

# CONSTRUCTION DRAWINGS FOR PUBLIC IMPROVEMENTS

# THE SHOPS AT KETTLESTONE NORTH

## PLAT 2 (AS-BUILTS)

### WAUKEE

**OWNER**  
ARAC, LLC  
12605 TANGLEWOOD DRIVE  
URBANDALE, IA 50323  
PH. 515-988-5878

**DEVELOPER**  
ARAC, LLC  
12605 TANGLEWOOD DRIVE  
URBANDALE, IA 50323  
PH. 515-988-5878

**ZONING**  
K-RC (LOTS 1-2)

#### QUANTITIES

**SANITARY SEWER**  
239 LF. 18-INCH SANITARY SEWER PVC TRUSS  
1 EA. TYPE 'SM-301' MANHOLE (60-INCH)  
1 EA. 6-INCH SERVICE  
1 EA. DROP CONNECTION (INTERNAL)

#### WATER

1,047 L.F. 8-INCH C900 WATERMAIN  
184 L.F. 16-INCH C900 WATERMAIN  
3 EA. HYD., TEE, # 6-INCH SERVICE  
4 EA. 8-INCH VALVE

1 EA. 16"x16"x8" TEE  
1 EA. 8"x8"x8"x8" CROSS  
1 EA. 22 1/2" BEND  
2 EA. 45° BEND  
1 EA. HYD., VALVE, # 6-INCH REDUCER  
4 EA. 6-INCH SERVICES

#### OTHER

1,200 L.F. SILT FENCE OR APPROVED FILTER SOCK  
31,850 S.F. AREA TO BE DISTURBED/RE-SEEDED

#### STORM WATER POLLUTION PREVENTION PLAN

##### SITE DESCRIPTION

Location: Port Sec. 4, T70N, R26W.  
Nature of Construction Activity: commercial development.  
Area: Total site area = 4.564 acres  
Site area affected = 4.564 acres  
Runoff coefficient = 0.39 (rational method)  
Approximate slopes anticipated: 3%, or flatter.  
Runoff from this project will flow into unimproved ditches which will flow into the Sugar Creek.

##### Erosion and sediment controls

- Stabilization practices
  - Existing vegetation is preserved whenever possible.
  - Permanent seeding and/or sodding.
- Structural practices
  - Silt fences
  - Drainage swales
  - Rock outlet protection (riprap)
- Storm water management
  - Infiltration of runoff onsite.
  - Velocity dissipation devices at discharge locations to provide non-erosive velocity flows.
- Waste disposal
  - All building material wastes must be removed from the site.
  - Off-site vehicle tracking of sediments shall be minimized.

##### MAINTENANCE

- Maintain effective operating conditions of all protective measures identified in this plan.
- Silt fencing is cleaned when they have lost 50% of their capacity.
  - Drainage swales remain undisturbed.
  - Rock outlet protection (riprap) remains intact.
  - Clean spilled debris by the end of day or prior to rain event.

##### INSPECTIONS

- Qualified personnel shall inspect disturbed areas of the construction site that have not been finally stabilized at least once every seven calendar days.
- Inspect site for evidence of, or the potential of, pollutants entering the drainage system from stored materials.
  - Observe erosion and sediment controls to ensure that they are operating correctly.
  - Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.
  - Inspect discharge locations to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.
  - Any modifications to the plan as a result of an inspection shall be implemented within 7 calendar days of the inspection.
  - An inspection report shall be prepared and retained as part of the prevention plan until project termination, this report will contain the following:
    - A summary of the scope of the inspection.
    - Qualifications of the personnel making the inspection.
    - Major observations relating to the implementation of the prevention plan.
    - Any actions taken.
    - Signature.

##### NON-STORM WATER DISCHARGES

- Water main flushing
- Flushed water will be dechlorinated and discharged into the storm sewer system where, when discharged, it will undergo erosion and sediment controls consisting of:
    - Rock outlet protection (riprap)
    - Silt fencing
    - Existing vegetation

##### CONTRACTORS

- The grading contractor shall have the responsibility of implementing the measures contained in this plan.

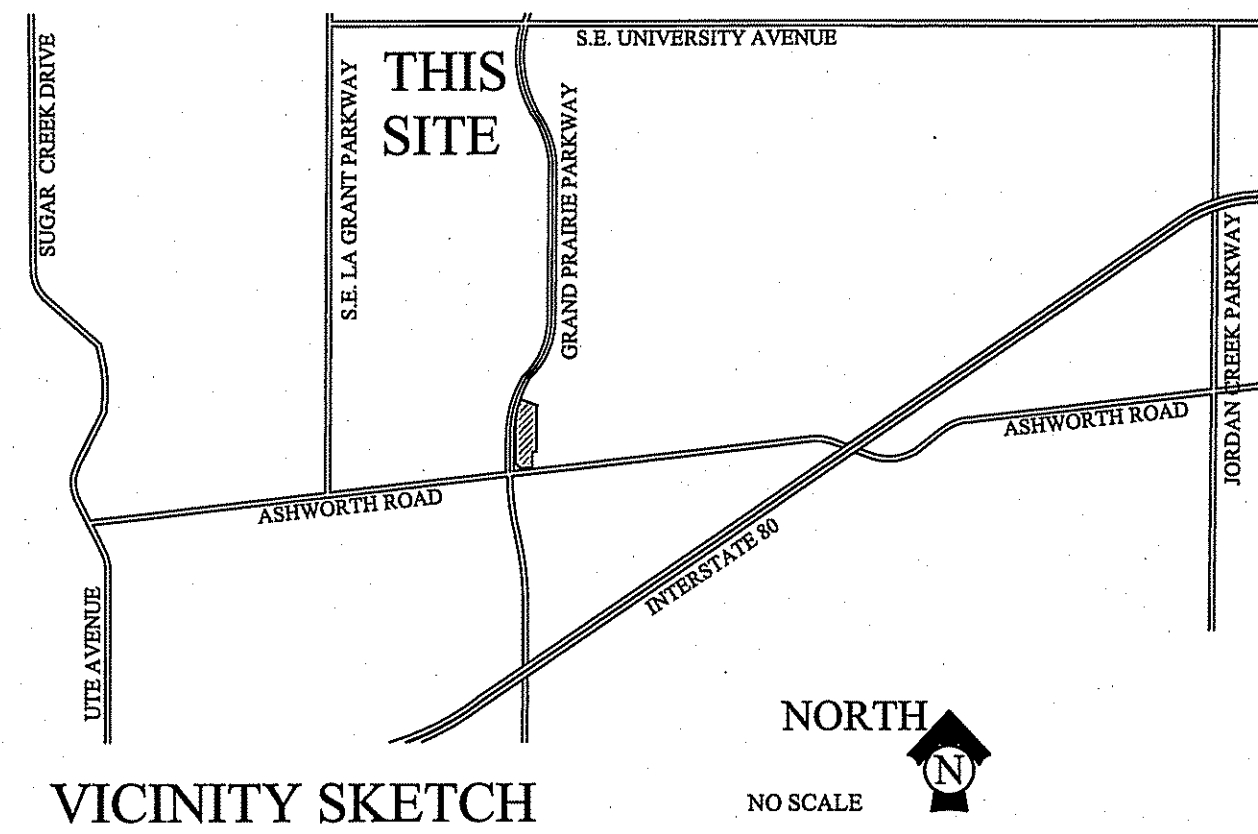
#### NOTES

- ONE WEEK PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:
  - WAUKEE ENGINEERING DEPARTMENT
  - ARAC, L.L.C.
  - COOPER CRAWFORD & ASSOCIATES, L.L.C.
  - IOWA ONE-CALL
- THE CONTRACTOR SHALL CONTACT ONE CALL TO 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 OWNER.
- ALL TRENCH BACKFILL SHALL BE 95% STANDARD PROCTOR DENSITY. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE BETWEEN 0-4%.
- THE CONTRACTOR SHALL REPAIR & RECONNECT ALL FIELD TILE INTERCEPTED DURING CONSTRUCTION AND AS BUILT LOCATIONS TO BE PROVIDED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT.
- STRIP TOP SOIL FROM ALL AREAS WHICH ARE TO BE FILLED OR CUT.
- MAINTAIN ALL CUT AND FILL AREAS FOR SURFACE DRAINAGE AT ALL TIMES.
- FINAL GRADES WITHIN THE STREET RIGHT-OF-WAY AND ALL DRAINAGE AREAS SHALL BE WITHIN 1" OF PLAN GRADE.
- THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL SILT FENCES.
- ALL AREAS WHICH ARE DISTURBED SHALL BE SEEDED WITH SUDAS EROSION CONTROL MIX, FERTILIZED, AND MULCHED. SEEDING OF ALL LANDSCAPE BUFFER EASEMENTS SHALL USE SUDAS TYPE I (PERMANENT LAWN MIXTURE). ALL DISTURBED AREA WITHIN THE RIGHT-OF-WAY ARE TO BE SODDED AND WATERED UNTIL ESTABLISHED.
- INSTALL SILT FENCES AT SHOTGUNS.
- ADDITIONAL SILT FENCES OR OTHER SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED IF EROSION EXISTS.
- THE ENGINEER SHALL BE RESPONSIBLE FOR PROVIDING THE CITY OF WAUKEE WITH THE UTILITY LOCATION.
- THE CONTRACTOR SHALL MARK UTILITY SERVICES ENDS WITH A 6" STEEL POST.
- MARK END OF SERVICE LOCATIONS W/ STEEL POST PAINTED:
  - SANITARY - RED
  - STORM - GREEN
  - WATER - BLUE

- THE CONTRACTOR SHALL VERIFY THE UTILITY LOCATES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE AS-BUILT LOCATION OF ALL SERVICES. PROVIDE A COPY TO THE CITY OF WAUKEE.
- ALL SANITARY SEWER SERVICES AND 8-INCH STUB-OUTS SHALL BE CAPPED.
- PROVIDE SANITARY SEWER SERVICE RISER AS REQUIRED BY THE CITY OF WAUKEE.
- PLUMBING CONTRACTOR SHALL VERIFY SERVICE STUB-OUT ELEVATIONS ON LOTS PRIOR TO BUILDING CONSTRUCTION TO ENSURE BASEMENT FLOOR ELEVATIONS WILL PROVIDE ADEQUATE FALL IN SERVICE PIPE (2% MINIMUM SLOPE).
- ALL FIRE HYDRANTS SHALL BE 3' FROM WATER MAIN EXCEPT WHERE CONFLICTS WITH SIDEWALKS OCCUR.
- CONTRACTOR SHALL VERIFY PRIOR TO CONSTRUCTION THAT FIRE HYDRANTS WILL HAVE 12-INCH CLEARANCE FROM THE HYDRANT TO THE SIDEWALK.
- HYDRANTS, MANHOLE COVERS, AND VALVE BOXES SHALL BE SET TO CONFORM TO FINISHED PAVEMENT ELEVATIONS.
- WATER MAIN TO HAVE 5.5' BURY TYPICAL EXCEPT AT CRITICAL CROSSINGS.
- ALL INTAKES SHALL HAVE TYPE 'VI' CASTINGS.
- ALL ELEVATIONS ARE PROPOSED FINISHED GRADE AT TOP OF CURB UNLESS OTHERWISE NOTED.
- ALL REINFORCED STEEL SHALL BE EPOXY COATED.
- SUBGRADE TO BE 12-INCH THICK EARTH COMPACTED TO 95% MAX. DENSITY WITH MOISTURE CONTENT BETWEEN 0-4%.
- USE 1D.O.T. C-4 MIX ON ALL STREETS.
- DURING SUBGRADE PREPARATION, FILL AREAS, GRADE SHALL BE PROOF-ROLLED PRIOR TO PLACEMENT OF ONE FOOT SUB-GRADE AND COMPACTION. NOTIFY SOILS ENGINEER TO PROVIDE ON-SITE INSPECTION OF PROCESS.
- THE STORM AND SANITARY SEWER SHALL BE CLEANED AND TELEVIEWED PRIOR TO PAVING. THE CITY OF WAUKEE ENGINEERING DEPARTMENT SHALL WITNESS ALL CLEANING AND TELEVIEWING. COPIES OF THE REPORTS AND VIDEOS SHOULD BE PROVIDED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT. ALL SANITARY SEWER MANHOLES ARE TO BE VACUUM TESTED.
- ALL DISTURBED AREAS WITHIN EXISTING STREET RIGHT-OF-WAY OR PRIVATE PROPERTY SHOULD BE SODDED. ALL SODDED AREAS ARE TO BE WATER UNTIL ESTABLISHED.
- THE CITY OF WAUKEE SHALL BE NOTIFIED 48 HOURS PRIOR TO WATERMAIN SHUTDOWN.
- ALL DISTURBED PROPERTY PINS AND SECTION CORNERS TO BE RESET BY A LICENSED LAND SURVEYOR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A LIST OF CONSTRUCTION MATERIALS TO THE WAUKEE PUBLIC WORKS DEPARTMENT PRIOR TO THE START OF CONSTRUCTION.
- ALL HYDRANTS TO BE INSTALLED WITH STORZ CONNECTION AND A STORZ FITTING ON ANY RELOCATED HYDRANTS.
- IT IS THE ENGINEERS RESPONSIBILITY TO INCLUDE MINIMUM OPENING ELEVATIONS ON THE AS-BUILT DRAWINGS FOR THE PLAT.
- CONSTRUCTION STAKING TO BE DONE BY A LICENSED ENGINEER OR LAND SURVEYOR.
- ANY CHANGES PROPOSED TO THE PLAN SET DURING CONSTRUCTION TO RECEIVE WRITTEN APPROVAL FROM THE CITY OF WAUKEE ENGINEERING DEPARTMENT. THE CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES MADE DURING CONSTRUCTION THAT HAVE NOT RECEIVED WRITTEN PERMISSION FROM THE CITY OF WAUKEE ENGINEERING DEPARTMENT.
- THE CITY OF WAUKEE ENGINEERING DEPARTMENT TO BE NOTIFIED BY THE CONTRACTOR 48 HOURS PRIOR TO ANY WEEKEND OR HOLIDAY WORK BEING SCHEDULED.
- CONNECTIONS TO EXISTING SANITARY MANHOLES SHALL BE CORE DRILLED AND USE A LINK SEAL.
- FIRE HYDRANTS ARE TO HAVE STORZ FITTINGS, THIS INCLUDES ALL EXISTING.
- ALL UTILITIES WILL BE IN COMPLIANCE WITH SUDAS # IDNR REQUIREMENTS.
- ALL CONSTRUCTION SHALL COMPLY WITH THE WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND SUDAS 2017.
- ALL UTILITIES SHALL BE TESTED TO CITY OF WAUKEE STANDARDS AND THE CITY OF WAUKEE ENGINEERING DEPARTMENT SHALL WITNESS ALL TESTING.
- A PRECONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE CITY OF WAUKEE ENGINEERING DEPARTMENT AT LEAST 1 WEEK PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- EXECUTE CAUTION WHEN WORKING ADJACENT TO 15' PUE ALONG GRAND PRAIRIE PARKWAY - TRENCH IS FILLED WITH MAN SAND AND WALL SHOULD BE PROTECTED FROM DAMAGE OR COLLAPSE.
- AT STORM SEWER & WATER MAIN CROSSINGS LOCATE ONE FULL LENGTH OF SEWER PIPE OF WATER MAIN MATERIAL OR REINFORCED CONCRETE PIPE (RCP) WITH FLEXIBLE O-RING GASKET JOINTS SO BOTH JOINTS ARE AS FAR AS POSSIBLE FROM THE WATER MAIN.

#### SHEET INDEX

- |     |                           |
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| 1   | COVER SHEET               |
| 2   | GRADING & EROSION CONTROL |
| 3   | SANITARY                  |
| 4-5 | WATER                     |
| 6   | DETAILS                   |



#### GRADING NOTES

- ALL DIMENSIONS ARE TO BACK OF CURB, OUTSIDE OF BUILDING WALL, AND TO PROPERTY LINES.
- THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENT EXTENT AND EXACT LOCATION OF THEIR FACILITIES BEFORE BEGINNING WORK.
- THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
- STRIP TOPSOIL FROM ALL AREAS WHICH ARE TO BE FILLED OR CUT.
- PRESERVE EXISTING TOPSOIL WHERE FEASIBLE.
- ALL AREAS TO RECEIVE FILL TO BE BENCHED.
- PREPARE BOTTOM OF BENCH FOR FILL BY DISCING TO A DEPTH OF 6-INCHES.
- ALL SITE GRADING FILL SHALL BE COMPACTED TO A DENSITY THAT IS NOT LESS THAN 95% STANDARD PROCTOR.
- THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE BETWEEN 0-4%.
- MAINTAIN ALL CUT AND FILL AREAS FOR SURFACE DRAINAGE AT ALL TIMES.
- FINAL GRADES WITHIN PAVED AREAS SHALL BE WITHIN 0.1" OF PLAN GRADE.
- A MINIMUM OF ONE FOOT OF COMPACTED COHESIVE SUBGRADE SHALL BE PROVIDED BENEATH ALL PAVEMENTS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WAUKEE STANDARD SPECIFICATIONS AND THE 2017 STATEWIDE URBAN DESIGN AND SPECIFICATIONS.
- EXISTING TREES WILL BE SAVED TO THE EXTENT POSSIBLE TO ACCOMMODATE GRADING, UTILITY AND STREET CONSTRUCTION.
- ALL WORK WITHIN PUBLIC R.O.W., CONNECTION TO PUBLIC IMPROVEMENTS AND ALL WORK ASSOCIATED WITH PUBLIC IMPROVEMENTS SHALL COMPLY WITH WAUKEE STANDARD SPECIFICATIONS INCLUDING ALL APPLICABLE PERMITS AND THE 2017 STATEWIDE URBAN DESIGN AND SPECIFICATIONS.

#### EROSION & POLLUTION CONTROL NOTES

- THE SUBCONTRACTOR RESPONSIBLE FOR EROSION AND POLLUTION CONTROL SHALL CARRY OUT THE MEASURES DETAILED ON THIS PLAN.
- CONTROLS MUST BE IN GOOD OPERATING CONDITION UNTIL THE CONSTRUCTION ACTIVITY IS COMPLETE AND FINAL STABILIZATION HAS BEEN REACHED.
- THE SUBCONTRACTOR SHALL INSPECT THE SITE AT MINIMUM ONCE EVERY 7 DAYS. ALL DISTURBED AREAS OF THE SITE, AREAS OF MATERIAL STORAGE, LOCATIONS WHERE VEHICLES ENTER/EXIT THE SITE, ALL OF THE EROSION AND SEDIMENT CONTROLS THAT ARE IDENTIFIED AS PART OF THIS PLAN AND ACCESSIBLE DISCHARGE LOCATIONS MUST BE INSPECTED.
- THE SUBCONTRACTOR IS TO TAKE NECESSARY ACTIONS TO CORRECT DEFICIENCIES FOUND DURING INSPECTIONS AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN 7 DAYS AFTER THE INSPECTION IN WHICH THE DEFICIENCY WAS FOUND.
- THE SUBCONTRACTOR SHALL KEEP LOG AND PREPARE WEEKLY REPORTS DETAILING THE INSPECTIONS AND MEASURES TAKEN TO CORRECT ANY AND ALL DEFICIENCIES FOUND IN THE EROSION AND POLLUTION CONTROL MEASURES. THE REPORTS SHALL CONFORM TO THE STANDARDS SET BY THE IOWA DEPARTMENT OF NATURAL RESOURCES. COPIES OF THESE REPORTS SHALL BE FORWARDED TO THE DEVELOPER, THE CITY OF WAUKEE STORM WATER COORDINATOR, AND TO COOPER CRAWFORD & ASSOCIATES, L.L.C.
- DURING CONSTRUCTION, IF IT BECOMES EVIDENT THAT A DISTURBED AREA WILL NOT BE DISTURBED FOR 21 DAYS, IT SHALL BE RE-STABILIZED BY DAY 7.
- PERMANENT SEEDING TO BE DONE IMMEDIATELY AFTER FINAL GRADING.
- ANY FAILED AREAS OF SEEDING/MULCHING SHALL BE REAPPLIED.
- ANY SOIL OR SPILL WASHED, TRACKED OR DROPPED ONTO ADJOINING RIGHT-OF-WAYS AND PROPERTY WILL BE CLEANED UP BY THE OWNER/CONTRACTOR BY THE END OF THE DAY OR PRIOR TO A RAIN EVENT.
- SILT FENCING TO BE INSPECTED ONCE A WEEK AND AFTER EACH RAINSTORM, LOOK FOR UNDERCUTTING AND FAILURES IN FABRIC. REPLACE/REPAIR AS NECESSARY.
- ADDITIONAL SILT FENCING (TO THAT SHOWN ON THIS PLAN) MAY BE REQUIRED IN AREAS WHERE EROSION IS EVIDENT.
- SILT FENCING TO BE CLEANED UP WHEN THEY HAVE LOST 50% OF THEIR CAPACITY.
- ALL INTAKES SHALL HAVE SILT FENCING PRIOR TO PAVING AND INLET FILTERS AFTER PAVING. BELOW GRADE INLET PROTECTION REQUIRED FOR ALL PUBLIC STREETS. THESE FILTERS REMAIN IN PLACE UNTIL THE SITE HAS A PERMANENT PERENNIAL GROUND COVER.
- ALL INTAKES SHALL BE COVERED DURING CONSTRUCTION TO PREVENT SEDIMENTATION DEPOSITS WITHIN THE STORM SEWER.
- IN THE EVENT THAT SEEDING/MULCHING DOES NOT OCCUR PRIOR TO WINTER, ALL DISTURBED AREAS WILL BE MULCHED.
- ALL PERIMETER EROSION CONTROLS/SILT FENCE SHALL REMAIN IN PLACE, AND BE MAINTAINED, UNTIL UPSTREAM AREAS ARE STABILIZED.

#### WATER MAIN CROSSING ALTERNATIVES

##### STORM SEWER ALTERNATIVES:

IF THE STORM SEWER CROSSES ABOVE A WATER MAIN OR CROSSES LESS THAN 18 INCHES BELOW A WATER MAIN...  
...THE STORM SEWER CAN BE CONSTRUCTED OF REINFORCED CONCRETE PIPE (RCP) WITH A FLEXIBLE O-RING GASKET JOINT RATED AT 13 PSI OR GREATER. THIS PROTECTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WATER TO THE SEWER IS AT LEAST TEN FEET.

##### SANITARY SEWER ALTERNATIVE:

THE REQUIREMENTS WILL REMAIN THE SAME AS IN CHAPTER 12 OF IOWA WASTE WATER FACILITIES DESIGN STANDARD.

#### LEGEND

- | EXISTING/PROPOSED |                    |
|-------------------|--------------------|
| ---               | PLAT BOUNDARY      |
| ---               | SAN 18"            |
| ---               | ST 18"             |
| ---               | W 18"              |
| ○                 | MANHOLE            |
| □                 | STORM INTAKE       |
| ▽                 | FIRE HYDRANT       |
| △                 | VALVE              |
| ▶                 | FLARED END SECTION |

#### CERTIFICATION

E-MAIL: BCOOPER@COOPER-CRAWFORD.COM

|  |   |
|--|---|
|  | 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. |
|  | BRADLEY R. COOPER, IOWA LICENSE NO. 12980<br>MY LICENSE RENEWAL DATE IS DECEMBER 31, 2018<br>PAGES OR SHEETS COVERED BY THIS SEAL: SHEETS 1-6   |

**COOPER CRAWFORD & ASSOCIATES, L.L.C.**  
CIVIL ENGINEERS  
475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265  
PHONE: (515) 224-1344 FAX: (515) 224-1345

DATE: 5-26-2017  
REVISIONS: 6-23-2017  
7-14-2017

APPROVED: [Signature] INITIALS: [Signature] AS-BUILT: [Signature]

THE SHOPS AT KETTLESTONE NORTH PLAT 2

APPROVED FOR CONSTRUCTION BY CITY OF WAUKEE: 08-07-2017

CC  
1921

SHEET  
1 OF 6

**EROSION CONTROL NOTES**  
 1. SITE IS ALREADY GRADED AND CONTROL MEASURES PERTAIN TO INSTALLATION OF UTILITIES.  
 2. SILT FENCE OR APPROVED FILTER SOCK REQUIRED BY PEZZETTI

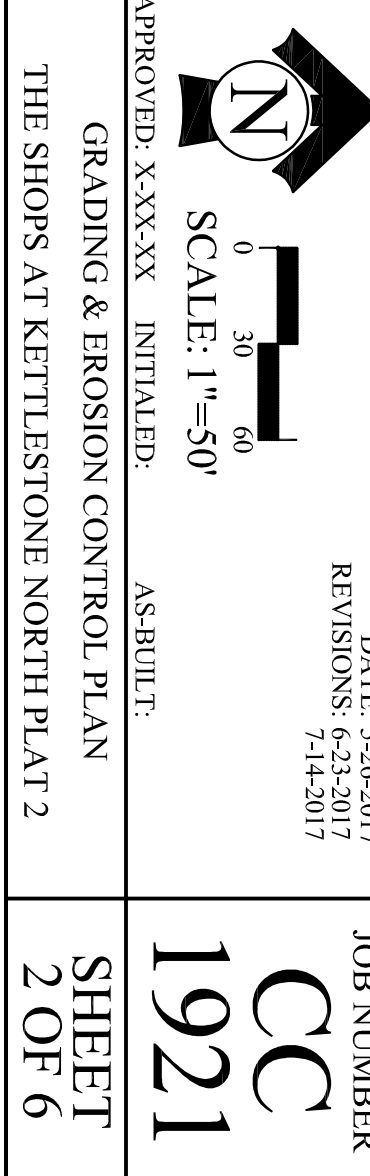
**SILT FENCE**  
 1,200 L.F. SILT FENCE OR APPROVED FILTER SOCK



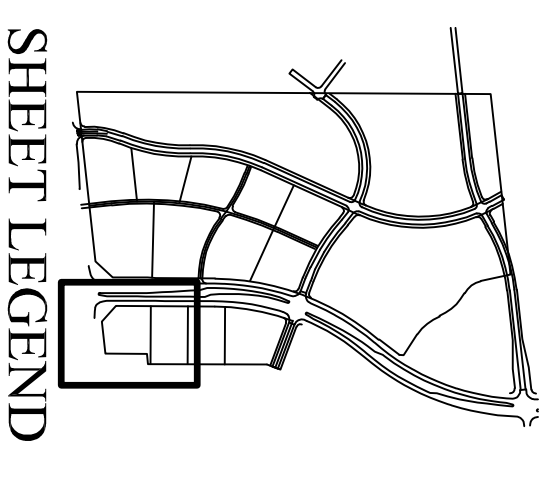
475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265  
 PHONE: (515) 224-1344 FAX: (515) 224-1345  
 DATE: 3-26-2017  
 REVISIONS: 5-14-2017

**COOPER CRAWFORD & ASSOCIATES, L.L.C.**  
 CIVIL ENGINEERS

APPROVED: X-XX-XX INITIALS: AS-BUILT:  
 GRADING & EROSION CONTROL PLAN  
 SHEET 2 OF 6

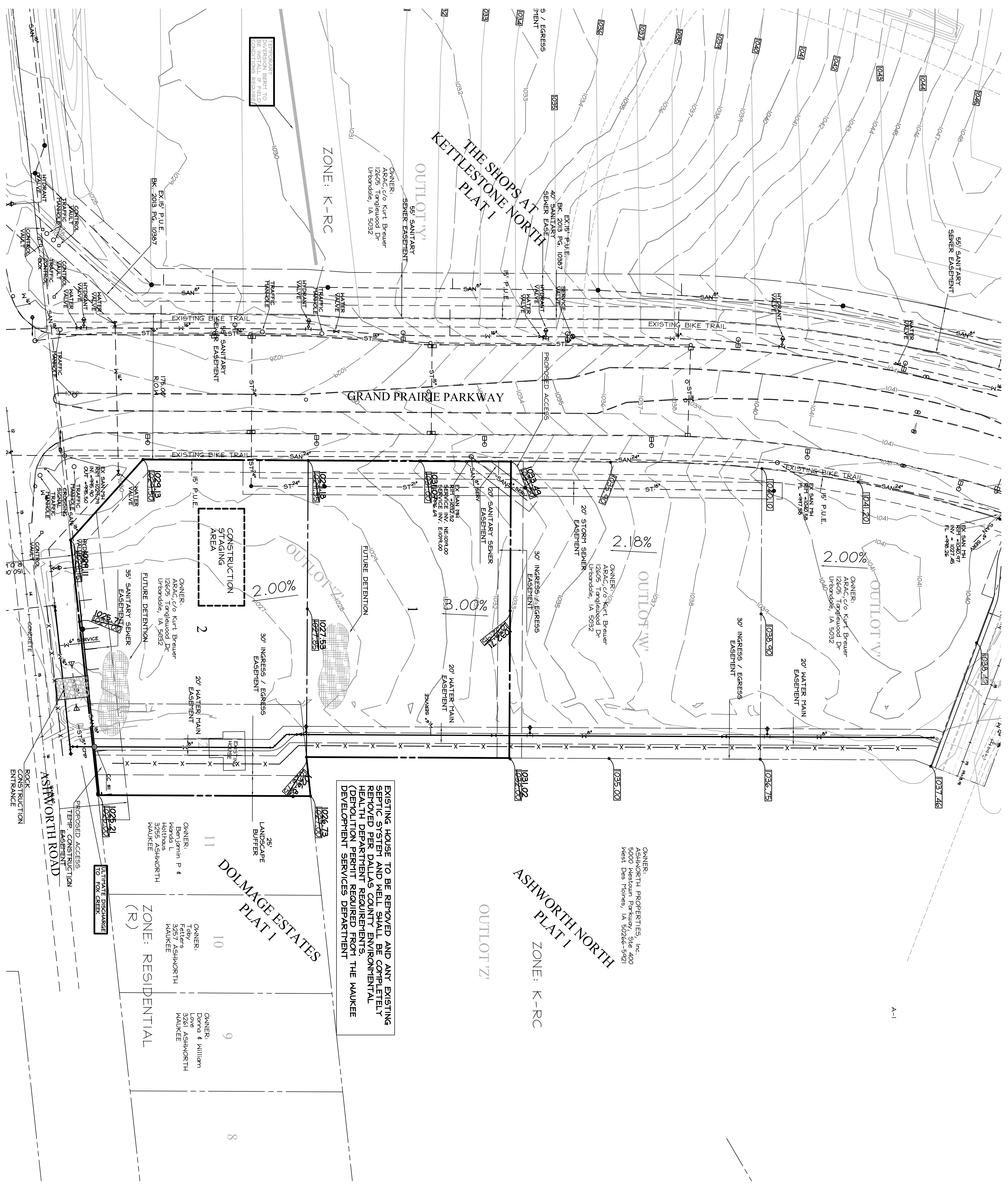


**CC**  
**1921**  
 JOB NUMBER



**SHEET LEGEND**

- LEGEND**
- EXISTING/PROPOSED
  - PLAT BOUNDARY
  - SANITARY SEWER & SIZE
  - STORM SEWER & SIZE
  - WATER MAIN & SIZE
  - MANHOLE
  - STORM INTAKE
  - FIRE HYDRANT
  - VALVE
  - FLAGGED END SECTION



EXISTING HOUSE TO BE REMOVED AND ANY EXISTING SITES TO BE REMOVED AND ALL EXISTING UTILITIES TO BE REMOVED PER DALLAS COUNTY ENVIRONMENTAL HEALTH DEPARTMENT REQUIREMENTS. (DESTRUCTION PERMIT REQUIRED FROM THE MAUKEE DEVELOPMENT SERVICES DEPARTMENT)

OWNER:  
 ASHWORTH PROPERTIES, Inc.  
 5000 Westown Parkway, Ste 400  
 West Des Moines, IA 50266-5921

OWNER:  
 Benjamin P & Marida L Hoffhaus  
 3225 ASHWORTH  
 MAUKEE

OWNER:  
 Donno & Milliam  
 Love Ashworth  
 MAUKEE

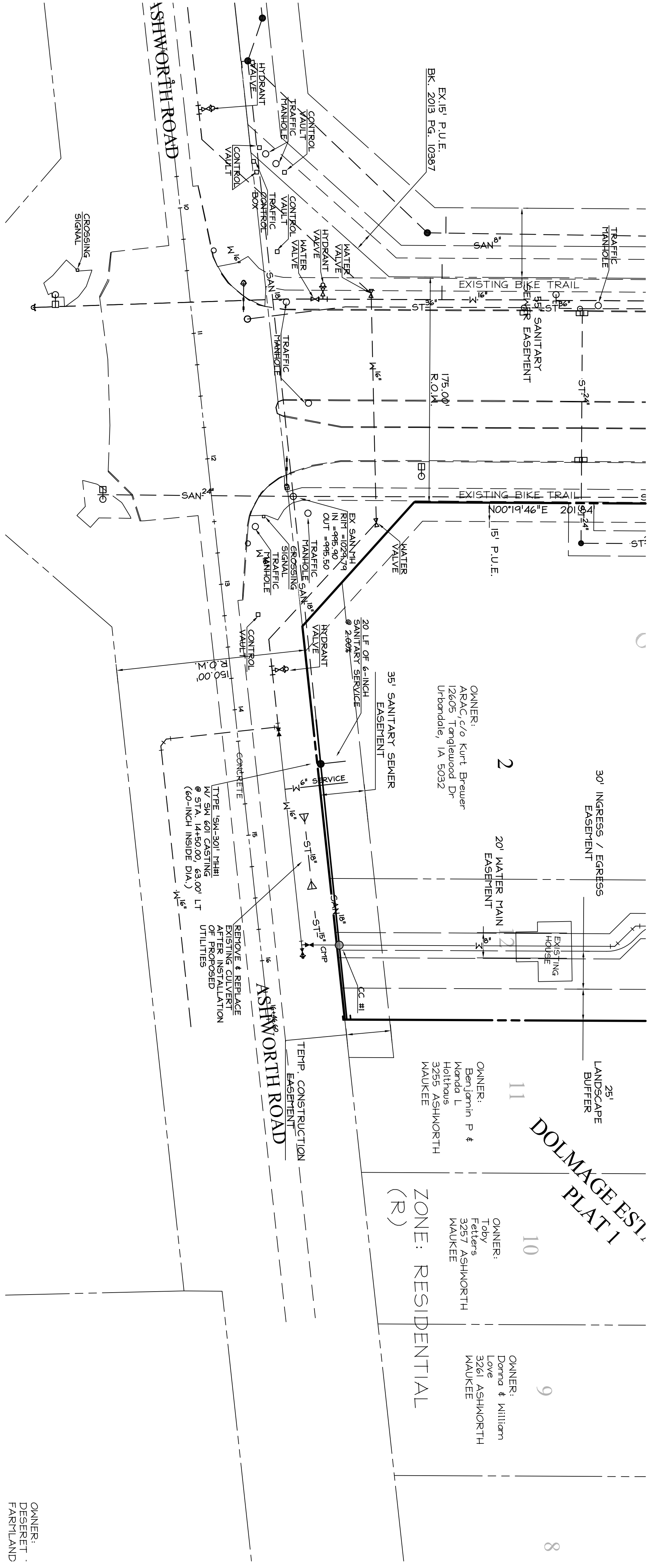
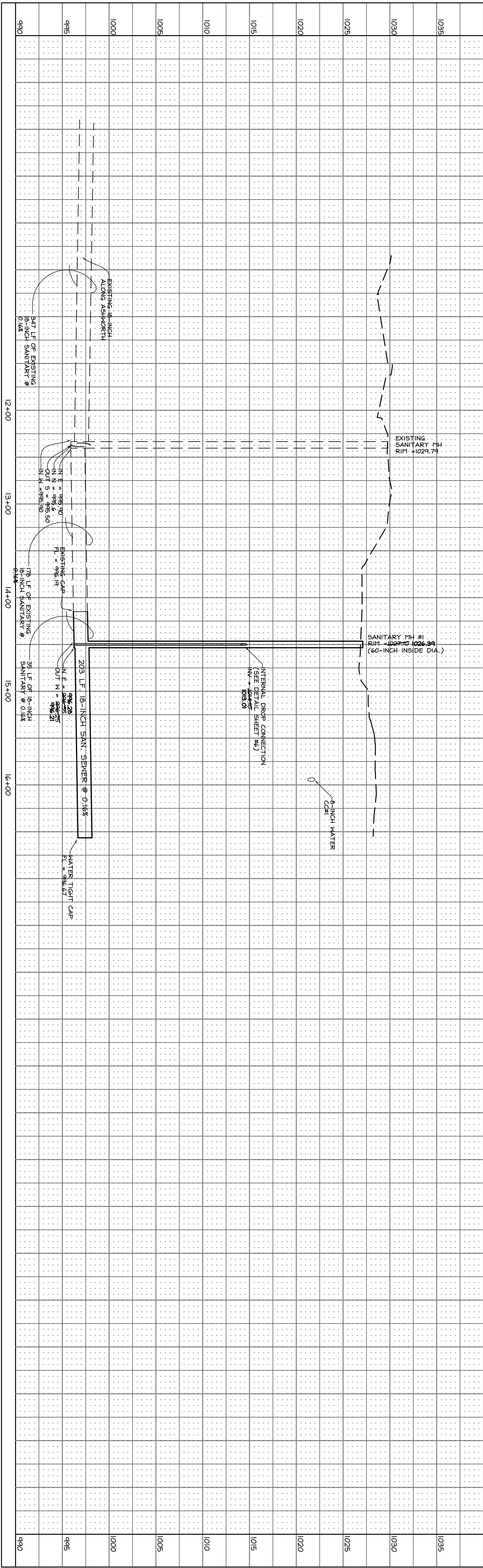
OWNER:  
 ARAC C/O Kurt Brewer  
 12605 Tanglewood Dr  
 Urbandale, IA 50922

OWNER:  
 ARAC C/O Kurt Brewer  
 12605 Tanglewood Dr  
 Urbandale, IA 50922

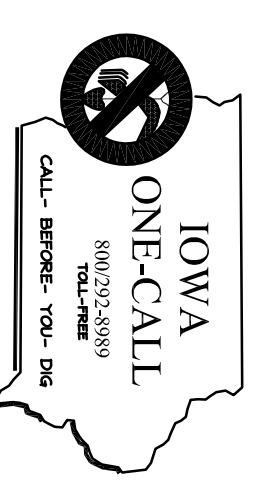
OWNER:  
 ARAC C/O Kurt Brewer  
 12605 Tanglewood Dr  
 Urbandale, IA 50922

OWNER:  
 ARAC C/O Kurt Brewer  
 12605 Tanglewood Dr  
 Urbandale, IA 50922

A-1



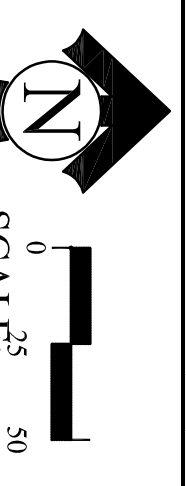
**CRITICAL CROSSINGS**  
 CC #1 BOTTOM OF WATER = 1021.20  
 TOP OF SANITARY = 998.00  
 MAINTAIN 1.5' VERTICAL CLEARANCE & 5.5' MIN. BURY



**COOPER CRAWFORD**  
 & ASSOCIATES, L.L.C.  
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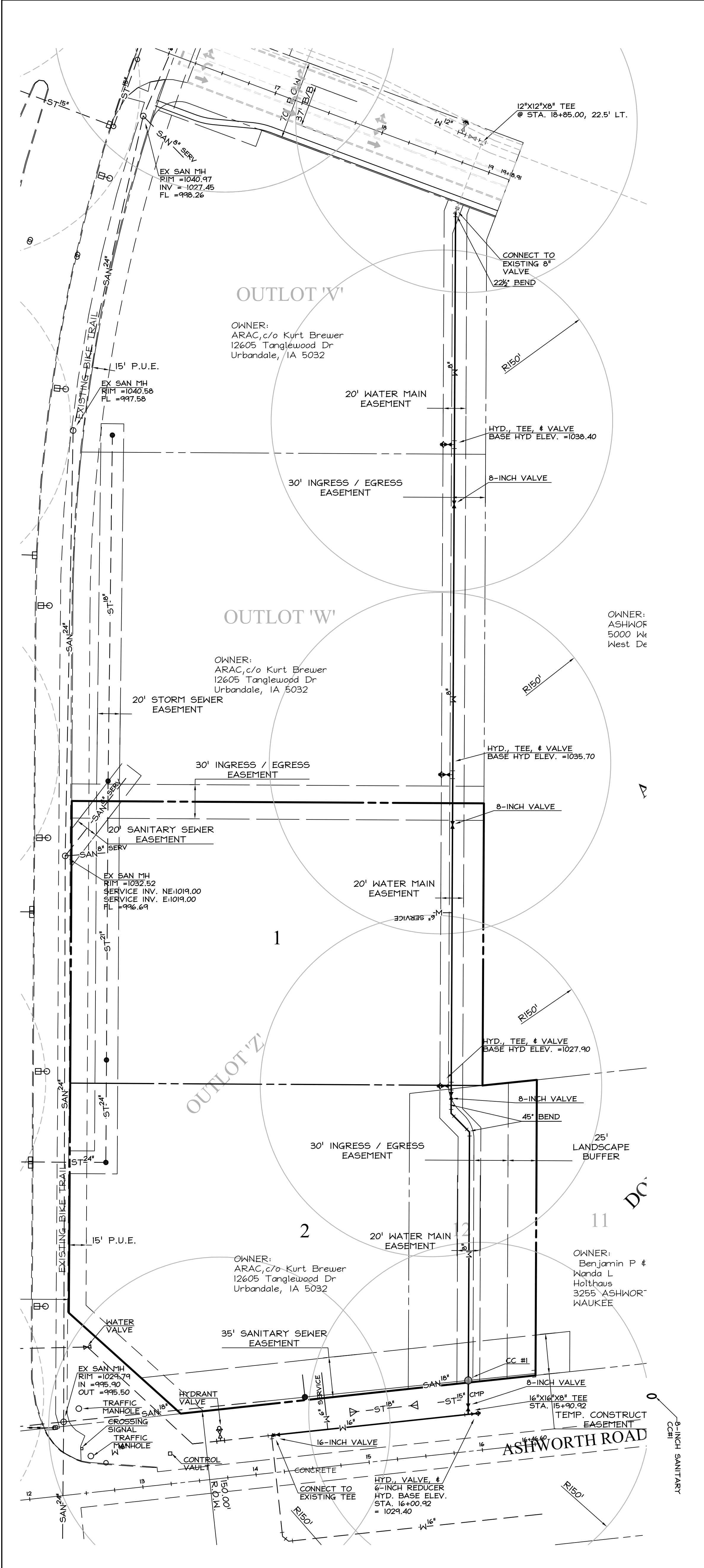
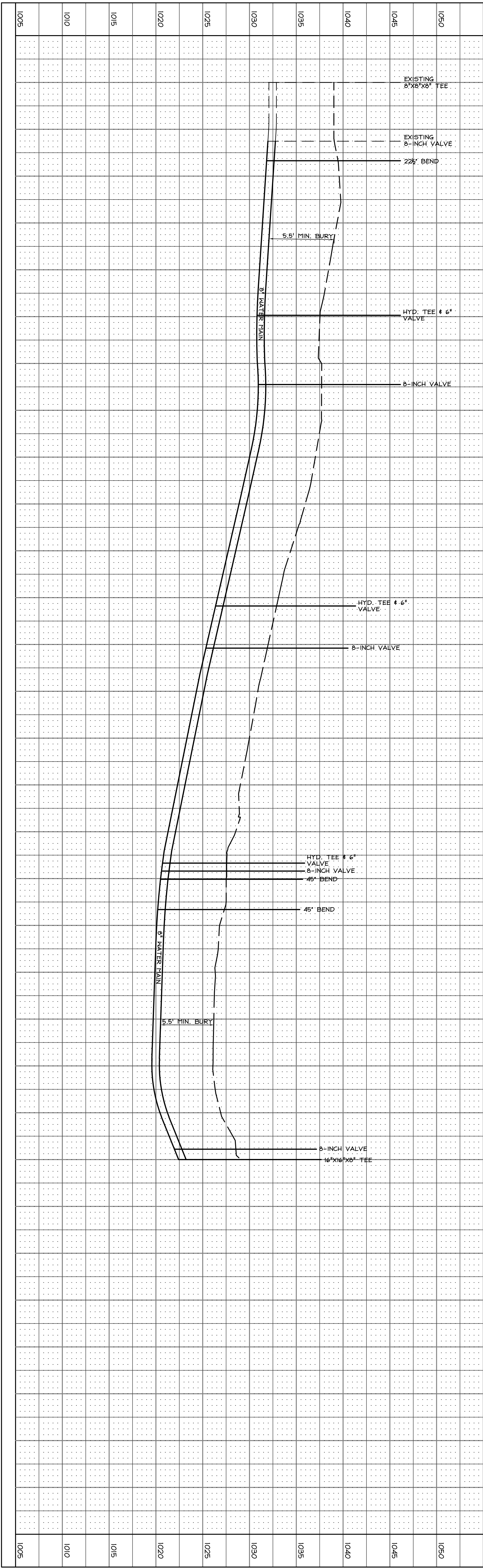
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 REVISIONS: 1-4-2017



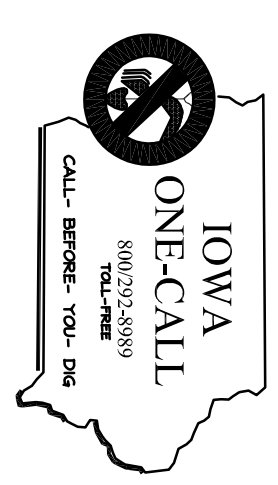
OWNER: DESERET FARMLAND  
 APPROVED: [Signature] AS-BUILT:  
 SANITARY SEWER SHEET 3 OF 6

JOB NUMBER: 1921  
 THE SHOPS AT KETTLESTONE NORTH PLAT 2





**CRITICAL CROSSINGS**  
 CC #1  
 BOTTOM OF WATER = 1021.20  
 TOP OF SANITARY = 998.00  
 MAINTAIN 15' VERTICAL CLEARANCE & 5.5' MIN. BURY

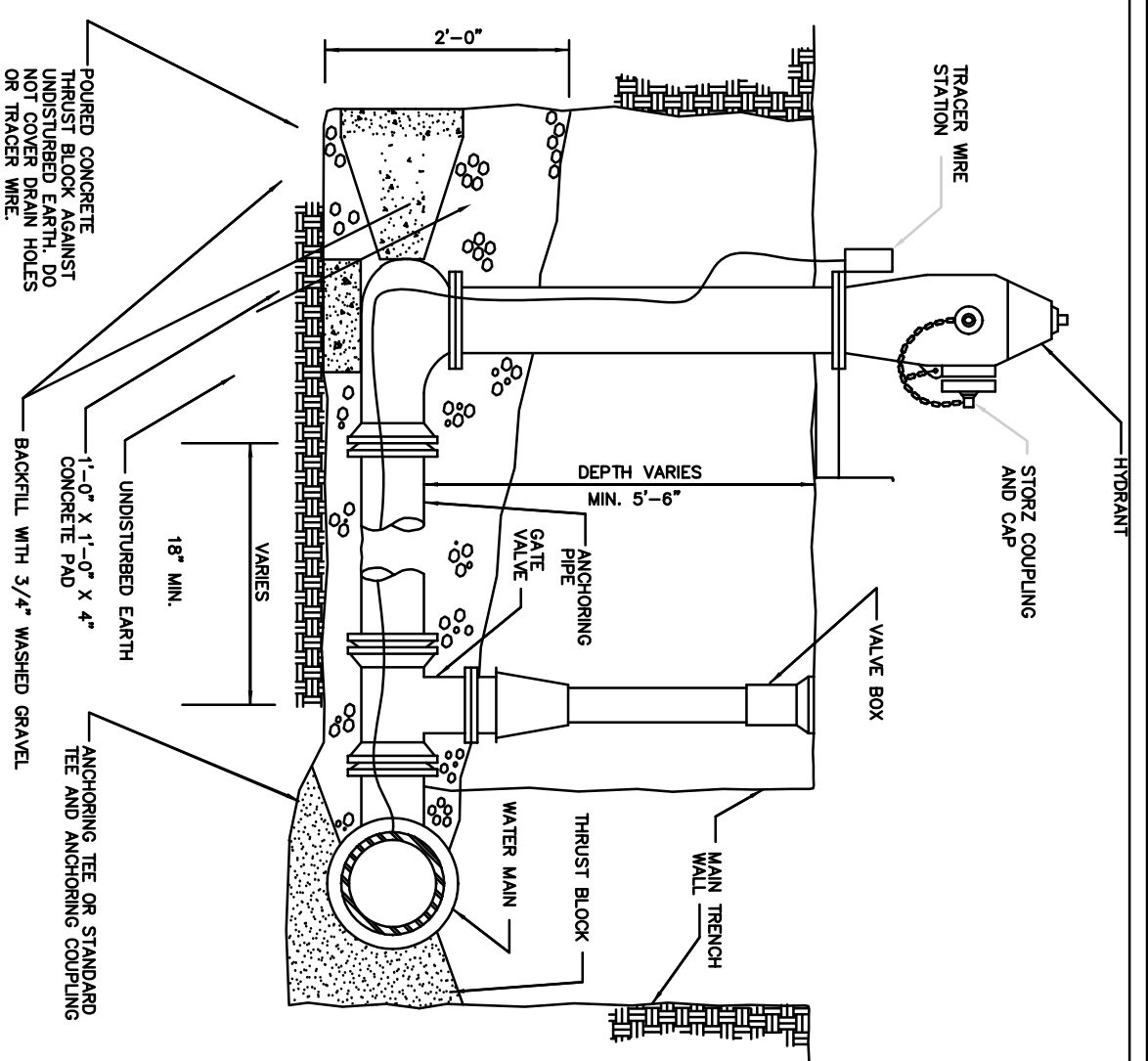


**COOPER CRAWFORD**  
 & ASSOCIATES, L.L.C.  
 CIVIL ENGINEERS

475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265  
 PHONE: (515) 224-1344 FAX: (515) 224-1345  
 DATE: 5-26-2017 REVISIONS: 1-13-2017

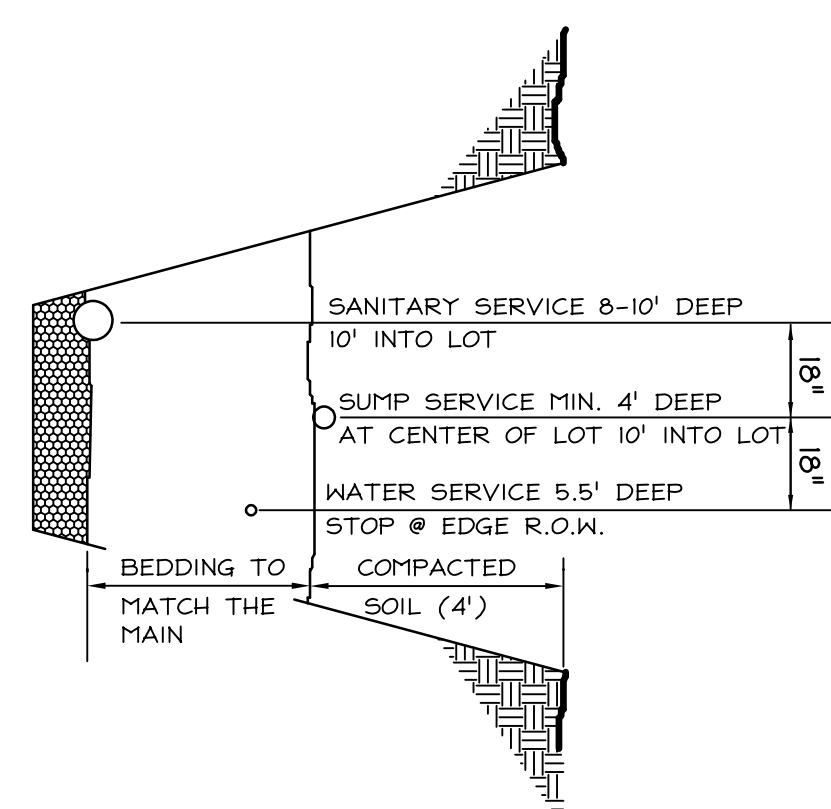
APPROVED: [Signature] AS-BUILT  
 SCALE: 1"=50'  
 INITIALS: [Signature]

THE SHOPS AT KETTLESTONE NORTH PLAT 2  
 WATER SHEET 5 OF 6  
 JOB NUMBER 1921

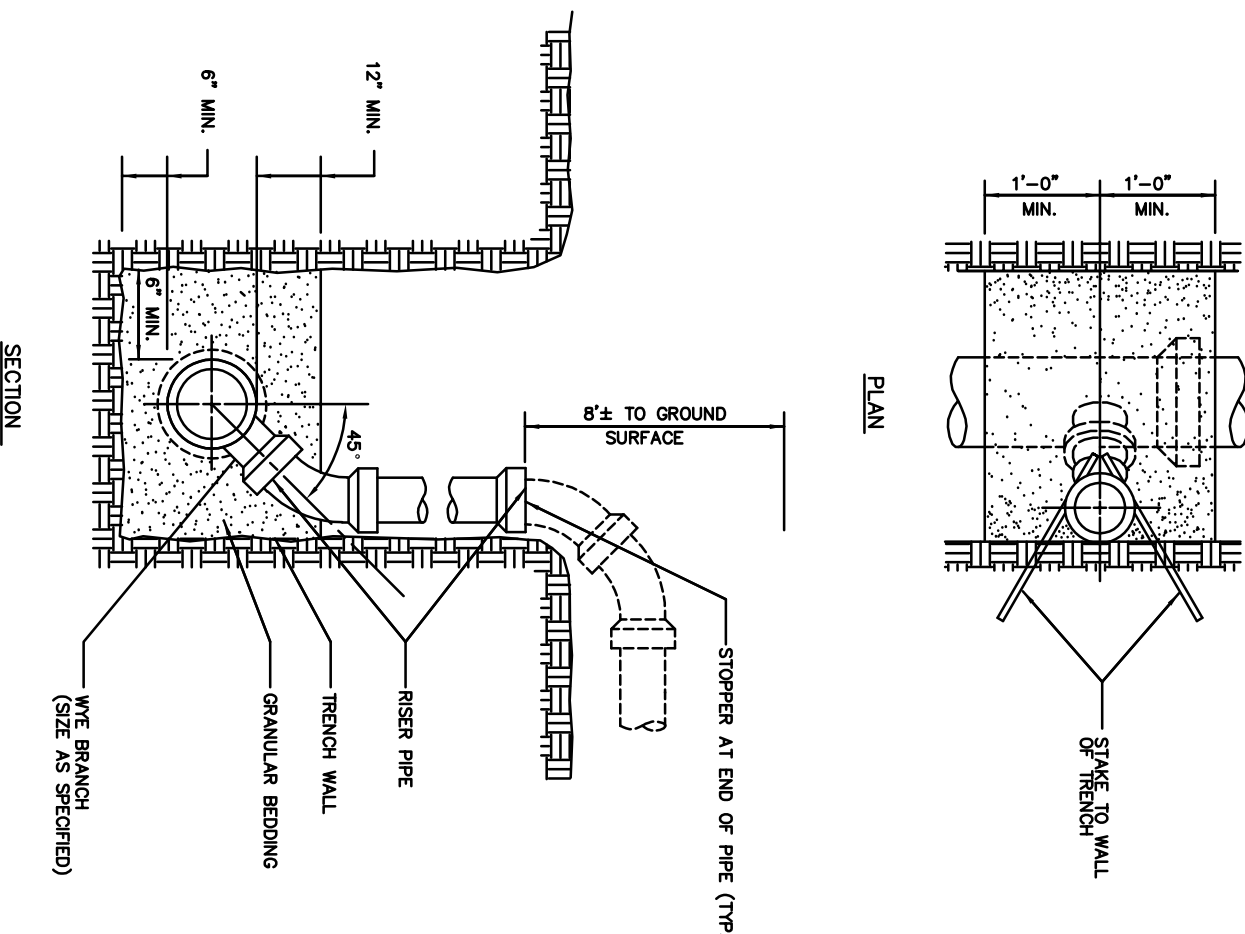


NOTES  
 1. REMOVE 2" FROM TOP OF MANHOLE AND FITTINGS  
 2. PROVIDE THICKER WIRE AND THICKER WIRE STATION.  
 3. RECONSTRUCT PIPE AND FITTINGS WITH POLYETHYLENE

CITY OF WAUKEE  
 HYDRAUNT  
 STD.DWG.NO.34 REV.1

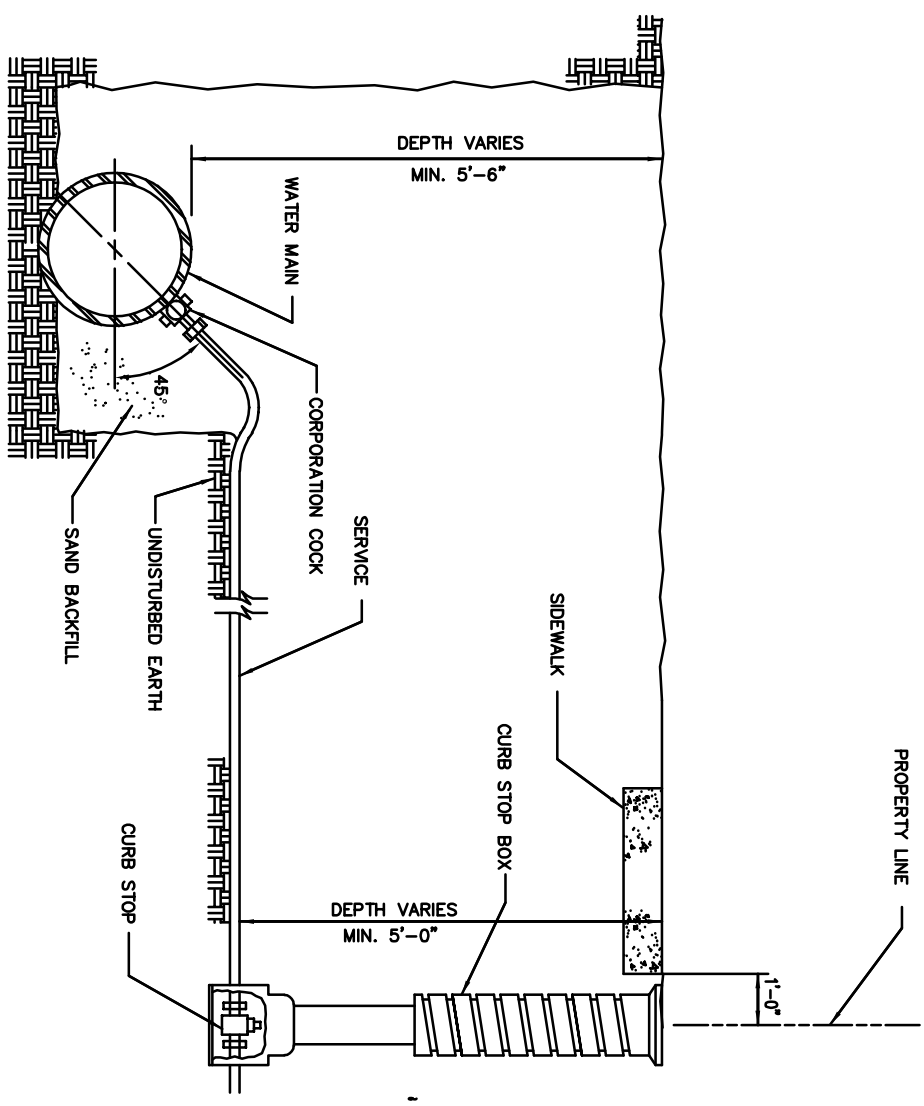


SERVICE LOCATION DETAIL  
 NO SCALE



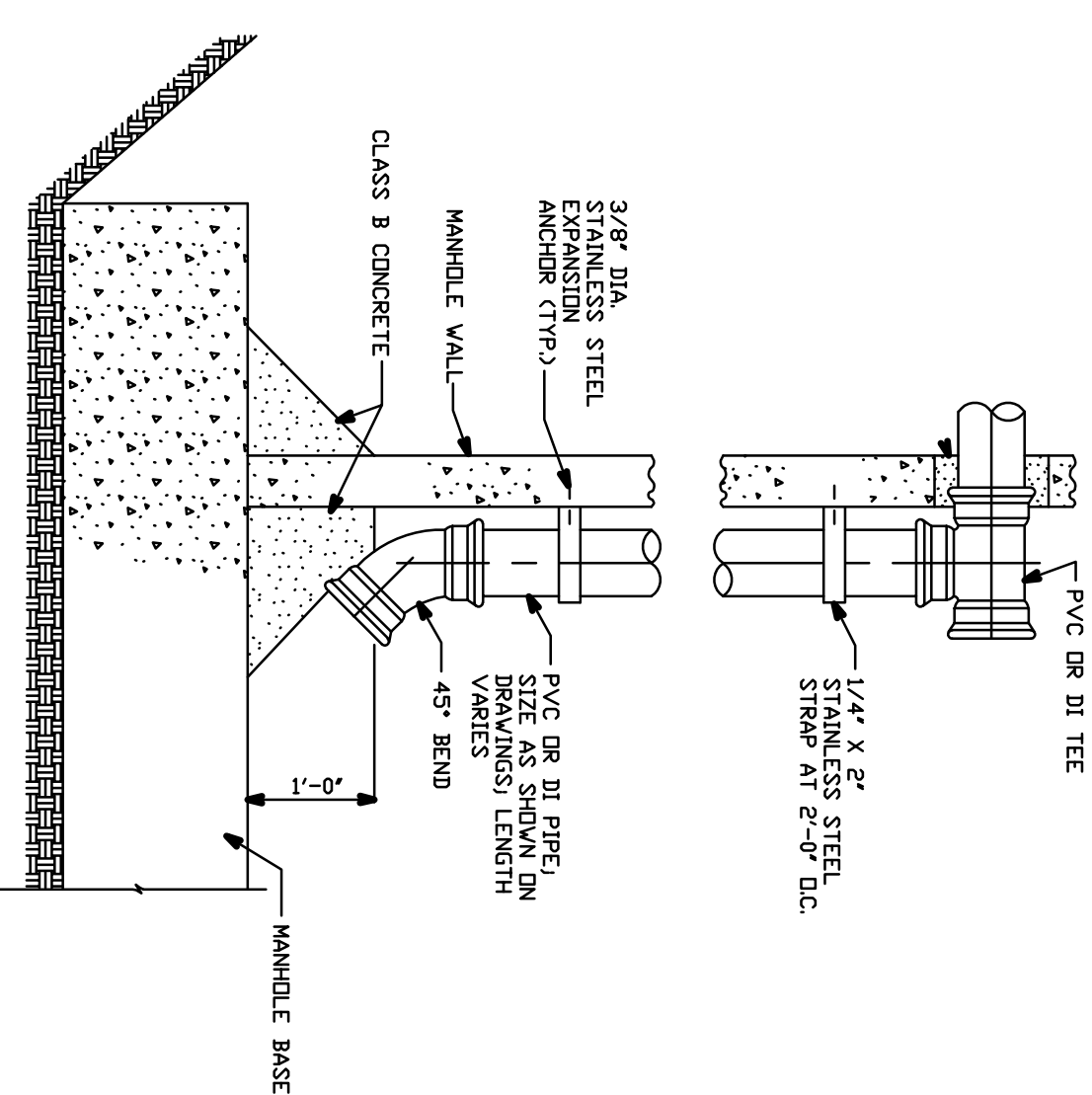
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CITY OF WAUKEE  
 RISER  
 STD.DWG.NO.15

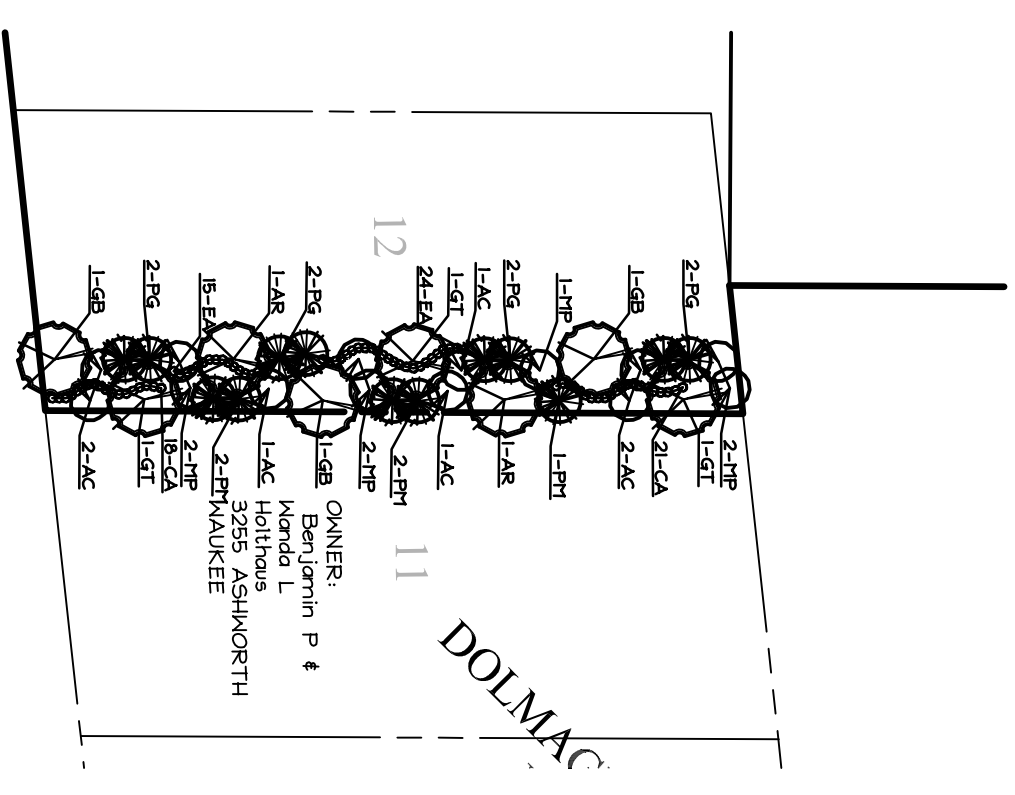


NOTES  
 1. TERMINATE CURB STOP BOX ROW 1'-0" BELOW FINISHED GRADE

CITY OF WAUKEE  
 SERVICE CONNECTION  
 STD.DWG.NO.32 REV.1



CITY OF WAUKEE  
 INSIDE DROP CONNECTION  
 STD.DWG.NO.14



LANDSCAPE BUFFER

LANDSCAPE BUFFER REQUIREMENTS  
 2/5 ORNAMENTAL TREES, 1/3 OVERSTORY TREES, 2/5 EVERGREEN TREES, AND 1/3 SHRUBS PER 50 LINEAL FEET OF BUFFER.  
 260 L.F. OF BUFFER / 50 = 5.2  
 REQUIRED LANDSCAPING  
 5 ORNAMENTAL TREES  
 6 OVERSTORY TREES  
 13 EVERGREENS  
 78 SHRUBS  
 REQUIRED LANDSCAPING  
 5 ORNAMENTAL TREES  
 6 OVERSTORY TREES  
 13 EVERGREENS  
 78 SHRUBS

PLANTING SCHEDULE

| COUNT | KEY | Botanical name/COMMON NAME   | SIZE        | CONDITION | REMARKS    |
|-------|-----|------------------------------|-------------|-----------|------------|
| 2     | AR  | Aspen 'Fremont' 'Lefersred'  | 3 1/2" cal. | TS/BA/B   | SEE PLAN   |
| 3     | GB  | AULNIN BUCKLE FRIELIAN MAPLE | 3 1/2" cal. | TS/BA/B   | SEE PLAN   |
| 3     | GT  | Ginkgo biloba cv.            | 3" cal.     | TS/BA/B   | SEE PLAN   |
| 7     | AC  | Gleditsia Tricentothos       | 5'-6' ht.   | TS/BA/B   | SEE PLAN   |
| 7     | MP  | Arctostaphylos caryocarpus   | 1 1/2" cal. | TS/BA/B   | MULTI-STEM |
| 7     | MP  | Arctostaphylos caryocarpus   | 1 1/2" cal. | TS/BA/B   | SEE PLAN   |
| 8     | PG  | Picea pungens glauca         | 6'-8' ht.   | TS/BA/B   | SEE PLAN   |
| 5     | PH1 | Pseudotsuga mertensii        | 6'-8' ht.   | TS/BA/B   | SEE PLAN   |
| 39    | CA  | Cornus alba                  | 18'-24" ht. | CONT.     | SEE PLAN   |
| 39    | EA  | Elaeagnus alatus             | 18'-24" ht. | CONT.     | SEE PLAN   |



**COOPER CRAWFORD & ASSOCIATES, L.L.C.**  
 CIVIL ENGINEERS

475 S. 50th STREET, SUITE 800, WEST DES MOINES, IOWA 50265  
 PHONE: (515) 224-1344 FAX: (515) 224-1345

DATE: 5-26-2017  
 REVISIONS: 7-21-2017

APPROVED: [Signature] INITIALS: AS-BUILT

SCALE: 1"=50'

THE SHOPS AT KETTLESTONE NORTH PLAT 2

JOB NUMBER  
**1921**  
 SHEET  
 6 OF 6