

# PRELIMINARY PLANS FOR ENGINEERING SERVICES FOR BLUE LAWN SUBDIVISION STORM DRAINAGE IMPROVEMENTS PROJECTS

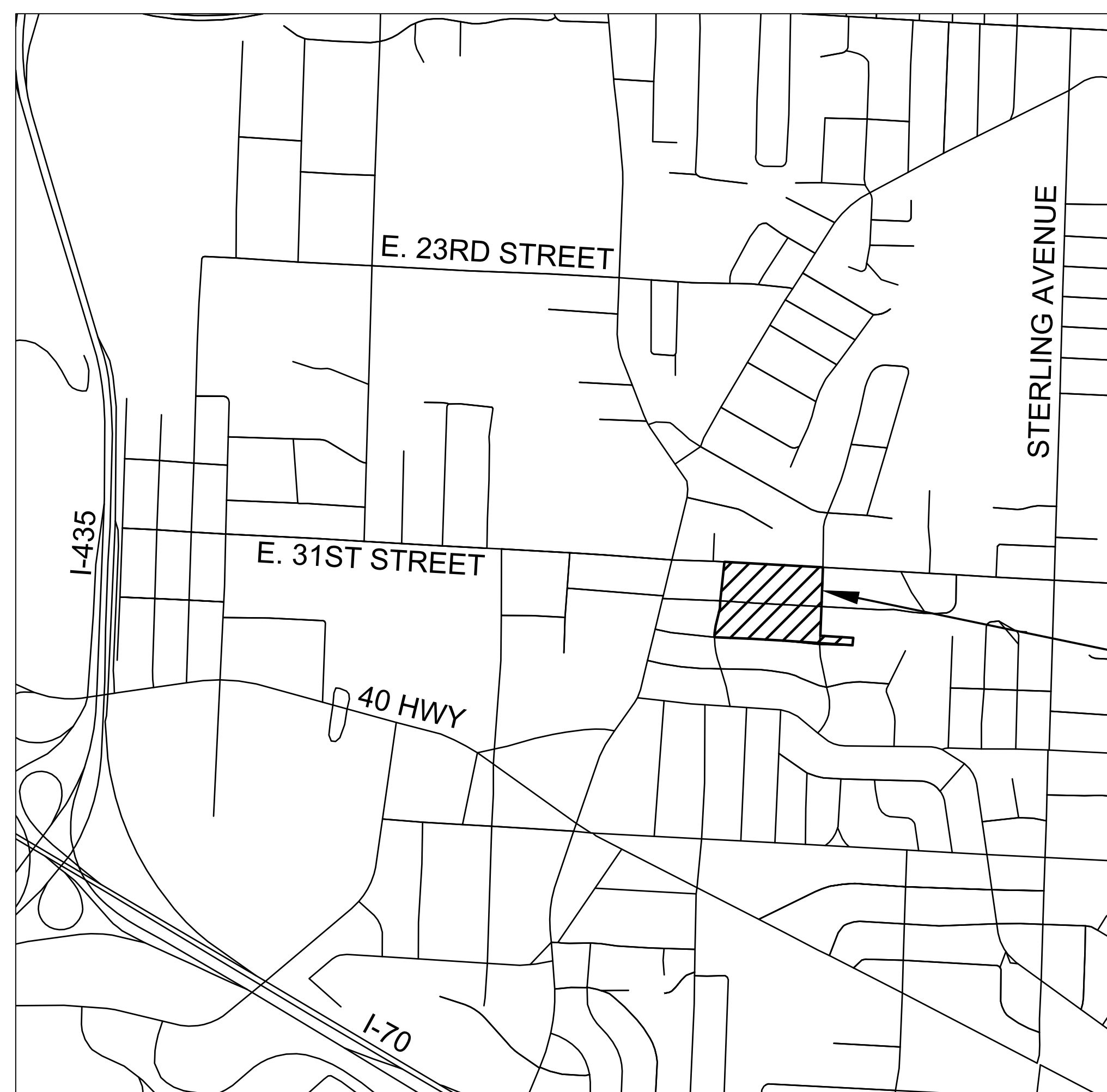
Section 17 Township 49 North, Range 32 West,  
in the City of Independence,  
Jackson County, Missouri  
City Project Number - 70131603

### LEGEND OF EXISTING ITEMS

<ul style="list-style-type: none"> <li>⊠ AIR CONDITIONING UNIT</li> <li>● AREA INLET</li> <li>⊠ ABANDONED POWER POLE</li> <li>⊠ BBH BASKETBALL HOOP</li> <li>⊙ BB BIRD BATH</li> <li>⊙ BENCHMARK</li> <li>⊙ BU BUSH</li> <li>⊙ BORE HOLE LOCATION</li> <li>⊠ CABLE BOX</li> <li>⊠ CABLE VAULT</li> <li>⊙ CONTROL POINT</li> <li>⊙ TREE</li> <li>⊠ ELECTRIC BOX</li> <li>⊠ EM ELECTRIC METER</li> <li>⊠ EV ELECTRIC VAULT</li> <li>⊙ FIRE HYDRANT</li> <li>⊙ FOUND IRON PIPE</li> <li>⊙ FP FLAG POLE</li> <li>⊠ FIBER OPTIC BOX</li> <li>⊙ GAS MANHOLE</li> <li>⊙ GAS MARKER</li> <li>⊠ GAS METER</li> <li>⊙ GUY POLE</li> <li>⊠ GRATE INLET</li> <li>← GUY WIRE</li> <li>⊙ GV GAS VALVE</li> <li>⊠ GAS VAULT</li> <li>⊠ JUNCTION BOX</li> <li>⊙ BASE LIGHT POLE BASE</li> <li>⊙ LIFT STATION</li> <li>⊙ MAILBOX</li> <li>⊙ MLLB POWER POLE W/ LIGHT</li> <li>⊙ POWER POLE</li> <li>⊙ SCV SPRINKLER CONTROL VALVE</li> <li>⊙ STORM DRAIN MANHOLE</li> <li>⊙ SIGN</li> <li>⊙ STREET LIGHT</li> <li>⊠ SPRINKLER BOX</li> <li>⊙ SPH SPRINKLER HEAD</li> </ul>	<ul style="list-style-type: none"> <li>⊙ SPRINKLER CONTROL VALVE</li> <li>⊙ STUMP</li> <li>⊠ TELEPHONE CABINET</li> <li>⊠ TELEPHONE PEDESTAL</li> <li>⊠ TELEPHONE RISER</li> <li>⊙ TLP TRAFFIC LIGHT POLE</li> <li>⊙ TELEPHONE MANHOLE</li> <li>⊠ TELEVISION PEDESTAL</li> <li>⊠ TELEVISION RISER</li> <li>⊙ WATER METER</li> <li>⊙ WATER VALVE</li> <li>⊙ YL YARD LIGHT</li> <li>⊙ EXISTING 1' CONTOUR</li> <li>— PROPERTY LINE</li> <li>— ROW RIGHT-OF-WAY LINE</li> <li>--- U/E EXISTING UTILITY EASEMENT</li> <li>--- GUE GENERAL UTILITY EASEMENT</li> <li>--- D/E EXISTING DRAINAGE EASEMENT</li> <li>--- TCE TEMPORARY CONSTRUCTION EASEMENT</li> <li>— W EXISTING WATER LINE</li> <li>— P-UG UNDERGROUND ELECTRIC LINE</li> <li>— P-OH OVERHEAD ELECTRIC</li> <li>— OHD OVERHEAD TELEPHONE LINE</li> <li>— G GAS LINE</li> <li>— CATV UNDERGROUND CABLE TV</li> <li>— EXISTING CHAIN LINK FENCE</li> <li>— EXISTING WOOD FENCE</li> <li>— SS EXISTING SANITARY SEWER</li> <li>⊙ EXISTING SANITARY SEWER MANHOLE</li> <li>— TEL UNDERGROUND TELEPHONE LINE</li> </ul>
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LOCATION MAP  
NOT TO SCALE

MAYOR: EILEEN WEIR

COUNCIL MEMBERS: JOHN PERKINS  
CURT DOUGHERTY  
SCOTT ROBERSON  
TOM VAN CAMP  
~~CHRIS WHITING~~ Mike Huff  
KAREN DELUCCIE

CITY MANAGER: ZACHARY WALKER

DIRECTOR OF PUBLIC WORKS: TIM GRAMLING, P.E.

APPROVED-CITY OF INDEPENDENCE, MISSOURI

BY: Kati KATIE HORNER GONZALES, P.E.  
DIRECTOR OF PUBLIC WORKS/ENGINEERING  
City Engineer

DATE

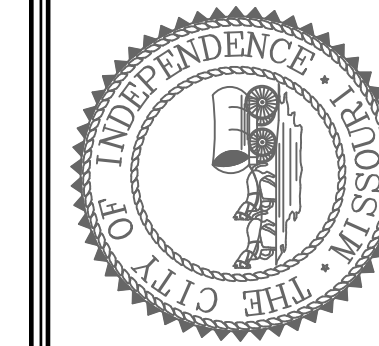
**MOLSSON**  
ASSOCIATES

7301 West 133rd Street, Suite 200  
Overland Park, KS 66213-4750  
TEL 913.381.1170  
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REVISIONS

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
TITLE SHEET

CITY OF INDEPENDENCE  
WATER POLLUTION CONTROL DEPARTMENT  
14909 E. Truman Road Independence, MO 64051  
PHONE: (816) 325-7724



DATE	08.09.2018
DESIGNED BY	BMJ
CHECKED BY	BMJ
DRAWN BY	JDA
SURVEY BOOK NO.	
FILE NAME	
SHEET	1 OF 24

### LIST OF AUTHORITIES AND UTILITY CONTACTS

INDEPENDENCE POWER AND LIGHT  
ATTN: JAMEIE FRANKLIN - (816)325-7447 Jamie  
21500 EAST TRUMAN ROAD  
INDEPENDENCE, MO 64056

AT&T  
ATTN: CRAIG PERKINS Mark Manion  
500 E. 8TH STREET - ROOM 1152  
KANSAS CITY, MO 64106  
(816) 275-2721

ATT LEGACY  
ATTN: LENNY VOHS  
1425 OAK STREET, ROOM 1  
KCMO 64106  
(816) 275-4014

SPIRE ENERGY  
ATTN: RICHARD PROCK Jon Harrel  
3025 SE CLOVER DRIVE  
LEE'S SUMMIT, MO 64082  
(816) 472-3489

INDEPENDENCE WATER DEPARTMENT  
ATTN: SCOTT HOWELL  
11610 EAST TRUMAN ROAD  
INDEPENDENCE, MO 64050  
(816)325-7650

COMCAST  
ATTN: JOHN MEADOWS  
4700 LITTLE BLUE PARKWAY  
INDEPENDENCE, MO 64057  
(816)795-2257

CITY OF INDEPENDENCE, MO  
PUBLIC WORKS DEPARTMENT  
ATTN: MIKE WINCKLER (DESIGN)  
3RD FLOOR  
111 E MAPLE AVE  
INDEPENDENCE, MO 64050  
(816) 325-7619

CITY OF INDEPENDENCE, MO  
PUBLIC WORKS DEPARTMENT  
ATTN: SHAR DILMAGHANI (CONSTRUCTION)  
3RD FLOOR  
111 E MAPLE AVE  
INDEPENDENCE, MO 64050  
(816) 325-7611

INDEPENDENCE WATER POLLUTION CONTROL  
SEWER MAINTENANCE DIVISION  
ATTN: RICHARD KEMPLE (STORM AND SANITARY)  
14909 EAST TRUMAN ROAD  
INDEPENDENCE, MO 64050  
(816)325-7727



**1-800-DIG-RITE or 811**  
**www.mo1call.com**

THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL "1-800-DIG-RITE", AND COORDINATE FIELD LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING ACTIVITIES. !!STOP!! CALL BEFORE YOU DIG!!

**GENERAL NOTES:**

- THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL APPLICABLE STANDARDS AND SPECIFICATIONS OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF INDEPENDENCE, MISSOURI IN CURRENT USAGE, AND THE KC METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION AS ADOPTED. NO EXCEPTIONS NOTED.
- CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF PLANS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE CITY IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND CONTRACT AGREEMENTS ARE RECEIVED AND APPROVED BY SAME.
- THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS AND ONE (1) COPY OF THE APPROPRIATE CONSTRUCTION SPECIFICATIONS AND PROJECT MANUAL AT THE JOB SITE AT ALL TIMES. IT IS ADVISABLE THAT THE CONTRACTOR BECOME FAMILIAR WITH THE CITY REQUIREMENTS AND STANDARDS IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THIS APPROVED PLAN AND THE CITY REQUIREMENTS. ADVISE THE CITY'S REPRESENTATIVE OF ANY DISCREPANCY PRIOR TO BIDDING OR WORKING ON THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
- THE ACCURACY AND ADEQUACY OF THE ALIGNMENTS, DIMENSIONS, AND ELEVATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AT THE JOB SITE. IF THE CONTRACTOR FINDS ANY DIMENSIONS TO BE IN ERROR OR IN QUESTION, THE CITY'S REPRESENTATIVE SHALL BE PROMPTLY CONTACTED FOR CLARIFICATION PRIOR TO THE CONTINUATION OF THE WORK. THE ENGINEERING AND GEOLOGICAL DATA SHOWN ON THESE PLANS ARE FROM STUDIES MADE IN THE FIELD AND REPRESENTS THE BEST INFORMATION AVAILABLE AT THE TIME OF TESTING.
- NOTIFY THE CITY'S REPRESENTATIVE AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK. FOR CONSTRUCTION UNDER DRIVEWAYS AND STREETS, CONTRACTOR SHALL NOTIFY RESIDENTS OF CONSTRUCTION ACTIVITIES 48 HOURS IN ADVANCE OF THE WORK, AND SHALL PROVIDE AND MAINTAIN A TEMPORARY SURFACE FOR ACCESS UNTIL PERMANENT RESTORATION IS COMPLETED.
- THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT PROPER TRAFFIC CONTROL IN CONFORMANCE WITH THE LATEST REVISION OF THE MUTCD.
- DURING CONSTRUCTION, ACCESS SHALL BE MAINTAINED FOR EMERGENCY VEHICLES AND LOCAL TRAFFIC. CONTRACTOR SHALL NOTIFY THE CITY 72 HOURS PRIOR TO ANY STREET CLOSURES OR BLOCKAGES TO ALLOW THE CITY ADEQUATE TIME TO NOTIFY THE FIRE, POLICE, AND AMBULANCE DEPARTMENTS, SCHOOLS, SCHOOL BUS COMPANIES, AND THE POST OFFICE OF THE UPCOMING WORK. CLOSURES AND TRAFFIC PLANS ARE SUBJECT TO THE APPROVAL OF THE CITY'S REPRESENTATIVE.
- PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE UTILITY COMPANIES WHICH HAVE FACILITIES IN THE VICINITY 72 HOURS PRIOR TO THE CONSTRUCTION TO BE PERFORMED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES. WHETHER SHOWN ON THESE PLANS OR NOT, PRIOR TO ANY EXCAVATION, ALL EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. SOME SERVICE LINES FROM BUILDING TO MAIN HAVE UNKNOWN LOCATIONS AND MAY CONFLICT WITH THE PLAN. RELOCATION OF SAID SERVICE LINES REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE COORDINATED WITH THE UTILITY COMPANY. RELOCATION OF SANITARY SEWER AND WATER SERVICES SHALL BE PERFORMED BY THE CONTRACTOR WITH PAYMENT BEING DETERMINED BY THE INSTALLED QUANTITY AT THE CORRESPONDING BID UNIT PRICE OR FORCE ACCOUNT IF NO BID ITEM EXISTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ONLY THE CONDUIT FOR ALL ELECTRICAL SERVICES; ALL WIRING AND OTHER ELECTRICAL FACILITY ADJUSTMENTS SHALL BE PERFORMED BY IPL. RELOCATION OF ALL OTHER UTILITIES WILL BE PERFORMED ONLY BY THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR, PRIOR TO CONSTRUCTION, SHALL VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES. THE REPAIR OF ANY DAMAGE TO SAID UTILITIES SHALL BE AT THE COST TO THE CONTRACTOR. ANY UTILITIES FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CITY'S REPRESENTATIVE. THE NAMES AND TELEPHONE NUMBERS OF UTILITY COMPANIES ARE ON THE TITLE SHEET.
- ALL UTILITY AND SANITARY SERVICE LINES SHALL BE KEPT IN SERVICE AND PROTECTED DURING CONSTRUCTION OPERATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING SERVICE LINES, AND NOTIFY THE CITY'S REPRESENTATIVE OF ANY CONFLICTS IMMEDIATELY. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL POTHOLE ALL WATER MAINS WHERE THERE MAY BE CONFLICTS AND WILL PROVIDE THE INDEPENDENCE WATER DEPARTMENT THE FIELD NOTES WITH ELEVATIONS OF WATER MAINS PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WATER SERVICE LINE RELOCATIONS AND LOWERINGS. ALL WATER SERVICE LINE RELOCATION AND LOWERINGS MUST BE APPROVED BY THE INDEPENDENCE WATER DEPARTMENT PRIOR TO RELOCATING OR LOWERING SERVICE. ONCE THE WATER SERVICE HAS BEEN RELOCATED OR LOWERED, THE WATER SERVICE LINE MUST BE INSPECTED BY THE DEPARTMENT PRIOR TO BACKFILLING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ANY WATER MAINS OR GAS MAINS HORIZONTALLY AND VERTICALLY WHEN CROSSING UNDER THE EXISTING MAIN(S). IF APPLICABLE, THE CONTRACTOR WILL BE RESPONSIBLE FOR SUPPORTING ANY GAS MAIN OR WATER MAIN LATERALLY WHILE WORKING ALONGSIDE ANY MAIN(S).
- CONTRACTOR MUST COORDINATE THE BRACING OF ALL UTILITY POLES WITH THE INDEPENDENCE POWER AND LIGHT DEPARTMENT OR AT&T PRIOR TO ANY EXCAVATION WITHIN 10 FEET OF A POLE. CONTRACTOR MUST GIVE AT LEAST ONE WEEK NOTICE BEFORE WORKING IN AREA NEEDING POWER POLE BRACING.
- ALL SIGNS, MAILBOXES, AND LANDSCAPING IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED AND RESET. TEMPORARY FENCING SHALL BE INSTALLED AT LOCATIONS WHERE EXISTING PERMANENT FENCING EXISTS; LOCATION SHALL BE DETERMINED IN THE FIELD. THESE ITEMS ARE SUBSIDIARY TO THE BID ITEM "DEMOLITION AND SITE PREPARATION".
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THERE FROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS, CODES, AND ORDINANCES. OPEN BURNING OF DEBRIS SHALL NOT BE PERMITTED.
- ALL WORK SHALL BE CONFINED WITHIN THE EASEMENTS AND CONSTRUCTION ACCESS AREA. IN ALL AREAS, THE CONTRACTOR SHALL LIMIT LAND DISTURBANCE TO THE MINIMUM NECESSARY FOR COMPLETING THE PROPOSED WORK. IF AREAS OUTSIDE THE EASEMENTS ARE DISTURBED, SEEDING/SOD SHALL BE PROVIDED AT NO ADDITIONAL PAYMENT TO THE CONTRACTOR. DRIVEWAYS, SIDEWALK, AND OTHER AREAS INSIDE AND OUTSIDE THE CONSTRUCTION LIMITS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTED BEFORE DAMAGE OCCURRED AT THE CONTRACTOR'S EXPENSE. ALL CATCH BASINS, UTILITY VALVES, HYDRANTS, MANHOLES, METER PITS, ETC. WITHIN GRADING LIMITS SHALL BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. ALL WATER AND FIRE HYDRANT RELOCATIONS SHALL BE PERFORMED BY THE INDEPENDENCE WATER DEPARTMENT. ALL INLETS SHALL BE GRADED TO DRAIN. NO SEPARATE PAYMENT WILL BE MADE FOR ADJUSTMENTS NOT NOTED IN THE PLAN NOTATION AND CALLOUTS.
- EXISTING TREES NOT DESIGNED FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. TREES DAMAGED DURING CONSTRUCTION SHALL BE PRUNED AND WOUNDS PROTECTED AS APPROVED BY THE CITY'S REPRESENTATIVE. ALL PRUNING SHALL BE DONE UNDER THE SUPERVISION OF A LICENSED ARBORIST. TREE PROTECTION AND PRUNING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EARTHWORK QUANTITIES. NO CLASSIFICATION OF EXCAVATED MATERIALS WILL BE MADE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING THE AMOUNT OF ROCK EXCAVATION, IF ANY, TO BE INCLUDED IN HIS BID. EXCAVATION WORK SHALL INCLUDE THE REMOVAL AND SUBSEQUENT HANDLING OF ALL MATERIALS EXCAVATED OR OTHERWISE REMOVED IN PERFORMANCE OF THE WORK, REGARDLESS OF THE TYPE, CHARACTER, COMPOSITION, OR CONDITION THEREOF. ALL FILL AND BACKFILL MATERIAL SHALL CONSIST OF EARTH OR OTHER APPROVED MATERIAL FREE FROM ORGANIC MATTER WITH ALL UNDESIRABLE MATERIAL REMOVED.
- ALL CONTRACTOR STOCKPILING, STAGING AND EMPLOYEE PARKING SHALL BE CONFINED TO THE LOCATIONS SHOWN ON THE PLANS. IF THE CONTRACTOR BELIEVES THAT HE REQUIRES MORE WORKING ROOM THAN IS PROVIDED IN THE PERMANENT EASEMENT OR RIGHT-OF-WAY, THE CONTRACTOR, AT HIS EXPENSE, MAY OBTAIN AGREEMENTS WITH PROPERTY OWNERS FOR ADDITIONAL TEMPORARY ACCESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GAINING ANY TEMPORARY ACCESS REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL PROVIDE OWNER AND CITY WITH COPIES OF ANY AGREEMENTS REACHED FOR SAID ACCESS.

Do we have any excavations outside the trenching operations?

- THE TOP 6" OF ALL FILL SHALL BE TOP SOIL, AND SHALL BE APPROVED BY THE CITY'S REPRESENTATIVE PRIOR TO SOD OR SEED INSTALLATION. ALL BACK FILL SHALL BE TAMPED AND ORGANIC TOP SOIL PLACED THEREAFTER FOLLOWED BY SEEDING OR SOD AS REQUIRED BY THE SPECIFICATIONS. NO EXTRA PAYMENT WILL BE MADE FOR IMPORTED FILL MATERIAL REQUIRED TO CONSTRUCTION FILLS TO LINES AND GRADES INDICATED ON THE DRAWINGS.
- ALL WATER REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE PURCHASED FROM THE INDEPENDENCE WATER DEPARTMENT THROUGH THE USE OF A FIRE HYDRANT WATER METER. METERS CAN BE OBTAINED FROM THE WATER DEPARTMENT FOR A FEE, REFUNDABLE UPON RETURN OF THE METER. ALL COSTS FOR WATER SHALL BE THE CONTRACTOR'S RESPONSIBILITY, SUBSIDIARY TO OTHER CONTRACT PAYMENT ITEMS.
- GROUNDWATER SEEPAGE MAY BE ENCOUNTERED ON THE PROJECT. IF WATER SEEPAGE IS ENCOUNTERED DURING EXCAVATION, USE OF TEMPORARY DEWATERING TECHNIQUES MAY BE NECESSARY AT NO ADDITIONAL COST TO THE CITY.
- THE CONTRACTOR SHALL NOT BE ALLOWED TO WORK SUNDAY, HOLIDAYS AND SATURDAY WORK SHALL BE APPROVED BY THE CITY'S REPRESENTATIVE.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF THE CONSTRUCTION WORKERS AND THE PUBLIC.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF INDEPENDENCE PUBLIC WORKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PUBLIC STREETS IN THE VICINITY OF THE JOB SITE CLEAN AND FREE OF ROCKS, SOIL AND DEBRIS.
- THE CONTRACTOR SHALL NOT CHANGE OR DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE OWNER AND ENGINEER.
- THE CONTRACTOR SHALL AT NO TIME LEAVE EQUIPMENT OR MATERIALS IN LOCATIONS THAT WILL OBSTRUCT THE EXISTING CAPACITY OF THE STORM SEWER SYSTEM OR CAUSE FLOODING OF RESIDENCES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING THE FUNCTIONS OF STREET MOUNTED MAILBOXES (IF PRESENT) THROUGHOUT CONSTRUCTION. MAIL SERVICE SHALL NOT BE INTERRUPTED. CONTRACTOR SHALL PROVIDE TEMPORARY LOCATION FOR EXISTING MAILBOXES (NOT REPLACED WITH NEW MAILBOXES) IN A LOCATION THAT IS ACCESSIBLE TO BOTH THE PROPERTY OWNER AND THE POSTAL SERVICE IF EXISTING MAILBOX IS REMOVED OR INACCESSIBLE DURING CONSTRUCTION. CONTRACTOR SHALL REINSTALL EXISTING MAILBOX (NOT REPLACED WITH NEW MAILBOXES) IN ORIGINAL LOCATION IF TEMPORARILY RELOCATED. ANY EXISTING MAILBOXES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY REPLACEMENTS SHALL BE OF EQUAL OR BETTER QUALITY TO EXISTING MAILBOX. NO DIRECT PAYMENT. INCIDENTAL TO DEMOLITION AND SITE PREPARATION.
- THE CITY OF INDEPENDENCE HAS THE RIGHT OF FIRST REFUSAL OF ANY OF THE DEMOLITION OR REMOVAL OF ITEMS WITHIN THE STREET RIGHT-OF-WAY. THE INDIVIDUAL PROPERTY OWNERS SHALL HAVE THE RIGHT OF FIRST REFUSAL ON ANY DEMOLITION OR REMOVAL ITEMS WITHIN TEMPORARY CONSTRUCTION EASEMENTS.
- ALL DISTURBED TURF GRASS AREAS SHALL BE SODDED UNLESS OTHERWISE NOTED ON THE PLANS.
- THE EXISTING STREET SIGNS IN THE CONSTRUCTION LIMITS SHALL BE REMOVED AND RESET BY THE CONTRACTOR INCLUDING ANY TEMPORARY RELOCATIONS DEEMED NECESSARY BY THE CITY REPRESENTATIVE AND ARE SUBSIDIARY TO DEMOLITION AND SITE PREPARATION. NO DIRECT PAYMENT.
- ALL REMOVALS, INCLUDING EXISTING PAVEMENTS, SHALL BE SUBSIDIARY TO THE BID ITEM "DEMOLITION AND SITE PREPARATION".
- ALL EXISTING CONCRETE PAVEMENT, CURB AND GUTTER, DRIVEWAYS, SIDEWALKS AND BITUMINOUS SURFACING TO BE REMOVED, SHALL BE CUT TO NEAT LINES AS SHOWN ON PLANS OR TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER. ADDITIONAL REMOVAL MAY BE ORDERED BY THE ENGINEER. ALL WASTE MATERIAL SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. ALL MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE. ALL SAWCUTTING REQUIRED SHALL BE SUBSIDIARY TO THE BID ITEM "DEMOLITION AND SITE PREPARATION".
- CONTRACTOR SHALL PERFORM A PRE-CONSTRUCTION PHOTO SURVEY OF THE PROJECT FOUNDATIONS OF RESIDENCES ADJACENT TO PIPE INSTALLATIONS. THIS SURVEY SHALL BE CONDUCTED AND DOCUMENTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SHALL BE SUBSIDIARY TO THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT INFORMATION TO THE CITY OF INDEPENDENCE OF ALL STORM SEWER PIPE AND STRUCTURES CONSTRUCTED WITH THESE PLANS.
- THE CONTRACTOR IS RESPONSIBLE TO CONFIRM ALL ACCESS POINTS TO UTILITIES (WATER METERS, WATER VALVES, SANITARY SEWER MANHOLES, ETC.) ARE OPEN AND ACCESSIBLE AT THE COMPLETION OF ALL PAVING AND SITE RESTORATION. ANY OBSTRUCTIONS FOUND BY THE OWNERS REPRESENTATIVE THAT HINDER ACCESS TO THESE UTILITIES SHALL BE CLEANED BY THE CONTRACTOR AT HIS EXPENSE.
- ALL HDPE PIPES SHALL HAVE WATER TIGHT JOINTS.

**EROSION CONTROL NOTES**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION & SEDIMENT CONTROL MEASURES AND PRACTICES THROUGHOUT THE PROJECT. ANY AND ALL FINES ASSOCIATED WITH EROSION CONTROL VIOLATIONS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- EROSION CONTROL IS THE CONTRACTOR'S RESPONSIBILITY. THIS PLAN SHOULD BE USED AS A GUIDE AND REPRESENTS THE MINIMUM EROSION CONTROL DEVICES REQUIRED.
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION. A CURRENT COPY OF THE SWPPP SHALL BE KEPT AT THE JOB SITE AT ALL TIMES AND SHALL BE CONTINUALLY UPDATED TO REFLECT ANY CHANGES IN EROSION CONTROL PRACTICES OR METHODS.
- CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND REPAIRING ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH RAINFALL EVENT.
- THE CONTRACTOR SHALL PROVIDE ANY FURTHER EROSION CONTROL MEASURES IN ADDITION TO THOSE LISTED TO ENSURE THAT SILT WILL NOT LEAVE THE PROJECT CONFINES.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED WITH A HEALTHY STAND OF PERMANENT VEGETATION.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AT COMPLETION OF CONSTRUCTION.
- THE CONTRACTOR SHALL ENSURE THAT ALL DRAINAGE STRUCTURES, FLUMES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
- THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY STABILIZATION AS REQUIRED AND IS SUBSIDIARY TO THE BID ITEM "DEMOLITION AND SITE PREPARATION".
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED WITH A HEALTHY STAND OF PERMANENT VEGETATION.
- THE CONTRACTOR SHALL PROVIDE AN INGRESS/EGRESS TRACKING PAD FOR VEHICULAR TRAFFIC AT A LOCATION APPROVED BY THE OWNERS REPRESENTATIVE.
- ALL EROSION CONTROL DEVICES SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS AND DESIGN CRITERIA OF THE ENGINEERING DIVISION, DEPARTMENT OF PUBLIC WORKS, CITY OF INDEPENDENCE, MO, MOST CURRENT EDITIONS.
- AT ANY TIME DURING CONSTRUCTION THE CITY ENGINEER MAY REQUIRE ADDITIONAL EROSION/SILTATION CONTROL MEASURES TO BE INSTALLED IN ORDER TO ADDRESS PROBLEM SITUATIONS OBSERVED ON THE SITE. WHEN REQUIRED SUCH MEASURES SHALL BE INSTALLED WITHIN 48 HOURS OF THE CITY ENGINEER'S VERBAL OR WRITTEN ORDER.
- PROPOSED CONTOURS SHOWN ARE TO FINISH GRADE AND REFLECT SURFACE ELEVATIONS OF PAVEMENT AND LANDSCAPED AREAS AROUND BUILDINGS. THE CONTRACTOR SHALL ADJUST FOR PAVEMENT AND LANDSCAPED MATERIALS AS REQUIRED.
- ALL EROSION CONTROL STRUCTURES AND DEVICES SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING.

**QUANTITIES**

SUMMARY OF QUANTITIES			
No.	Item Description	Unit	Quantity
1	Demolition & Site Preparation	LS	1
2	Reconnection & Modification of Existing Facilities	FA	1
3	Unclassified Excavation	CY	418
4	Asphalt Surface (type 3-01) (2")	SY	387
5	Portland Cement Concrete Base (8")	SY	387
6	Concrete Driveway (6" Standard)	SY	421
7	Concrete Sidewalk (4" Thick)	SF	145
8	Rock Riprap (18" D50)	SY	135
9	18" Storm Sewer Pipe (HDPE)	LF	1111
10	24" Storm Sewer Pipe (HDPE)	LF	754
11	30" Storm Sewer Pipe (HDPE)	LF	84
12	24" RC End Section with Toewall	EA	1
13	30" RC End Section with Toewall	EA	1
14	4'x4' Type C Field Inlet (H= 3'-7")	EA	8
15	4'x4' Type C Field Inlet (H=7'-10")	EA	7
16	5'x5' Type C Field Inlet (H=3'-7")	EA	4
17	5'x5' Type C Field Inlet (H=7'-10")	EA	1
18	Sod	SY	4000
19	8" Sanitary Sewer (DIP)	LF	15
20	8" Sanitary Sewer Concrete Encasement	LF	15
21	4" Sanitary Sewer (DIP)	LF	45
22	4" Sanitary Sewer Concrete Encasement	LF	45
23	Inlet Protection	EA	16
24	Fiber Roll Ditch Check	EA	14
25	Construction Fence	LF	450
26	Sediment Fence	LF	800
27	Rain Garden	SF	785
28	Native Vegetation	LS	1
29	Traffic Control	LS	1

Is this all from trenching?

Discuss practice of upsizing by 1 dimension.

If encasing, discuss whether needs to be DIP.

May need to specifically call out the landscaping stone to be P.O.'s right of first refusal on those demo sheets specifically.

Construction division will likely require this item to be split out.

Where are the fence replacement bid items? (CLF, etc)?

What's all going in this bid item?

REVISIONS

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ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
GENERAL NOTES AND  
SUMMARY OF QUANTITIES

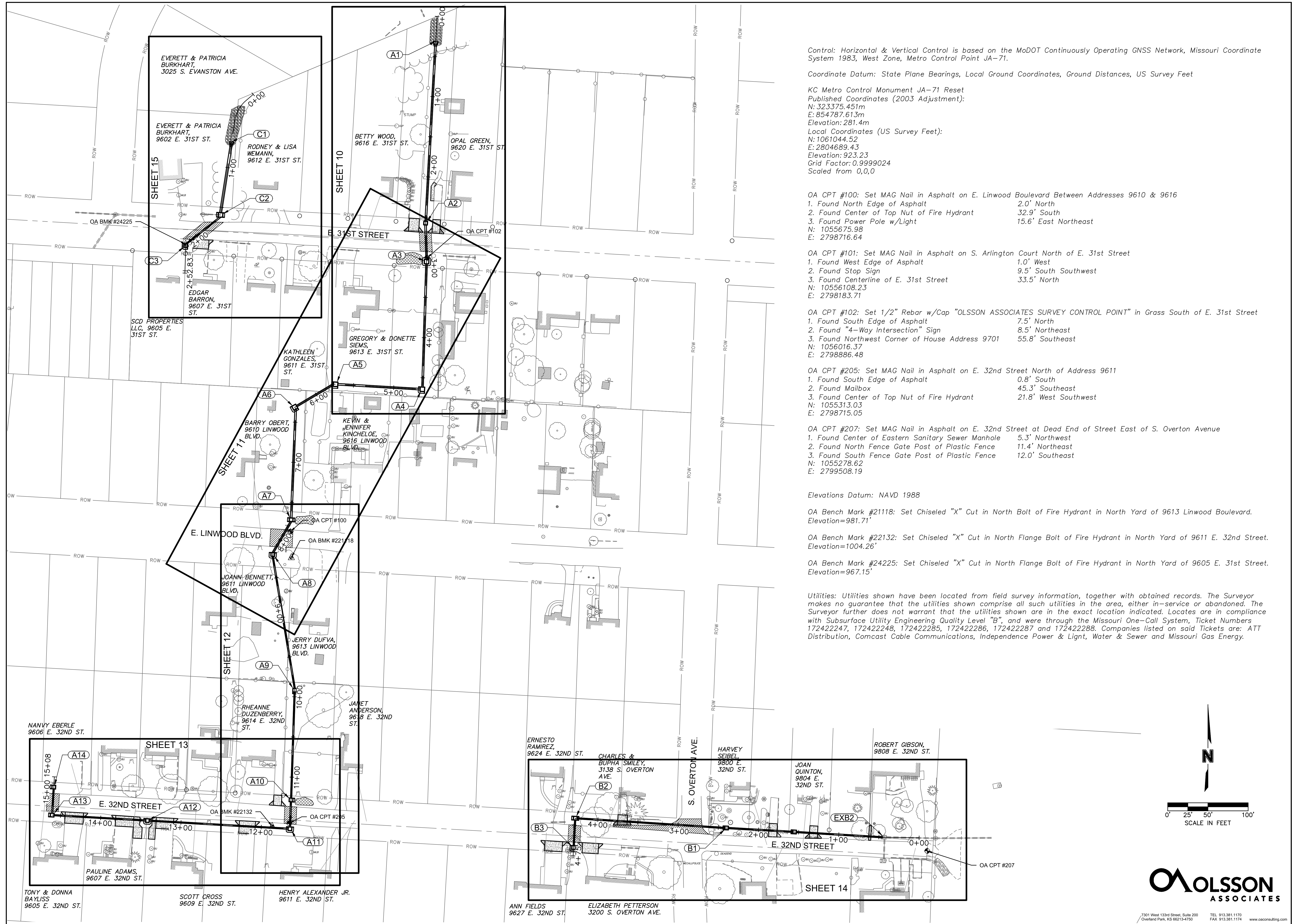
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WATER POLLUTION CONTROL DEPARTMENT  
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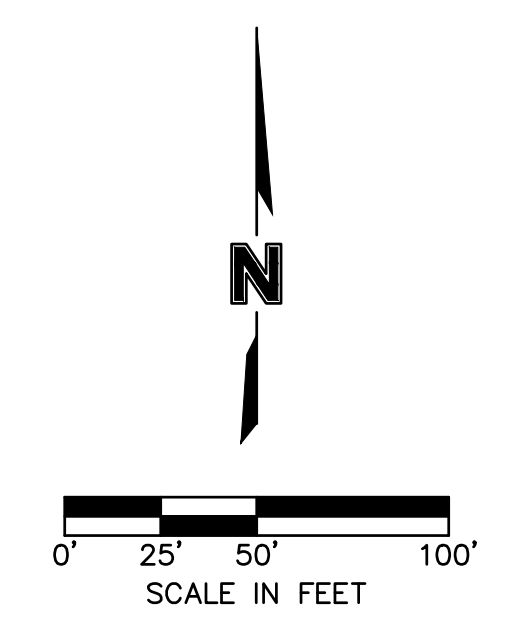
Control: Horizontal & Vertical Control is based on the MoDOT Continuously Operating GNSS Network, Missouri Coordinate System 1983, West Zone, Metro Control Point JA-71.

Coordinate Datum: State Plane Bearings, Local Ground Coordinates, Ground Distances, US Survey Feet

KC Metro Control Monument JA-71 Reset  
 Published Coordinates (2003 Adjustment):  
 N: 323375.451m  
 E: 854787.613m  
 Elevation: 281.4m  
 Local Coordinates (US Survey Feet):  
 N: 1061044.52  
 E: 2804689.43  
 Elevation: 923.23  
 Grid Factor: 0.9999024  
 Scaled from 0,0,0

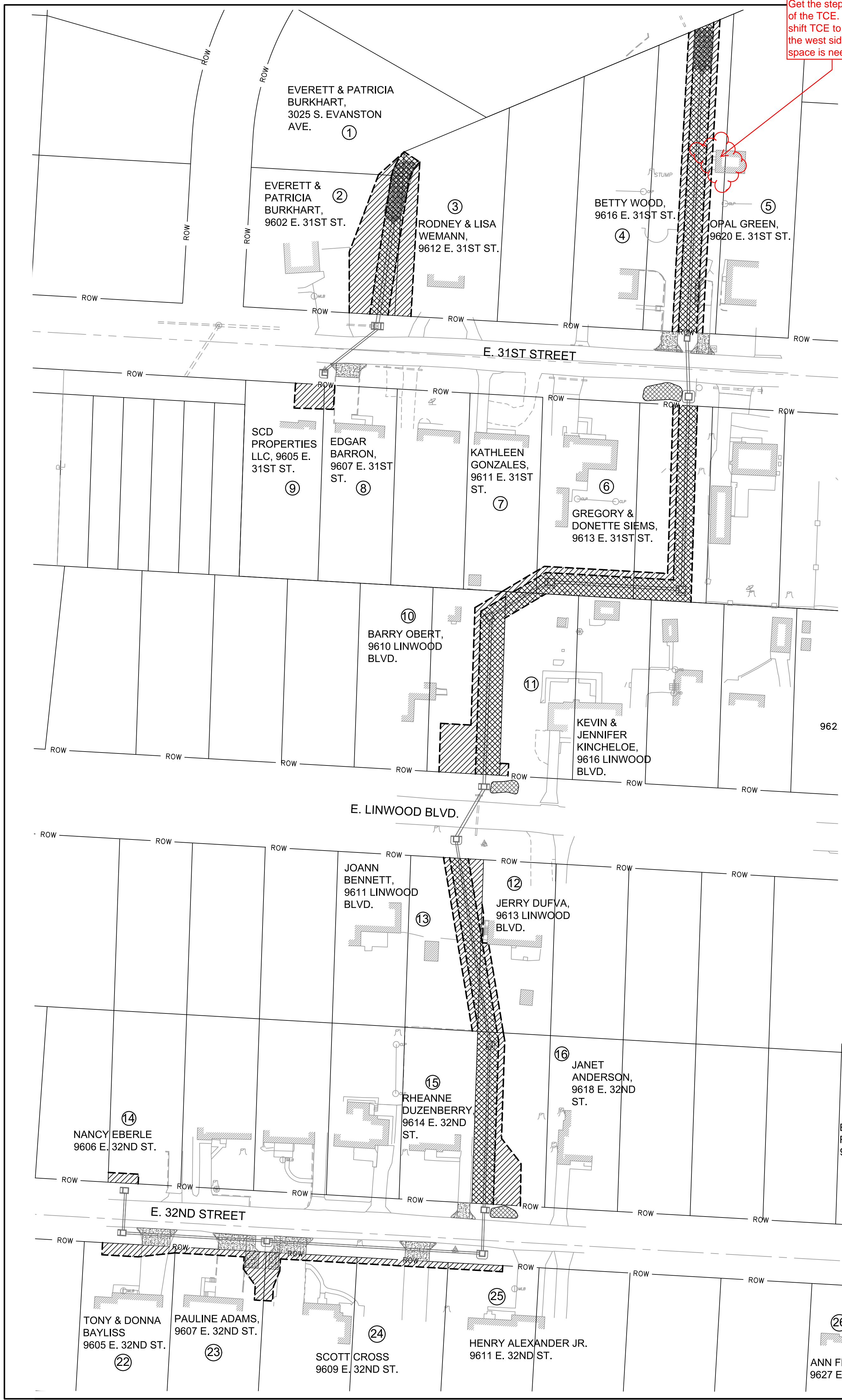
- OA CPT #100: Set MAG Nail in Asphalt on E. Linwood Boulevard Between Addresses 9610 & 9616
1. Found North Edge of Asphalt 2.0' North
  2. Found Center of Top Nut of Fire Hydrant 32.9' South
  3. Found Power Pole w/Light 15.6' East Northeast
- N: 1055675.98  
E: 2798716.64
- OA CPT #101: Set MAG Nail in Asphalt on S. Arlington Court North of E. 31st Street
1. Found West Edge of Asphalt 1.0' West
  2. Found Stop Sign 9.5' South Southwest
  3. Found Centerline of E. 31st Street 33.5' North
- N: 10556108.23  
E: 2798183.71
- OA CPT #102: Set 1/2" Rebar w/Cap "OLSSON ASSOCIATES SURVEY CONTROL POINT" in Grass South of E. 31st Street
1. Found South Edge of Asphalt 7.5' North
  2. Found "4-Way Intersection" Sign 8.5' Northeast
  3. Found Northwest Corner of House Address 9701 55.8' Southeast
- N: 1056016.37  
E: 2798886.48
- OA CPT #205: Set MAG Nail in Asphalt on E. 32nd Street North of Address 9611
1. Found South Edge of Asphalt 0.8' South
  2. Found Mailbox 45.3' Southeast
  3. Found Center of Top Nut of Fire Hydrant 21.8' West Southwest
- N: 1055313.03  
E: 2798715.05
- OA CPT #207: Set MAG Nail in Asphalt on E. 32nd Street at Dead End of Street East of S. Overton Avenue
1. Found Center of Eastern Sanitary Sewer Manhole 5.3' Northwest
  2. Found North Fence Gate Post of Plastic Fence 11.4' Northeast
  3. Found South Fence Gate Post of Plastic Fence 12.0' Southeast
- N: 1055278.62  
E: 2799508.19
- Elevations Datum: NAVD 1988
- OA Bench Mark #21118: Set Chiseled "X" Cut in North Bolt of Fire Hydrant in North Yard of 9613 Linwood Boulevard.  
Elevation=981.71'
- OA Bench Mark #22132: Set Chiseled "X" Cut in North Flange Bolt of Fire Hydrant in North Yard of 9611 E. 32nd Street.  
Elevation=1004.26'
- OA Bench Mark #24225: Set Chiseled "X" Cut in North Flange Bolt of Fire Hydrant in North Yard of 9605 E. 31st Street.  
Elevation=967.15'

Utilities: Utilities shown have been located from field survey information, together with obtained records. The Surveyor makes no guarantee that the utilities shown comprise all such utilities in the area, either in-service or abandoned. The Surveyor further does not warrant that the utilities shown are in the exact location indicated. Locates are in compliance with Subsurface Utility Engineering Quality Level "B", and were through the Missouri One-Call System, Ticket Numbers 172422247, 172422248, 172422285, 172422286, 172422287 and 172422288. Companies listed on said Tickets are: ATT Distribution, Comcast Cable Communications, Independence Power & Light, Water & Sewer and Missouri Gas Energy.



REVISIONS
ENGINEERING SERVICES FOR BLUE LAWN SUBDIVISION STORM DRAINAGE IMPROVEMENT PROJECTS GENERAL LAYOUT PLAN
<b>CITY OF INDEPENDENCE</b> WATER POLLUTION CONTROL DEPARTMENT 14909 E. Truman Road Independence, MO 64051 PHONE: (816) 325-7724
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Get the steps out of the TCE. Could shift TCE to just the west side if space is needed.



PARCEL #	OWNER / OWNER ADDRESS	SUBDIVISION	LOT #	SITE ADDRESS	GENERAL UTILITY ESMT.	TEMPORARY CONSTRUCTION ESMT.
1	EVERETT & PATRICIA BURKHART, 9602 E. 31ST ST., INDEPENDENCE, MO 64052	WESTPORT HIGHLANDS	12	3025 S. EVANSTON AVE.	111 SF	89 SF
2	EVERETT & PATRICIA BURKHART, 9602 E. 31ST ST., INDEPENDENCE, MO 64052	WESTMORELAND SLOPES	13	9602 E. 31ST ST.	1,559 SF	2,353 SF
3	RODNEY & LESA WIEMANN, 100 DOCKSIDE DR., LAKE TAPAWINGO, MO 64015	LASATER ADDITION	13	9612 E. 31ST ST.	321 SF	1,425 SF
4	BETTY WOOD, 9616 E. 31ST ST., INDEPENDENCE, MO 64052	LASATER ADDITION	10, 11	9616 E. 31ST ST.	1,893 SF	1,237 SF
5	OPAL GREEN, 9620 E. 31ST ST., INDEPENDENCE, MO 64052	LASATER ADDITION	9, 10	9620 E. 31ST ST.	1,893 SF	1,287 SF
6	GREGORY & DONNETTE SIEMS, 10717 E. 71ST TER., RAYTOWN, MO 64133	ATWELL AND CHILES ADDITION	6, 7	9613 E. 31ST ST.	4,375 SF	1,264 SF
7	KATHLEEN GONZALES, 9611 E. 31ST ST., INDEPENDENCE, MO 64052	ATWELL AND CHILES ADDITION	8	9611 E. 31ST ST.	119 SF	139 SF
8	EDGAR BARRON, 9607 E. 31ST ST., INDEPENDENCE, MO 64052	ATWELL AND CHILES ADDITION	10	9607 E. 31ST ST.	0 SF	163 SF
9	SCD PROPERTIES LLC, 10005 N. LAUREL AVE., KANSAS CITY, MO 64157	ATWELL AND CHILES ADDITION	11	9605 E. 31ST ST.	0 SF	491 SF
10	BARRY OBERT, 9610 LINWOOD BLVD., INDEPENDENCE, MO 64052	BLUE LAWN	70	9610 LINWOOD BLVD.	2,816 SF	1,808 SF
11	KEVIN & JENNIFER KINCHELOE, 9616 LINWOOD BLVD., INDEPENDENCE, MO 64052	BLUE LAWN	71	9616 LINWOOD BLVD.	359 SF	70 SF
12	JERRY DUFVA, 9613 LINWOOD BLVD., INDEPENDENCE, MO 64052	BLUE LAWN	103	9613 LINWOOD BLVD.	639 SF	408 SF
13	JOANN BENNETT, 9611 LINWOOD BLVD., INDEPENDENCE, MO 64052	BLUE LAWN	104	9611 LINWOOD BLVD.	1,536 SF	1,112 SF
14	NANCY EBERLE, 9606 E. 32ND ST., INDEPENDENCE, MO 64052	BLUE LAWN	129	9606 E. 32ND ST.	0 SF	199 SF
15	RHEANNE DUZENBERRY, 9614 E. 32ND ST., INDEPENDENCE, MO 64052	BLUE LAWN	133	9614 E. 32ND ST.	0 SF	0 SF
16	JANET ANDERSON, 9618 E. 32ND ST., INDEPENDENCE, MO 64052	BLUE LAWN	134	9618 E. 32ND ST.	2,482 SF	1,467 SF
17	ERNESTO RAMIREZ, 9624 E. 32ND ST., INDEPENDENCE, MO 64052	BLUE LAWN	139	9624 E. 32ND ST.	0 SF	50 SF
18	CHARLES & BUPHA SMILEY, 2407 CASTLE DR., INDEPENDENCE, MO 64057	BLUE LAWN	140	3138 S. OVERTON AVE.	0 SF	650 SF
19	HARVEY SEIBEL, 9800 E. 32ND ST., INDEPENDENCE, MO 64052	BLUE LAWN	142, 143	9800 E. 32ND ST.	750 SF	250 SF
20	JOAN QUINTON, 9804 E. 32ND ST., INDEPENDENCE, MO 64052	BLUE LAWN	144, 143	9804 E. 32ND ST.	375 SF	125 SF
21	ROBERT GIBSON, 208 S.E. WILLIAMSBURG DR., BLUE SPRINGS, MO 64014	BLUE LAWN	145, 146	9808 E. 32ND ST.	594 SF	494 SF
22	TONY & DONNA BAYLISS, 9605 E. 32ND ST., INDEPENDENCE, MO 64052	WUNDURVUE	32	9605 E. 32ND ST.	0 SF	525 SF
23	PAULINE ADAMS, 9607 E. 32ND ST., INDEPENDENCE, MO 64052	WUNDURVUE	33	9607 E. 32ND ST.	0 SF	810 SF
24	SCOTT CROSS, 9609 E. 32ND ST., INDEPENDENCE, MO 64052	WUNDURVUE	34, 35	9609 E. 32ND ST.	0 SF	1,087 SF
25	HENRY ALEXANDER JR., 9611 E. 32ND ST., INDEPENDENCE, MO 64052	WUNDURVUE	36	9611 E. 32ND ST.	0 SF	225 SF
26	ANN FIELDS, 9627 E. 32ND ST., INDEPENDENCE, MO 64052	WUNDURVUE	40	9627 E. 32ND ST.	0 SF	175 SF
27	ELIZABETH PETTERSEN, 3200 S. OVERTON AVE., INDEPENDENCE, MO 64052	WUNDURVUE	41	3200 S. OVERTON AVE.	0 SF	250 SF

**LEGEND**

TEMPORARY CONSTRUCTION & GRADING EASEMENT

GENERAL UTILITY EASEMENT

Can you change the "0 SF" to either a blank, or "-"?  
On parcel 15, remove from parcel numbers; there are no takings.

REVISIONS

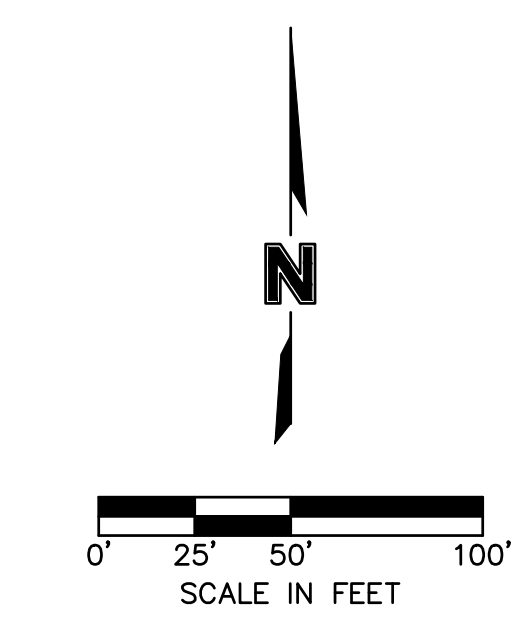

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
EASEMENT PLAN

**CITY OF INDEPENDENCE**  
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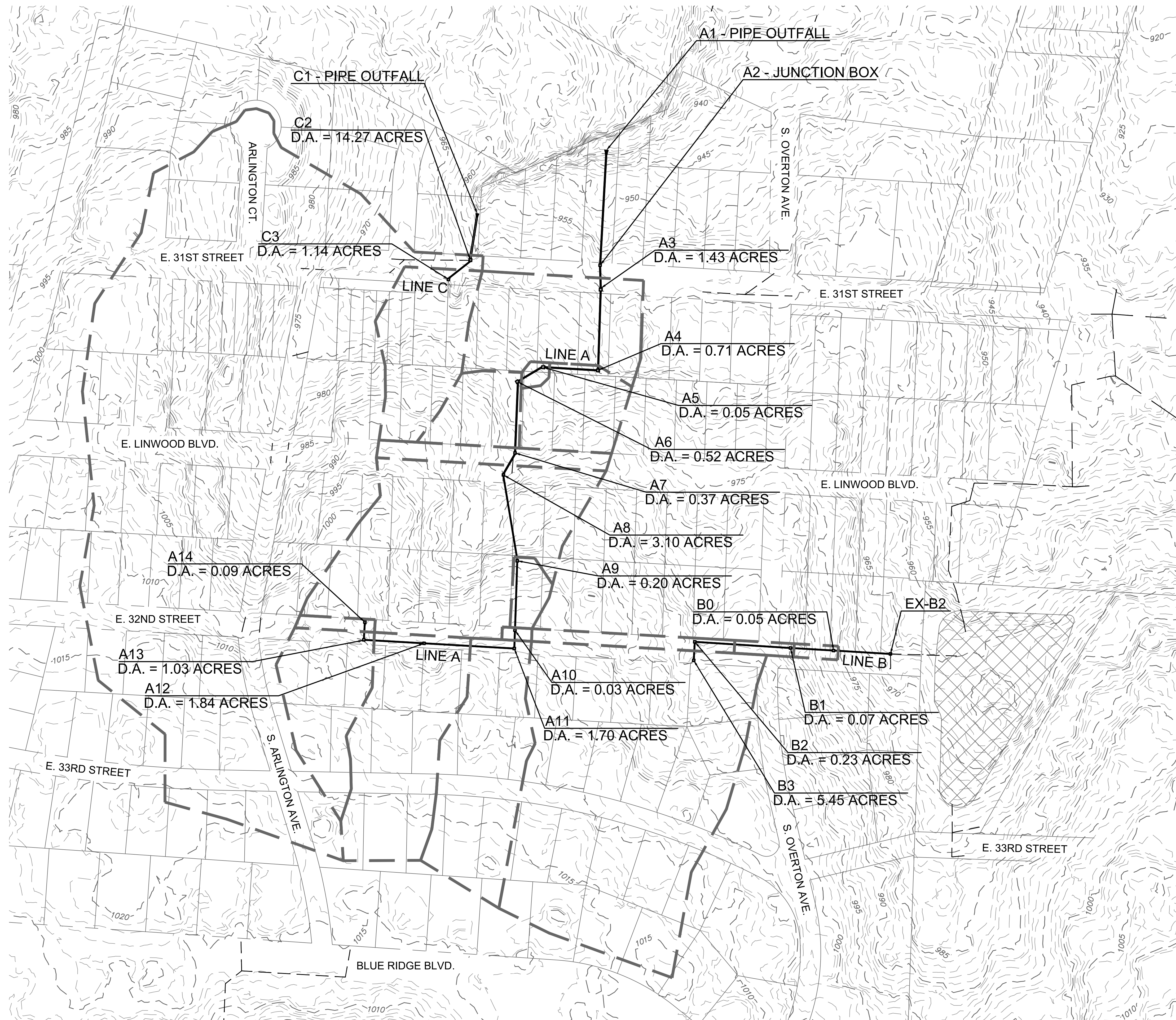


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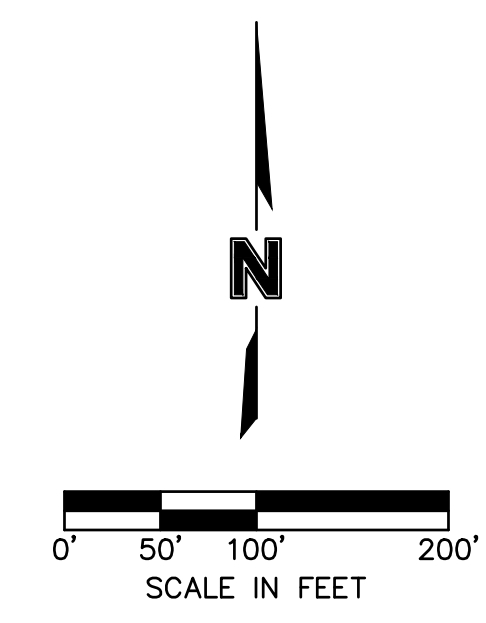


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**LEGEND**

- EXISTING STORMWATER PIPE
- PROPOSED STORM SEWER
- DRAINAGE BOUNDARY
- EXISTING DETENTION BASIN



REVISIONS

ENGINEERING SERVICES FOR  
 BLUE LAWN SUBDIVISION  
 STORM DRAINAGE IMPROVEMENT PROJECTS  
 DRAINAGE AREA MAP

**CITY OF INDEPENDENCE**  
 WATER POLLUTION CONTROL DEPARTMENT  
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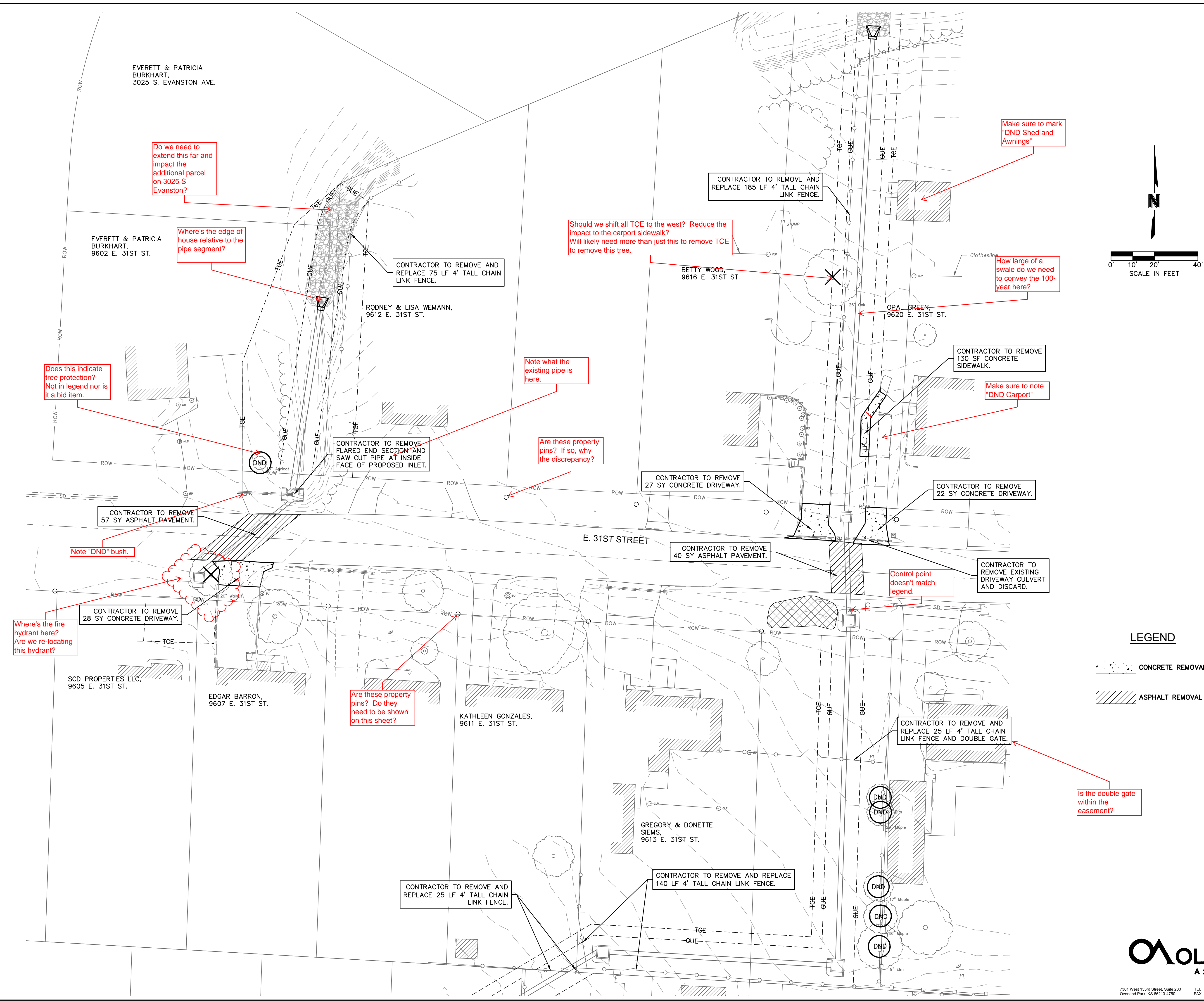
REVISIONS

ENGINEERING SERVICES FOR  
 BLUE LAWN SUBDIVISION  
 STORM DRAINAGE IMPROVEMENT PROJECTS  
 DEMOLITION PLAN

**CITY OF INDEPENDENCE**  
 WATER POLLUTION CONTROL DEPARTMENT  
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Do we need to extend this far and impact the additional parcel on 3025 S Evanston?

Where's the edge of house relative to the pipe segment?

Does this indicate tree protection? Not in legend nor is it a bid item.

CONTRACTOR TO REMOVE 57 SY ASPHALT PAVEMENT.

Note "DND" bush.

Where's the fire hydrant here? Are we re-locating this hydrant?

CONTRACTOR TO REMOVE 28 SY CONCRETE DRIVEWAY.

Are these property pins? Do they need to be shown on this sheet?

CONTRACTOR TO REMOVE AND REPLACE 140 LF 4' TALL CHAIN LINK FENCE.

CONTRACTOR TO REMOVE AND REPLACE 75 LF 4' TALL CHAIN LINK FENCE.

CONTRACTOR TO REMOVE FLARED END SECTION AND SAW CUT PIPE AT INSIDE FACE OF PROPOSED INLET.

Note what the existing pipe is here.

Are these property pins? If so, why the discrepancy?

CONTRACTOR TO REMOVE 40 SY ASPHALT PAVEMENT.

CONTRACTOR TO REMOVE AND REPLACE 25 LF 4' TALL CHAIN LINK FENCE AND DOUBLE GATE.

CONTRACTOR TO REMOVE AND REPLACE 140 LF 4' TALL CHAIN LINK FENCE.

CONTRACTOR TO REMOVE AND REPLACE 185 LF 4' TALL CHAIN LINK FENCE.

Should we shift all TCE to the west? Reduce the impact to the carport sidewalk? Will likely need more than just this to remove TCE to remove this tree.

CONTRACTOR TO REMOVE 130 SF CONCRETE SIDEWALK.

CONTRACTOR TO REMOVE 22 SY CONCRETE DRIVEWAY.

CONTRACTOR TO REMOVE 27 SY CONCRETE DRIVEWAY.

CONTRACTOR TO REMOVE 22 SY CONCRETE DRIVEWAY.

CONTRACTOR TO REMOVE EXISTING DRIVEWAY CULVERT AND DISCARD.

CONTRACTOR TO REMOVE AND REPLACE 25 LF 4' TALL CHAIN LINK FENCE AND DOUBLE GATE.

CONTRACTOR TO REMOVE AND REPLACE 140 LF 4' TALL CHAIN LINK FENCE.

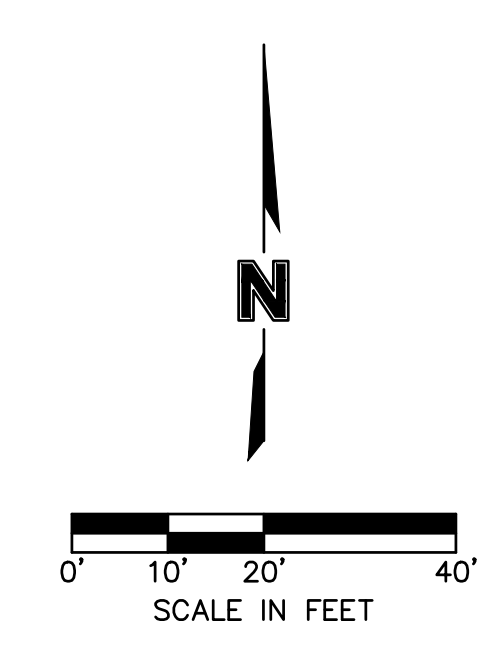
Make sure to mark "DND Shed and Awnings"

How large of a swale do we need to convey the 100-year here?

Make sure to note "DND Carport"

Control point doesn't match legend.

Is the double gate within the easement?

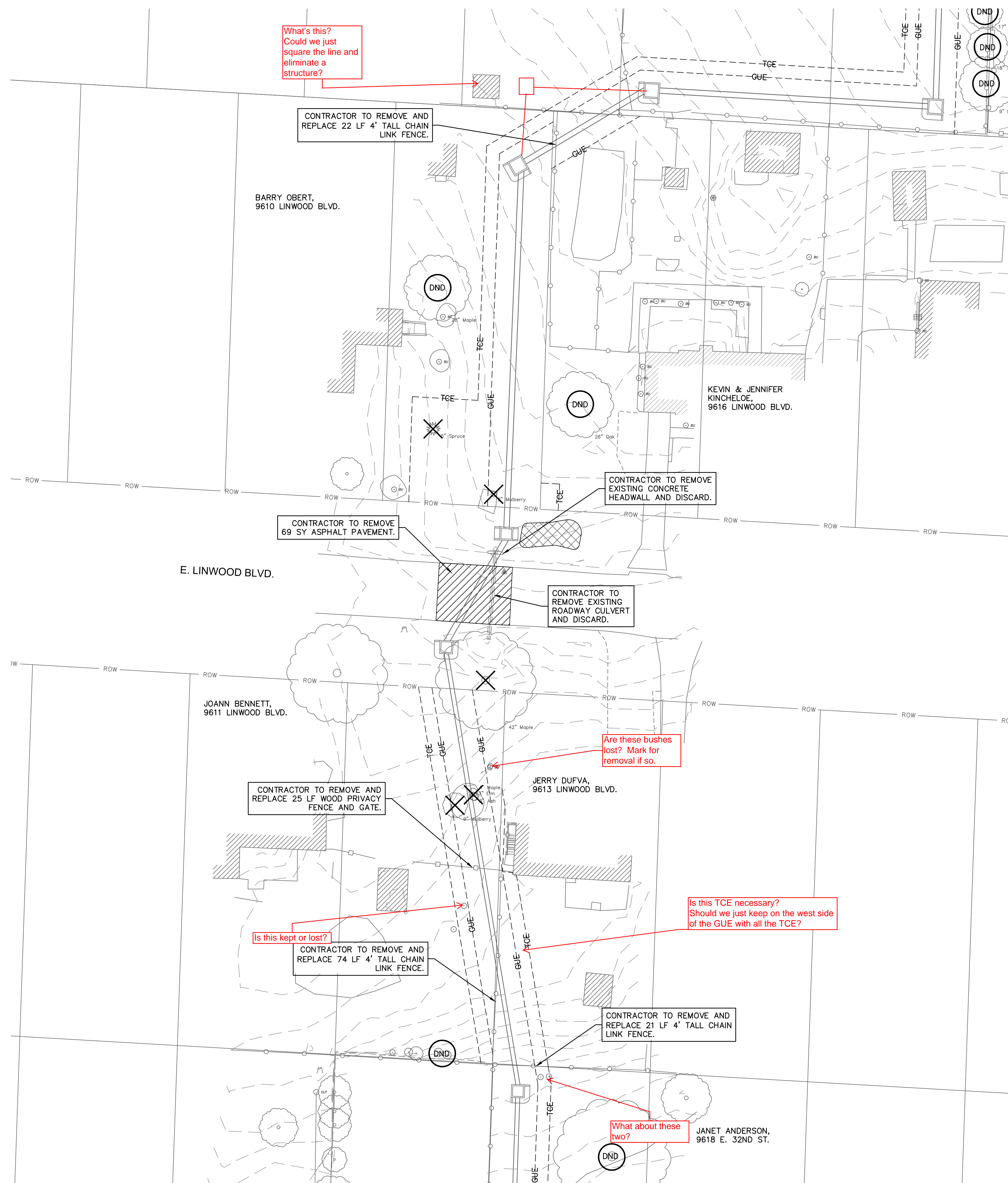


**LEGEND**

[Stippled pattern]	CONCRETE REMOVAL
[Hatched pattern]	ASPHALT REMOVAL



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What's this?  
Could we just square the line and eliminate a structure?

CONTRACTOR TO REMOVE AND REPLACE 22 LF 4' TALL CHAIN LINK FENCE.

BARRY OBERT,  
9610 LINWOOD BLVD.

KEVIN & JENNIFER  
KINCHELOE,  
9616 LINWOOD BLVD.

CONTRACTOR TO REMOVE EXISTING CONCRETE HEADWALL AND DISCARD.

CONTRACTOR TO REMOVE 69 SY ASPHALT PAVEMENT.

E. LINWOOD BLVD.

CONTRACTOR TO REMOVE EXISTING ROADWAY CULVERT AND DISCARD.

JOANN BENNETT,  
9611 LINWOOD BLVD.

JERRY DUFVA,  
9613 LINWOOD BLVD.

CONTRACTOR TO REMOVE AND REPLACE 25 LF WOOD PRIVACY FENCE AND GATE.

Are these bushes lost? Mark for removal if so.

CONTRACTOR TO REMOVE AND REPLACE 74 LF 4' TALL CHAIN LINK FENCE.

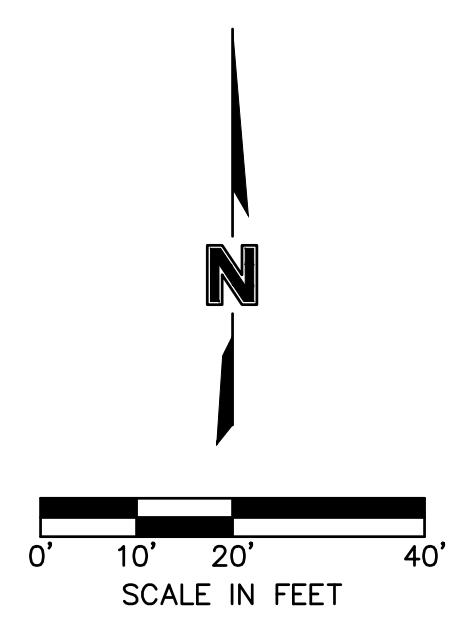
Is this kept or lost?

Is this TCE necessary? Should we just keep on the west side of the GUE with all the TCE?

CONTRACTOR TO REMOVE AND REPLACE 21 LF 4' TALL CHAIN LINK FENCE.

JANET ANDERSON,  
9618 E. 32ND ST.

What about these two?



**LEGEND**

- CONCRETE REMOVAL
- ASPHALT REMOVAL

REVISIONS

ENGINEERING SERVICES FOR  
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STORM DRAINAGE IMPROVEMENT PROJECTS  
DEMOLITION PLAN

**CITY OF INDEPENDENCE**  
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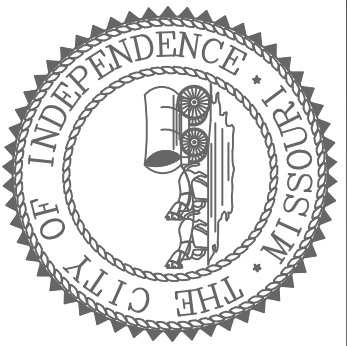
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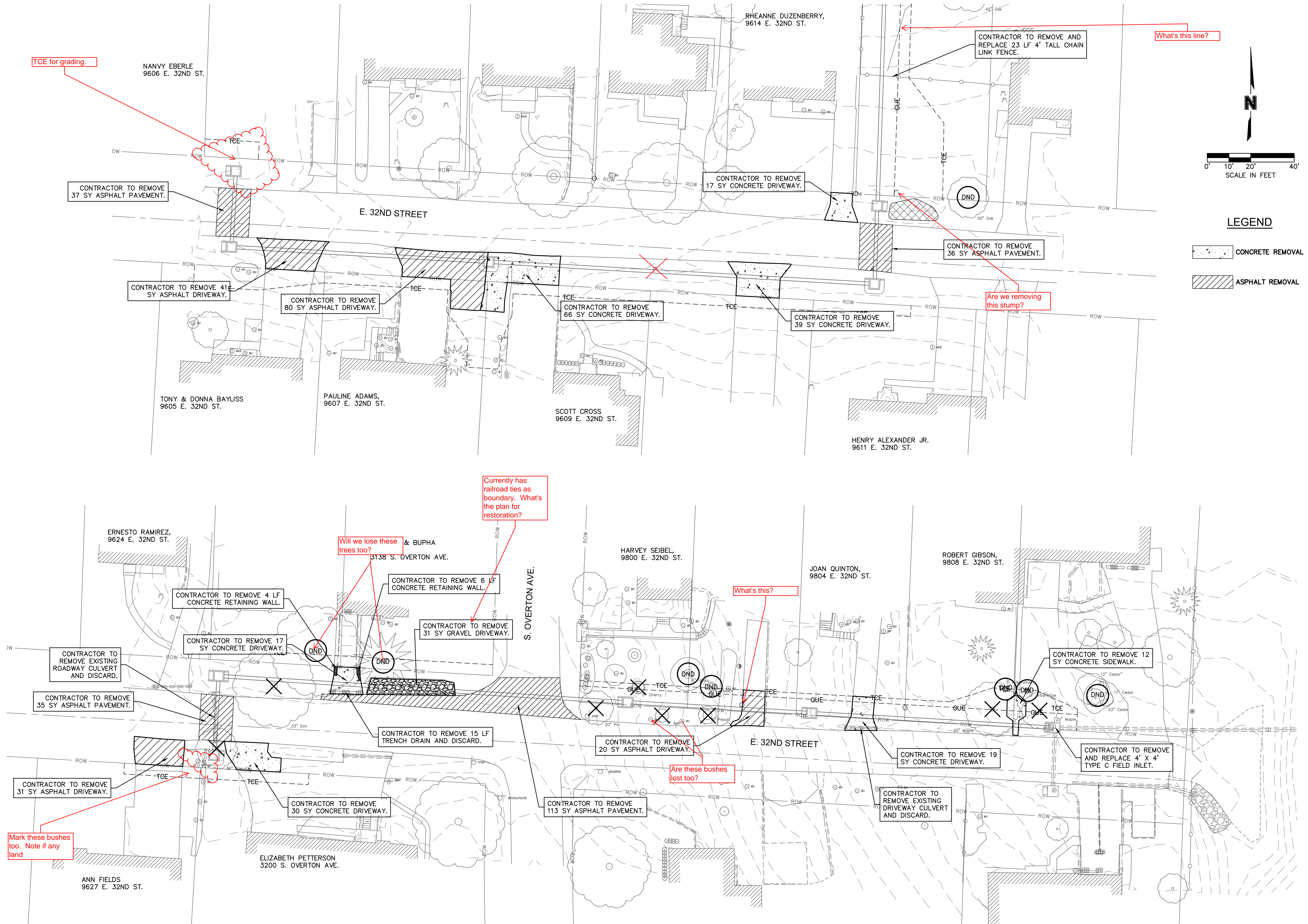
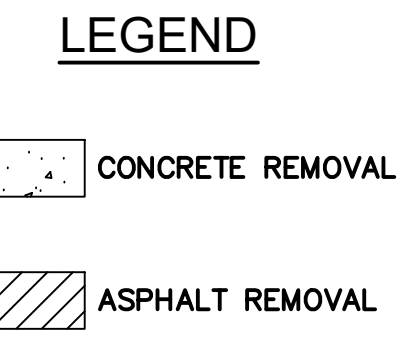
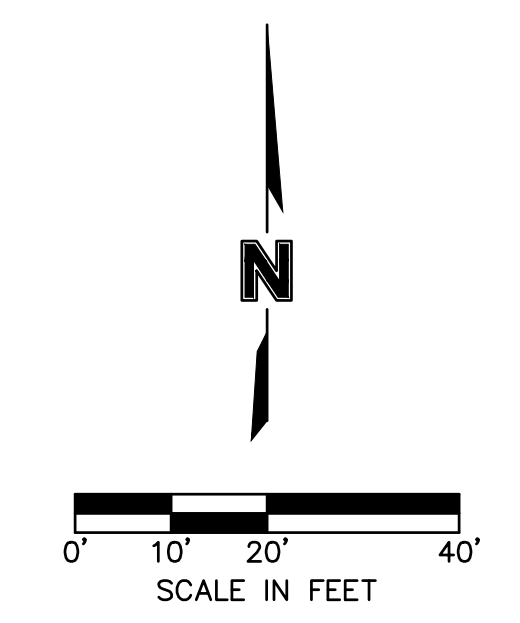
REVISIONS

ENGINEERING SERVICES FOR  
 BLUE LAWN SUBDIVISION  
 STORM DRAINAGE IMPROVEMENT PROJECTS  
 DEMOLITION PLAN

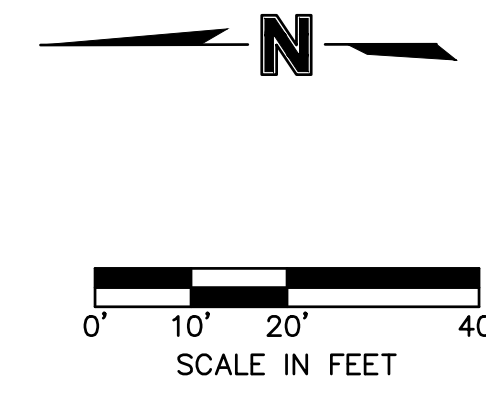
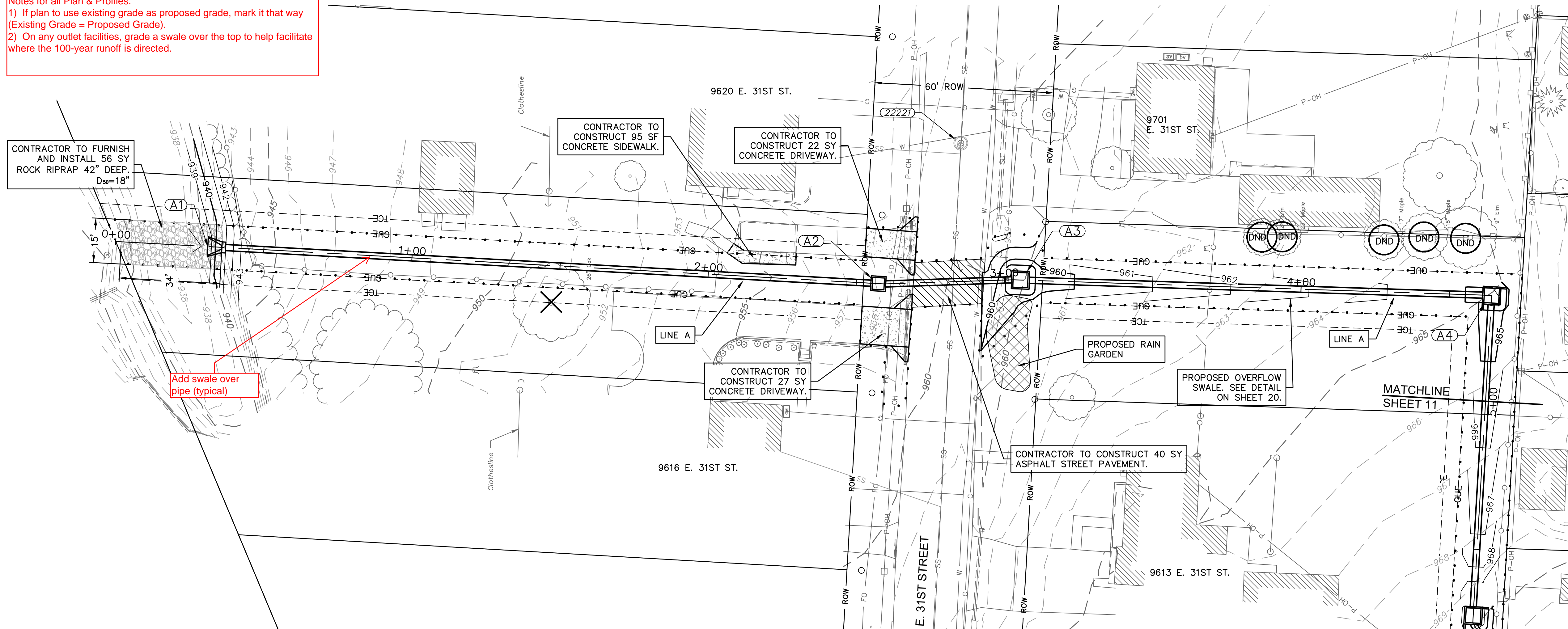
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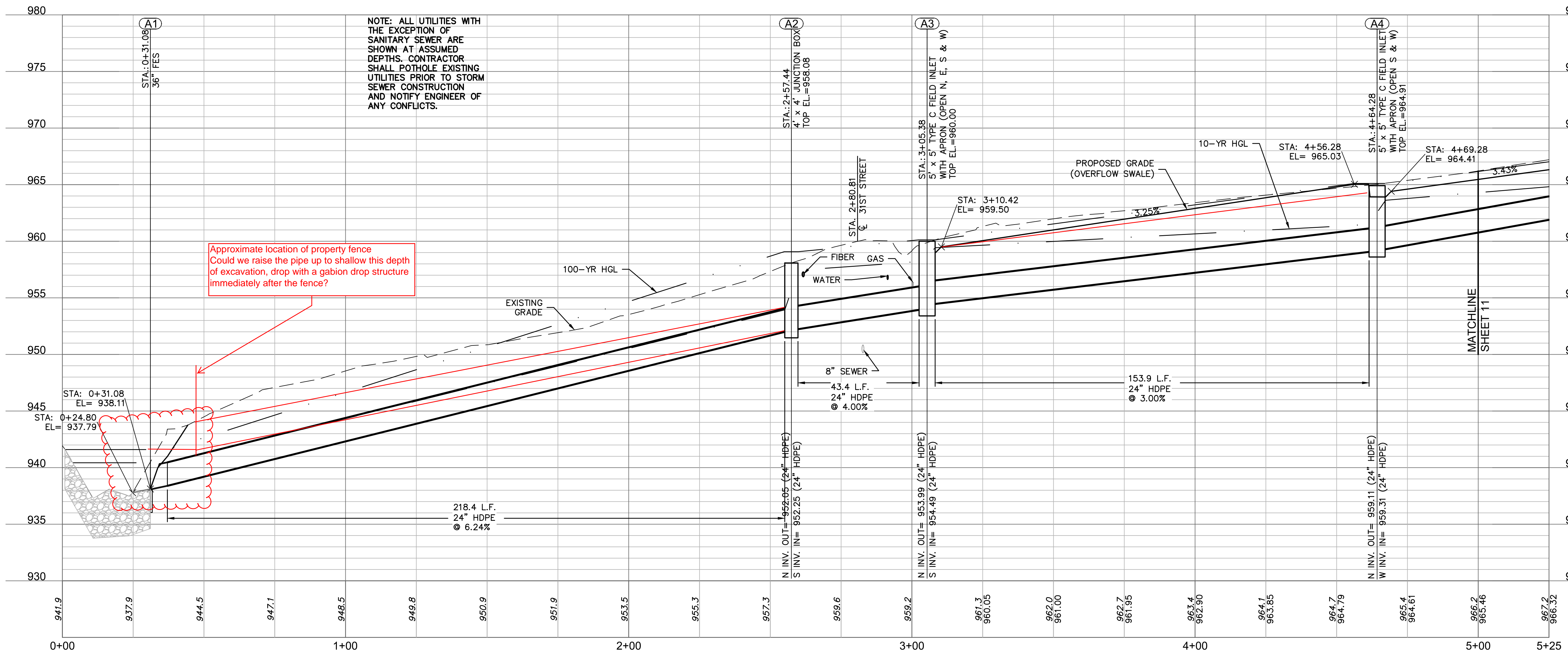


Notes for all Plan & Profiles:  
 1) If plan to use existing grade as proposed grade, mark it that way (Existing Grade = Proposed Grade).  
 2) On any outlet facilities, grade a swale over the top to help facilitate where the 100-year runoff is directed.



SANITARY STRUCTURES	
STRUCTURE ID	DESCRIPTION
22221	48" SANITARY SEWER MANHOLE INV. IN (8" VCP) = 949.56 INV. OUT (8" VCP) = 949.43

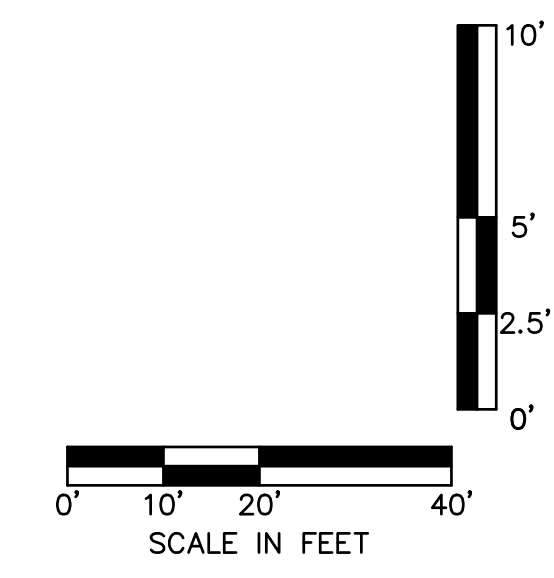
STRUCTURES	
STRUCTURE ID	DESCRIPTION
A1	36" FES 0+31.08, 0.00' LINE A N: 1056285.555; E: 2798897.091
A2	4' x 4' JUNCTION BOX 2+57.44, 0.00' LINE A INV. IN = 952.25 INV. OUT = 952.05 N: 1056059.544; E: 2798884.596
A3	5' x 5' TYPE C FIELD INLET WITH APRON (OPEN N, E, S & W) 3+05.38, 0.00' LINE A INV. IN = 954.49 INV. OUT = 953.99 N: 1056011.628; E: 2798885.811
A4	5' x 5' TYPE C FIELD INLET WITH APRON (OPEN S & W) 4+64.28, 0.00' LINE A INV. IN = 959.31 INV. OUT = 959.11 N: 1055852.810; E: 2798880.555



NOTE: ALL UTILITIES WITH THE EXCEPTION OF SANITARY SEWER ARE SHOWN AT ASSUMED DEPTHS. CONTRACTOR SHALL POTHOLE EXISTING UTILITIES PRIOR TO STORM SEWER CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.

Approximate location of property fence  
 Could we raise the pipe up to shallow this depth of excavation, drop with a gabion drop structure immediately after the fence?

- LEGEND**
- REMOVE & REPLACE DRIVEWAY
  - REMOVE & REPLACE ASPHALT PAVEMENT
  - PROPOSED RAIN GARDEN
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - LIMITS OF CONSTRUCTION
  - PROPOSED RIPRAP
  - TREE REMOVAL
  - PROTECT TREE



REVISIONS

ENGINEERING SERVICES FOR  
 BLUE LAWN SUBDIVISION  
 STORM DRAINAGE IMPROVEMENT PROJECTS  
 PLAN AND PROFILE - LINE A

**CITY OF INDEPENDENCE**  
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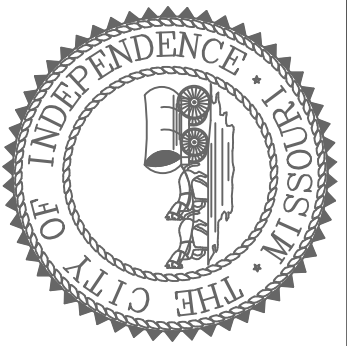
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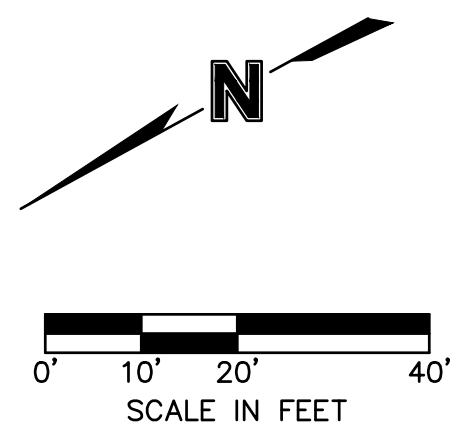
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PLAN AND PROFILE - LINE A

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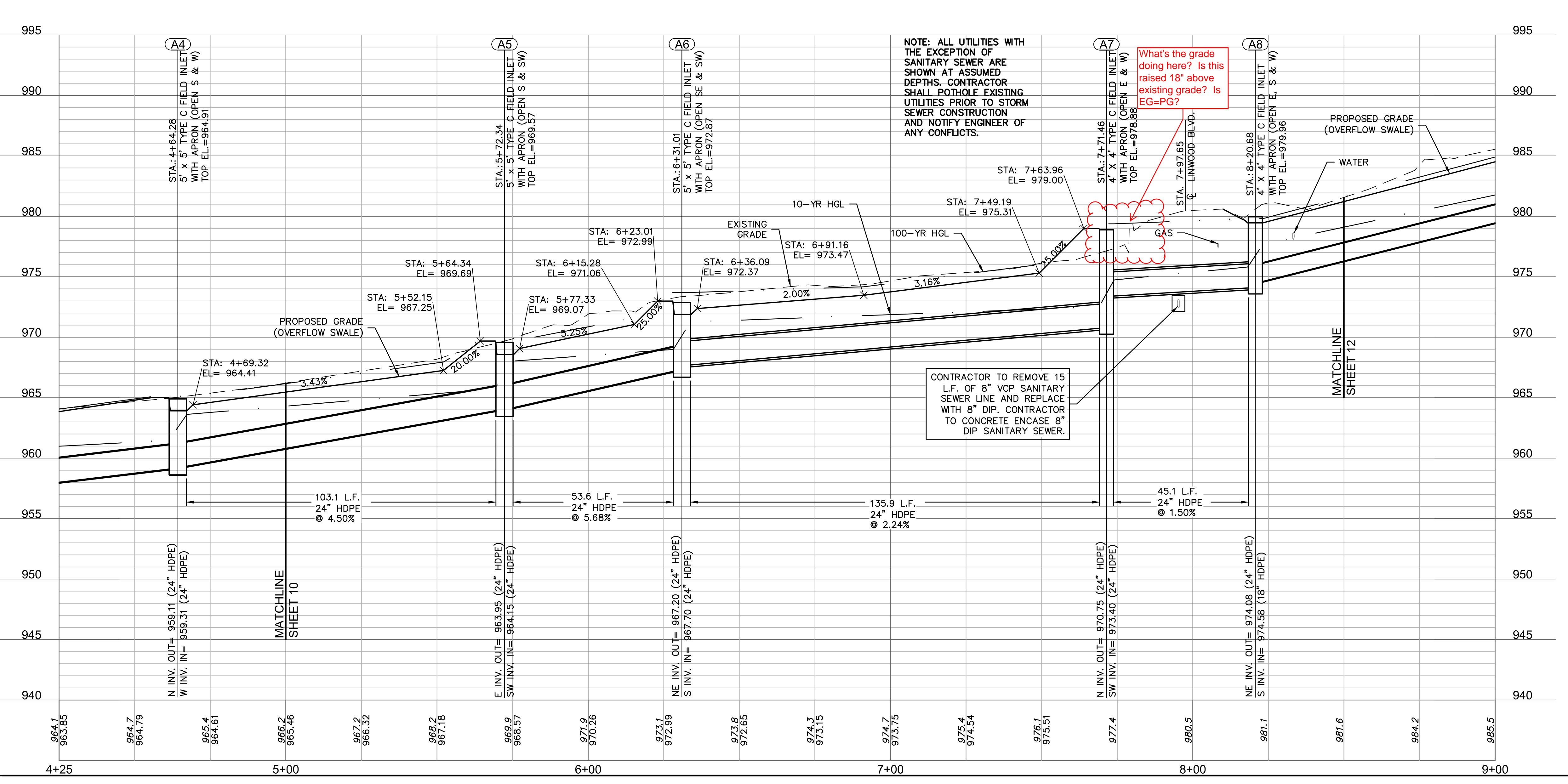
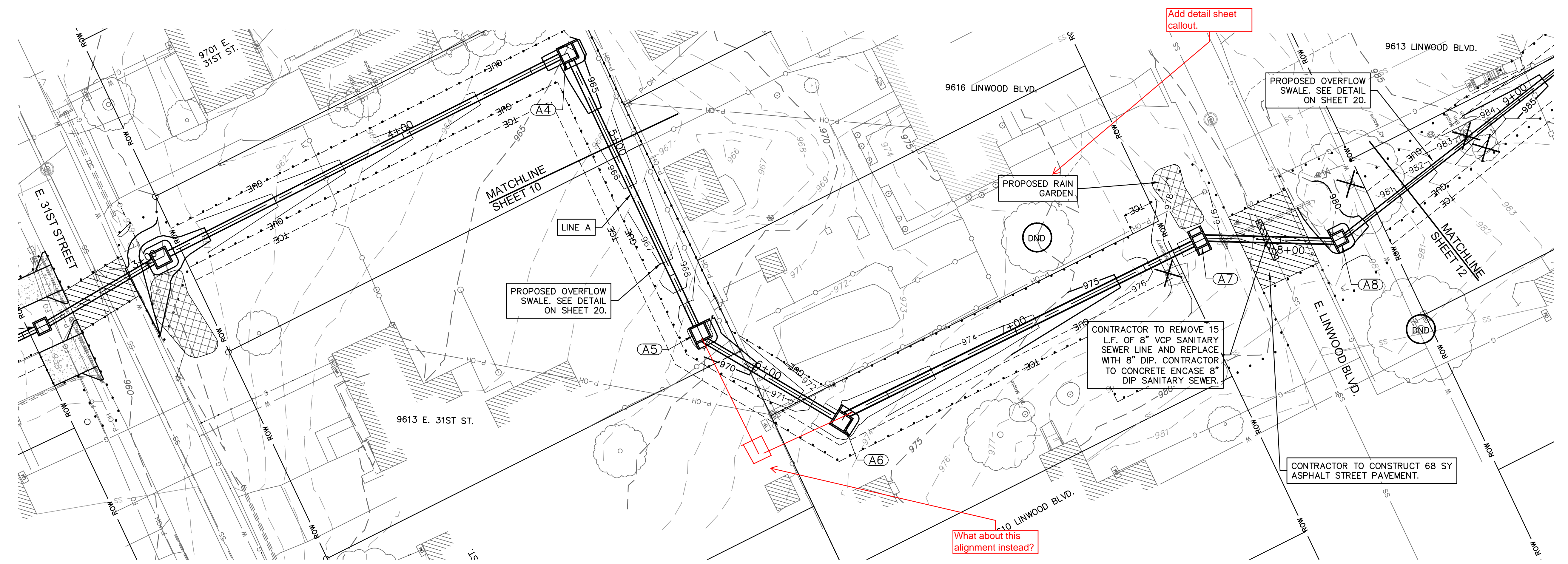


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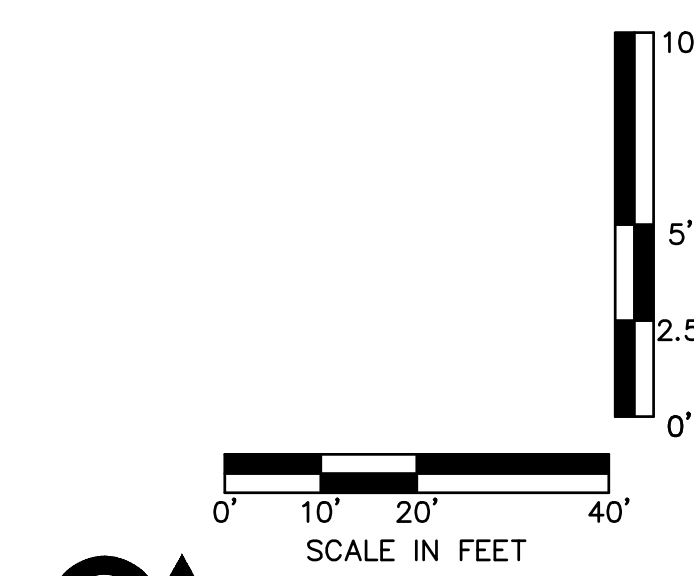


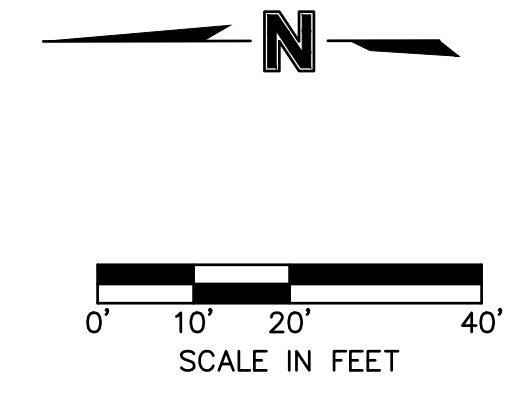
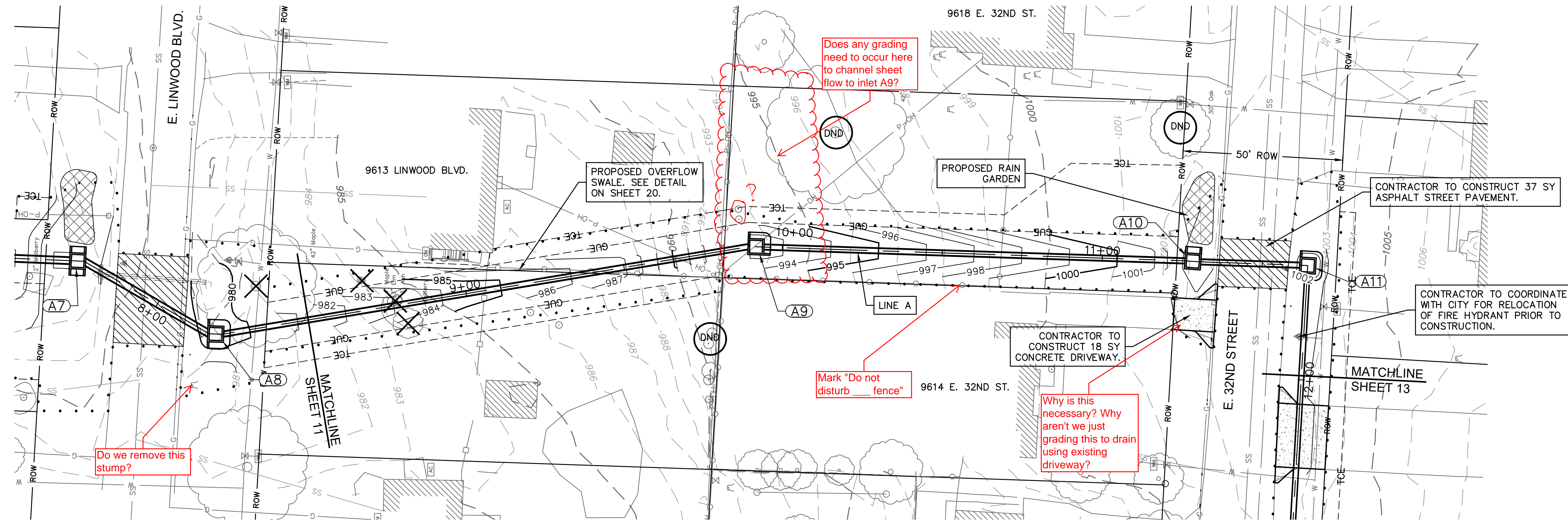
LEGEND

- REMOVE & REPLACE DRIVEWAY
- REMOVE & REPLACE ASPHALT PAVEMENT
- PROPOSED RAIN GARDEN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF CONSTRUCTION
- PROPOSED RIPRAP
- TREE REMOVAL
- PROTECT TREE

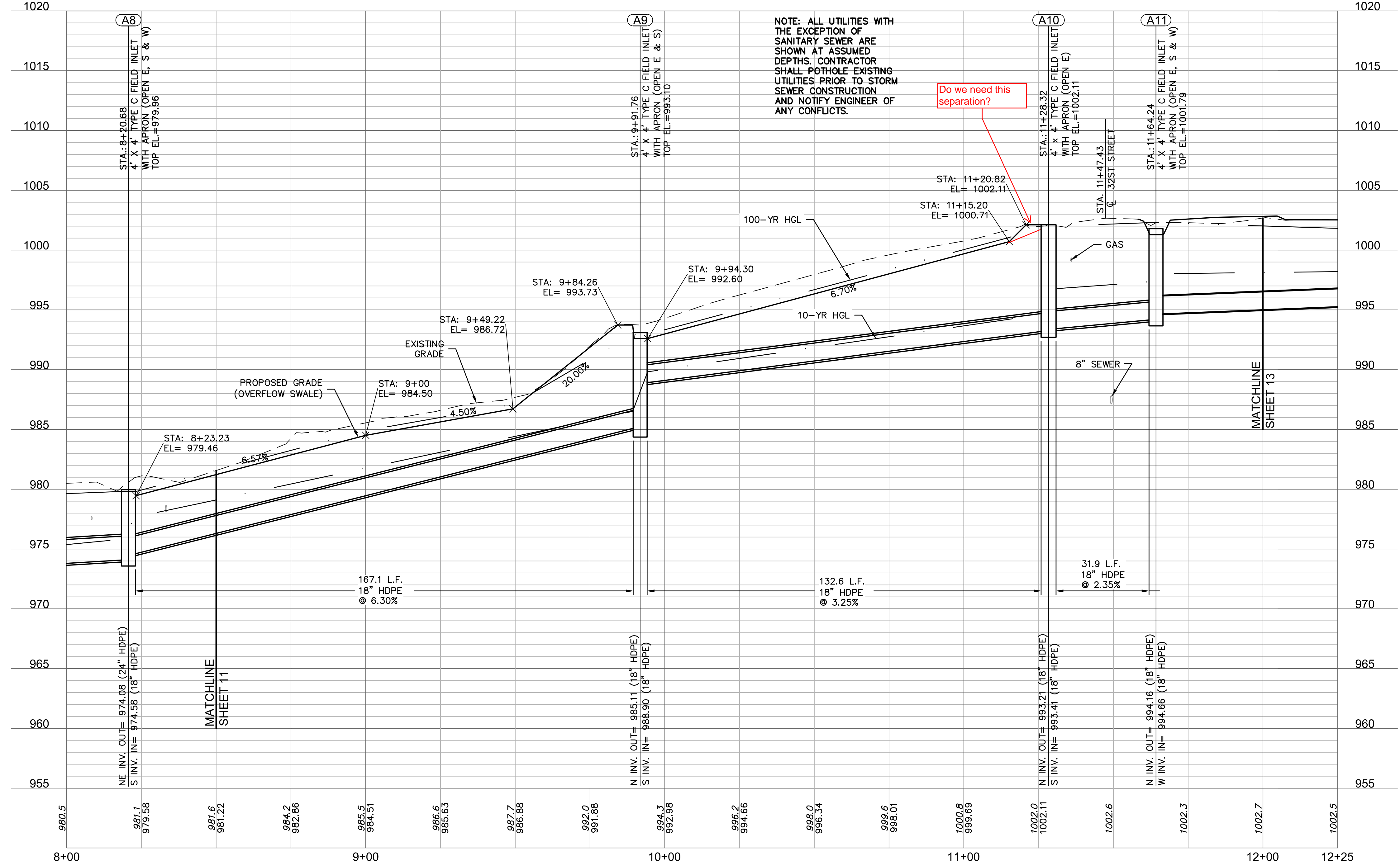


STRUCTURES	
STRUCTURE ID	DESCRIPTION
A4	5' X 5' TYPE C FIELD INLET WITH APRON (OPEN S & W) 4+64.28, 0.00' LINE A INV IN = 959.31 INV OUT = 959.11 N: 1055852.810; E: 2798880.555
A5	5' X 5' TYPE C FIELD INLET WITH APRON (OPEN S & SW) 5+72.34, 0.00' LINE A INV IN = 964.15 INV OUT = 963.95 N: 1055859.017; E: 2798772.683
A6	5' X 5' TYPE C FIELD INLET WITH APRON (OPEN SE & SW) 6+31.01, 0.00' LINE A INV IN = 967.70 INV OUT = 967.20 N: 1055830.522; E: 2798721.866
A7	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E & W) 7+71.46, 0.00' LINE A INV IN = 973.40 INV OUT = 970.75 N: 1055690.507; E: 2798717.390
A8	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E, S & W) 8+20.68, 0.00' LINE A INV IN = 974.58 INV OUT = 974.08 N: 1055647.374; E: 2798694.574

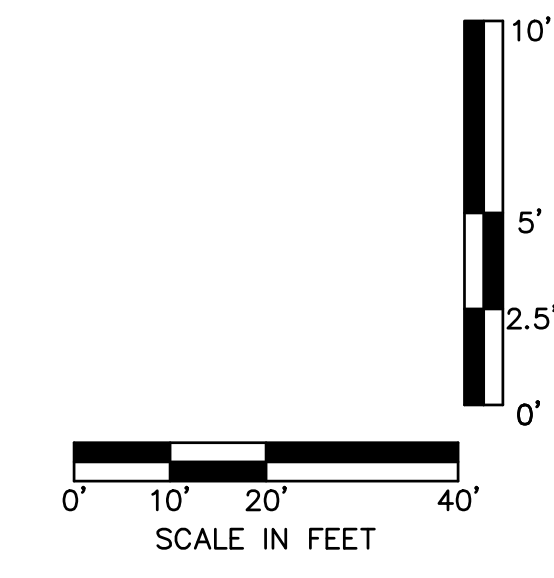




- LEGEND**
- REMOVE & REPLACE DRIVEWAY
  - REMOVE & REPLACE ASPHALT PAVEMENT
  - PROPOSED RAIN GARDEN
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - LIMITS OF CONSTRUCTION
  - PROPOSED RIPRAP
  - TREE REMOVAL
  - PROTECT TREE



STRUCTURES	
STRUCTURE ID	DESCRIPTION
A8	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E, S & W) 8+20.68, 0.00' LINE A INV IN = 974.58 INV OUT = 974.08 N: 1055647.374; E: 2798694.574
A9	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E & S) 9+91.76, 0.00' LINE A INV IN = 988.90 INV OUT = 985.11 N: 1055478.557; E: 2798721.827
A10	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E) 11+28.32, 0.00' LINE A INV IN = 993.41 INV OUT = 993.21 N: 1055342.076; E: 2798717.277
A11	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E, S & W) 11+64.24, 0.00' LINE A INV IN = 994.66 INV OUT = 994.16 N: 1055306.184; E: 2798715.955

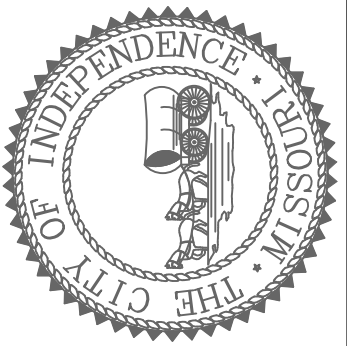


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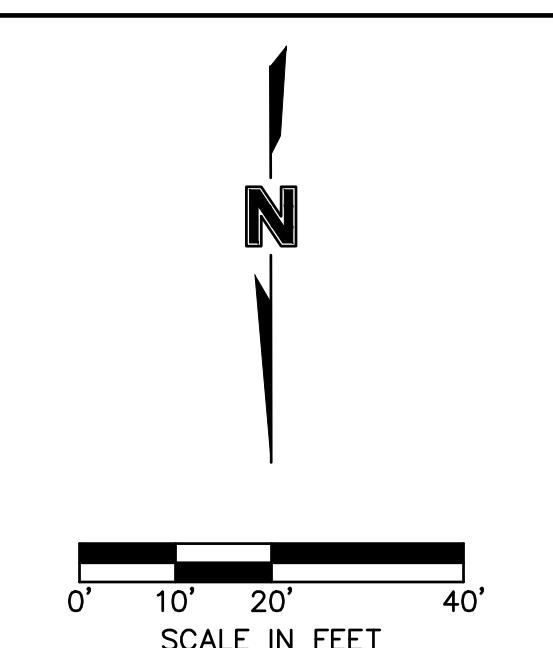
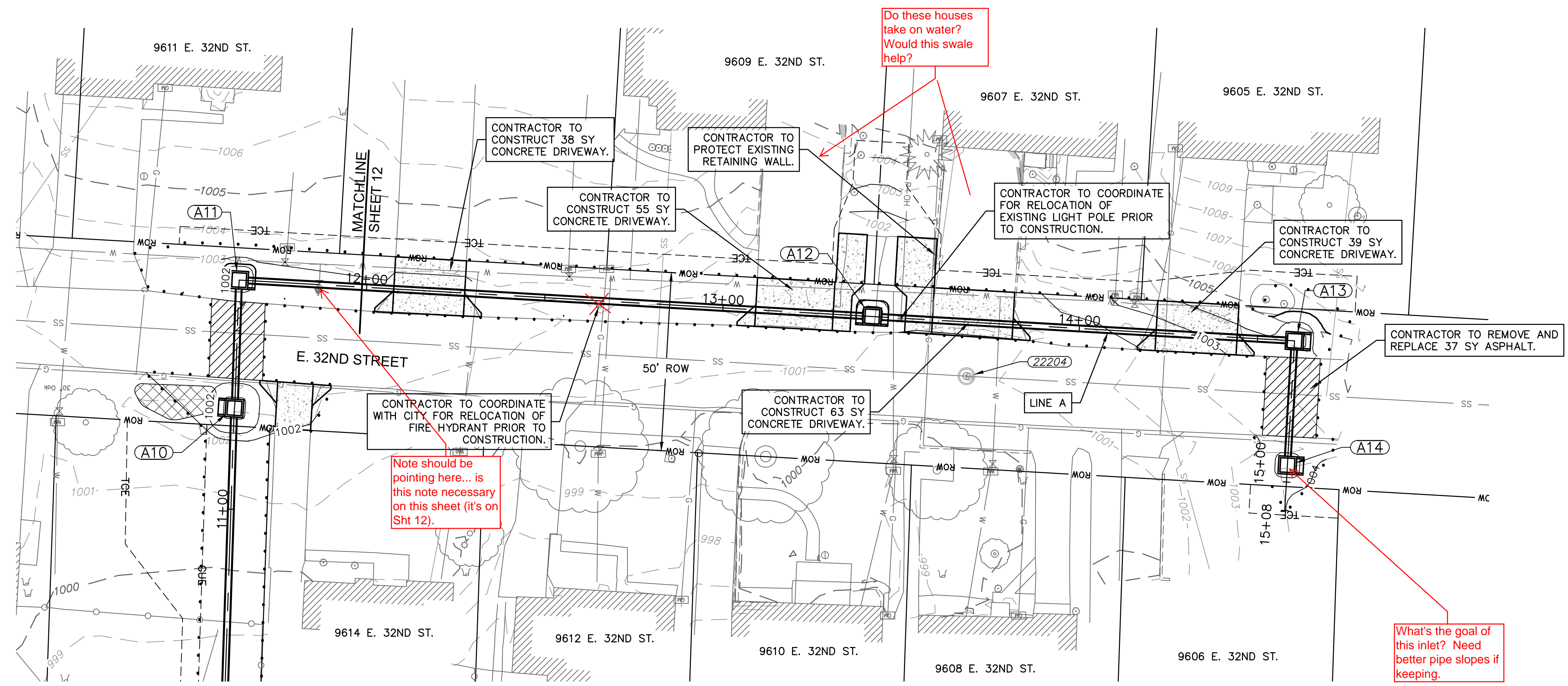
REVISIONS

ENGINEERING SERVICES FOR BLUE LAWN SUBDIVISION STORM DRAINAGE IMPROVEMENT PROJECTS PLAN AND PROFILE - LINE A

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 WATER POLLUTION CONTROL DEPARTMENT  
 14909 E. Truman Road Independence, MO 64051  
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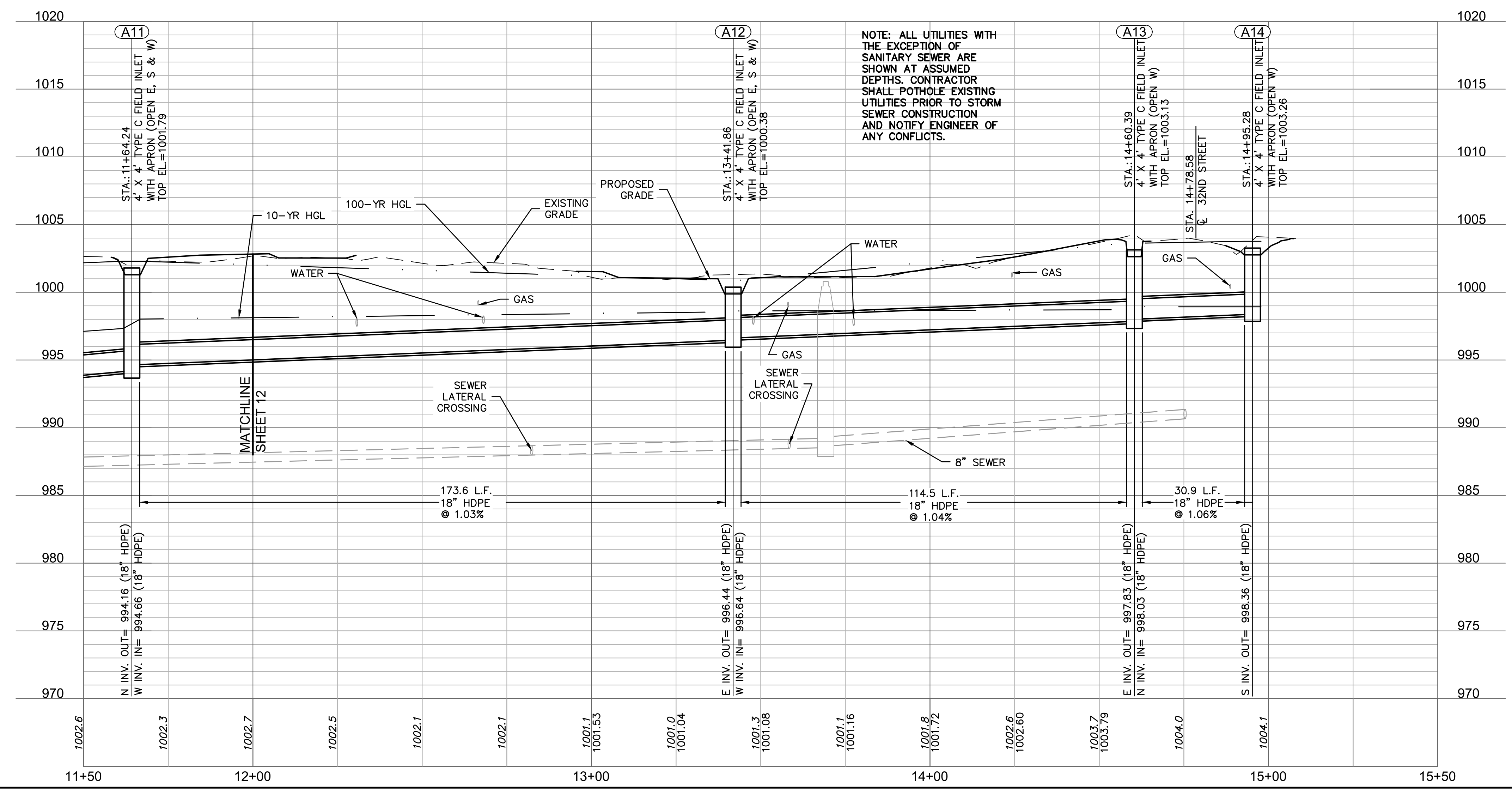


**LEGEND**

- REMOVE & REPLACE DRIVEWAY
- REMOVE & REPLACE ASPHALT PAVEMENT
- PROPOSED RAIN GARDEN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF CONSTRUCTION
- PROPOSED RIPRAP
- TREE REMOVAL
- PROTECT TREE

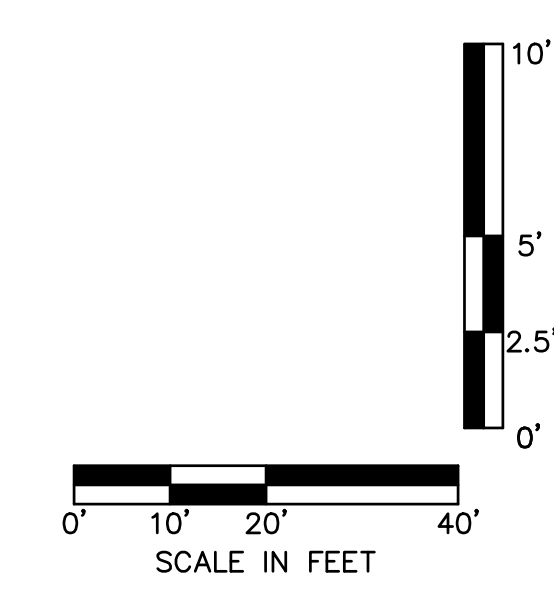
**SANITARY STRUCTURES**

STRUCTURE ID	DESCRIPTION
22204	48" SANITARY SEWER MANHOLE INV. IN = 988.64 INV. OUT = 988.54



**STRUCTURES**

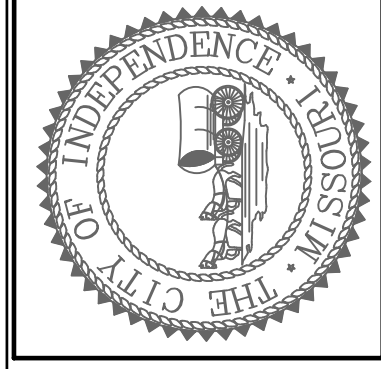
STRUCTURE ID	DESCRIPTION
A11	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E, S & W) 11+64.24, 0.00' LINE A INV. IN = 994.66 INV. OUT = 994.16 N: 1055306.184; E: 2798715.955
A12	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E, S & W) 13+41.86, 0.00' LINE A INV. IN = 996.64 INV. OUT = 996.44 N: 1055316.406; E: 2798538.629
A13	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN W) 14+60.39, 0.00' LINE A INV. IN = 998.03 INV. OUT = 997.83 N: 1055323.227; E: 2798420.295
A14	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN W) 14+95.28, 0.00' LINE A INV. IN = 998.36 INV. OUT = 998.36 N: 1055358.064; E: 2798422.305



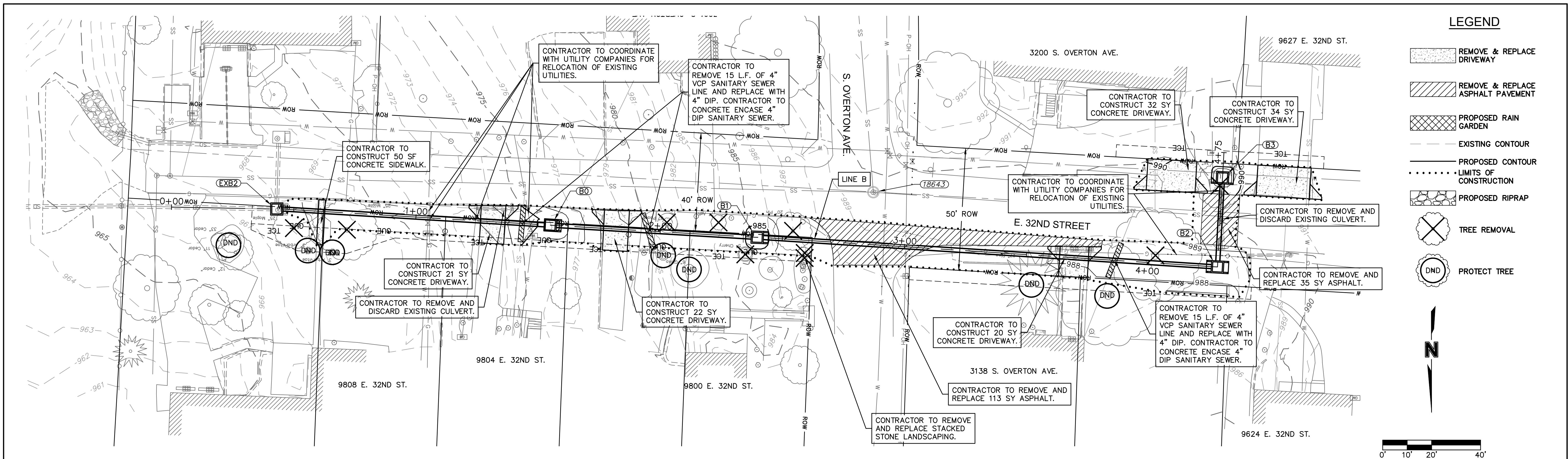
REVISIONS

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
PLAN AND PROFILE - LINE A

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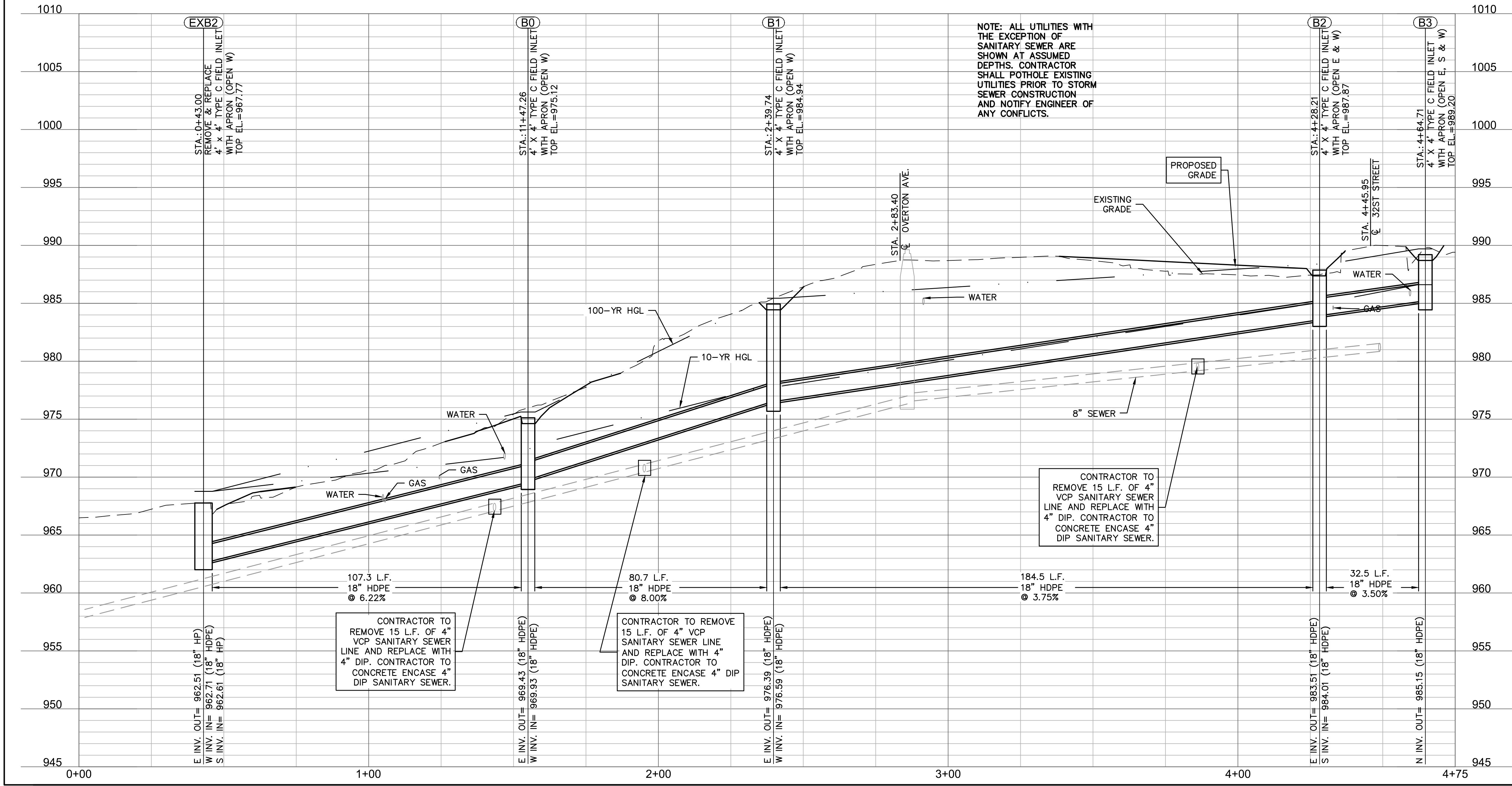
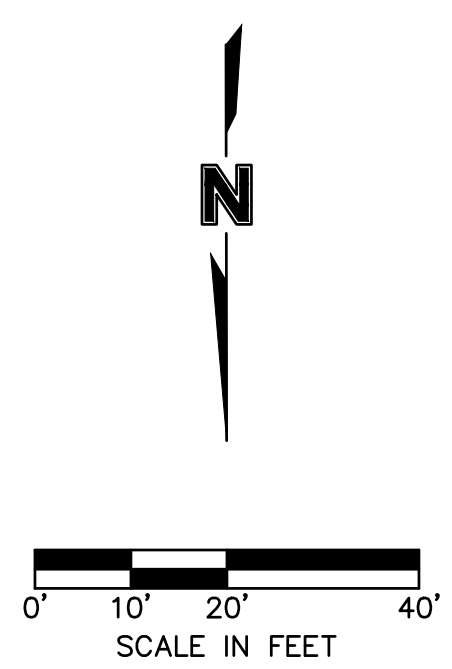


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**LEGEND**

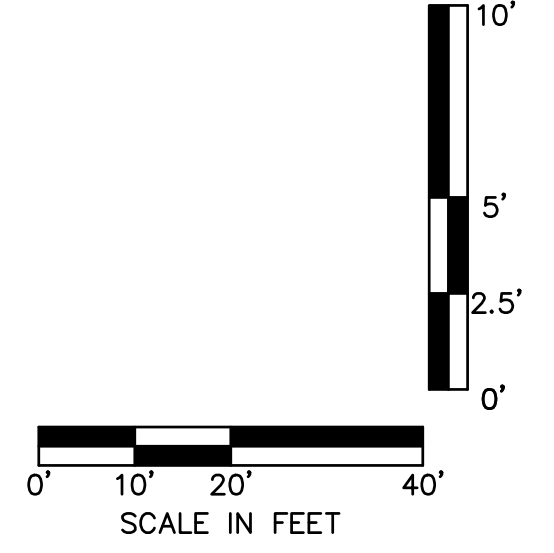
- REMOVE & REPLACE DRIVEWAY
- REMOVE & REPLACE ASPHALT PAVEMENT
- PROPOSED RAIN GARDEN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF CONSTRUCTION
- PROPOSED RIPRAP
- TREE REMOVAL
- PROTECT TREE



NOTE: ALL UTILITIES WITH THE EXCEPTION OF SANITARY SEWER ARE SHOWN AT ASSUMED DEPTHS. CONTRACTOR SHALL "POTHOLE" EXISTING UTILITIES PRIOR TO STORM SEWER CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.

SANITARY STRUCTURES	
STRUCTURE ID	DESCRIPTION
18643	48" SANITARY SEWER MANHOLE INV. IN = 976.53 INV. IN = 976.43 INV. OUT = 976.33

STRUCTURES	
STRUCTURE ID	DESCRIPTION
B1	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN W) 2+39.74, 0.00' LINE B INV. IN = 976.59 INV. OUT = 976.39 N: 1055307.197; E: 2799258.719
B2	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E & W) 4+28.21, 0.00' LINE B INV. IN = 984.01 INV. OUT = 983.51 N: 1055319.312; E: 2799070.640
B3	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN E, S & W) 4+64.71, 0.00' LINE B INV. OUT = 985.15 N: 1055282.866; E: 2799068.575
EXB2	REMOVE & REPLACE 4' X 4' TYPE C FIELD INLET WITH APRON (OPEN W) 0+43, 0.00' LINE B INV. IN = 962.71 INV. IN = 962.61 INV. OUT = 962.51 N: 1055295.626; E: 2799455.114

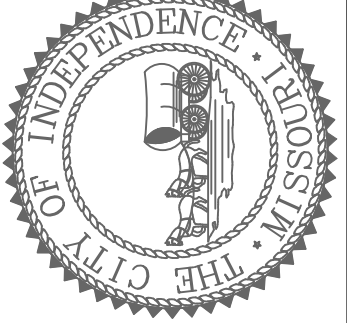


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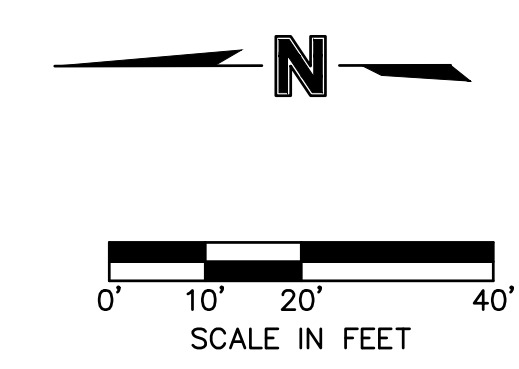
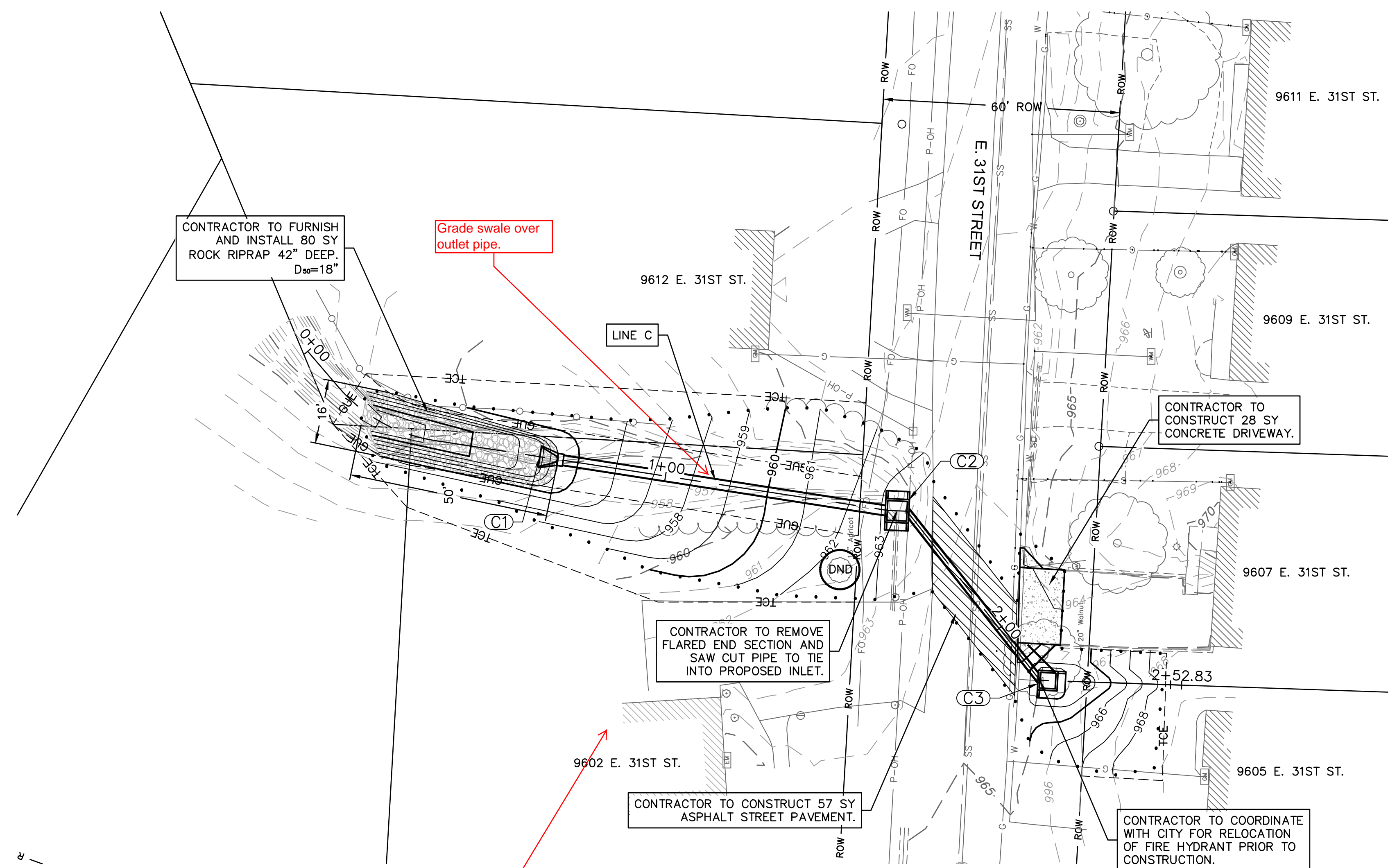
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ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
PLAN AND PROFILE - LINE B

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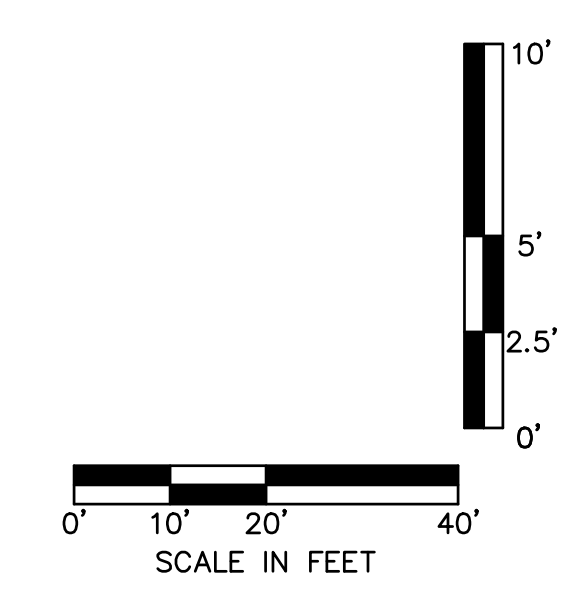
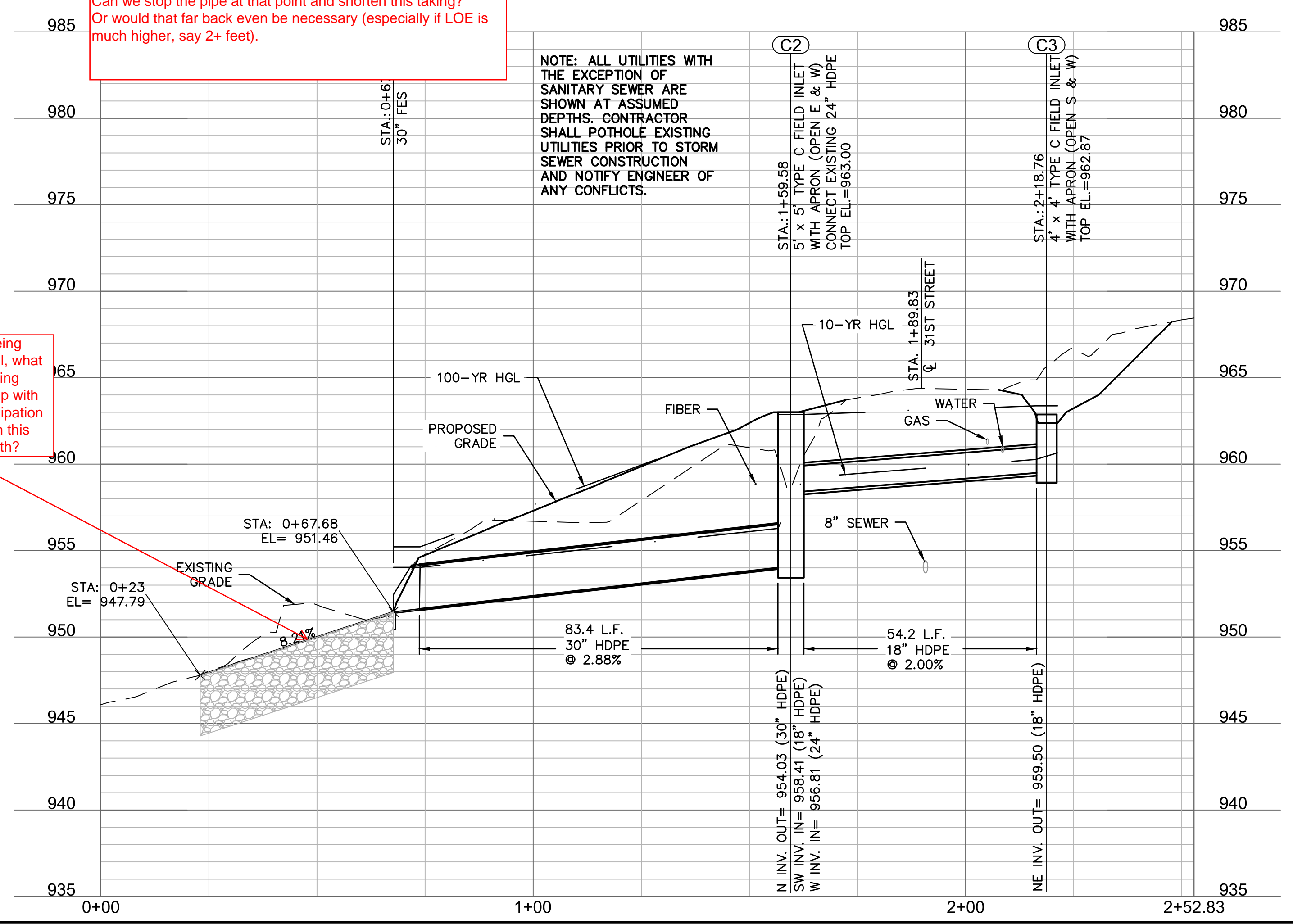


- LEGEND**
- REMOVE & REPLACE DRIVEWAY
  - REMOVE & REPLACE ASPHALT PAVEMENT
  - PROPOSED RAIN GARDEN
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - LIMITS OF CONSTRUCTION
  - PROPOSED RIPRAP
  - TREE REMOVAL
  - PROTECT TREE

STRUCTURES	
STRUCTURE ID	DESCRIPTION
C1	30" FES 0+67.68, 0.00' LINE C INV IN = 951.63 N: 1056160.548; E: 2798643.411
C2	5' X 5' TYPE C FIELD INLET WITH APRON (OPEN E & W) CONNECT EXISTING 24" HDPE 1+59.58, 0.00' LINE C INV IN = 958.41 INV IN = 956.81 INV OUT = 954.03 N: 1056069.694; E: 2798629.656
C3	4' X 4' TYPE C FIELD INLET WITH APRON (OPEN S & W) 2+18.76, 0.00' LINE C INV OUT = 959.50 N: 1056031.395; E: 2798586.457

Where's the back corner of the house?  
Can we stop the pipe at that point and shorten this taking?  
Or would that far back even be necessary (especially if LOE is much higher, say 2+ feet).

With this being supercritical, what about a stilling basin to help with energy dissipation and shorten this rip-rap length?

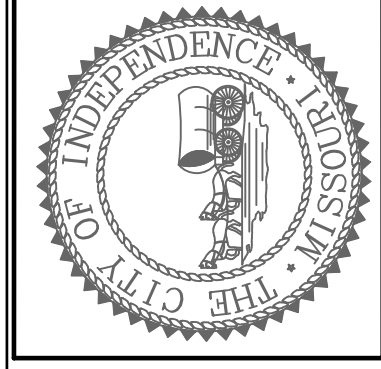


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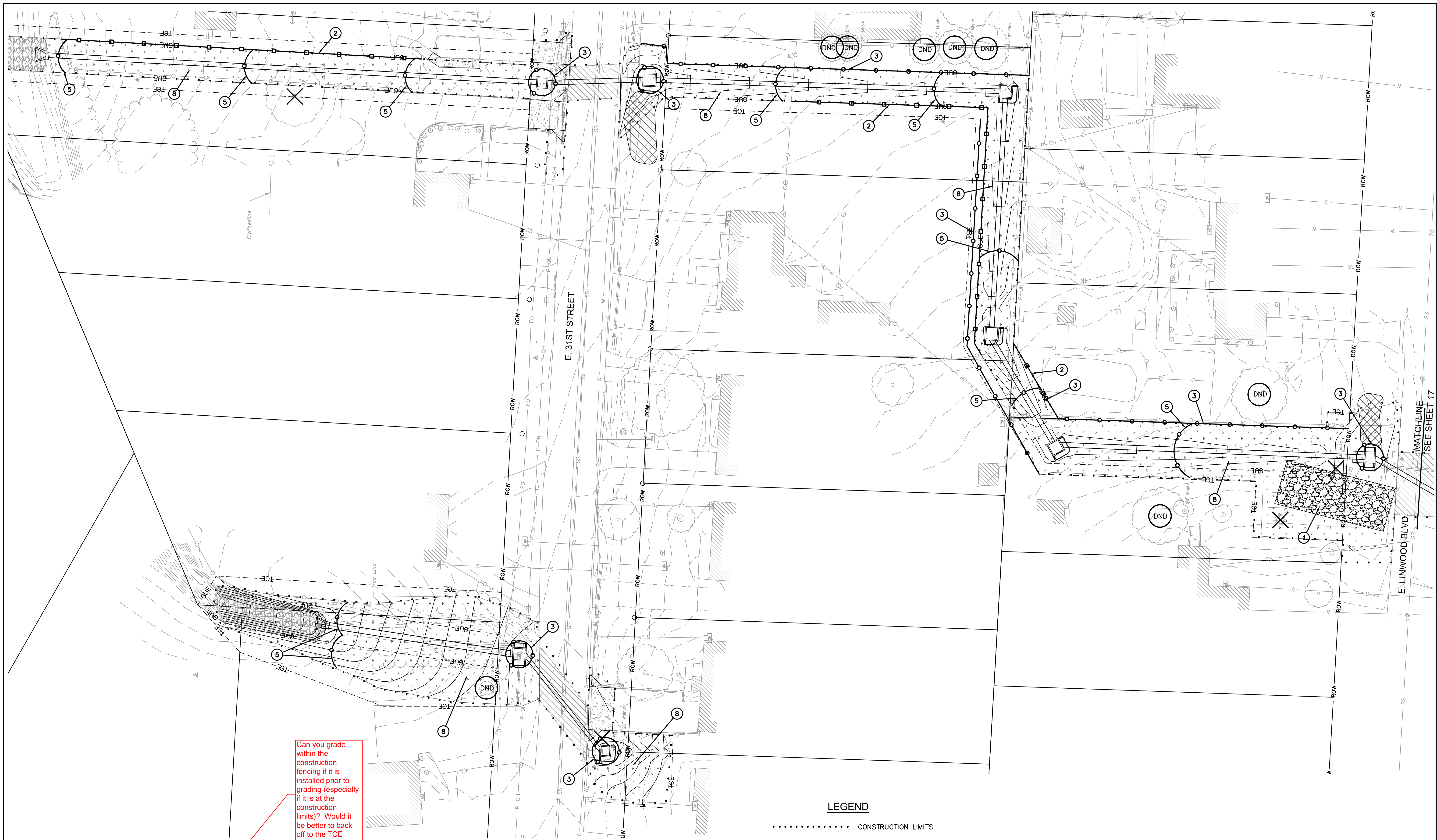
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ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
PLAN AND PROFILE - LINE C

**CITY OF INDEPENDENCE**  
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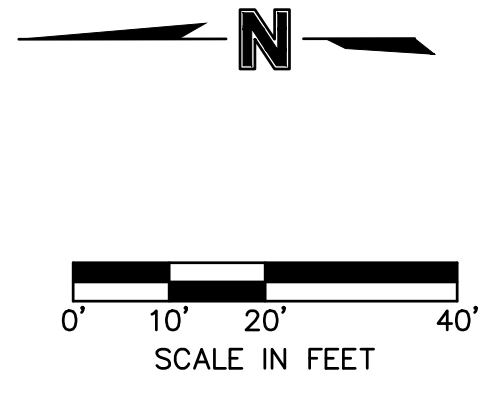


Can you grade within the construction fencing if it is installed prior to grading (especially if it is at the construction limits)? Would it be better to back off to the TCE boundaries?

EROSION AND SEDIMENT CONTROL STAGING CHART

PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE AND STAGING AREA	E	INSTALL AS INDICATED ON PLANS
	2	CONSTRUCTION FENCING	E	INSTALL AS INDICATED ON PLANS
	3	CURB INLET PROTECTION AND SILT FENCE	E	INSTALL COMPOST FILTER SOCK AT INLET AND SILT FENCE AS SHOWN
B - CLEARING		MARKED TREE REMOVAL	N/A	
	4	ROCK CHECK DAM	E	INSTALL ROCK CHECK DAMS
C - CULVERT, INLETS, AND CHANNEL CONSTRUCTION	5	FIBER ROLL DITCH CHECK	E	INSTALL FIBER ROLL DITCH CHECKS
	6	CONCRETE WASHOUT	E	TO BE INSTALLED PRIOR TO POURING CONCRETE. SEED WASHOUT AREA WITH SPRAY APPLIED MULCH AS SOON AS CONCRETE CONSTRUCTION HAS CEASED.
	7	STOCKPILE TOPSOIL	E	SEED STOCKPILE WITH SPRAY APPLIED MULCH AS SOON AS STOCKPILING ACTIVITIES HAVE CEASED
E - FINAL STABILIZATION	8	ESTABLISH PERENNIAL VEGETATION	N/A	REDISTRIBUTE TOPSOIL AND SEED AND MULCH ALL DISTURBED AREAS. SOD RIGHT-OF-WAY. STABILIZATION COMPLETE WHEN 100% OF DISTURBED AREA IS ESTABLISHED WITH PERENNIAL VEGETATION WITH A DENSITY OF 70% INSTALL AS INDICATED ON PLANS

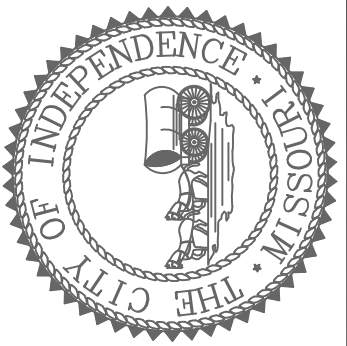
- LEGEND**
- ..... CONSTRUCTION LIMITS
  - SEDIMENT CONTROL BARRIER
  - CONSTRUCTION SAFETY FENCE
  - [Grid Pattern] SOD
  - [Rock Pattern] TEMPORARY CONSTRUCTION ENTRANCE
  - [X in Circle] TREE REMOVAL
  - [DND in Circle] PROTECT TREE



REVISIONS

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
EROSION CONTROL PLAN

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WATER POLLUTION CONTROL DEPARTMENT  
14909 E. Truman Road Independence, MO 64051  
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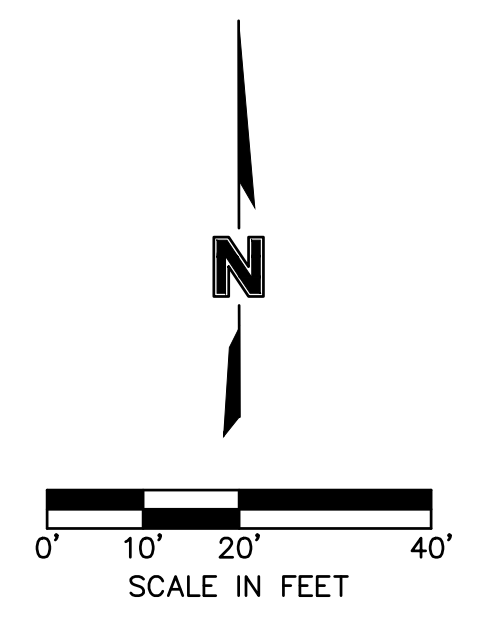
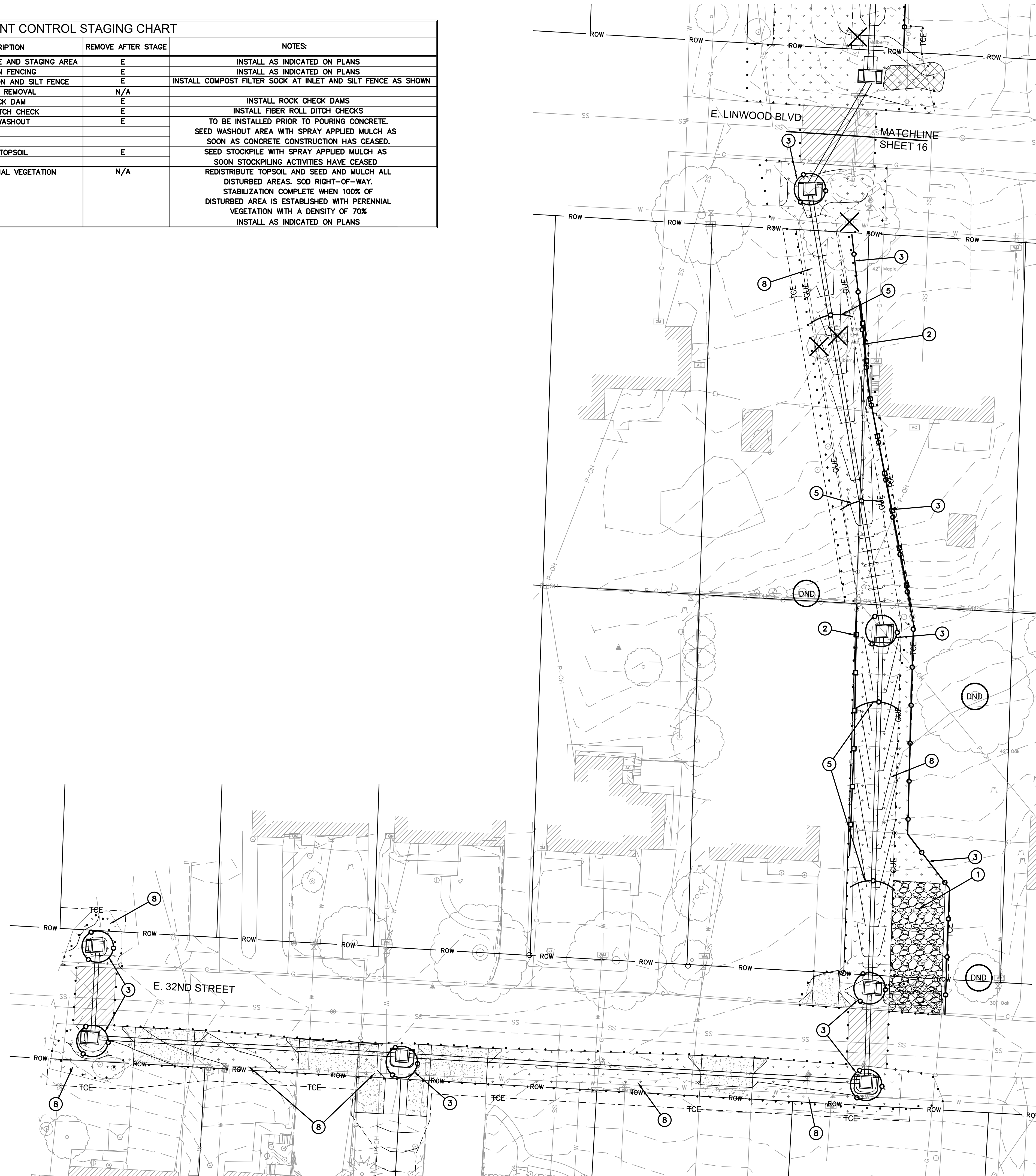
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EROSION AND SEDIMENT CONTROL STAGING CHART				
PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE AND STAGING AREA	E	INSTALL AS INDICATED ON PLANS
	2	CONSTRUCTION FENCING	E	INSTALL AS INDICATED ON PLANS
	3	CURB INLET PROTECTION AND SILT FENCE	E	INSTALL COMPOST FILTER SOCK AT INLET AND SILT FENCE AS SHOWN
B - CLEARING		MARKED TREE REMOVAL	N/A	
	4	ROCK CHECK DAM	E	INSTALL ROCK CHECK DAMS
	5	FIBER ROLL DITCH CHECK	E	INSTALL FIBER ROLL DITCH CHECKS
C - CULVERT, INLETS, AND CHANNEL CONSTRUCTION	6	CONCRETE WASHOUT	E	TO BE INSTALLED PRIOR TO POURING CONCRETE.
	7	STOCKPILE TOPSOIL	E	SEED WASHOUT AREA WITH SPRAY APPLIED MULCH AS SOON AS CONCRETE CONSTRUCTION HAS CEASED. SEED STOCKPILE WITH SPRAY APPLIED MULCH AS SOON STOCKPILING ACTIVITIES HAVE CEASED
E - FINAL STABILIZATION	8	ESTABLISH PERENNIAL VEGETATION	N/A	REDISTRIBUTE TOPSOIL AND SEED AND MULCH ALL DISTURBED AREAS. SOD RIGHT-OF-WAY. STABILIZATION COMPLETE WHEN 100% OF DISTURBED AREA IS ESTABLISHED WITH PERENNIAL VEGETATION WITH A DENSITY OF 70% INSTALL AS INDICATED ON PLANS

**LEGEND**

- ..... CONSTRUCTION LIMITS
- SEDIMENT CONTROL BARRIER
- CONSTRUCTION SAFETY FENCE
- [Pattern] SOD
- [Pattern] TEMPORARY CONSTRUCTION ENTRANCE
- ⊗ TREE REMOVAL
- (DND) PROTECT TREE



**MOLSSON ASSOCIATES**

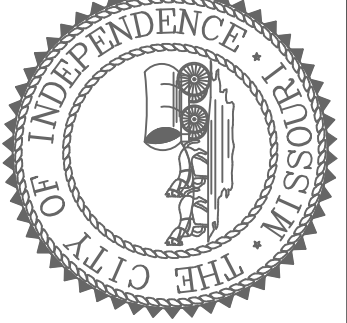
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ENGINEERING SERVICES FOR  
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EROSION CONTROL PLAN

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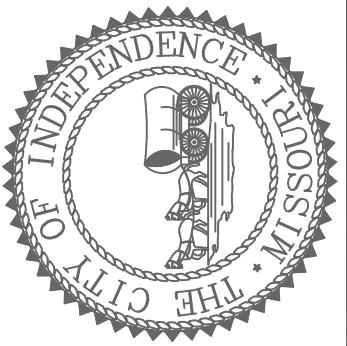
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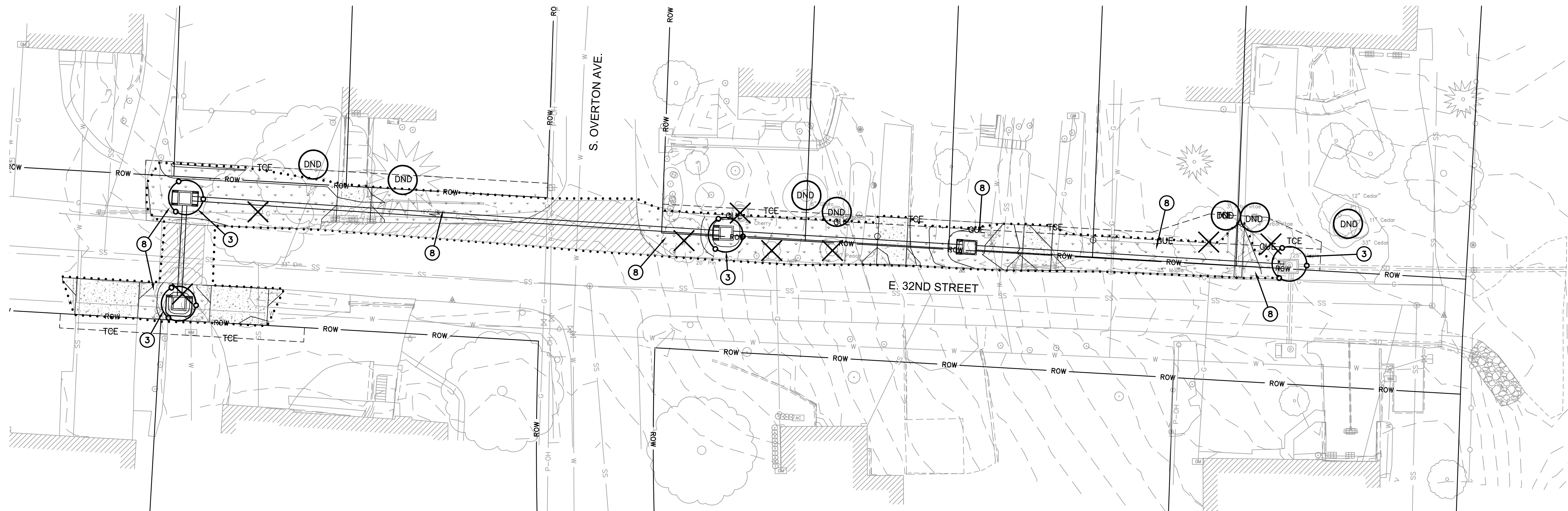
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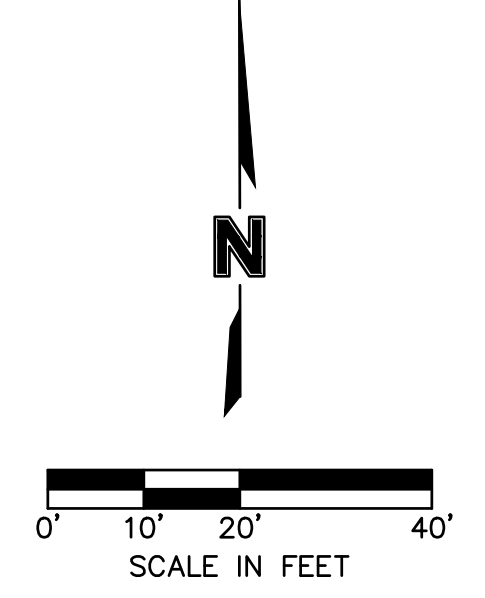
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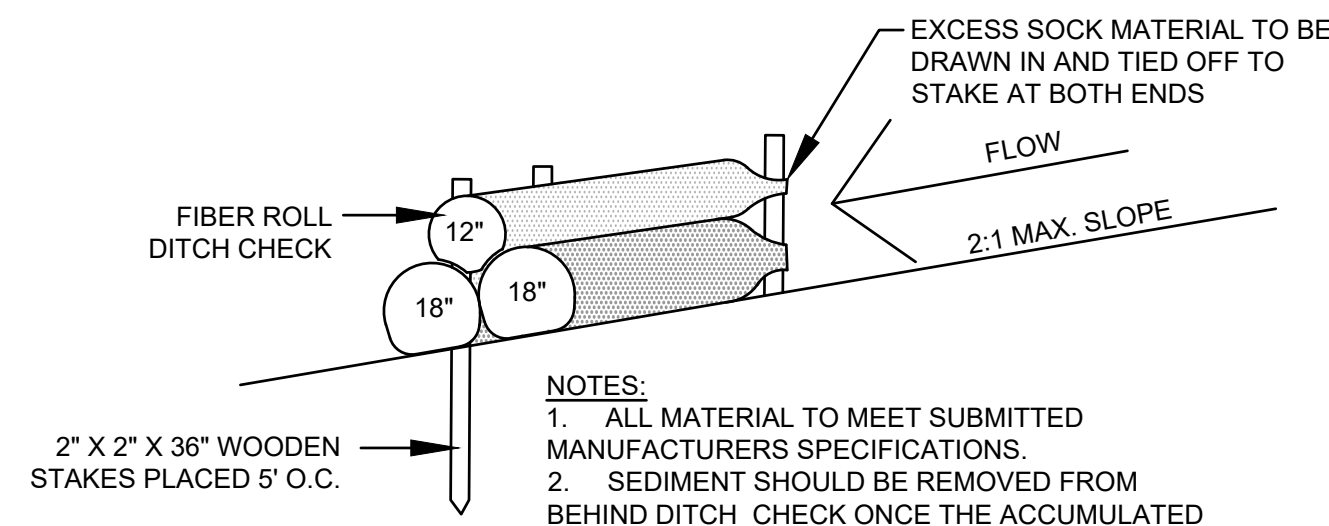


PROJECT STAGE	EROSION CONTROL PLAN BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER STAGE	NOTES:
A - PRIOR TO LAND DISTURBANCE	1	CONSTRUCTION ENTRANCE AND STAGING AREA	E	INSTALL AS INDICATED ON PLANS
	2	CONSTRUCTION FENCING	E	INSTALL AS INDICATED ON PLANS
	3	CURB INLET PROTECTION AND SILT FENCE	E	INSTALL COMPOST FILTER SOCK AT INLET AND SILT FENCE AS SHOWN
B - CLEARING		MARKED TREE REMOVAL	N/A	
	4	ROCK CHECK DAM	E	INSTALL ROCK CHECK DAMS
	5	FIBER ROLL DITCH CHECK	E	INSTALL FIBER ROLL DITCH CHECKS
C - CULVERT, INLETS, AND CHANNEL CONSTRUCTION	6	CONCRETE WASHOUT	E	TO BE INSTALLED PRIOR TO POURING CONCRETE. SEED WASHOUT AREA WITH SPRAY APPLIED MULCH AS SOON AS CONCRETE CONSTRUCTION HAS CEASED.
	7	STOCKPILE TOPSOIL	E	SEED STOCKPILE WITH SPRAY APPLIED MULCH AS SOON STOCKPILING ACTIVITIES HAVE CEASED
	8	ESTABLISH PERENNIAL VEGETATION	N/A	REDISTRIBUTE TOPSOIL AND SEED AND MULCH ALL DISTURBED AREAS. SOD RIGHT-OF-WAY. STABILIZATION COMPLETE WHEN 100% OF DISTURBED AREA IS ESTABLISHED WITH PERENNIAL VEGETATION WITH A DENSITY OF 70%. INSTALL AS INDICATED ON PLANS

- LEGEND**
- ..... CONSTRUCTION LIMITS
  - SEDIMENT CONTROL BARRIER
  - CONSTRUCTION SAFETY FENCE
  - [Grid Pattern] SOD
  - [Rock Pattern] TEMPORARY CONSTRUCTION ENTRANCE
  - ⊗ TREE REMOVAL
  - ⊙(DND) PROTECT TREE



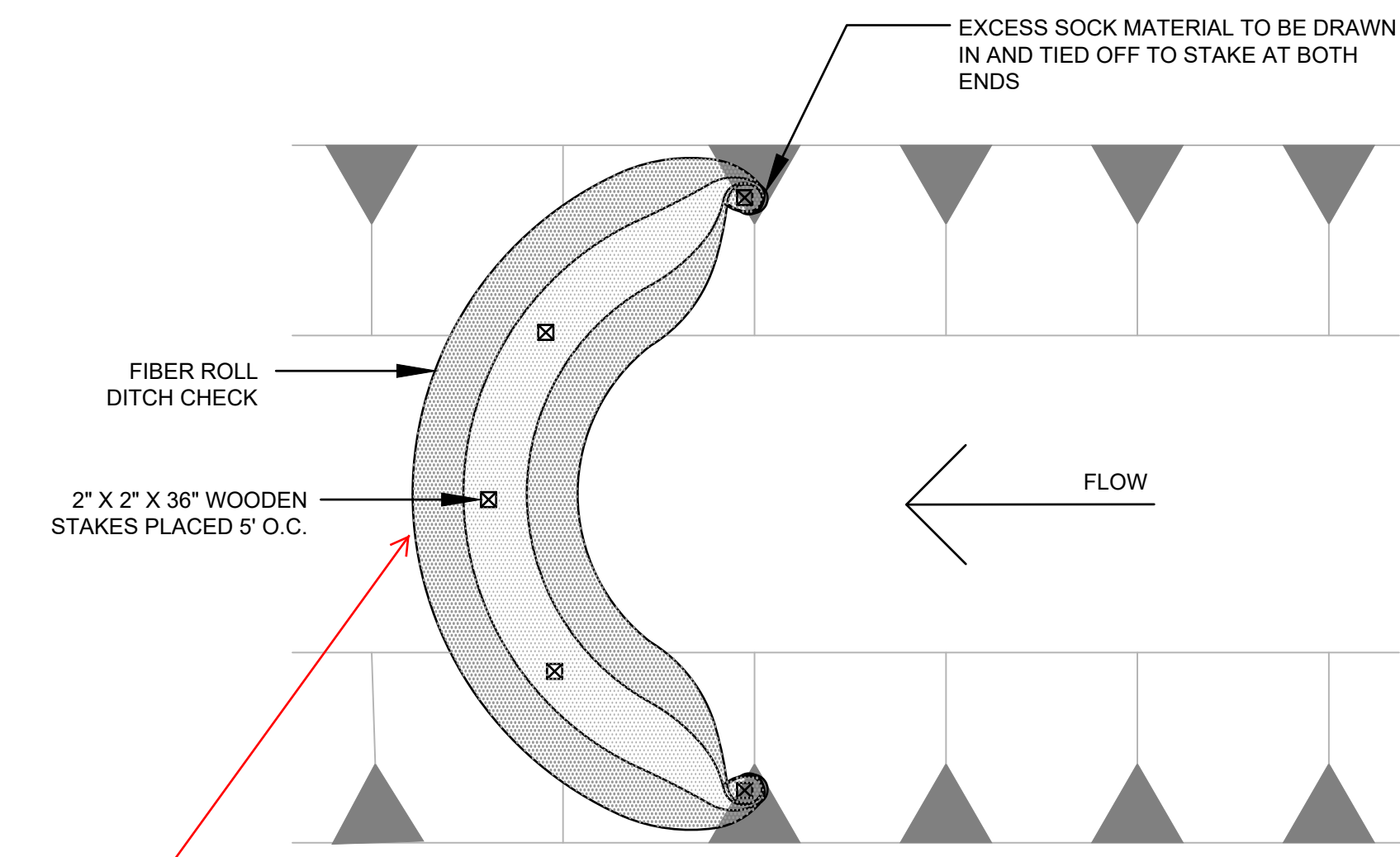
7301 West 133rd Street, Suite 200 Overland Park, KS 66213-4750  
 TEL 913.381.1170 FAX 913.381.1174 www.oacorsllc.com



**FIBER ROLL DITCH CHECK DETAIL**  
NOT TO SCALE

NOTES:  
1. ALL MATERIAL TO MEET SUBMITTED MANUFACTURERS SPECIFICATIONS.  
2. SEDIMENT SHOULD BE REMOVED FROM BEHIND DITCH CHECK ONCE THE ACCUMULATED HEIGHT HAS REACHED 1/2 THE HEIGHT OF THE CHECK DAM.

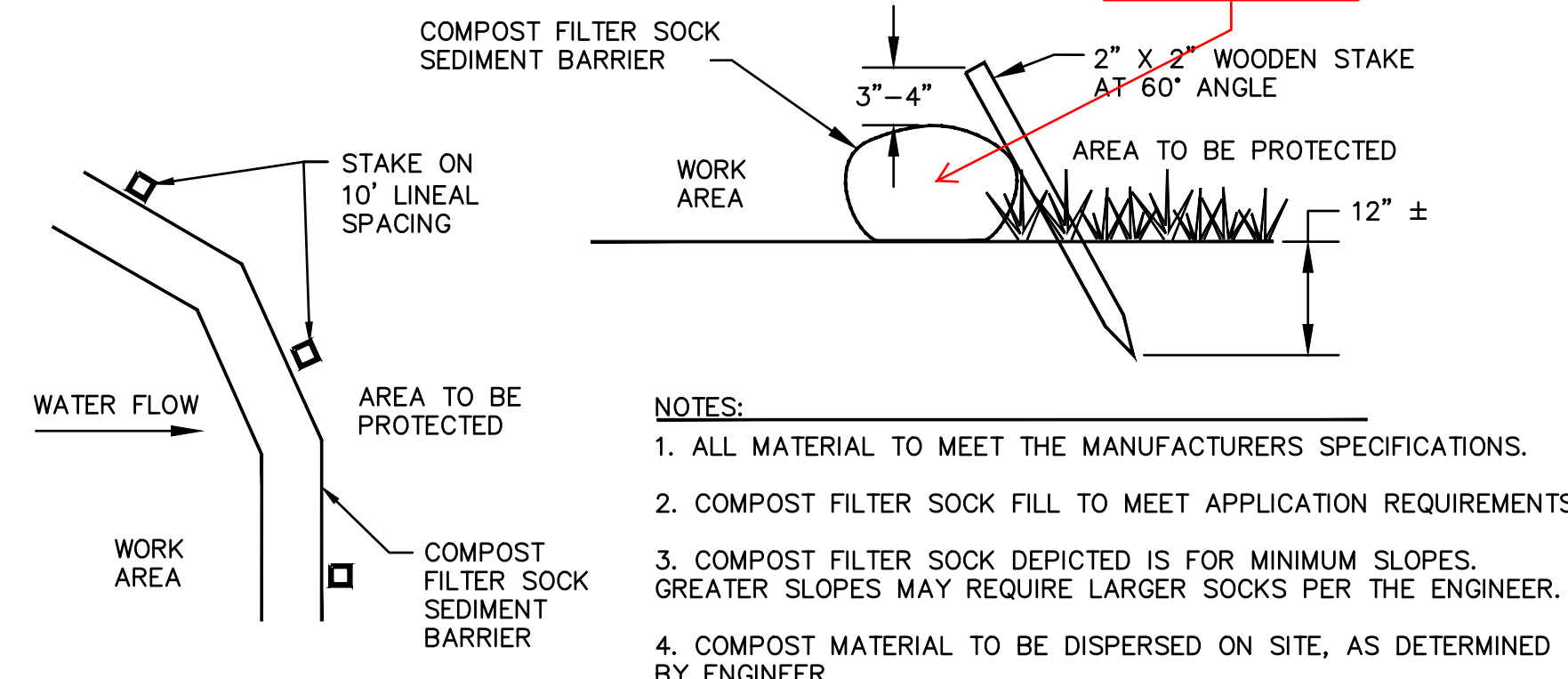
Don't these come with stake holes in them? Would the stake through the device be a better installation?



**FIBER ROLL DITCH CHECK DETAIL**  
NOT TO SCALE

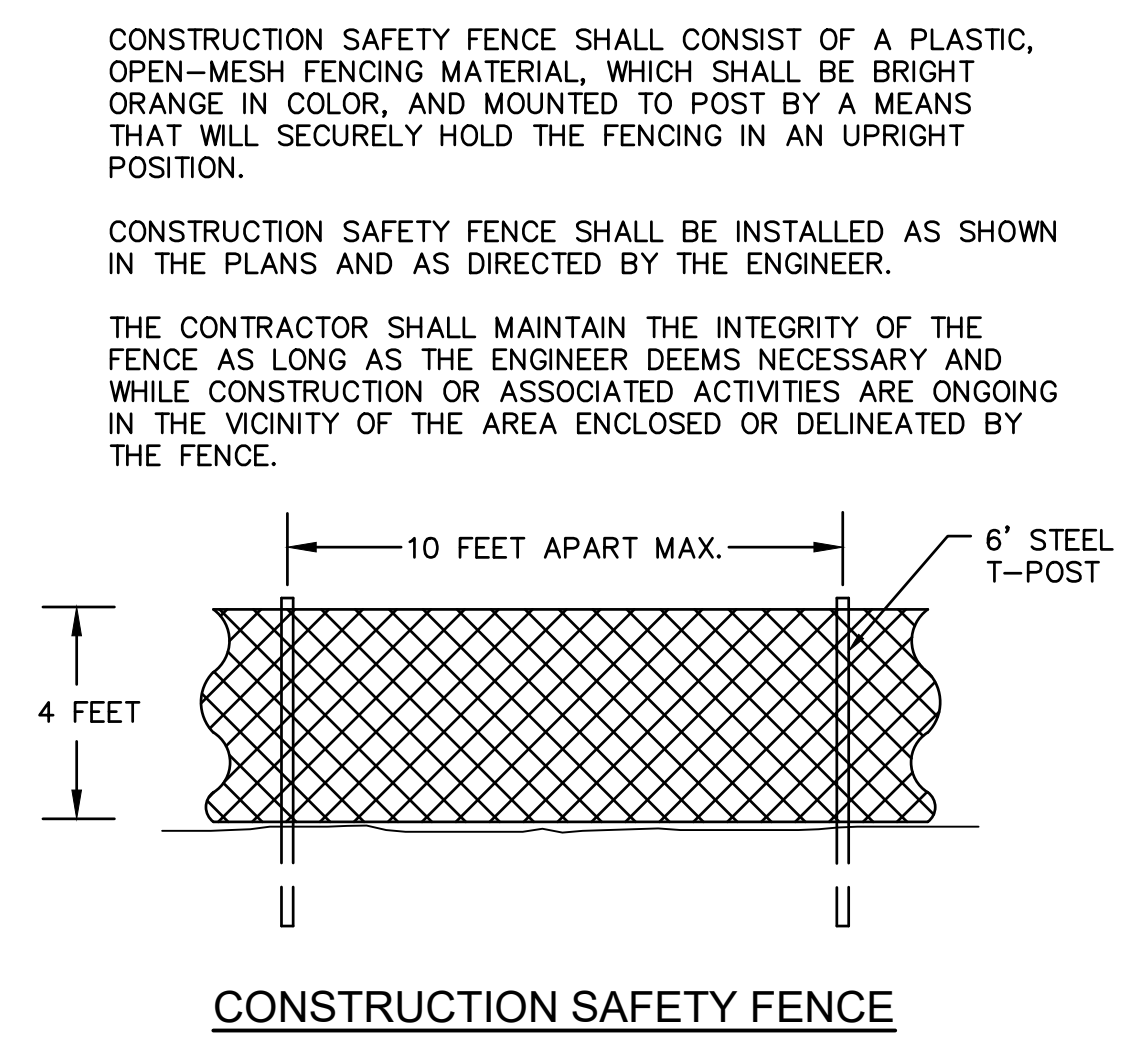
Is this through the top roll's center? Or is this through the back/downstream roll's center?

NOTES:  
1. ALL MATERIAL TO MEET SUBMITTED MANUFACTURERS SPECIFICATIONS.  
2. SEDIMENT SHOULD BE REMOVED FROM BEHIND DITCH CHECK ONCE THE ACCUMULATED HEIGHT HAS REACHED 1/2 THE HEIGHT OF THE CHECK DAM.



**COMPOST FILTER SOCK ROLL DETAIL**  
NOT TO SCALE

NOTES:  
1. ALL MATERIAL TO MEET THE MANUFACTURERS SPECIFICATIONS.  
2. COMPOST FILTER SOCK FILL TO MEET APPLICATION REQUIREMENTS.  
3. COMPOST FILTER SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.  
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

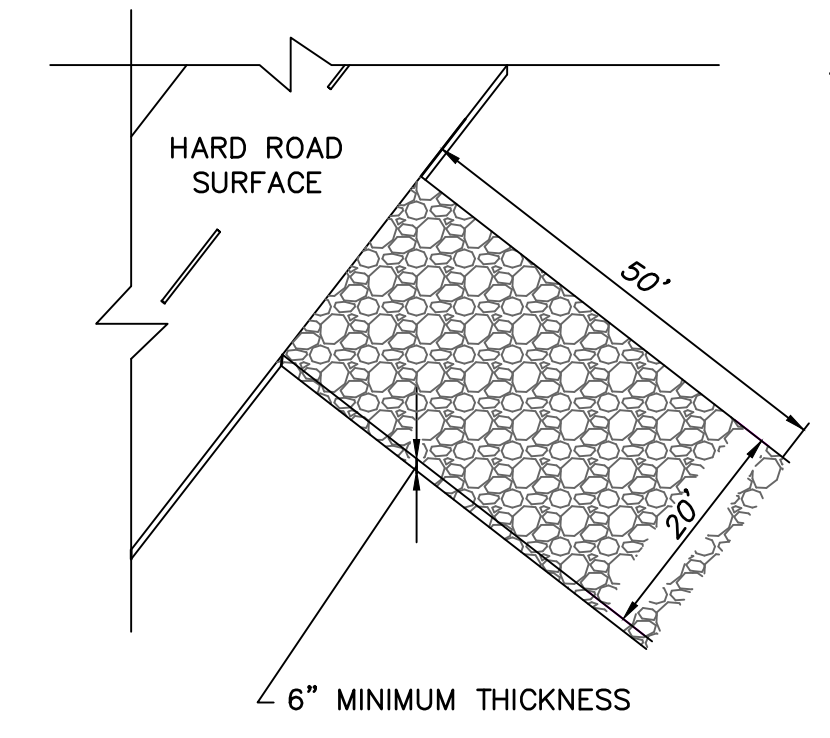


**CONSTRUCTION SAFETY FENCE**

CONSTRUCTION SAFETY FENCE SHALL CONSIST OF A PLASTIC, OPEN-MESH FENCING MATERIAL, WHICH SHALL BE BRIGHT ORANGE IN COLOR, AND MOUNTED TO POST BY A MEANS THAT WILL SECURELY HOLD THE FENCING IN AN UPRIGHT POSITION.

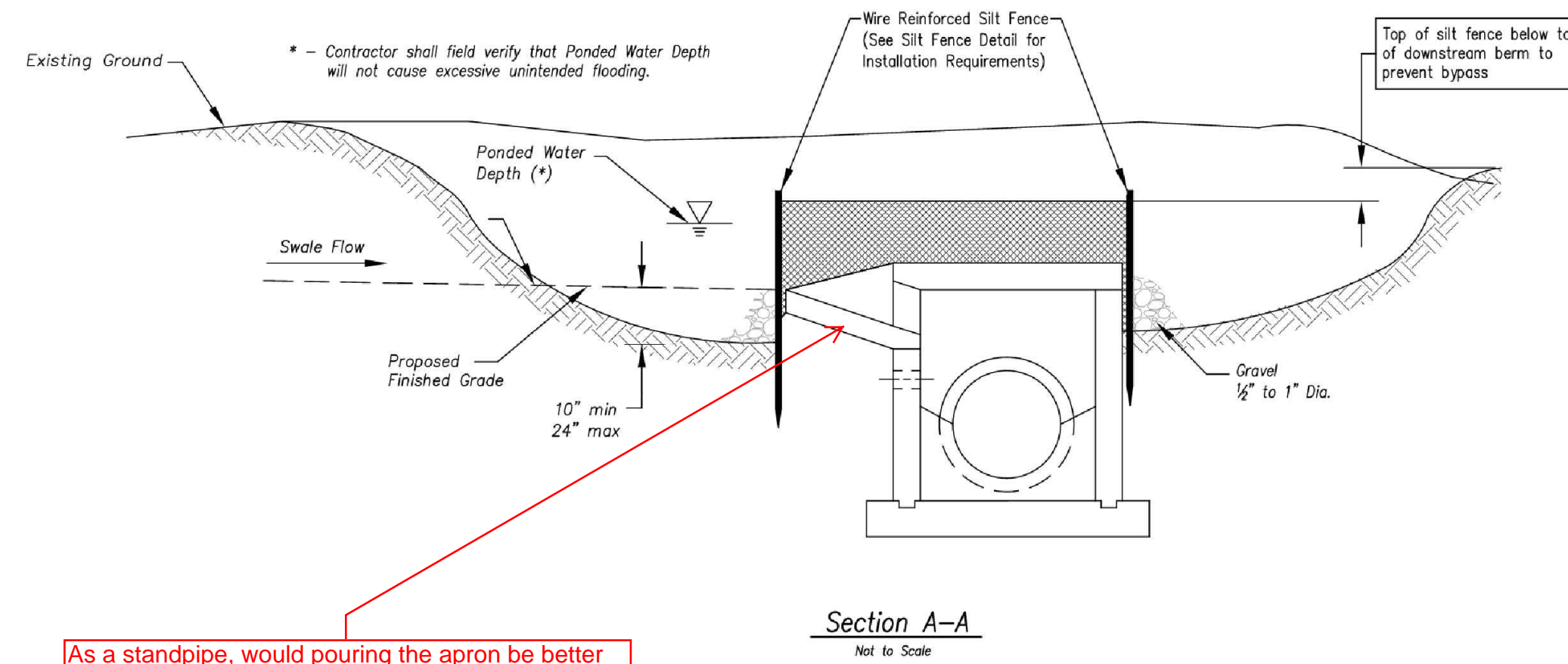
CONSTRUCTION SAFETY FENCE SHALL BE INSTALLED AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE FENCE AS LONG AS THE ENGINEER DEEMS NECESSARY AND WHILE CONSTRUCTION OR ASSOCIATED ACTIVITIES ARE ONGOING IN THE VICINITY OF THE AREA ENCLOSED OR DELINEATED BY THE FENCE.



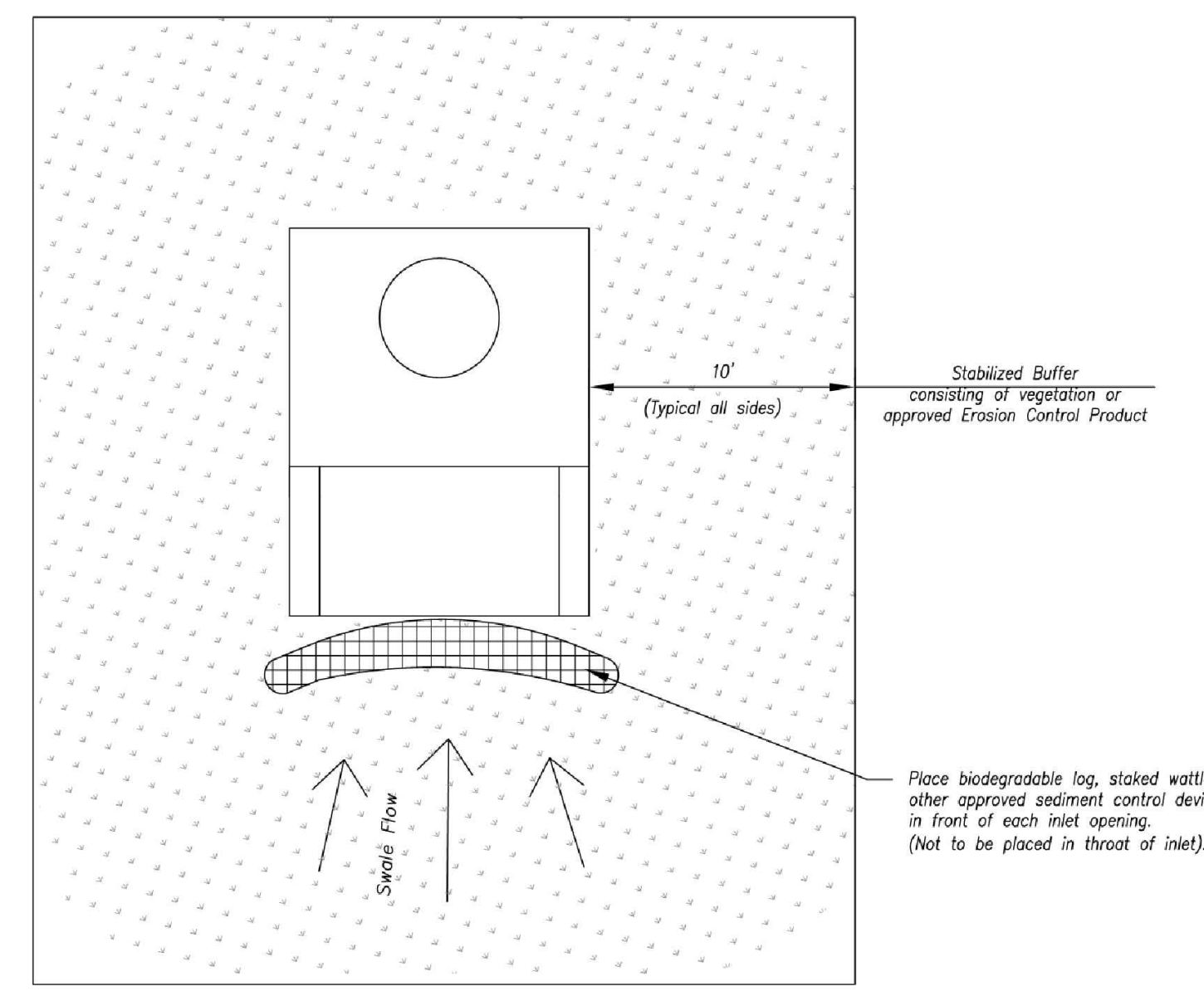
**GRAVEL CONSTRUCTION ENTRANCE/EXIT**  
NOT TO SCALE

NOTES:  
1. INSTALL AS SOON AS POSSIBLE BEFORE START OF GRADING.  
2. PLACE FILTER FABRIC UNDER RIPRAP.  
3. USE 3\"/>

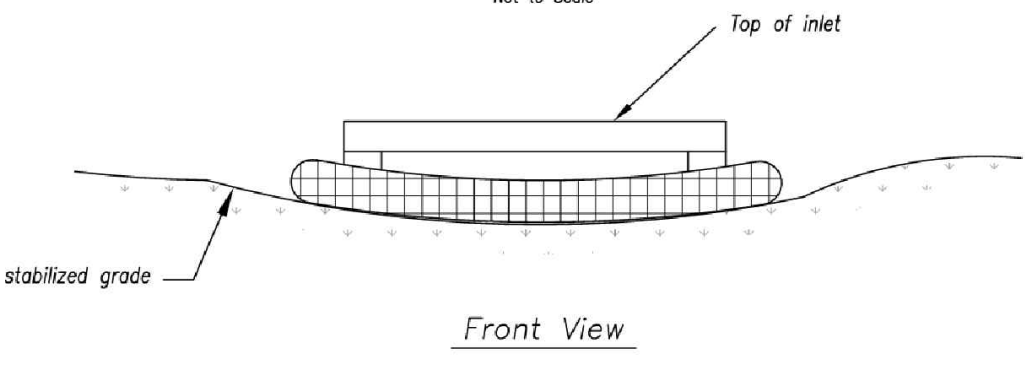


**Section A-A**  
Not to Scale

As a standpipe, would pouring the apron be better at inlet installation, or after the finished grade has been established (as a last minute addition).



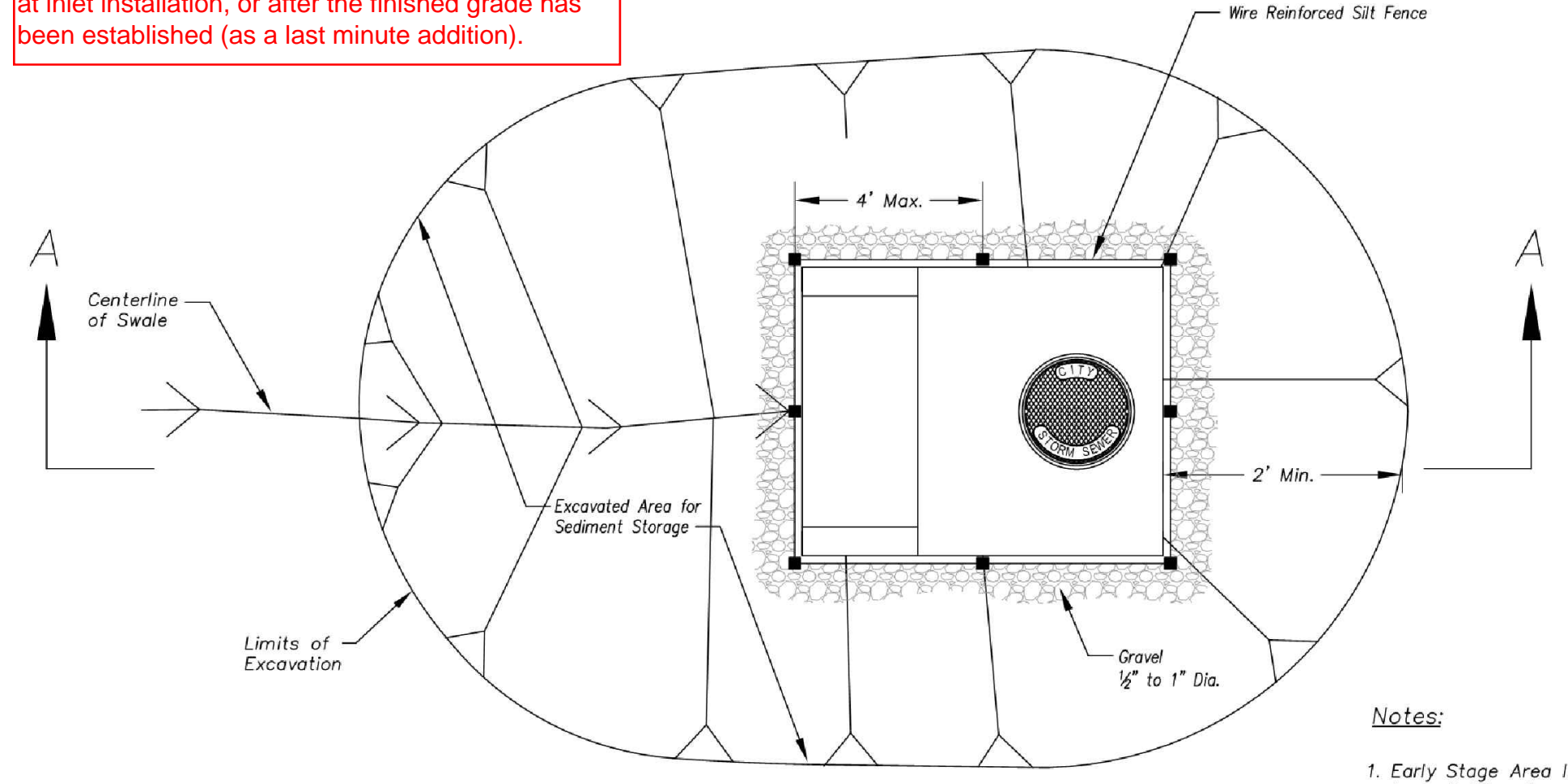
**Plan**  
Not to Scale



**Front View**

**LATE STAGE AREA INLET**  
(Area inlets at final grade and existing inlets)

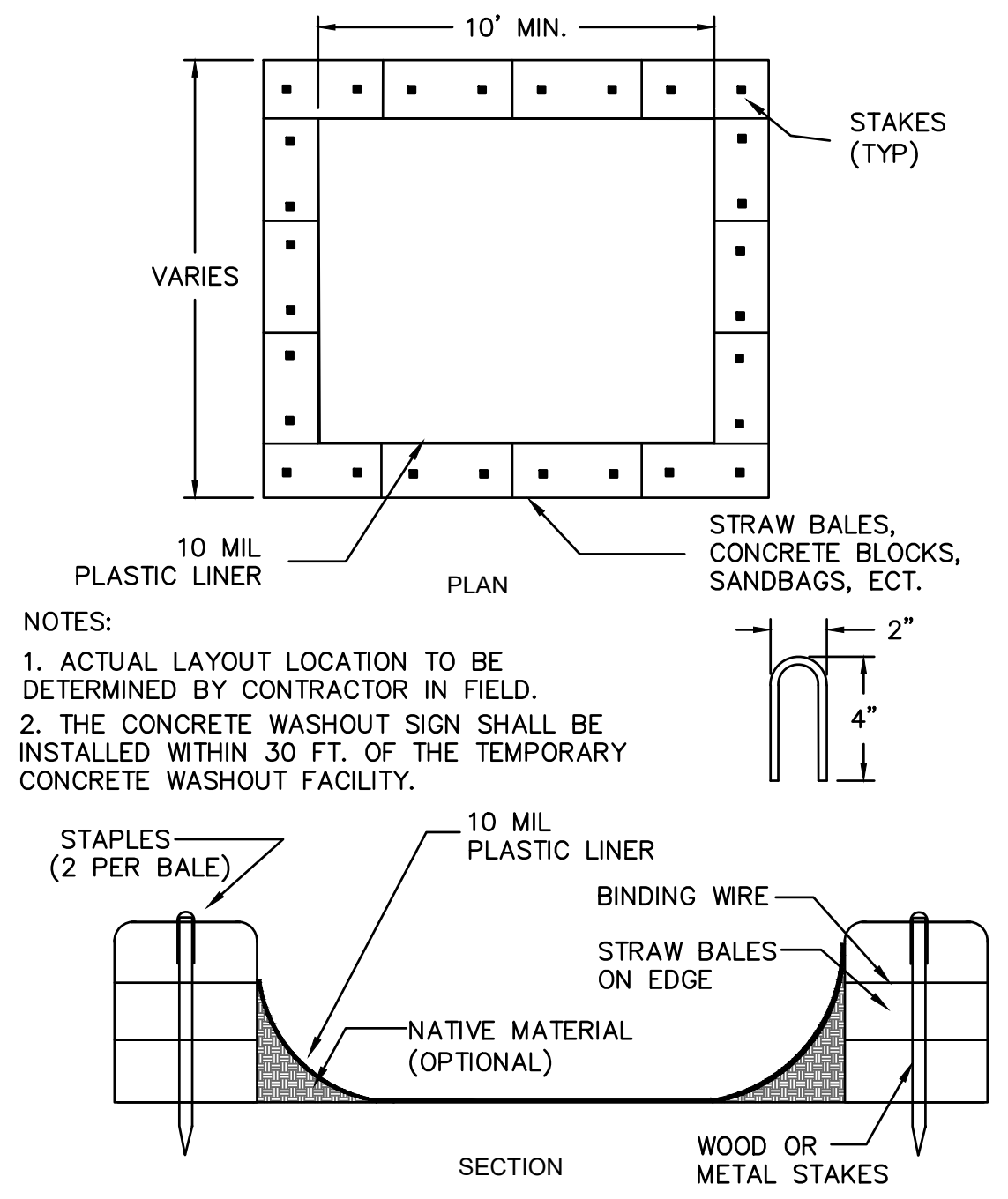
**Maintenance:**  
1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.  
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.  
3. Repair or replace as necessary to maintain function and integrity of installation.



**Plan**  
Not to Scale

**EARLY STAGE AREA INLET**  
(All open boxes and inlets not at final grade)

**Notes:**  
1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.  
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.  
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.  
4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.



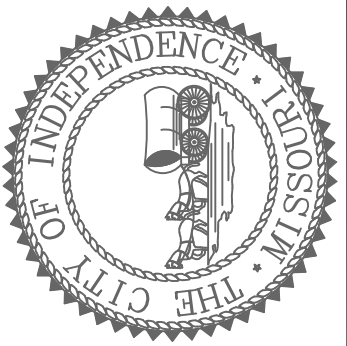
**CONCRETE WASHOUT DETAIL**  
NOT TO SCALE



REVISIONS

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
EROSION CONTROL DETAILS

**CITY OF INDEPENDENCE**  
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REVISIONS

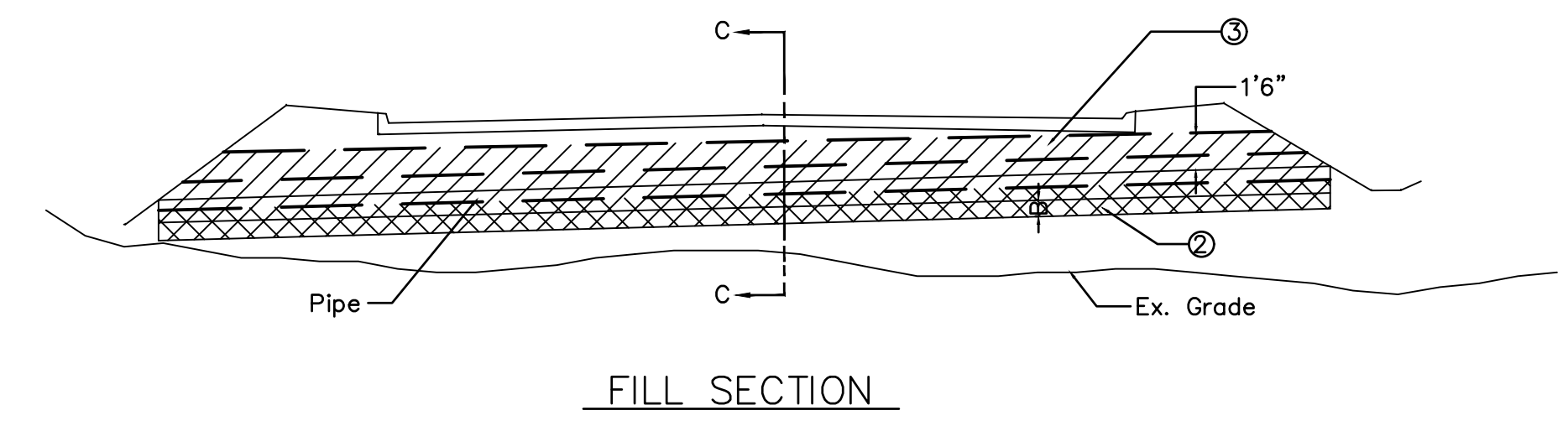
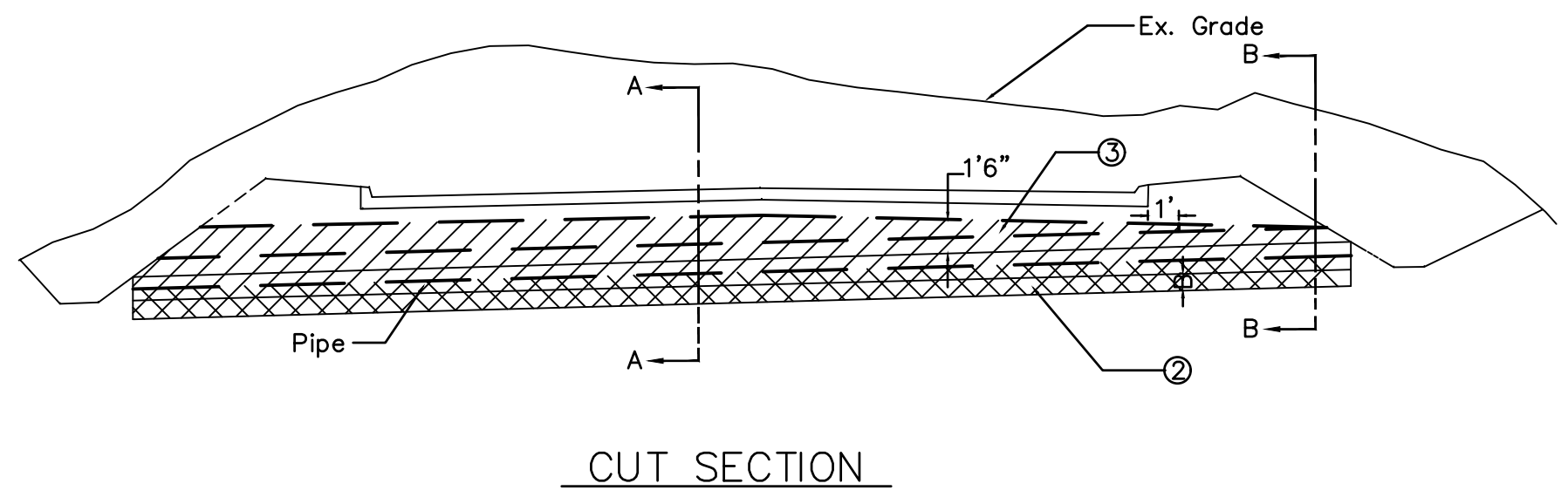
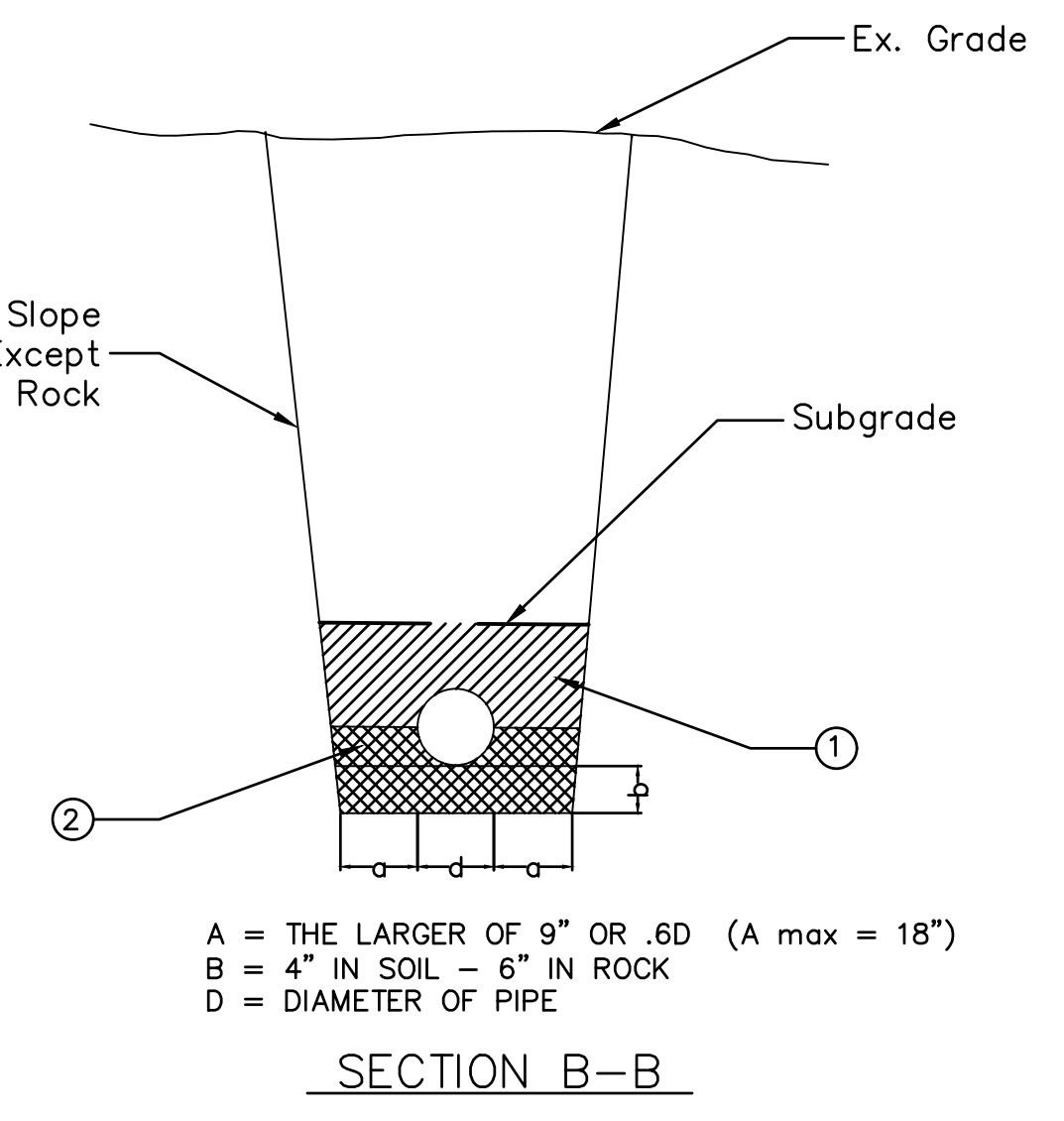
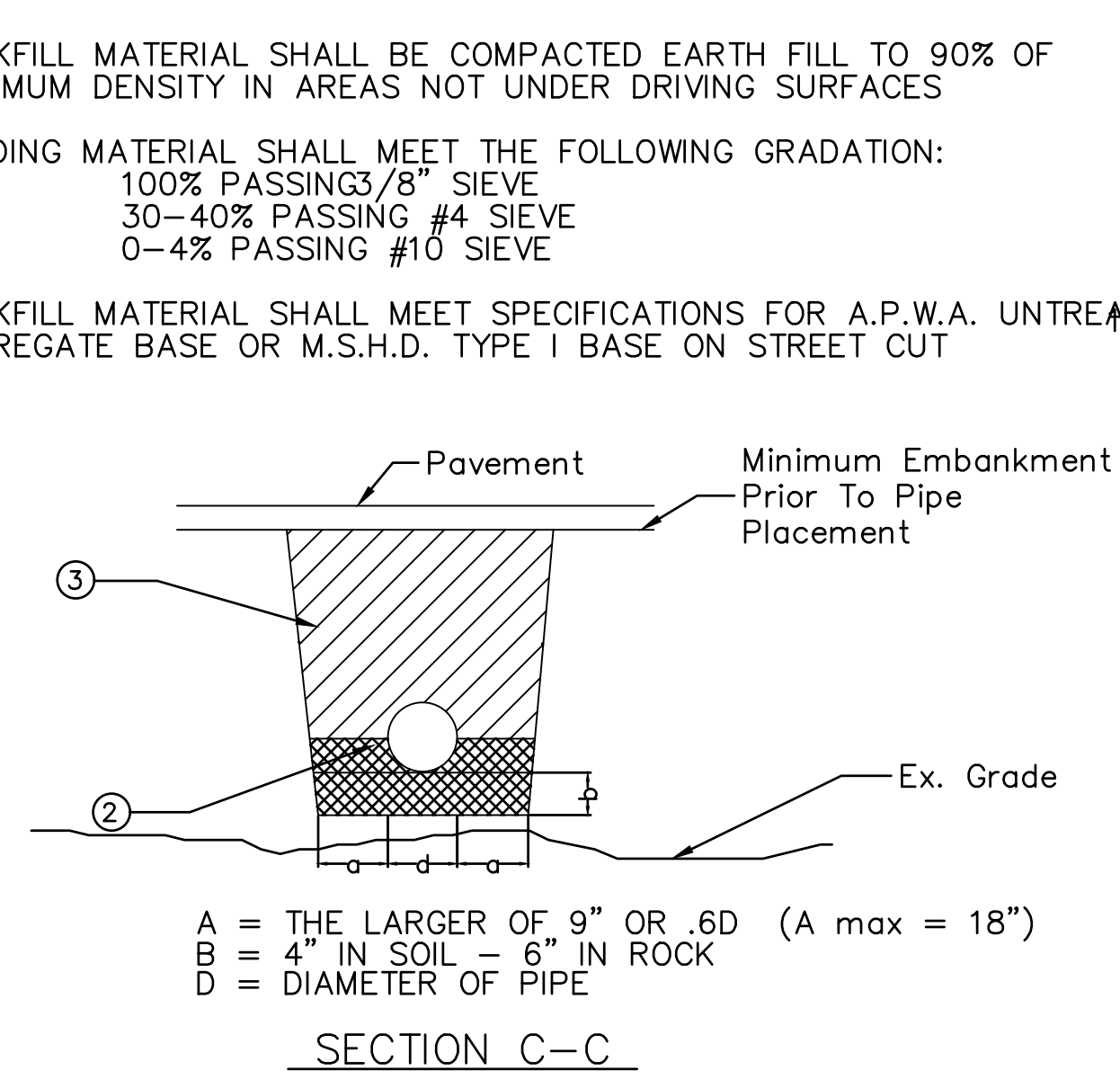
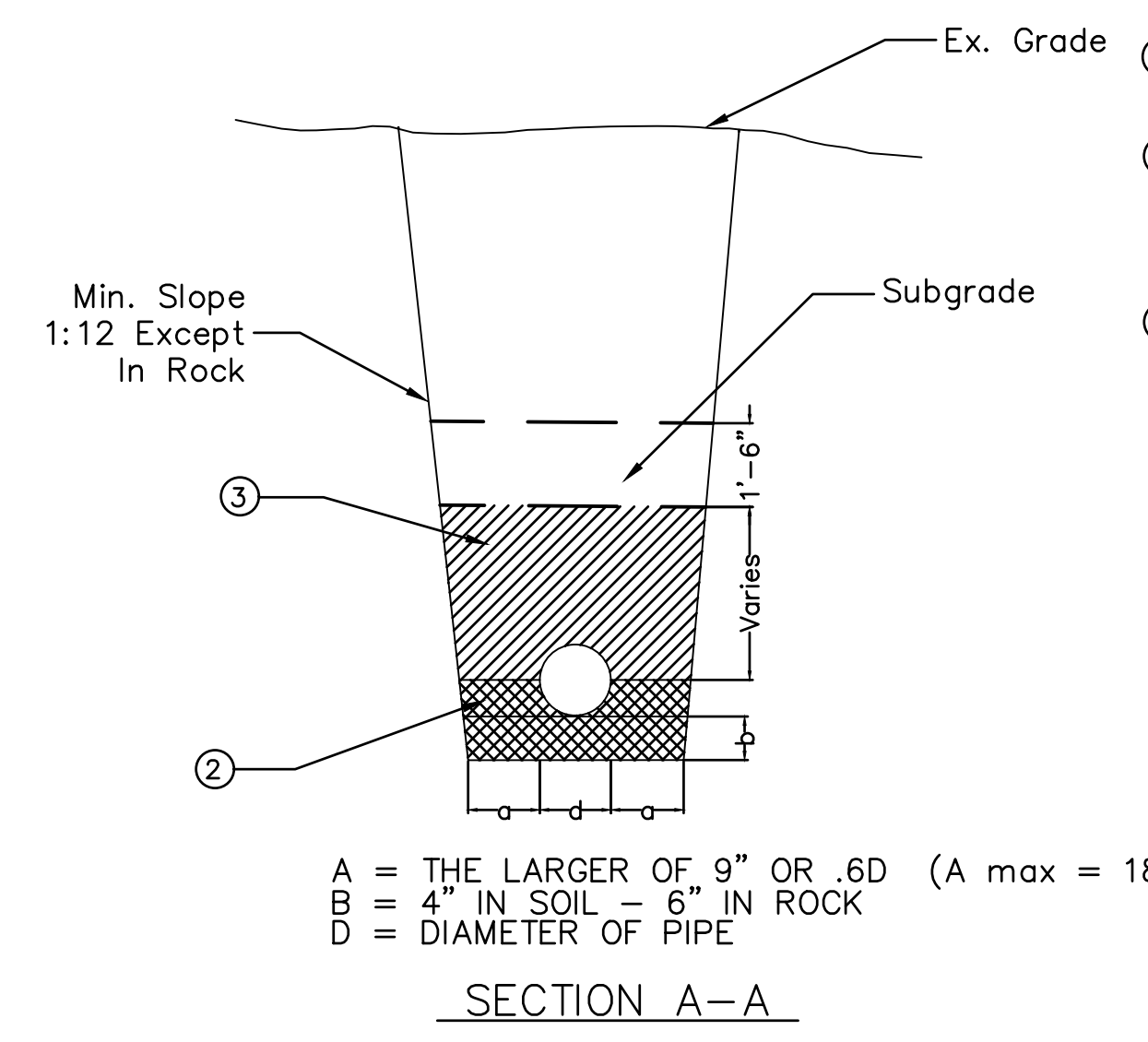
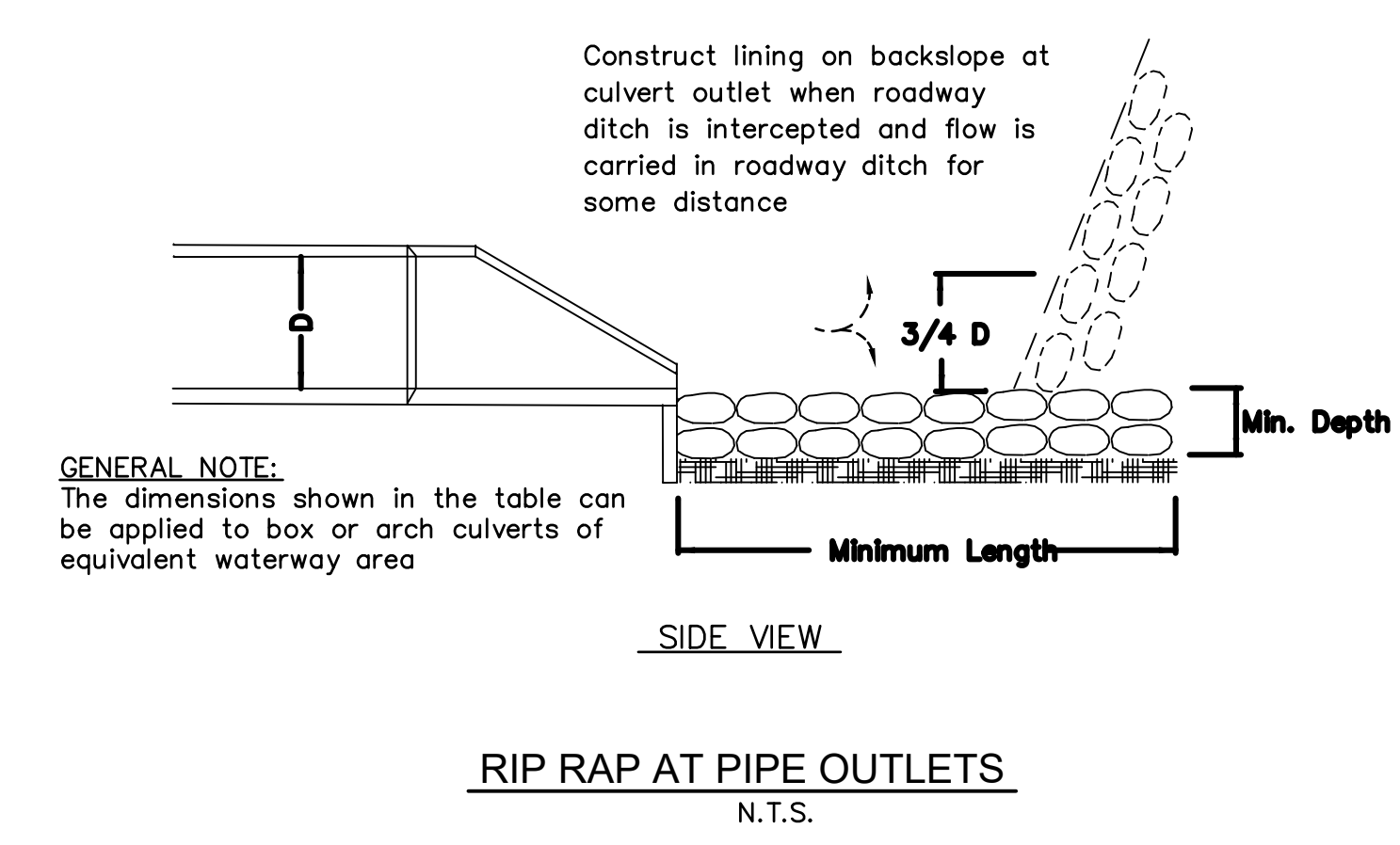
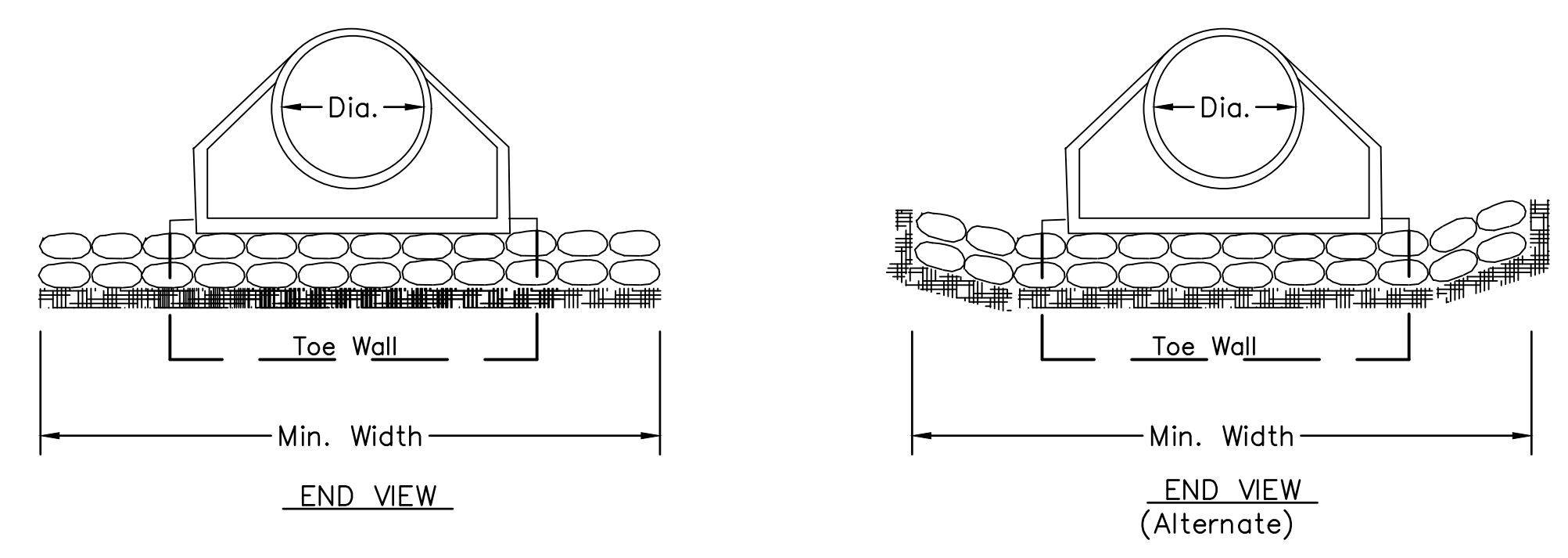
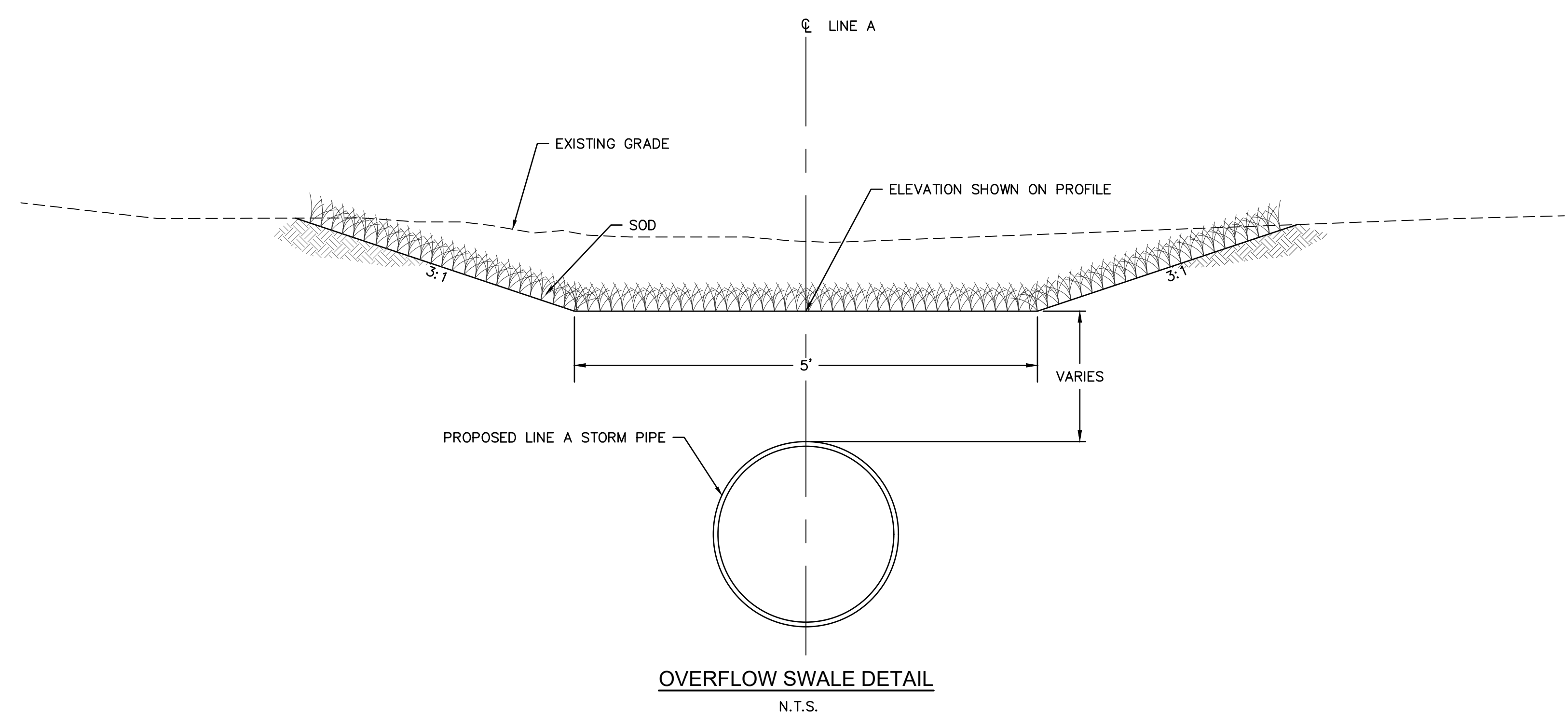
ENGINEERING SERVICES FOR  
 BLUE LAWN SUBDIVISION  
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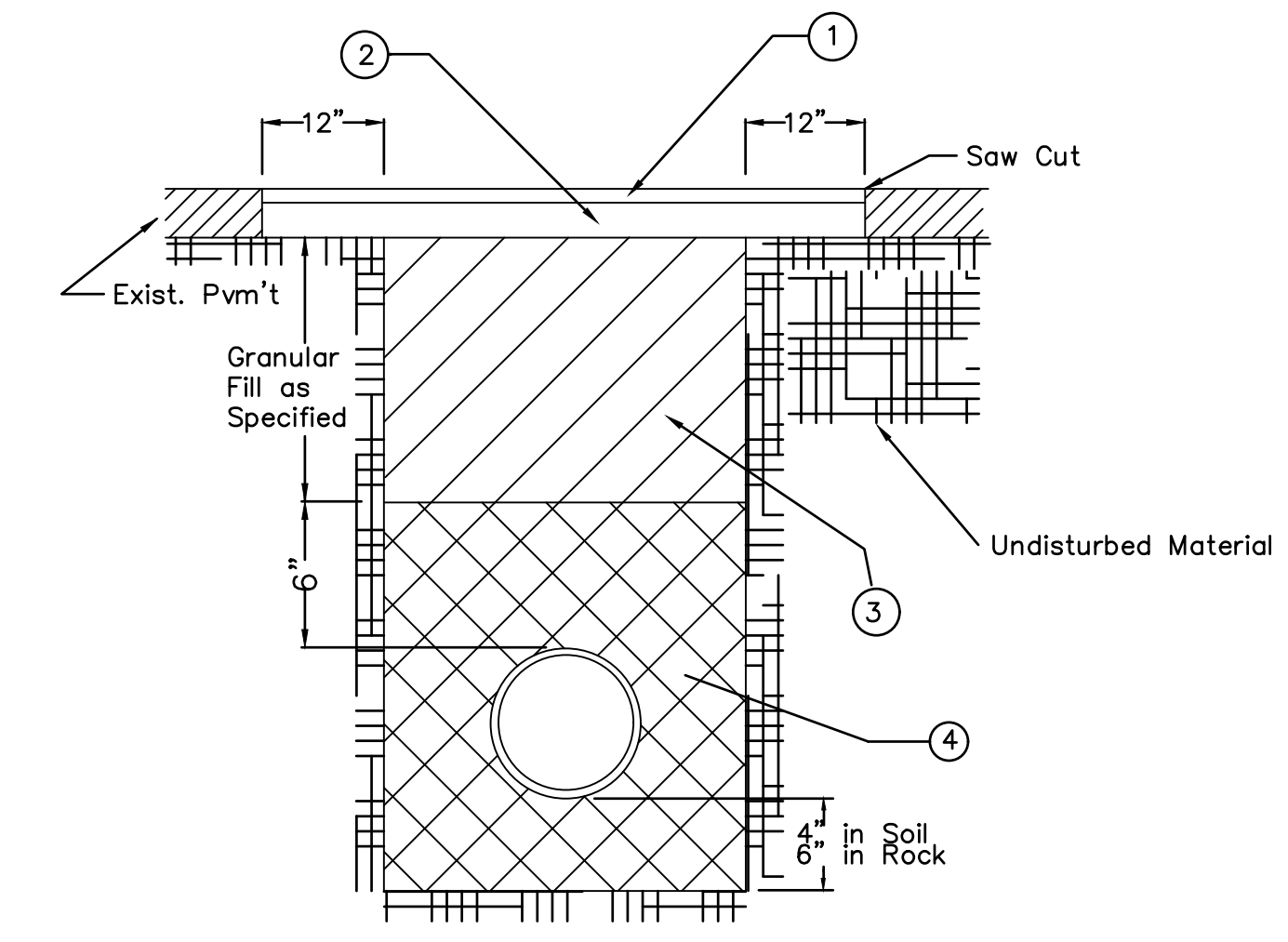


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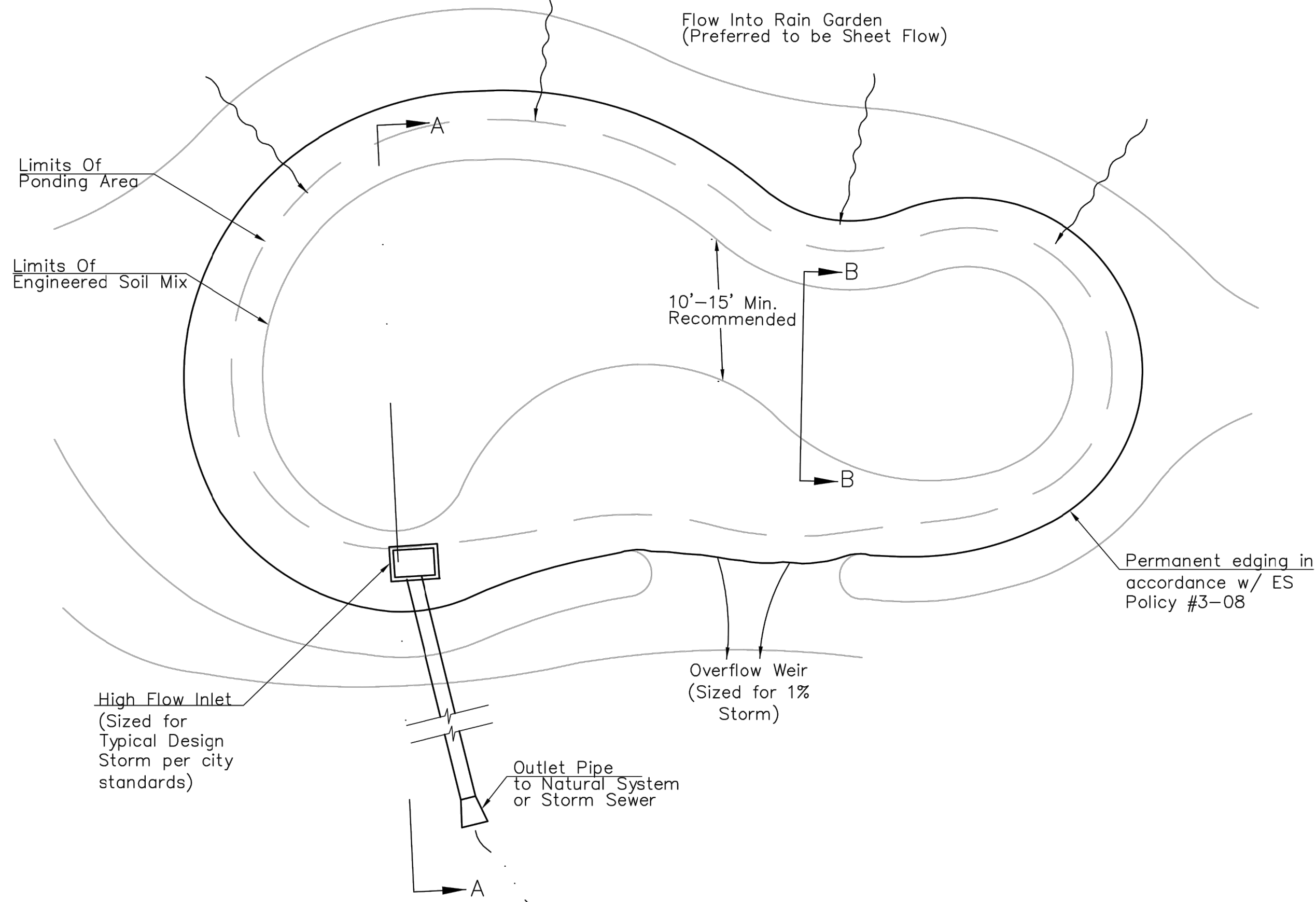
TYPICAL STRUCTURE BACKFILL



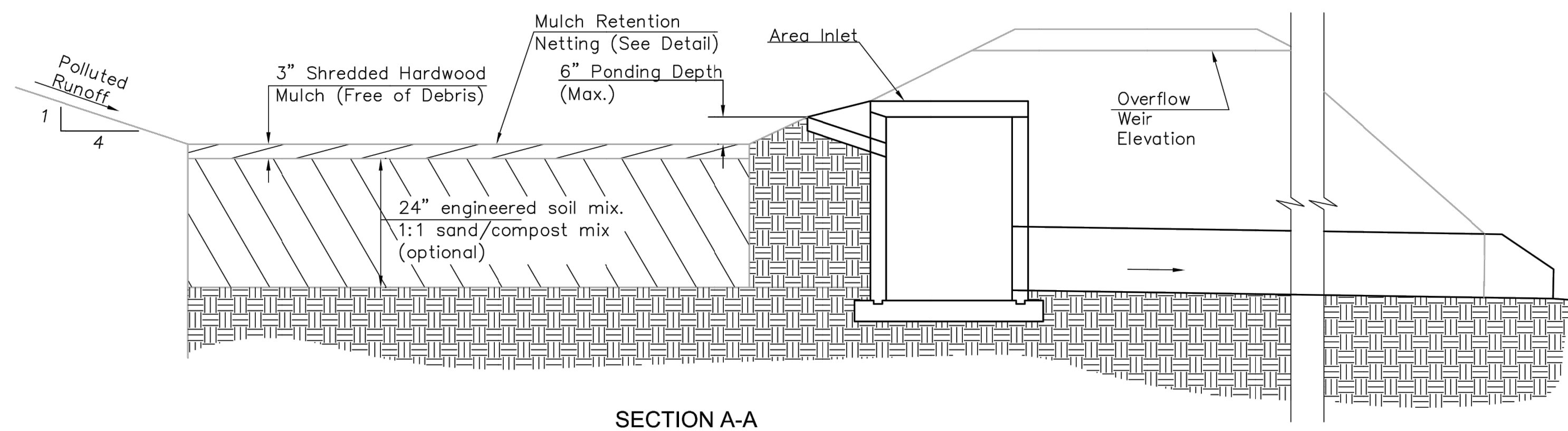
- TWO (2) INCH ASPHALTIC CONCRETE SURFACE
- EIGHT (8) INCH MINIMUM PORTLAND CEMENT CONCRETE BASE OR SIX (6) INCH MINIMUM ASPHALTIC CONCRETE BASE (FOR LARGE AREA PATCHING ONLY) IF APPROVED BY THE DIRECTOR OF PUBLIC WORKS; FOUR (4) INCH ASPHALTIC CONCRETE BASE WILL BE PERMITTED IN RESIDENTIAL ASPHALT DRIVEWAYS
- BACKFILL MATERIAL SHALL MEET SPECIFICATIONS FOR A.P.W.A. UNTREATED AGGREGATE BASE OR MoDOT TYPE I BASE
- BEDDING MATERIAL SHALL MEET THE FOLLOWING GRADATION:  
 100% PASSING 3/8" SIEVE  
 30-40% PASSING #4 SIEVE  
 0-4% PASSING #10 SIEVE

NOTE: THE TWELVE (12) INCH OVERCUT WILL NOT BE REQUIRED FOR CUTS NOT EXCEEDING EIGHT (8) INCHES IN WIDTH





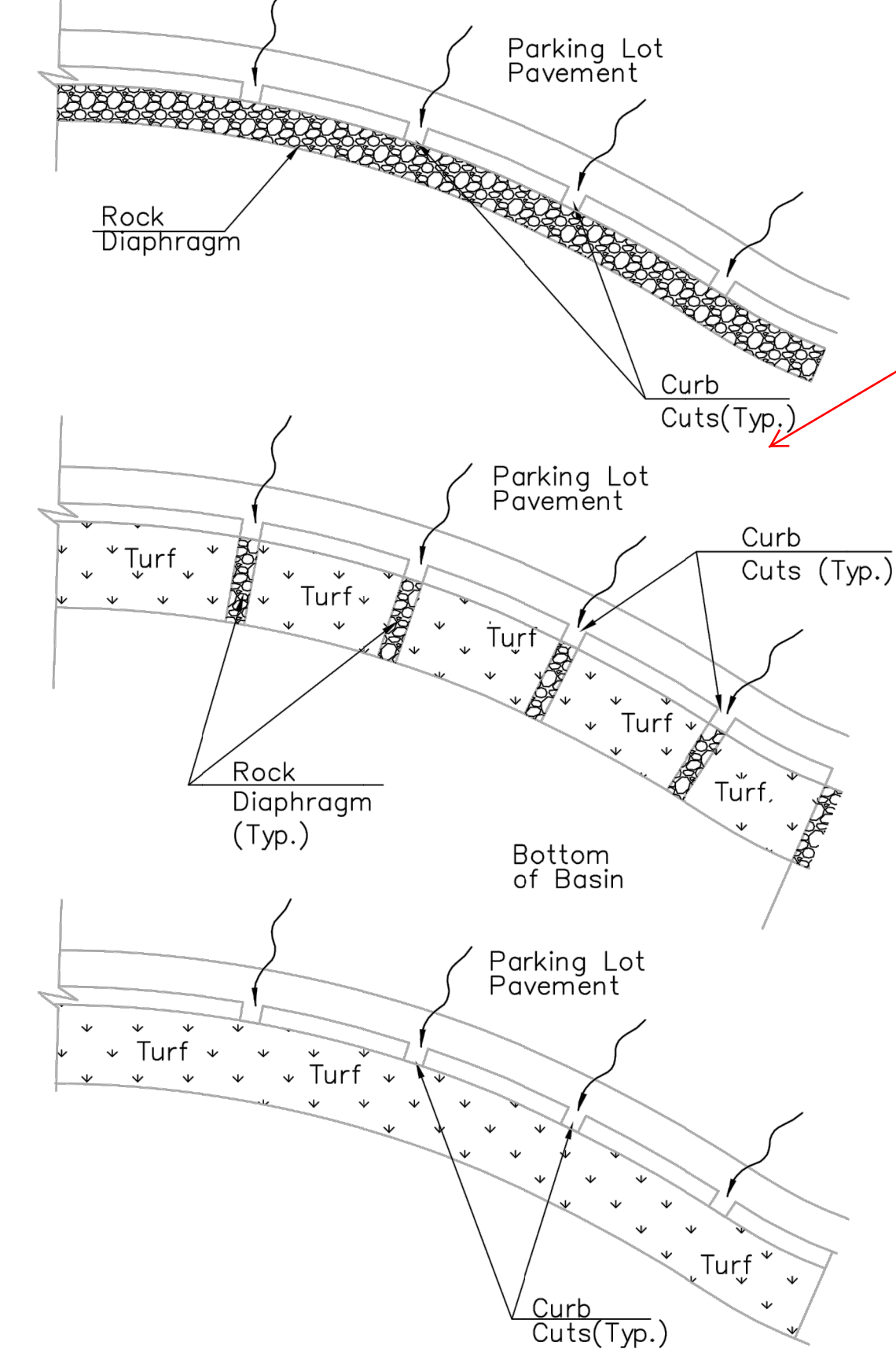
PLAN



SECTION A-A

RAIN GARDEN DETAIL  
N.T.S.

- Notes:
1. Drainage area limited to one acre.
  2. Percolation test required prior to start of construction.
  3. The plan and profile details are schematic in nature. Construction plans shall provide specific site grading information.



Are we recommending a curb addition off the edge of pavement?

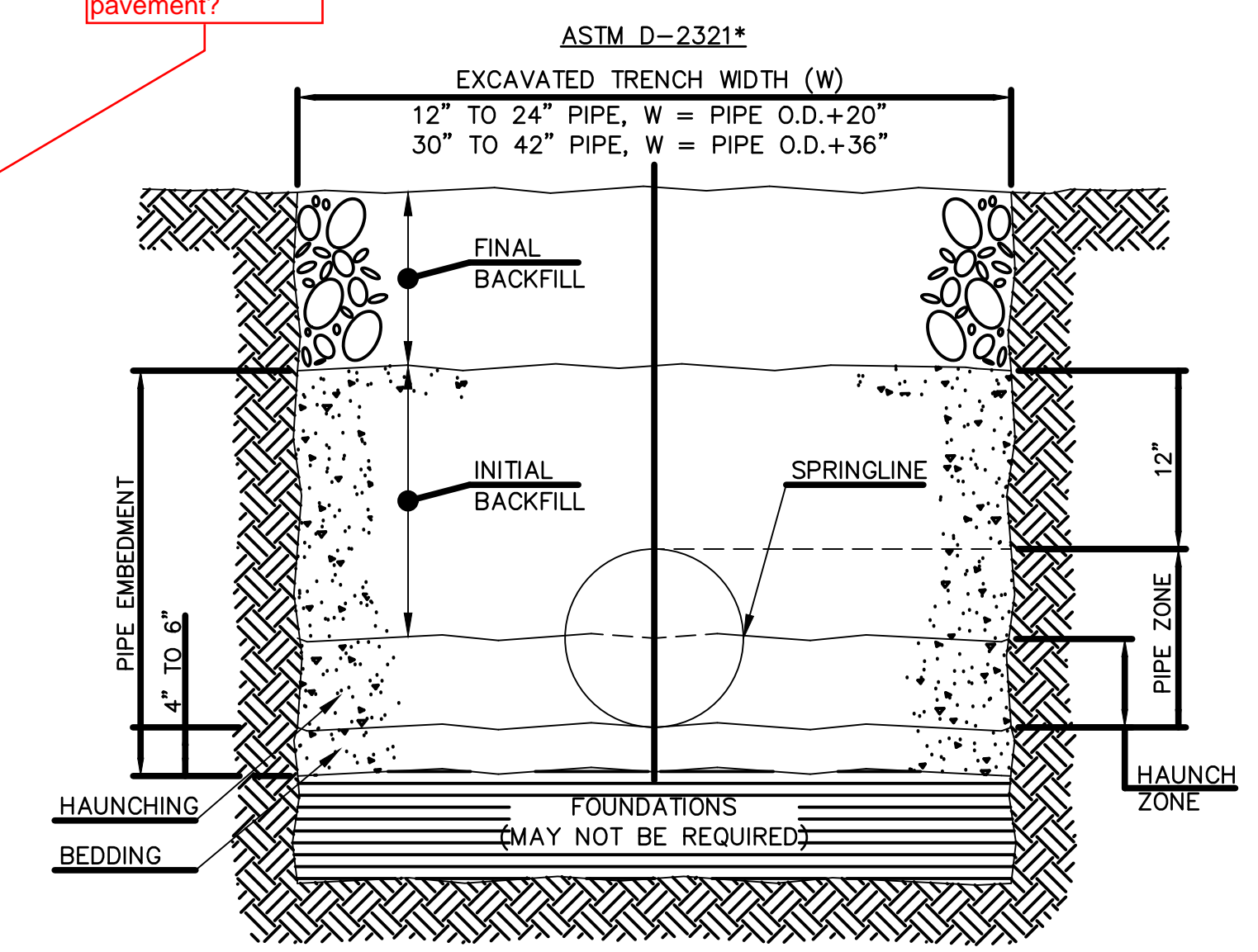
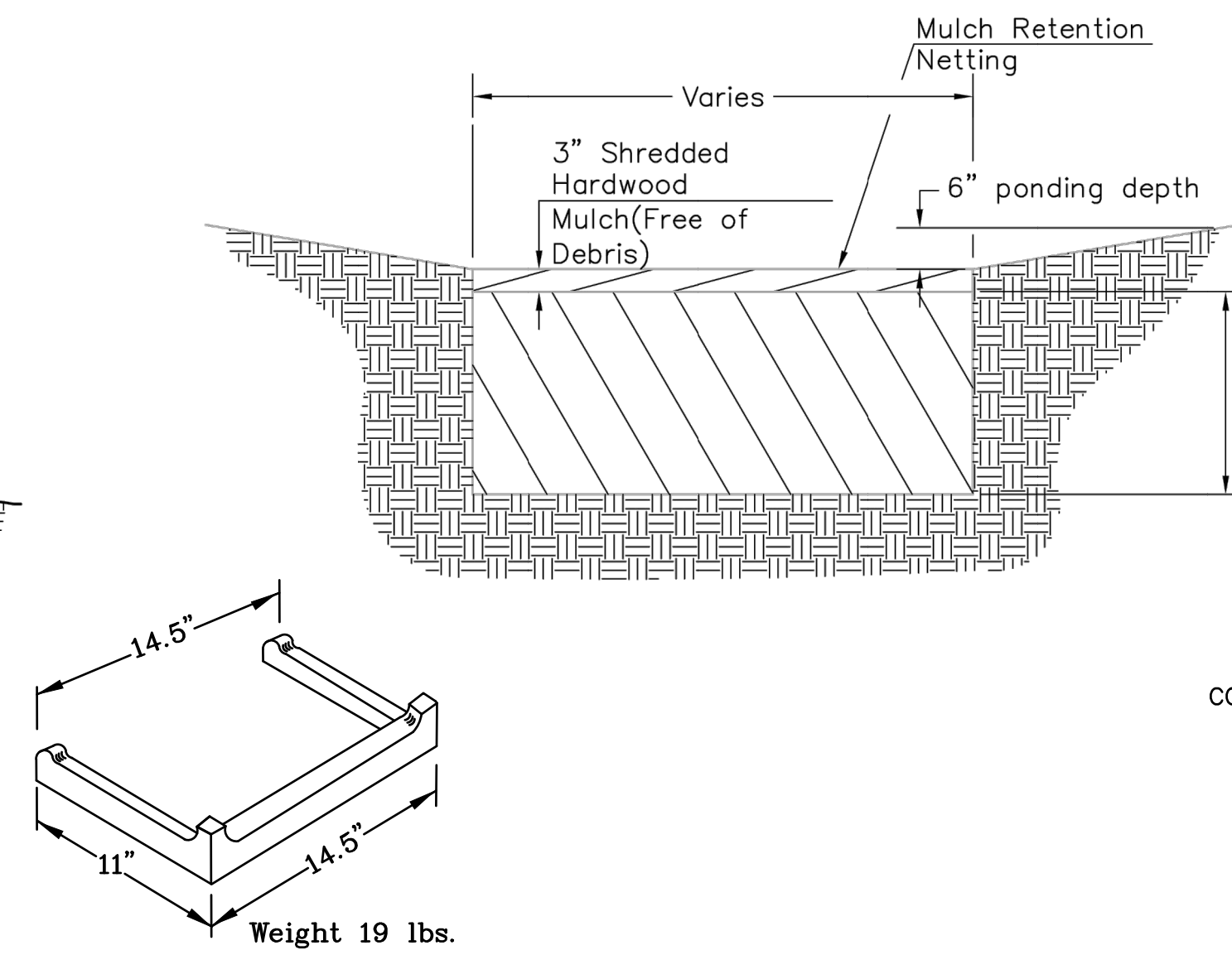


FIGURE 1 TRENCH CROSS SECTION SHOWING TERMINOLOGY INCLUDING BEDDING, HAUNCHING, AND INITIAL BACKFILL.

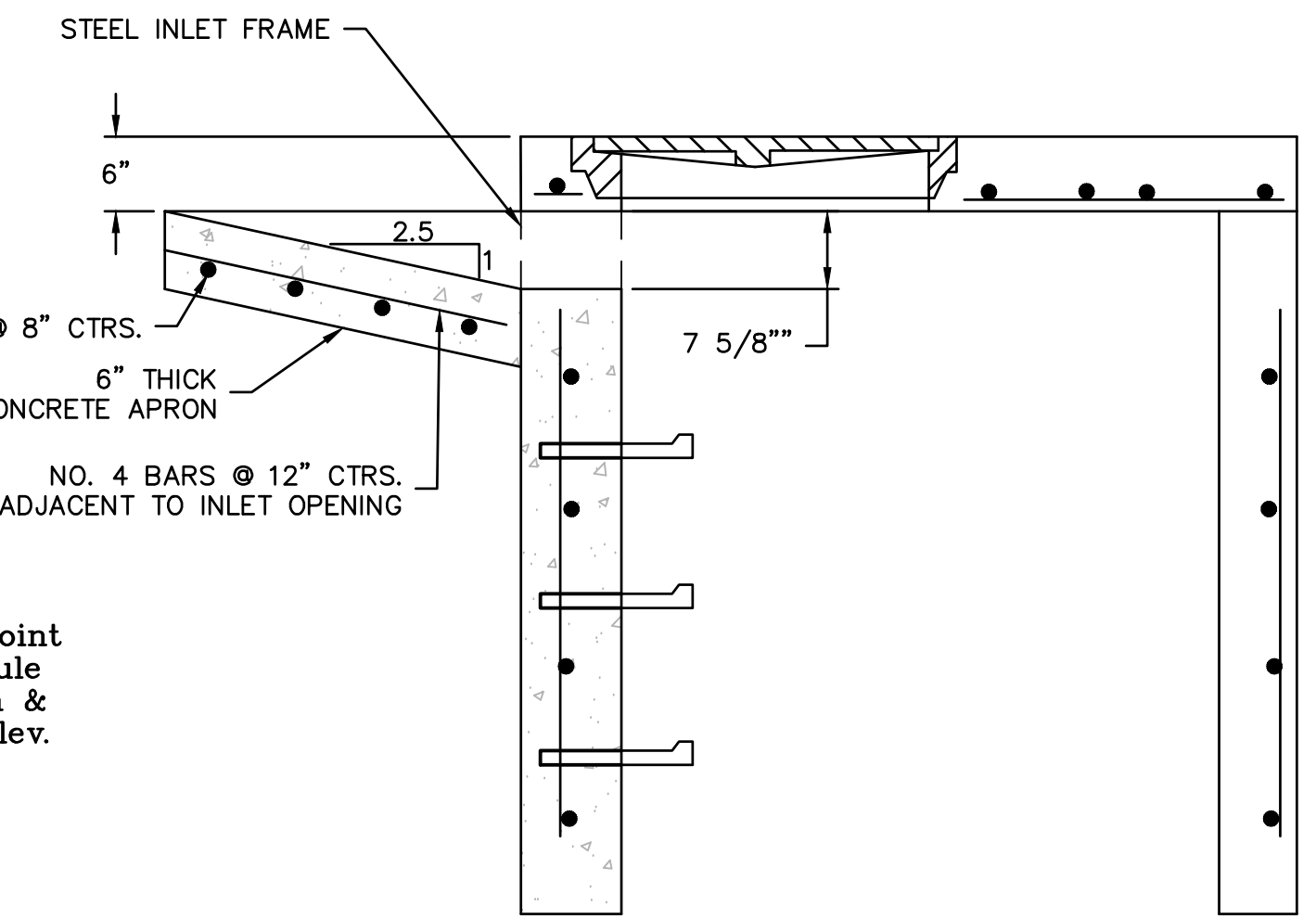
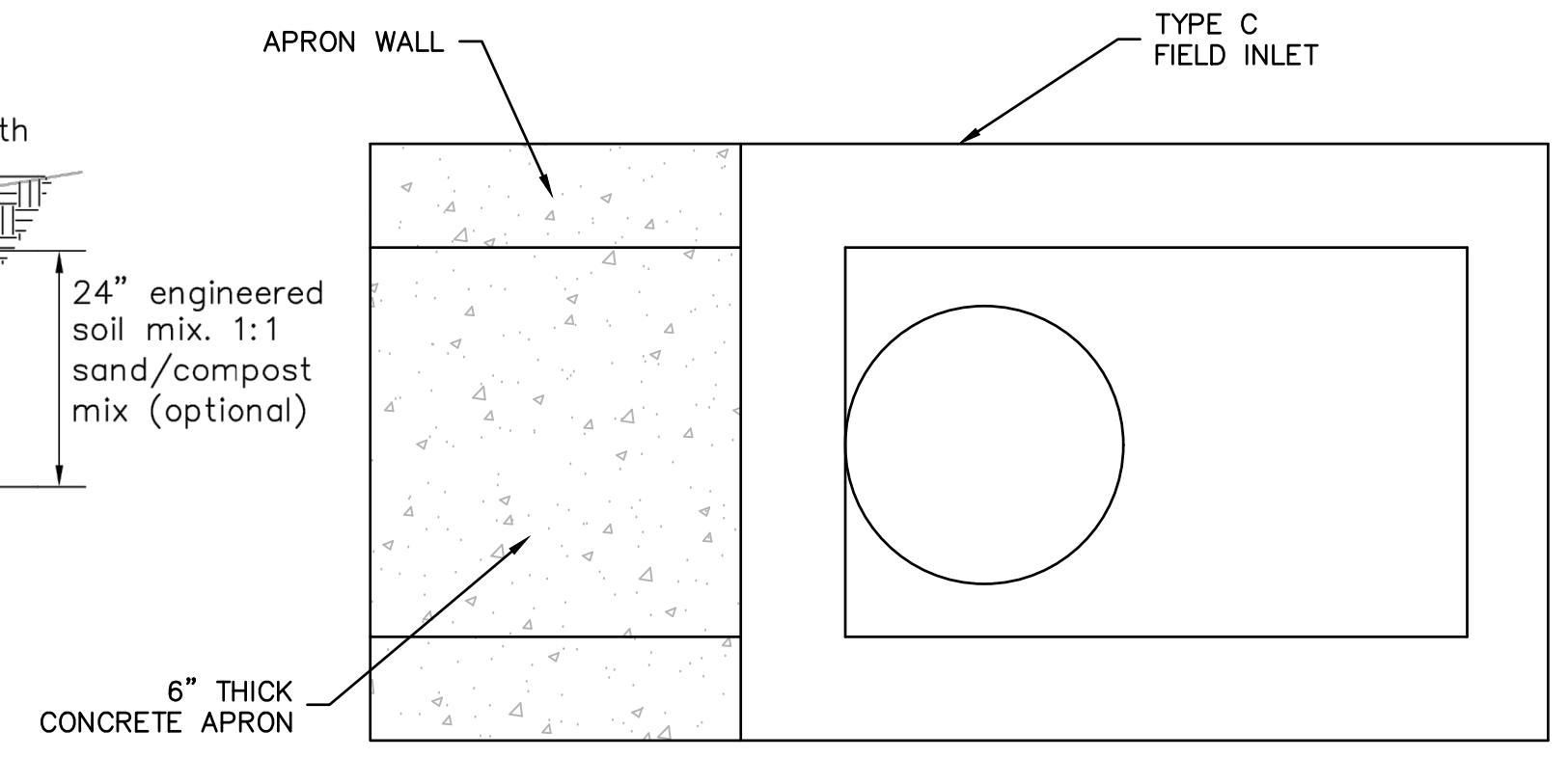
- NOTE:
1. USE MODOT GRADE 4 (GRADATION A) BEDDING MATERIAL. (SECTION 1009); INCLUDES ALL PIPE EMBEDMENT. MODOT SPECIFICATION FOR HIGHWAY CONSTRUCTION, YEAR 2004.
  2. CARE MUST BE EXERCISED TO INSURE PLACEMENT AND COMPACTION OF THE EMBEDMENT MATERIAL IN THE HAUNCHES. FOR LARGER DIAMETER PIPES (30" OR GREATER), EMBEDMENT MATERIALS SHOULD BE WORKED UNDER THE HAUNCHES BY HAND. 8" MAXIMUM LIFTS, COMPACTED TO 90% STANDARD PROCTOR DENSITY. THE MIDDLE OF THE BEDDING EQUAL TO 1/3 OF THE PIPE O.D. SHOULD BE LOOSELY PLACED WITH THE REMAINDER COMPACTED TO A MINIMUM OF 90% STANDARD PROCTOR DENSITY.



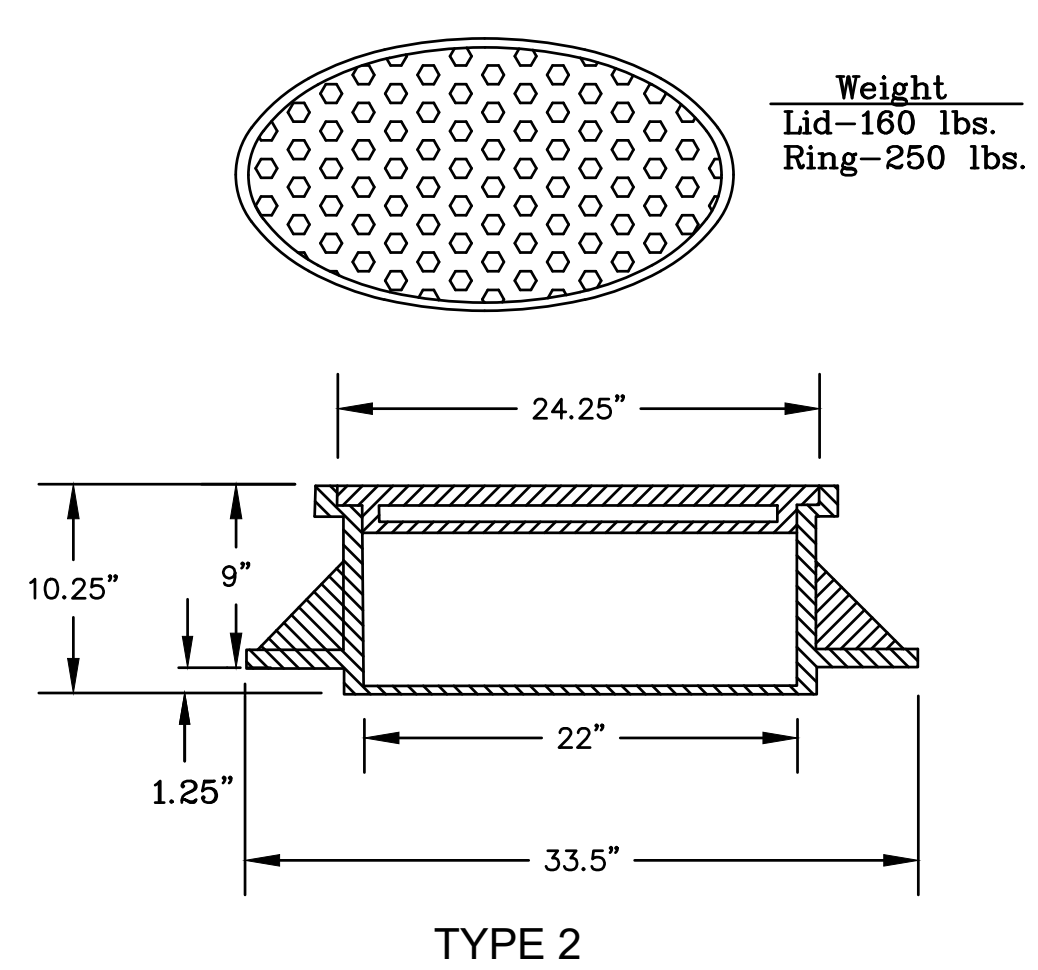
STEP

To Be Constructed as Approved By Engineer

HDPE BEDDING DETAIL

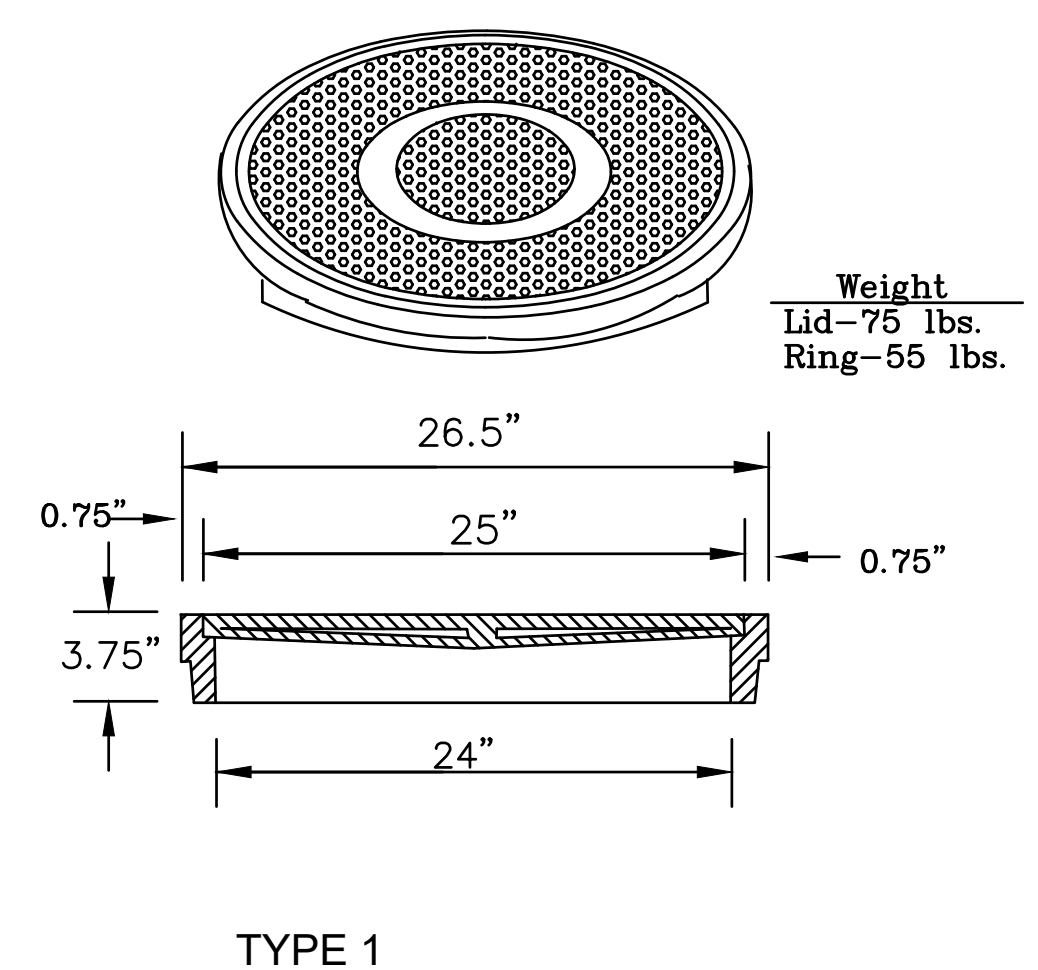


TYPE C FIELD INLET APRON DETAIL  
N.T.S.



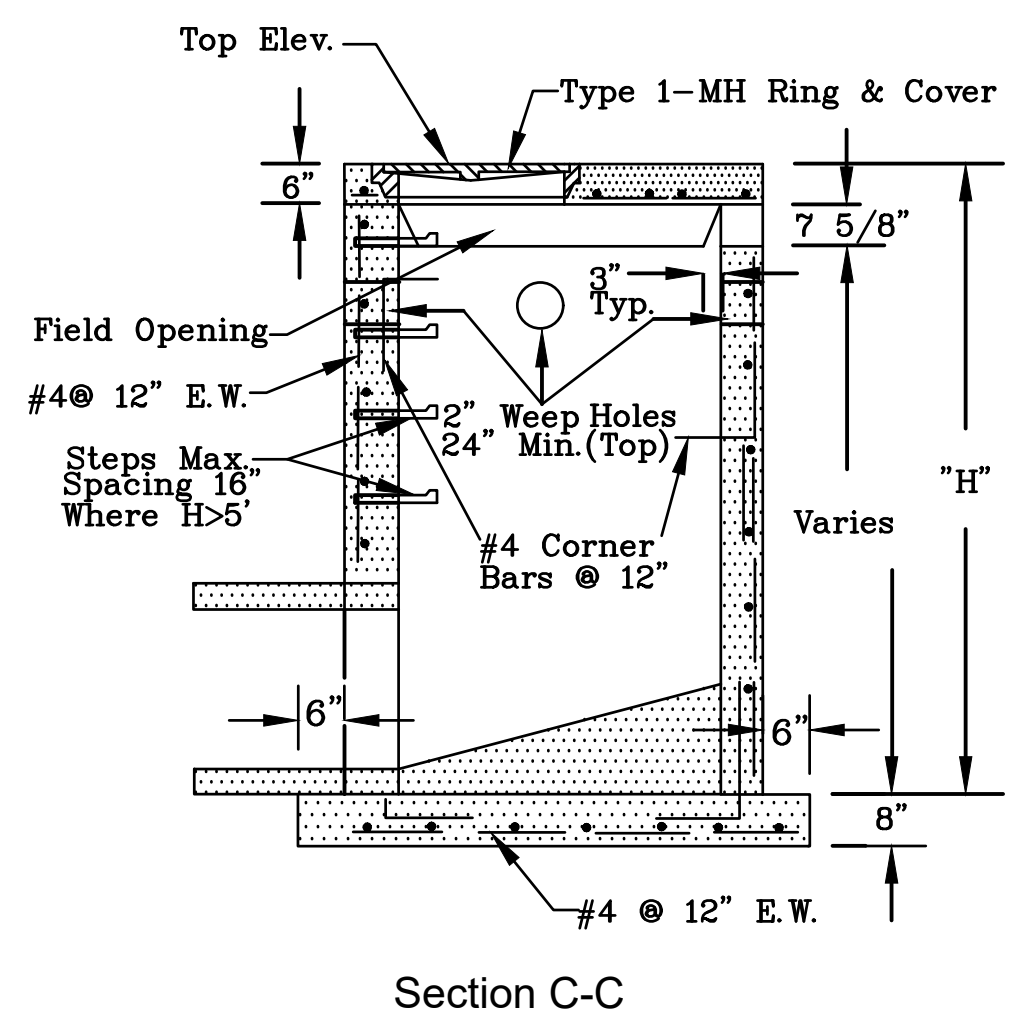
TYPE 2

Manhole Ring & Cover Clay & Bailey No. 2007 MR or Approved Equal

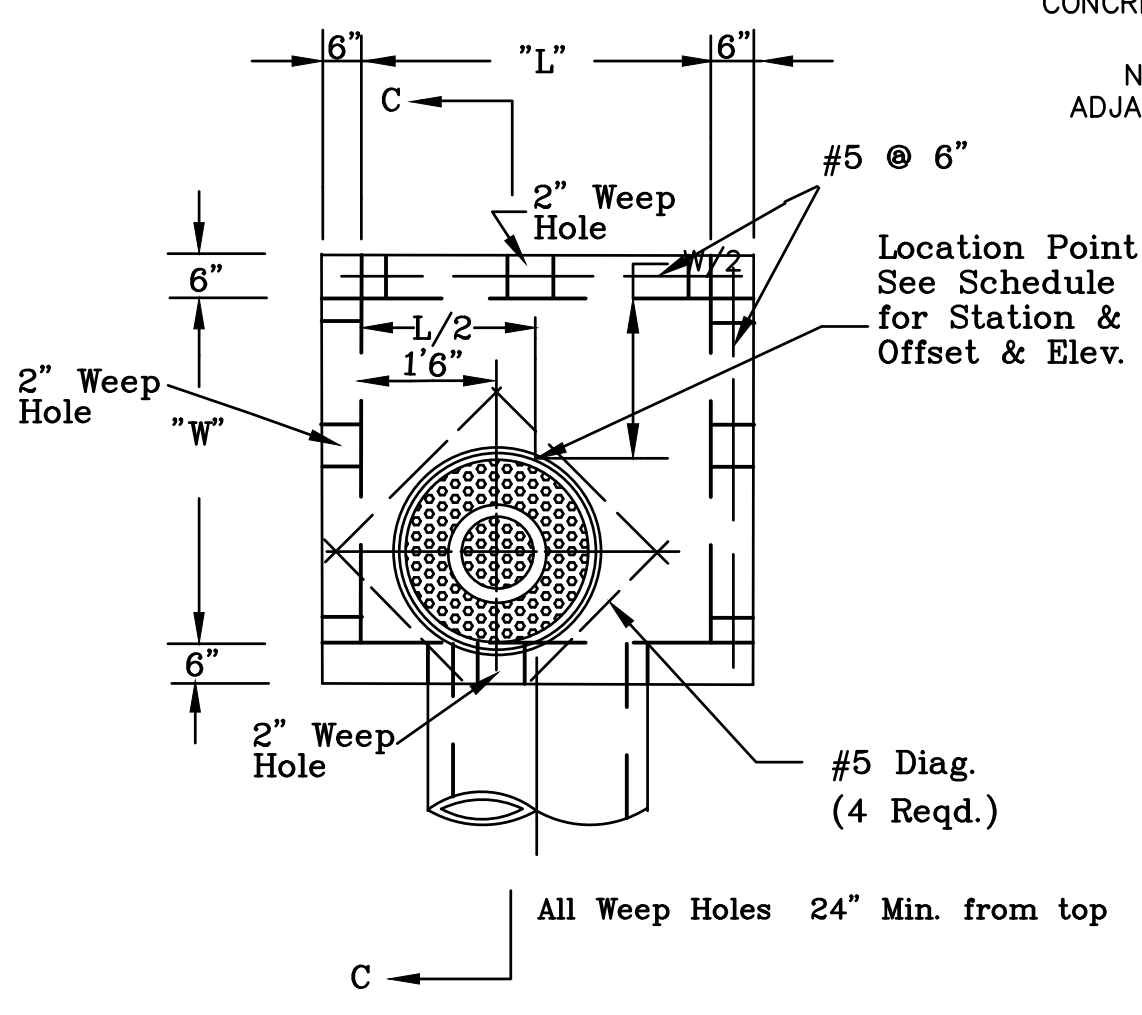


TYPE 1

Manhole Ring & Cover Clay & Bailey No. 2004 or Approved Equal



Section C-C



TYPE C FIELD INLET DETAIL  
N.T.S.



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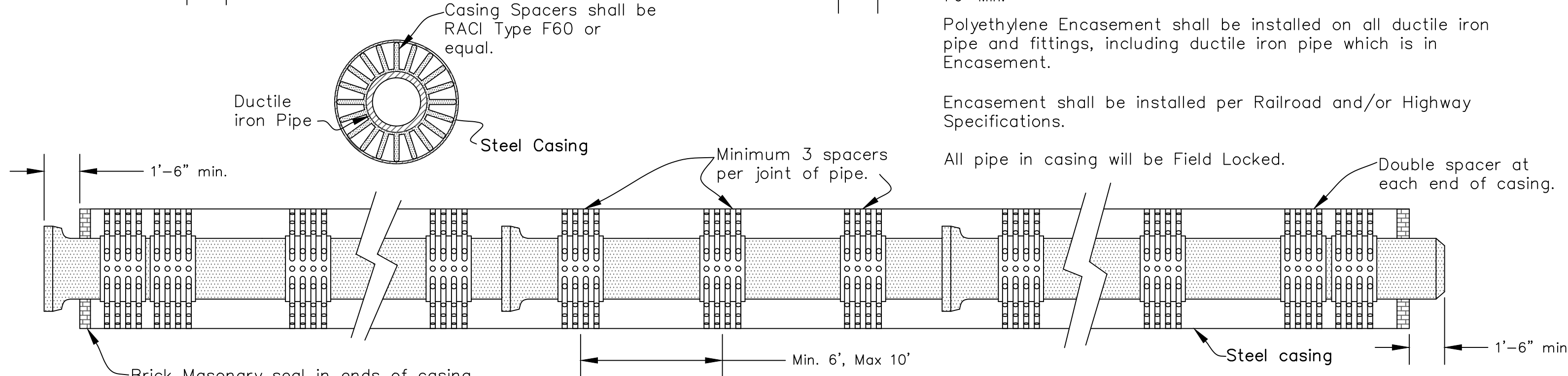
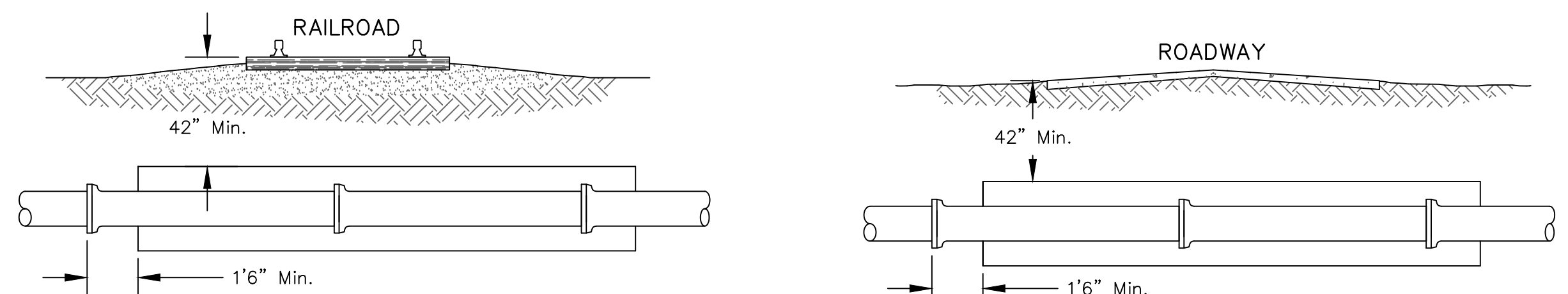
REVISIONS

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
DETAILS

CITY OF INDEPENDENCE  
WATER POLLUTION CONTROL DEPARTMENT  
14909 E. Truman Road Independence, MO 64051  
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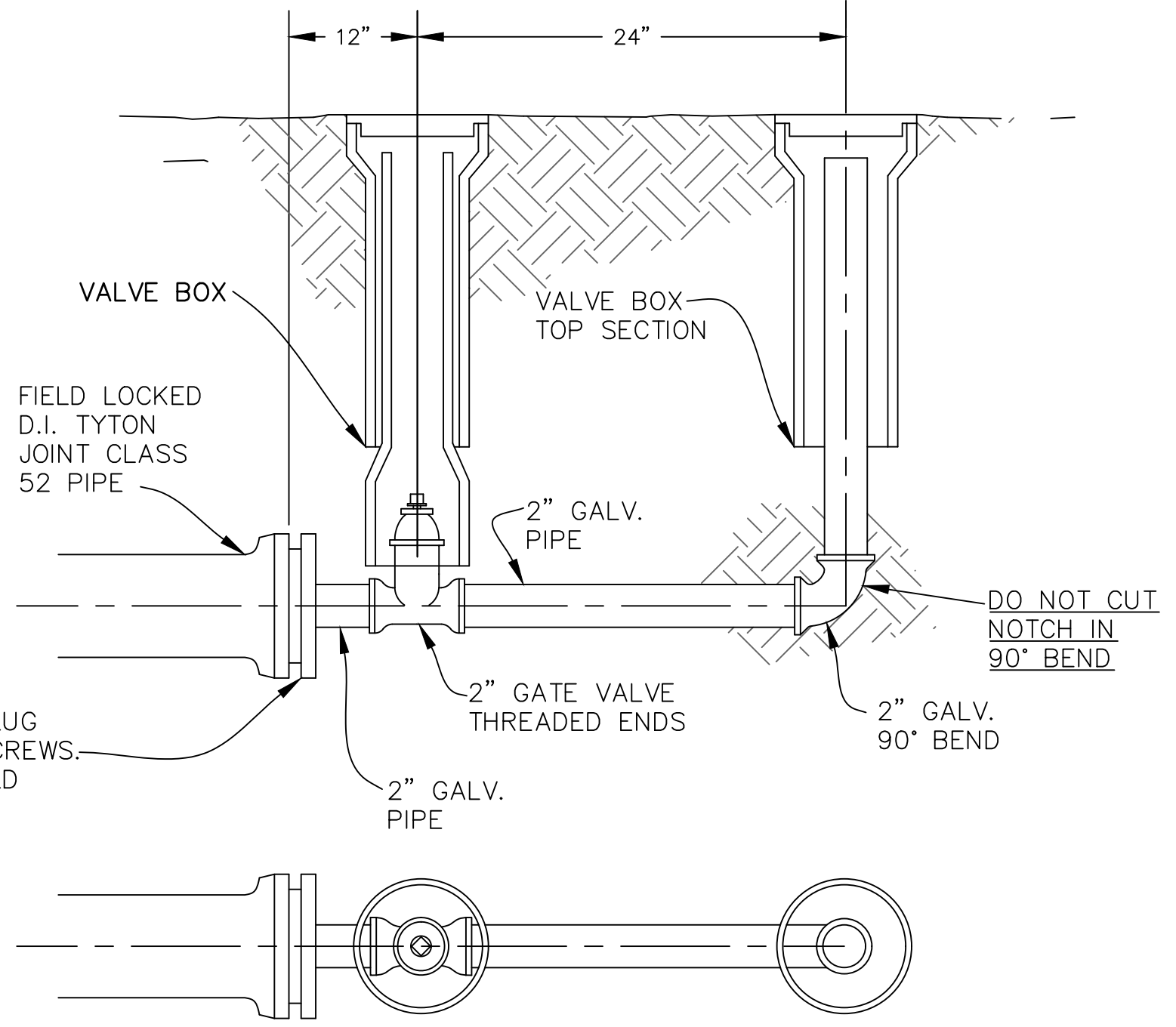


Brick Masonry seal in ends of casing. Cover with mortar plaster. Brick to be laid with length parallel to water main.

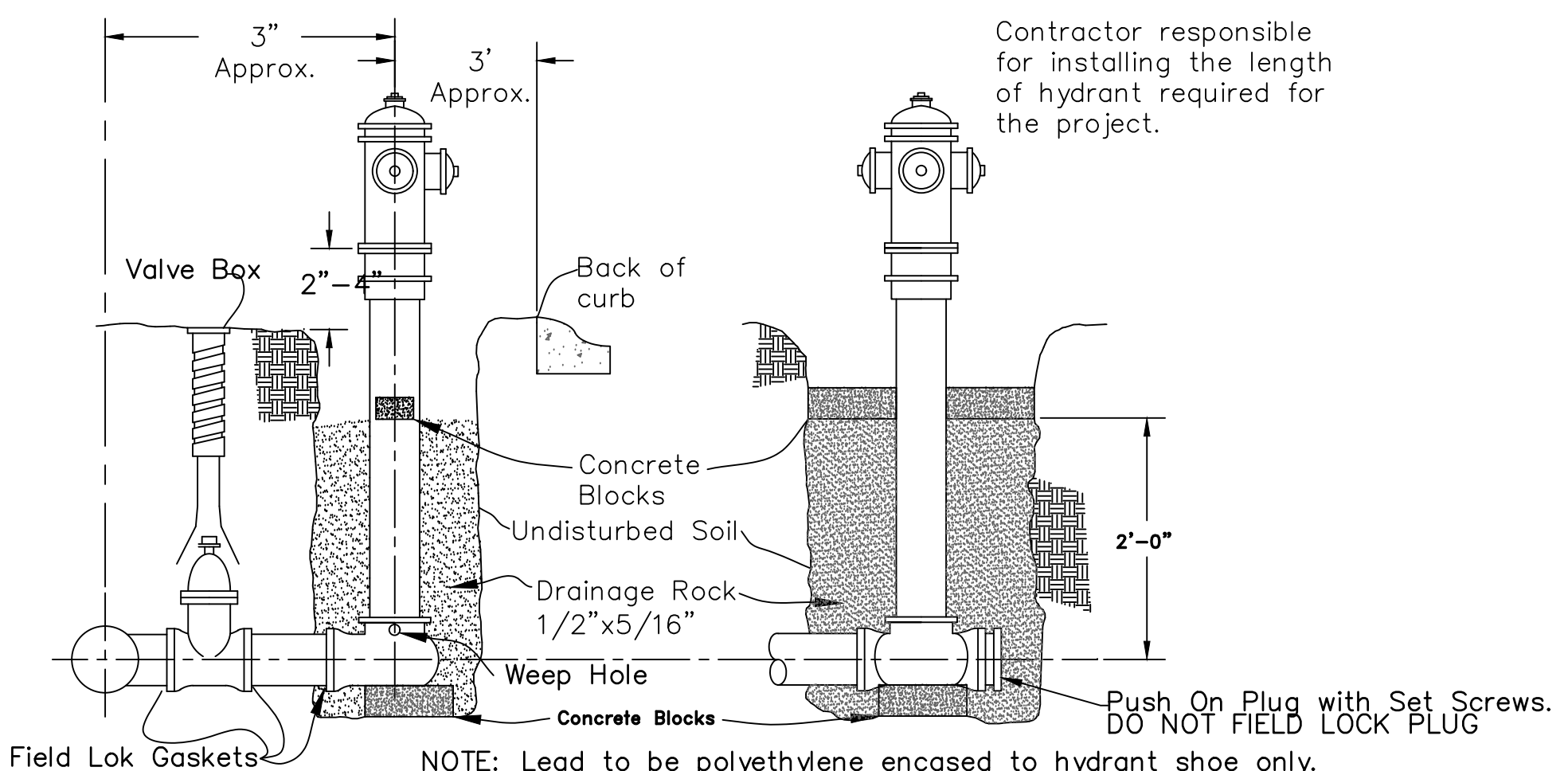
**12" D.I. PIPE**  
 Minimum of three (3) spacers for each joint of pipe. Each spacer will require five (5) Type F elements. Spacers will be 1.6" high. Use 20" ID steel casing.

Length and wall thickness of Encasement Pipe to be as shown on construction plans.

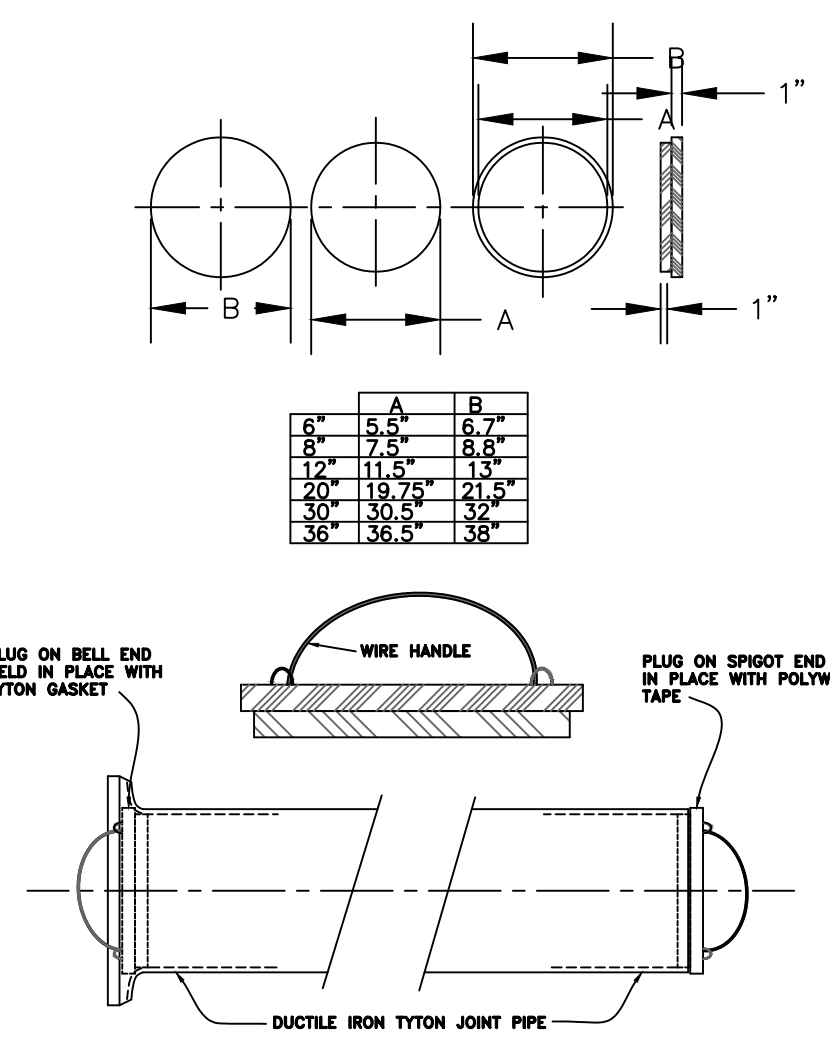
**TYPICAL ENCASEMENT UNDER RAILROADS and ROADS FOR DUCTILE IRON PIPE 6", 8", 12", 16" & 20"**  
 no scale



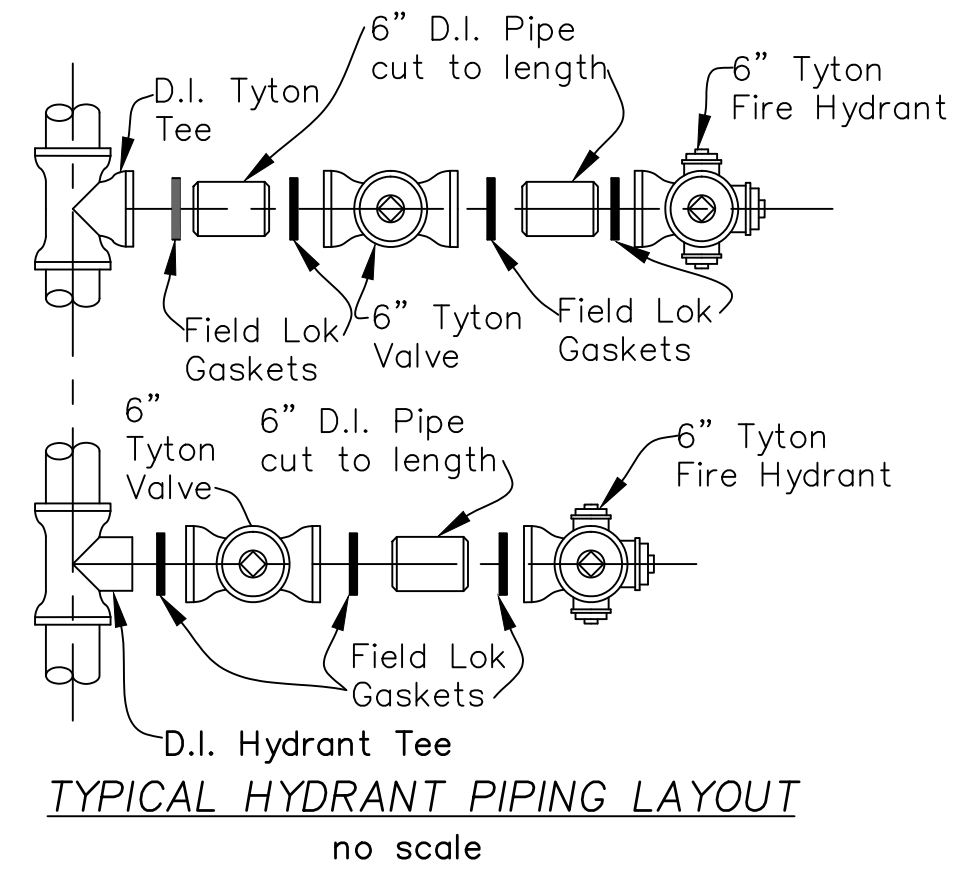
**TEMP. BLOW OFF DETAIL**  
 no scale



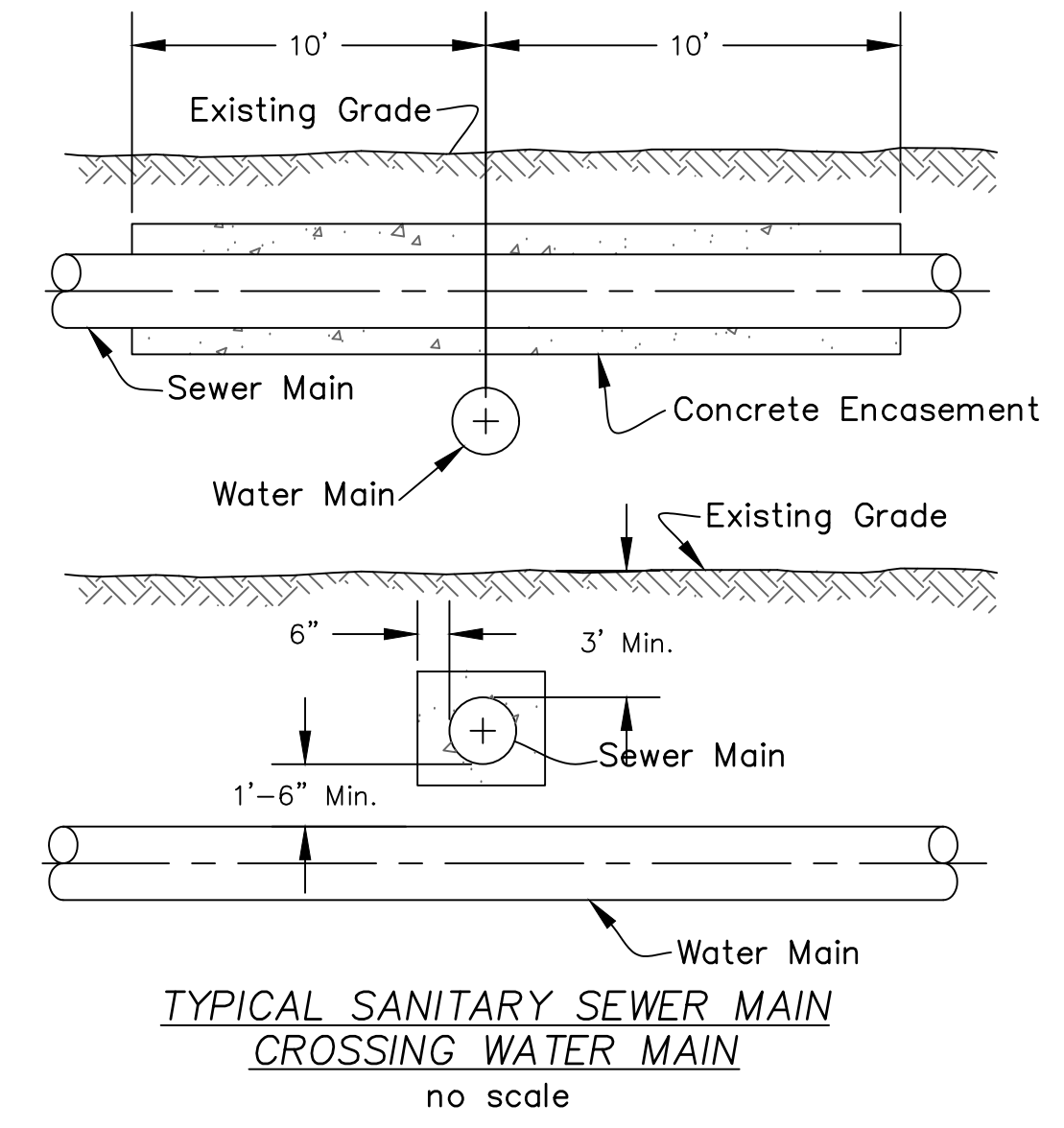
**TYPICAL FIRE HYDRANT INSTALLATION END OF MAIN**  
 no scale



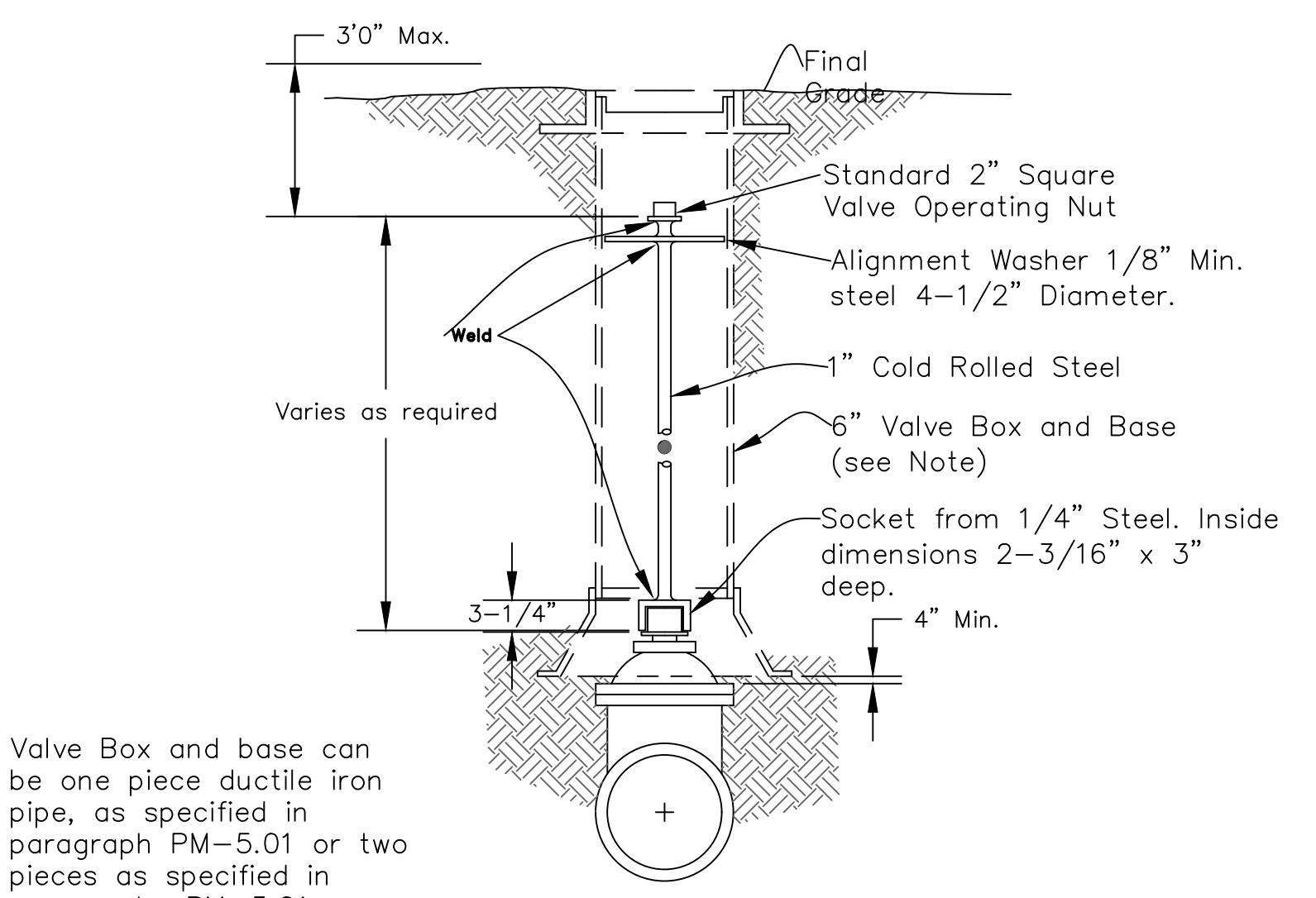
**NIGHT PLUG FOR PIPE**  
 no scale



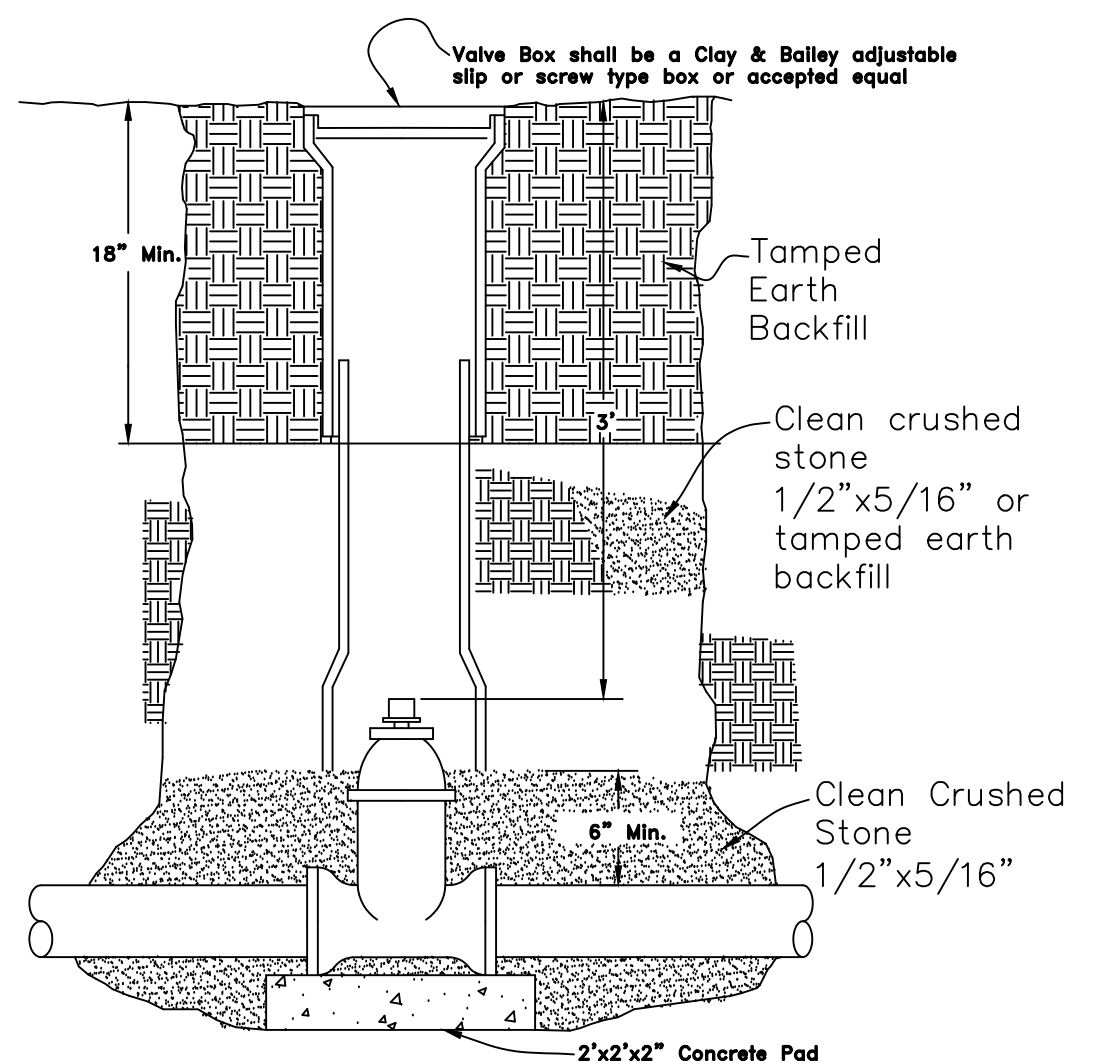
**TYPICAL HYDRANT PIPING LAYOUT**  
 no scale



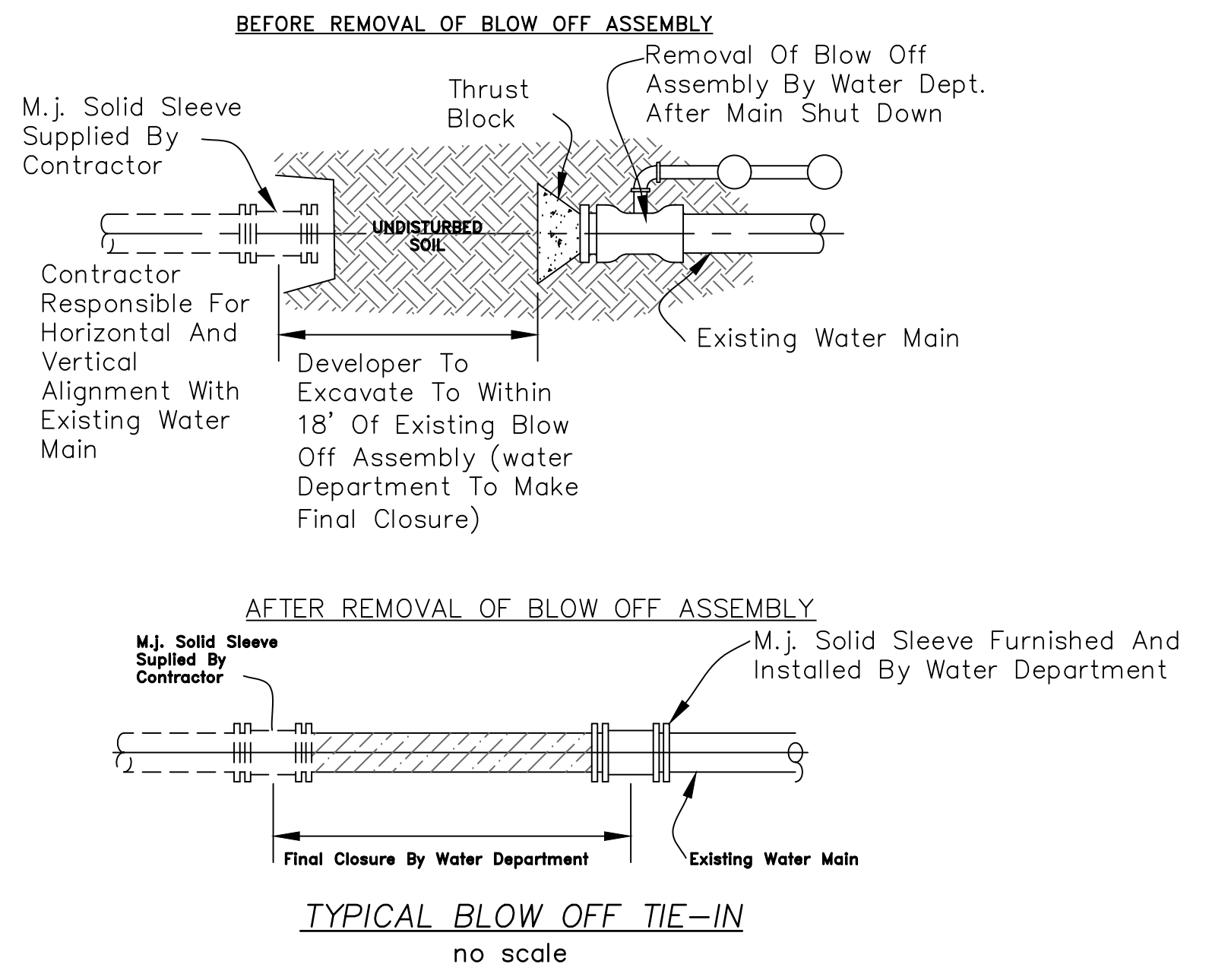
**TYPICAL SANITARY SEWER MAIN CROSSING WATER MAIN**  
 no scale



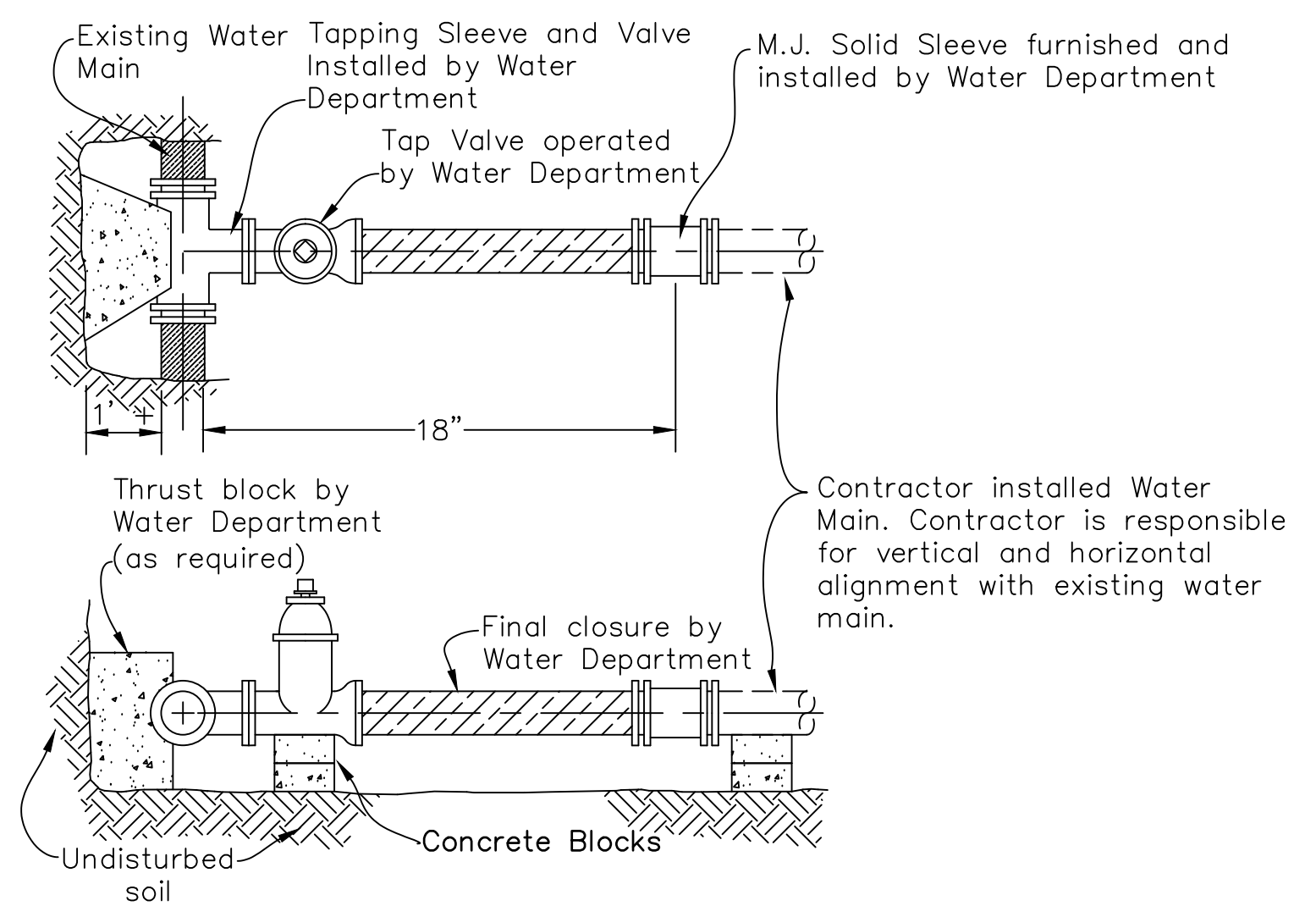
**TYPICAL VALVE STEM EXTENSION**  
 no scale



**TYPICAL VALVE INSTALLATION**  
 no scale



**TYPICAL BLOW OFF TIE-IN**  
 no scale



**TYPICAL TAPPING SLEEVE CONNECTION**  
 no scale

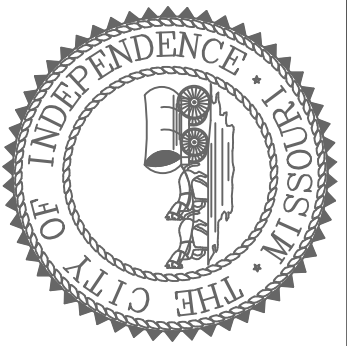


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REVISIONS

ENGINEERING SERVICES FOR  
 BLUE LAWN SUBDIVISION  
 STORM DRAINAGE IMPROVEMENT PROJECTS  
 WATERLINE DETAILS

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 CHECKED BY BMJ  
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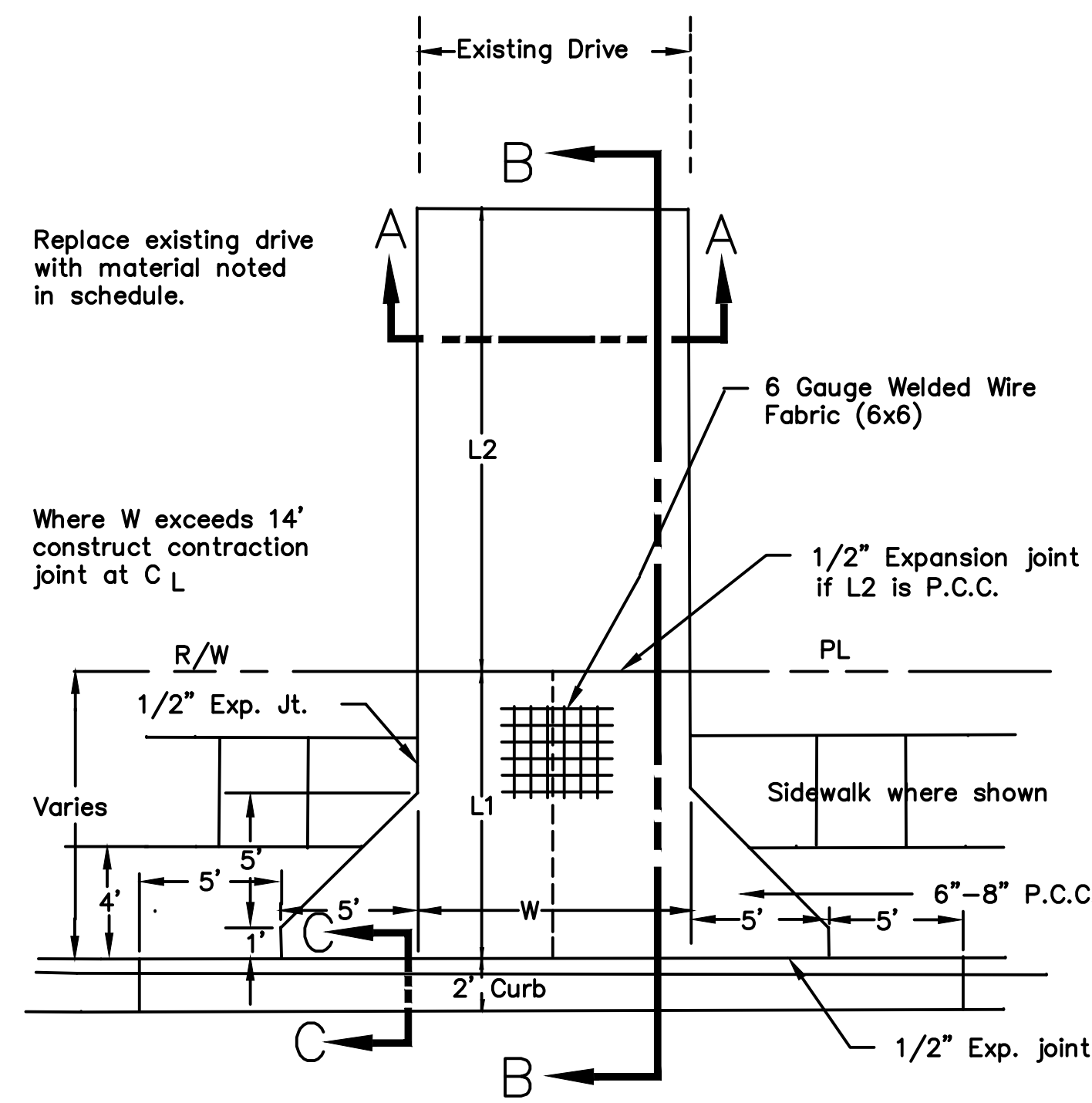
SURVEY BOOK NO.  
 FILE NAME  
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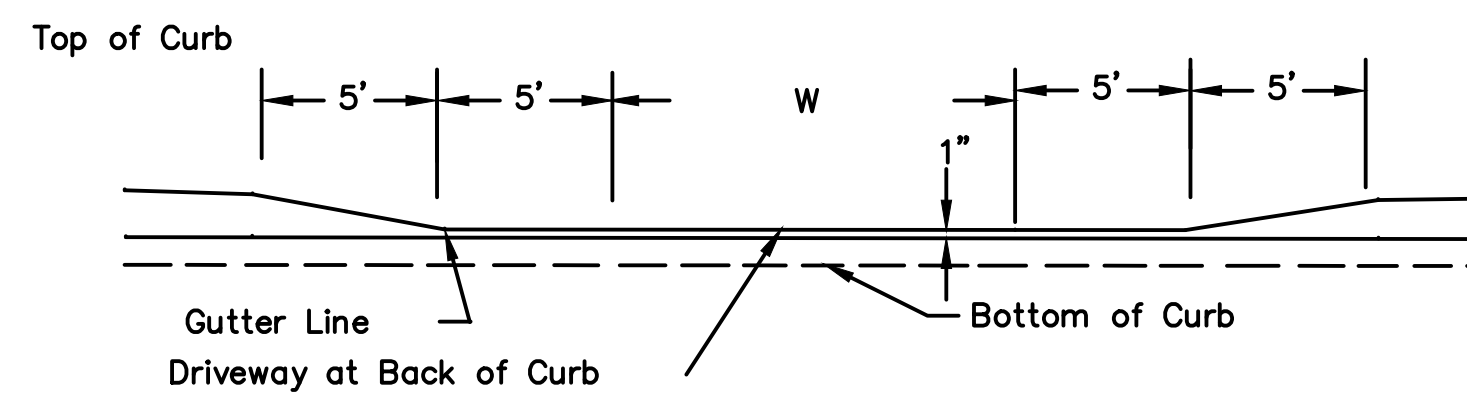
# DRIVEWAY DETAILS

DRIVEWAY SCHEDULE		
PARCEL #	ADDRESS	6" CONCRETE (SY)
4	9616 E. 31ST ST.	27
5	9620 E. 31ST ST.	22
8	9607 E. 31ST ST.	28
15	9614 E. 32ND ST.	18
18	3138 S. OVERTON AVE.	20
19	9800 E. 32ND ST.	22
20	9804 E. 32ND ST.	21
22	9605 E. 32ND ST.	39
23	9607 E. 32ND ST.	63
24	9609 E. 32ND ST.	93
26	9627 E. 32ND ST.	34
27	3200 S. OVERTON AVE.	32

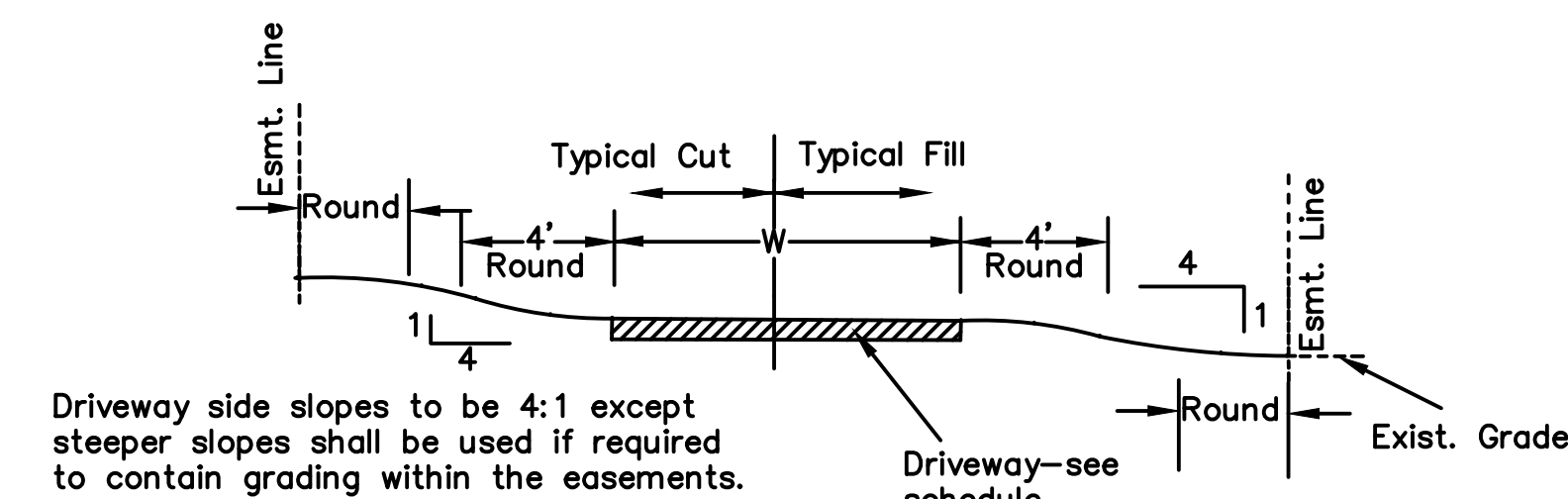
Need to add the full schedule (including the L1, L2 lengths).



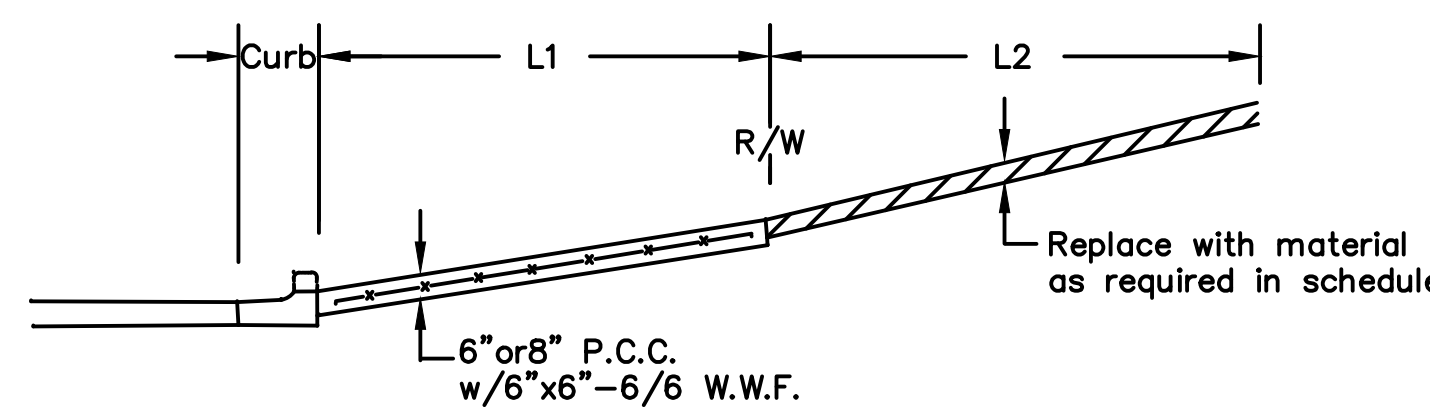
Typical Driveway Plan (Residential)  
1" = 5'



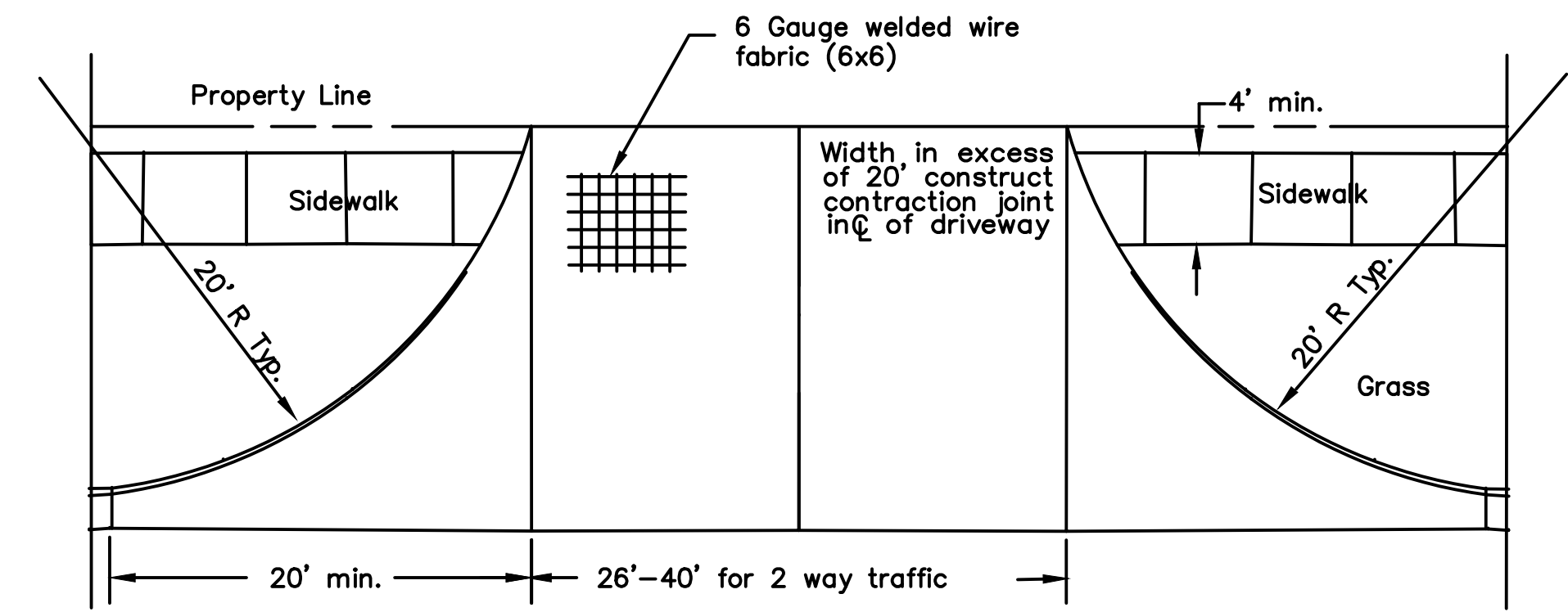
Typical Driveway Elevation  
1" = 5'



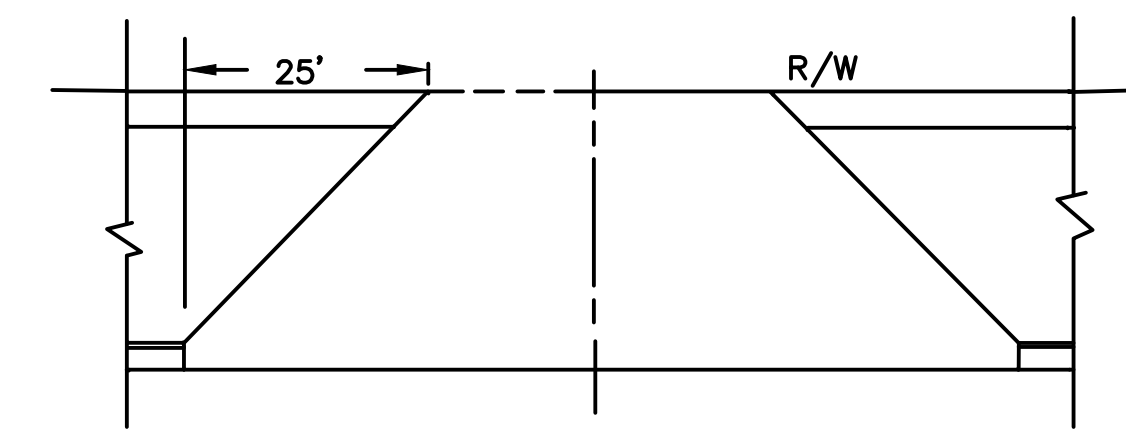
Section A-A  
1" = 5'



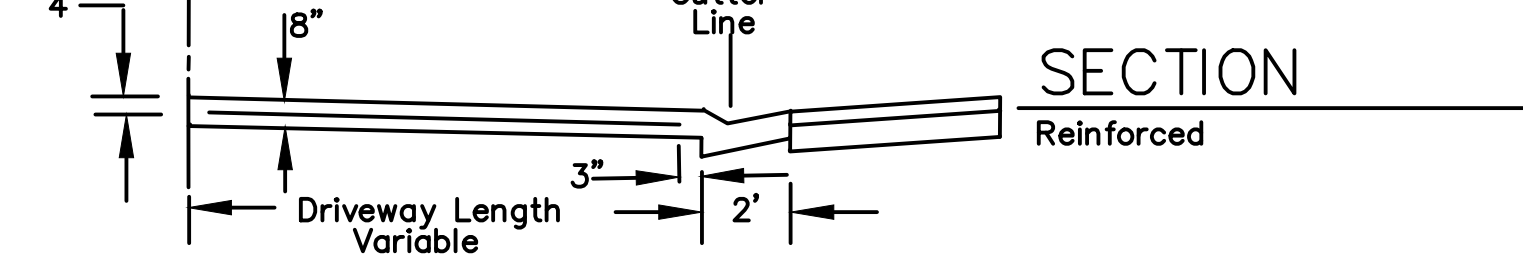
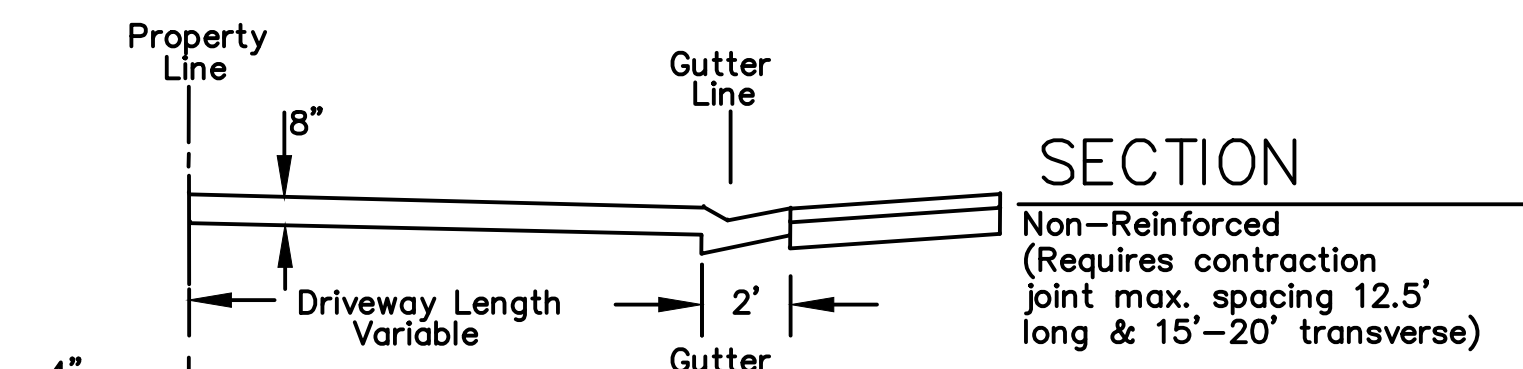
Section B-B  
1" = 5'



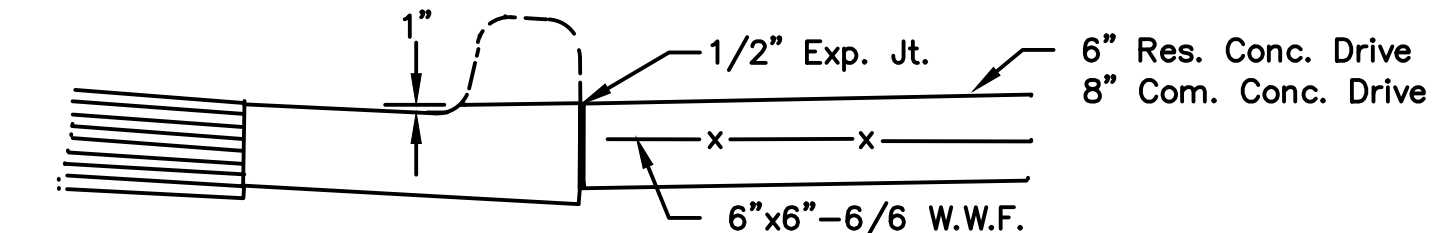
Typical Plan (Commercial)  
1" = 10'



Flare Detail  
N.T.S.



COMMERCIAL DRIVE DETAILS  
N.T.S.



Section C-C  
1" = 1'

REVISIONS

ENGINEERING SERVICES FOR  
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STORM DRAINAGE IMPROVEMENT PROJECTS  
DRIVEWAY DETAILS

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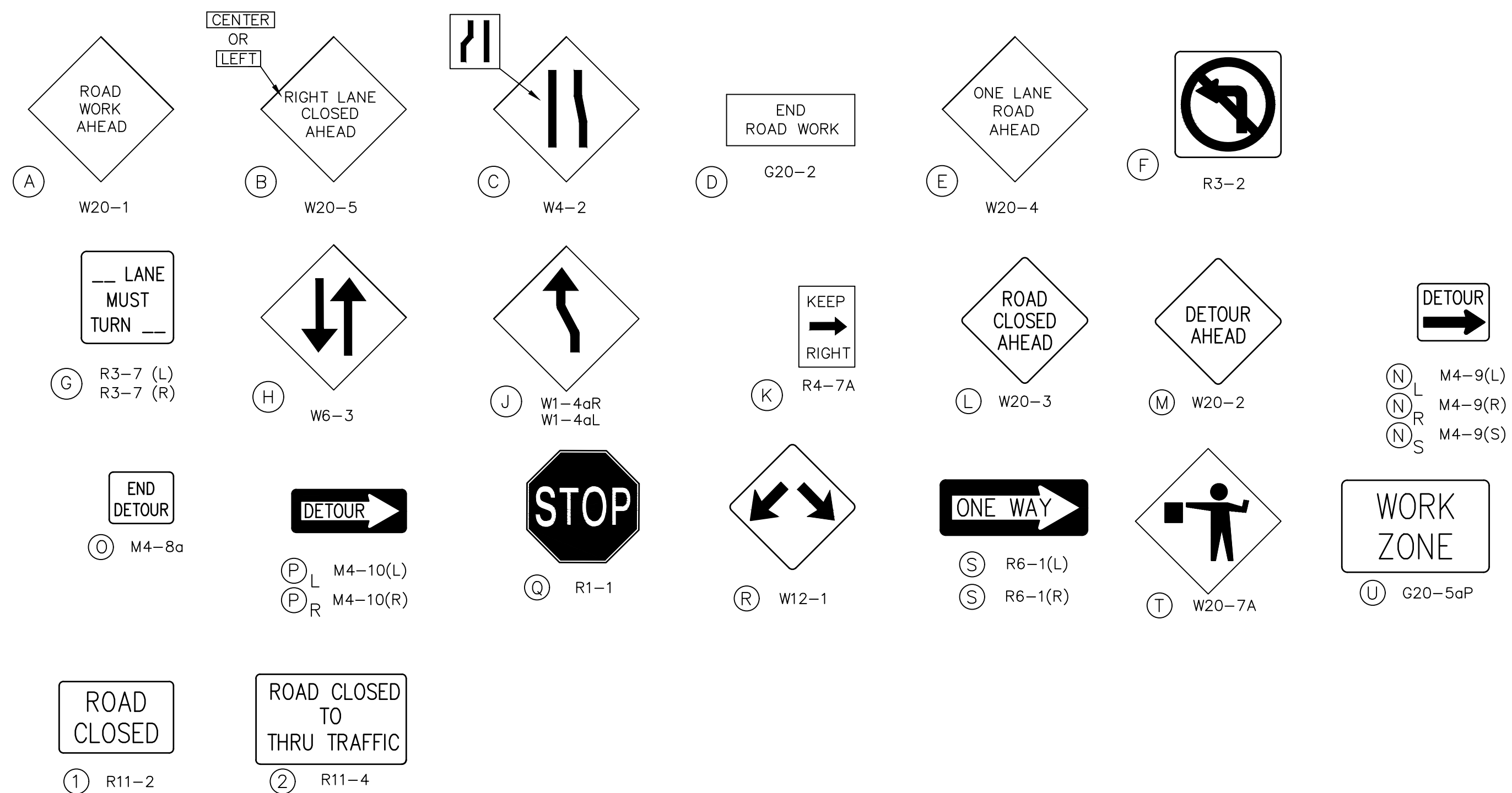
DATE: 08.09.2018  
DESIGNED BY: BMJ  
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DRAWN BY: JDA

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FILE NAME  
SHEET

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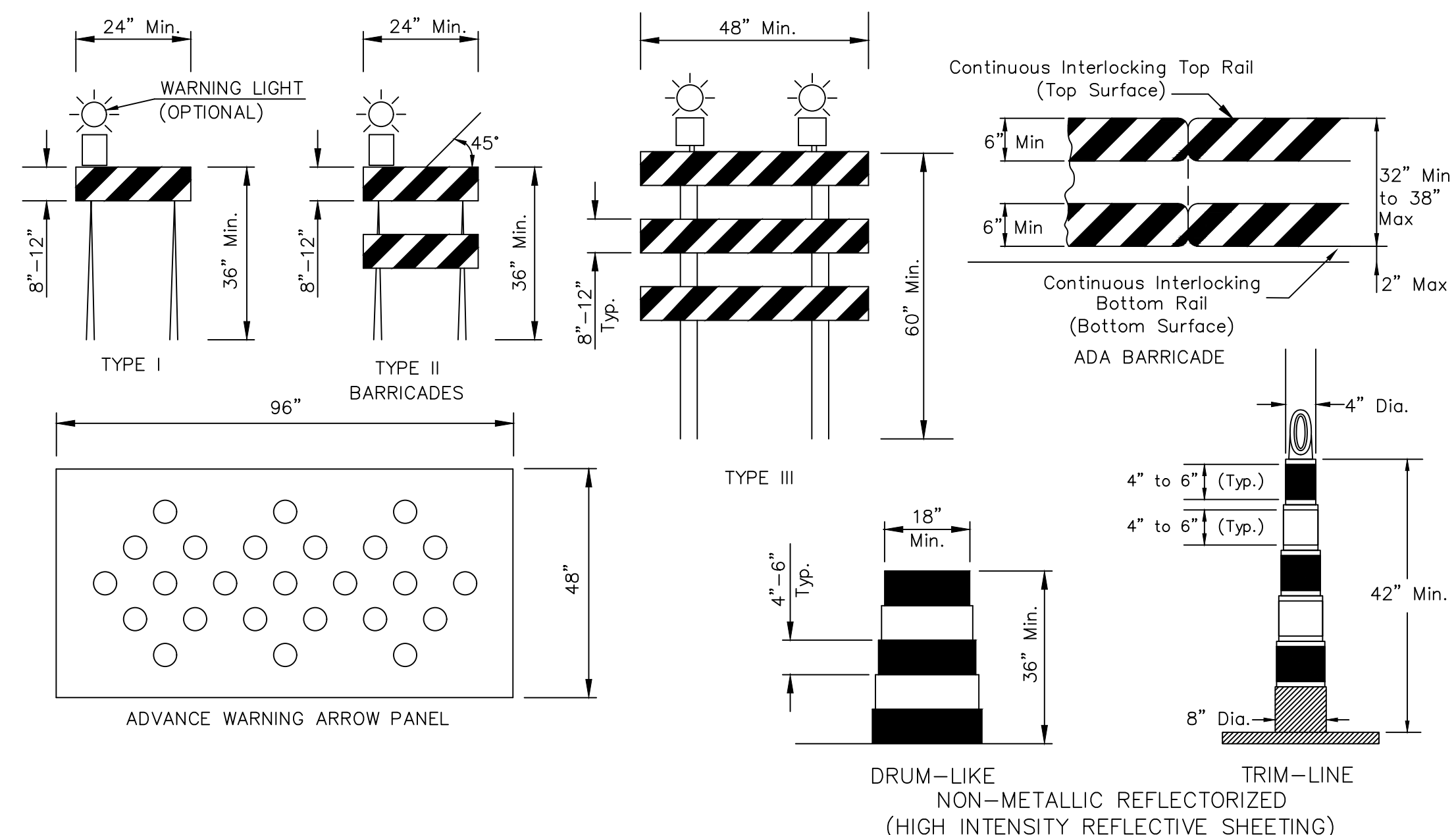


**SIGN LEGEND**



**GENERAL NOTES:**

- All signs, barricades, drums, markings and other traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (M.U.T.C.D.), most current edition.
- All traffic control devices shall be standard in size, shape, color and message, in good condition, and reflectorized. All signs and barricades in place at night shall be reflectorized with high intensity sheeting. All signs shall be securely mounted with height and lateral location as described in the M.U.T.C.D.
- Warning lights should be used on all channelization devices and warning signs per M.U.T.C.D. Type A Low-Intensity Flashing Warning lights should be mounted on warning signs as well as barricades where used singly to warn users of potentially hazardous areas during nighttime hours. Type B High-Intensity Flashing warning lights should be used during day and nighttime operations to increase awareness of potentially hazardous areas. Type C Steady-Burn lights should be mounted on barricades where used in series to delineate the edge of the travel way.
- Advance Warning Arrow Panels shall be used for all lane closures on multi-lane streets but should not be used in lieu of proper traffic control signs, barricades and channelization devices.
- Flagger shall be used where indicated on the plans, where construction vehicles interact with normal traffic or where construction activities impose a restriction on traffic, as directed by the Engineer in charge of construction. Where flaggers are used, advance signing shall be erected as shown above or as specified in the M.U.T.C.D. Flagger shall meet the requirements in the M.U.T.C.D. in regard to character, training, attire and behavior.
- Channelization devices used in the street shall be either drums, cones or Trimline channelizers.
- Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
- The Contractor shall place as many barricades as needed to effectively shield pedestrians and traffic from exposed objects, excavations and construction activities. ADA Pedestrian Barricades shall be installed around all excavations left open during non-construction times or as directed by the Engineer in charge of construction.
- Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
- Construction materials shall be kept off of sidewalks, consolidated in one location within City Right-Of-Way, and removed daily unless otherwise approved by the Engineer in charge of construction.
- Dirt, mud and other construction debris on streets and sidewalks shall be removed immediately.
- The Contractor shall not perform any work that will restrict traffic in any way between the hours of 7:00 a.m. and 8:30 a.m. or 4:30 p.m. and 6:00 p.m. unless prior approval has been given.
- The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
- The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of motorist, pedestrians, and workers at all times. Any additional quantities of traffic control devices necessary to complete the contract or as ordered by the Engineer shall be considered subsidiary to the contract bid price.
- Construction vehicles parked along streets and construction signs shall not restrict sight distance for vehicles exiting at streets or any drives.
- Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the Engineer or representative, the City/Controlling Jurisdiction may take one or more of the following actions:
  - Employ another agency to correct deficiencies in signing or warning devices and deduct the cost from the contractor's pay estimate
  - Suspend all pay Estimates until deficiencies are corrected.
  - Stop the work until deficiencies are corrected.
  - Place the contractor in default.
- The Contractor shall keep roadway closures due to construction activities to a minimum and provide advanced notice to affected users.
- The Contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.
- The Contractor should, at the request of the Engineer, place reduced speed limit signing and work zone speed limit signing in advance of all active work zone areas. Work zone speed limit reduction shall not be greater than 10 mph throughout construction areas without advanced signing in place. Contractor shall cover or replace all speed limit signs in conflict with the work zone speed limit throughout the construction area.



Guidelines for length of longitudinal buffer space (B)

Speed* (mph)	Length (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	300

MAXIMUM CHANNELIZATION SPACING IN FEET \*

Speed Limit M.P.H.	Spacing (Feet)	
	Along Taper	After Taper
20	20	40
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90
50	50	100
55	55	100

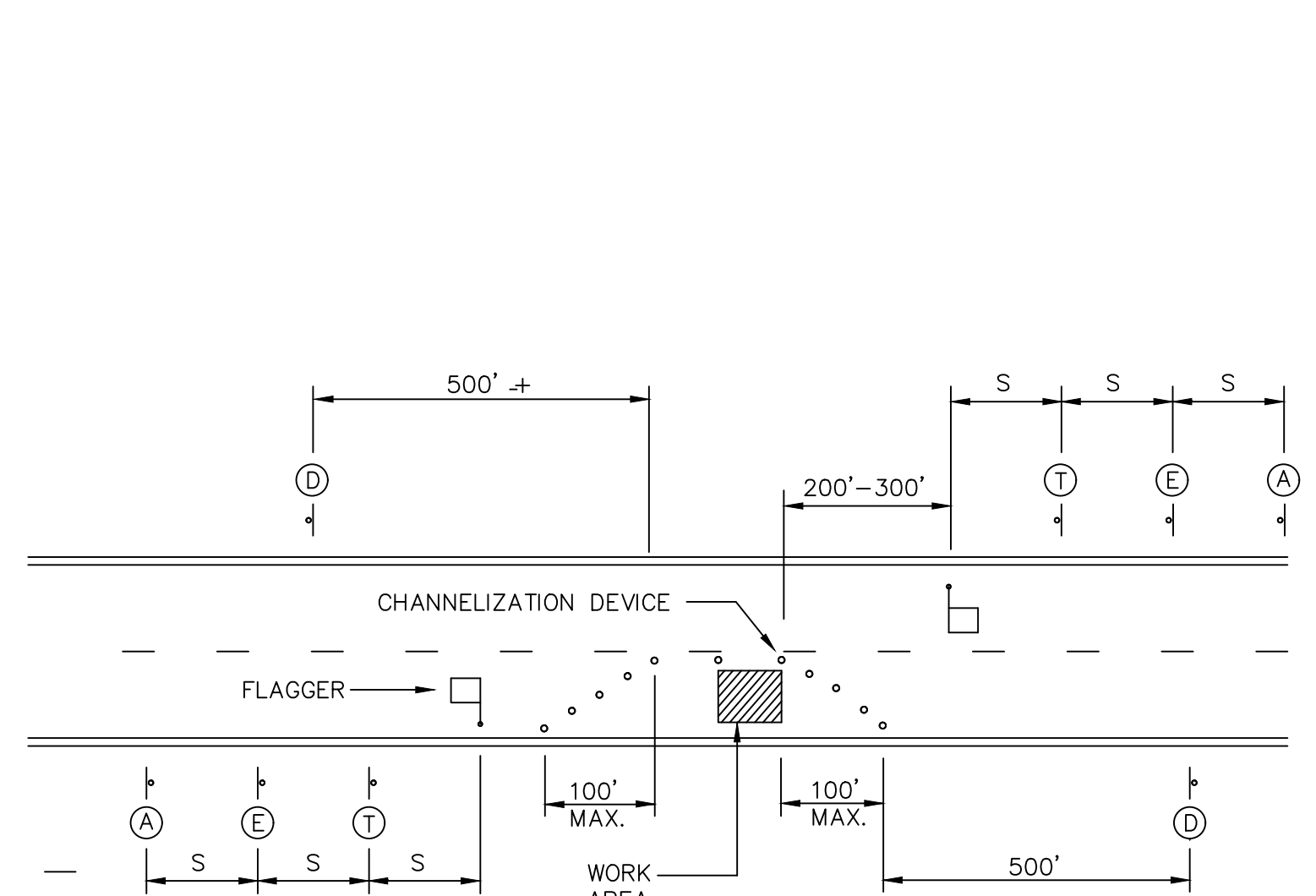
TAPER DETAIL

Speed Limit M.P.H.	Minimum Taper Length (L)			Minimum Number of Channelizing Devices for Taper
	Lane Width (W)			
	10	11	12	
20	70	75	80	5
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13
50	500	550	600	13
55	550	605	660	13

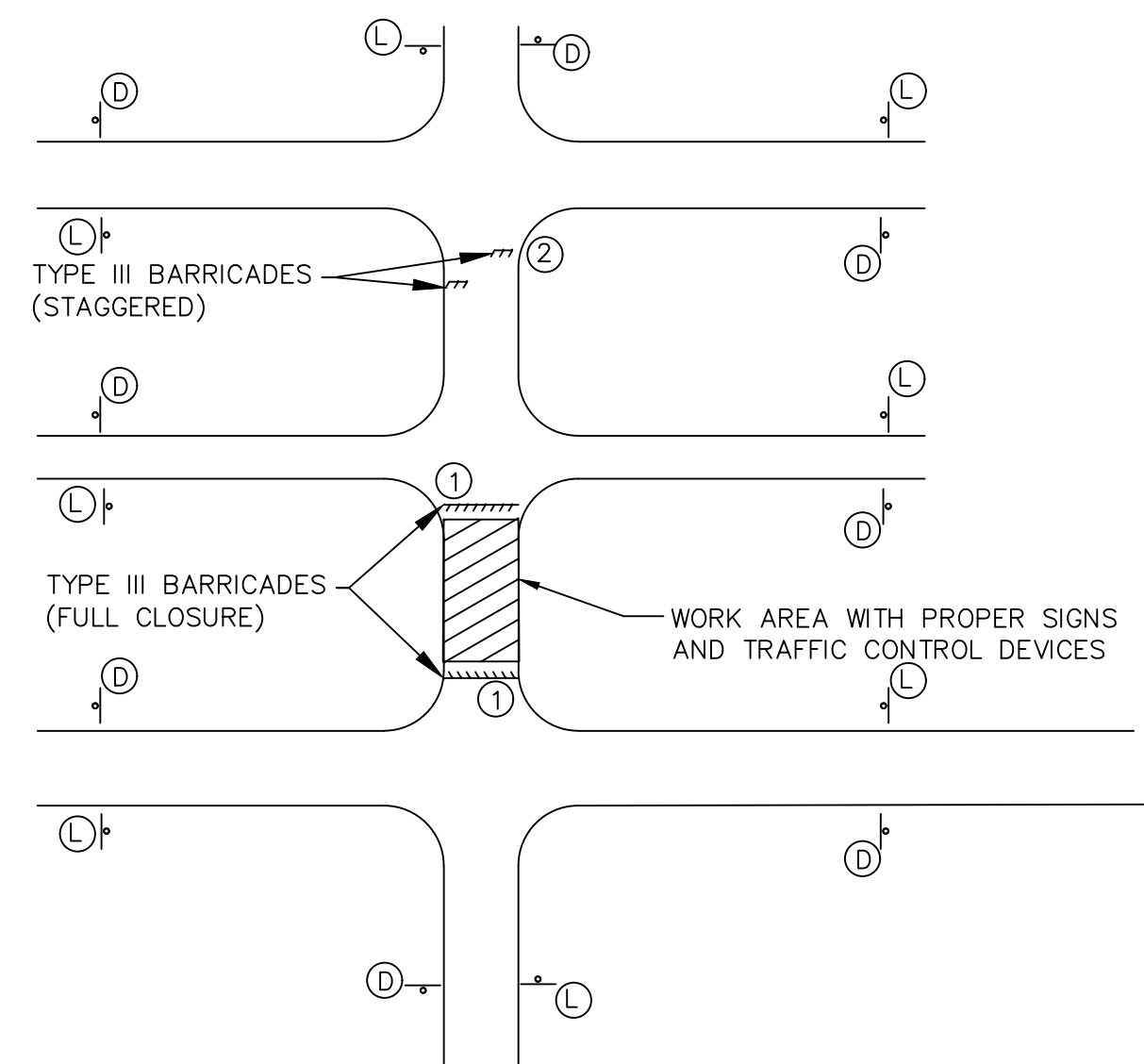
SIGN SPACING(S)

Speed Limit M.P.H.	Spacing (Feet)
≤ 30	100
35 - 45	350
≥ 55	500

\* The maximum distance in feet between devices in a taper should not exceed 1.0 times the speed limit in MPH.



DETAIL 1: TYPICAL CLOSURE - TWO-LANE STREET



DETAIL 4: TYPICAL SIDE ROAD SIGNING FOR ROAD CLOSURE

REVISIONS

ENGINEERING SERVICES FOR  
BLUE LAWN SUBDIVISION  
STORM DRAINAGE IMPROVEMENT PROJECTS  
TRAFFIC CONTROL DETAILS

**CITY OF INDEPENDENCE**  
WATER POLLUTION CONTROL DEPARTMENT  
14909 E. Truman Road Independence, MO 64051  
PHONE: (816) 325-7724



DATE: 08.09.2018  
DESIGNED BY: BMJ  
CHECKED BY: BMJ  
DRAWN BY: JDA

SURVEY BOOK NO.  
FILE NAME  
SHEET



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