIOR TO A RAIN EVENT.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND PROTECT ALL UTILITIES AND STRUCTURES. DAMAGE TO UTILITIES AND STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE CITY AND THE OWNER.
- CONTRACTOR TO CONFINE OPERATIONS TO PERMANENT AND TEMPORARY EASEMENTS AND DEVELOPER OWNED PROPERTY.
- ALL TREES AND SHRUBS SHALL BE PROTECTED UNLESS DESIGNATED FOR REMOVAL IN THE PLANS.
- CONTRACTOR SHALL SUBMIT ALL SUBGRADE AND PAVING MATERIAL TEST RESULTS TO THE PROJECT ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING AND MAINTAINING A SET OF RECORD DRAWINGS. RECORD DRAWINGS SHALL SHOW ALL CHANGES TO PLANS, AND REPRESENT THE AS-BUILT CONDITION. SUBMIT RECORD DRAWINGS TO ENGINEER PRIOR TO FINAL PAYMENT. ALL PIPE ENDS, UTILITY SERVICES AND CONDUIT ENDS SHALL BE MARKED WITH STEEL FENCE POSTS.
- THE PLANS SHOW UTILITIES LOCATED WITHIN THE LIMITS OF THE WORK UNDER THIS CONTRACT. THE COMPLETENESS OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS IS IN NO WAY IMPLIED OR GUARANTEED. THE CONTRACTOR SHALL OBTAIN THE LOCATION OF THE UTILITIES AND SERVICES FROM THE VARIOUS PUBLIC UTILITY COMPANIES BEFORE BEGINNING ANY EXCAVATION AND WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO SAID UTILITIES AND SERVICES RESULTING FROM HIS OPERATIONS. ADDITIONAL COMPENSATION WILL NOT BE ALLOWED FOR THIS WORK AND SHALL BE CONSIDERED INCIDENTAL TO OTHER AREAS OF WORK.
- AT LEAST ONE WEEK PRIOR TO ANY CONSTRUCTION WITHIN PUBLIC R.O.W./EASEMENT AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, THE CONTRACTOR SHALL CONTACT CITY OF HUXLEY TO OBTAIN APPLICABLE CITY PERMITS THAT MAY BE NECESSARY.
- ALL CONSTRUCTION WITHIN PUBLIC R.O.W./EASEMENTS, AND/OR ANY CONNECTION TO PUBLIC SEWERS AND STREETS, SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND 2024 STANDARD CONSTRUCTION SPECIFICATIONS FOR SUBDIVISIONS AND THE STATEWIDE URBAN DESIGN SPECIFICATIONS.
- PROVIDE 1" EXPANSION MATERIAL WHERE CONCRETE IS POURED AGAINST BUILDING OR STRUCTURES. SET PRE-MOLDED MATERIAL TIGHT AGAINST BUILDING AND/OR STRUCTURES TO ELIMINATE VOIDS.
- ALL H/C RAMPS IN PUBLIC RIGHT OF WAY SHALL BE CONSTRUCTED IN ACCORDANCE W/THE ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG), AND IOWA CODE. AS-BUILT DOCUMENTS OF H/C RAMPS TO BE SUBMITTED TO PUBLIC WORKS AND ENGINEERING
- CONTRACTOR TO COORDINATE ANY GRADE ADJUSTMENTS WITH DESIGN ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK OF ALL SUBCONTRACTORS INVOLVED ON THE PROJECT.
- CONTRACTOR TO PROVIDE TRAFFIC CONTROL ACCORDING TO MUTCD STANDARDS AND COORDINATE WITH THE CITY FOR ANY PERMITTING RELATED TO TRAFFIC CONTROL IN THE PUBLIC RIGHT-OF-WAY.
- ALL AREAS DISTURBED BY CONSTRUCTION NOT DESIGNATED AS PLANTED SHALL BE SODDED.
- THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES NECESSARY TO PROTECT AGAINST SILTATION, EROSION, AND DUST POLLUTION ON THE PROJECT SITE COMPLYING WITH EROSION CONTROL REQUIREMENTS OF THE IOWA CODE, FEDERAL REGULATIONS, AND LOCAL ORDINANCES.
- NO PONDING OF WATER WILL BE ACCEPTED ON ANY NEW PAVEMENT OR OVERLAY AREAS. IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY ANY AREAS OF EXISTING OR PROPOSED PAVEMENT THAT HAVE POTENTIAL TO POND WATER AND MAKE ANY ADJUSTMENTS NECESSARY TO ENSURE THAT WATER WILL POSITIVELY DRAIN ACROSS THE PAVING OR OVERLAY.
- ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THE PROJECT BUT NOT SPECIFICALLY CALLED OUT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
- REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA.
- ALL OPEN EXCAVATIONS SHALL BE PROTECTED.
- SITE CLEAN UP SHALL BE PERFORMED ON A DAILY BASIS, SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AND MAINTAINED AT ALL TIMES.
- MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
- PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
- THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTORS EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE OWNER.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.

GRADING NOTES:

- ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
- ALL DIMENSIONS TO BACK-OF-CURB UNLESS NOTED OTHERWISE. ALL DIMENSIONS TO BE FIELD VERIFIED.
- CURB INTAKE RIM ELEVATIONS = PAVING TOP OF CURB ELEVATIONS.
- CONTRACTOR TO ADJUST ALL TOP OF CASTING ELEVATIONS WITHIN THE PROJECT LIMITS TO THE FINAL ELEVATIONS SHOWN ON THE PLANS.
- ALL SPOT ELEVATIONS ARE TO THE TOP OF FINISHED GRADE, UNLESS OTHERWISE NOTED.
- ALL SLOPES IN UNPAVED AREAS SHALL BE GRADED TO DRAIN.
- TURF REINFORCEMENT MATS TO BE PLACED ON ALL SLOPES STEEPER THAN 4:1.
- THE CONTRACTOR SHALL HOLD A GENERAL PERMIT NUMBER 2 PRIOR TO CONSTRUCTION ACTIVITIES. THE GENERAL PERMIT NUMBER 2 HOLDER SHALL BE RESPONSIBLE FOR VERIFYING THAT TOP SOIL PRESERVATION REQUIREMENTS HAVE BEEN MET PRIOR TO ISSUANCE OF A CERTIFICATE OF COMPLETION. SAID TOPSOIL REQUIREMENTS ARE LISTED IN SUDAS STANDARD SPECIFICATIONS SECTION 2010.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SEEDDED. THESE AREAS SHALL BE SEEDDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
- CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES TO PREVENT EROSION.
- ALL STORM SEWER INTAKES THAT RECEIVE STORMWATER RUNOFF FROM DISTURBED AREAS SHALL BE PROVIDED WITH A FILTER SACK.

PLANTING NOTES:

- ALL AREAS ON SITE AND WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE SODDED FOR PERMANENT STABILIZATION UNLESS APPROVED OTHERWISE.
- REPAIR ALL EXISTING TURF AREAS WHICH ARE DISTURBED DURING CONSTRUCTION AT NO COST TO THE OWNER. REPAIR GRADE AND SOD AREAS AS SPECIFIED FOR NEW SODDING. ANY ESTABLISHED LAWNS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED WITH SOD AND WATERED UNTIL ESTABLISHED.
- PLANT QUANTITIES LISTED IN THIS PLAN SET ARE FOR INFORMATIONAL PURPOSES ONLY; DRAWING SHALL PREVAIL IF CONFLICT OCCURS.
- CONTRACTOR SHALL PLACE SHREDDED HARDWOOD MULCH AROUND ALL TREES TO A MINIMUM DEPTH OF 3 INCHES.

UTILITY NOTES:

- ALL UTILITIES ARE PRIVATE UNLESS NOTED OTHERWISE.
 - CONTRACTOR TO ADJUST ALL TOP OF CASTING ELEVATIONS WITHIN THE PROJECT LIMITS TO THE FINAL ELEVATIONS SHOWN ON THE PLANS.
 - ALL UTILITY SERVICES, INCLUDING ELECTRIC, TELEPHONE, AND CABLE TO BE UNDERGROUND.
 - THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO DETERMINE EXACT POINT OF SERVICE CONNECTION AT EXISTING UTILITY. REFER TO THE BUILDING ELECTRICAL AND PLUMBING DRAWINGS FOR UTILITY SERVICE ENTRANCE LOCATIONS, SIZES, AND CIRCUITING.
 - ALL CONNECTIONS TO EXISTING PUBLIC SEWERS SHALL BE CORE DRILLED AND USE LINKSEAL.
 - ALL MANHOLES SHALL BE INSTALLED SO THAT THE CASTING IS SET OUTSIDE OF THE SIDEWALK SECTION.
 - THE CONTRACTOR SHALL NOTIFY THE CITY PRIOR TO ANY CONNECTION TO PUBLIC UTILITIES.
 - ALL STORM AND SANITARY SEWERS ARE TO BE CLEANED AND TELEVISED. ALL SANITARY SEWER MANHOLES ARE TO BE VACUUM TESTED. ALL CLEANING AND TELEVISING SHALL BE APPROVED AND WITNESSED BY THE CITY PRIOR TO PAVING. A COPY OF THE VIDEOS AND REPORTS SHALL BE PROVIDED TO THE CITY.
- SANITARY SEWER:**
- ALL SANITARY SEWER SERVICES SHALL BE SDR 23.5 AND SHALL HAVE GASKETED JOINTS.
 - MANHOLE STEPS ARE REQUIRED IN ALL SANITARY SEWER MANHOLES.
 - MANHOLE COVERS SHALL HAVE RAISED DIAMOND ROUGHNESS PATTERN.
 - RAISED MANHOLES SHALL HAVE RUBBER SLEEVE TYPE INFILTRATION BARRIERS WITH STAINLESS STEEL BANDS.
- STORM SEWER:**
- OWNER SHALL BE RESPONSIBLE FOR ALL ON-SITE PRIVATE STORM SEWER.
 - ALL INTAKE CASTINGS SHALL HAVE PHASE 2 ENVIRONMENTAL SYMBOLOLOGY OR TEXT.
 - THE CONTRACTOR IS RESPONSIBLE FOR CLEANING STORM SEWER WITHIN THE PROJECT AREA AT THE COMPLETION OF THE PROJECT.
- WHERE RCP STORM SEWER CROSSES THE WATER SERVICE, PROVIDE O-RING GASKETS AT JOINTS ONE FULL LENGTH OF SEWER PIPE ON EITHER SIDE OF THE CROSSING ACCORDING TO SUDAS REQUIREMENTS.
- WATER MAIN:**
- HYDRANTS, MANHOLE COVERS, AND VALVE BOXES SHALL BE SET TO CONFORM TO FINISHED PAVEMENT ELEVATIONS.
 - WATER MAIN SHALL BE AWWA C900-DR18 PVC.
 - FIRE HYDRANT ASSEMBLIES SHALL INCLUDE 5-INCH STORZ NOZZLE, SHUT OFF GATE VALVE AND LOCKING CAP. ALL CHAINS SHALL REMAIN INTACT.
 - WATER MAIN TO HAVE 5' 6" BURY, TYP. EXCEPT AT CRITICAL CROSSINGS IN WHICH IT SHALL BE NO SHALLOWER THAN 5' 6".
 - ALL VALVES SHALL HAVE A VALVE BOX ADAPTER INSTALLED TO MAINTAIN ALIGNMENT.
 - THE CONTRACTOR SHALL NOT REMOVE CHAINS ON ALL HYDRANTS.
 - WATER CURB STOP BOX SHALL BE ARCH PATTERN WITH STAINLESS STEEL ROD (COORDINATE WITH CITY OF WAUKEE).
 - THE CONTRACTOR SHALL WORK WITH THE CITY OF WAUKEE WHEN OPERATING EXISTING VALVES. WATER SHALL NOT BE TURNED ON WITHOUT PRIOR APPROVAL.
 - WATER CAN NOT BE USED BY THE CONTRACTOR UNLESS IT IS PART OF THE PURIFICATION PROCESS OF THE NEW MAIN. WATER NEEDED FOR ANY REASON AFTER BACTERIA TESTING HAS BEEN COMPLETED AND PASSED WILL NEED PRIOR APPROVAL FROM THE CITY OF WAUKEE SUPPLEMENTAL SPECS.
 - CONTRACTOR SHALL NOTIFY THE CITY OF WAUKEE ONE (1) WEEK PRIOR TO CONSTRUCTION OF WATER MAIN.
 - ALL FIRE PROTECTION RISERS SHALL UTILIZE THRUST BLOCKING AT ALL CHANGES IN DIRECTION AND ELEVATION, ON ALL WATERMAIN. STAINLESS STEEL RODDING SHALL BE EXTENDED ALONG THE NEXT FULL LENGTH PIPE AND ANCHORED ON THE PIPE BELL, OR MECHANICAL FITTINGS, ADDITIONALLY, AT ALL LOCATIONS OF THRUST BLOCKING. MEGA-LUGS ARE NOT TO BE ALLOWED PER SUDAS.
 - WATER MAIN FLUSHING SHALL NOT OCCUR WITHOUT PRIOR APPROVAL FROM THE CITY. SEE 2024 CITY OF WAUKEE SUPPLEMENTAL SPECS.
 - WATER MAIN AND SEWER (SERVICE, SANITARY SEWER, STORM SEWER, OR DRAINAGE TILE) CROSSINGS SHALL HAVE A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION WHERE POSSIBLE UNLESS OTHERWISE NOTED. ALL STORM SEWER PIPE THAT CROSSES OVER THE WATER MAIN SHALL HAVE O-RING GASKETS INSTALLED.
 - IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES AND WHETHER ADDITIONAL UTILITIES EXIST.
 - CONTACT FIRE DEPARTMENT OF ANY CHANGES THAT AFFECT FIRE/EMERGENCY ACCESS TO THE SITE, BUILDING, FDC'S, PIV'S, HYDRANTS, AND FRONT DOORS.
 - APPROVED FIRE APPARATUS ACCESS ROADS SHALL BE PROVIDED AS SOON AS CONSTRUCTION COMMENCES. IF PAVING IS NOT INSTALLED PRIOR TO BUILDING CONSTRUCTION COMMENCING AFTER FOOTING INSTALLED, AN APPROVED ROUTE AROUND THE EXTERIOR OF THE BUILDING TO EXTEND WITHIN 100 FEET OF ALL PORTIONS OF THE EXTERIOR WALLS SHALL BE PROVIDED AND COMPLY WITH THE REQUIREMENTS OF SECTION 503.2 OF THE IFC.

GENERAL LEGEND

| EXISTING | PROPOSED | EXISTING | PROPOSED | ABBREVIATIONS |
|----------|----------|----------|----------|--------------------------|
| | | | | TOP OF SLAB T/S |
| | | | | BACK OF CURB BC |
| | | | | TOP OF CURB TC |
| | | | | FORM GRADE FG |
| | | | | FLOWLINE FL |
| | | | | CENTERLINE CL |
| | | | | CUT C |
| | | | | FILL F |
| | | | | TOP TOP OF SLOPE |
| | | | | BOT BOTTOM OF SLOPE |
| | | | | EP EDGE OF PAVING |
| | | | | BOP BEGINNING OF PROJECT |
| | | | | EOP END OF PROJECT |
| | | | | UAC USE AS CONSTRUCTED |
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UTILITY QUALITY SERVICE LEVELS:

UTILITY QUALITY LEVELS ARE BASED ON THE CIVASCE 38-02 STANDARD.

UTILITY QUALITY LEVEL A:
PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES.

UTILITY QUALITY LEVEL B:
INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.

UTILITY QUALITY LEVEL C: INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO UTILITY LEVEL D INFORMATION.

UTILITY QUALITY LEVEL D:
INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

| EXAMPLES: | |
|-----------|---|
| | SANITARY SEWER MAIN - QUALITY SERVICE LEVEL A |
| | SANITARY SEWER MAIN - QUALITY SERVICE LEVEL B |
| | SANITARY SEWER MAIN - QUALITY SERVICE LEVEL C |
| | SANITARY SEWER MAIN - QUALITY SERVICE LEVEL D |



McCLURE™

1360 NW 121st Street
Clive, Iowa 50325
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NOTICE:
McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans. Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans and Specifications.

IOWA CERTIFICATE OF AUTHORITY NO. 26887

REVISIONS

PROJECT INFO

ENGINEER M. ELLER DRAWN BY K. WILLIAMS CHECKED BY M. ELLER

STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263

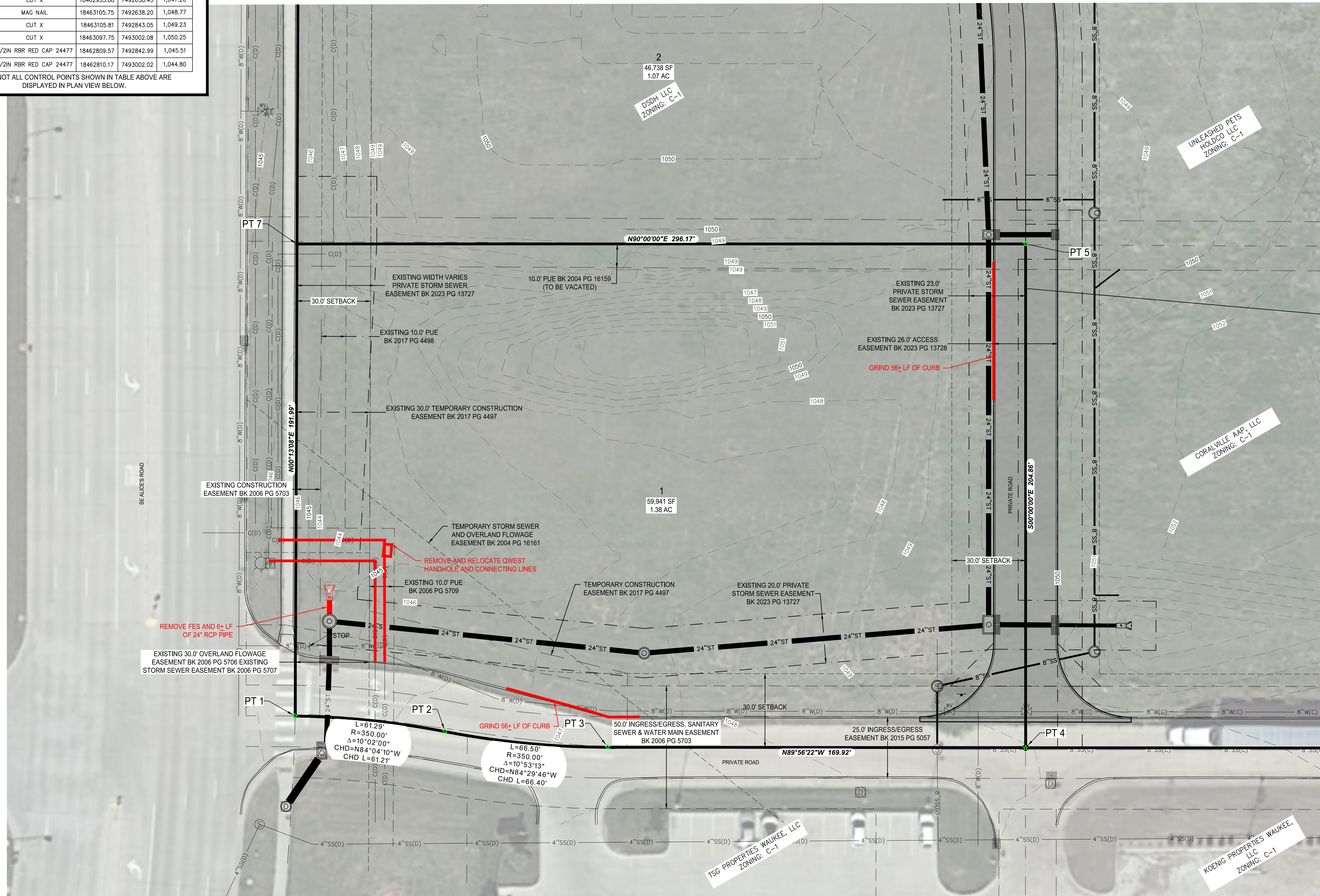
GENERAL NOTES & LEGEND

DRAWING NO.

C002

| Control Point Table | | | | |
|---------------------|-------------------------|-------------|------------|-----------|
| Point No. | Description | Easting | Northing | Elevation |
| 1 | CUT X | 18462808.84 | 7492651.07 | 1,045.62 |
| 2 | CUT X | 18462869.79 | 7492644.87 | 1,046.22 |
| 3 | CUT X | 18462935.88 | 7492638.45 | 1,047.20 |
| 4 | MAG NAIL | 18463105.75 | 7492638.20 | 1,048.77 |
| 5 | CUT X | 18463105.81 | 7492843.05 | 1,049.23 |
| 6 | CUT X | 18463097.75 | 7493002.08 | 1,050.25 |
| 7 | 1/2IN RBR RED CAP 24477 | 18462809.57 | 7492842.99 | 1,045.51 |
| 8 | 1/2IN RBR RED CAP 24477 | 18462810.17 | 7493002.02 | 1,044.80 |

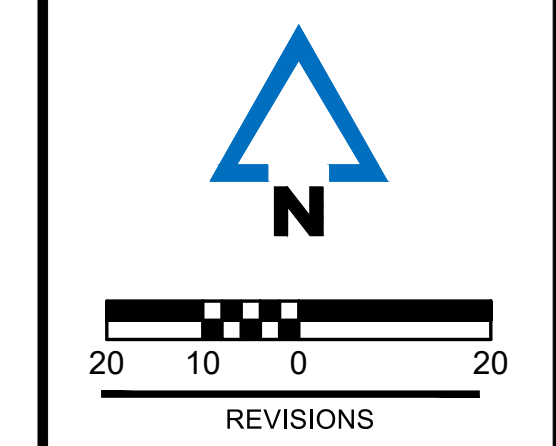
NOTE: NOT ALL CONTROL POINTS SHOWN IN TABLE ABOVE ARE DISPLAYED IN PLAN VIEW BELOW.



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IOWA CERTIFICATE OF AUTHORITY NO. 26887



PROJECT INFO
 ENGINEER: M. ELLER
 DRAWN BY: K. WILLIAMS
 CHECKED BY: M. ELLER

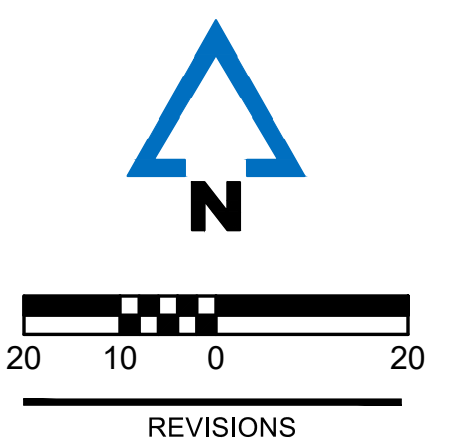
STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263
EXISTING CONDITIONS

DRAWING NO.
C003

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REVISIONS

PROJECT INFO
 ENGINEER: M. ELLER DRAWN BY: K. WILLIAMS CHECKED BY: M. ELLER

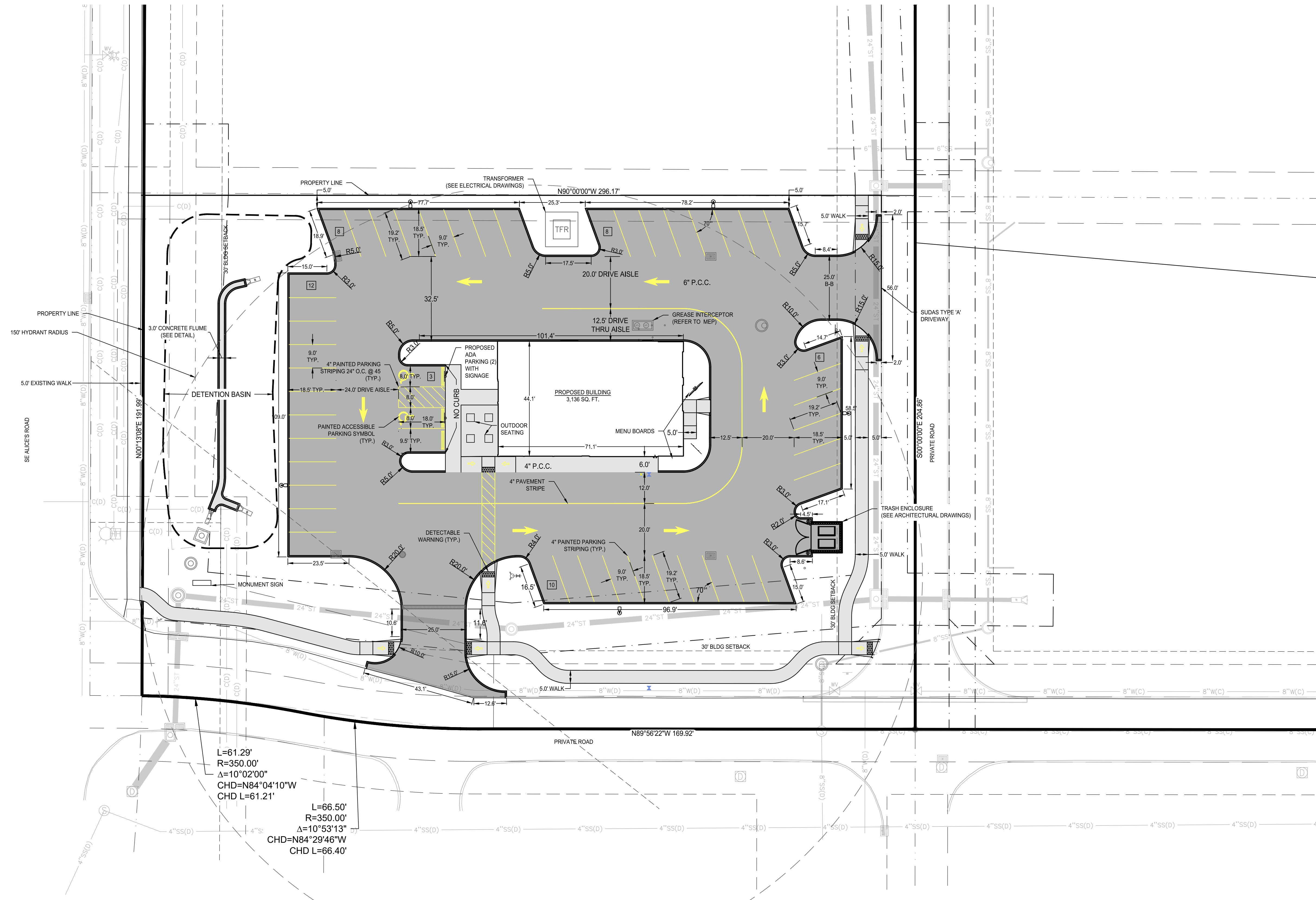
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1045 SE ALICE'S ROAD
WAUKEE, IA 50263

SITE LAYOUT

DRAWING NO.
C101

NOTE:
 1. ALL SIDEWALK ABUTTING PARKING LOT SHALL UTILIZE DROP FACE CURB

| PAVEMENT THICKNESS | |
|--------------------------|-----------|
| 1. SIDEWALKS | 4" P.C.C. |
| 2. PARKING AND DRIVEWAYS | 6" P.C.C. |

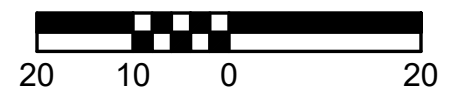
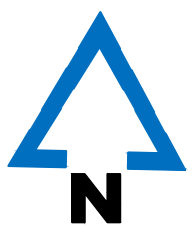


L=61.29'
 R=350.00'
 Δ=10°02'00"
 CHD=N84°04'10"W
 CHD L=61.21'

L=66.50'
 R=350.00'
 Δ=10°53'13"
 CHD=N84°29'46"W
 CHD L=66.40'

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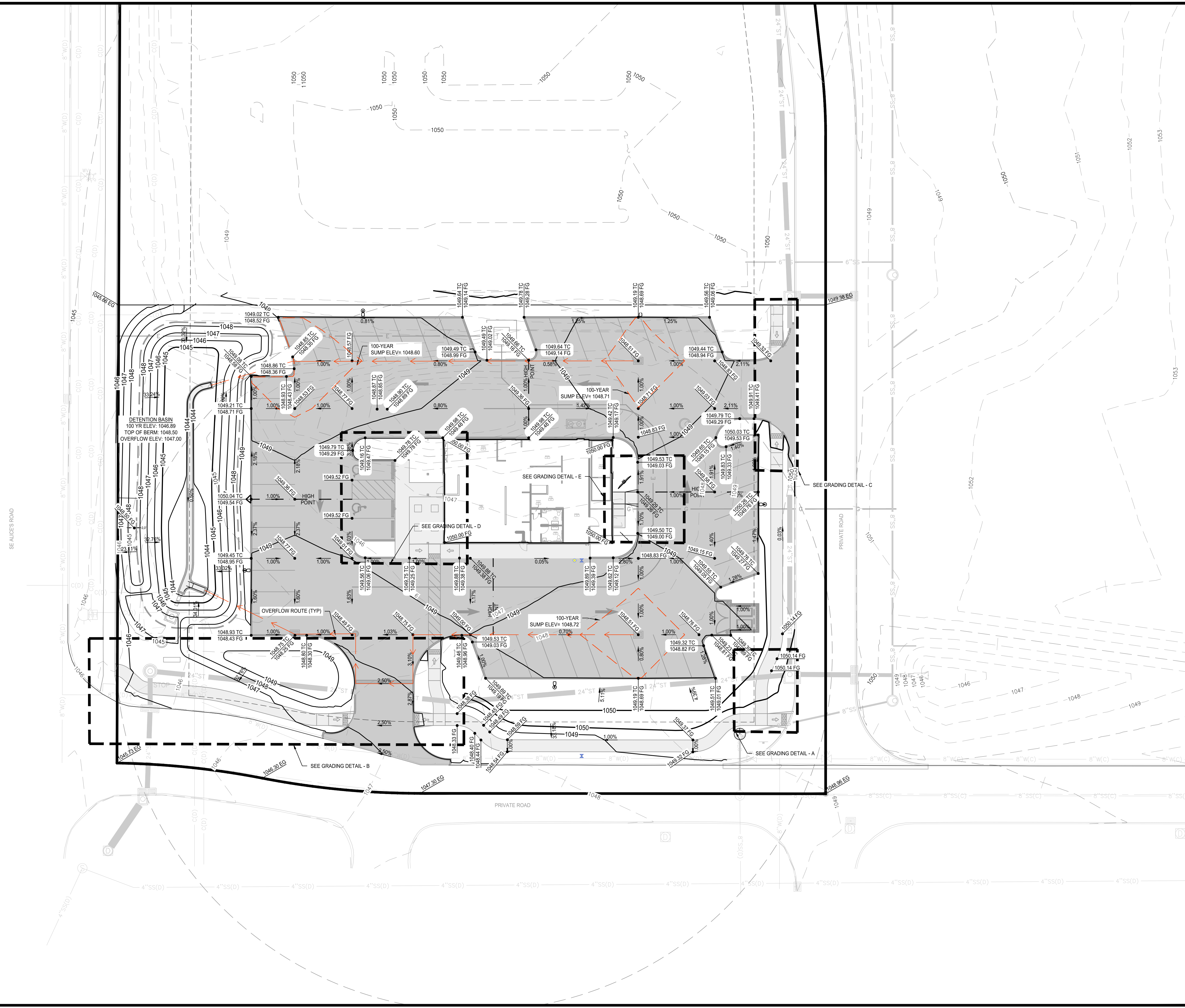
ENGINEER: M. ELLER DRAWN BY: K. WILLIAMS CHECKED BY: M. ELLER

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WAUKEE, IA 50263

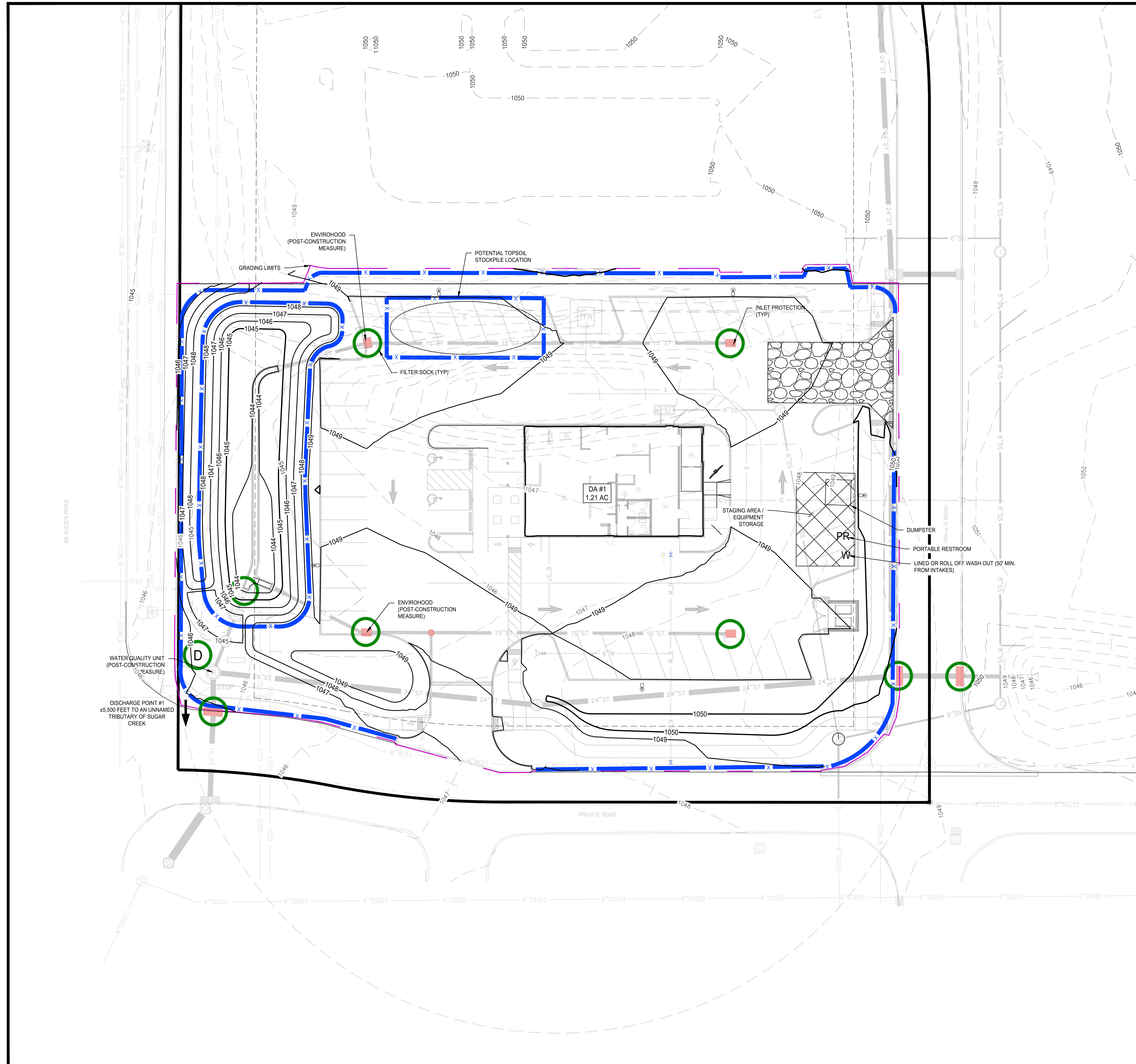
GRADING PLAN

DRAWING NO.

C201



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STABILIZATION QUANTITIES

| ITEM | QUANTITY | UNIT |
|-------------------|----------|-------------|
| SILT FENCE | 1323 | LINEAR FEET |
| FILTER SOCK | 11 | EACH |
| INLET PROTECTION | 7 | EACH |
| STAGING AREA | 1 | EACH |
| DUMPSTER | 1 | EACH |
| PORTABLE RESTROOM | 1 | EACH |
| WASH OUT | 1 | EACH |
| SOD | 14750 | SQFT |

DISCHARGE POINT SUMMARY

| | | |
|--|--|-------------|
| DISCHARGE POINT #1 | | |
| TOTAL AREA DISTURBED TO DISCHARGE POINT | | 1.21 ACRES |
| STORAGE VOLUME REQUIRED (1.21 OF ACRES/3600 CU FT) | | 4,356 CU FT |
| VOL PROVIDED IN SILT FENCE (1,323 LF @ 4.5 CU FT/LF OF SILT FENCE) | | 5,953 CU FT |
| TOTAL VOLUME PROVIDED | | 5,953 CU FT |

NOTES

- ALL DEBRIS SPILLED ONTO THE STREET SHALL BE PICKED UP AT THE END OF EACH WORK DAY AND PRIOR TO THE RAIN EVENT.
- MINIMUM TOPOSOIL RESPREAD REQUIREMENT OF GP#2 WILL BE MET WITH SUDAS SPEC 2010 FOR ON-SITE TOPOSOIL FOR ALL DISTURBED AREAS REQUIRING TEMPORARY STABILIZATION, SODDING FOR EROSION CONTROL SHALL BE USED.
- OWNER RESPONSIBLE FOR MAINTENANCE COSTS AND PRACTICES FOR ALL STORM WATER CONTROL BMPs INSTALLED ON SITE AS PART OF THIS PROJECT. MEASURES SHALL CONFORM TO PRODUCT MAINTENANCE MANUALS CURRENT AT THE TIME OF INSTALLATION.

LEGEND:

- x — SILT FENCE
- BELOW GRADE INTAKE PROTECTION (POST PAVING)
- FILTER SOCK
- D DISCHARGE LOCATION

McCLURE™
 1360 NW 121st Street
 Clive, Iowa 50325
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IOWA CERTIFICATE OF AUTHORITY NO. 26887

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 REVISIONS

PROJECT INFO

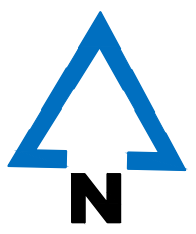
ENGINEER: M. ELLER DRAWN BY: K. WILLIAMS CHECKED BY: M. ELLER

STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263

EROSION & SEDIMENT CONTROL PLAN

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DRAWING NO.
C203



REVISIONS

PROJECT INFO

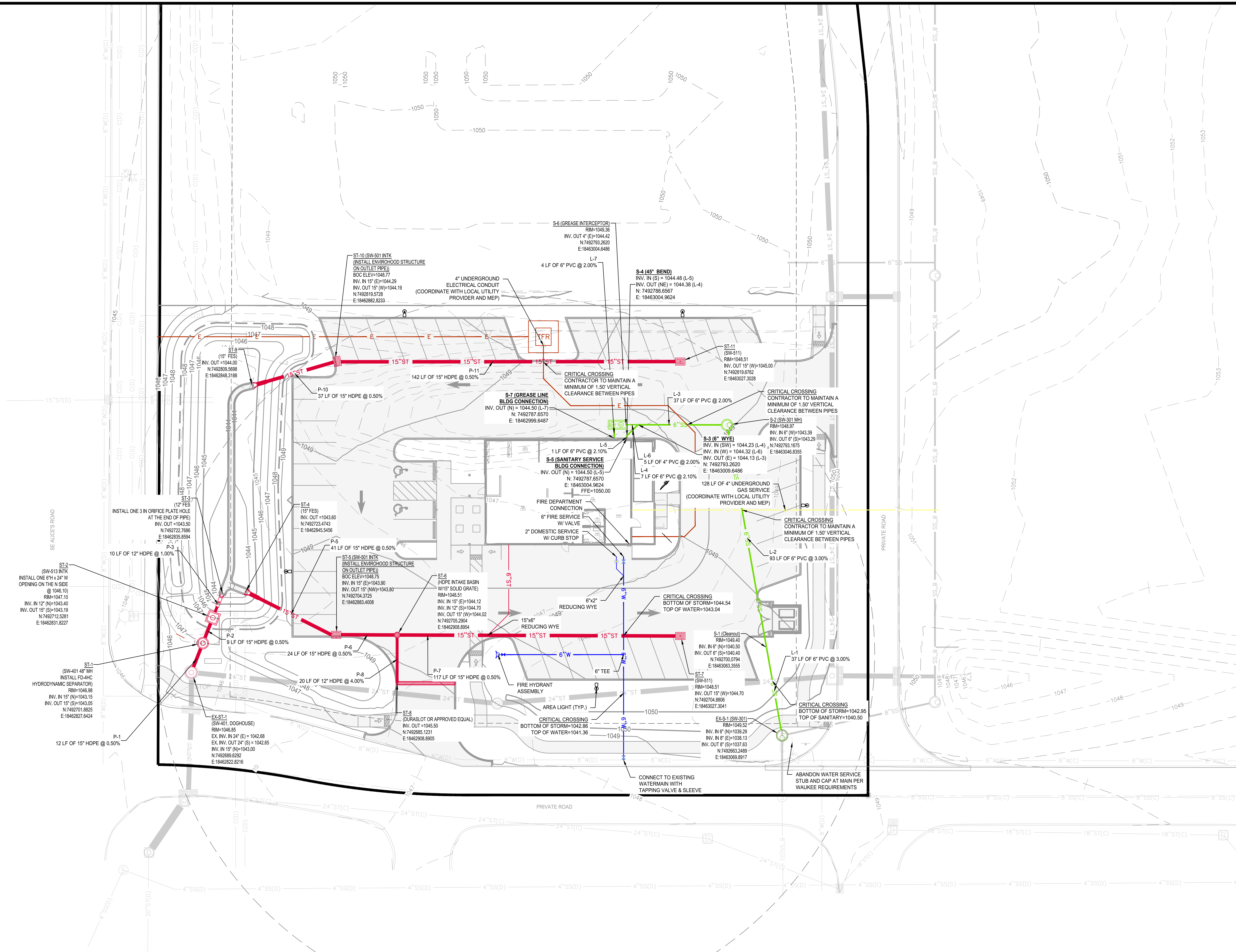
ENGINEER: M. ELLER
DRAWN BY: K. WILLIAMS
CHECKED BY: M. ELLER

STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263

UTILITY PLAN

DRAWING NO.

C301



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II. Model Sizes & Configurations

The First Defense® inlet and internal bypass arrangements are available in several model sizes and configurations. The components of the First Defense®-4HC and First Defense®-6HC have modified geometries as to allow greater design flexibility needed to accommodate various site constraints.

All First Defense® models include the internal components that are designed to remove and retain total suspended solids (TSS), gross solids, floatable trash and hydrocarbons (Fig 2a - 2b). First Defense® model parameters and design criteria are shown in Table 1.

First Defense® Components

1. Built-In Bypass
2. Inlet Pipe
3. Inlet Chute
4. Floatables Draw-off Port
5. Outlet Pipe
6. Floatables Storage
7. Sediment Storage
8. Inlet Grate or Cover

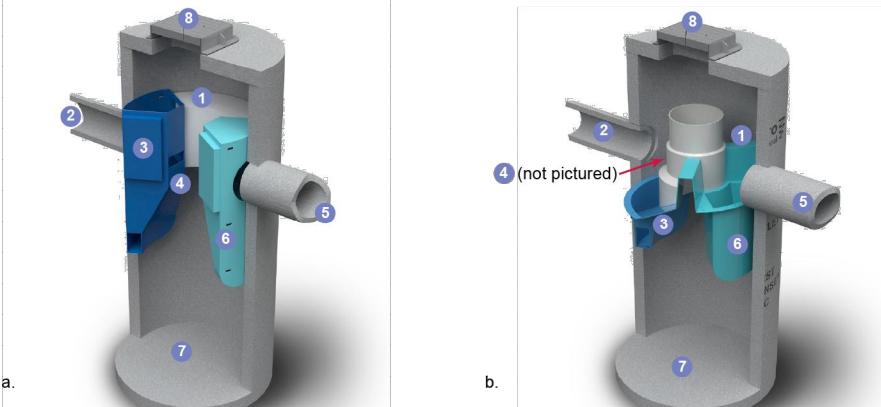


Fig 2a) First Defense®-4 and First Defense®-6, b) First Defense®-4HC and First Defense®-6HC, with higher capacity dual inlet bypass and larger maximum pipe diameter.

Table 1. First Defense® Pollutant Storage Capacities and Maximum Clean out Depths

| First Defense® Model Number | Diameter (ft / m) | Oil Storage Capacity (gal / L) | Oil Clean Out Depth (in / cm) | Maximum Sediment Storage Capacity* | | Recommended Sediment Clean-out Capacity | |
|-----------------------------|-------------------|--------------------------------|-------------------------------|------------------------------------|-----------------|---|-----------------|
| | | | | Volume (yd³ / m³) | Depth (in / cm) | Volume (yd³ / m³) | Depth (in / cm) |
| FD-4 | 4 / 1.2 | 160 / 681 | <23.5 / 60 | 1.3 / 1.0 | 33 / 84 | 0.7 / 0.5 | 18 / 46 |
| FD-4HC | | 191 / 723 | <24.4 / 62 | | | | |
| FD-6 | 6 / 1.8 | 420 / 1,590 | <23.5 / 60 | | | | |
| FD-6HC | | 496 / 1,878 | <28.2 / 72 | | | | |

NOTE: * Sediment storage capacity and clean out depth may vary, as larger sediment storage sump volumes are provided when required.

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

III. Maintenance

Overview

The First Defense® protects the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captured pollutants is essential to the continuous, long-term functioning of the First Defense®. The First Defense® will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the First Defense® will no longer be able to store removed sediment and oil. Maximum pollutant storage capacities are provided in Table 1.

The First Defense® allows for easy and safe inspection, monitoring and clean-out procedures. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables. Access ports are located in the top of the manhole.

Maintenance events may include Inspection, Oil & Floatables Removal, and Sediment Removal. Maintenance events do not require entry into the First Defense®, nor do they require the internal components of the First Defense® to be removed. In the case of inspection and floatables removal, a vector truck is not required. However, a vector truck is required if the maintenance event is to include oil removal and/or sediment removal.

Maintenance Equipment Considerations

The internal components of the First Defense®-HC have a centrally located circular shaft through which the sediment storage sump can be accessed with a sump vac hose. The open diameter of this access shaft is 15 inches in diameter (Fig 3). Therefore, the nozzle fitting of any vector hose used for maintenance should be less than 15 inches in diameter.

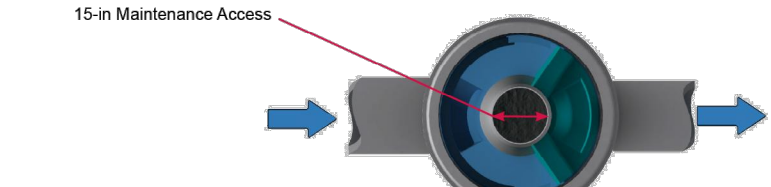


Fig 3 The central opening to the sump of the First Defense®-HC is 15 inches in diameter.

Determining Your Maintenance Schedule

The frequency of clean out is determined in the field after installation. During the first year of operation, the unit should be inspected every six months to determine the rate of sediment and floatables accumulation. A simple probe such as a Sludge Judge® can be used to determine the level of accumulated solids stored in the sump. This information can be recorded in the maintenance log (see page 9) to establish a routine maintenance schedule.

The vector procedure, including both sediment and oil/floatables removal, for a 6-ft First Defense® typically takes less than 30 minutes and removes a combined water/oil volume of about 765 gallons.



Inspection Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.
2. Remove the grate or lid to the manhole.
3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities. Fig 4 shows the standing water level that should be observed.
4. Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the components and water surface.
5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel.
6. On the Maintenance Log (see page 9), record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components or blockages.
7. Securely replace the grate or lid.
8. Take down safety equipment.
9. Notify Hydro International of any irregularities noted during inspection.



Fig 4 Floatables are removed with a vector hose (First Defense model FD-4, shown).

Recommended Equipment

- Safety Equipment (traffic cones, etc)
- Crow bar or other tool to remove grate or lid
- Pole with skimmer or net (if only floatables are being removed)
- Sediment probe (such as a Sludge Judge®)
- Vector truck (flexible hose recommended)
- First Defense® Maintenance Log

Scheduling

- Floatables and sump clean out are typically conducted once a year during any season.
- Floatables and sump clean out should occur as soon as possible following a spill in the contributing drainage area.

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

Floatables and Sediment Clean Out Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.
2. Remove the grate or lid to the manhole.
3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.
4. Remove oil and floatables stored on the surface of the water with the vector hose (Fig 5) or with the skimmer or net (not pictured).
5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel and record it in the Maintenance Log (page 9).
6. Once all floatables have been removed, drop the vector hose to the base of the sump. Vector out the sediment and gross debris off the sump floor (Fig 5).
7. Retract the vector hose from the vessel.
8. On the Maintenance Log provided by Hydro International, record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components, blockages, or irregularly high or low water levels.
9. Securely replace the grate or lid.

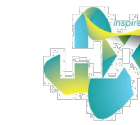


Fig 5 Sediment is removed with a vector hose (First Defense model FD-4, shown).

Maintenance at a Glance

| Activity | Frequency |
|----------------------------|--|
| Inspection | - Regularly during first year of installation - Every 6 months after the first year of installation |
| Oil and Floatables Removal | - Once per year, with sediment removal - Following a spill in the drainage area |
| Sediment Removal | - Once per year or as needed - Following a spill in the drainage area |

NOTE: For most clean outs the entire volume of liquid does not need to be removed from the manhole. Only remove the first few inches of oils and floatables from the water surface to reduce the total volume of liquid removed during a clean out.



4' FDHC GA UNIT MAINTENANCE RECOMMENDATIONS
NOT TO SCALE

PLAN VIEW

SECTION A-A

RIM=1046.98 FT
T.O.S ELEV=1045.82 FT
PIPE ELEV= 1043.05 FT
PREASSEMBLY REFERENCE= 1041.55 FT
BOTTOM OF INTERNALS= 1040.33 FT
SUMP ELEV= 1038.08 FT

NOTE: ADDITIONAL HEIGHT MAYBE REQUIRED DEPENDING ON PIPE SIZE

PROJECTION

IF IN DOUBT ASK

COMMENTS:
1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

DATE: 10/7/2019 SCALE: 1:30
DRAWN BY: ER CHECKED BY: MRJ APPROVED BY:
Title: 4-FT DIAMETER
FIRST DEFENSE HIGH CAPACITY

GENERAL ARRANGEMENT

Hydro International
hydro-int.com
HYDRO INTERNATIONAL

DO NOT SCALE DRAWING
STEEL FABRICATION TOLERANCES
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES

LINEAR: 000 - 012in = ±0.04in
012 - 024in = ±0.06in
024 - 048in = ±0.09in
048 - 120in = ±0.15in
120in >>> = ±0.20in

ANGULAR: 000 - 120in = ±1°
120 - 240in = ±0.5°
240in >>> = ±0.25°

WEIGHT: N/A MATERIAL:
STOCK NUMBER:
DRAWING NO: FDHC GA-4
SHEET: B SHEET: 1 OF 1

PRODUCT SPECIFICATION:

1. PEAK HYDRAULIC FLOW: 18.0 cfs (510 l/s)
2. MIN SEDIMENT STORAGE CAPACITY: 0.7 cu. yd. (0.5 cu. m.)
3. OIL STORAGE CAPACITY: 191 gal. (723 liters)
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 24 in. (600 mm)
5. THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
6. NJCAT VERIFIED FOR GREATER THAN 85% TSS AT 1.88 cfs (53.2 l/s) FOR OK 110 (50-150 MICRONS)
7. NJCAT VERIFIED FOR GREATER THAN 90% TSS AT 1.5 cfs (42.5 l/s) FOR DOWN TO 50 MICRONS (50-1,000 MICRONS)

GENERAL NOTES:

1. General Arrangement drawings only. Contact Hydro International for site specific drawings.
2. The diameter of the inlet and outlet pipes may be no more than 24".
3. Multiple inlet pipes possible (refer to project plan).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plan.s)
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

ANY WARRANTY GIVEN BY HYDRO INTERNATIONAL WILL APPLY ONLY TO THOSE ITEMS SUPPLIED BY IT. ACCORDINGLY HYDRO INTERNATIONAL CANNOT ACCEPT ANY RESPONSIBILITY FOR ANY STRUCTURE, PLANT, OR EQUIPMENT, (OR THE PERFORMANCE THERE OF) DESIGNED, BUILT, MANUFACTURED, OR SUPPLIED BY ANY THIRD PARTY. HYDRO INTERNATIONAL HAVE A POLICY OF CONTINUOUS DEVELOPMENT AND RESERVE THE RIGHT TO AMEND THE SPECIFICATION. HYDRO INTERNATIONAL CANNOT ACCEPT LIABILITY FOR PERFORMANCE OF ITS EQUIPMENT, (OR ANY PART THEREOF), IF THE EQUIPMENT IS SUBJECT TO CONDITIONS OUTSIDE ANY DESIGN SPECIFICATION. HYDRO INTERNATIONAL OWNS THE COPYRIGHT OF THIS DRAWING, WHICH IS SUPPLIED IN CONFIDENCE. IT MUST NOT BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS SUPPLIED AND MUST NOT BE REPRODUCED, IN WHOLE OR IN PART, WITHOUT PRIOR PERMISSION IN WRITING FROM HYDRO INTERNATIONAL.

4' FDHC GA UNIT (ST-1)
NOT TO SCALE

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F 515-964-2370

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Columbia, MO | Macon, MO
North Kansas City, MO | Springfield, MO
Lenexa, KS
Portsmouth, NH

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IOWA CERTIFICATE OF AUTHORITY NO. 26887

REVISIONS

PROJECT INFO

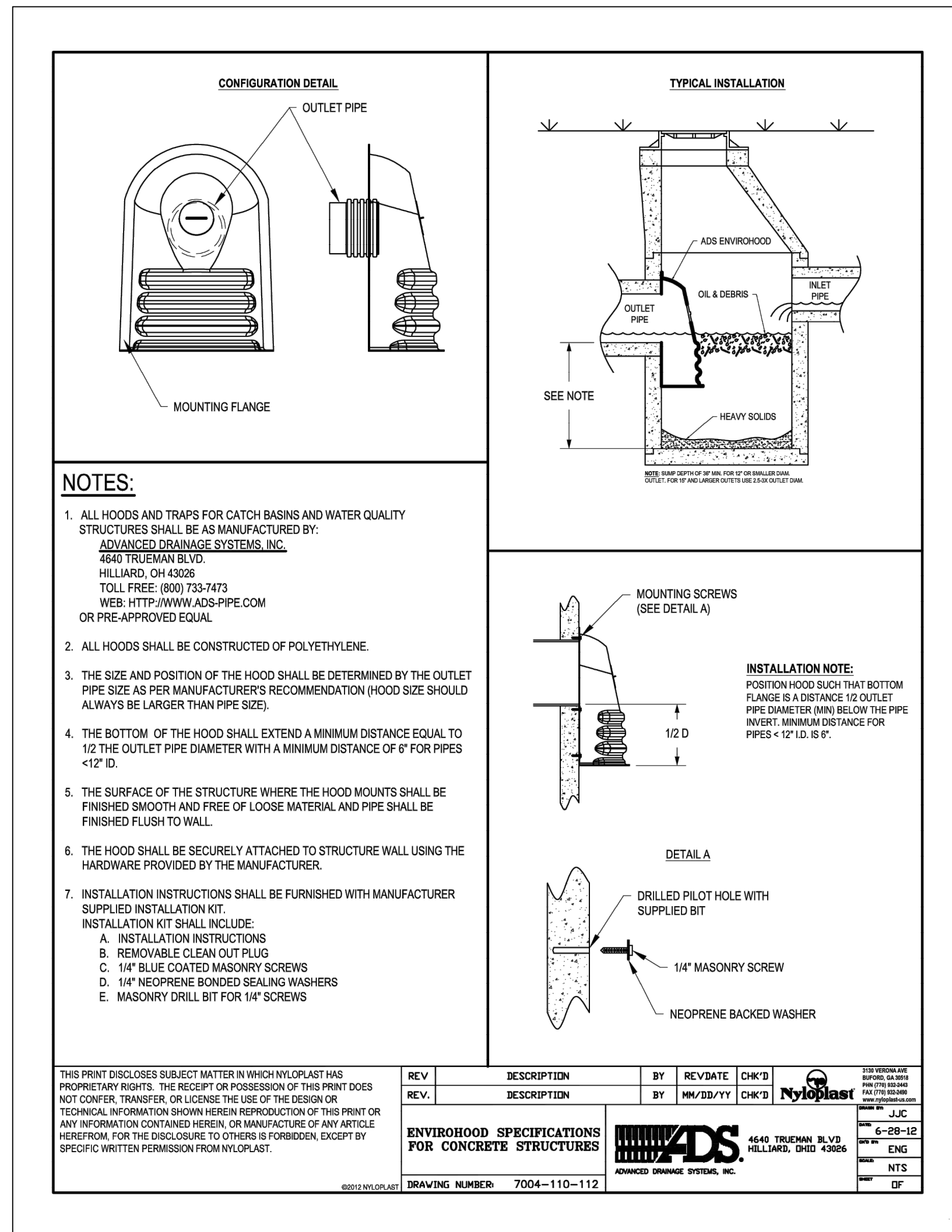
ENGINEER: M. ELLER
DRAWN BY: K. WILLIAMS
CHECKED BY: M. ELLER

STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263

DETAILS

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DRAWING NO.
C602



NOTES:

- ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD.
HILLIARD, OH 43008
TOLL FREE: (800) 733-7473
WEB: HTTP://WWW.ADS-PIPE.COM
OR PRE-APPROVED EQUAL.
- ALL HOODS SHALL BE CONSTRUCTED OF POLYETHYLENE.
- THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY THE OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (HOOD SIZE SHOULD ALWAYS BE LARGER THAN PIPE SIZE).
- THE BOTTOM OF THE HOOD SHALL EXTEND A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" ID.
- THE SURFACE OF THE STRUCTURE WHERE THE HOOD MOUNTS SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
- THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL USING THE HARDWARE PROVIDED BY THE MANUFACTURER.
- INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
INSTALLATION KIT SHALL INCLUDE:
A. INSTALLATION INSTRUCTIONS
B. REMOVABLE CLEAN OUT PLUG
C. 1/4" BLUE COATED MASONRY SCREWS
D. 1/4" NEOPRENE BONDED SEALING WASHERS
E. MASONRY DRILL BIT FOR 1/4" SCREWS

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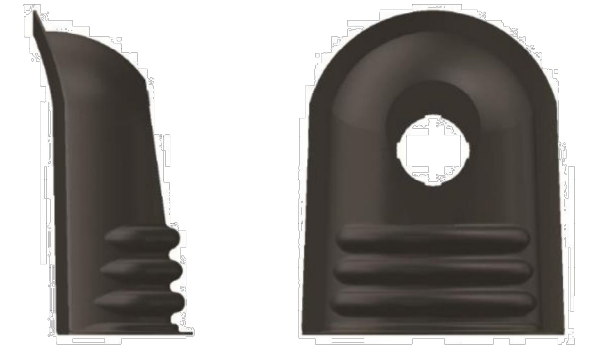
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| ENVIROHOOD SPECIFICATIONS FOR CONCRETE STRUCTURES | ADS 4640 TRUEMAN BLVD HILLIARD, OHIO 43008 ADVANCED DRAINAGE SYSTEMS, INC. |
|--|--|

ENVIROHOOD SPECIFICATIONS (ST-?)
NOT TO SCALE

ADS® Nyloplast® EnviroHood® Maintenance Guide

The Nyloplast EnviroHood is an innovative stormwater quality device attached to the inside of a catch basin or manhole designed to prevent the outflow of floating debris and oil. It's a great device for coarse particle separation and ideal for a rough pretreatment device. The need for cleaner stormwater has caused municipal leaders to demand forward-thinking solutions to improve their overall water quality. The EnviroHood offers lower installed costs and less intrusive installations than competitive devices. These units come preinstalled in Nyloplast basins for fast, easy, hassle free, job site installation.



Installation shall be in accordance with Nyloplast installation procedures and those issues by local building/construction regulations. The required minimum sump located in the typical installation is to allow for sediment to accumulate in the sump and allow the EnviroHood to properly function. Any sump larger than the recommended depth will allow more sediment to settle and require less maintenance due to the higher capacity below the EnviroHood structure.

Maintenance Recommendations

- Over the span of the first year of a new installation, monthly monitoring is recommended once the site has stabilized.
- Measurements should be taken using some sort of probe or other device as it may be difficult to determine how much sediment has accumulated.
- During the monitoring and removal process, check for evidence of restricted flow such as a high water level or clogging debris.
- After the monitoring period, it is best to continually schedule maintenance based on the amount of sediment accumulating in the sump of the structure and how much oil and debris is visible on the surface of the water over time.
- In case of a spill or other occasions where an abnormal amount of pollutants may accumulate in the structure, it is best to clean out the structure as quickly as possible.
- If another device that assists in the removal of pollutants and coarse debris is used, such as a Flexstorm product, it is best to follow the maintenance considerations for that product as their maintenance requirements may be stricter.
- A vacuum truck is best for the removal of debris and pollutants when necessary. After the collection of the waste, it shall be disposed of according to the local environment requirements.
- Once the waste has been removed, check seals and mounting hardware to ensure the EnviroHood can function properly.



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ENVIROHOOD MAINTENANCE RECOMMENDATIONS
NOT TO SCALE

McCLURE™
1360 NW 121st Street
Clive, Iowa 50325
P 515-964-1229
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Columbia, MO | Macon, MO
North Kansas City, MO | Springfield, MO
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NOTICE:
McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans and Specifications.

IOWA CERTIFICATE OF AUTHORITY NO. 26887

REVISIONS

PROJECT INFO

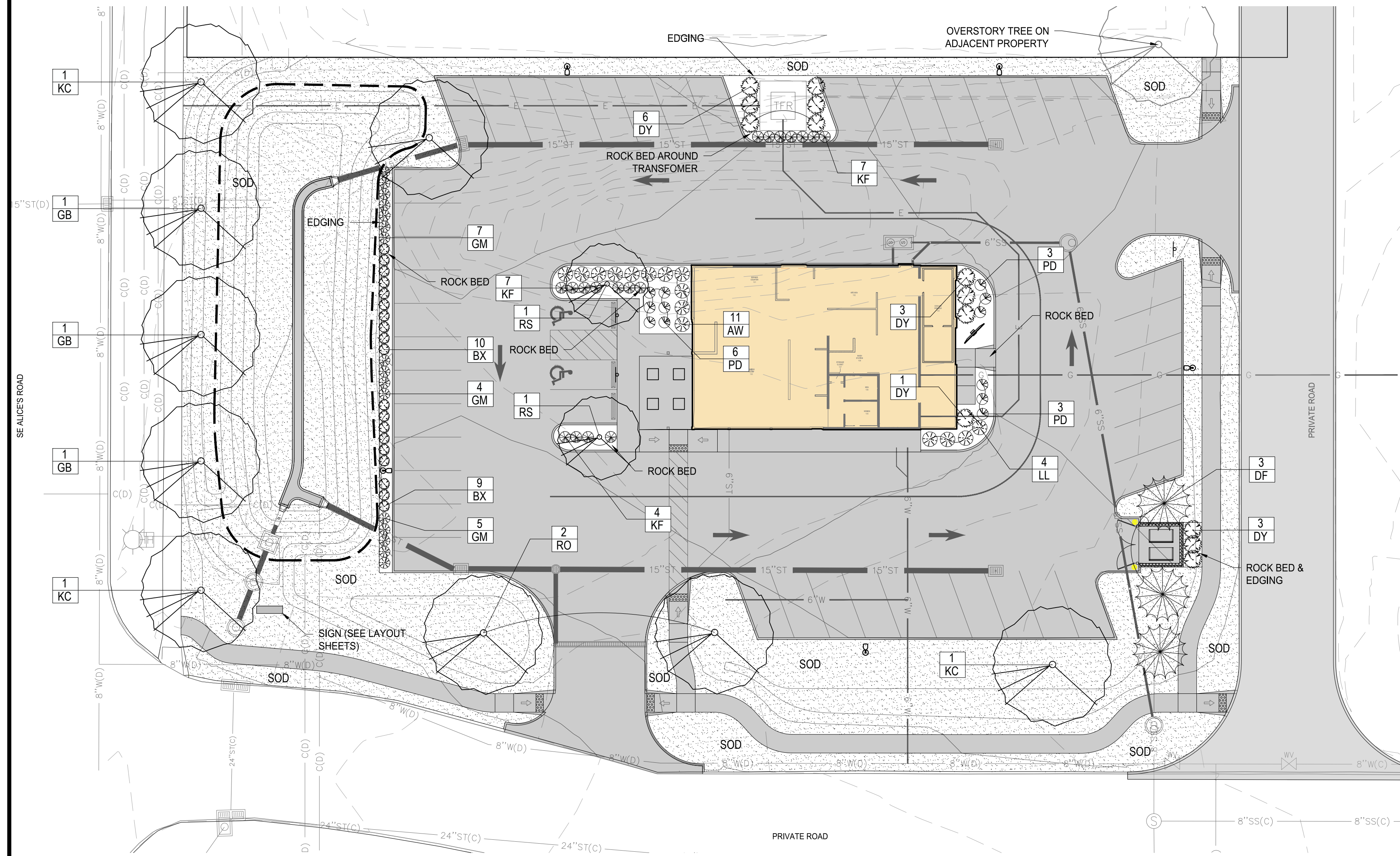
ENGINEER: M. ELLER
DRAWN BY: K. WILLIAMS
CHECKED BY: M. ELLER

STEAK 'N SHAKE
1045 SE ALICE'S ROAD
WAUKEE, IA 50263

DETAILS

DRAWING NO.
C603

P:\2024\0225-400\44-DRAWINGS\CIVIL\CONSTRUCTION DOCUMENTS\9_DRAWINGS.DWG



LANDSCAPE NOTES:

- ALL SODDING & LANDSCAPE PLANTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE URBAN STANDARD SPECIFICATIONS, UNLESS SPECIFIED OTHERWISE.
- SOD ALL DISTURBED AREAS INCLUDING ROW WITHIN THE CONTRACT LIMITS, UNLESS NOTED OTHERWISE. SOD LIMITS SHOWN ON PLAN ARE FOR REFERENCE ONLY. FINAL LIMITS MAY CHANGE BASED ON CONSTRUCTION ACTIVITIES.
- PLANT QUANTITIES ARE FOR CONTRACTORS CONVENIENCE, THE DRAWING SHALL PREVAIL IF A CONFLICT OCCURS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CALCULATE ALL QUANTITIES FOR THE WORK SHOWN.
- ALL PLANT MATERIAL SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).
- CONTRACTOR SHALL WARRANT ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR FROM THE DATE OF INITIAL ACCEPTANCE.
- FOR WARRANTY PURPOSES, THE DATE OF INITIAL ACCEPTANCE SHALL BE SUBMITTED IN WRITING TO THE OWNER AND/OR OWNER'S REPRESENTATIVE AFTER ALL PLANT MATERIALS HAVE BEEN INSTALLED AND REVIEWED BY OWNER OR OWNER'S REPRESENTATIVE. PLANT MATERIALS WILL ONLY BE ACCEPTED IF THEY ARE IN AN ALIVE AND THRIVING CONDITION.
- CONDITIONAL ACCEPTANCE OF PLANT MATERIAL MAY BE GIVEN FOR PLANTS INSTALLED IN A DORMANT CONDITION WITH INITIAL ACCEPTANCE OCCURRING THE FOLLOWING SPRING ONCE THEY ARE SHOWN TO BE ALIVE AND THRIVING.
- IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE IDENTIFICATION TAGS AND CORDS ON ALL PLANT MATERIAL PRIOR TO THE COMPLETION OF THE CONTRACT. IDENTIFICATION TAGS (INCLUDING SIZING INFORMATION) MUST BE LEFT ON UNTIL AFTER ACCEPTANCE BY OWNER OR OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL PLACE SHREDDED HARDWOOD MULCH AROUND ALL TREES, SHRUBS AND GROUND COVER BEDS TO A DEPTH OF 4 INCHES, UNLESS NOTED. NOTE, DO NOT PLACE MULCH AROUND TREES INSTALLED IN ROCK PLANTING BEDS.
- STAKING AND GUYING OF TREES SHALL BE AT THE DISCRETION OF THE CONTRACTOR BASED ON CURRENT ACCEPTED NURSERY STANDARDS. GENERALLY, TREES IN LARGE OPEN AREAS SUBJECT TO SIGNIFICANT WIND SHALL BE STAKED. STAKE AND WRAP TREES IMMEDIATELY AFTER PLANTING. CONTRACTOR SHALL ADJUST AND MAINTAIN GUYING TENSION THROUGHOUT THE PLANT ESTABLISHMENT PERIOD. REMOVE ALL STAKES AND GUY WIRES NO MORE THAN ONE YEAR AFTER INSTALLATION.
- THE LANDSCAPE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED BEFORE STARTING ANY SITE WORK OR PLANTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
- NO LANDSCAPE MATERIAL SHALL BE SUBSTITUTED WITHOUT THE AUTHORIZATION OF THE CITY OF WAUKEE COMMUNITY DEVELOPMENT DEPARTMENT.
- ALL EDGING SHALL BE DURAEDGE 3/16" STEEL EDGING - COLOR BLACK, OR APPROVED EQUAL. INSTALL EDGING BETWEEN PLANTING BEDS AND ADJACENT TURF AREAS.
- ALL PLANTING BEDS SHALL INCORPORATE TYPAR 3301 NONWOVEN LANDSCAPE FABRIC (OR SIMILAR) AND 3" THICK LAYER OF WASHED RIVER ROCK (1.5" NOMINAL SIZE).
- WHERE LANDSCAPE PLANTING BEDS ARE ADJACENT TO A PAVED SURFACE, LEAVE FINISH GRADE 3" BELOW TOP OF CONCRETE TO ALLOW FOR RIVER ROCK.
- CONTRACTOR SHALL BE RESPONSIBLE MAINTAINING APPROPRIATE LEVEL OF WATERING FOR ALL NEW PLANTS FOR A PERIOD OF 30 DAYS.
- ALL BEDS TO RECEIVE GRANULAR PRE-EMERGENT WEED CONTROL BEFORE AND AFTER MULCH IS INSTALLED.

LANDSCAPING OPEN SPACE REQUIREMENTS

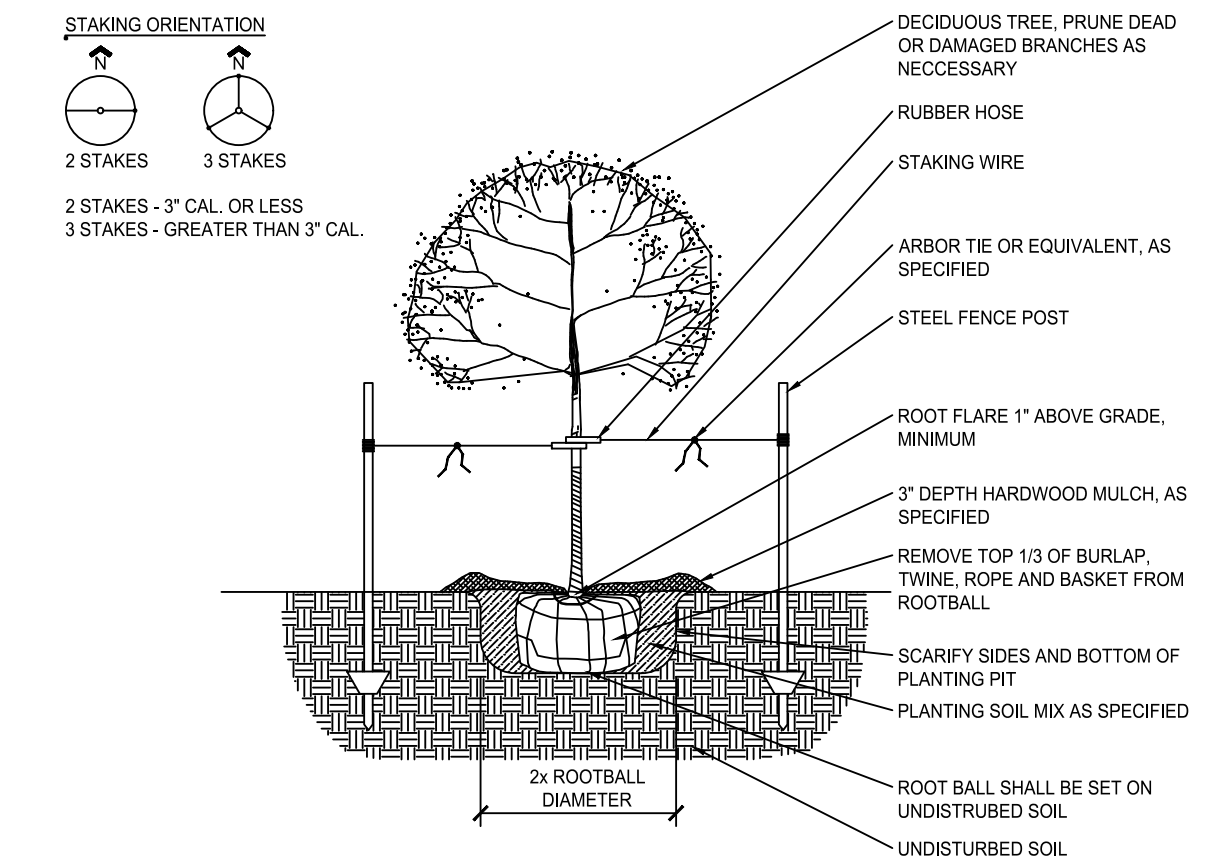
| REQUIREMENT | CALCULATION | PLANTS REQUIRED | TOTAL PLANTS PROPOSED |
|--|---|--|--|
| 1 TREE PER 1,000 SF OF REQ. OPEN SPACE MIN. 50% SHALL BE OVERSTORY MIN. 25% SHALL BE EVERGREEN | $(10,454 / 1,000) = 10.4$ $10.4 \times 50\% = 5.2$ $10.4 \times 25\% = 2.6$ | 11 TREES 6 OVERSTORY 3 EVERGREEN | 13 TREES 8 OVERSTORY 3 EVERGREEN |
| 1 SHRUB PER 1,000 SF OF REQ. OPEN SPACE | $(10,454 / 1,000) = 10.4$ | 11 SHRUBS | 92 SHRUBS & GRASSES |
| 1 TREE PER 40 LF OF STREET FRONTAGE *CONTINUOUS SHRUB BUFFER OR 36" BERM REQUIRED ON STREET FACING PARKING STALLS | $(166 LF / 40) = 4.2$ | 5 TREES | 5 TREES |

PLANTING SCHEDULE

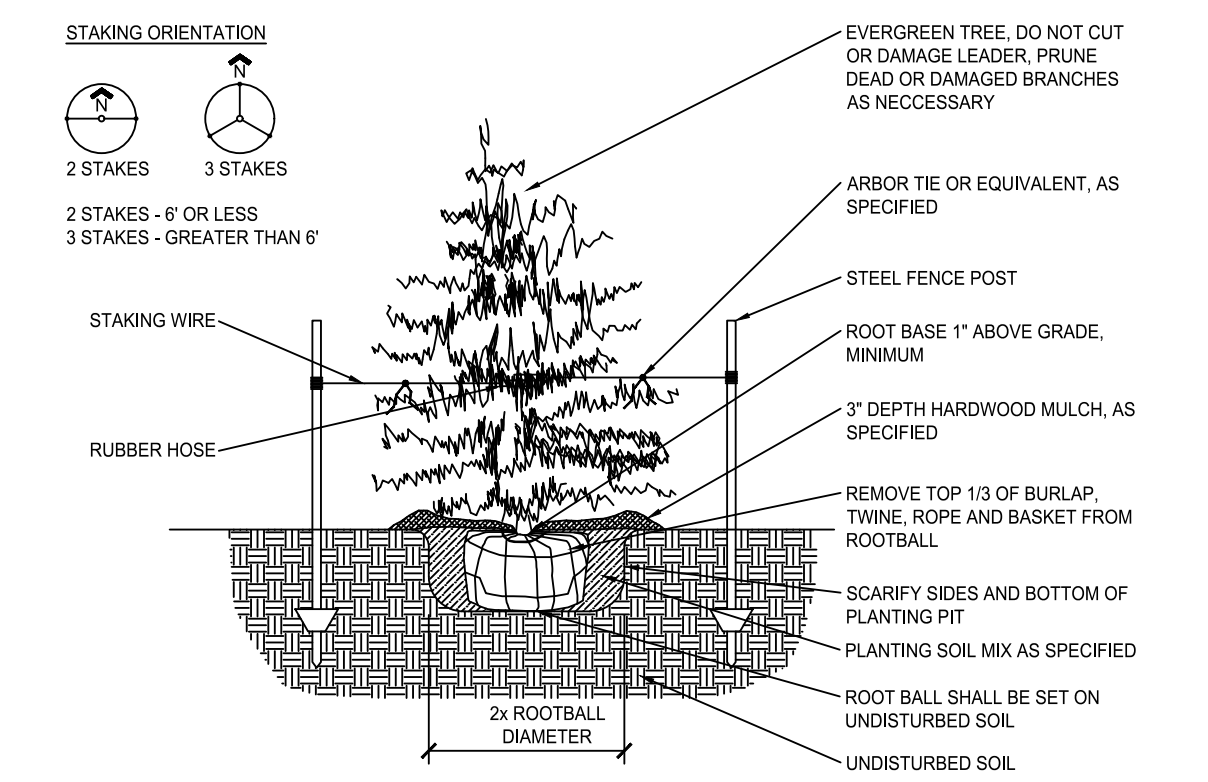
| CODE | QUAN | COMMON NAME | LATIN NAME | SIZE | ROOT | NOTES |
|------------------------|------|----------------------------|--|----------|------|---------------------------|
| DECIDUOUS TREES | | | | | | |
| GB | 3 | AMERICAN HORNBEEAM | CARPINUS CAROLINIANA | 1.5" CAL | B&B | MATCHED SPECIMENS |
| RO | 2 | RED OAK | QUERCUS RUBRA | 1.5" CAL | B&B | MATCHED SPECIMENS |
| KC | 3 | KENTUCKY COFFEETREE | GYMNOCADUS DIOICUS | 1.5" CAL | B&B | MATCHED SPECIMENS |
| RS | 2 | RASPBERRY SPEAR CRABAPPLE | MALUS X 'RASPBERRY SPEAR' | 1.0" CAL | B&B | MATCHED SPECIMENS |
| EVERGREEN TREES | | | | | | |
| DF | 3 | DOUGLAS FIR | PSEUDOTSUGA MENZIESII | 6' | B&B | FULL FORM TO GROUND |
| SHRUBS | | | | | | |
| AW | 11 | ANT HONY WATERER SPIREA | SPIRAEA X 'ANT HONY WATERER' | #6 | CONT | FULL FORM - MATCHED |
| DY | 13 | DENSIFORMIS YEW | TAXUS X MEDIA 'DENSIFORMIS' | #6 | CONT | FULL FORM - MATCHED |
| BX | 19 | CHICAGOLAND BOXWOOD | BUXUS X 'GLENCOE' | #3 | CONT | FULL FORM - MATCHED |
| LL | 4 | LIT TLE LIME HYDRANGEA | HYDRANGEA PANICULATA 'JANE' | #6 | CONT | FULL FORM - MATCHED |
| GM | 16 | GREEN MOUND ALPINE CURRANT | RIBES ALPINUM 'GREEN MOUND' | #3 | CONT | FULL FORM - MATCHED |
| GRASSES | | | | | | |
| KF | 18 | KARL FOERSTER GRASS | CALAMAGROSTIS ACUTIFOLIA 'KARL FOERSTER' | #1 | CONT | FULLY ROOTED IN CONTAINER |
| PD | 12 | PRAIRIE DROPSSEED GRASS | SPOROBOLUS HETEROLEPSIS | #1 | CONT | FULLY ROOTED IN CONTAINER |

MINIMUM SIZE PER ZONING ORDINANCE: CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING CALIPER SIZES LISTED ON PLAN WILL MEET MINIMUM HEIGHT GUIDELINES PER CITY ORDINANCE. OVERSTORY TREES, MINIMUM 8'. UNDERSTORY/ORNAMENTAL TREES, MINIMUM 6', EVERGREEN TREES, MINIMUM 6'. IF SPECIFIED SIZES DO NOT MEET ZONING ORDINANCE MINIMUM, CONTRACTOR SHALL SUPPLY LARGER CALIPER MATERIALS.

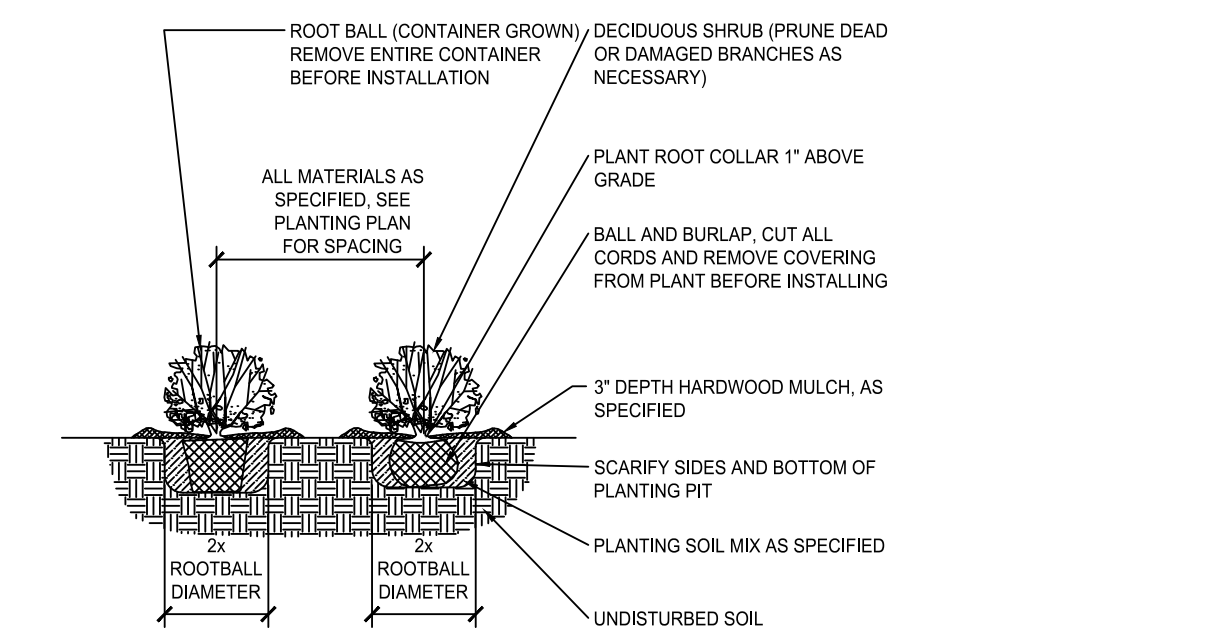
SOD: PROVIDE AND INSTALL SOD FROM LOCAL SUPPLIERS. AREAS TO BE SODDED MUST BE FREE OF ALL CONSTRUCTION DEBRIS AND ANY DIRT CLUMPS OVER 1" IN DIAMETER. THOROUGHLY WATER SOD UPON INSTALLATION. CONTRACTOR TO MAINTAIN WATERING UNTIL SOD IS ESTABLISHED (ROOTS KNITTED INTO SUBSURFACE)



1 DETAIL: DECIDUOUS TREE PLANTING
1/2" = 1'-0"



2 DETAIL: EVERGREEN TREE PLANTING
1/2" = 1'-0"



3 DETAIL: SHRUB PLANTING
1/2" = 1'-0"

IRRIGATION NOTES:

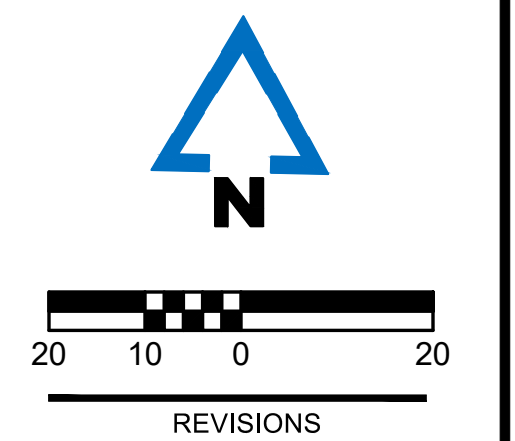
- FOR BIDDING PURPOSES, THIS PROJECT DOES NOT INCLUDE A SITE IRRIGATION SYTEM.
- CONTRACTOR SHALL SUBMIT TO THE OWNER OR OWNER'S REPRESENTATIVE A SEPARATE PROPOSAL FOR A SITE IRRIGATION SYSTEM. PROPOSAL SHALL BE DESIGN/BUILD FOR A COMPLETE OPERATIONAL IRRIGATION SYSTEM APPROPRIATE FOR THE SITE. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN, COORDINATION, TESTING, PERMITS, INSPECTIONS, ETC.

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IOWA CERTIFICATE OF AUTHORITY NO. 26887



PROJECT INFO

ENGINEER: M. ELLER
 DRAWN BY: K. WILLIAMS
 CHECKED BY: M. ELLER

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1045 SE ALICE'S ROAD
WAUKEE, IA 50263

LANDSCAPE PLAN

DRAWING NO.
L101