

# NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT

## SOUTH SYSTEM IMPROVEMENTS

### SAN JOAQUIN COUNTY



DATE SIGNED: \_\_\_\_\_

**BID SET  
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11/2/2022**

NO.	REVISION	DATE



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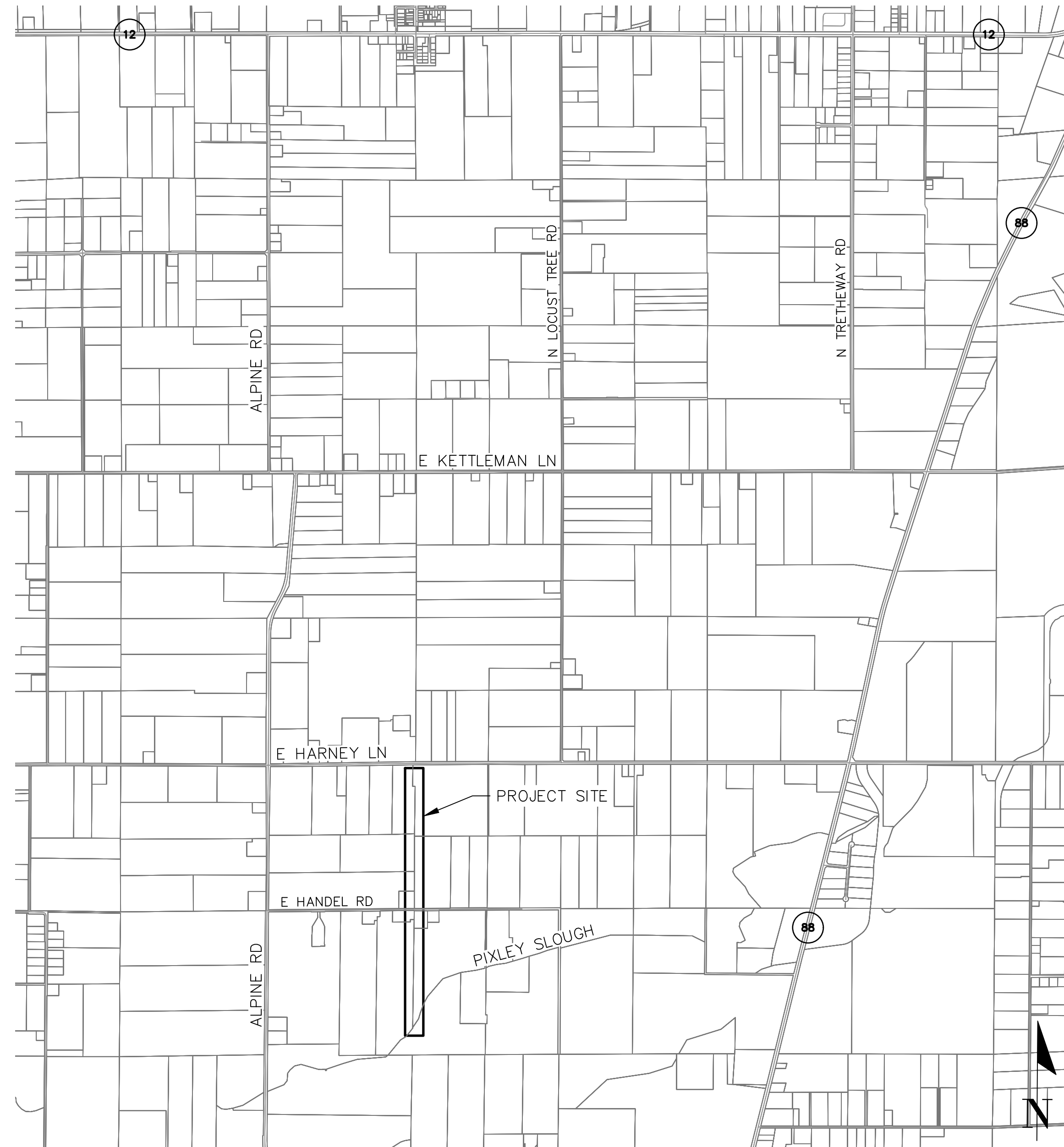
**GENERAL  
COVER**

SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

PROJECT:	22-01
DRAWN BY:	GJ
CHECKED BY:	DD
DATE:	11/2/2022

SHEET  
**1** OF **10**

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**VICINITY MAP**  
NOT TO SCALE

**GENERAL NOTES**

- 1: NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT (NSJWCD) SHALL BE CONTACTED AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK ON OR NEAR EXISTING DISTRICT FACILITIES.
- 2: USED MATERIAL, REJECTS, MISFITS, SECONDS, ETC. ARE NOT ACCEPTABLE FOR USE.
- 3: ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THESE PLANS AND PROJECT SPECIFICATIONS.
- 4: CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING FACILITIES PRIOR TO COMMENCING WORK. CALL UNDERGROUND SERVICE ALERT (USA) AT 8-1-1. CONTRACTOR SHALL MAKE ENGINEER AWARE OF ANY DISCREPANCIES. WHERE UNDERGROUND AND SURFACE STRUCTURES ARE SHOWN ON THE PLANS, THE LOCATIONS, DEPTH AND DIMENSIONS OF STRUCTURES ARE BELIEVED TO BE REASONABLY CORRECT, BUT ARE NOT GUARANTEED. SUCH STRUCTURES ARE SHOWN FOR THE INFORMATION OF THE CONTRACTOR, BUT INFORMATION SO GIVEN IS NOT TO BE CONSTRUED AS A REPRESENTATION THAT SUCH STRUCTURES WILL, IN ALL CASES, BE FOUND WHERE SHOWN, OR THAT THEY REPRESENT ALL OF THE STRUCTURES WHICH MAY BE ENCOUNTERED.
- 5: CONCRETE DESIGN MIX SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ALL CONCRETE SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI UNLESS OTHERWISE SPECIFIED.
- 6: TRENCH BACKFILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION UNLESS OTHERWISE NOTED IN THESE PLANS.
- 7: ALL STEEL PIPE AND FITTINGS SHALL BE FURNISHED WITH A SHOP APPLIED HIGH SOLIDS EPOXY COATING ON THE INTERIOR AND EXTERIOR, UNLESS OTHERWISE INDICATED. ALL OTHER EXPOSED STEEL SHALL BE PAINTED WITH A PRE-TREATMENT PRIMER, AN UNDERCOAT, AND A FINAL COAT OF PAINT IN ACCORDANCE WITH THESE PLANS.
- 8: ALL NUTS, BOLTS, AND WASHERS USED TO SECURE UNDERGROUND FITTINGS SHALL BE STAINLESS STEEL. AFTER INSTALLATION, ALL STEEL HARDWARE SHALL BE COATED WITH A RUST PREVENTATIVE, WRAPPED WITH 4 MIL POLYETHYLENE SHEETING, AND SECURED WITH PVC TAPE.
- 9: THRUST RESTRAINTS TO BE PROVIDED AT ALL PIPELINE BENDS, WHETHER OR NOT SHOWN ON THE PLANS.
- 10: ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS OF THE STATE OF CALIFORNIA AND CAL/OSHA STANDARDS.
- 11: CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ALL PIPELINE CRACKS, WHICH DEVELOP DURING CONSTRUCTION OF IMPROVEMENTS AFFECTING EXISTING FACILITIES.
- 12: ALL EXCESS MATERIAL AND/OR DEBRIS SHALL BE REMOVED UPON COMPLETION OF INSTALLATION.
- 13: CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE DUST CONTROL AT ALL TIMES.

**SITE SAFETY AND PROTECTION NOTES**

- 1: THE DUTY OF THE ENGINEER, OWNER OR ITS AGENTS TO CONDUCT CONSTRUCTION OF THE CONTRACTOR'S PERFORMANCE AND THE UNDERTAKING OF INSPECTIONS OR THE GIVING OF INSTRUCTIONS AS AUTHORIZED HEREIN IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE AND SHALL NO BE CONSTRUED AS SUPERVISION OF THE ACTUAL CONSTRUCTION NOR MAKE THE ENGINEER, OWNER OR ITS AGENTS RESPONSIBLE FOR PROVIDING A SAFE PLACE FOR THE PERFORMANCE OF WORK BY THE CONTRACTOR, SUBCONTRACTORS, OR SUPPLIERS, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL OR OCCUPANCY BY ANY PERSON.
- 2: THE CONTRACTOR SHALL HAVE AT THE WORK SITE, COPIES OR SUITABLE EXTRACTS OF CONSTRUCTION SAFETY ORDERS, ISSUED BY CAL-OSHA. CONTRACTOR SHALL COMPLY WITH PROVISIONS OF THESE AND ALL OTHER APPLICABLE LAWS, ORDINANCES AND REGULATIONS. THE CONTRACTOR MUST COMPLY WITH PROVISIONS OF THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, PROMULGATED BY THE SECRETARY OF LABOR UNDER SECTION 107 OF THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, AS SET FORTH IN TITLE 29 C.F.R.
- 3: TO PROTECT THE LIVES AND HEALTH OF CONTRACTOR'S EMPLOYEES UNDER THE CONTRACT, THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC., AND SHALL MAINTAIN AN ACCURATE RECORD OF ALL CASES OF DEATH, OCCUPATIONAL DISEASE, AND INJURY REQUIRING MEDICAL ATTENTION OR CAUSING LOSS OF TIME FROM WORK, ARISING OUT OF AND IN THE COURSE OF EMPLOYMENT OR WORK UNDER THE CONTRACT.
- 4: THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR THE SAFETY, EFFICIENCY, AND ADEQUACY OF CONTRACTOR'S FACILITIES, APPLIANCES, AND METHODS AND FOR ANY DAMAGE, WHICH MAY RESULT FROM THEIR FAILURE OR THEIR IMPROPER CONSTRUCTION, MAINTENANCE, OR OPERATION.
- 5: THE CONTRACTOR AGREES THAT IT SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER, ENGINEER, AND THEIR RESPECTIVE AGENTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF OWNER, ENGINEER, OR THEIR RESPECTIVE AGENTS.
- 6: THE OWNER AND ITS AGENTS' SITE RESPONSIBILITIES ARE LIMITED SOLELY TO THE ACTIVITIES OF THEIR EMPLOYEES ON SITE. THE RESPONSIBILITIES SHALL NOT BE INFERRED BY ANY PARTY TO MEAN THAT THE OWNER OR ITS AGENTS HAVE RESPONSIBILITY FOR SITE SAFETY, SAFETY IN, ON, OR ABOUT THE SITE IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR ALONE. THE CONTRACTOR'S METHODS OF WORK PERFORMANCE, SUPERINTENDENCE, AND THE CONTRACTOR'S EMPLOYEES, AND SEQUENCING OF CONSTRUCTION ARE ALSO THE SOLE AND EXCLUSIVE RESPONSIBILITIES OF THE CONTRACTOR ALONE.

UNDERGROUND FACILITIES:

- A. **SHOWN AND INDICATED:** THE INFORMATION AND DATA SHOWN OR INDICATED IN THE CONTRACT DOCUMENTS WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS BASED ON INFORMATION AND DATA FURNISHED TO OWNER OR ENGINEER BY THE OWNERS OF SUCH UNDERGROUND FACILITIES, INCLUDING OWNER, OR BY OTHERS.
- OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SUCH INFORMATION OR DATA; AND
  - THE COST OF ALL OF THE FOLLOWING WILL BE INCLUDED IN THE CONTRACT PRICE, AND CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR:
    - REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA,
    - LOCATING ALL UNDERGROUND FACILITIES SHOWN OR INDICATED IN THE CONTRACT DOCUMENTS,
    - COORDINATION OF THE WORK WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES, INCLUDING OWNER, DURING CONSTRUCTION, AND
    - THE SAFETY AND PROTECTION OF ALL SUCH UNDERGROUND FACILITIES AND REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK.
- B. **NOT SHOWN OR INDICATED:** IF ANY UNDERGROUND FACILITY IS UNCOVERED OR REVELED AT OR CONTIGUOUS TO THE SITE WHICH WAS NOT SHOWN OR INDICATED WITH REASONABLE ACCURACY THE CONTRACTOR SHALL:
- DEVELOP AND EXECUTE A WORK-PLAN, SUBJECT TO ENGINEER'S APPROVAL TO PROTECT UNDERGROUND FACILITIES.
  - EXPOSE, PRIOR TO STAKING AND TRENCHING, ALL EXISTING UTILITIES AND EXISTING FACILITIES WHICH MAY CONTROL PROPOSED FACILITY GRADES, AND ALIGNMENT. TWO WORKING DAYS NOTICE SHALL BE GIVEN TO THE ENGINEER PRIOR TO COMMENCING THIS WORK.
  - FULL COMPENSATION FOR ALL COSTS INVOLVED IN LOCATION, VERIFYING, PROTECTING, EXPOSING, AND OTHERWISE PROVIDING FOR UTILITIES SHALL BE INCLUDED IN THE AMOUNTS BID FOR THE VARIOUS ITEMS OF WORK, AND NO SEPARATE PAYMENT SHALL BE MADE THEREFORE.

DISPOSAL OF MATERIALS

- A. GENERAL
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP AND DISPOSAL OF WASTE MATERIALS AND RUBBISH. THE DISPOSAL OF WASTE MATERIALS AND RUBBISH SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, AND WITH THE REQUIREMENTS OF THIS PARAGRAPH. SHOULD A CONFLICT EXIST IN THE REQUIREMENT FOR CLEANUP AND DISPOSAL OF WASTE MATERIALS, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
  - THE CONTRACTOR SHALL KEEP RECORDS OF THE TYPES AND AMOUNTS OF WASTE MATERIALS PRODUCED, AND OF THE DISPOSAL OF ALL WASTE MATERIALS ON OR OFF THE JOBSITE.
  - THE COST OF DISPOSING OF WASTE MATERIALS OTHER THAN UNSUITABLE MATERIALS SHALL BE INCLUDED IN THE PRICES BID IN THE SCHEDULE FOR OTHER ITEMS OF WORK.
- B. DISPOSAL OF EXCAVATED MATERIAL
- ALL EXCESS EXCAVATED MATERIAL SHALL BE HAULED OFF SITE TO A LOCATION SELECTED BY THE CONTRACTOR.
  - ALL UNSUITABLE MATERIAL SHALL BE HAULED OFF-SITE AND PROPERLY DISPOSED.
- C. DISPOSAL OF CONCRETE AND A.C. SURFACING
- ALL CONCRETE AND A.C. PAVEMENT REMOVED FROM THE PROJECT SITE SHALL BE DISPOSED OF AT A SITE OBTAINED BY THE CONTRACTOR. NO RECYCLABLE MATERIAL SHALL BE DISPOSED OF AT ANY LANDFILL. ALL DISPOSABLE RECYCLABLE MATERIALS SHALL BE DISPOSED IN A MANNER THAT FACILITATES RECYCLING, PAYMENT FOR DISPOSAL, INCLUDING ALL COSTS OF HAULING, SHALL BE INCLUDED IN THE PRICES BID IN THE SCHEDULE FOR OTHER ITEMS OF WORK.
- D. DISPOSAL OF OTHER DEBRIS
- ALL OIL CAKE, WOOD DEBRIS, STRUCTURE DEMOLITION, VEGETATION AND ANY OTHER DEBRIS REMOVED FROM THE PROJECT SITE SHALL BE LEGALLY DISPOSED OF AT A SITE(S) OBTAINED BY THE CONTRACTOR. DISPOSAL SITE(S) SHALL BE PROPERLY LICENSED AND PERMITTED FACILITY PURSUANT TO STATE AND LOCAL REGULATION FOR PURPOSES OF ACCEPTING DELIVERY OF THE RESPECTIVE MATERIALS.
- E. DISPOSAL OF HAZARDOUS WASTE AND MATERIALS
- MATERIALS OR WASTES, DEFINED AS HAZARDOUS BY 40 CFR 261.3, OR BY OTHER FEDERAL, STATE, OR LOCAL LAWS OR REGULATIONS, USED BY THE CONTRACTOR OR DISCOVERED IN WORK OR STORAGE AREAS, SHALL BE DISPOSED OF IN ACCORDANCE WITH THESE SPECIFICATIONS, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. UNKNOWN WASTE MATERIALS THAT MAY BE HAZARDOUS SHALL BE TESTED, AND THE TEST RESULTS SHALL BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW.
  - WASTE MATERIALS DISCOVERED AT THE CONSTRUCTION SITE SHALL IMMEDIATELY BE REPORTED TO THE OWNER'S REPRESENTATIVE. IF THE WASTE MAY BE HAZARDOUS, THE OWNER'S REPRESENTATIVE MAY ORDER DELAYS IN THE TIME OF PERFORMANCE OR CHANGES IN THE WORK, OR BOTH. IF SUCH DELAYS OR CHANGES ARE ORDERED, AND EQUITABLE ADJUSTMENT WILL BE MADE IN THE CONTRACT IN ACCORDANCE WITH THE APPLICABLE CLAUSES OF THE CONTRACT.
- F. CLEANUP
- THE CONTRACTOR SHALL KEEP WORK AND STORAGE AREAS FREE FROM ACCUMULATION OF WASTE MATERIALS AND RUBBISH, AND BEFORE COMPLETING THE WORK, SHALL REMOVE ALL PLANT FACILITIES, BUILDING, INCLUDING CONCRETE FOOTINGS AND SLABS, RUBBISH, UNUSED MATERIALS, CONCRETE FORMS, AND OTHER LIKE MATERIALS, WHICH ARE NOT A PART OF THE PERMANENT WORK.
  - UPON COMPLETION OF THE WORK AND FOLLOWING REMOVAL OF CONSTRUCTION FACILITIES AND REQUIRED CLEAN UP, WORK AREAS SHALL BE REGRADED AND LEFT IN A NEAT MANNER CONFORMING TO THE NATURAL APPEARANCE OF THE LANDSCAPE.

CONCRETE FORMWORK

- A. FORM CONSTRUCTION
- BUILD FORMS TO EXACT SHAPES, SIZES, LINES, AND DIMENSIONS AS REQUIRED TO OBTAIN ACCURATE ALIGNMENT, LOCATION AND GRADES, AND LEVEL AND PLUMB WORK IN FINISHED STRUCTURES. PROVIDE FOR OPENINGS, OFFSETS, KEYWAYS, RECESSES, MOLDINGS, CHAMFERS, BLOCKING, JOINT SCREEDS, BULKHEADS, ANCHORAGES, AND OTHER REQUIRED FEATURES. MAKE FORMS EASILY REMOVABLE WITHOUT HAMMERING OR PRYING AGAINST CONCRETE. USE APPROVED METAL SPREADER TO PROVIDE ACCURATE SPREADING OF FORMS. CONSTRUCT FORMS SO THAT NO SAGGING, LEAKAGE, OR DISPLACEMENT OCCURS DURING AND AFTER POURING OF CONCRETE. COAT FORMS WITH SPECIFIED COATING MATERIAL ONLY PRIOR TO PLACEMENT OF REINFORCEMENT STEEL; DO NOT ALLOW COATING TO CONTACT REINFORCING BARS.
  - FORM JOINTS AND HAND TIE HOLES. SEAL JOINTS BETWEEN FORM PANELS AND AROUND TIES UNLESS TIES FULLY SEAL TIE HOLES IN FORMS.
  - PROVIDE 3/8 INCH CHAMFERS AT ALL EXPOSED OUTSIDE CORNERS.
- B. FORM COATING
- FORM COATING COMPOUNDS SHALL BE BIODEGRADABLE, NON-GRAIN RAISING AND NON-STAINING RESIN OR POLYMER TYPE THAT WILL NOT LEAVE RESIDUAL MATTER ON SURFACE OF CONCRETE OR ADVERSELY AFFECT BONDING TO CONCRETE OF PAINT, PLASTER, MORTAR, PROTECTIVE COATINGS, WATERPROOFING, OR OTHER APPLIED MATERIALS.
- C. FORM TIES
- PROVIDE COMMERCIAL MANUFACTURES, PREFABRICATED ROD, SNAP-OFF, OR THREADED INTERNAL DISCONNECTING TYPE OF TENSILE STRENGTH TO RESIST ALL IMPOSED LOADS. USE ONLY TIES THAT LEAVE NO METAL WITHING 1-1/2-INCH OF CONCRETE SURFACE AFTER REMOVAL. EMPLOY SNAP-OFF TYPE TIES HAVING INTEGRAL WASHER SPREADERS OF DIAMETER TO FULLY CLOSE TIE HOLES IN FORMS.
- D. REMOVAL OF FORMS AND SHORING
- DO NOT REMOVE FORMS OR SHORING UNTIL CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO SUPPORT ITS OWN WEIGHT AND ALL IMPOSED CONSTRUCTION AND PERMANENT LOADS.
  - MINIMUM TIME BEFORE FORM REMOVAL FOR WALLS SHALL BE 48 HOURS.
  - ALL FORM MATERIALS, DURING STRIPPING OF FORMS BELOW FINISH GRADE, SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE APPROVED BY ENGINEER.
  - DO NOT IMPOSE CONSTRUCTION, EQUIPMENT, OR PERMANENT LOADS UNTIL CONCRETE HAS ATTAINED THE 28 DAY DESIGN COMPRESSIVE STRENGTH.

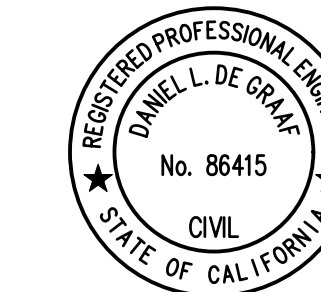
REINFORCING

- A. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 TYPE "S".
- B. PLACING
- CONCRETE COVERAGE OVER REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI 318 UNLESS OTHERWISE SHOWN ON THE DRAWINGS. MEASURE THE COVERAGE TO THE OUTER EDGE OF TIES, STIRRUPS, BAR SPACERS, HANGERS, AND LIKE ITEMS, AND DETAIL AND FABRICATE THE REINFORCING ACCORDINGLY.
  - ACCURATELY PLACE REINFORCEMENT AND SECURELY WIRE TIE IN PRECISE POSITION AT ALL POINTS WHERE BARS CROSS. TIE STIRRUPS TO BARS AT BOTH TOP AND BOTTOM. BEND ENDS OF BINDING WIRES INWARD, ALLOWING NO ENCRoACHMENT ON THE CONCRETE COVER; EXERCISE SPECIAL CARE AT SURFACES TO REMAIN EXPOSED AND UNPAINTED.
  - PROVIDE WIRED CONTACT LAP SPLICES UNLESS OTHERWISE INDICATED OR APPROVED. PROVIDE LAP LENGTHS AS SPECIFIED ON THE DRAWINGS.
- C. CAST IN PLACE CONCRETE
- A. CONCRETE
- CONCRETE SHALL CONFORM TO SECTION 90 OF THE STATE STANDARD SPECIFICATIONS. UNLESS OTHERWISE SHOWN OR SPECIFIED, ALL CONCRETE SHALL CONTAIN NOT LESS THAN 611 POUNDS OF PORTLAND CEMENT PER CUBIT YARD OF CONCRETE (6-1/2 SACK) WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
  - SLUMP AT PLACEMENT SHALL BE 4 INCHES.
- B. AGGREGATE
- AGGREGATE FOR NORMAL WEIGH CONCRETE SHALL CONFORM TO ASTM C-33. AGGREGATES SHALL BE FRE OF DIRT, CLAY BALLS, ROOTS, BARK AND OTHER DELETERIOUS SUBSTANCES AND SHALL BE THOROUGHLY WASHED BEFORE USE.
- C. WATER
- WATER SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF ACIDS, ALKALIS, SALTS, OILS, ORGANIC MATERIALS OR OTHER DELETERIOUS SUBSTANCES.
- D. PLACING
- ALL CONCRETE SHALL BE PLACED BEFORE IT HAS TAKEN ITS INITIAL SET AND BE PLACED IN HORIZONTAL LAYERS AND IN SUCH A MANNER AS TO AVOID SEGREGATION.
  - CONCRETE SHALL BE DEPOSITED AS NEARLY AS POSSIBLE IN ITS FINAL POSITION. DROP CHUTES AND ELEPHANT TRUNKS SHALL BE USED ON DROPS GREATER THAN 5 FEET. CONCRETE SHALL BE PLACED AT SUCH A RATE THAT ALL CONCRETE IN THE SAME LIFT WILL BE DEPOSITED ON PLASTIC CONCRETE. THE CONCRETE COMPRISING EACH UNIT OF WORK SHALL BE PLACED IN A CONTINUOUS LIFT.
  - THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS (1 WORKING DAY) PRIOR TO CONCRETE PLACEMENT.
    - FORM WORK AND REINFORCING STEEL PLACEMENT SHALL BE APPROVED BY THE ENGINEER PRIOR TO ORDERING CONCRETE.
- E. CONSTRUCTION JOINTS
- AT ENDS OF THE FIRST CONCRETE POUR, PROVIDE FORMS THAT POSITIVELY LOCATE ANY WATERSTOP. ENSURE THE END FORMS OF WALLS ARE REMOVABLE WITHOUT RELEASING THE SIDE FORMS. PROVIDE SEALS AROUND REINFORCEMENT AND WATER STOP TO PREVENT MORTAR LEAKS.
  - OVERLAP THE HARDENED CONCRETE OF THE FIRST POUR WITH FORMS FOR THE SECOND POUR. BRACE THE ENDS OF THE FORM AGAINST THE HARDENED CONCRETE TO PREVENT JOINT OFFSETS AND MORTAR LEAKAGE. ALIGN ANY EXTERIOR FEATURES REQUIRED ON THE FINISHED SURFACE.
  - PROVIDE JOINTS AS SHOWN ON THE DRAWINGS, AS REQUIRED FOR CONSTRUCTABILITY, AFTER FAVORABLE REVIEW OF LAYOUT, SEQUENCE AND CONCRETE PLACEMENT PROGRAM.
  - PROVIDE MINIMUM 2 DAYS CURE TIME BEFORE PLACEMENT OF SECOND POUR.
- RUBBER GASKETED REINFORCED CONCRETE PIPE (RGRCP)
- A. RGRCP SHALL CONFORM TO THE SPECIFICATION FOR REINFORCED CONCRETE LOW PRESSURE PIPE, ASTM DESIGNATION C361. CIRCULAR REINFORCEMENT SHALL BE USED, USE OF ELLIPTICAL REINFORCEMENT IN THE PIPE IN NOT ALLOWED. CEMENT USED IN THE MANUFACTURE OF RGRCP SHALL BE TYPE II. THE JOINTS SHALL SHOW NO SIGNS OF LEAKAGE AT HYDROSTATIC PRESSURES UP TO TWENTY-FIVE (25) FEET. PIPE CLASS SHALL BE AS FOLLOWS:
- DEPTH OVER THE TOP OF PIPE FROM THREE (3) UP TO FIVE (5) FEET - CLASS A-25
  - DEPTH OVER THE TOP OF PIPE FROM FIVE (5) UP TO TEN (10) FEET - CLASS B-25
- B. EACH JOINT SHALL BE MARKED WITH THE FOLLOWING INFORMATION
- THE NAME OR TRADEMARK OF THE MANUFACTURER
  - CLASS AND SIZE OF PIPE
  - CONFORMANCE WITH ASTM STANDARDS
  - THE TYPE OF CEMENT
  - THE DATE OF MANUFACTURE OF THE PIPE
- C. THE PIPE SHALL BE TESTED IN THE FACTORY PER ASTM C-361.
- D. RUBBER GASKETED JOINTS SHALL CONFORM TO THE REQUIREMENT OF ASTM DESIGNATION C-361, CAPABLE OF WITHSTANDING A CONSTANT PRESSURE OF UP TO THE HEAD CLASS RATING OF THE PIPE. RUBBER GASKETS SHALL BE LUBRICATED WITH THE LUBRICANT RECOMMENDED BY THE MANUFACTURER OF THE PIPE.



**DE GRAAF**  
ENGINEERING, INC.

DEGRAAFENGINEERINGINC.COM  
P.O. BOX 87 RIPON, CA 95366  
(209) 614-2745



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Call before you dig.

GENERAL

**TECHNICAL SPECIFICATIONS**

SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

PROJECT: 22-01

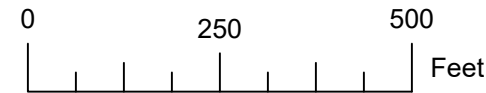
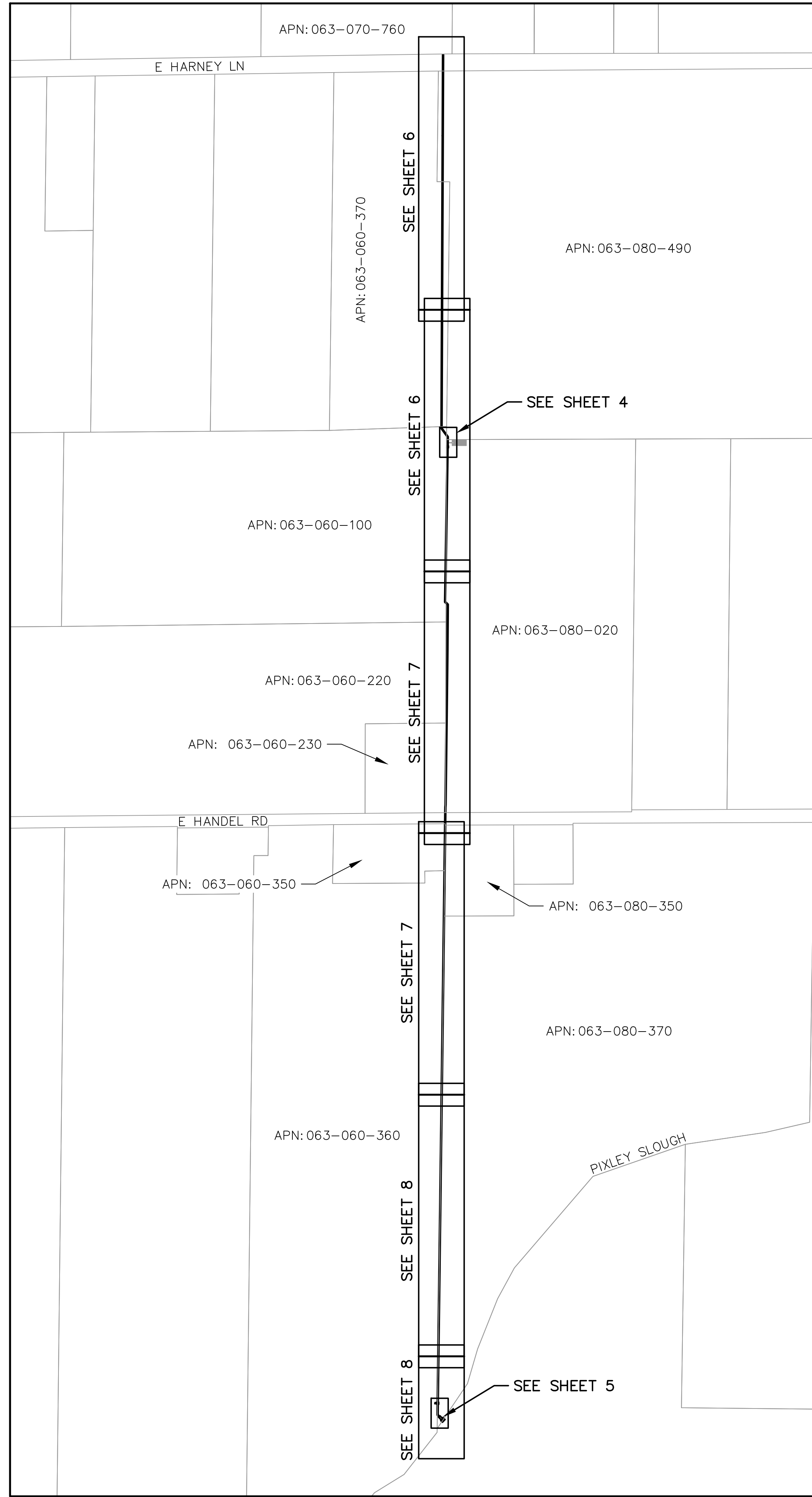
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SHEET

**2** OF **10**



DESCRIPTION	(E) LINETYPE	(P) LINETYPE
CONTOUR-MAJOR	---	---
CONTOUR-MINOR	---	---
EASEMENT	---	---
FENCE (BARBED WIRE)	-x-x-	-x-x-
FENCE (CHAIN LINK)	-o-o-	-o-o-
GRADE BREAK	---	---
IRRIGATION LINE	IRR IRR	XX" IRR
PAVEMENT EDGE-ASPHALT	---	---
PAVEMENT EDGE-CONCRETE	---	---
PAVEMENT EDGE-DIRT ROAD	---	---
PAVEMENT EDGE-GRAVEL	---	---
POWER LINE-OVERHEAD	OH OH	XX" OH
PROPERTY LINE	---	---
STORM DRAIN LINE	SD SD	XX" SD

**ABBREVIATIONS**

APN	ASSESSOR'S PARCEL NUMBER
CIP	CAST IN PLACE
DEMO	DEMOLISH/DEMOLITION
(E)	EXISTING
E	EAST
EG	EXISTING GRADE
E.W.	EACH WAY
F&I	FURNISH AND INSTALL
IRR	IRRIGATION
LF	LINEAR FEET
MIN	MINIMUM
N	NORTH
O.C.	OFF CENTER
OH	OVERHEAD
(P)	PROPOSED
PL	PROPERTY LINE
RGRCP	RUBBER GASKETED REINFORCED CONCRETE PIPE
S	SOUTH/SLOPE
SD	STORM DRAIN
STA	STATION
TYP	TYPICAL
W	WEST/WATER

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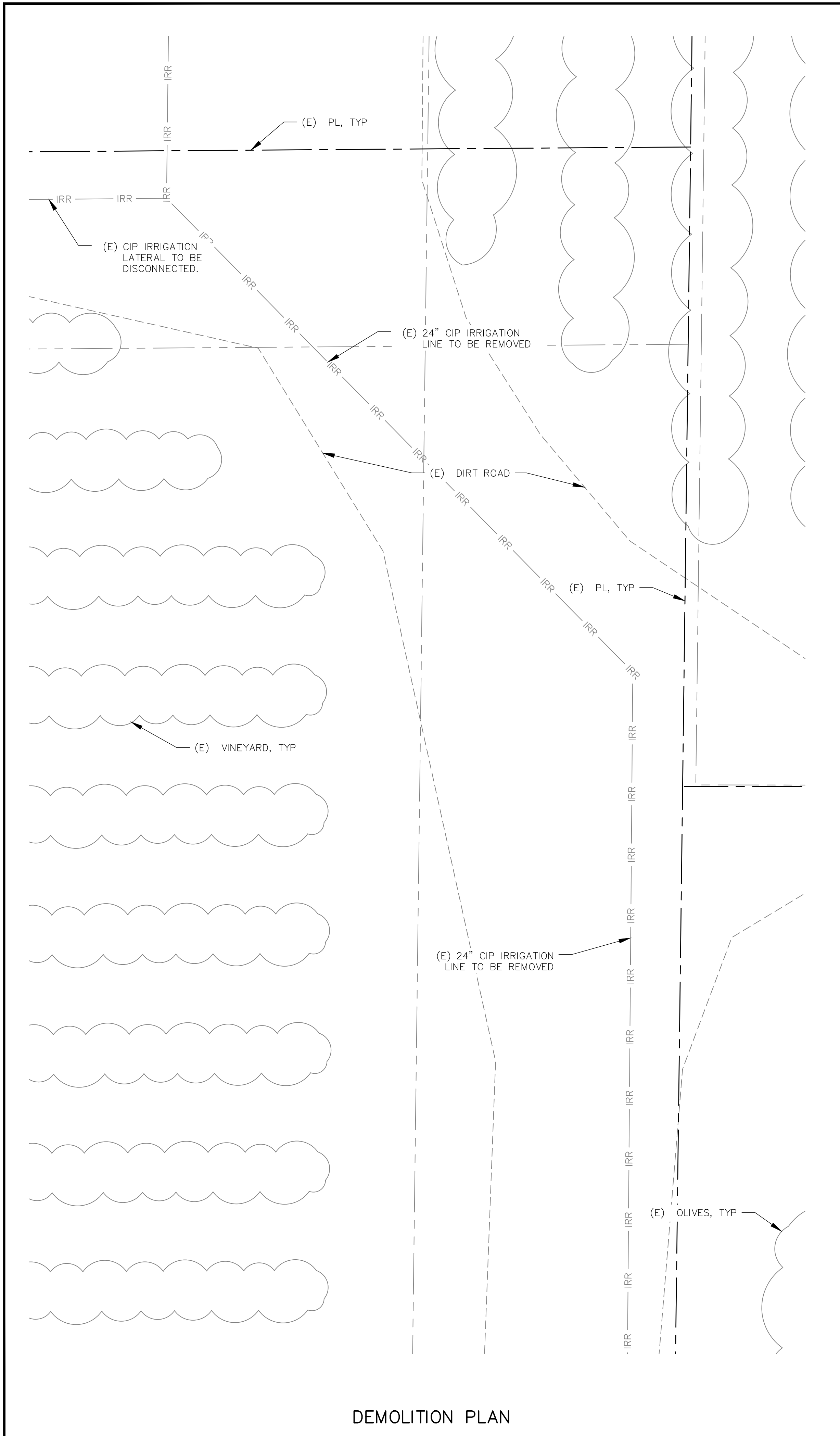


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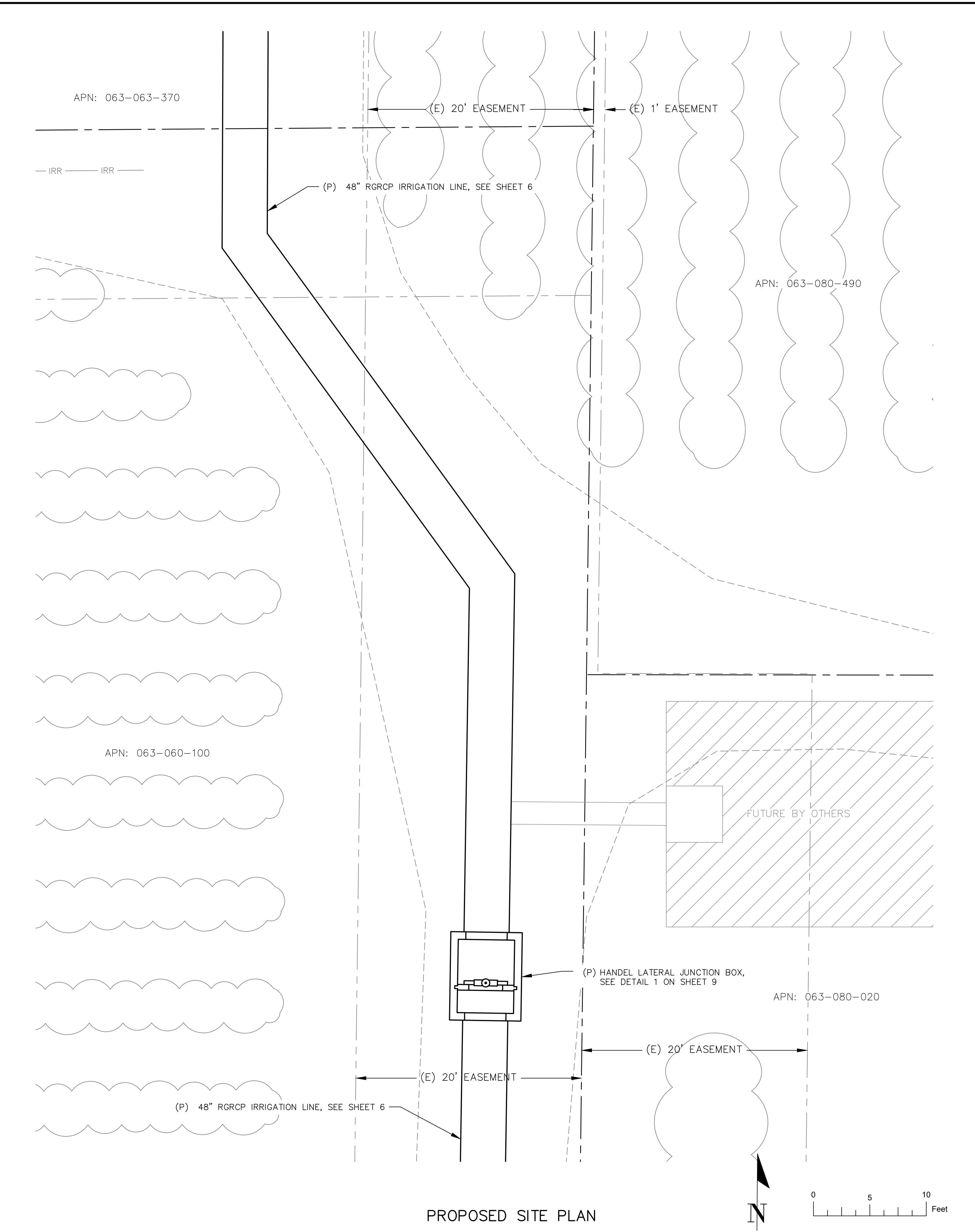
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KEY MAP AND LEGEND**

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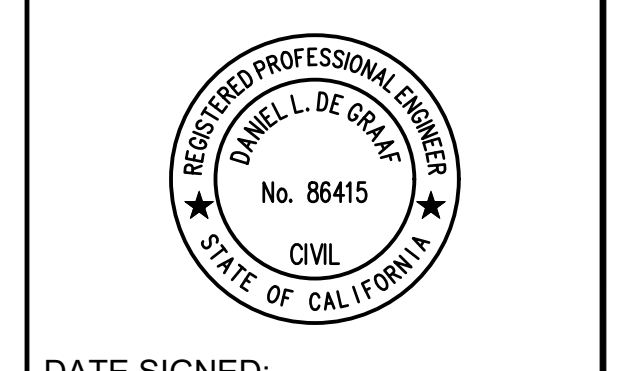
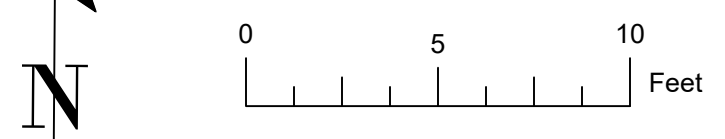
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DEMOLITION PLAN



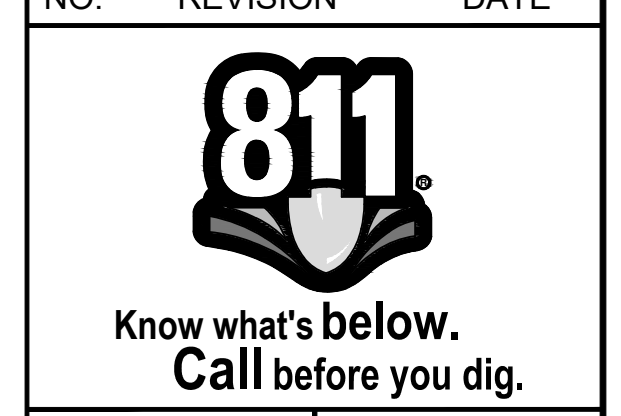
PROPOSED SITE PLAN



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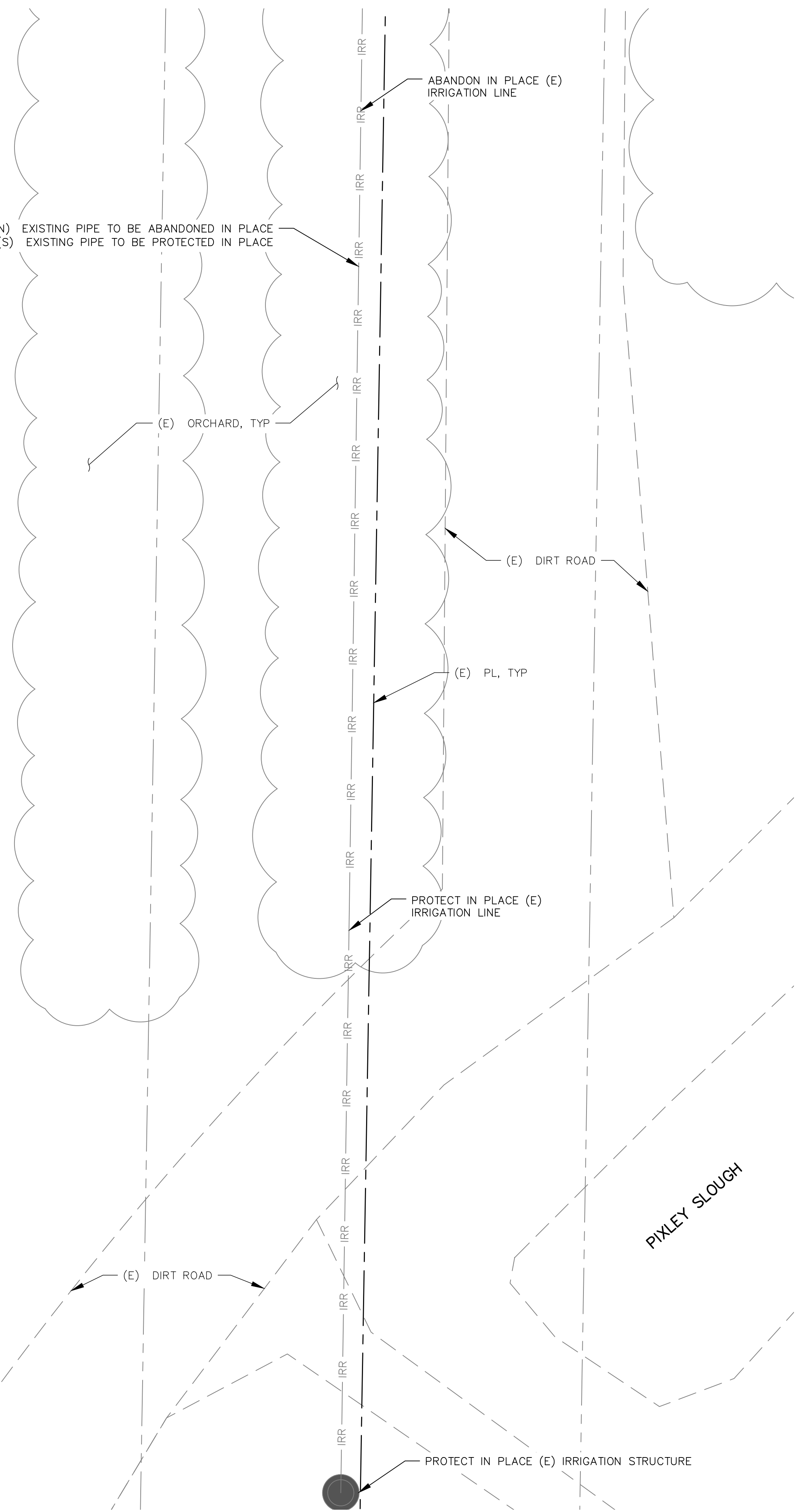


**SITE PLANS**

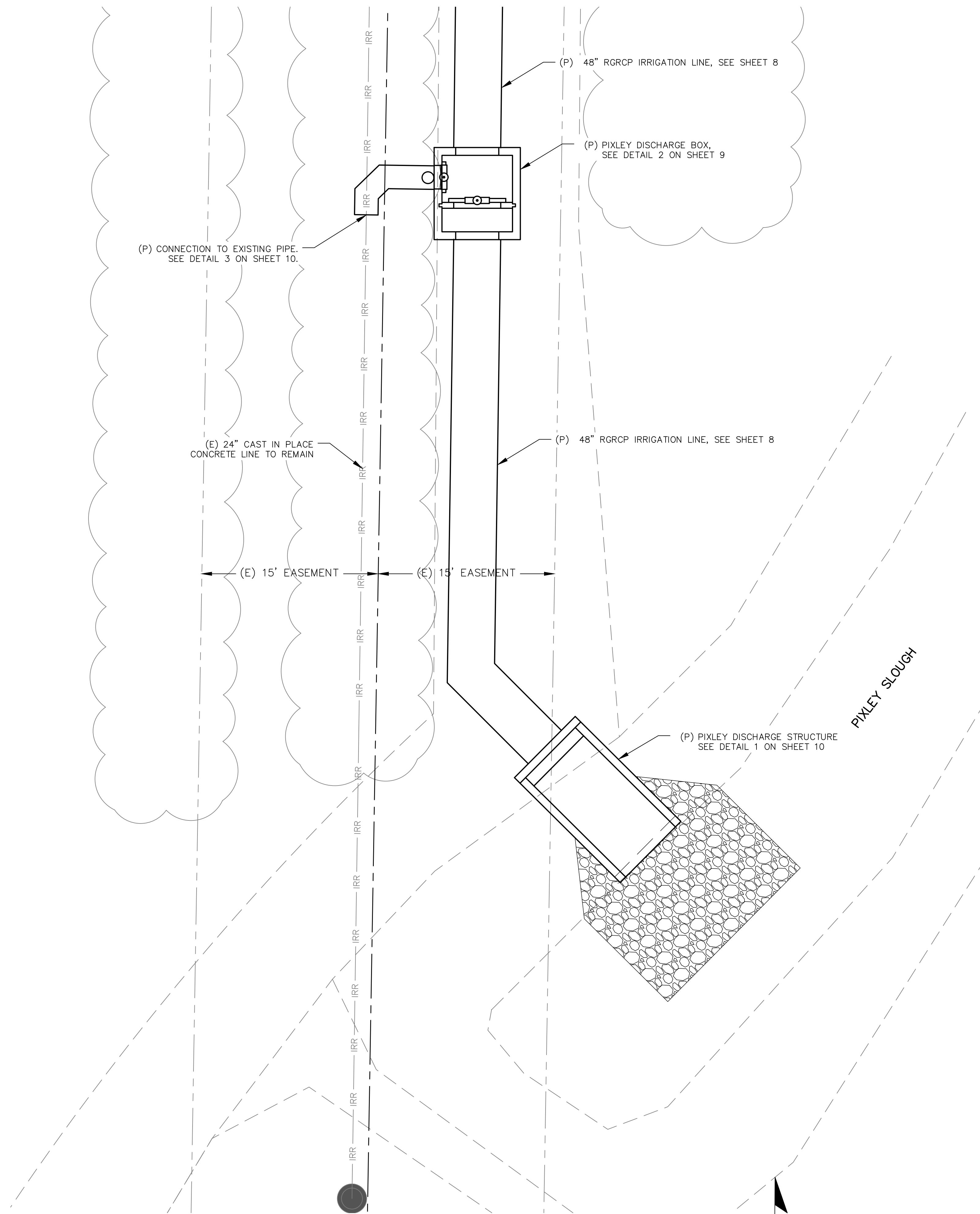
**PROPOSED SITE PLAN AND DEMOLITION**

SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

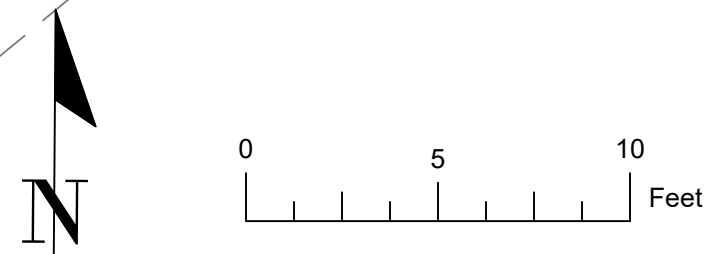
PROJECT:	22-01
DRAWN BY:	GJ
CHECKED BY:	DD
DATE:	11/2/2022



DEMOLITION PLAN



PROPOSED SITE PLAN



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**SITE PLANS**  
**PROPOSED SITE PLAN AND DEMOLITION**  
SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

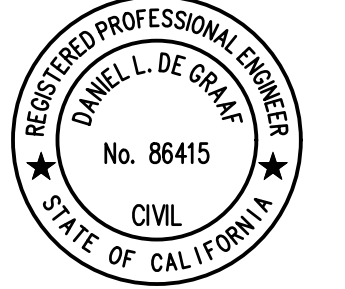
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SHEET  
**5** OF **10**



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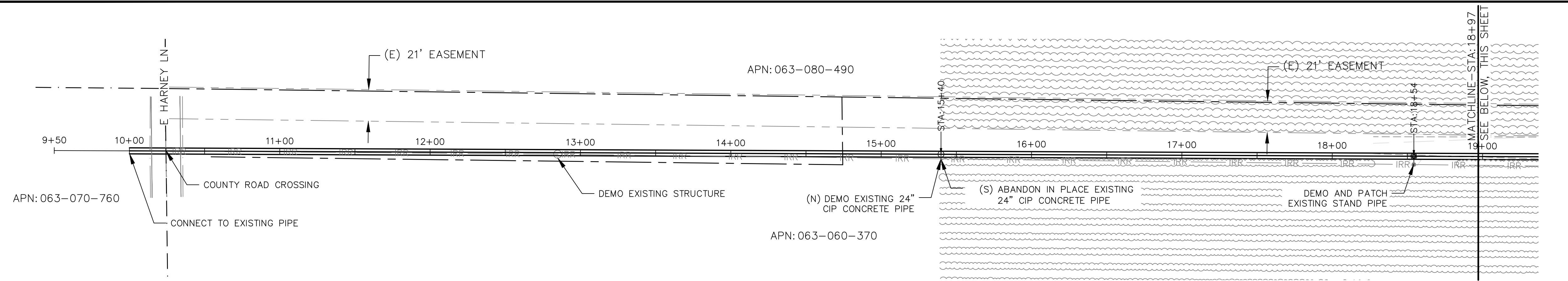
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PIPE PROFILES  
**PLAN AND PROFILE**  
SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

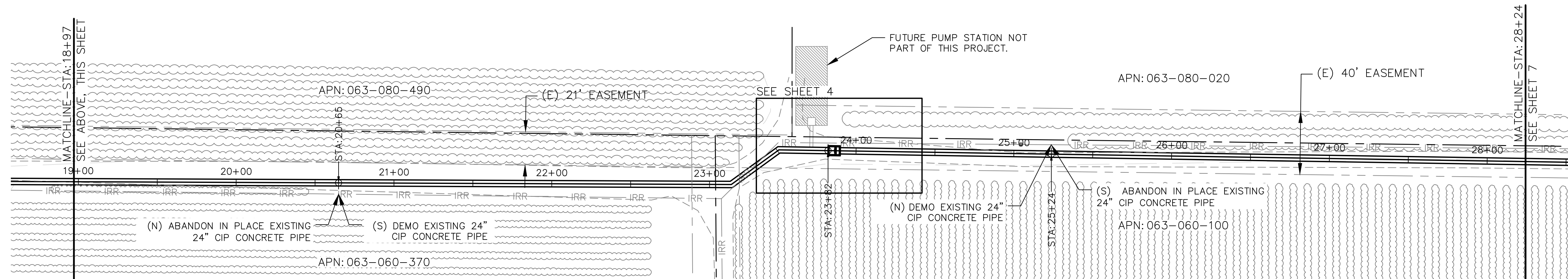
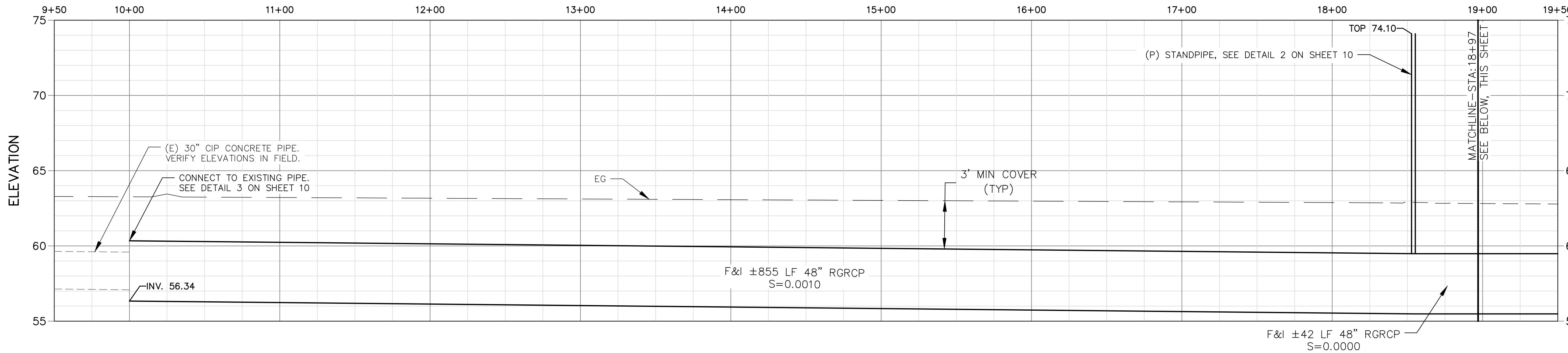
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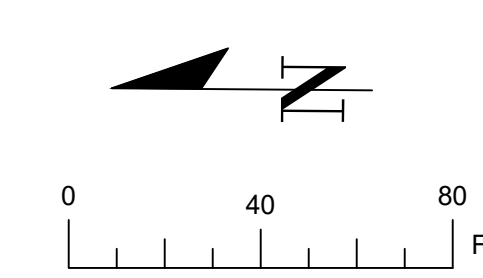
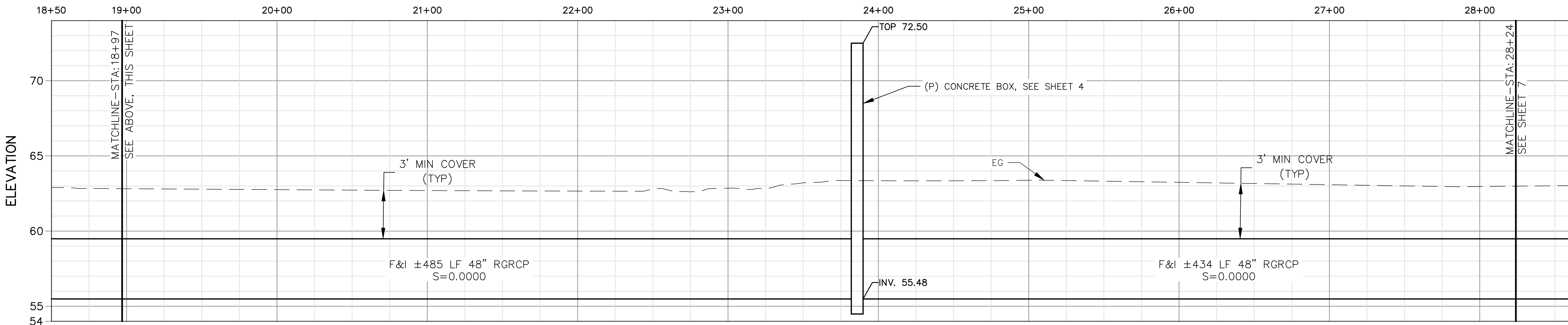
**6** OF **10**



STATION 9+50 - 19+50



STATION 18+50 - 28+75





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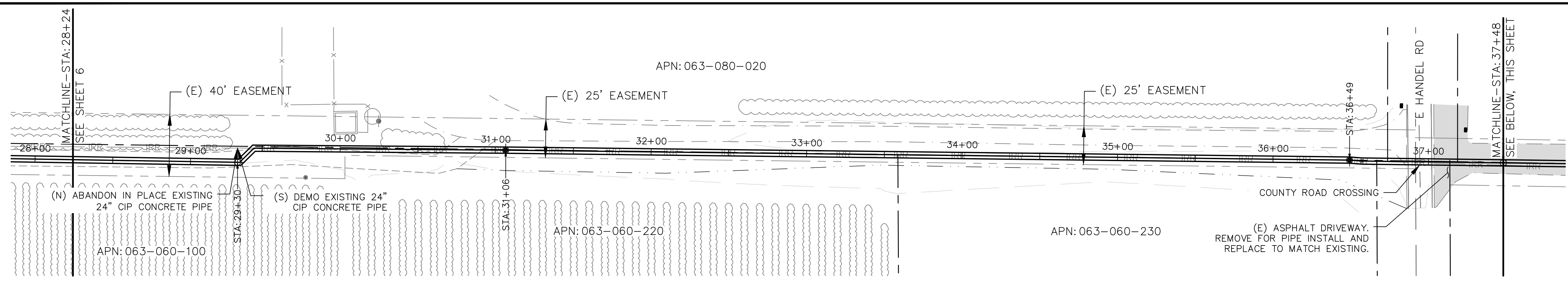


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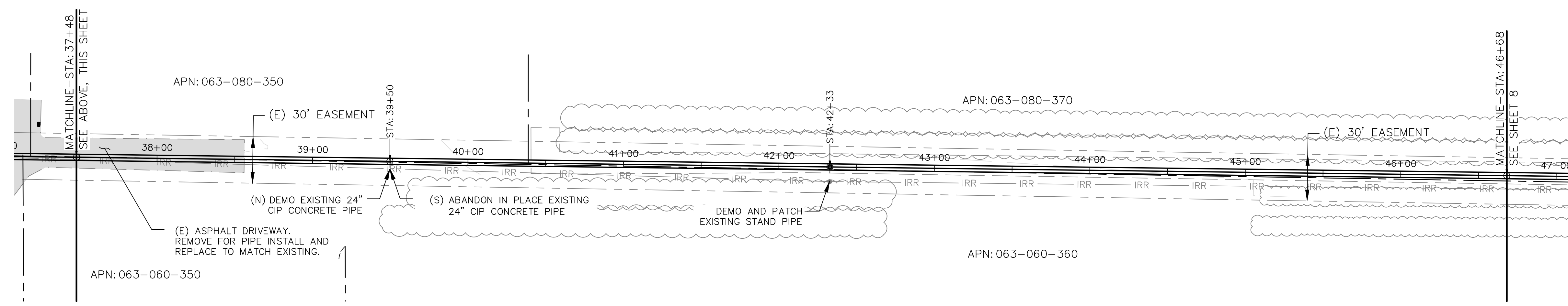
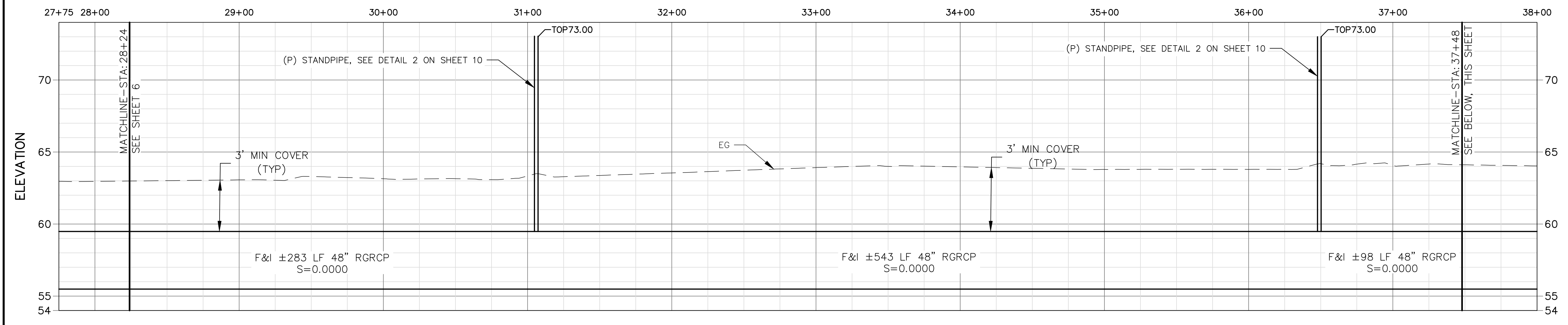
**PIPE PROFILES**  
**PLAN AND PROFILE**  
SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

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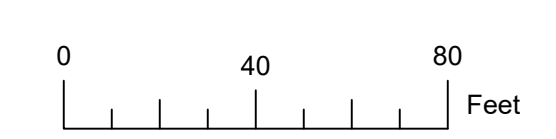
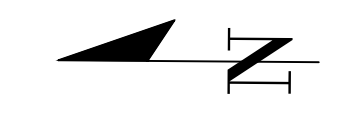
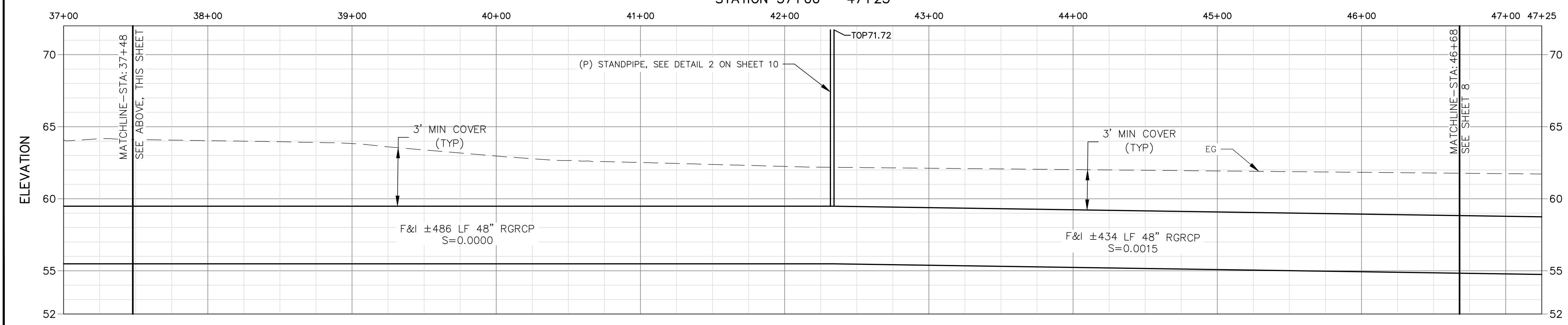
SHEET  
**7** OF **10**



STATION 27+75 - 38+00



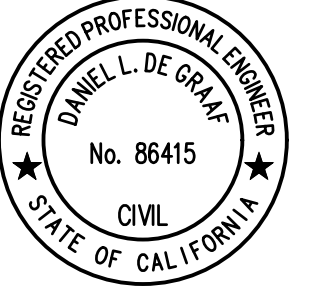
STATION 37+00 - 47+25





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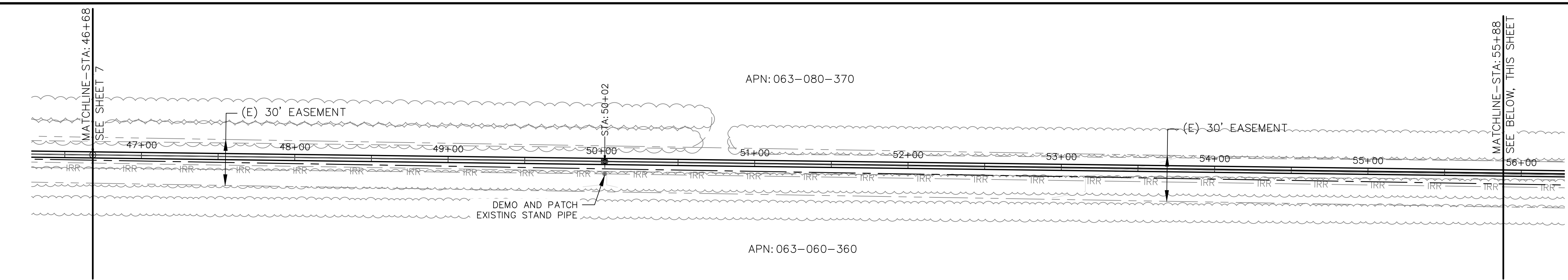
PIPE PROFILES  
**PLAN AND PROFILE**

SOUTH SYSTEM IMPROVEMENTS  
NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
SAN JOAQUIN COUNTY, CALIFORNIA

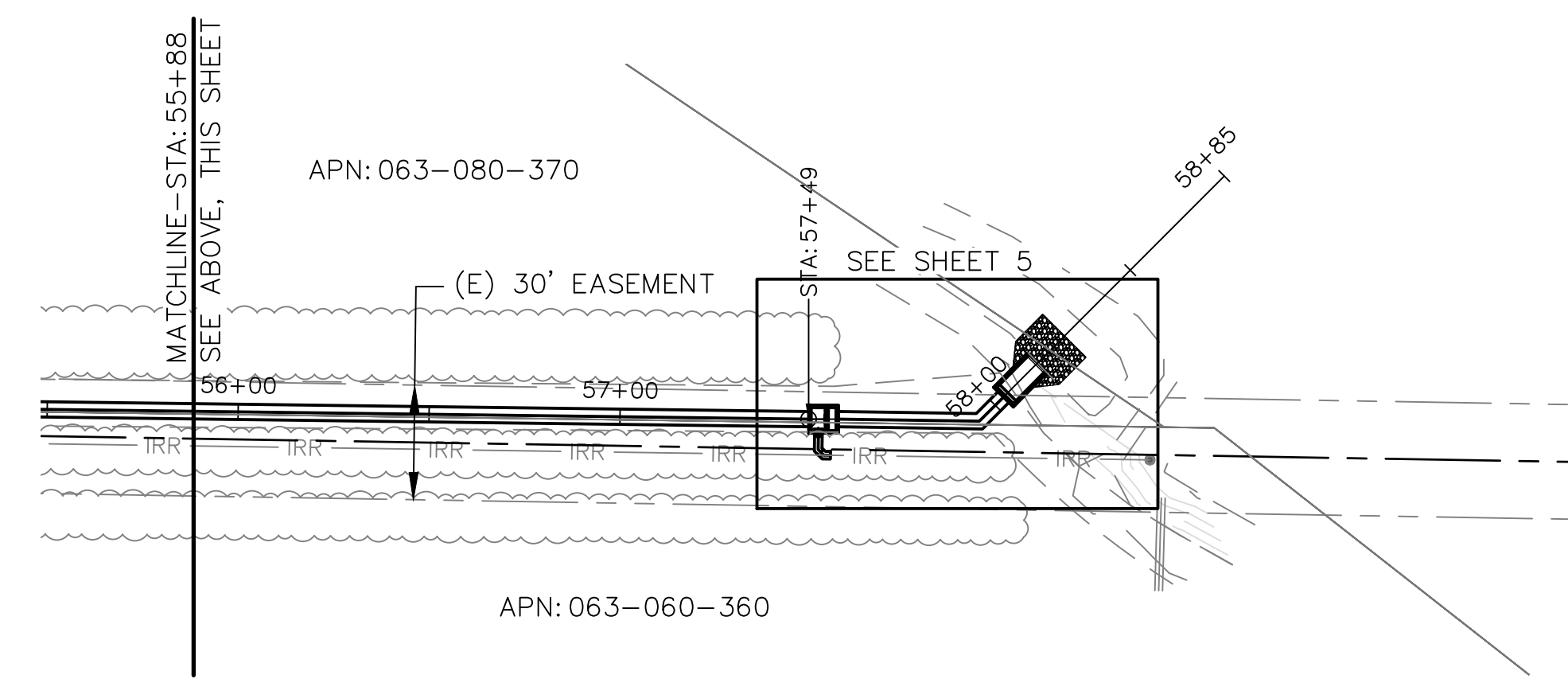
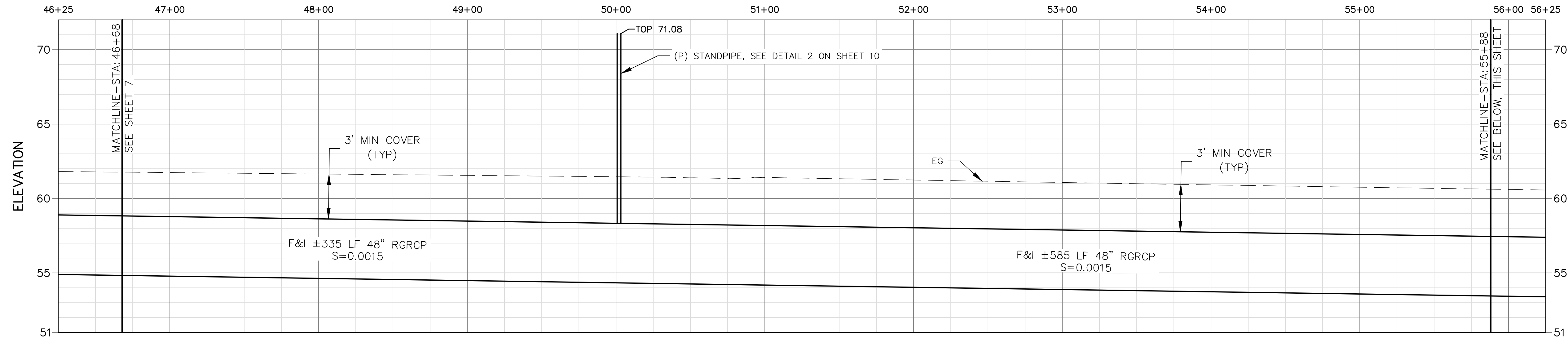
PROJECT: 22-01  
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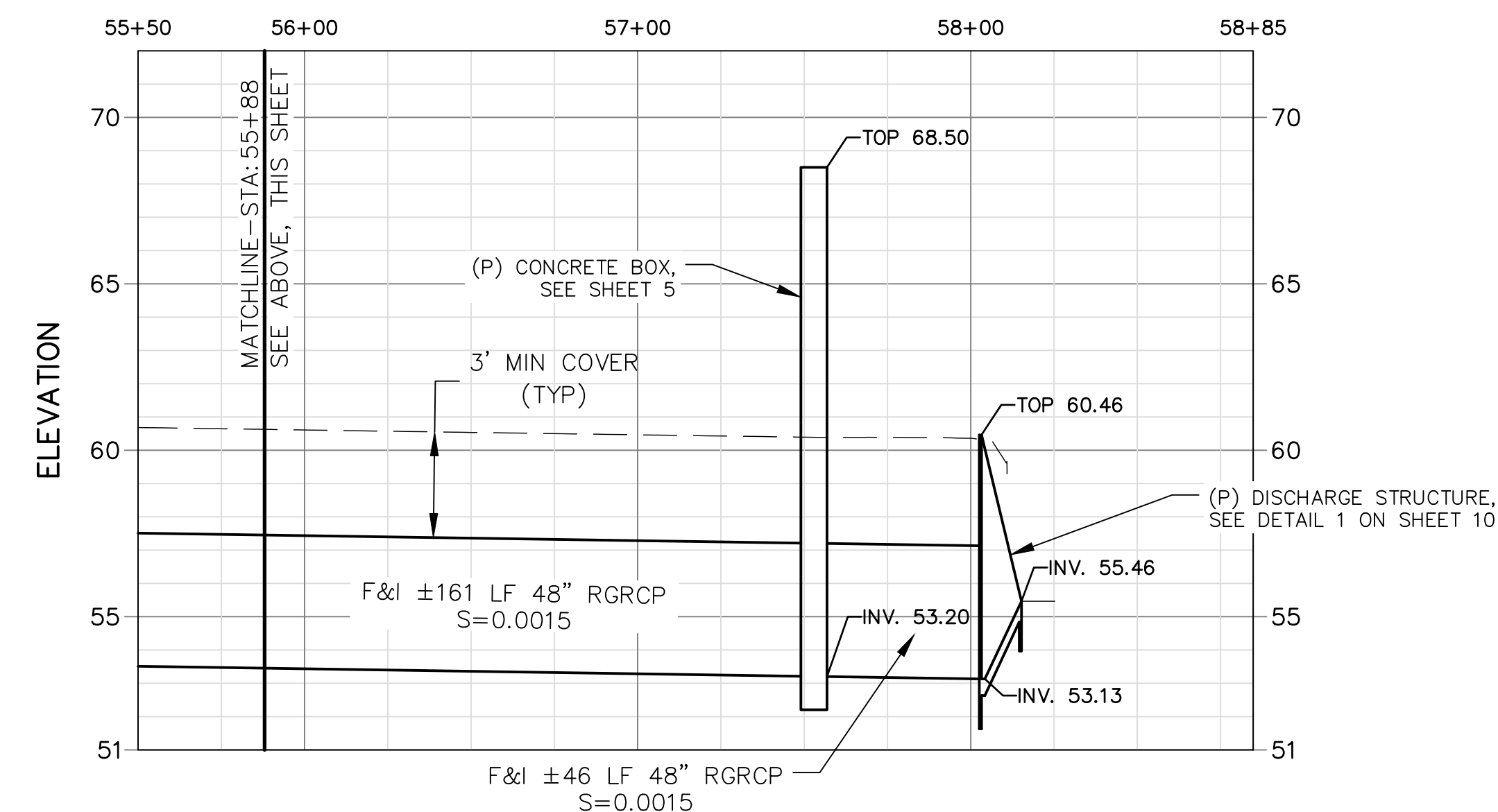
**8** OF **10**



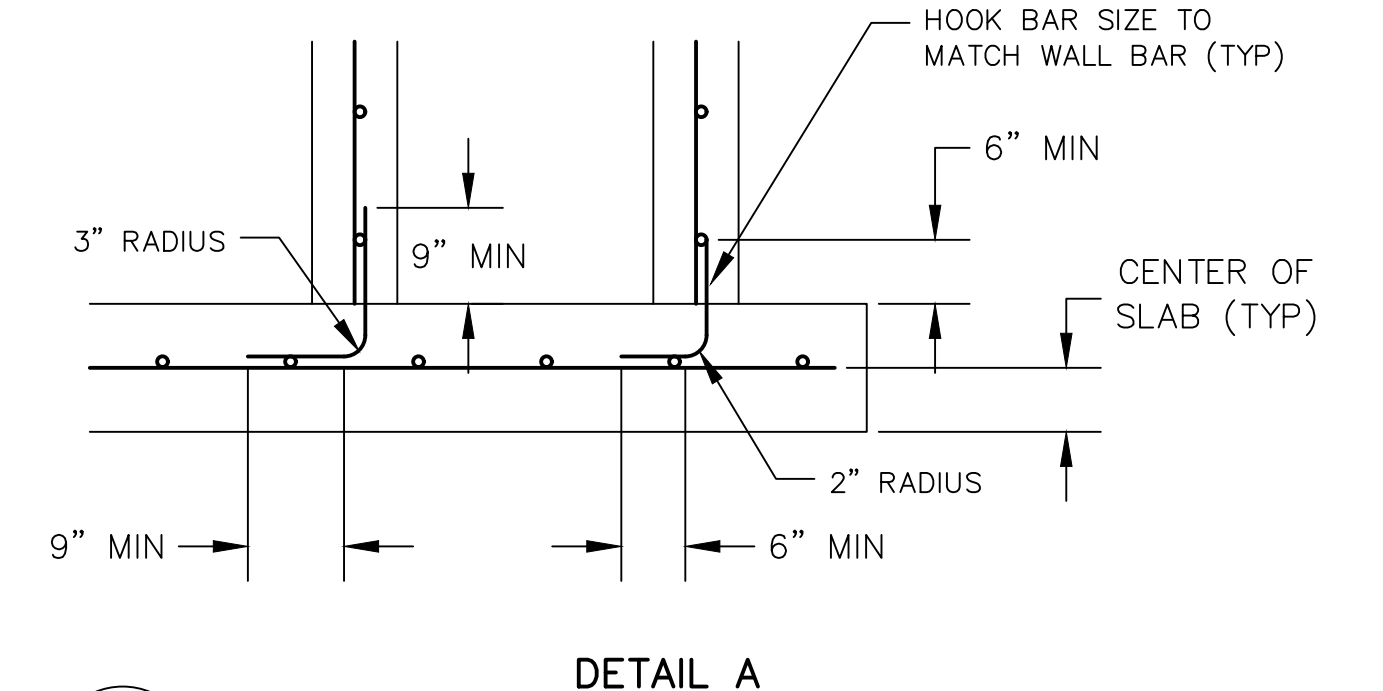
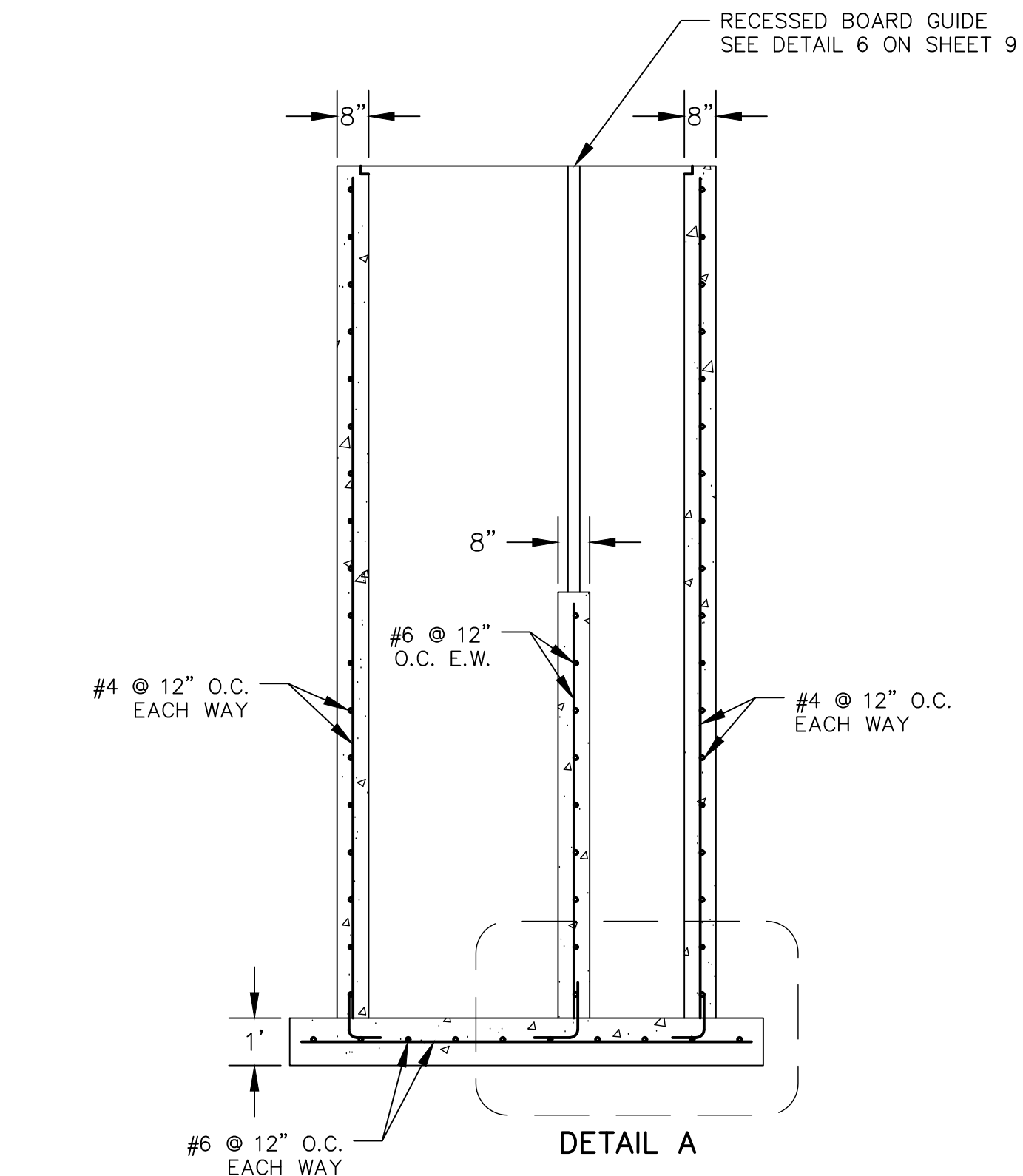
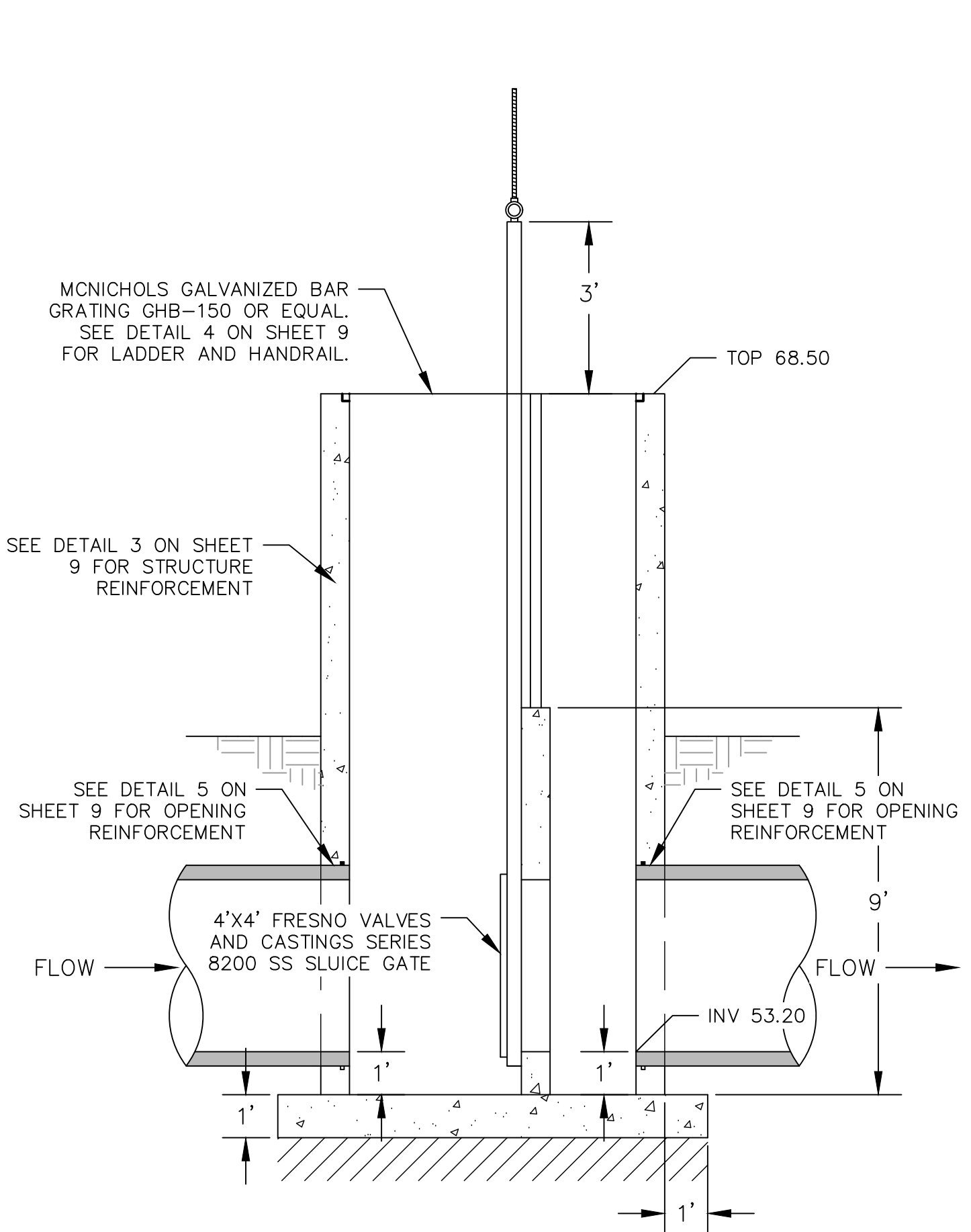
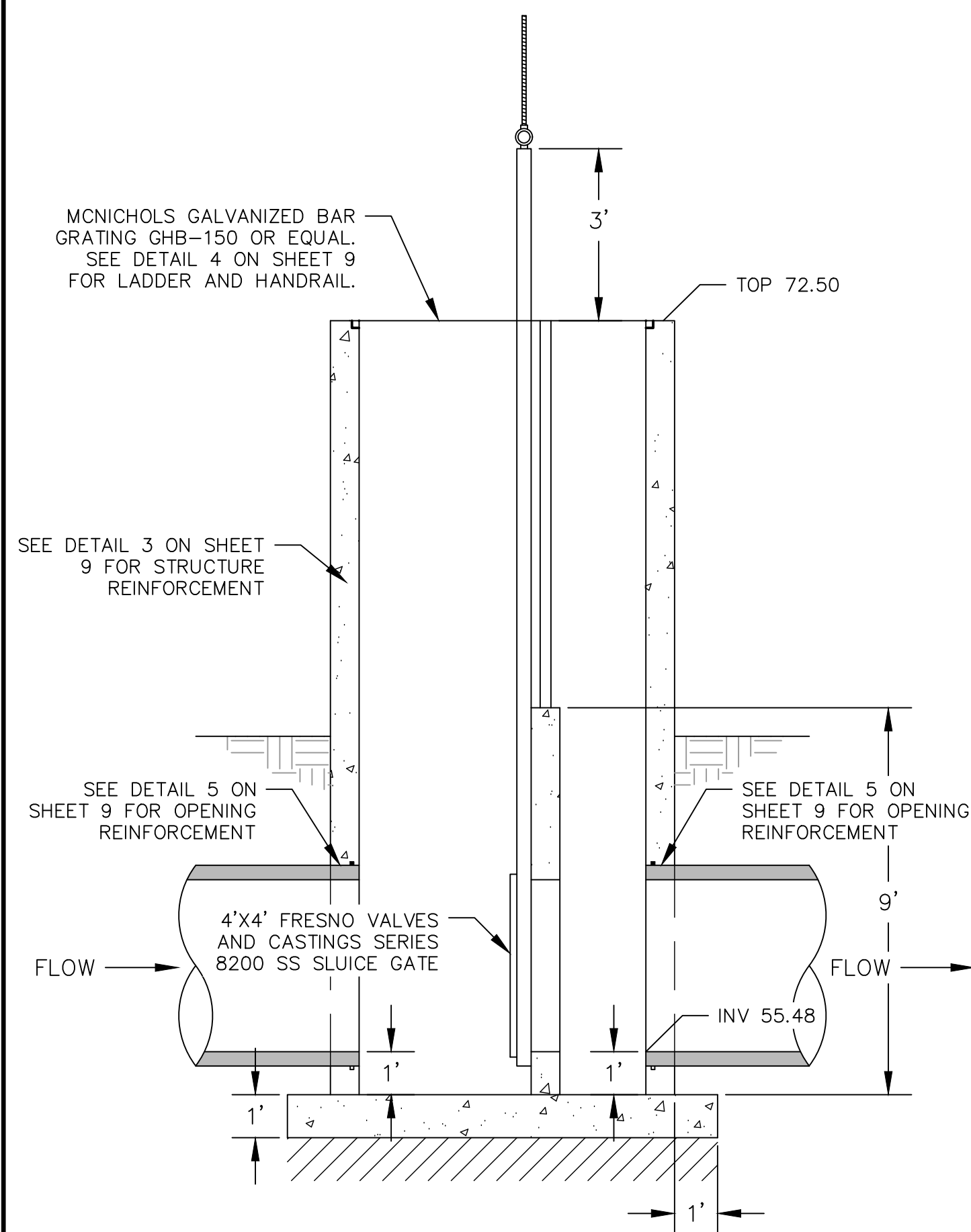
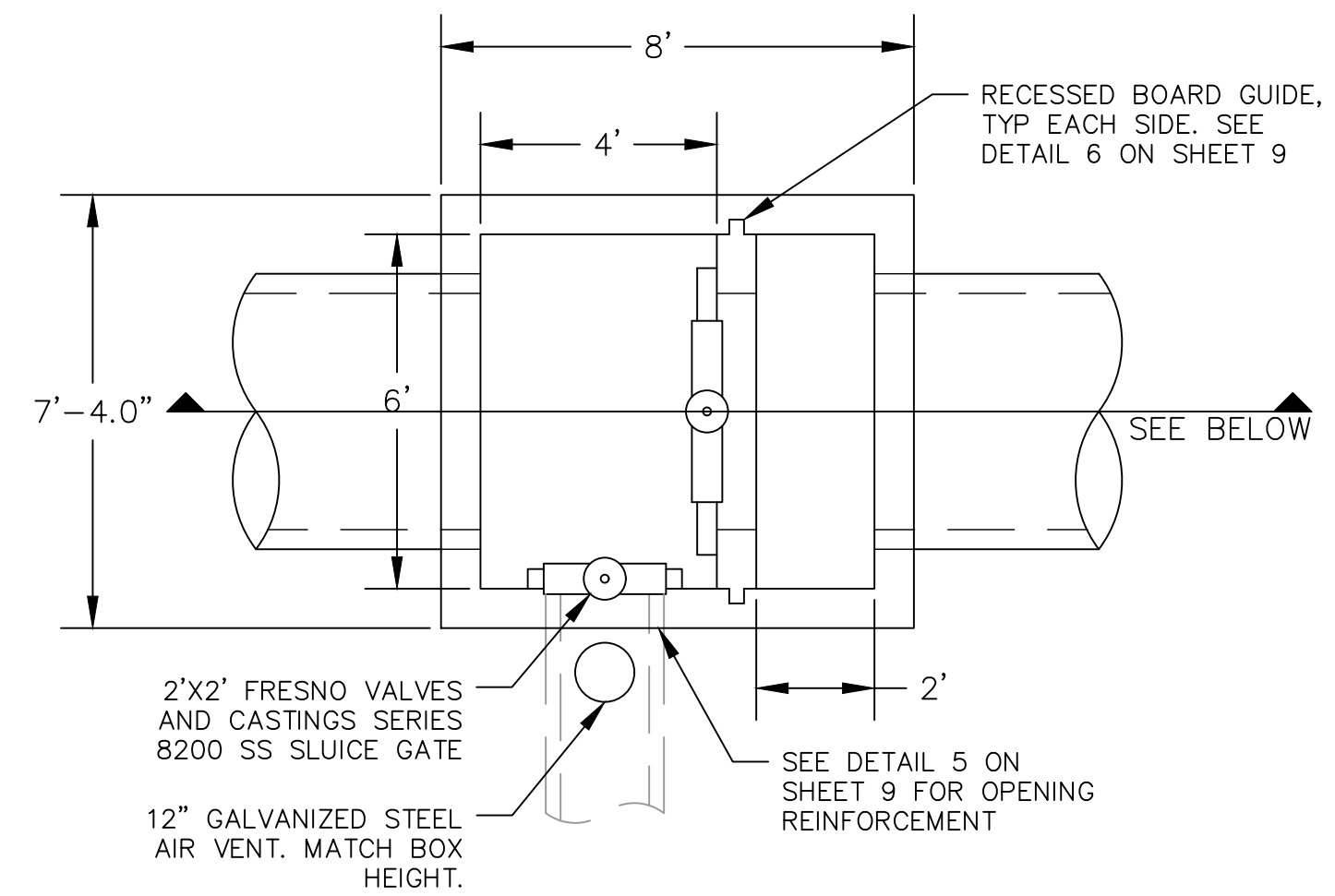
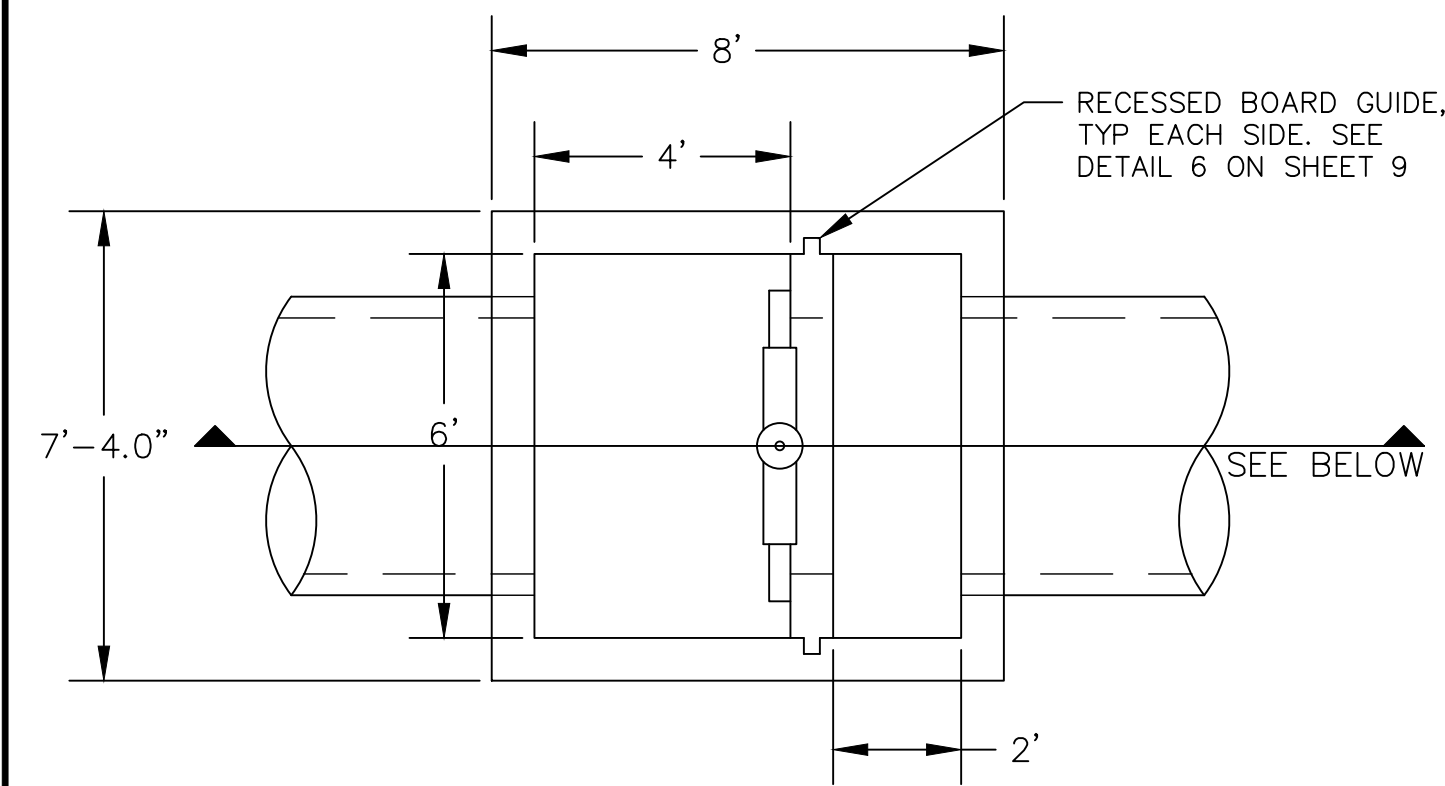
STATION 46+25 - 56+25



STATION 55+50 - 58+85

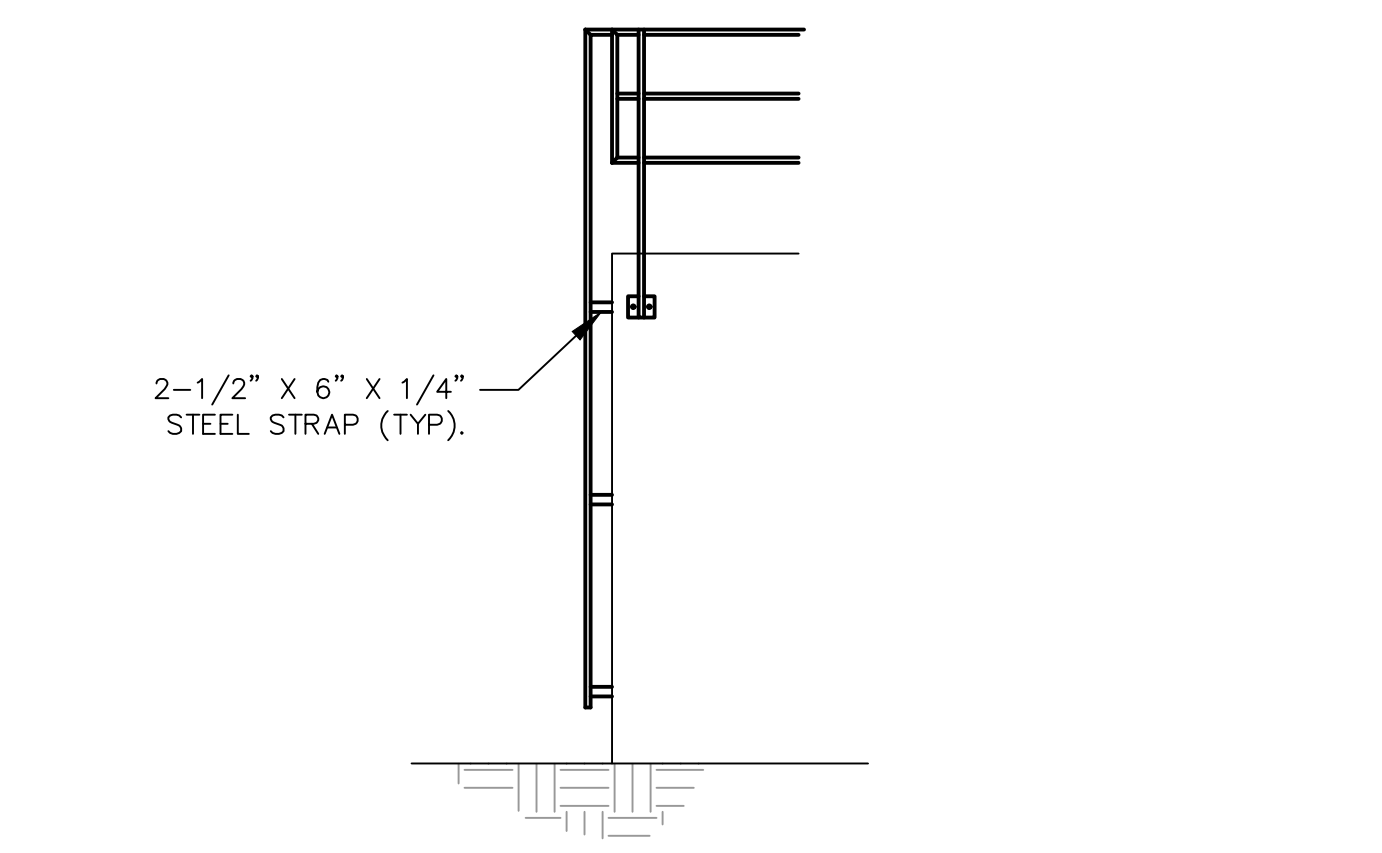
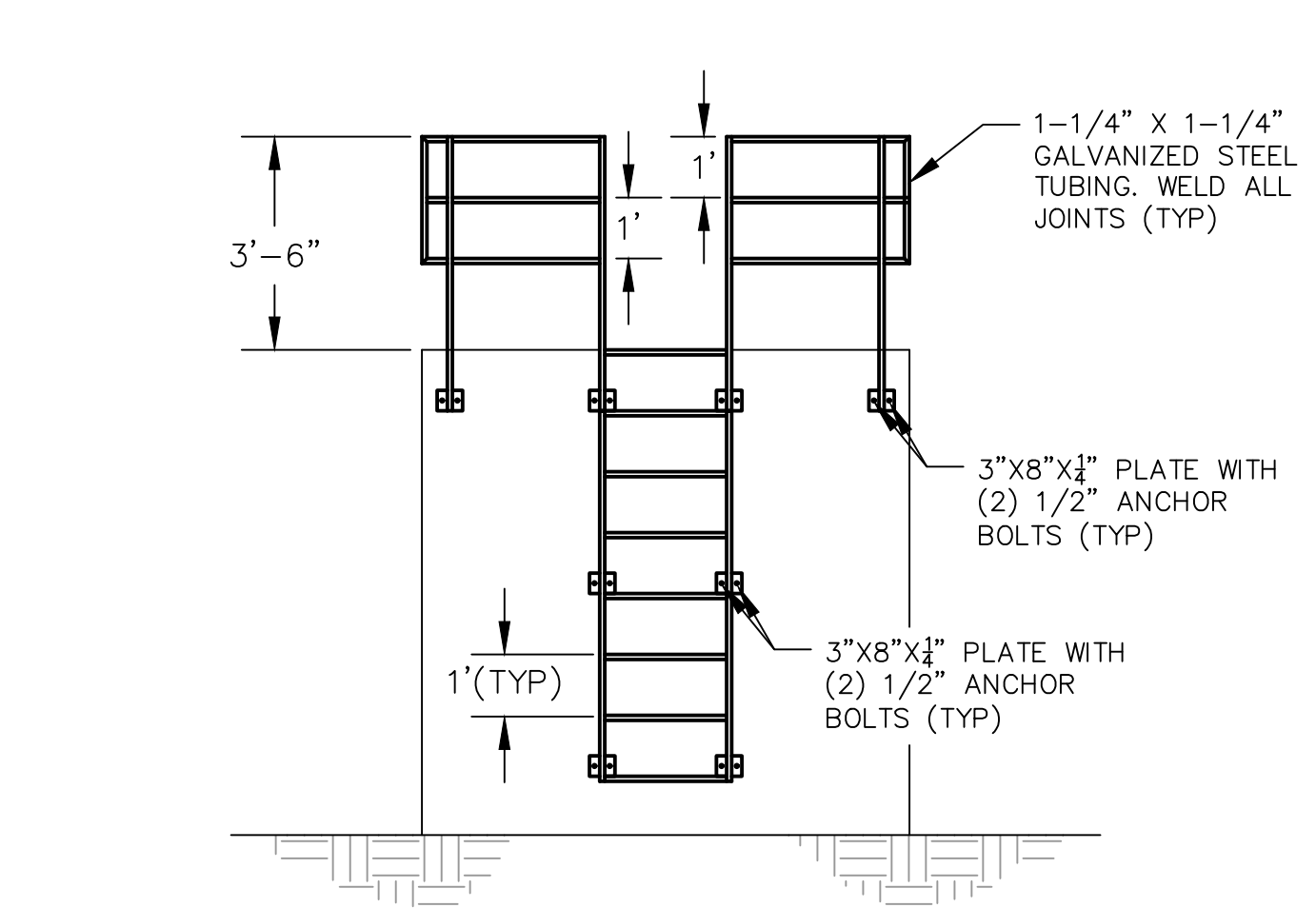






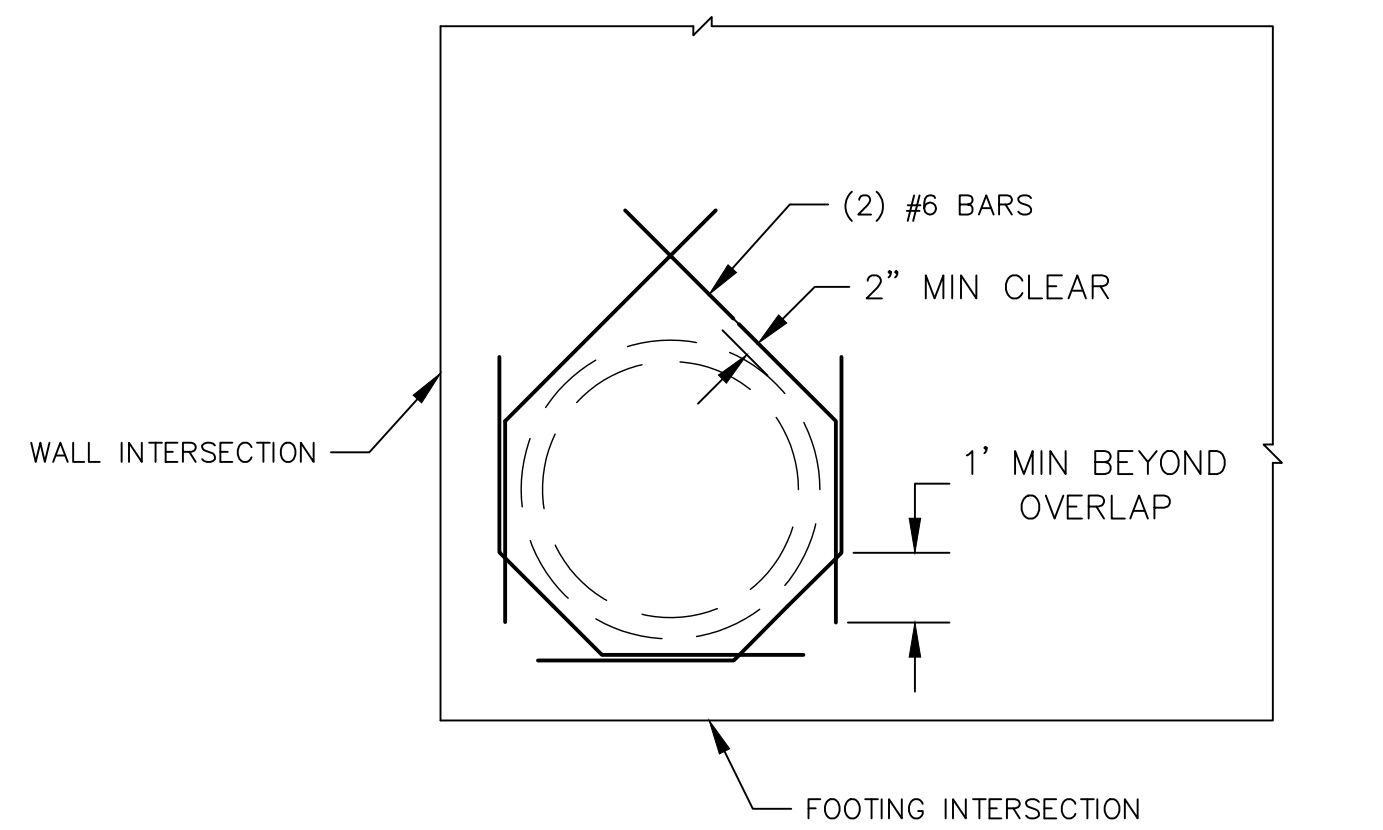
3  
9  
SCALE: 1"=3'

STRUCTURE REINFORCEMENT



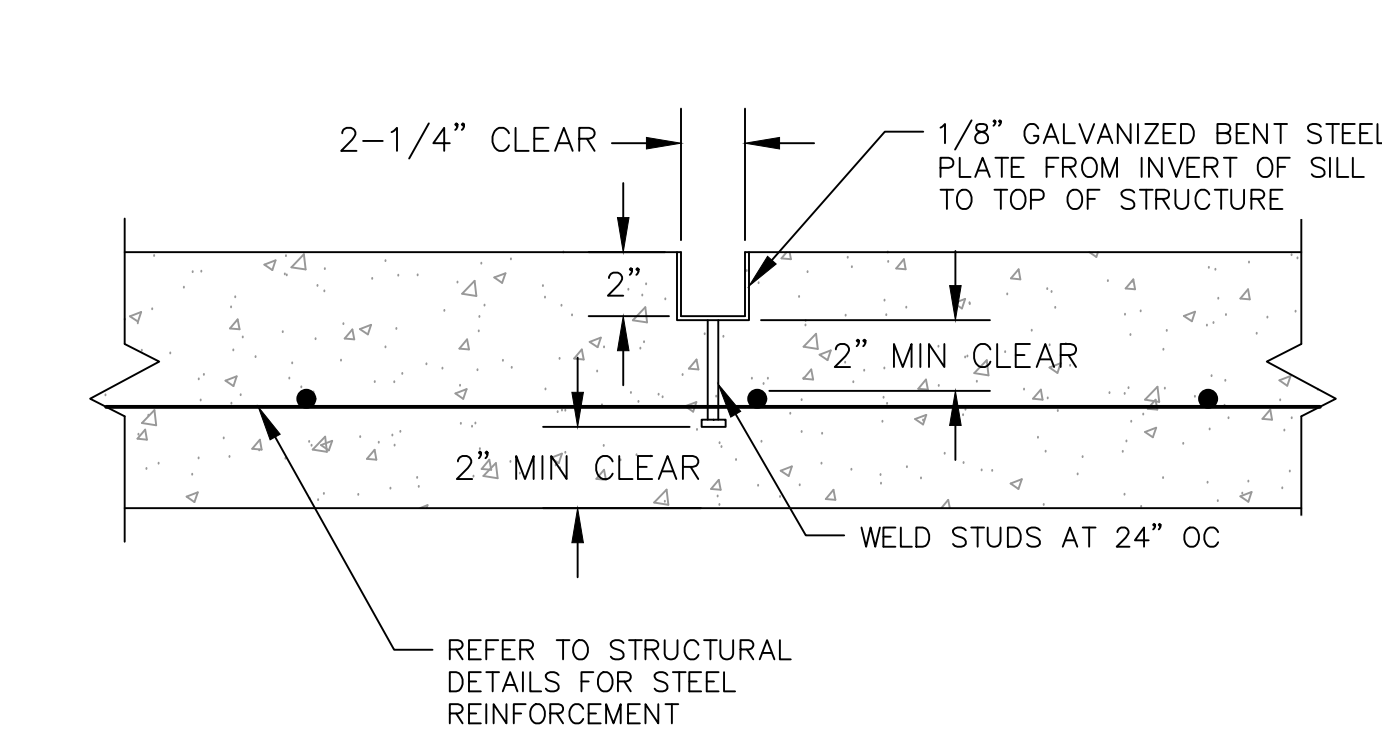
4  
9  
SCALE: 1"=3'

LADDER DETAIL



5  
9  
SCALE: 1"=3'

OPENING REINFORCEMENT



6  
9  
SCALE: 1"=0.5'

RECESSED BOARD GUIDE

1  
9  
SCALE: 1"=3'

HANDEL LATERAL BOX

2  
9  
SCALE: 1"=3'

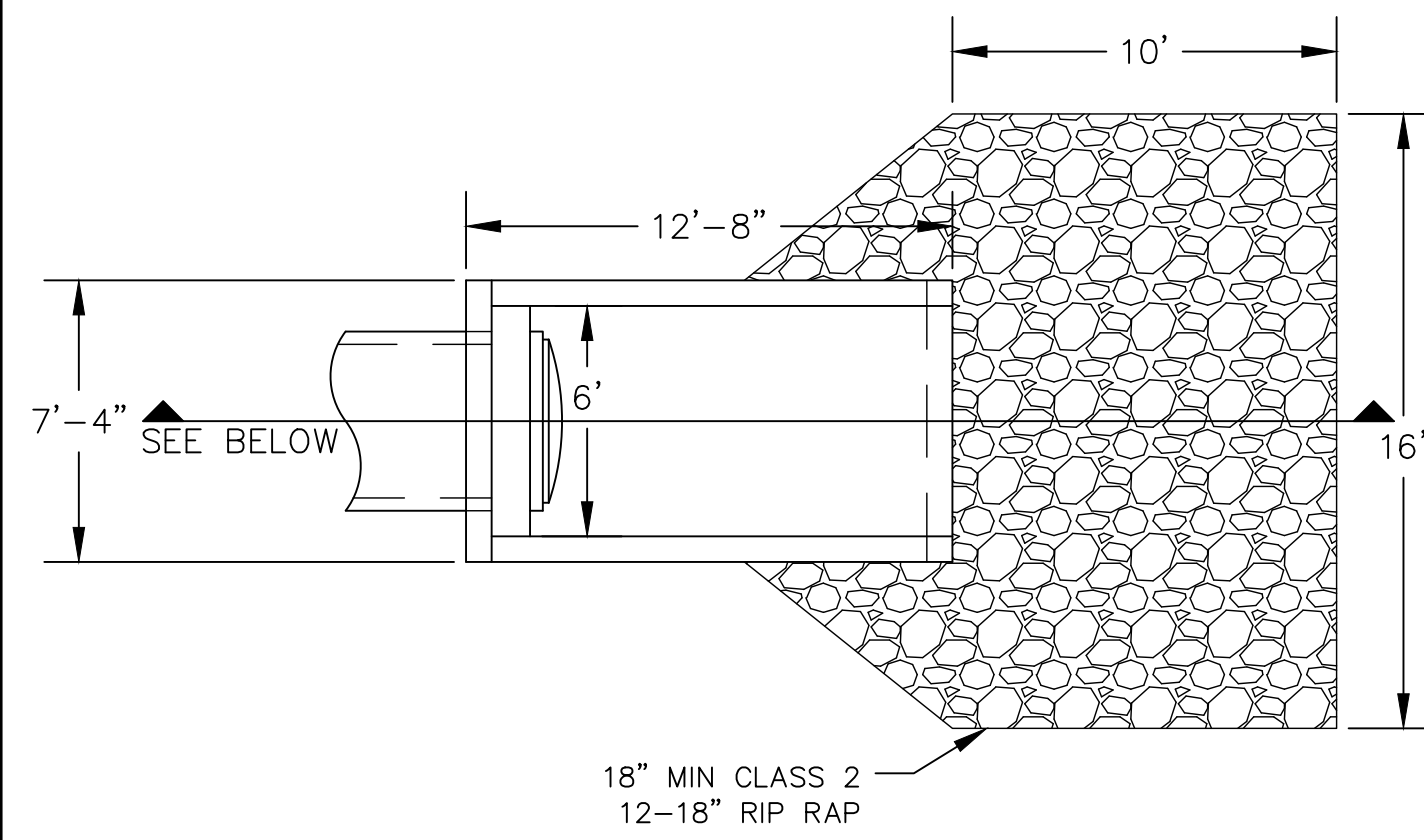
PIXLEY DISCHARGE BOX


NO.	REVISION	DATE

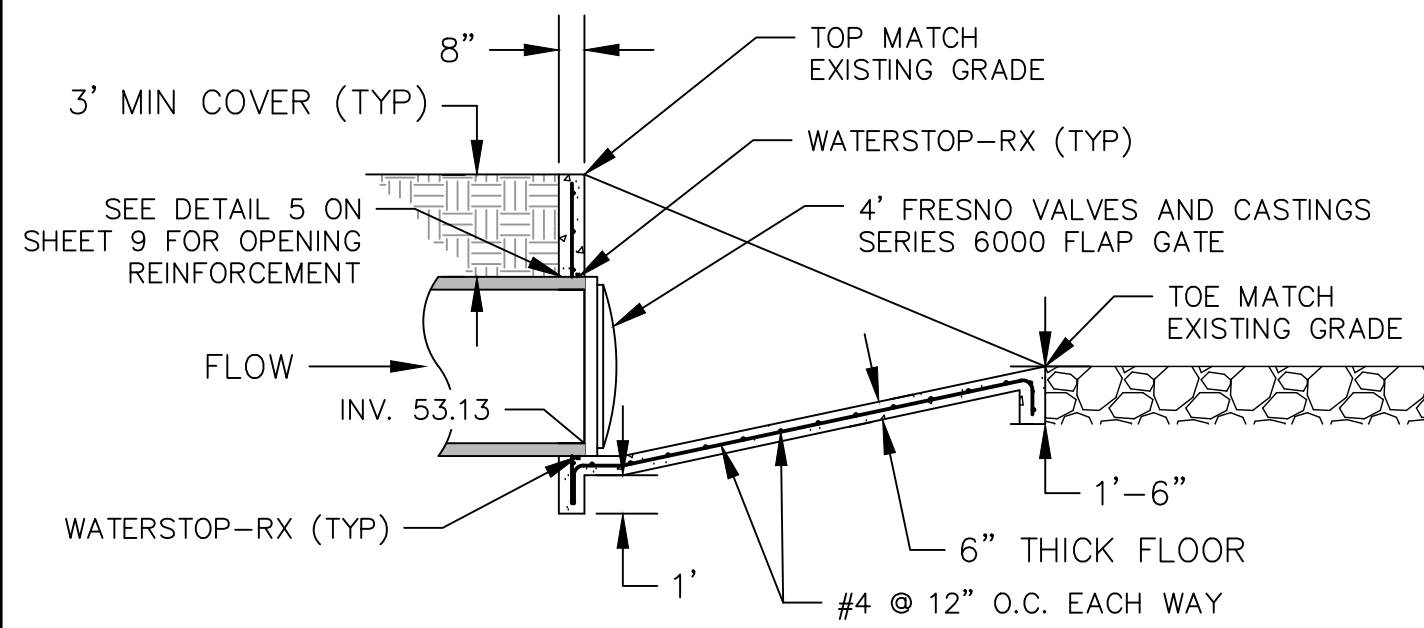


DETAILS  
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NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT  
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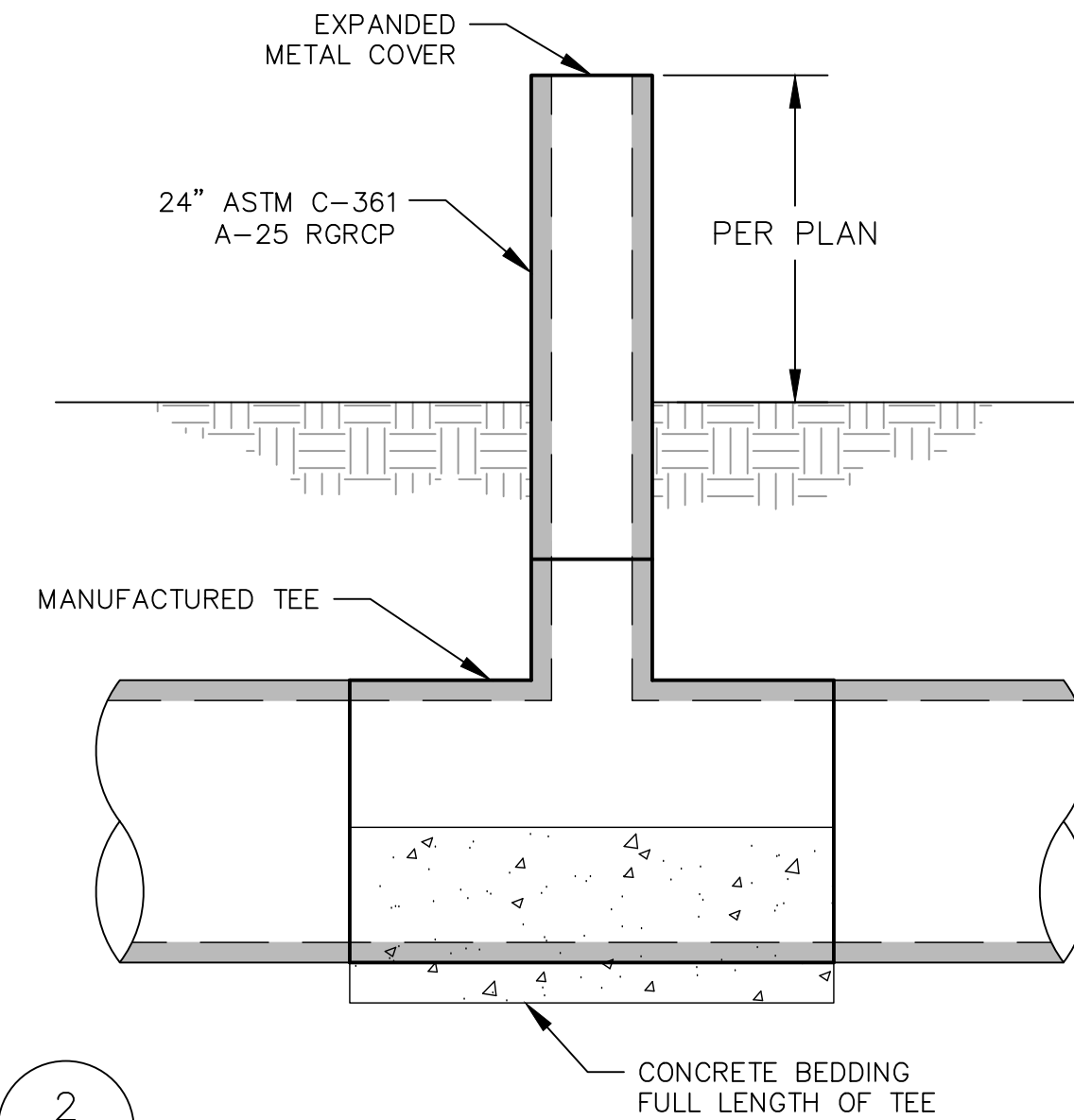
18" MIN CLASS 2  
12-18" RIP RAP



1  
10

SCALE: 1"=5'

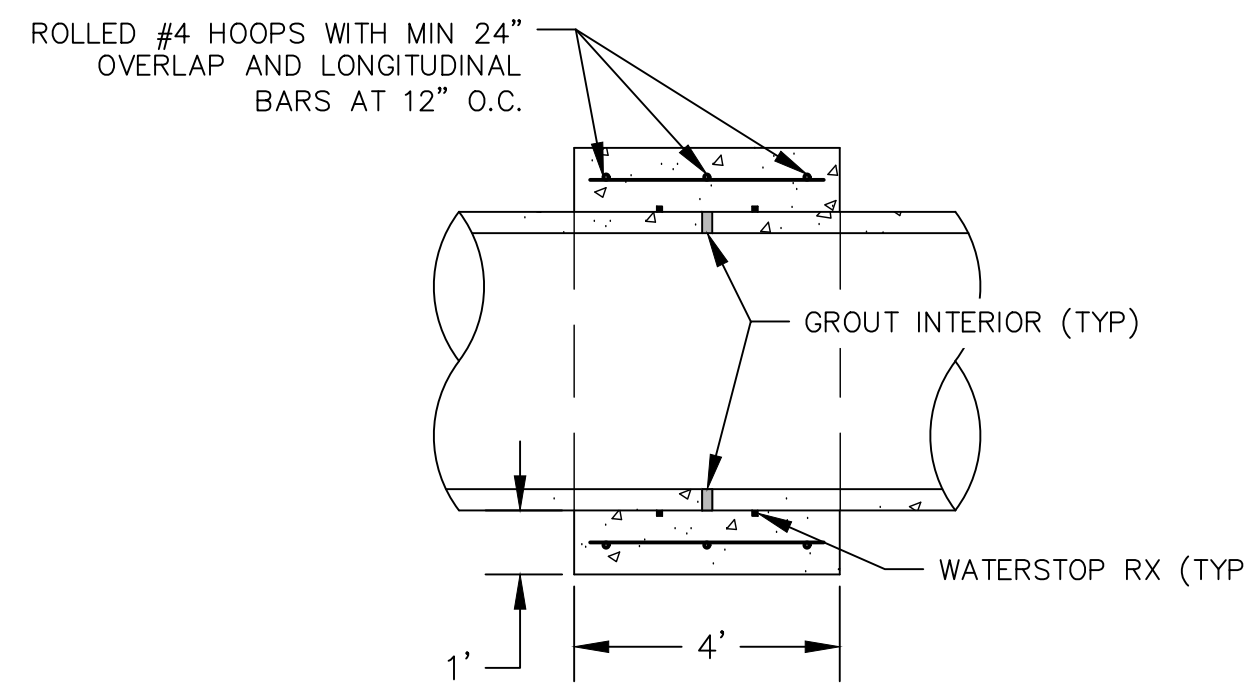
DISCHARGE STRUCTURE



2  
10

SCALE: 1"=3'

STAND PIPE



3  
10

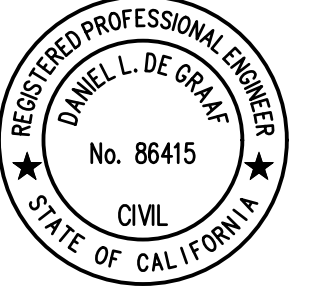
SCALE: 1"=3'

PIPE COLLAR



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