

SITE PLANS  
FOR  
FIRE STATION #3  
CITY OF ANKENY, POLK COUNTY, IOWA

OWNER/DEVELOPER

CITY OF ANKENY  
220 WEST 1ST STREET  
ANKENY, IOWA 50023  
PAUL MORITZ, P.E.  
(515) 965-6407



VICINITY MAP

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CLIENT LOGO

PROJECT INFORMATION

ANKENY FIRE STATION #3  
1360 NE 36TH ST,  
ANKENY, IA 50023

CITY OF ANKENY  
410 WEST FIRST STREET  
ANKENY, IA 50023

DRAWING ISSUE INFORMATION

ISSUE FOR: 95% OWNER REVIEW  
NOT FOR CONSTRUCTION

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MANAGEMENT INFORMATION

PROJECT NO: 16022

PRINCIPAL IN CHARGE: RO PROJECT ARCHITECT: RO

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SHEET TITLE

TITLE SHEET

SHEET NUMBER

C100



LEGEND

Features	Existing	Proposed
Spot Elevation	93.0	93.0
Contour Elevation	93	93
Fence (Barbed, Field, Hog)		
Fence (Chain Link)		
Fence (Wood)		
Fence (Silt)		
Tree Line		
Tree Stump		
Deciduous Tree \ Shrub		
Coniferous Tree \ Shrub		
Communication		
Overhead Communication	OC(x)	C
Fiber Optic	FO(x)	FO
Underground Electric	E(x)	E
Overhead Electric	OE(x)	OE
Gas Main with Size	4" G(x)	4" G
High Pressure Gas Main with Size	4" HPG(x)	4" HPG
Water Main with Size	8" W(x)	8" W
Sanitary Sewer with Size	8" S(x)	8" S
Duct Bank	DUCT(x)	
Test Hole Location for SUE w/D	261	
(x) Denotes the survey quality service level for utilities		
Sanitary Manhole	12" ST	12" ST
Storm Sewer with Size		
Single Storm Sewer Intake		
Double Storm Sewer Intake		
Fire Hydrant		
Fire Hydrant on Building		
Water Main Valve		
Water Service Valve		
Well		
Utility Pole		
Guy Anchor		
Utility Pole with Light		
Utility Pole with Transformer		
Street Light		
Yard Light		
Electric Box		
Electric Transformer		
Traffic Sign		
Communication Pedestal		
Communication Manhole		
Communication Handhole		
Fiber Optic Manhole		
Fiber Optic Handhole		
Gas Valve		
Gas Manhole		
Gas Apparatus		
Fence Post or Guard Post		
Underground Storage Tank		
Above Ground Storage Tank		
Sign		
Satellite Dish		
Mailbox		
Soil Boring		

UTILITY QUALITY SERVICE LEVELS

QUALITY LEVELS OF UTILITIES ARE SHOWN IN THE PARENTHESES WITH THE UTILITY TYPE AND WHEN APPLICABLE, SIZE. THE QUALITY LEVELS ARE BASED ON THE C/ ASCE 38-02 STANDARD.

QUALITY LEVEL (D) INFORMATION IS DERIVED FROM EXISTING UTILITY RECORDS OR ORAL RECOLLECTIONS.

QUALITY LEVEL (C) INFORMATION IS OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION WITH QUALITY D INFORMATION.

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

QUALITY LEVEL (A) IS HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES OBTAINED BY ACTUAL EXPOSURE OR VERIFICATION OF PREVIOUSLY EXPOSED SUBSURFACE UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

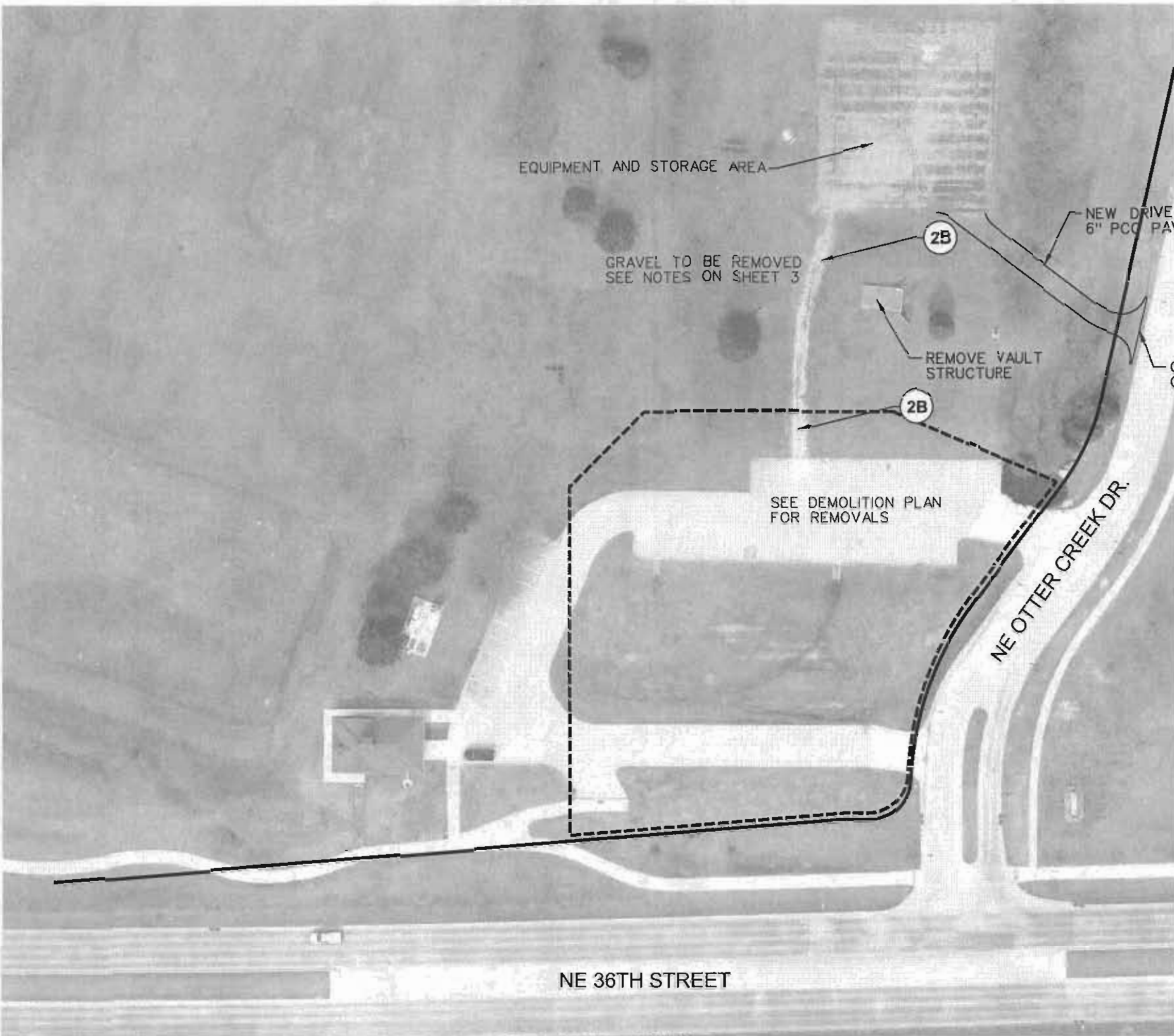
UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED EXCEPT WHERE NOTED AS QUALITY LEVEL A.

UTILITY CONTACT INFORMATION

UTILITY CONTACT FOR MAPPING INFORMATION SHOWN AS RECEIVED FROM THE IOWA ONE CALL DESIGN REQUEST SYSTEM, TICKET NUMBER 551605192.

W1-WATER	CITY OF ANKENY - WATER SHAWN BUCKNER 515-963-3524 sbuckner@ankenyiowa.gov
S-SANITARY SEWER	CITY OF ANKENY - SANITARY SEWER ROGER MCFARLAND 515-963-6483 rmcfarland@ankenyiowa.gov
E1-ELECTRIC G1-GAS	MIDAMERICAN ENERGY CRAIG RANFELD 515-252-6632 MECDMSDesignLocates@midamerican.com
C1-COMMUNICATION	CENTURYLINK RAY MONTOTOYA 515-263-7396 raymond.montotoya@centurylink.com
C2-COMMUNICATION	MEDIACOM COMMUNICATIONS PAUL MAY 515-246-2252 pmay@mediacomcc.com
CLEAR PER MAP	AUREON NETWORK SERVICES JEFF KLOCKO 515-830-0445 jeff.klocko@aureon.com
CLEAR PER EMAIL	CONSUMERS ENERGY JIMM KIDD 641-754-1642 jkidd@consumersenergy.com



PROJECT SITE

GENERAL NOTES

- NOTIFY UTILITY PROVIDERS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES AND COORDINATE WITH UTILITY PROVIDERS AS NECESSARY DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION, AND DEPTH OF ALL UTILITIES. PROTECT ALL UTILITY LINES AND STRUCTURES NOT SHOWN FOR REMOVAL OR MODIFICATION. ANY DAMAGES TO UTILITY ITEMS NOT SHOWN FOR REMOVAL OR MODIFICATION SHALL BE REPAIRED TO THE UTILITY OWNER'S SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
- LENGTH OF UTILITIES SHOWN ON PLANS ARE DIMENSIONED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.
- ALL TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). WHEN CONSTRUCTION ACTIVITIES OBSTRUCT PORTIONS OF THE ROADWAY, FLAGGERS SHALL BE PROVIDED. FLAGGERS SHALL CONFORM TO THE MUTCD IN APPEARANCE, EQUIPMENT AND ACTIONS.
- NOTIFY ENGINEER AND THE CITY OF ANKENY AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- ALL FIELD TILES ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED AND NOTED ACCORDINGLY ON THE AS-BUILT DOCUMENTS.
- DIMENSIONS, BUILDING LOCATION, UTILITIES AND GRADING OF THIS SITE ARE BASED ON AVAILABLE INFORMATION AT THE TIME OF DESIGN. DEVIATIONS MAY BE NECESSARY IN THE FIELD. ANY SUCH CHANGES OR CONFLICTS BETWEEN THIS PLAN AND FIELD CONDITIONS ARE TO BE REPORTED TO THE ARCHITECT/ENGINEER PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT VERIFICATION OF ALL SITE IMPROVEMENTS PRIOR TO CONSTRUCTION.
- CONTRACTOR TO LOAD AND TRANSPORT ALL MATERIALS CONSIDERED TO BE UNDESIRABLE TO BE INCORPORATED INTO THE PROJECT TO AN APPROVED OFF-SITE WASTE SITE.
- CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE CUT OR FILLED. RESPREAD TO MINIMUM 6" DEPTH TO FINISH GRADES.
- ALL PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADES AND/OR TOP OF PAVING SLAB (GUTTER), UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM NEIGHBORING STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES IN A TIMELY MANNER.
- THE ADJUSTMENT OF ANY EXISTING UTILITY APPURTENANCES TO FINAL GRADE IS CONSIDERED INCIDENTAL TO THE SITE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING EROSION CONTROL MEASURES AS NECESSARY. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING ANY EXISTING EROSION CONTROL MEASURES ON SITE AT THE TIME OF CONSTRUCTION. GRADING AND SOIL EROSION CONTROL CODE REQUIREMENTS SHALL BE MET BY CONTRACTOR.
- CONTRACTOR TO COORDINATE NATURAL GAS, ELECTRICAL, TELEPHONE AND ANY OTHER FRANCHISE UTILITY SERVICES WITH UTILITY SERVICE PROVIDER AND THE OWNER PRIOR TO CONSTRUCTION.
- CONTRACTOR TO VERIFY ALL UTILITY CROSSINGS AND MAINTAIN MINIMUM 18" VERTICAL AND HORIZONTAL CLEARANCE BETWEEN UTILITIES. CONTRACTOR TO COORDINATE UTILITY ROUTING TO BUILDING AND VERIFY CONNECTION LOCATIONS AND INVERTS PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE SITE PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH THE PROJECT SITE AND IMPROVEMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SECURING ALL PERMITS NECESSARY FOR CONSTRUCTION.
- CONTRACTOR TO PROVIDE TEMPORARY CHAIN LINK FENCE TO SECURE THE PROJECT WORK SITE IN COORDINATION WITH OWNER.
- CONTRACTOR CAN STORE MATERIAL AND EQUIPMENT ON OLD TENNIS COURT PAVEMENT.
- COORDINATE ASR ELECTRIC SERVICE RELOCATION SO IT DOES NOT OCCUR DURING HIGH DEMAND FOR WATER.

ZONING

R-1: ONE FAMILY RESIDENCE DISTRICT

PROPERTY ADDRESS

1360 NE 36TH STREET  
ANKENY, IOWA 50021

ERU CALCULATION

TOTAL IMPERVIOUS AREA / 4000  
59,998/4000 = 15 ERUS

PARKING REQUIREMENTS

OPERATIONS DESIGNED TO ATTRACT LITTLE OR NO CUSTOMER OR CLIENT TRAFFIC OTHER THAN EMPLOYEES OF THE ENTITY OPERATING THE PRINCIPAL USE:  
X 1 SPACE/400 SF = 19,3375 (20 SPACES)

DRIVING RANGE 1 SPACE PER TREE: 10 TREES (10 SPACES)

TOTAL: 30 SPACES  
ADMINISTRATIVE REDUCTION 10%: -3 SPACES  
TOTAL REQUIRED AND PROVIDED: =27 SPACES

BUILDING DESCRIPTION

BUILDING AREA: 12,260 SF  
PARKING BAYS: 4,925 SF  
7,755 SF  
BUILDING HEIGHT: 32 FT

PROPERTY DESCRIPTION

A PART OF LOT 2, OTTER CREEK REDEVELOPMENT PLAT 1, AN OFFICIAL PLAT IN THE CITY OF ANKENY, POLK COUNTY, IOWA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF SAID LOT 2; THENCE NORTH 89°44'47" WEST ALONG THE SOUTH LINE OF SAID LOT 2, A DISTANCE OF 14.65 FEET; THENCE SOUTH 85°29'24" WEST CONTINUING ALONG SAID SOUTH LINE, 171.69 FEET; THENCE NORTH 00°00'00" EAST, 213.02 FEET; THENCE NORTH 45°00'00" EAST, 68.54 FEET; THENCE SOUTH 80°00'00" EAST, 154.60 FEET; THENCE SOUTH 64°14'43" EAST, 109.66 FEET TO THE EAST LINE OF SAID LOT 2; THENCE SOUTH 37°18'32" WEST ALONG SAID EAST LINE, 87.41 FEET; THENCE SOUTHWESTERLY CONTINUING ALONG SAID EAST LINE AND ALONG A CURVE CONCAVE SOUTHEASTERLY WHOSE RADIUS IS 187.00 FEET, WHOSE ARC LENGTH IS 115.10 FEET AND WHOSE CHORD BEARS SOUTH 19°40'32" WEST, 113.29 FEET; THENCE SOUTHERLY CONTINUING ALONG SAID EAST LINE AND ALONG A CURVE CONCAVE WESTERLY WHOSE RADIUS IS 25.00 FEET, WHOSE ARC LENGTH IS 38.49 FEET AND WHOSE CHORD BEARS SOUTH 46°08'53" WEST, 34.80 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.38 ACRES (59,998 S.F.).

PROPERTY SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

BENCHMARKS

NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88 - GEOID12A)  
IARTN DERIVED - US SURVEY FEET

- BM1 ELEV=944.33  
BURY BOLT ON WATROUS HYDRANT SOUTHEAST OF CONCESSIONS BUILDING, SOUTHWEST SIDE OF SITE.
- BM2 ELEV=952.49  
CUT TRIANGLE AT NORTHEAST CORNER OF CONCRETE TRANSFORMER PAD NORTH OF PARKING LOT, NORTH SIDE OF SITE.

CONTROL POINTS

ANKENY ELLIPSE LOCAL COORDINATE SYSTEM  
NADB3(2011)EPOCH 2010.00) IARTN DERIVED - US SURVEY FEET

- CP1 N=71669.51 E=58140.63  
CUT "X" ON BACK OF WEST CURB RADIUS AT NOSE OF ISLAND IN NE 36TH STREET EAST OF NE OTTER CREEK DRIVE, SOUTHEAST CORNER OF SITE.
- CP2 N=71657.95 E=57708.50  
CUT "X" ON BACK OF EAST CURB RADIUS AT NOSE OF ISLAND IN NE 36TH STREET WEST OF NE MILAN AVENUE, SOUTHWEST CORNER OF SITE.
- CP3 N=71913.68 E=57833.90  
CUT "X" ON BACK OF CURB AT SOUTHWEST CORNER OF PARKING LOT, APPROXIMATE CENTER OF SITE.
- CP4 N=72246.12 E=58057.72  
1/2" REBAR WITH RED CAP 5' NORTH OF CENTER OF OLD ASPHALT TENNIS COURT, NORTH SIDE OF SITE.
- CP5 N=71657.95 E=57708.50  
CUT "X" IN WEST EDGE OF CONCRETE SIDEWALK ON EAST SIDE OF NE OTTER CREEK DRIVE EAST OF PARKING LOT ENTRANCE, EAST SIDE OF SITE.

S V P A

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CLIENT LOGO

PROJECT INFORMATION

ANKENY FIRE STATION #3  
1360 NE 36TH ST.  
ANKENY, IA 50023

CITY OF ANKENY  
410 WEST FIRST STREET  
ANKENY, IA 50023

DRAWING ISSUE INFORMATION

ISSUE FOR: 95% OWNER REVIEW  
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REV DATE	ELEV

MANAGEMENT INFORMATION

PROJECT NO: 16022

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SHEET TITLE  
PROJECT INFORMATION

SHEET NUMBER

C200



# DEMOLITION NOTES:

- EXISTING FEATURES, PROTECT THE FOLLOWING:
  - EXISTING UTILITIES.
  - EXISTING PAVEMENT.
  - EXISTING TREES/VEGETATION. CONTRACTOR TO PROVIDE TEMPORARY 4' HT. ORANGE CONSTRUCTION FENCE AT DRIPLINE OF TREE IN AREAS SHOWN ON PLANS. SEE DETAIL.
  - EXISTING BUILDING.
  - EXISTING TRASH CAN.
  - EXISTING SIGN.
- DEMOLITION, REMOVE AND DISPOSE OF THE FOLLOWING:
  - EXISTING PAVEMENT AS SHOWN ON THIS PLAN. SAWCUT TO FULL DEPTH OF REMOVAL LIMITS.
  - EXISTING GRAVEL SHOWN ON THIS PLAN. ALSO INCLUDES GRAVEL SHOWN ON SHEET C200.
  - EXISTING TREE.
  - EXISTING SIGNS.
  - EXISTING STORM SEWER. SEE GRADING PLAN FOR COORDINATION WITH STORM SEWER IMPROVEMENTS.
  - EXISTING ELECTRICAL SERVICE. SEE UTILITY PLAN FOR ADDITIONAL INFORMATION.
- PROVIDE TRAFFIC CONTROL AS NECESSARY ALONG STREET IMPROVEMENTS.
- ELECTRIC LINE TO BE RELOCATED. EASEMENT FOR ELECTRIC LINE TO BE VACATED. SEE FINAL PLAT FOR LIMITS.

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### CLIENT LOGO

### PROJECT INFORMATION

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ANKENY, IA 50023

**CITY OF ANKENY**  
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### MANAGEMENT INFORMATION

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### SHEET TITLE DEMOLITION PLAN

### SHEET NUMBER

**C300**

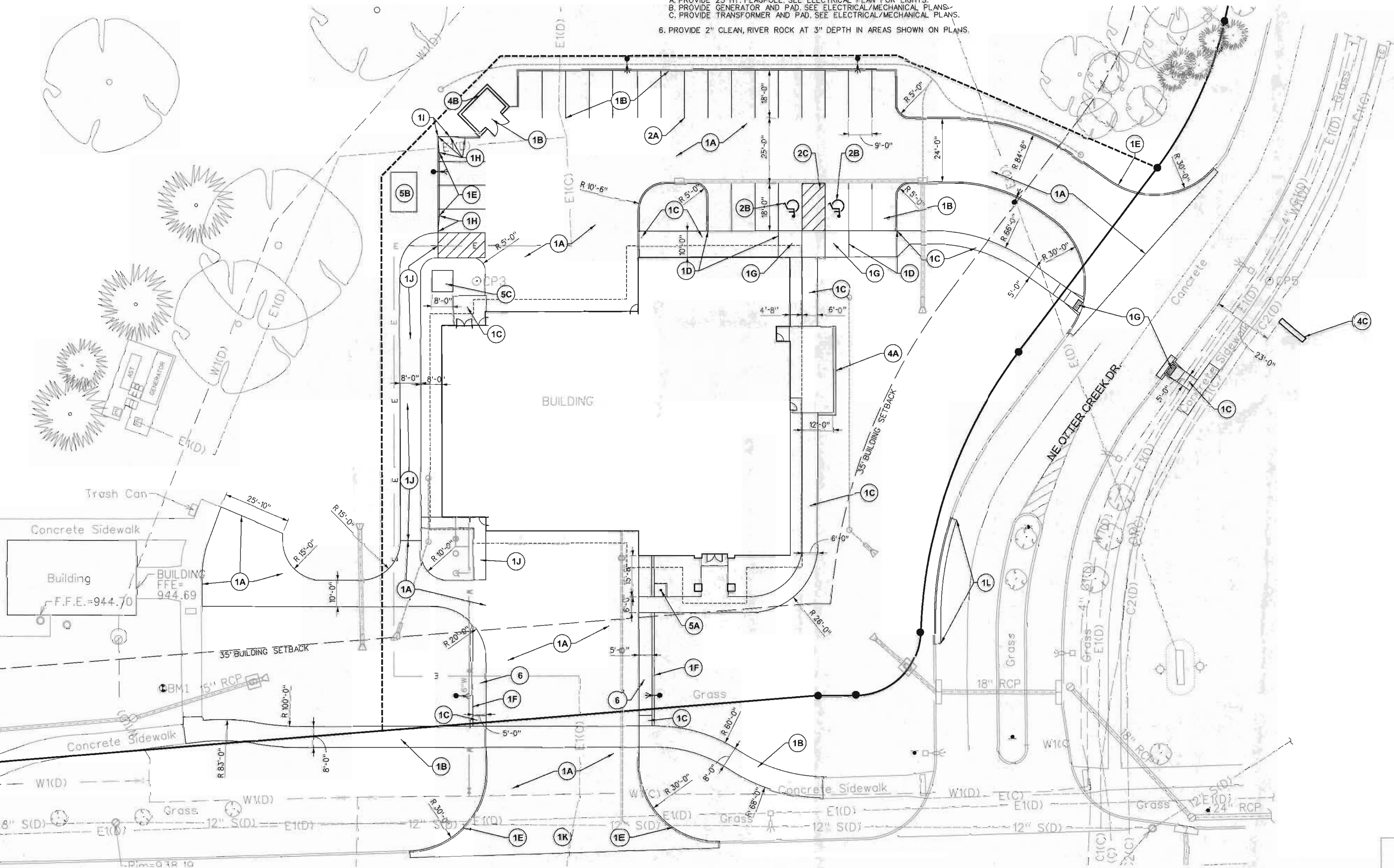


DIMENSION PLAN GENERAL NOTES

- A. UTILITY WARNING:  
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
- B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES. AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION. ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.
- C. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND FEATURES WHICH ARE TO REMAIN. DAMAGE TO EXISTING UTILITIES OR SITE IMPROVEMENTS SHALL BE REPAIRED BY THE CONTRACTOR TO THE OWNER'S SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
- D. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT VERIFICATION OF ALL SITE IMPROVEMENTS PRIOR TO CONSTRUCTION. CONTRACTOR TO CONSTRUCT ALL SITE IMPROVEMENTS AND UTILITIES IN ACCORDANCE WITH THE PROJECT TECHNICAL SPECIFICATIONS, THE 2016 URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE SOILS REPORT AS PREPARED BY OTHERS.

DIMENSION PLAN CONSTRUCTION NOTES

1. PAVEMENTS, PROVIDE THE FOLLOWING:  
A. 9" DEPTH PCC PAVEMENT.  
B. 6" DEPTH PCC PAVEMENT.  
C. 4" DEPTH PCC SIDEWALK.  
D. 4" DEPTH PCC SIDEWALK WITH INTEGRAL WALK/CURB. SEE DETAIL.  
E. 6" HEIGHT PCC CURB. SEE DETAIL.  
F. PCC EDGER, 8" WIDE X 5" DEPTH.  
G. SIDEWALK RAMP AS PER ADAAG REQUIREMENTS WITH TRUNCATED DOWNS WHERE SHOWN.  
H. TAPER TO NO CURB AT 6'.  
I. NO CURB.  
J. 5" DEPTH PCC.  
K. TYPE 'B' DRIVEWAY CONNECTION. REMOVE TO EXISTING JOINT ALONG NE 36TH STREET.  
L. PCC CURB & GUTTER. MATCH EXISTING PAVEMENT DEPTH AND DOWEL.
2. PAVEMENT MARKINGS, PROVIDE THE FOLLOWING:  
A. 4" WIDE SOLID PARKING STALL MARKING.  
B. ACCESSIBLE PARKING STALL SYMBOL AS PER ADAAG REQUIREMENTS.  
C. 45° STRIPPING AT 3' O.C. WHERE SHOWN.
3. SIGNS, PROVIDE THE FOLLOWING:  
A. ACCESSIBLE PARKING SIGN AS PER ADAAG REQUIREMENTS. SEE DETAIL.  
B. VAN ACCESSIBLE SIGN.
4. SEE ARCHITECTURAL PLANS FOR THE FOLLOWING:  
A. WOODEN WALL.  
B. DUMPSTER ENCLOSURE.  
C. MONUMENT SIGN.
5. SITE AMENITIES, PROVIDE THE FOLLOWING:  
A. PROVIDE 25' HT. FLAGPOLE. SEE ELECTRICAL PLAN FOR LIGHTS.  
B. PROVIDE GENERATOR AND PAD. SEE ELECTRICAL/MECHANICAL PLANS.  
C. PROVIDE TRANSFORMER AND PAD. SEE ELECTRICAL/MECHANICAL PLANS.
6. PROVIDE 2" CLEAN, RIVER ROCK AT 3" DEPTH IN AREAS SHOWN ON PLANS.



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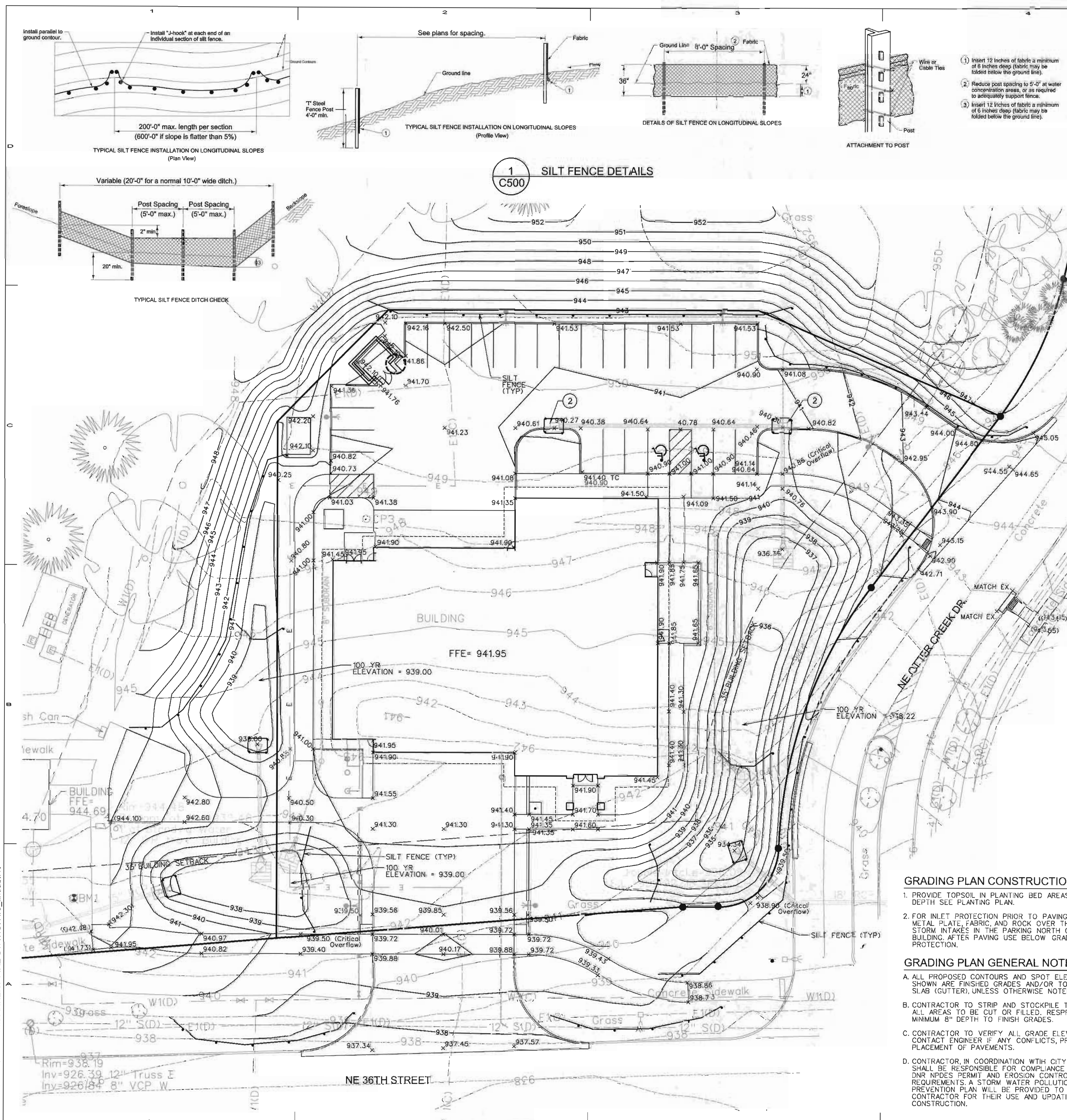
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DIMENSION  
PLAN

SHEET NUMBER

C400





**POLLUTION PREVENTION NOTES**

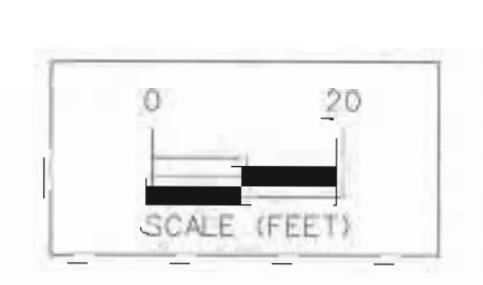
- A. POLLUTION PREVENTION AND EROSION PROTECTION**
- CODE COMPLIANCE: THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL POTENTIAL POLLUTION AND SOIL EROSION CONTROL REQUIREMENTS OF THE IOWA CODE, THE IOWA DEPARTMENT OF NATURAL RESOURCES (DNR) NPDES PERMIT, THE U.S. CLEAN WATER ACT AND ANY LOCAL ORDINANCES. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PROTECT AGAINST EROSION AND POLLUTION FROM THIS PROJECT SITE AND ALL OFF-SITE BORROW OR DEPOSIT AREAS DURING PERFORMANCE OR AS A RESULT OF PERFORMANCE.
  - DAMAGE CLAIMS: THE CONTRACTOR WILL HOLD THE OWNER AND ARCHITECT / ENGINEER HARMLESS FROM ANY AND ALL CLAIMS OF ANY TYPE WHATSOEVER RESULTING FROM DAMAGES TO ADJOINING PUBLIC OR PRIVATE PROPERTY, INCLUDING REASONABLE ATTORNEY FEES INCURRED TO OWNER. FURTHER, IF THE CONTRACTOR FAILS TO TAKE NECESSARY STEPS TO PROMPTLY REMOVE EARTH SEDIMENTATION OR DEBRIS WHICH COMES ONTO ADJOINING PUBLIC OR PRIVATE PROPERTY, THE OWNER MAY, BUT NEED NOT, REMOVE SUCH ITEMS AND DEDUCT THE COST THEREOF FROM AMOUNTS DUE TO THE CONTRACTOR.
- B. STORM WATER DISCHARGE PERMIT**
- THIS PROJECT REQUIRES COVERAGE UNDER THE NPDES GENERAL PERMIT NO. 2 FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES FROM THE DNR, AS REQUIRED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS ARE RESPONSIBLE FOR COMPLIANCE WITH AND FULFILLMENT OF ALL REQUIREMENTS OF THE NPDES GENERAL PERMIT NO. 2 INCLUDING CREATING OR MAINTAINING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND POSSIBLY OBTAINING THE GENERAL PERMIT COVERAGE FROM THE DNR.
  - ALL DOCUMENTS RELATED TO THE STORM WATER DISCHARGE PERMIT, INCLUDING, BUT NOT LIMITED TO, THE NOTICE OF INTENT, PROOF OF PUBLICATIONS, DISCHARGE AUTHORIZATION LETTER, CURRENT SWPPP, SITE INSPECTION LOG, AND OTHER ITEMS, SHALL BE KEPT ON SITE AT ALL TIMES AND MUST BE PRESENTED TO ANY JURISDICTIONAL AGENCIES UPON REQUEST. FAILURE TO COMPLY WITH THE NPDES PERMIT REQUIREMENTS IS A VIOLATION OF THE CLEAN WATER ACT AND THE CODE OF IOWA.
  - A "NOTICE OF DISCONTINUATION" MUST BE FILED WITH THE DNR UPON FINAL STABILIZATION OF THE DISTURBED SITE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES. ALL PLANS, INSPECTION REPORTS, AND OTHER DOCUMENTS MUST BE RETAINED FOR A PERIOD OF THREE YEARS AFTER PROJECT COMPLETION. THE CONTRACTOR SHALL RETAIN A RECORD COPY AND PROVIDE THE ORIGINAL DOCUMENTS TO THE OWNER UPON PROJECT ACCEPTANCE AND/OR SUBMITTAL OF THE NOTICE OF DISCONTINUATION.
- C. POLLUTION PREVENTION PLAN:**
- THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS A SEPARATE DOCUMENT IN ADDITION TO THESE PLAN DRAWINGS. THE CONTRACTOR SHOULD REFER TO THE SWPPP FOR ADDITIONAL REQUIREMENTS AND MODIFICATIONS TO THE POLLUTION PREVENTION PLAN MADE DURING CONSTRUCTION.
  - THE SWPPP ILLUSTRATES GENERAL MEASURES AND BEST MANAGEMENT PRACTICES (BMP) FOR COMPLIANCE WITH THE PROJECT'S NPDES PERMIT COVERAGE. ALL BMP'S AND EROSION CONTROL MEASURES REQUIRED AS A RESULT OF CONSTRUCTION ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY, NOTE AND IMPLEMENT. ADDITIONAL BMP'S FROM THOSE SHOWN ON THE PLAN MAY BE REQUIRED.
  - THE SWPPP AND SITE MAP SHOULD BE EXPEDITIOUSLY REVISED TO REFLECT CONSTRUCTION PROGRESS AND CHANGES AT THE PROJECT SITE.
  - THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL PERMIT AND SWPPP, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING BMP'S UNLESS INFEASIBLE OR NOT APPLICABLE:
    - UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SURFACE WHEN DISCHARGING FROM BASINS, PROVIDE AND MAINTAIN NATURAL BUFFERS AROUND SURFACE WATERS, DIRECT STORM WATER TO VEGETATED AREAS TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORM WATER INFILTRATION, AND MINIMIZE SOIL COMPACTION.
    - INSTALL PERIMETER AND FINAL SEDIMENT CONTROL MEASURES SUCH AS SILT BARRIERS, DITCH CHECKS, DIVERSION BERMS, OR SEDIMENTATION BASINS DOWNSTREAM OF SOIL DISTURBING ACTIVITIES PRIOR TO SITE CLEARING AND GRADING OPERATIONS.
    - PRESERVE EXISTING VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION AND LIMIT TO A MINIMUM THE TOTAL AREA DISTURBED BY CONSTRUCTION OPERATIONS AT ANY TIME.
    - MAINTAIN ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES IN WORKING ORDER, INCLUDING CLEANING, REPAIRING, REPLACEMENT, AND SEDIMENT REMOVAL THROUGHOUT THE PERMIT PERIOD. CLEAN OR REPLACE SILT CONTROL DEVICES WHEN THE MEASURES HAVE LOST 50% OF THEIR ORIGINAL CAPACITY.
    - INSPECT THE PROJECT AREA AND CONTROL DEVICES (BY QUALIFIED PERSONNEL ASSIGNED BY THE CONTRACTOR) EVERY SEVEN CALENDAR DAYS. RECORD THE FINDINGS OF THESE INSPECTIONS AND ANY RESULTING ACTIONS IN THE SWPPP WITH A COPY SUBMITTED WEEKLY TO THE OWNER OR ENGINEER DURING CONSTRUCTION. REVISE THE SWPPP AND IMPLEMENT ANY RECOMMENDED MEASURES WITHIN 7 DAYS.
    - PREVENT ACCUMULATION OF EARTH AND DEBRIS FROM CONSTRUCTION ACTIVITIES ON ADJOINING PUBLIC OR PRIVATE PROPERTIES, INCLUDING STREETS, DRIVEWAYS, SIDEWALKS, DRAGWAYS, OR UNDERGROUND SEWERS. REMOVE AN ACCUMULATION OF EARTH OR DEBRIS IMMEDIATELY AND TAKE REMEDIAL ACTIONS FOR FUTURE PREVENTION.
    - INSTALL NECESSARY CONTROL MEASURES SUCH AS SILT BARRIERS, EROSION CONTROL MATS, MULCH, DITCH CHECKS, OR RIPRAP AS SOON AS AREAS REACH THEIR FINAL GRADES AND AS CONSTRUCTION OPERATIONS PROGRESS TO ENSURE CONTINUOUS RUNOFF CONTROL. PROVIDE INLET AND OUTLET CONTROL MEASURES AS SOON AS STORM SEWERS ARE INSTALLED.
    - RESPIREAD A MINIMUM OF 4 INCHES OF TOPSOIL (INCLUDING TOPSOIL FOUND IN SOD) ON ALL DISTURBED AREAS, EXCEPT WHERE PAVEMENT, BUILDINGS OR OTHER IMPROVEMENTS ARE LOCATED.
    - STABILIZE UNDEVELOPED, DISTURBED AREAS WITH MULCH, TEMPORARY SEED MIX, PERMANENT SEED MIX, OR SOD AS SOON AS PRACTICAL UPON COMPLETION OR DELAY OF GRADING OPERATIONS. INITIATE STABILIZATION MEASURES NO LATER THAN 14 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITY HAS FINISHED OR IS PLANNED TO BE DELAYED MORE THAN 21 CALENDAR DAYS.
    - COORDINATE LOCATIONS OF STAGING AREAS WITH THE OWNER AND RECORD IN THE SWPPP. UNLESS NOTED OTHERWISE, STAGING AREAS SHOULD CONTAIN THE FOLLOWING: JOB TRAILERS, FUELING / VEHICLE MAINTENANCE AREA, TEMPORARY SANITARY FACILITIES, MATERIALS STORAGE, AND CONCRETE WASHOUT FACILITY. CONTROL RUNOFF FROM STAGING AREAS WITH DIVERSION BERMS AND/OR SILT BARRIERS AND DIRECT TO A SEDIMENT BASIN OR OTHER CONTROL DEVICE WHERE POSSIBLE. CONCRETE WASHOUT MUST BE CONTAINED ONSITE.
    - REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND SITE WASTE PRIOR TO FILING OF THE "NOTICE OF DISCONTINUATION".

**GRADING PLAN CONSTRUCTION NOTES**

- PROVIDE TOPSOIL IN PLANTING BED AREAS AT 24" DEPTH SEE PLANTING PLAN.
- FOR INLET PROTECTION PRIOR TO PAVING, PLACE A METAL PLATE, FABRIC, AND ROCK OVER THE TWO STORM INLET IN THE PARKING NORTH OF THE BUILDING. AFTER PAVING USE BELOW GRADE INLET PROTECTION.

**GRADING PLAN GENERAL NOTES**

- ALL PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADES AND/OR TOP OF PAVING SLAB (GUTTER), UNLESS OTHERWISE NOTED.
- CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE CUT OR FILLED. RESPIREAD TO MINIMUM 8" DEPTH TO FINISH GRADES.
- CONTRACTOR TO VERIFY ALL GRADE ELEVATIONS AND CONTACT ENGINEER IF ANY CONFLICTS, PRIOR TO PLACEMENT OF PAVEMENTS.
- CONTRACTOR, IN COORDINATION WITH CITY STAFF, SHALL BE RESPONSIBLE FOR COMPLIANCE WITH IOWA DNR NPDES PERMIT AND EROSION CONTROL REQUIREMENTS. A STORM WATER POLLUTION PREVENTION PLAN WILL BE PROVIDED TO THE CONTRACTOR FOR THEIR USE AND UPDATING DURING CONSTRUCTION.



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**CLIENT LOGO**

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ANKENY, IA 50023

**DRAWING ISSUE INFORMATION**

ISSUE FOR: 95% OWNER REVIEW  
NOT FOR CONSTRUCTION

ISSUE DATE:

REV DATE	REV

**MANAGEMENT INFORMATION**

PROJECT NO: 16022

PRINCIPAL IN CHARGE: RO PROJECT ARCHITECT: RO

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**SHEET TITLE**  
**GRADING AND EROSION CONTROL PLAN**

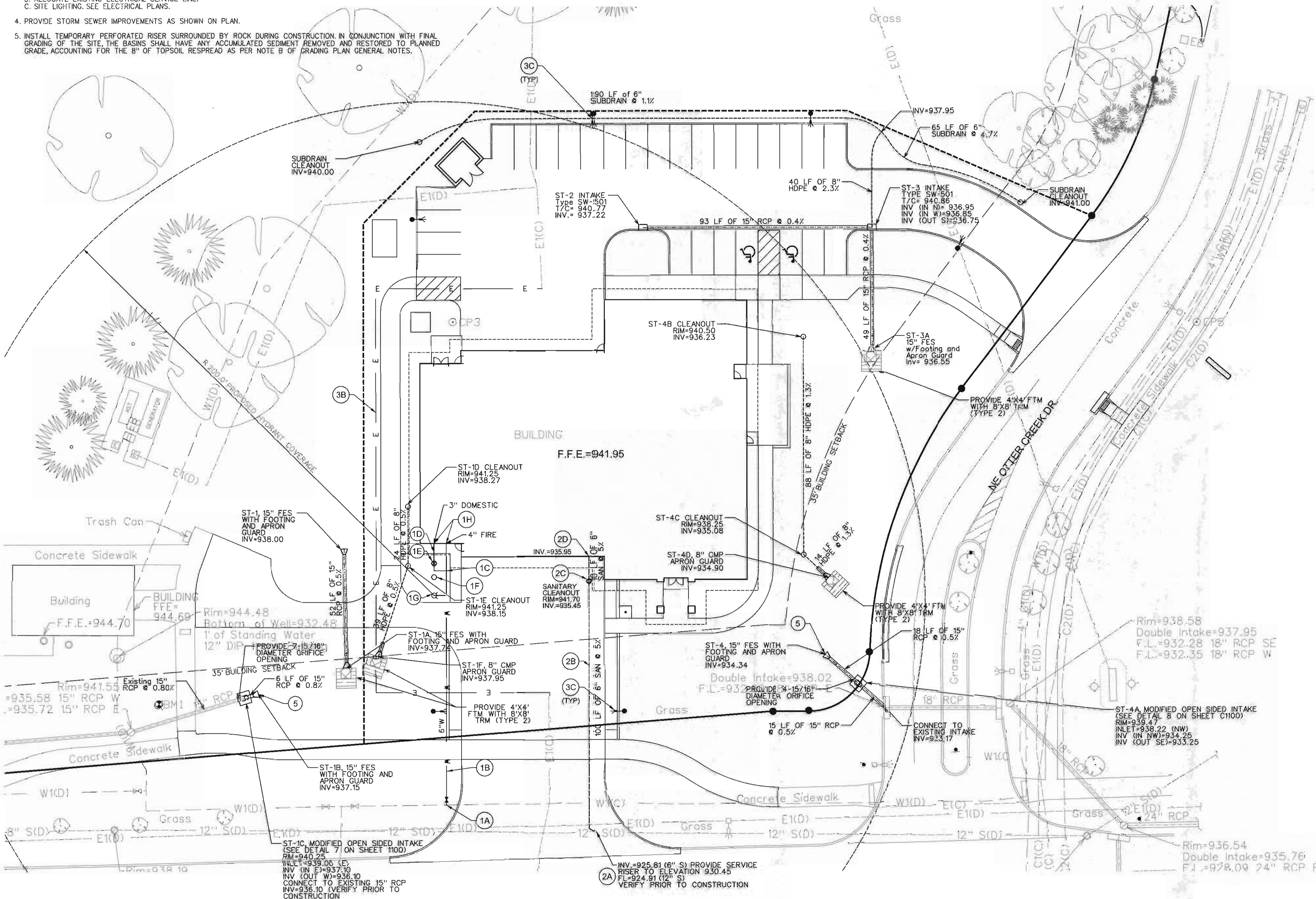
SHEET NUMBER

**C500**



# UTILITY PLAN CONSTRUCTION NOTES

- WATER SERVICES, COORDINATE SERVICE LOCATION AT BUILDING WITH THE MECHANICAL PLANS. PROVIDE THE FOLLOWING:
  - CONNECT TO EXISTING MAIN WITH 6" TAPPING SLEEVE AND VALVE.
  - 6" WATER SERVICE LINE.
  - SPLIT DOMESTIC AND FIRE.
  - 3" DOMESTIC WATER SERVICE, VERIFY SIZE WITH ARCHITECTURAL/MECHANICAL.
  - 3" WATER VALVE AND ENCASE IN 18" X18" PCC COLLAR.
  - FIRE DEPARTMENT CONNECTION, COORDINATE WITH MECHANICAL PLANS.
  - HYDRANT ASSEMBLY.
  - CONNECT TO PROPOSED BUILD SERVICES, REFER TO MECHANICAL PLANS FOR DETAIL.
- SANITARY SEWER SERVICES, PROVIDE THE FOLLOWING:
  - CONNECT TO EXISTING SANITARY SEWER WITH WYE, VERIFY LOCATION PRIOR TO CONSTRUCTION, PROVIDE RISER AS NECESSARY TO MATCH ELEVATIONS SHOWN.
  - 6" SANITARY SEWER SERVICE LINE, PROVIDE 1/2" MINIMUM SLOPE.
  - SANITARY SEWER CLEANOUT.
  - CONNECT TO PROPOSED BUILDING SERVICE, REFER TO MECHANICAL PLANS FOR DETAIL.
- ELECTRICAL SERVICE, PROVIDE THE FOLLOWING:
  - CONTRACTOR TO COORDINATE WITH THE UTILITY OWNER AND PROPERTY OWNER ALL ASPECTS OF ELECTRICAL SERVICE.
  - RELOCATE EXISTING ELECTRICAL SERVICE LINE.
  - SITE LIGHTING, SEE ELECTRICAL PLANS.
- PROVIDE STORM SEWER IMPROVEMENTS AS SHOWN ON PLAN.
- INSTALL TEMPORARY PERFORATED RISER SURROUNDED BY ROCK DURING CONSTRUCTION, IN CONJUNCTION WITH FINAL GRADING OF THE SITE, THE BASINS SHALL HAVE ANY ACCUMULATED SEDIMENT REMOVED AND RESTORED TO PLANNED GRADE, ACCOUNTING FOR THE 8" OF TOPSOIL RESPREAD AS PER NOTE B OF GRADING PLAN GENERAL NOTES.



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### SHEET TITLE

UTILITY PLAN

### SHEET NUMBER

C600



PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	QUANTITY
CO	Celtis occidentalis	HACKBERRY	1 1/2" Cal.	B&B	1
GB	Ginkgo Biloba 'Autumn Gold'	AUTUMN GOLD GINKGO	1 1/2" Cal.	B&B	1
GT	Gleditsia triacanthos var. inermis 'Skycole'	SKYLINE HONEYLOCUST	1 1/2" Cal.	B&B	3
GD	Gymnocladus dioica 'Espresso'	ESPRESSO KENTUCKY COFFEETREE	1 1/2" Cal.	B&B	4
QB	Quercus bicolor	SWAMP WHITE OAK	1 1/2" Cal.	B&B	1
TA	Tilia cordata 'Greenspire'	GREENSPIRE LINDEN	1 1/2" Cal.	B&B	4
AM	Aronia melanocarpa 'Morton'	IROQUOIS BEAUTY BLACK CHOKEBERRY	18" HT.	CONT. (3' O.C.)	10
SB	Spiraea betulifolia 'Tor'	TOR BIRCHLEAF SPIREA	18" HT.	CONT. (3' O.C.)	12
VT	Viburnum trilobum 'J.N. Select'	REDWING VIBURNUM	36" HT.	CONT. (8' O.C.)	22

NOTES:  
1. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITY SHOWN IN THE PLANT SCHEDULE AND THE QUANTITY SHOWN ON PLAN, THE QUANTITY SHOWN ON PLAN SHALL GOVERN.

PLANTING PLAN GENERAL NOTES

- A. UTILITY WARNING:  
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
- B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES. AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION. ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.
- C. ALL PLANT MATERIAL SHALL AT LEAST MEET MINIMUM REQUIREMENTS SHOWN IN THE "AMERICAN STANDARDS FOR NURSERY STOCK" (ANSI Z60.1-LATEST EDITION).
- D. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR FROM DATE OF INSTALLATION.
- E. PROVIDE 3-INCH DEPTH SHREDDED HARDWOOD MULCH AROUND ALL PLANTINGS TO A MIN. 3-FOOT PERIMETER, AND IN ALL AREAS INDICATED ON PLAN.
- F. CONTRACTOR SHALL SOD AREAS AS NOTED ON PLANS.
- G. CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION WITH TYPE 1 SEED, UNLESS OTHERWISE NOTED ON PLANS.
- H. CONTRACTOR SHALL SEED DETENTION BASINS WITH DETENTION BASIN SEED MIX AS MANUFACTURED BY PRAIRIE MOON NURSERY, WWW.PRAIRIEMOON.COM, 32115 PRAIRIE LANE, WINONA, MN 55967 (866) 417-8156, OR APPROVED EQUAL.
- I. SEE LANDSCAPE DETAILS ON SHEET C1000.

PLANTING PLAN REQUIREMENTS

LANDSCAPE REQUIREMENTS AND CALCULATIONS:  
(AS PER CITY OF ANKENY SITE PLAN OPEN SPACE AND LANDSCAPING REQUIREMENTS)

OPEN SPACE REQUIREMENTS:  
59,998 SF SITE PLAN PROJECT LIMITS X 20% MIN. OPEN SPACE = 12,000 SF OPEN SPACE REQUIRED  
(27,224 SF) 45.37% TOTAL OPEN SPACE PROVIDED

OPEN SPACE LANDSCAPE REQUIREMENTS:  
12,000 SF / 3000SF = 4.00 PLANT UNITS REQ'D  
4.00 PU X 2 TREES = 8 TREES REQ'D (12 PROVIDED)  
---- (8) OVERSTORY TREES PROVIDED COUNTED AT 100%  
---- (3) OVERSTORY TREES PROVIDED COUNTED AT 50% DUE TO PLOT SHADING (COUNTED AT 2-1), TOTAL COUNTED 6

4 PU X 6 SHRUBS = 24 SHRUBS REQ'D (44 PROVIDED)

PAVEMENT SHADING REQUIREMENTS FOR NEW PAVEMENT:  
20,162 SF PAVEMENT X 20% = 4,032.40 SF  
4,032.40 / 706 SF = 5.71 OVERSTORY TREES REQ'D (6 PROVIDED)  
---- (3) PAVEMENT OVERSTORY TREES PROVIDED WITHIN 15' OF PAVED AREA ON ONE SIDE (COUNTED AT 50%), TOTAL COUNTED 6  
---- (3) PAVEMENT OVERSTORY TREES PROVIDED WITHIN 15' OF PAVED AREA ON 2 OR MORE SIDES (COUNTED AT 100%), TOTAL COUNTED 6  
4,236 SF PAVEMENT SHADING PROVIDED

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PROJECT INFORMATION  
  
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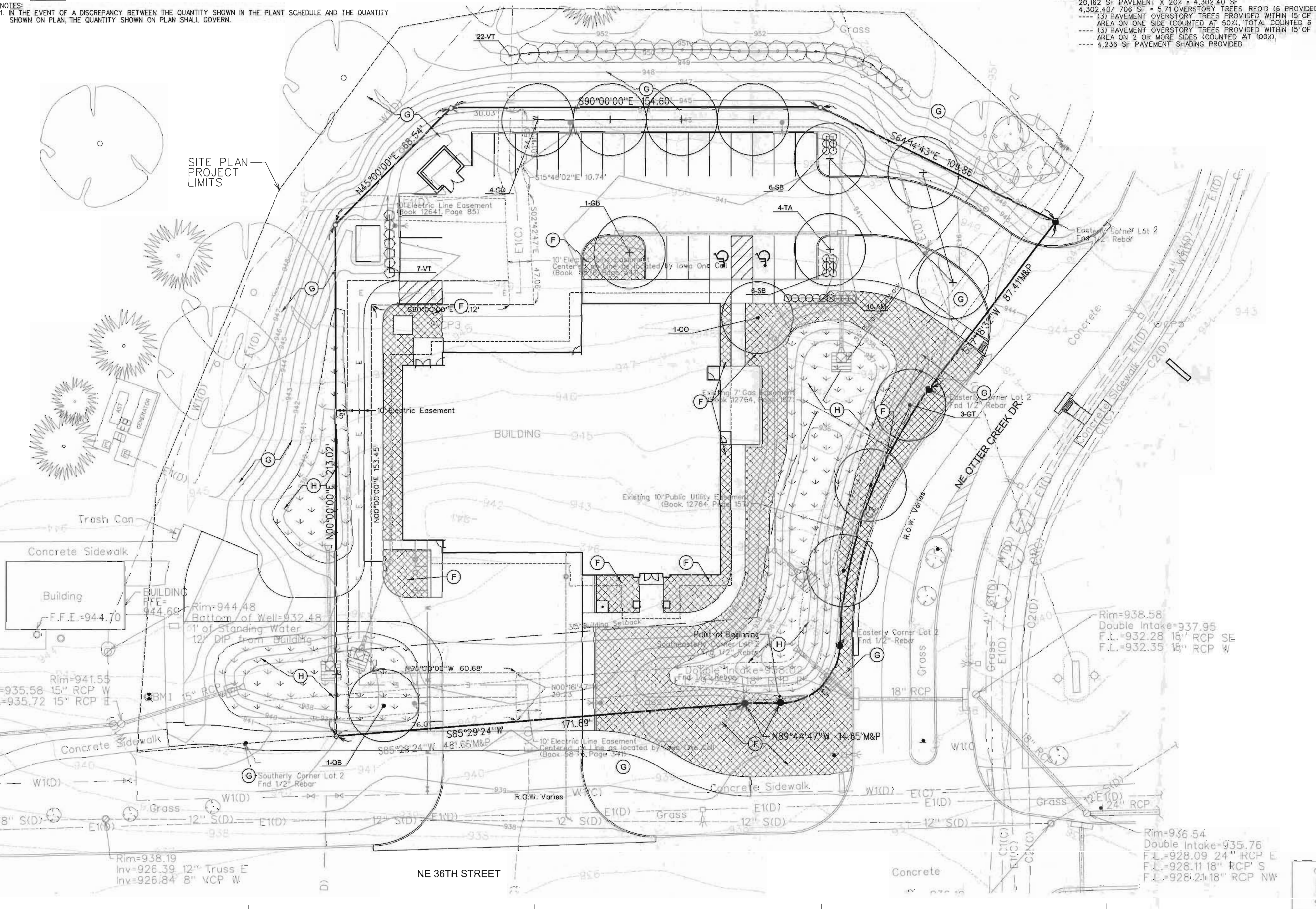
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PLAN

SHEET NUMBER

C700



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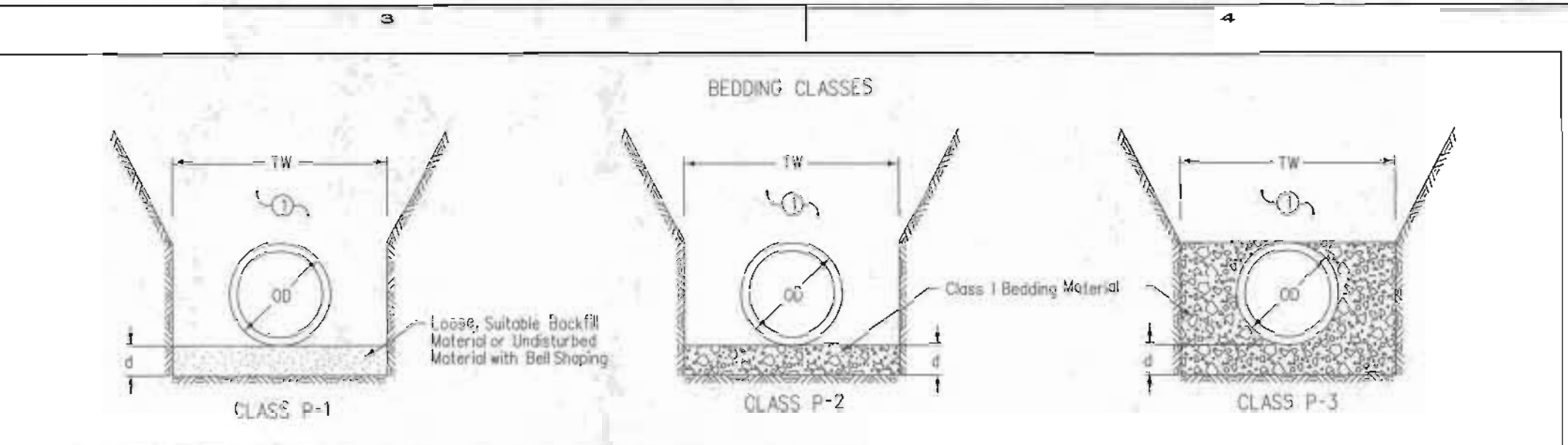
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### SHEET TITLE

## SITE DETAILS

### SHEET NUMBER

# C800

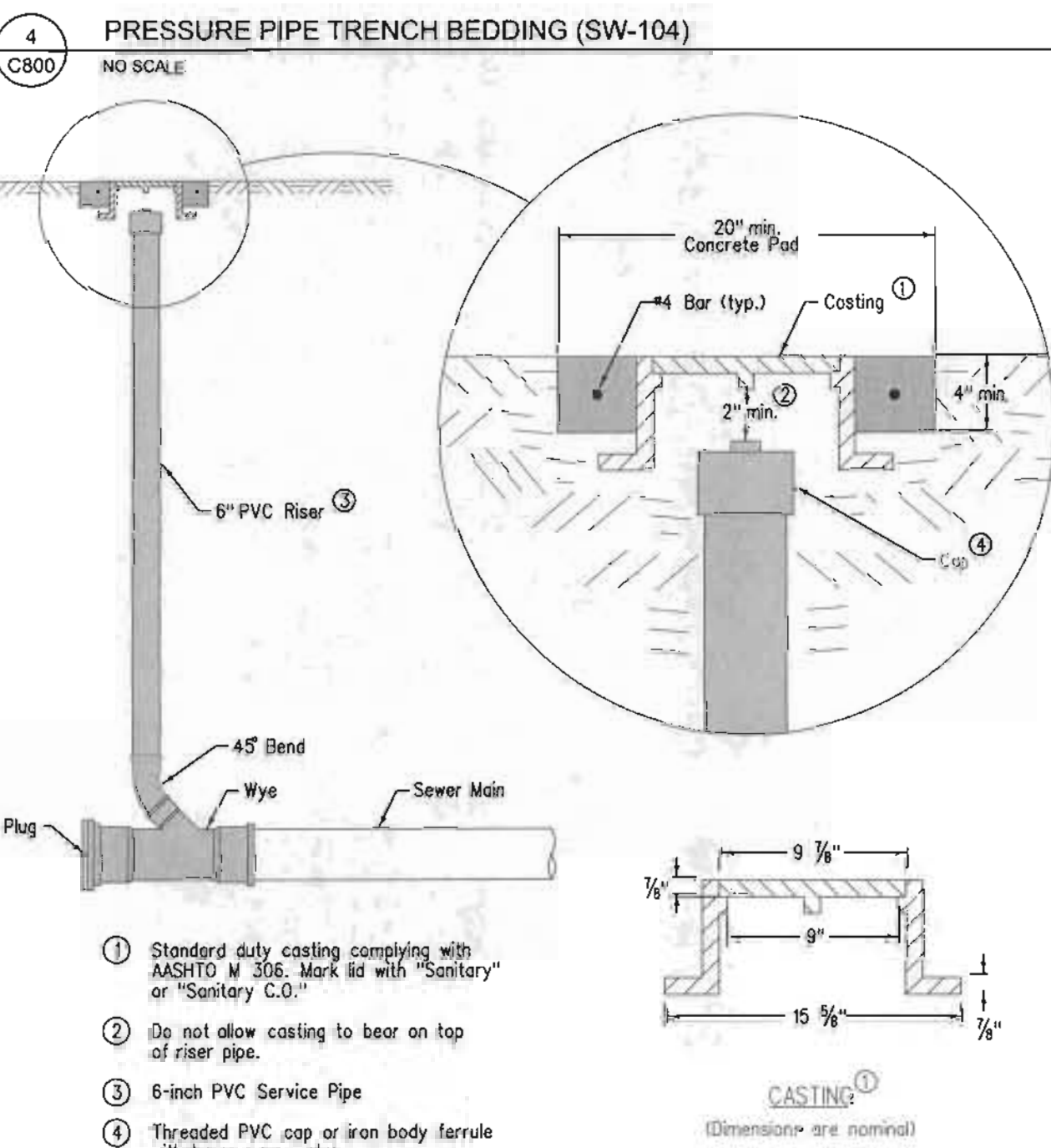


ALLOWABLE BURY DEPTH				
DUCTILE IRON, AWWA C151, CLASS 52				
Pipe Diameter (inches)	Class P-1 Bedding	Class P-2 Bedding	Class P-3 Bedding	
4	40"	40"	40"	
6	40"	40"	40"	
8	40"	40"	40"	
10	36"	40"	40"	
12	31"	40"	40"	
14	26"	40"	40"	
16	23"	37"	40"	
18	20"	34"	40"	
20	18"	32"	40"	
24	16"	29"	38"	
30	13"	23"	31"	
36	13"	22"	30"	
42	13"	21"	29"	
48	13"	19"	27"	
54	13"	19"	27"	

PVC, AWWA C900 & C905, 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 materials as specified in the contract documents.

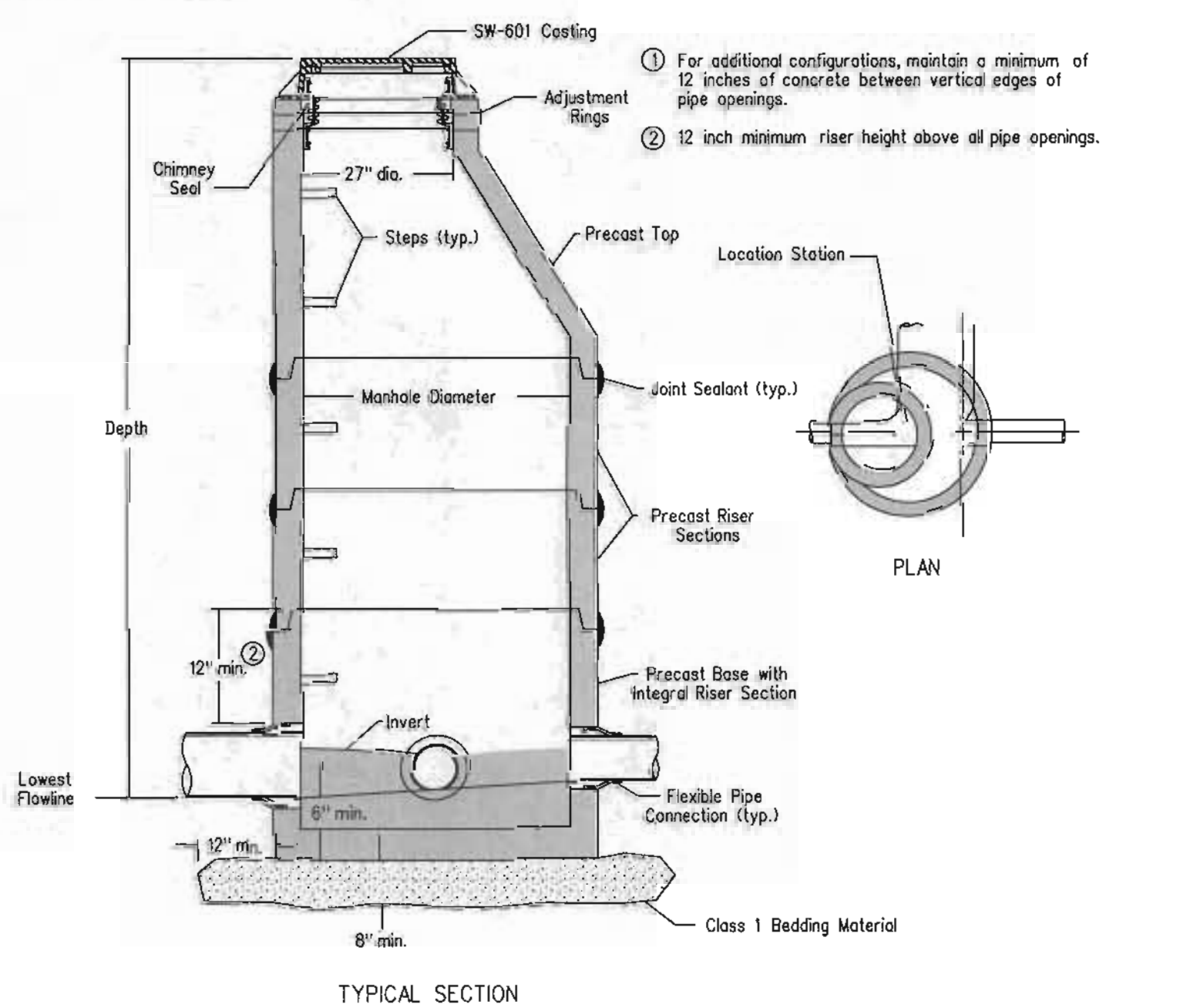
Key  
OD = Outside diameter of pipe  
TW = Trench width at top of pipe:  
Min. = OD+8 inches OR 1.25xOD+12 inches (whichever is greater)  
d = Depth of bedding material below pipe:  
Min. = OD/8 OR 4 inches (whichever is greater)



- Standard duty casting complying with AASHTO M 206, Mark 1d with "Sanitary" or "Sanitary C.O."
- Do not allow casting to bear on top of riser pipe.
- 6-inch PVC Service Pipe
- Threaded PVC cap or iron body ferrule with brass screw plug

### 5 SANITARY SEWER CLEANOUT

C800 NO SCALE



- For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- 12 inch minimum riser height above all pipe openings.

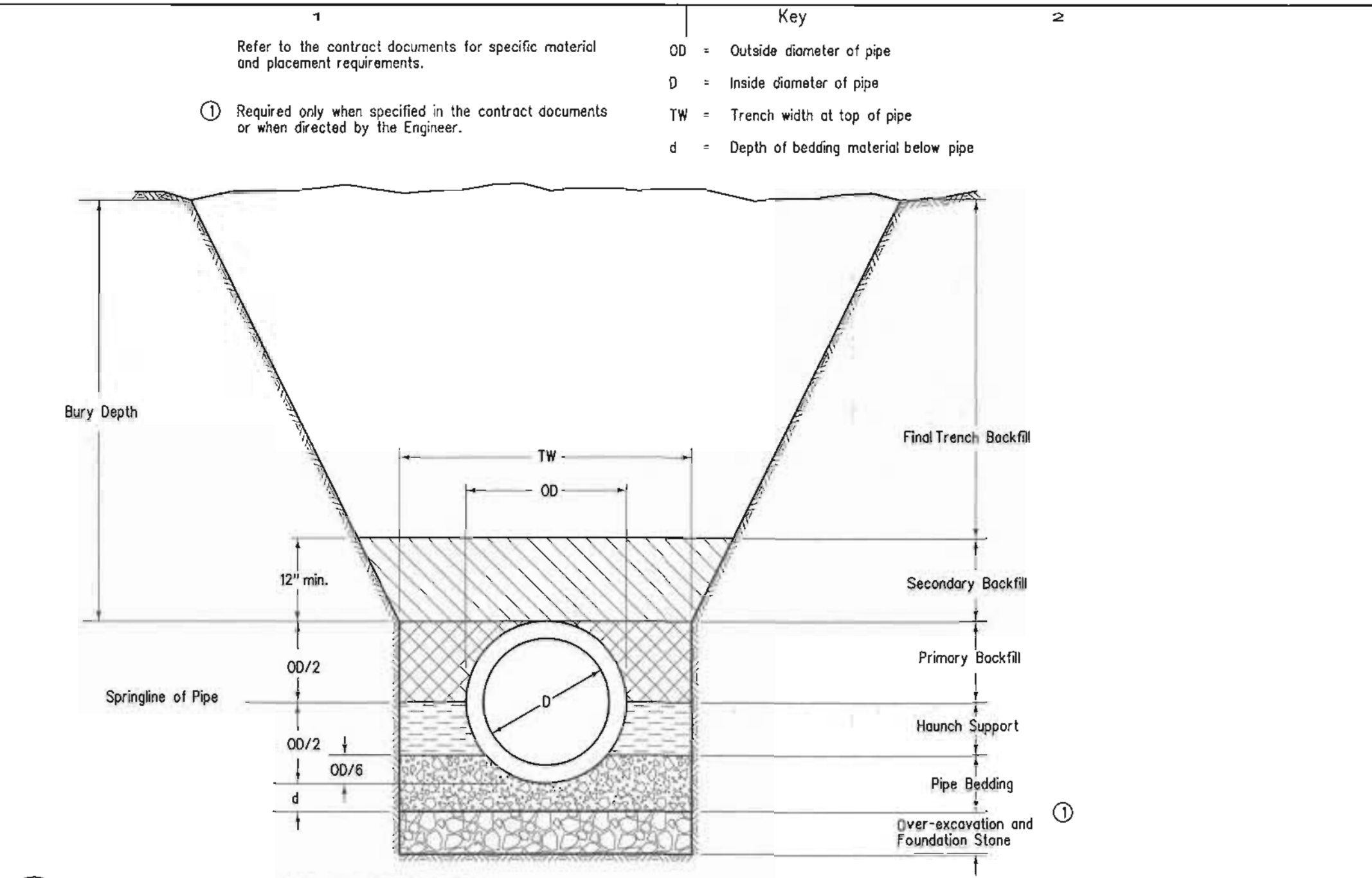
TYPICAL SECTION

### 6 SW-301 CIRCULAR SANITARY SEWER MANHOLE (SW-301)

C800 NO SCALE

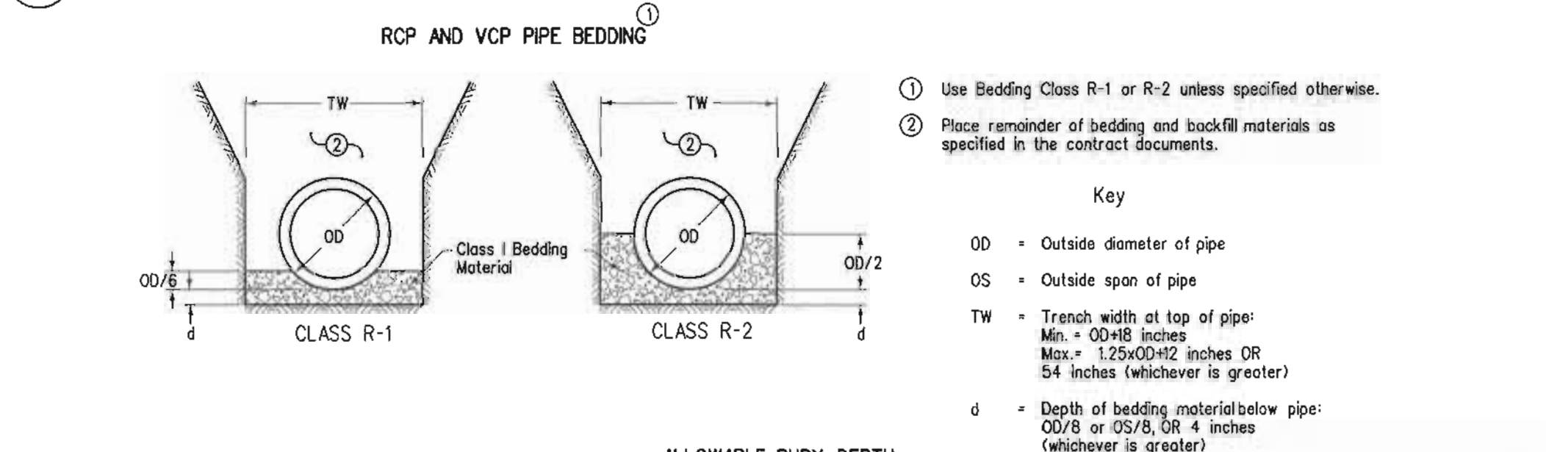


TYPICAL SECTION



### 1 TRENCH BEDDING AND BACKFILL ZONES

C800 NO SCALE



- Use Bedding Class R-1 or R-2 unless specified otherwise.
- Place remainder of bedding and backfill materials as specified in the contract documents.

Key  
OD = Outside diameter of pipe  
OS = Outside span of pipe  
TW = Trench width at top of pipe:  
Min. = OD+8 inches  
Max. = 1.25xOD+12 inches OR 54 inches (whichever is greater)  
d = Depth of bedding material below pipe:  
OD/8 or OS/8, OR 4 inches (whichever is greater)

CLASS III RCP					
Pipe Diameter (inches)	Class R-1 Bedding	Class R-2 Bedding	Class R-3 & R-4 Bedding		
	No Steel	No Steel	As=0.4X	As=1.0Z	
12	7"	10"	15"	19"	27"
15	8"	10"	16"	19"	27"
18	8"	11"	16"	20"	40"
21	8"	11"	18"	26"	40"
24	8"	12"	23"	36"	40"
27	10"	15"	30"	40"	40"
30	11"	15"	29"	40"	40"
33	11"	15"	28"	40"	40"
36	11"	15"	27"	40"	40"
42	11"	15"	26"	38"	40"
48	11"	15"	26"	36"	40"
54	11"	15"	25"	34"	40"
60	11"	15"	25"	33"	40"
66	11"	15"	24"	32"	40"
72	11"	15"	24"	32"	40"

As = Area of Steel Reinforcing

CLASS IV RCP					
Pipe Diameter (inches)	Class R-1 Bedding	Class R-2 Bedding	Class R-3 & R-4 Bedding		
	No Steel	No Steel	As=0.4X	As=1.0Z	
12	12"	15"	23"	28"	40"
15	12"	16"	23"	30"	40"
18	13"	16"	29"	40"	40"
21	13"	18"	40"	40"	40"
24	16"	23"	40"	40"	40"
27	18"	29"	40"	40"	40"
30	18"	29"	40"	40"	40"
33	19"	28"	40"	40"	40"
36	19"	28"	40"	40"	40"
42	18"	27"	40"	40"	40"
48	18"	26"	40"	40"	40"
54	18"	25"	40"	40"	40"
60	18"	25"	40"	40"	40"
66	18"	24"	40"	40"	40"
72	18"	24"	40"	40"	40"

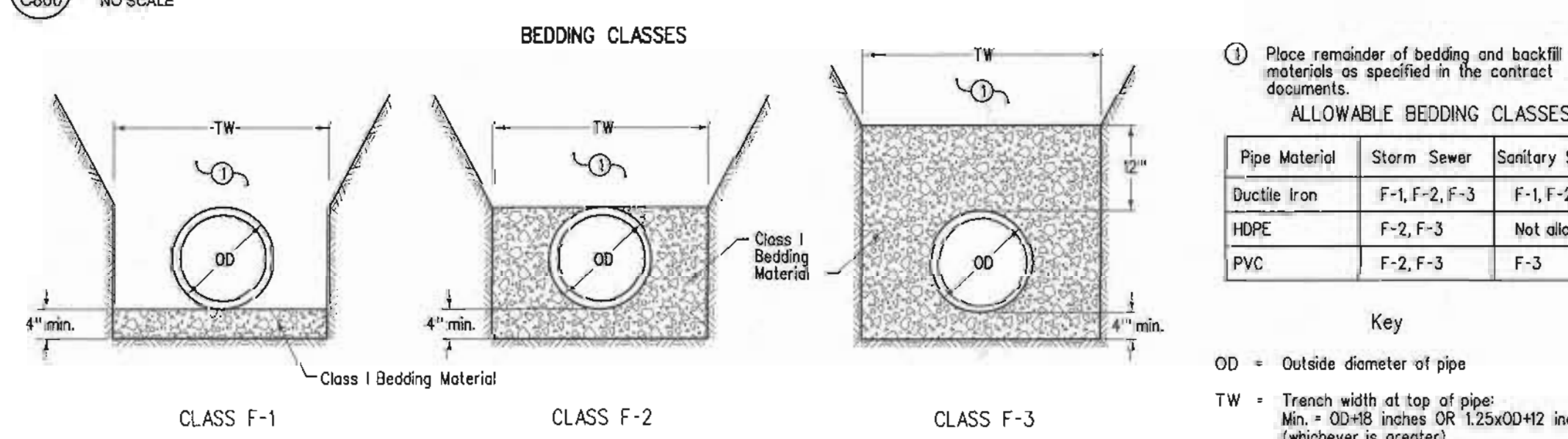
As = Area of Steel Reinforcing

CLASS V RCP					
Pipe Diameter (inches)	Class R-1 Bedding	Class R-2 Bedding	Class R-3 & R-4 Bedding		
	No Steel	No Steel	As=0.4X	As=1.0Z	
12	18"	23"	35"	40"	40"
15	19"	24"	40"	40"	40"
18	19"	30"	40"	40"	40"
21	25"	40"	40"	40"	40"
24	34"	40"	40"	40"	40"
27	40"	40"	40"	40"	40"
30	40"	40"	40"	40"	40"
33	40"	40"	40"	40"	40"
36	40"	40"	40"	40"	40"
42	37"	40"	40"	40"	40"
48	35"	40"	40"	40"	40"
54	33"	40"	40"	40"	40"
60	32"	40"	40"	40"	40"
66	31"	40"	40"	40"	40"
72	30"	40"	40"	40"	40"

As = Area of Steel Reinforcing

### 2 RIGID GRAVITY PIPE TRENCH BEDDING

C800 NO SCALE



- Place remainder of bedding and backfill materials as specified in the contract documents.

ALLOWABLE BEDDING CLASSES			
Pipe Material	Storm Sewer	Sanitary Sewer	
Ductile Iron	F-1, F-2, F-3	F-1, F-2, F-3	
HDPE	F-2, F-3	Not allowed	
PVC	F-2, F-3	F-3	

Key  
OD = Outside diameter of pipe  
TW = Trench width at top of pipe:  
Min. = OD+8 inches OR 1.25xOD+12 inches (whichever is greater)

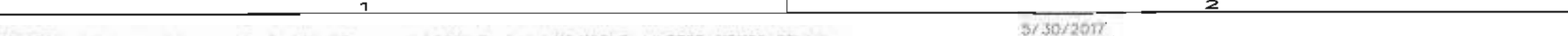
PVC PIPE (Bedding Class F-2 or F-3)				
Pipe Diameter (inches)	ASTM D 3034 SDR 23.5	ASTM D 3034 SDR 26	ASTM F 679 Solid Wall SDR 35	ASTM F 949 D 2680 D 1803 D 2680 Composite (Trust Type)
8	30"	28"	24"	32"
10	30"	28"	24"	32"
12	30"	28"	24"	32"
15	30"	28"	24"	32"
18	---	---	24"	---
21	---	---	24"	---
24	---	---	24"	---
27	---	---	24"	---
30	---	---	24"	---
33	---	---	24"	---
36	---	---	24"	---
42	---	---	24"	---
48	---	---	24"	---
54	---	---	---	---
60	---	---	---	---

DUCTILE IRON, AWWA C151, CLASS 52 (Bedding Class F-1, F-2, or F-3)				
Pipe Diameter (inches)	Class F-1 Bedding	Class F-2 Bedding	Class F-3 Bedding	
4	40"	40"	40"	
6	40"	40"	40"	
8	40"	40"	40"	
10	40"	40"	40"	
12	37"	40"	40"	
14	31"	40"	40"	
16	28"	37"	40"	
18	25"	34"	40"	
20	23"	32"	40"	
24	20"	29"	38"	
30	18"	23"	31"	
36	18"	22"	30"	
42	17"	21"	29"	
48	16"	19"	27"	
54	16"	19"	27"	

HDPE PIPE (Bedding Class F-2 or F-3)				
Pipe Diameter (inches)	AASHTO M 294			
12	8"			
15	9"			
18	9"			
24	9"			
30	9"			
36	9"			
42	8"			
48	8"			
54	8"			
60	8"			

### 3 FLEXIBLE GRAVITY PIPE TRENCH BEDDING

C800 NO SCALE



C:\Users\lindab\Documents\ANKENY FIRE STATION #3\_lindab.rvt



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CLIENT LOGO

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**ANKENY FIRE STATION #3**  
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**CITY OF ANKENY**  
410 WEST FIRST STREET  
ANKENY, IA 50023

DRAWING ISSUE INFORMATION

ISSUE FOR: 95% OWNER REVIEW  
NOT FOR CONSTRUCTION  
ISSUE DATE:

REV DATE	REV

MANAGEMENT INFORMATION

PROJECT NO: 16022

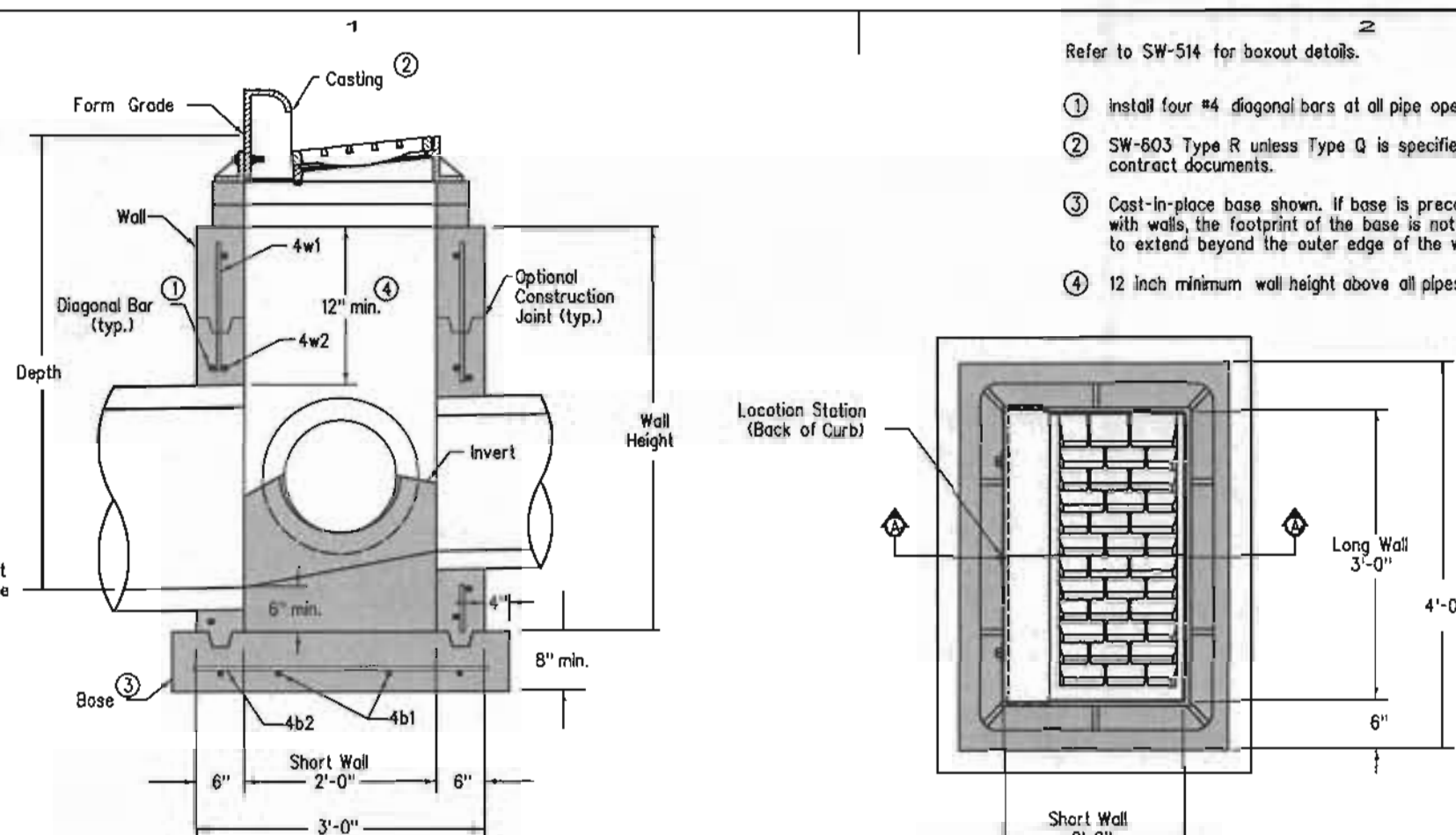
PRINCIPAL IN CHARGE: RO PROJECT ARCHITECT: RO

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SHEET TITLE  
**SITE DETAILS**

SHEET NUMBER

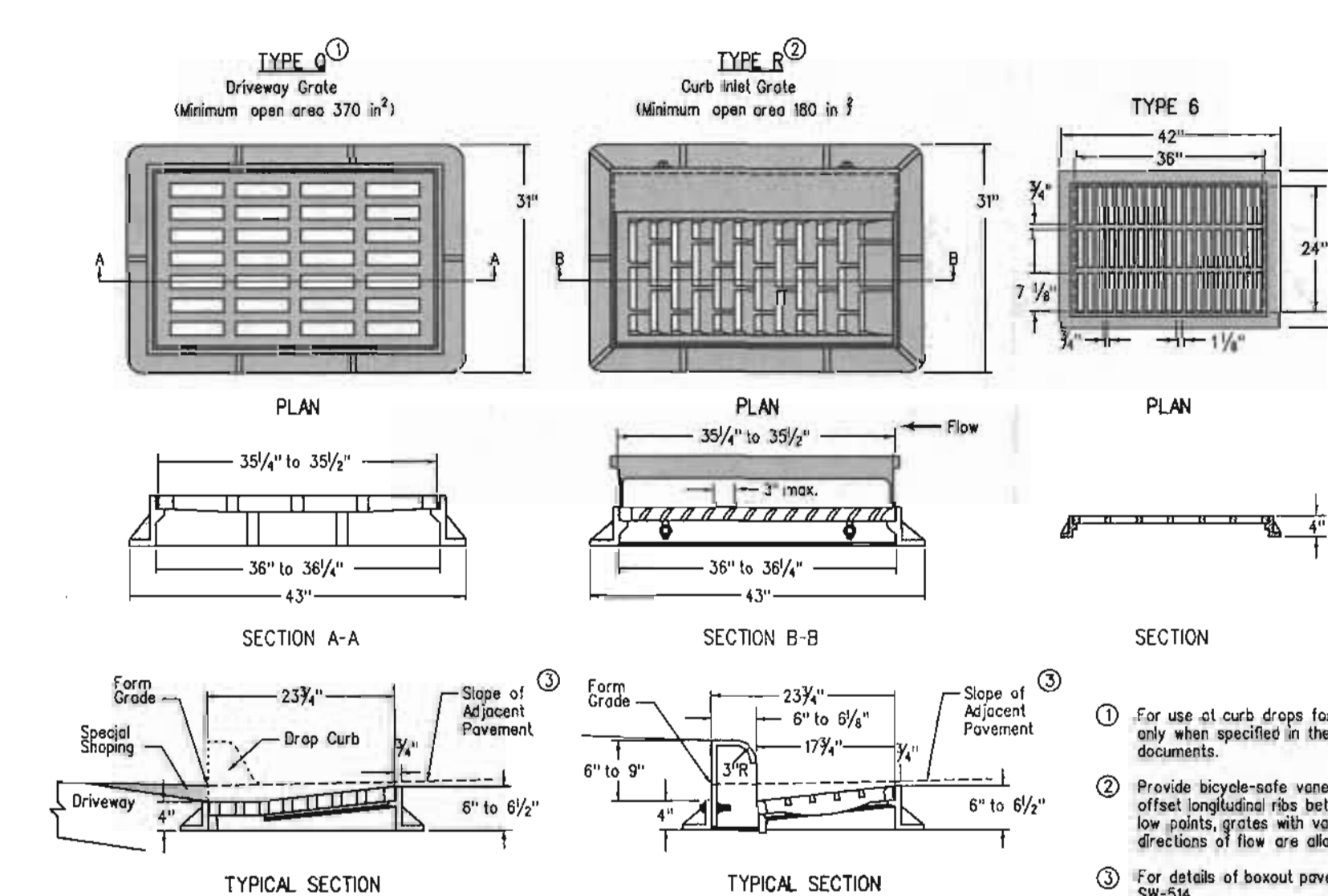
C900



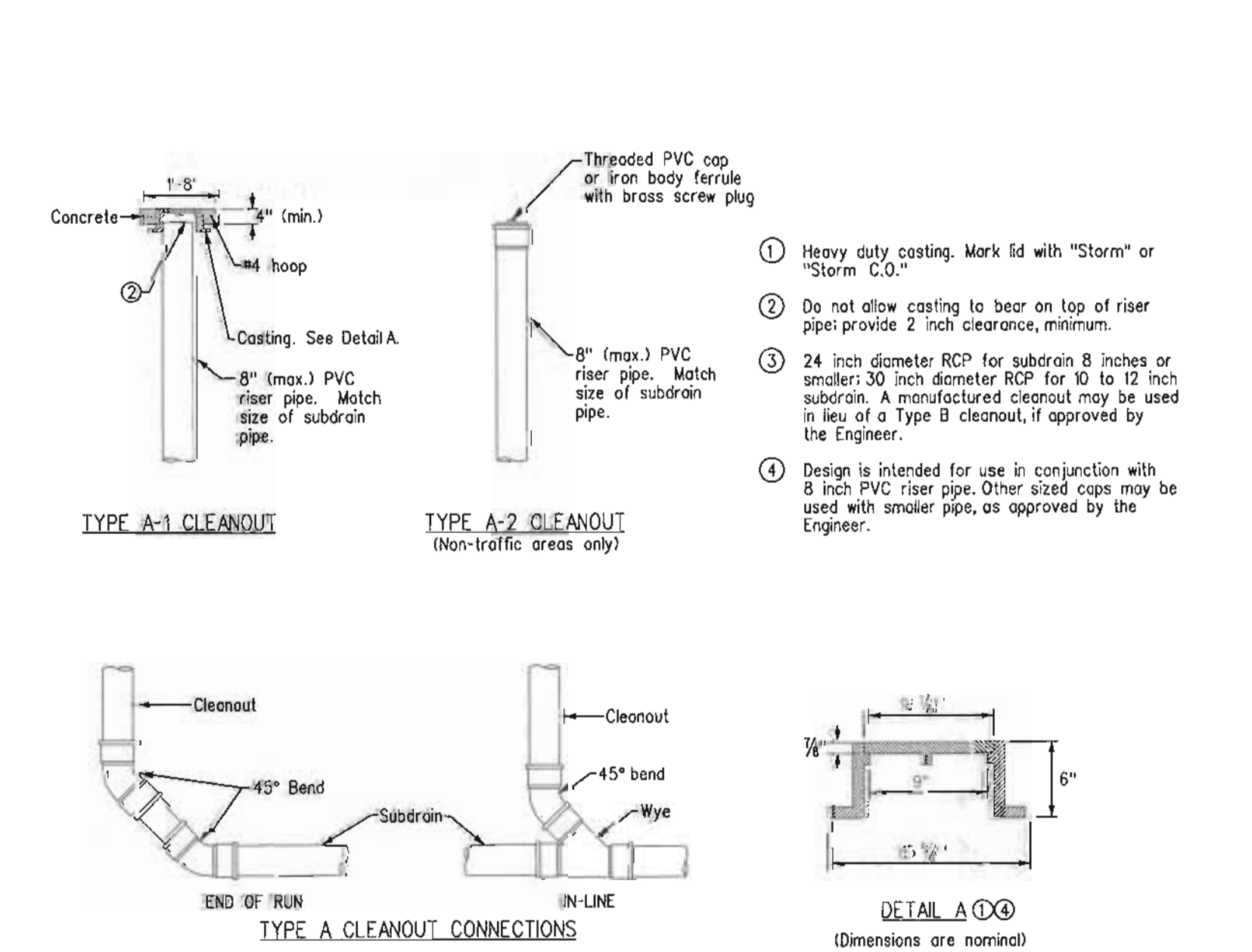
Mark	Size	Location	Shape	Length	Count	Spacing
4w1	4	Walls		12"	14	12"
4w2	4	Long Walls		3'-8"	Varies	12"
4w3	4	Short Walls		2'-8"	Varies	12"
4b1	4	Base		4'-2"	4	10"
4b2	4	Base		3'-2"	5	10"

MAXIMUM PIPE DIAMETERS			
Location	Pipe	Precast Structure	Cast-in-place Structure
Short Wall	18"	18"	18"
Long Wall	24"	30"	30"

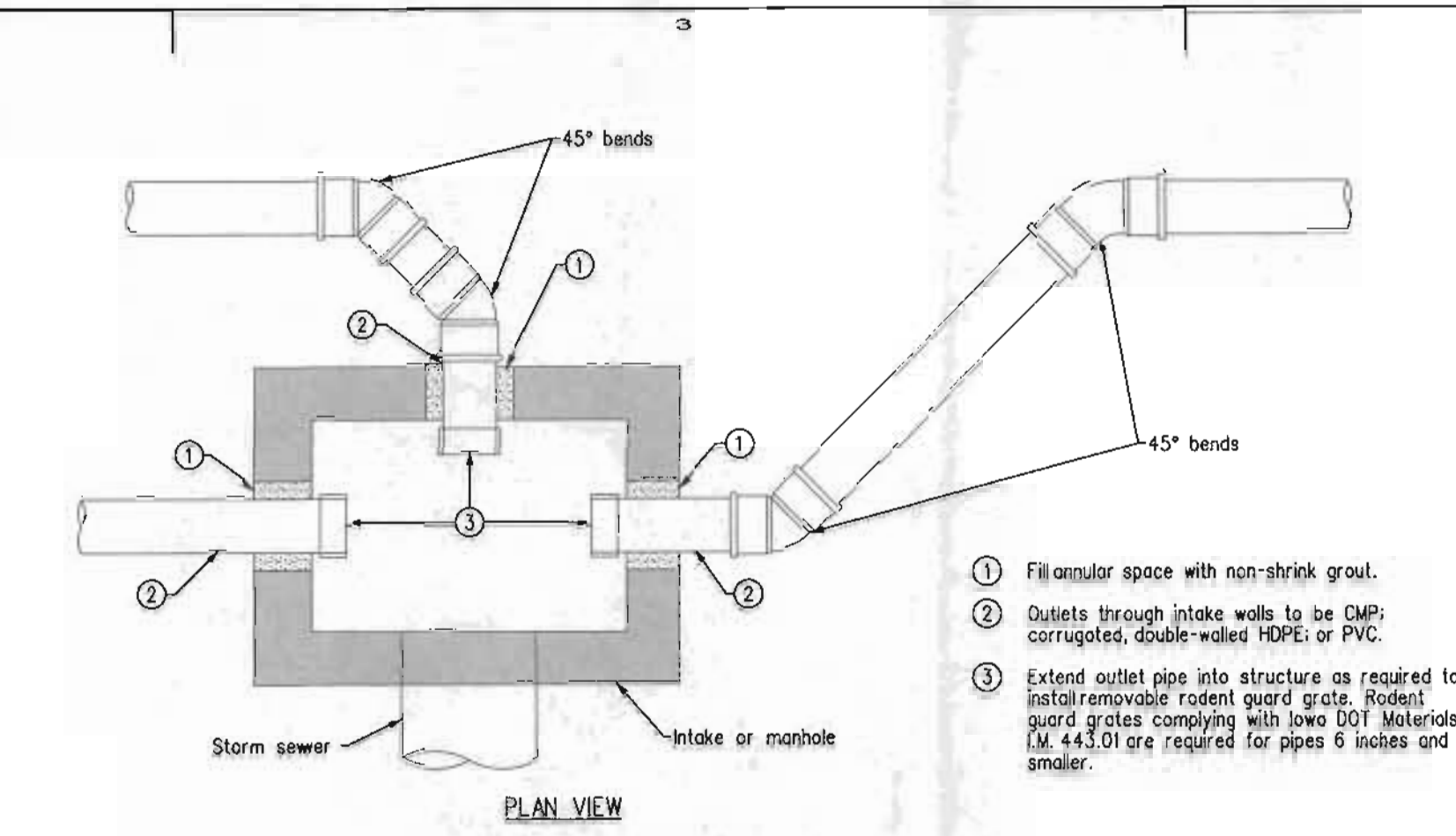
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C900 NO SCALE



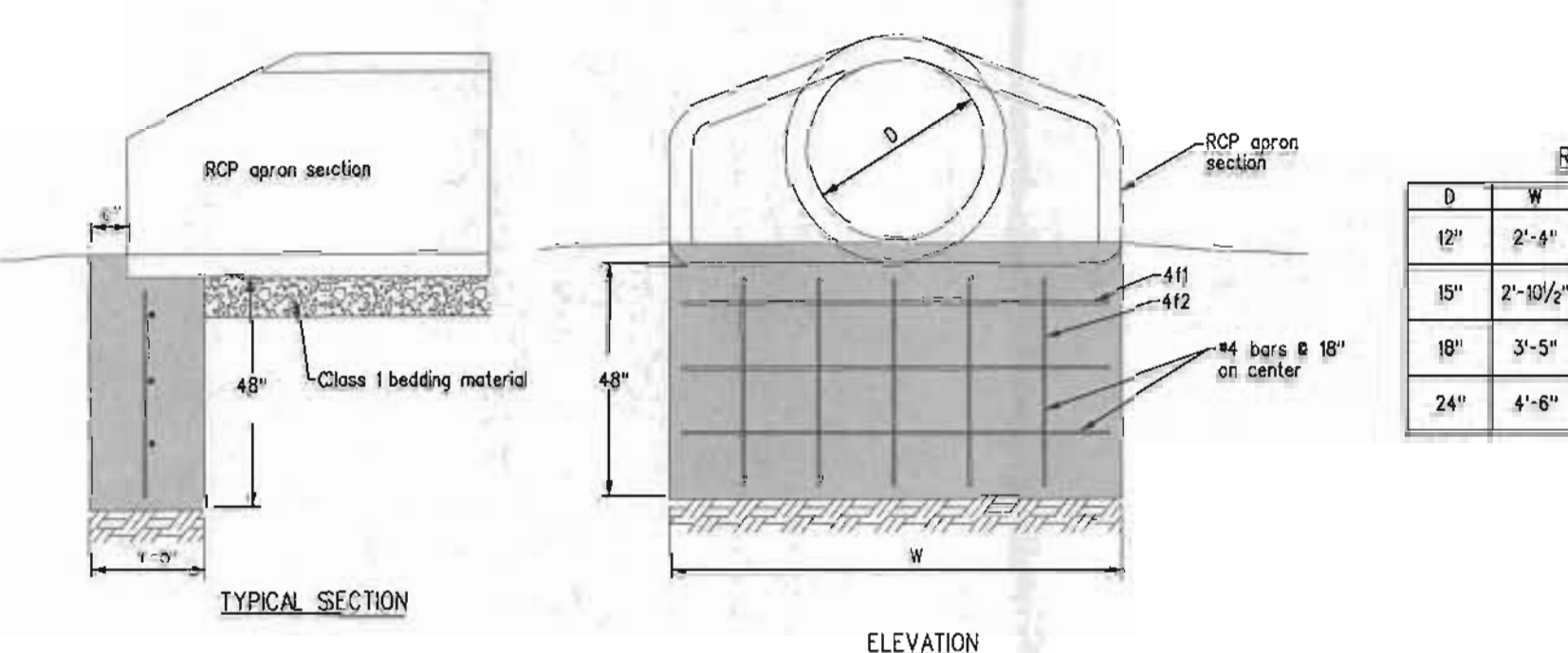
2 CASTINGS FOR GRATE INTAKES  
C900 NO SCALE



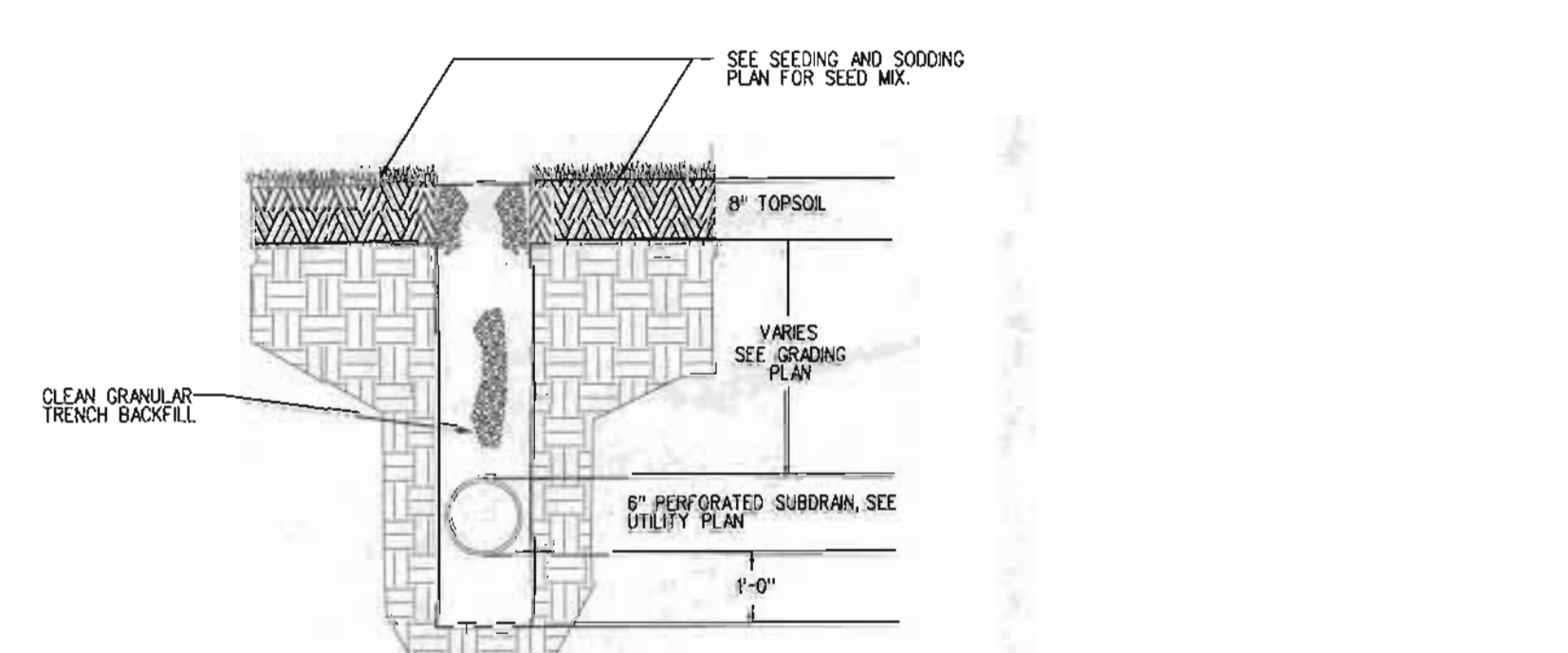
3 SUBDRAIN CLEANOUTS  
C900 NO SCALE



4 SUBDRAIN OUTLETS  
C900 NO SCALE



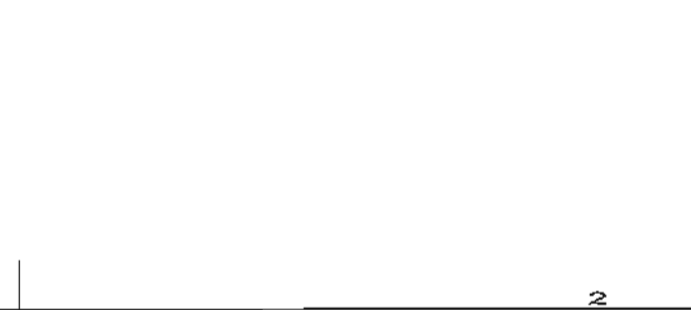
5 RCP APRON SECTION FOOTING  
C900 NO SCALE



6 INFILTRATION TRENCH CROSS SECTION DETAIL  
C900 NO SCALE



7 SUBDRAIN CLEANOUTS  
C900 NO SCALE





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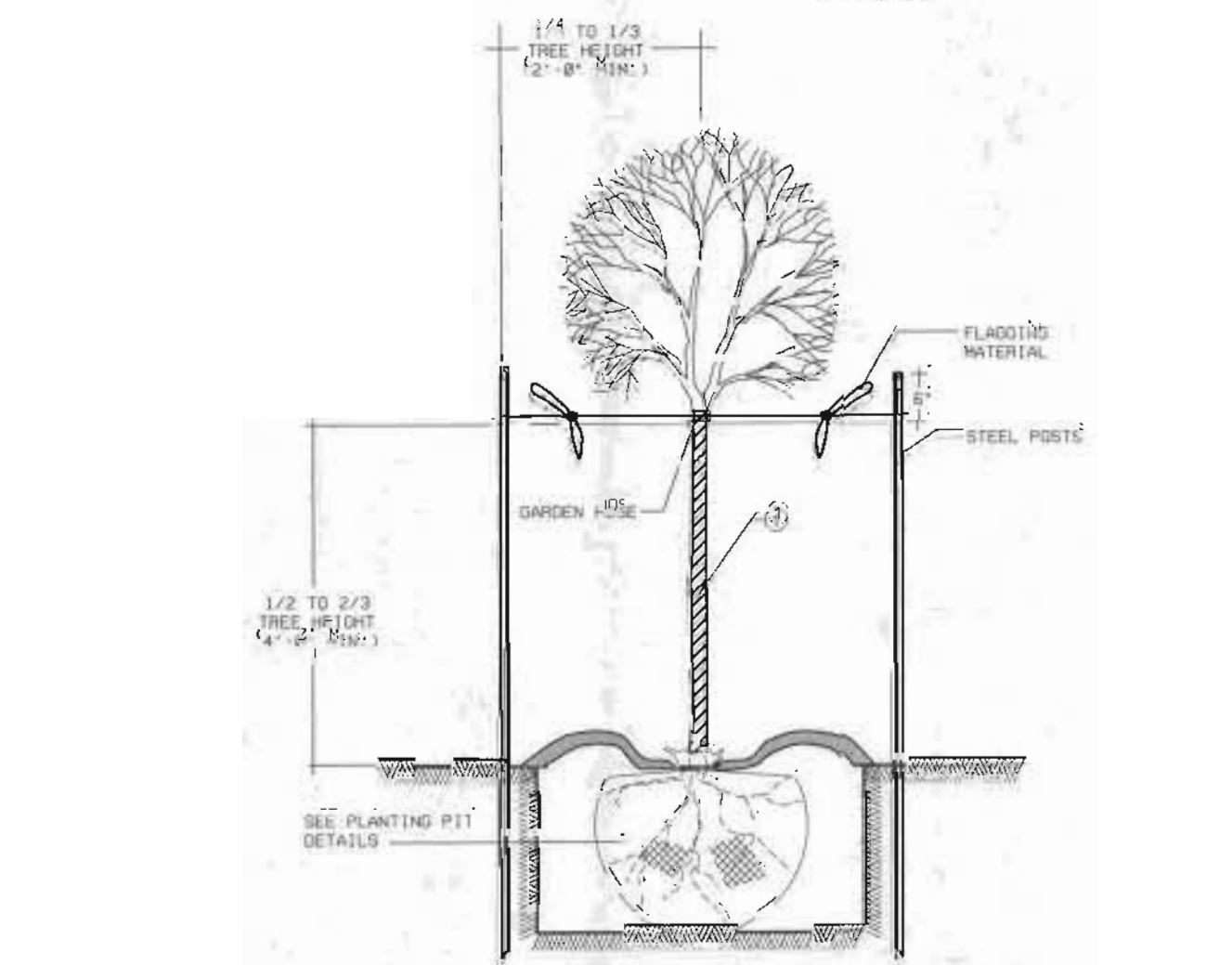
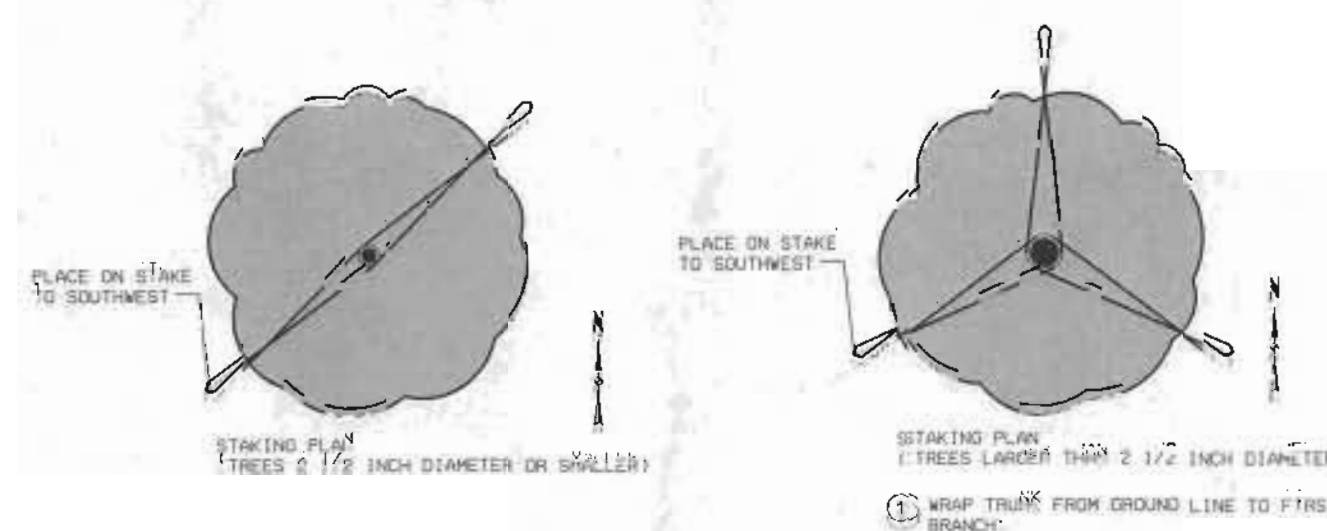
PRINCIPAL IN CHARGE RO PROJECT ARCHITECT: RO

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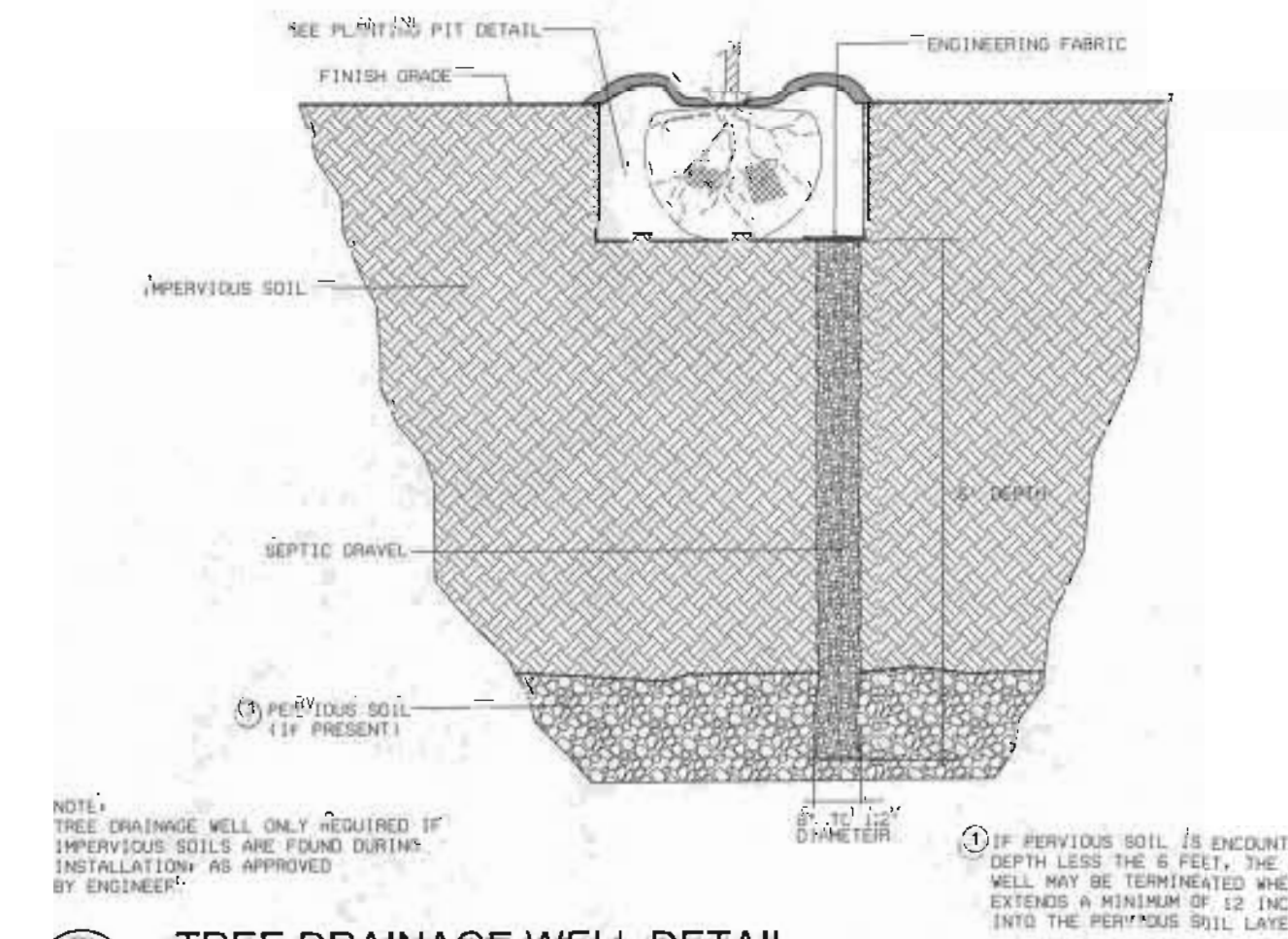
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SITE DETAILS

SHEET NUMBER

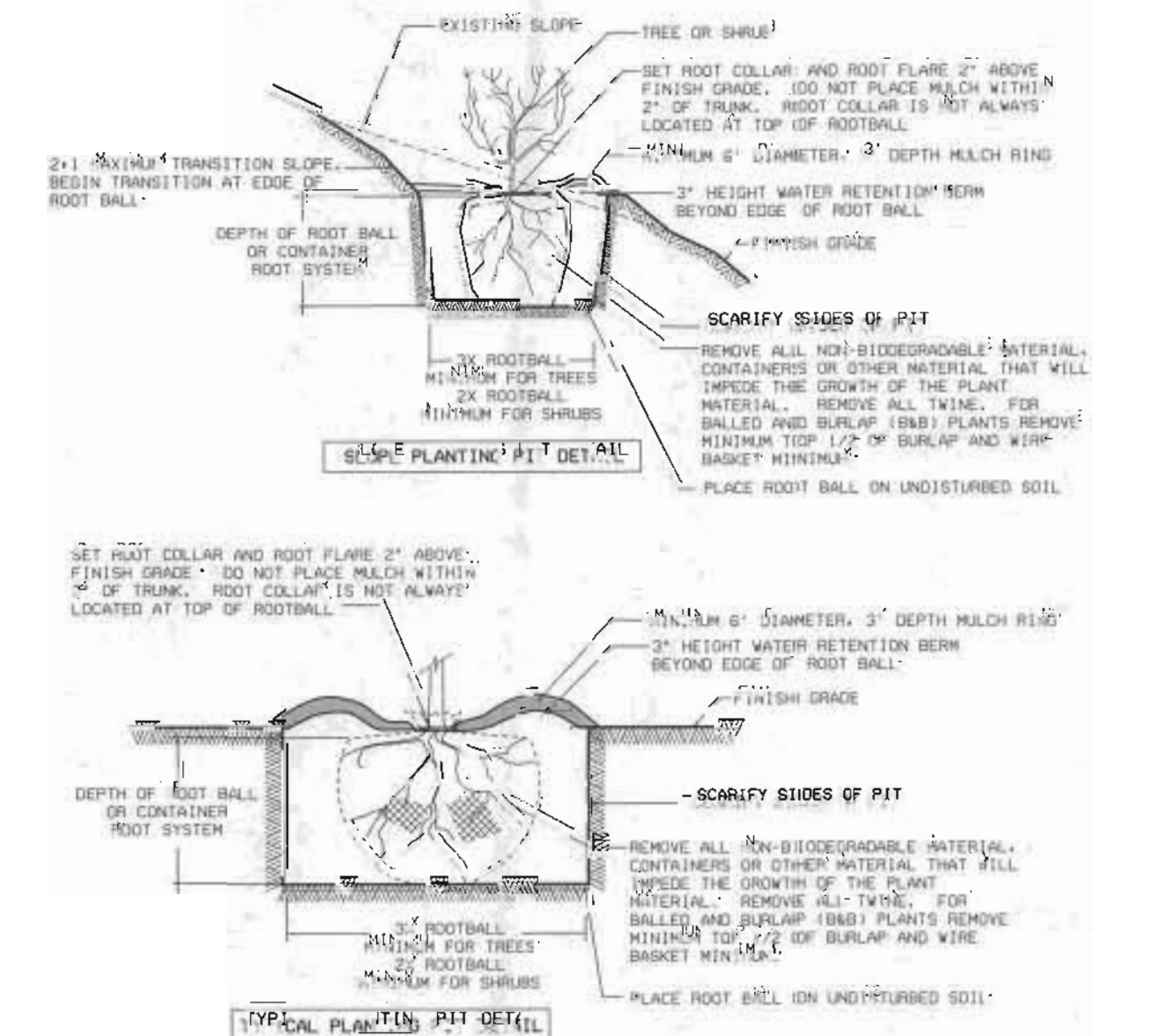
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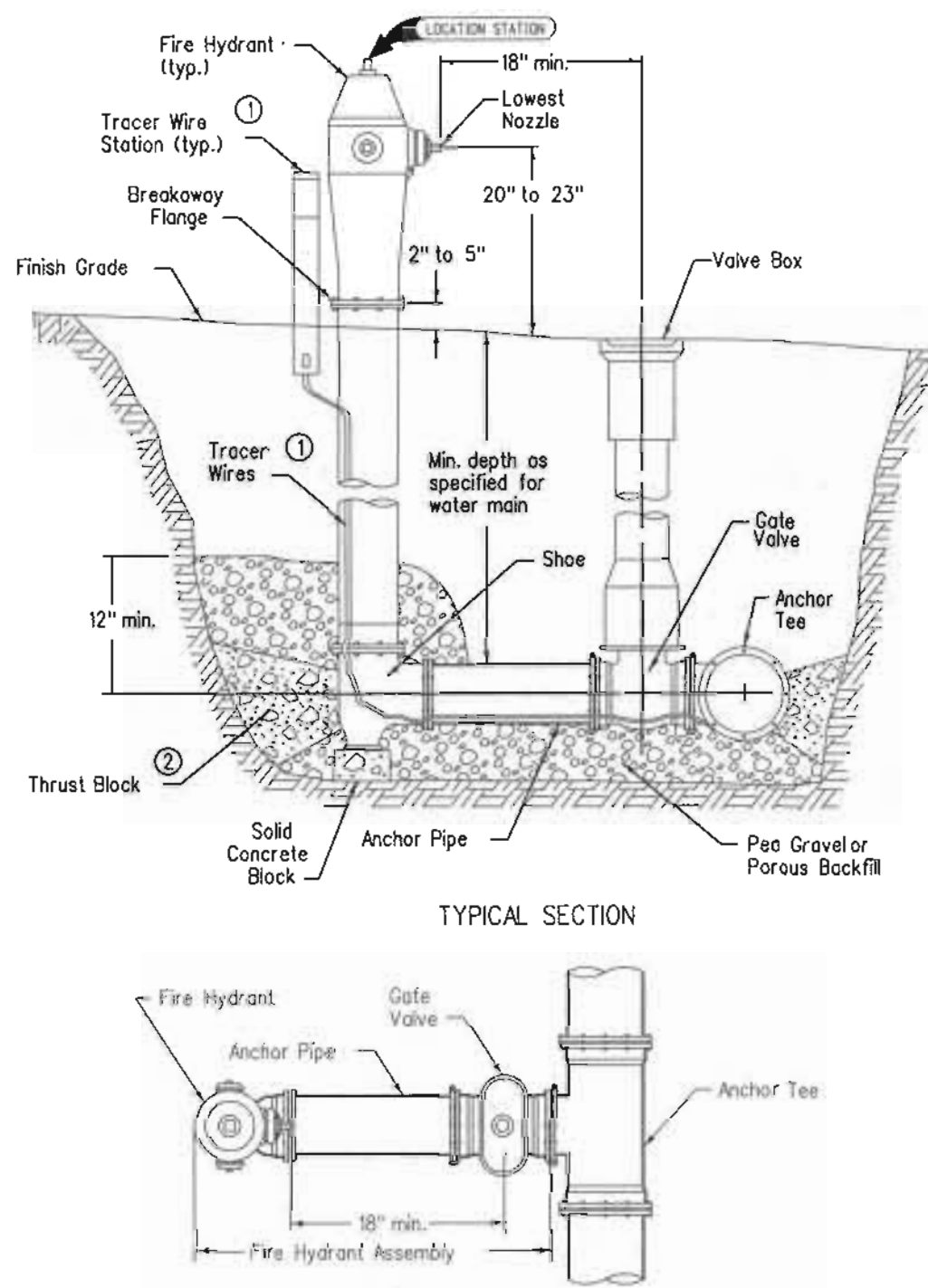
3 DECIDUOUS TREE STAKING  
NO SCALE



5 TREE DRAINAGE WELL DETAIL  
NO SCALE

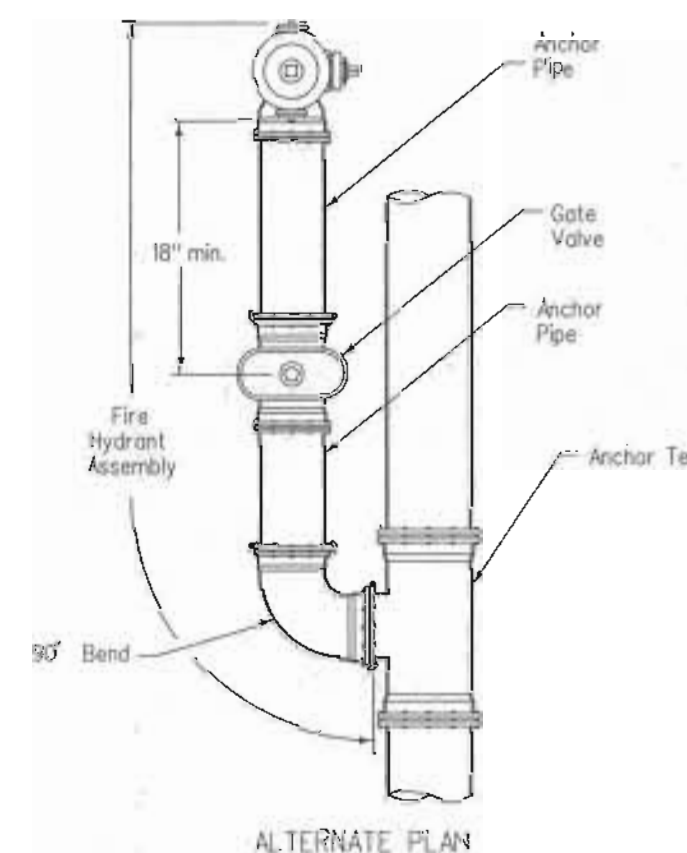


6 PLANTING PIT DETAILS  
NO SCALE

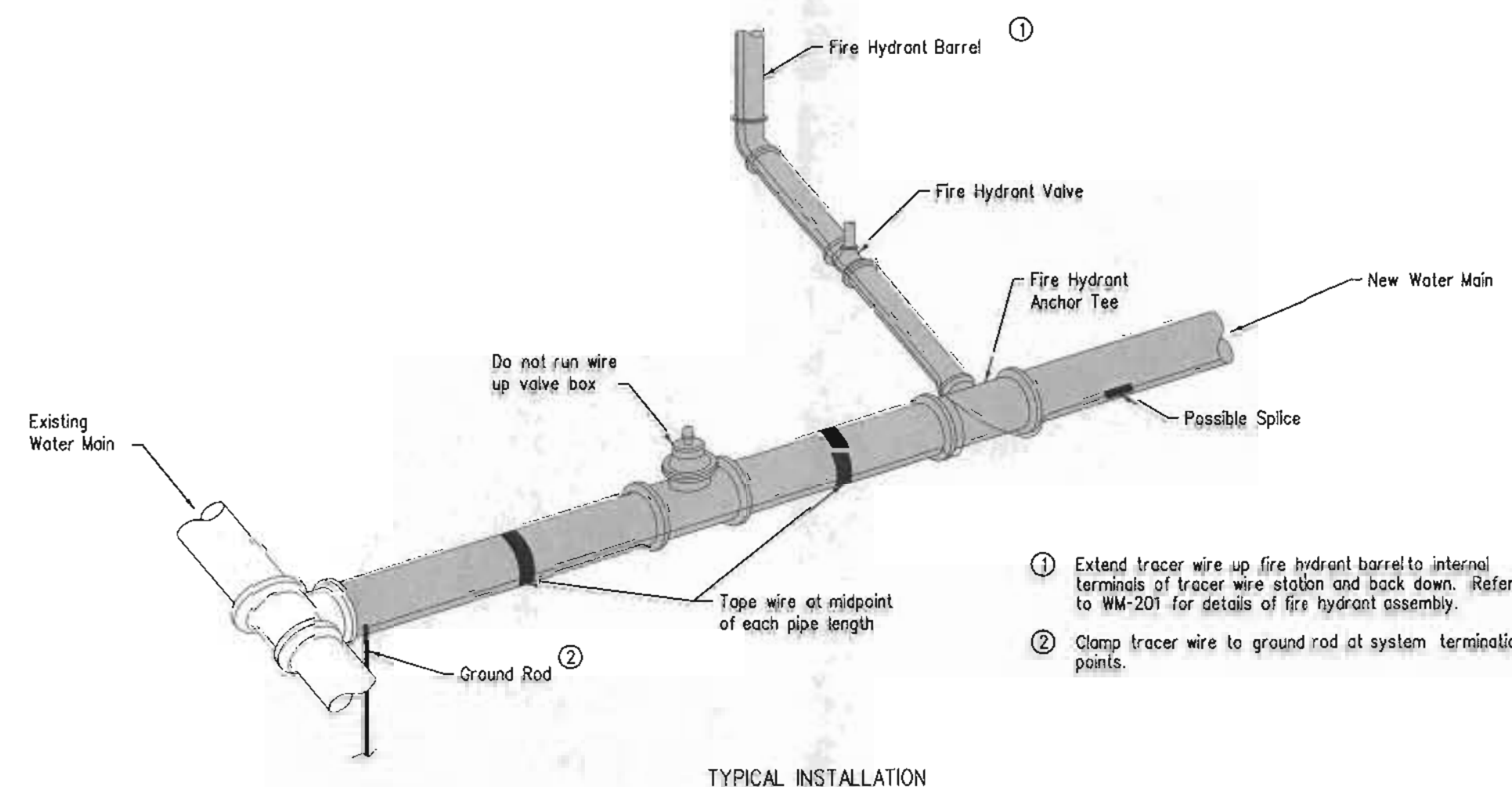


1 FIRE HYDRANT ASSEMBLY  
NO SCALE

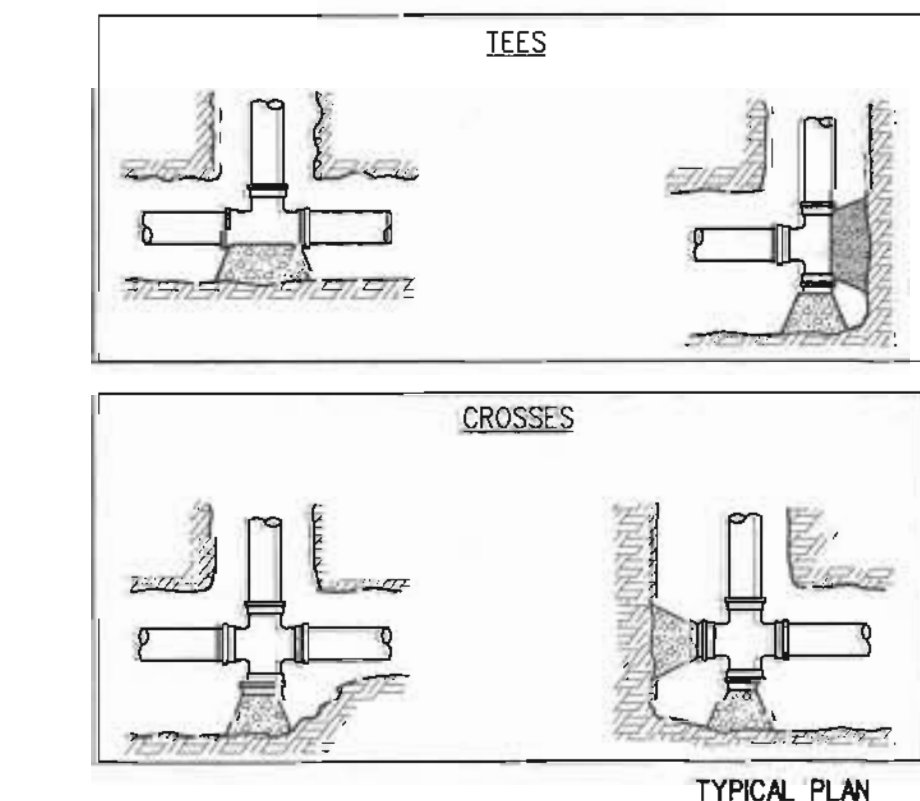
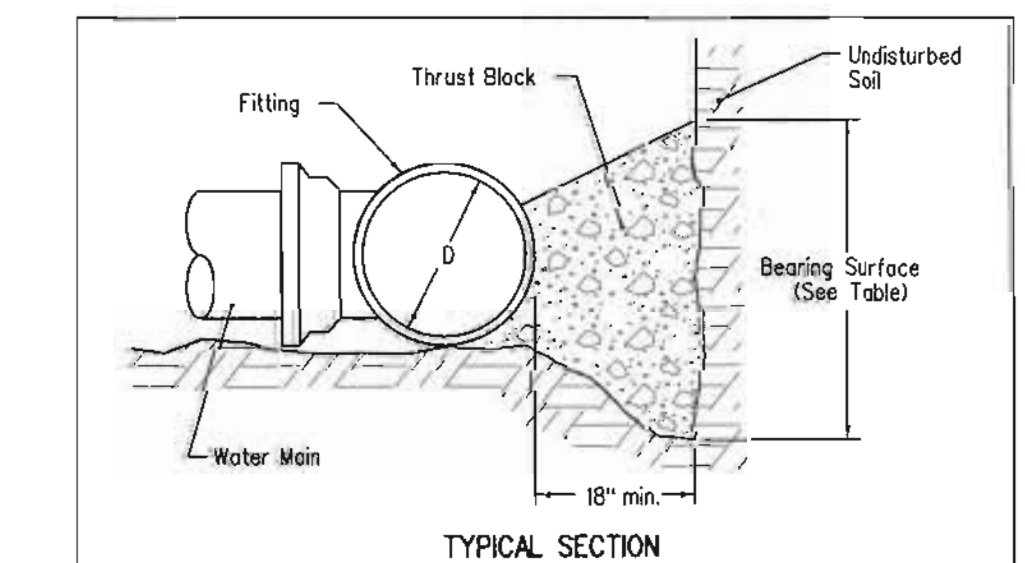
- Use ductile iron pipe with restrained mechanical joints for fire hydrant assembly and anchor tee.
- Refer to WM-102 for details of tracer system.
  - Do not cover drain holes or tracer wire.



ALTERNATE PLAN



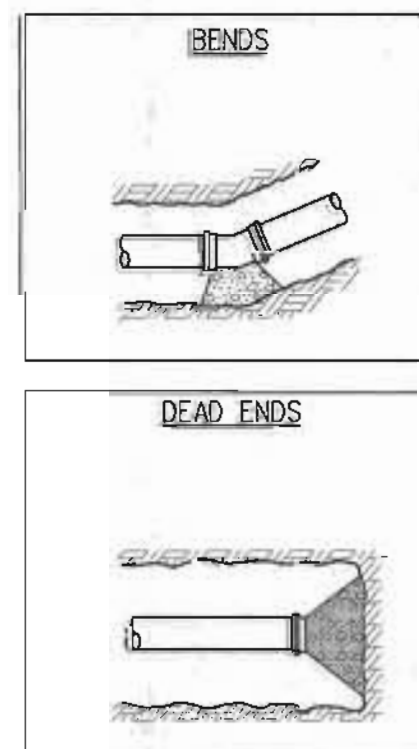
2 TRACER SYSTEM  
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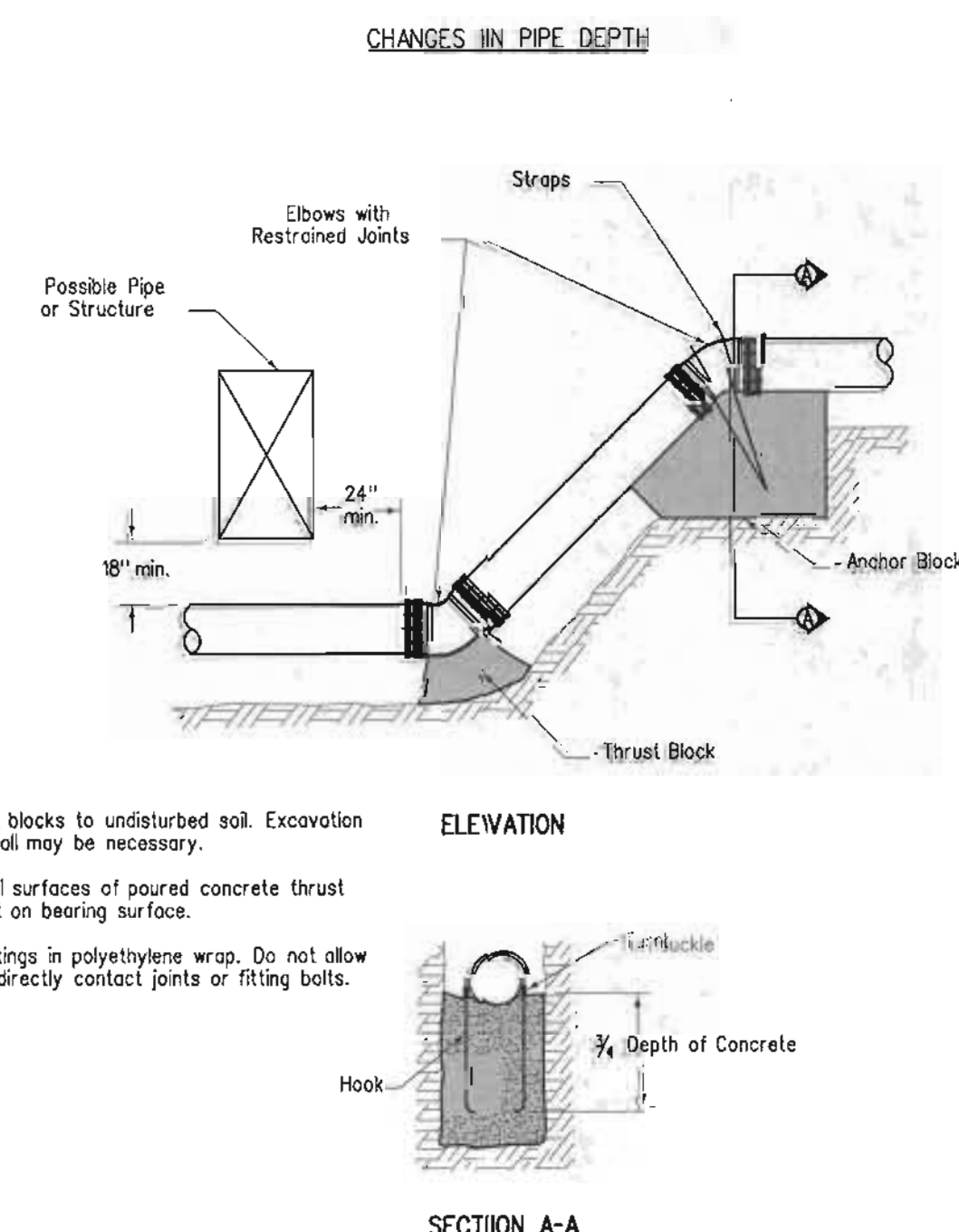
4 THRUST BLOCKS  
NO SCALE

Diameter of Pipe, D (inches)	MINIMUM BEARING SURFACE (sq ft)			
	1 1/4"	2 1/2"	4 1/2"	90"
4	1	1	2	4
6	1	2	4	8
8	2	4	7	14
10	3	6	11	21
12	4	8	16	29
14	5	11	21	38
16	7	14	27	50
18	9	17	34	63
20	11	21	42	78
24	15	31	60	111
30	24	47	92	171
36	34	67	132	244

Minimum surface area based on water pressure of 150 psi and allowable soil pressure of 1,000 psi.

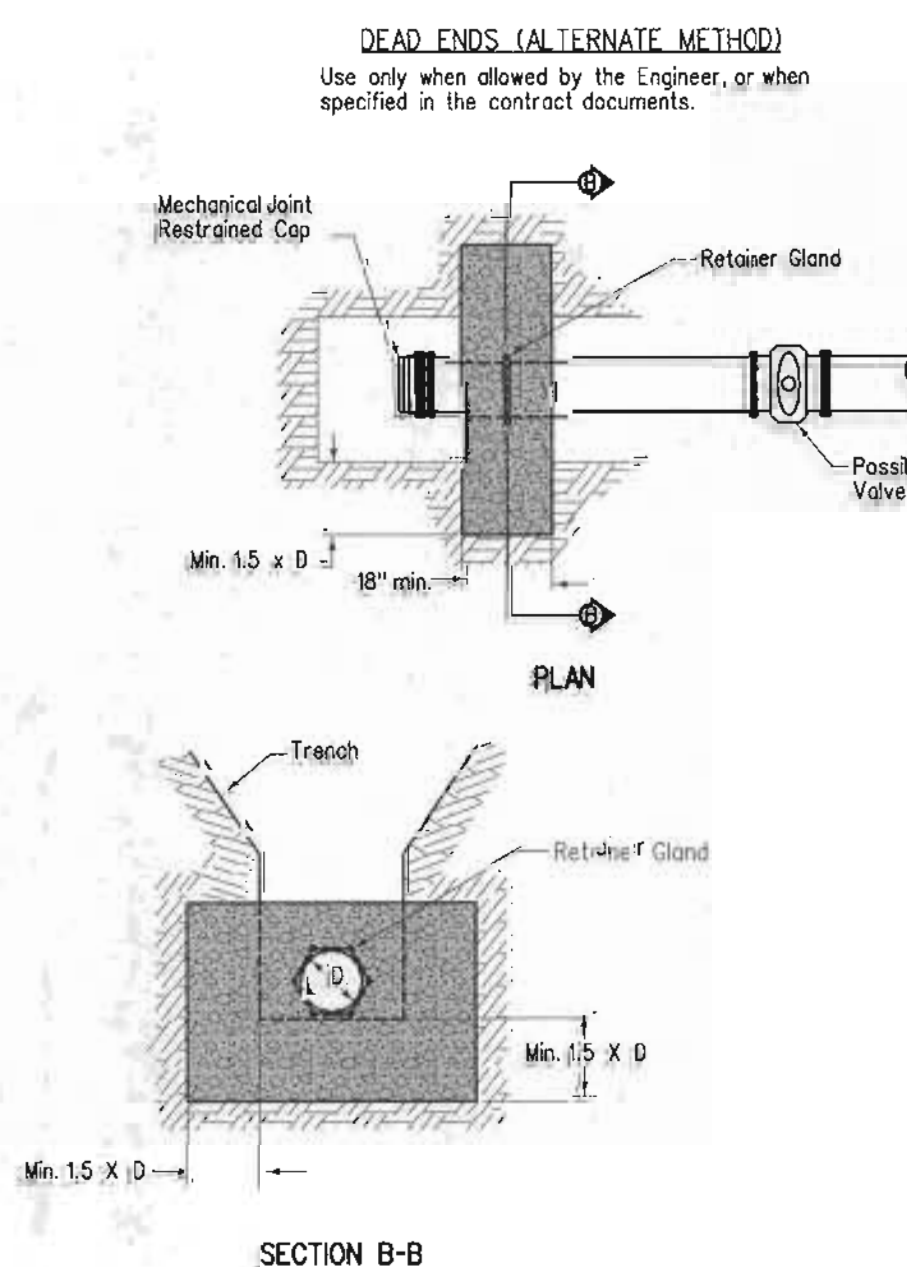


DEAD ENDS



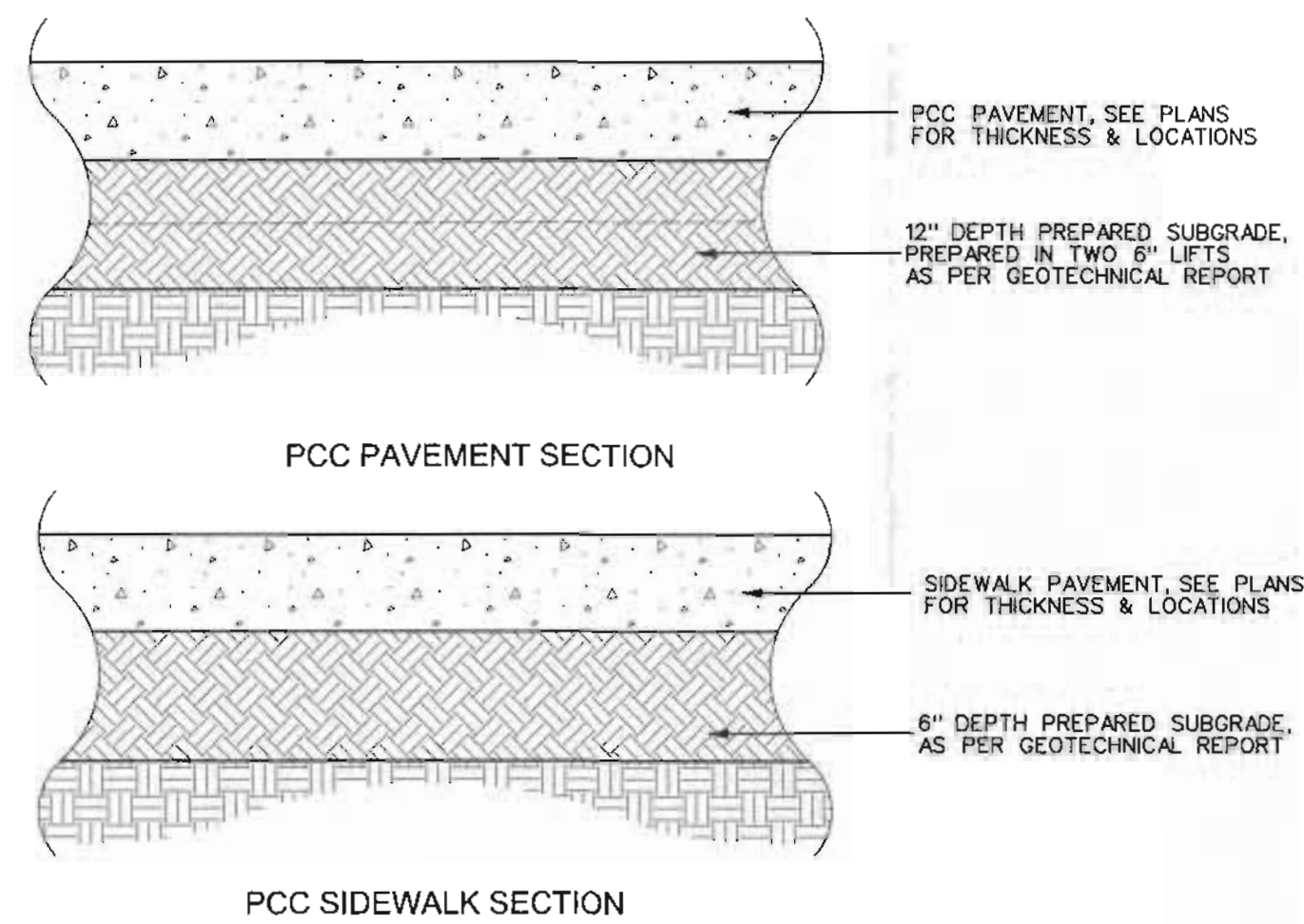
ELEVATION

SECTION A-A

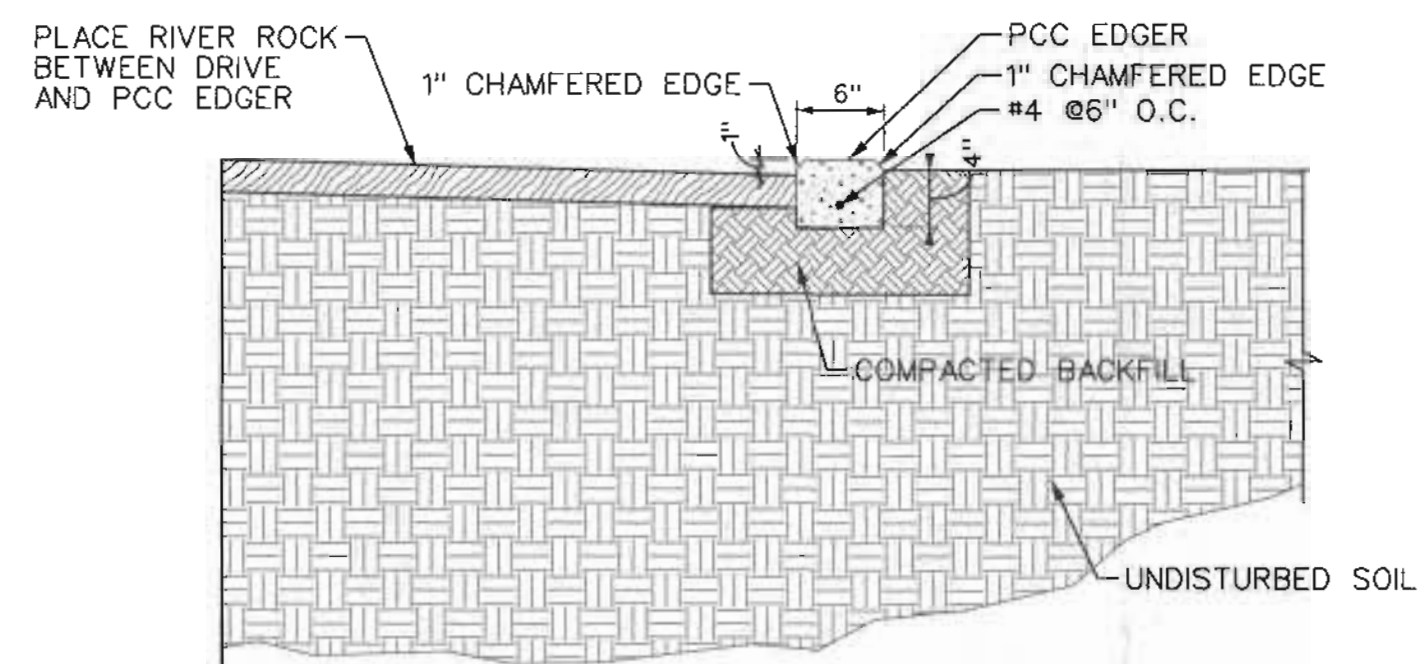


SECTION B-B



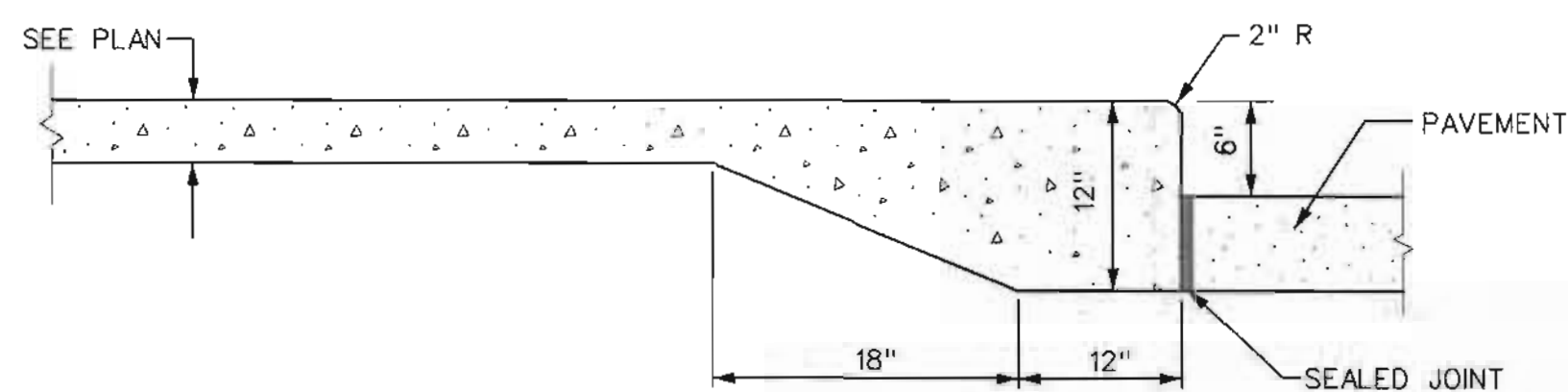


1 TYPICAL PAVEMENT CROSS SECTIONS  
NO SCALE

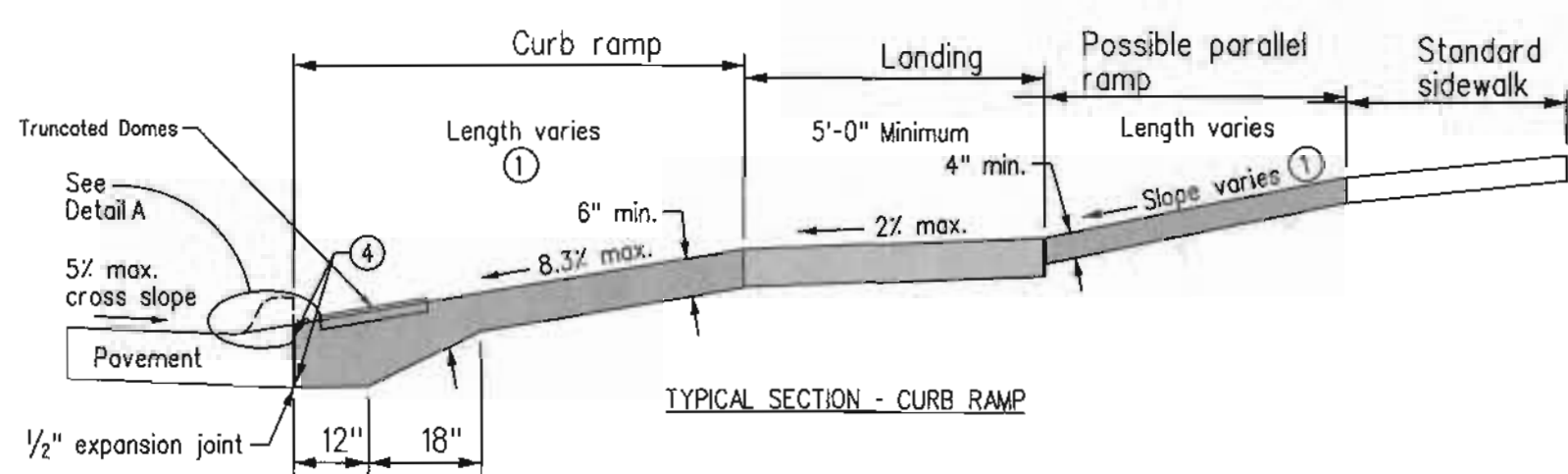


NOTE:  
1. PROVIDE JOINT EVERY 3'.

2 PCC EDGER  
NO SCALE



3 INTEGRAL WALK/CURB DETAIL  
NO SCALE



- NOTES:
- RAMP: MAXIMUM RUNNING SLOPE OF 8.3%. MAXIMUM CROSS SLOPE OF 2%.
  - LANDING: MAXIMUM SLOPE OF 2% IN ANY DIRECTION. AT MID-BLOCK CROSSINGS, CROSS SLOPE OF LANDING MAY EXCEED 2% TO MATCH ROADWAY GRADE.
  - FLARE REQUIRED IF RAMP IS CONTIGUOUS WITH SIDEWALK.
  - USE THICKENED SLAB EDGE TO TRANSITION FROM 7" PCC TO 5" PCC SIDEWALK

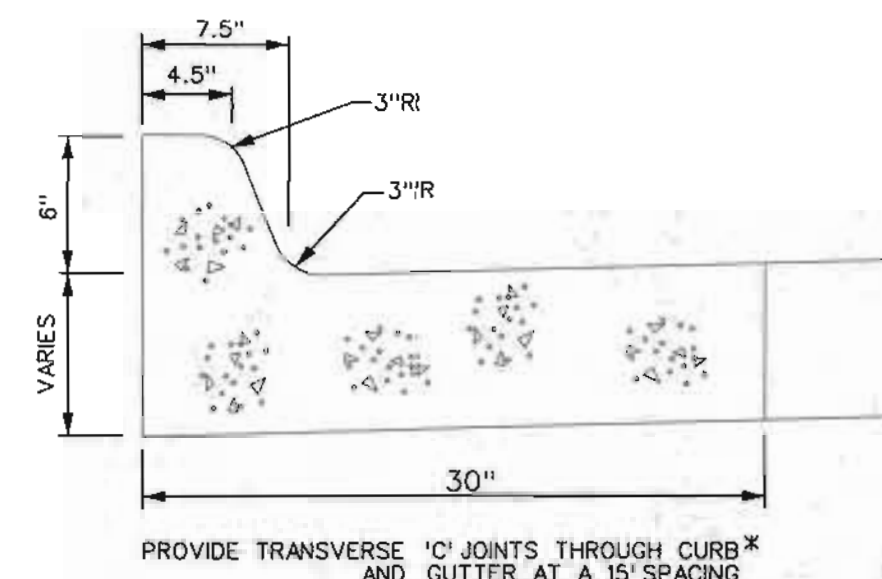
Key

W = SIDEWALK WIDTH AS SPECIFIED IN THE CONTRACT DOCUMENTS.

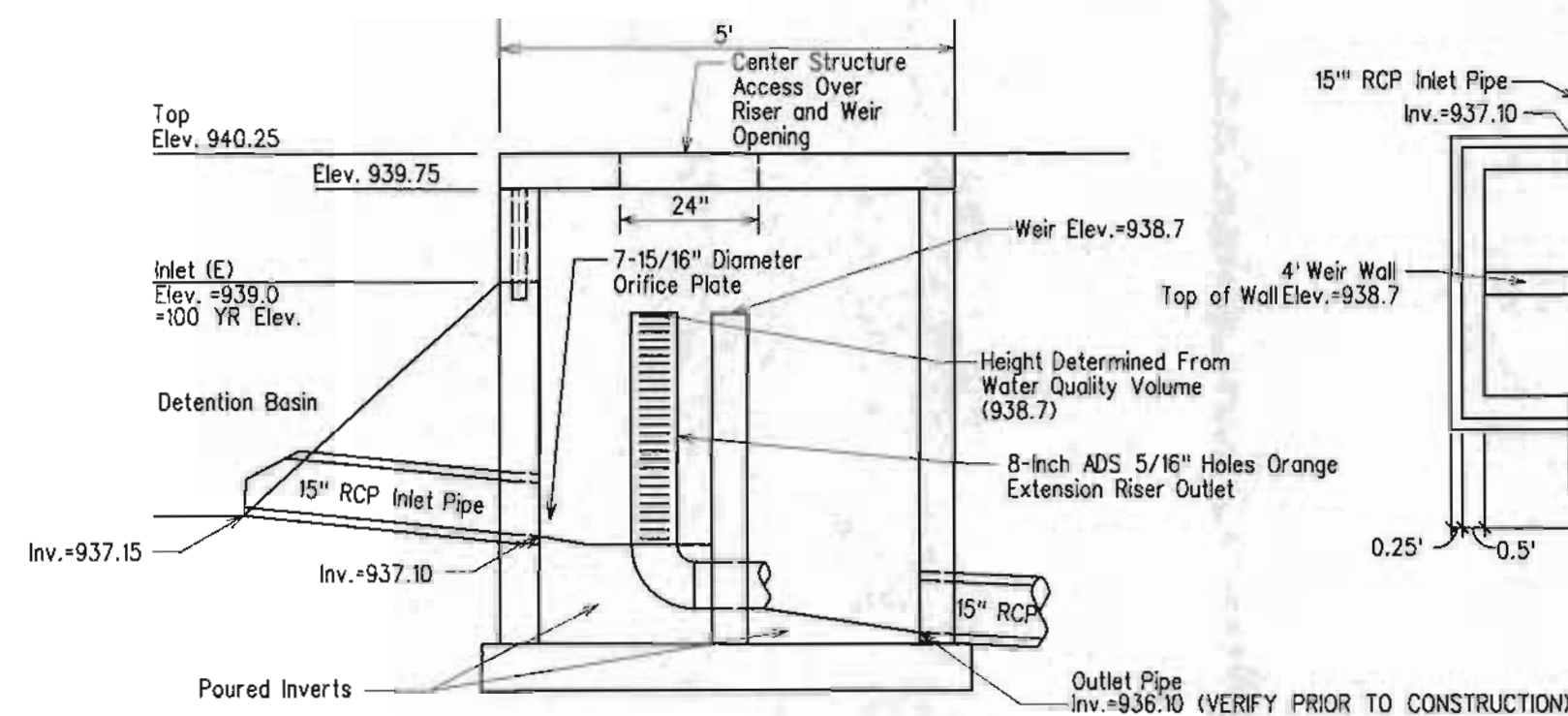
— RAMP

— LANDING

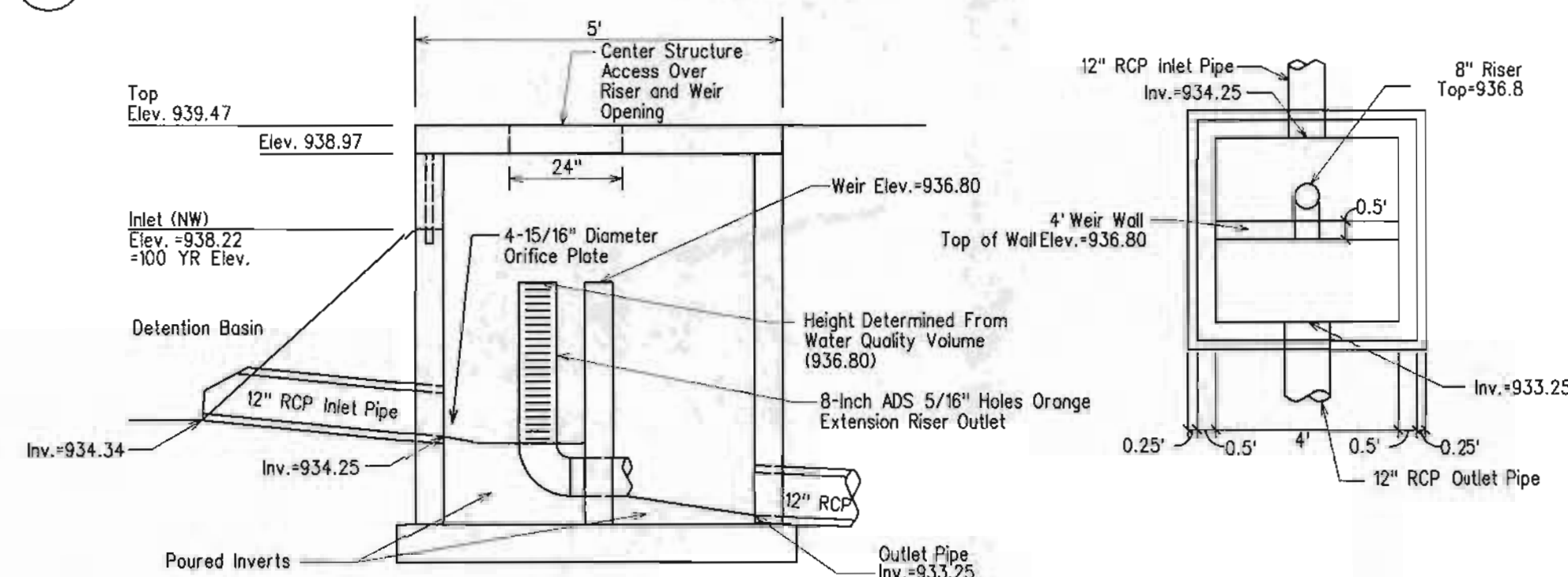
4 GENERAL ACCESSIBLE RAMP DETAIL  
NO SCALE



5 PCC CURB  
NO SCALE

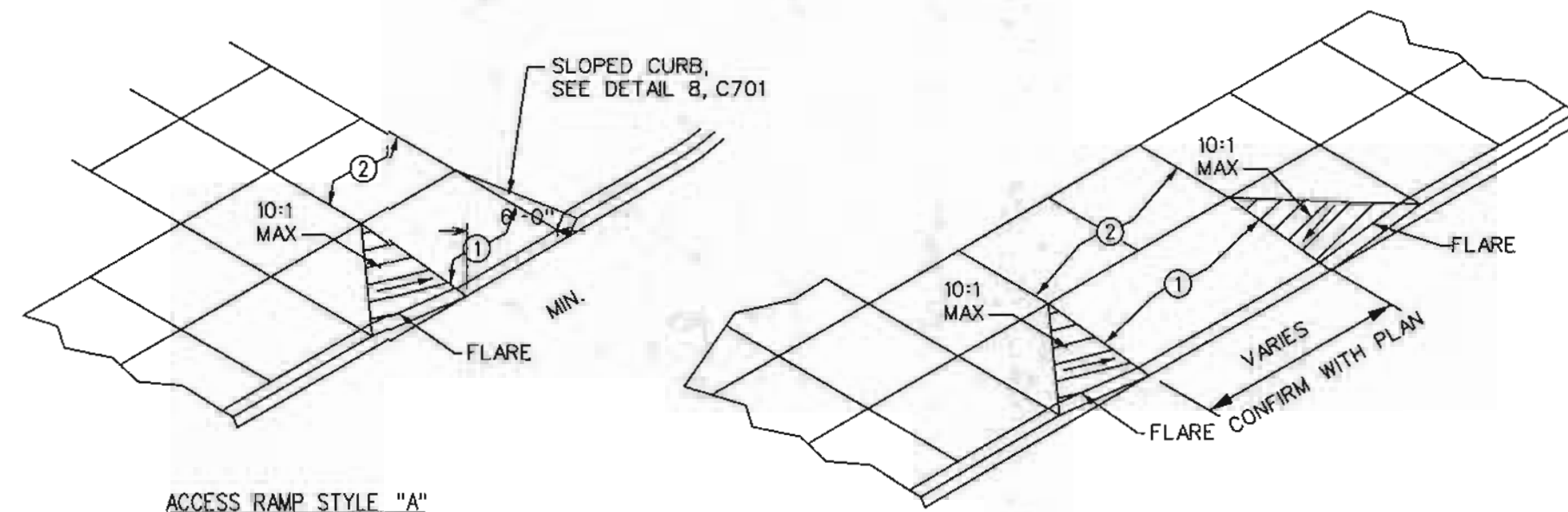
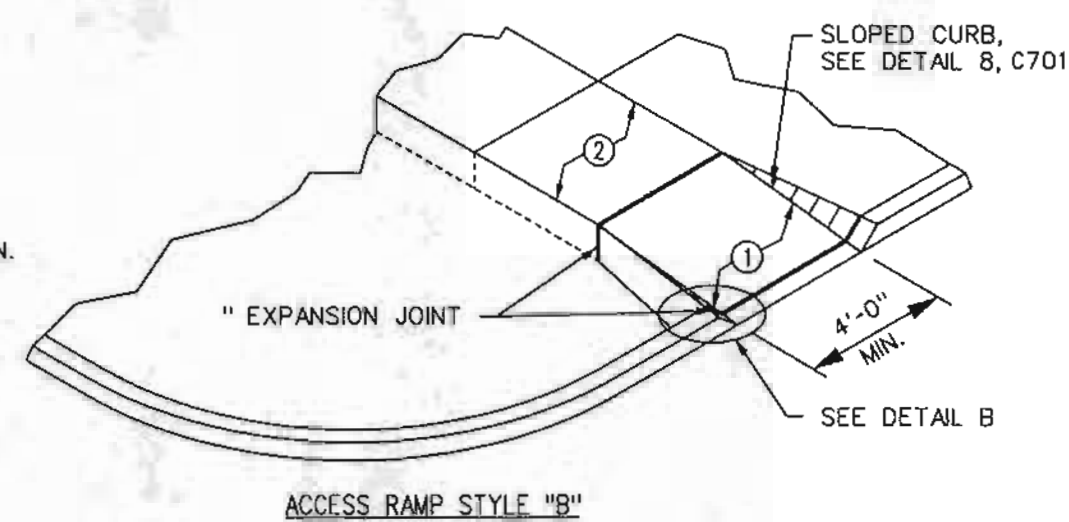


7 MODIFIED OPEN SIDED INTAKE OUTLET STRUCTURE (ST-1C)  
NO SCALE



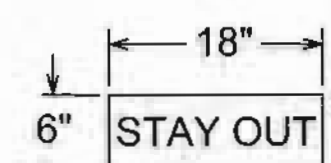
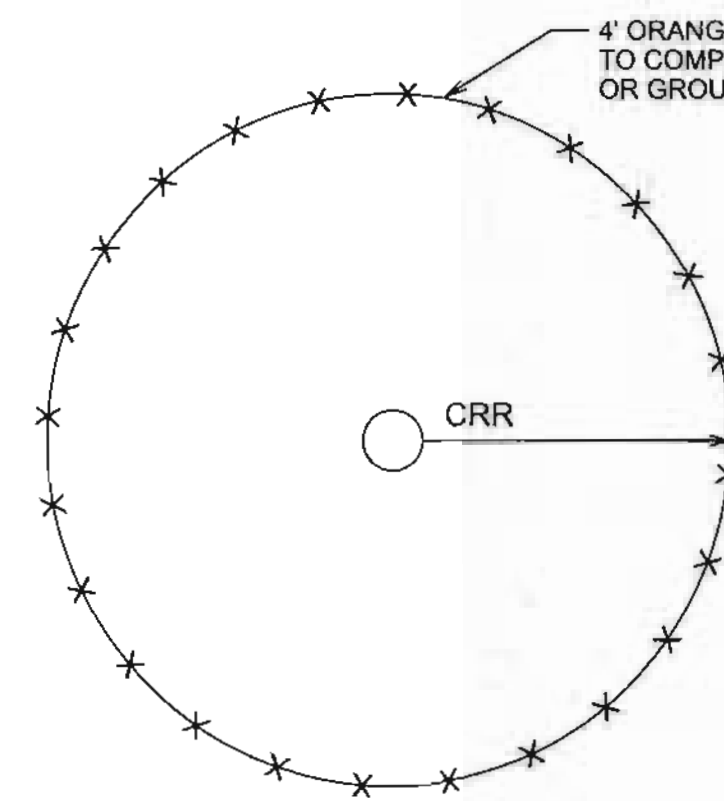
8 MODIFIED OPEN SIDED INTAKE OUTLET STRUCTURE (ST-4A)  
NO SCALE

- NOTES:
- RAMP: MAXIMUM RUNNING SLOPE OF 8.3%. MAXIMUM CROSS SLOPE OF 2%.
  - LANDING: MINIMUM WIDTH OF RAMP X 5' LANDING. MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
  - LANDING: MAXIMUM SLOPE OF 2% IN ANY DIRECTION.



9 SIDEWALK ACCESSIBLE: RAMP AND ACCESS RAMP DETAILS  
NO SCALE

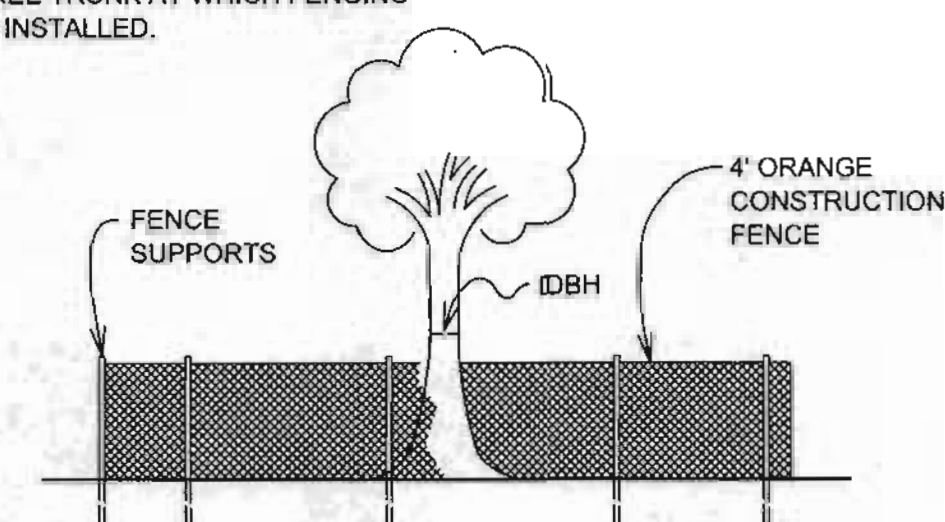
6 TEMPORARY 4' HT. TREE PROTECTION  
NO SCALE



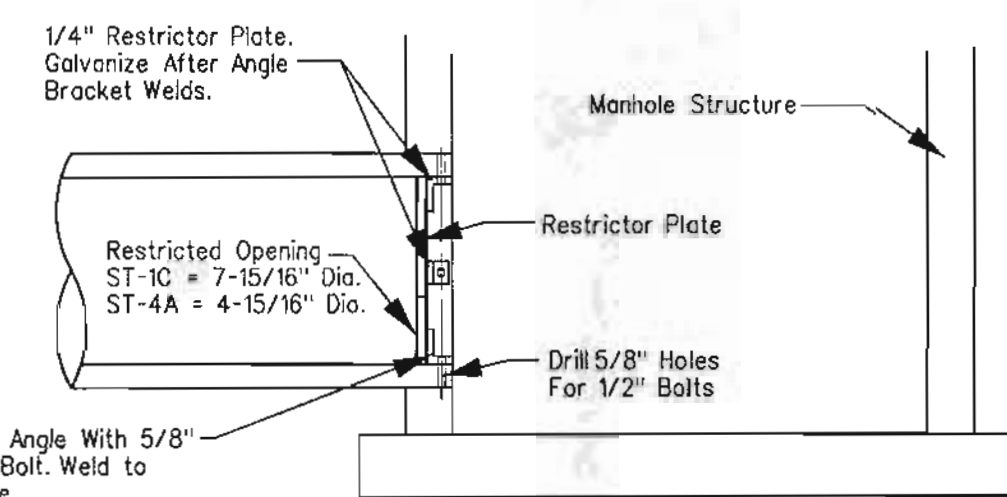
**SIGN DETAIL**  
MIN. DIMENSIONS  
METAL SIGN WITH  
CONTRASTING  
PAINTED LETTERS  
ATTACH SIGN  
TO FENCE

DBH= DIAMETER AT BREAST HEIGHT, THE DIAMETER OF TREE TRUNK IN INCHES AT HEIGHT OF 4.5' ABOVE NATURAL GROUND.

CRR= CRITICAL ROOT RADIUS IS THE DISTANCE IN FEET EQUAL TO THE DBH IN INCHES. THIS IS THE DESIRED DISTANCE FROM THE TREE TRUNK AT WHICH FENCING IS INSTALLED.



FRONT VIEW SECTION



SIDE VIEW SECTION

10 CIRCULAR RESTRICTION PLATE DETAIL  
NO SCALE

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CLIENT LOGO

### PROJECT INFORMATION

**ANKENY FIRE STATION #3**  
1360 NE 36TH ST.  
ANKENY, IA 50023

**CITY OF ANKENY**  
410 WEST FIRST STREET  
ANKENY, IA 50023

### DRAWING ISSUE INFORMATION

ISSUE FOR: 95% OWNER REVIEW  
NOT FOR CONSTRUCTION

ISSUE DATE:

REV DATE	REV

### MANAGEMENT INFORMATION

PROJECT NO: 16022

PRINCIPAL IN CHARGE: RO PROJECT ARCHITECT: RO

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SHEET TITLE  
**SITE DETAILS**

SHEET NUMBER

**C1100**



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CLIENT LOGO

PROJECT INFORMATION

ANKENY FIRE STATION #3  
1360 NE 36TH ST.  
ANKENY, IA 50023

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DRAWING ISSUE INFORMATION

ISSUE FOR: 95% OWNER REVIEW  
ISSUE DATE: NOT FOR CONSTRUCTION

REV DATE	REV

MANAGEMENT INFORMATION

PROJECT NO: 16022

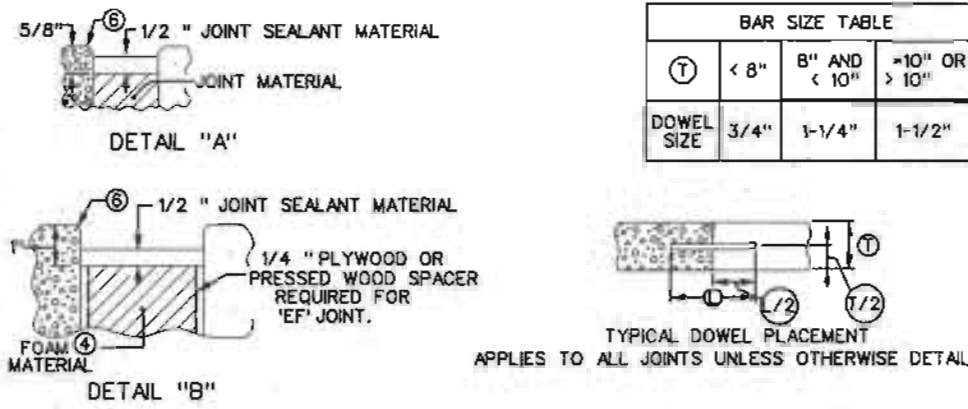
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SHEET TITLE  
SITE DETAILS

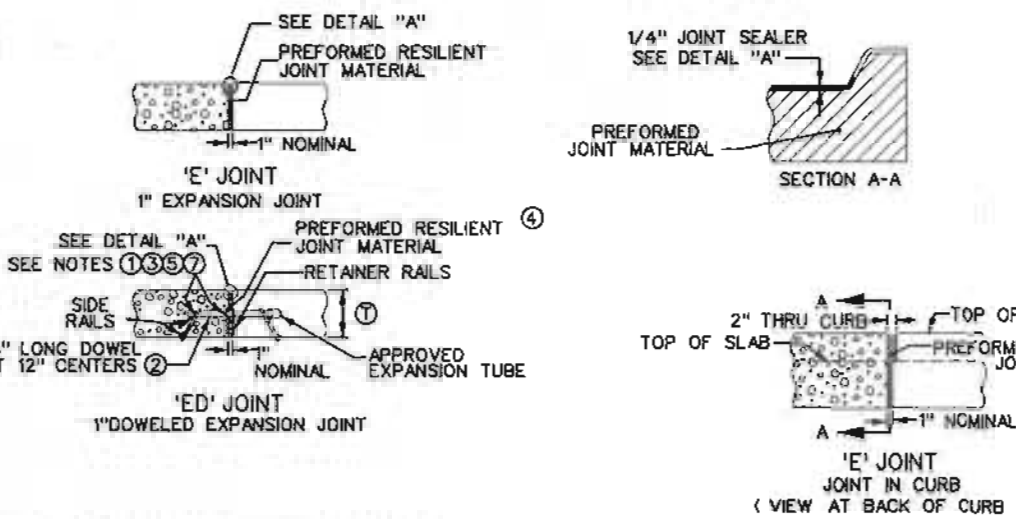
SHEET NUMBER

C1200



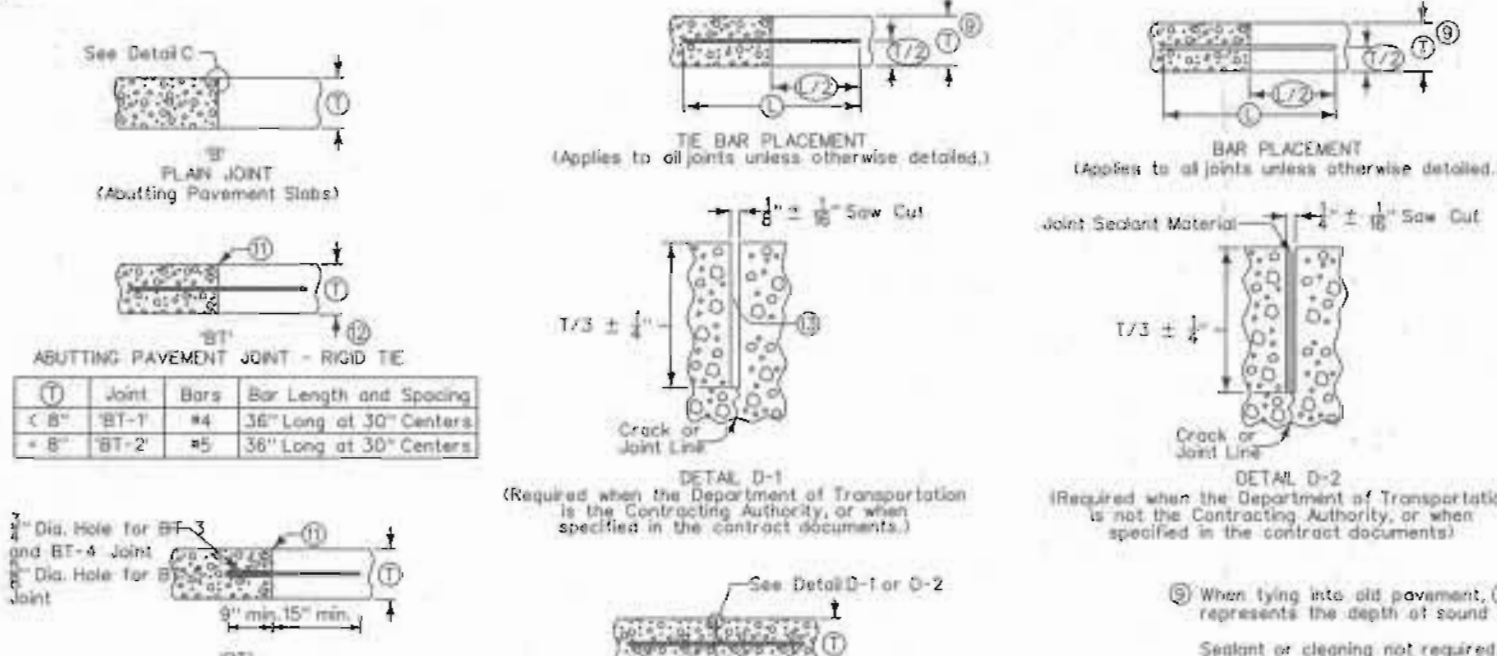
BAR SIZE TABLE		
①	②	③
①	②	③

- SPECIAL NOTES:
- ① THE FREE MOVING ENDS OF DOWEL SUPPORT ASSEMBLY SHALL BE PLACED ALTERNATELY ACROSS JOINTS.
  - ② REFER TO BAR SIZE TABLE.
  - ③ THE FREE END OF DOWEL BAR SHALL BE COATED AS DIRECTED BY THE JURISDICTIONAL ENGINEER PRIOR TO PLACEMENT OF SECOND SLAB TO PREVENT BOND WITH THAT PORTION OF PAVEMENT.
  - ④ HOLES FOR JOINT MATERIAL SHALL BE DRILLED OR PREFORMED FOR APPROPRIATE DOWEL SIZE MEETING REQUIREMENTS OF SECTION 7010, 3.04 F.
  - ⑤ BARS IN TRANSVERSE JOINTS SHALL BE PLACED SO THAT NO BAR WILL BE CLOSER THAN 6" TO ANY LONGITUDINAL JOINT (CENTERLINE OR LANE LINE). THE DISTANCE TO THE FIRST BAR FROM EDGE OF PAVEMENT WILL VARY FROM 6" TO 12" DEPENDING UPON PAVEMENT WIDTH.
  - ⑥ EDGE WITH 1/4" N. TOOL FOR LENGTH OF JOINT INDICATED IF FORMED; EDGING NOT REQUIRED WHEN CUT WITH DIAMOND BLADE SAW.
  - ⑦ WELD SIDE OPPOSITE EXPANSION TUBE.
  - ⑧ PREFORMED JOINT MATERIAL INSTALLED WITH LUBRICANT ADHESIVE MEETING THE REQUIREMENTS OF SECTION 7010, 2.02 L.



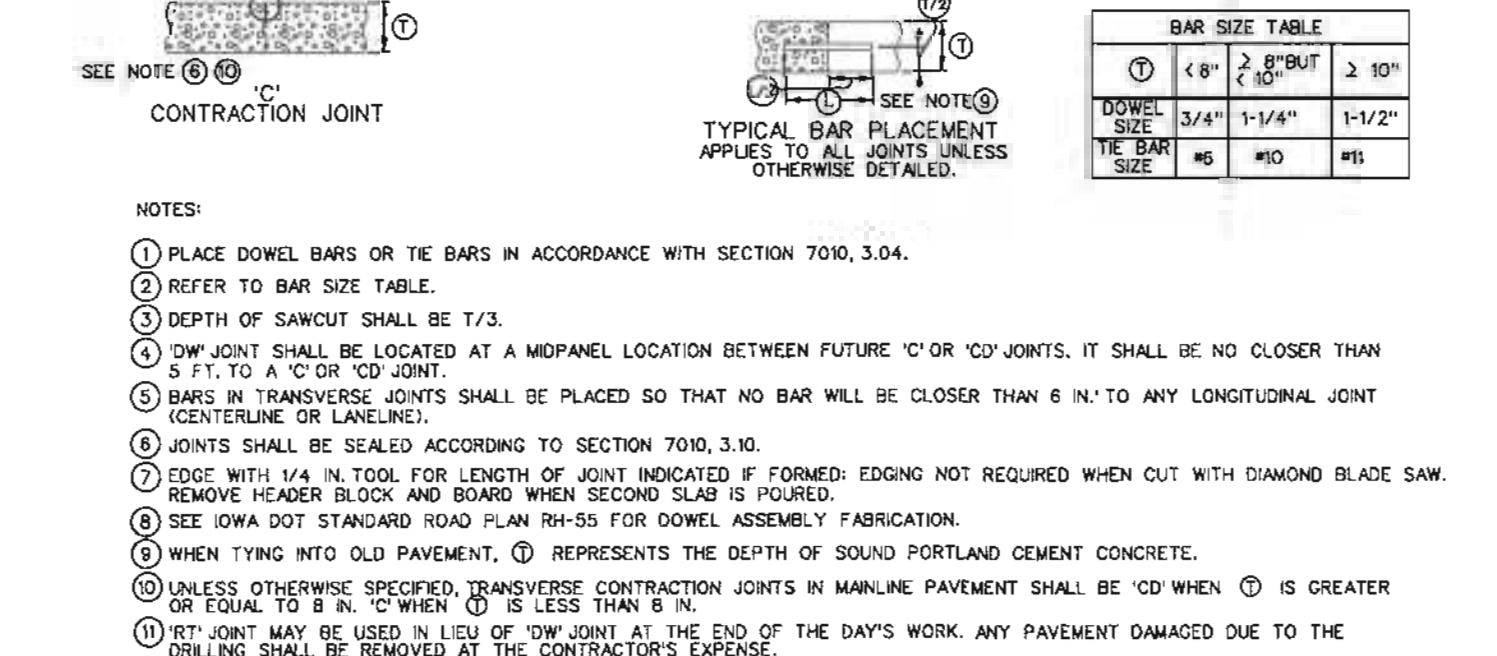
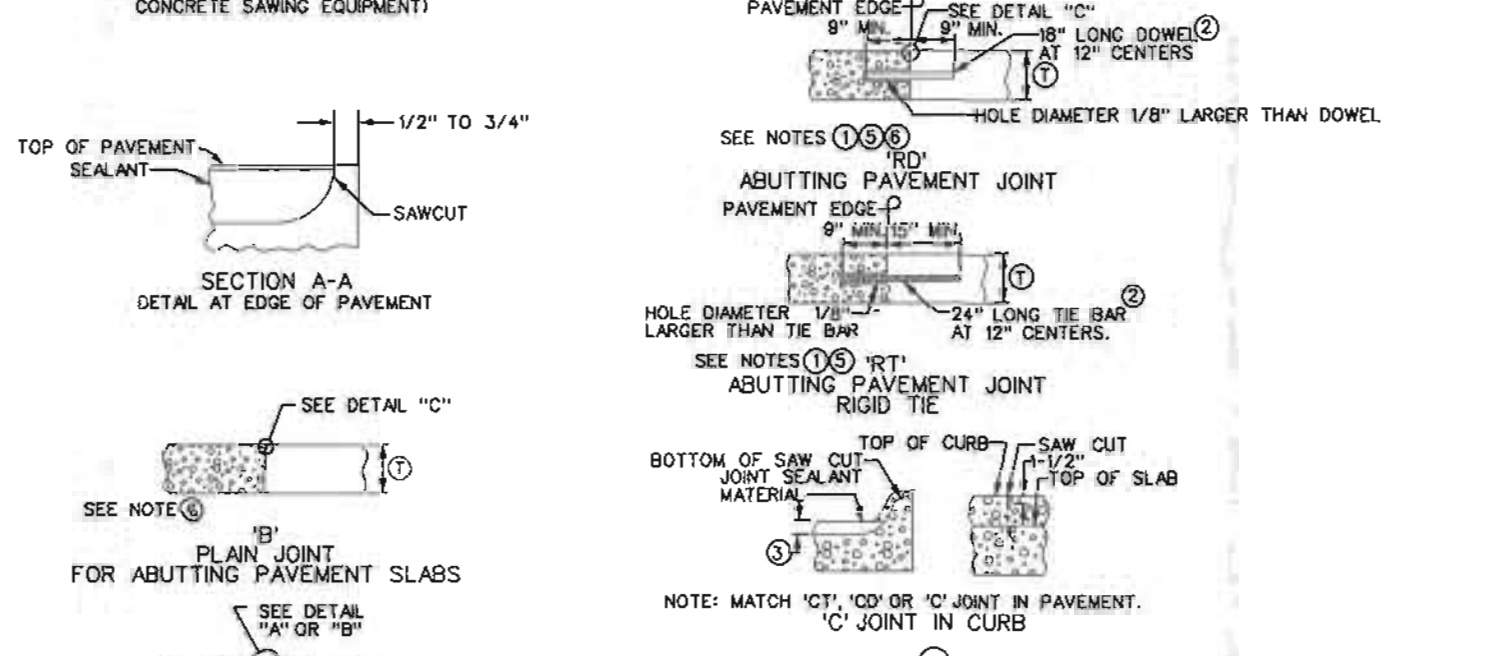
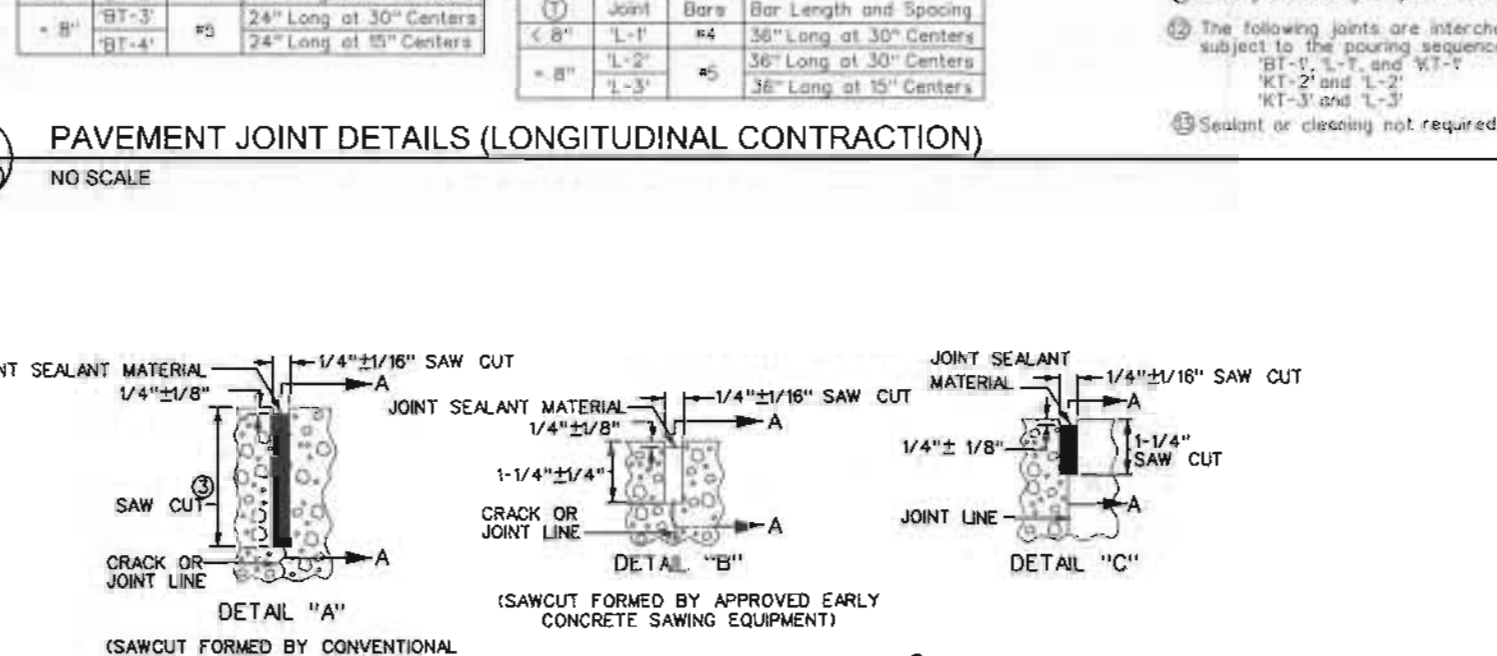
1 PAVEMENT JOINT DETAILS (EXPANSION)

NO SCALE



2 PAVEMENT JOINT DETAILS (LONGITUDINAL CONTRACTION)

NO SCALE



3 PAVEMENT JOINT DETAILS (TRANSVERSE CONTRACTION)

NO SCALE

