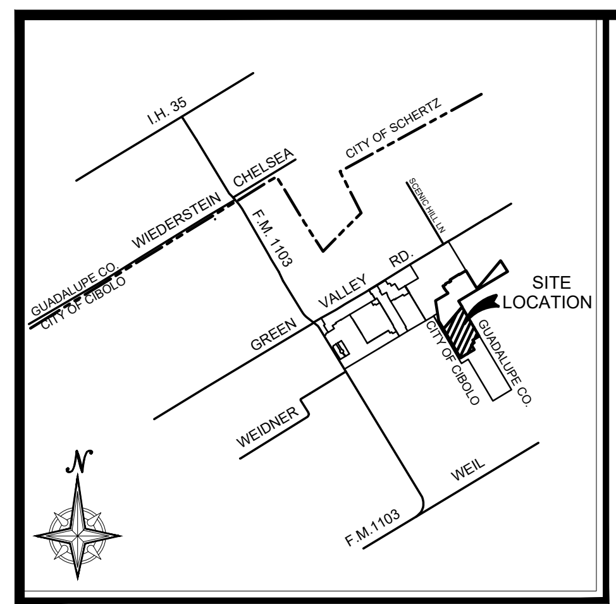
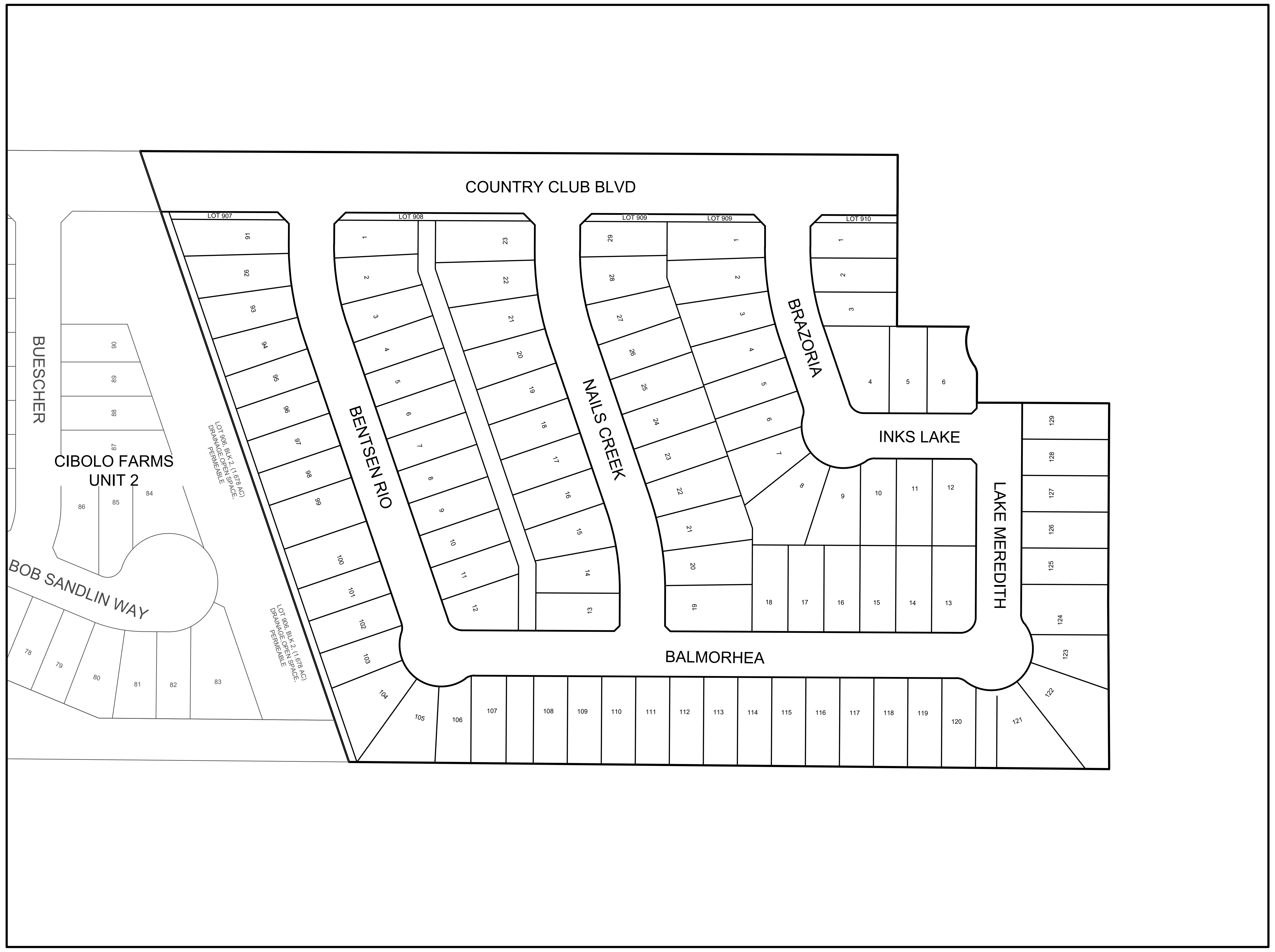


LOCATION MAP

CONSTRUCTION PLANS
for
CIBOLO FARMS UNIT 3



INDEX MAP

1"=100'

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	CONSTRUCTION SET
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	UTILITY SET
200	UTILITY COVER & DETAILS
201	OVERALL UTILITY PLAN
	SANITARY SEWER
300	SANITARY SEWER COVER
301	OVERALL SANITARY SEWER PLAN
302	SANITARY SEWER LINE A PLAN & PROFILE
303	SANITARY SEWER LINE B PLAN & PROFILE
304	SANITARY SEWER LINE C PLAN & PROFILE
305	SANITARY SEWER LINE D PLAN & PROFILE
306	SANITARY SEWER LINE R PLAN & PROFILE
307	SANITARY SEWER DETAILS
	WATER PLANS
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508	COUNTRY CLUB BLVD PLAN & PROFILE
509	DRAIN A PLAN & PROFILE
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	SEDIMENT & EROSION CONTROL
600	SEDIMENT & EROSION CONTROL COVER
601	OVERALL SED PLAN
602	SED NOTES & DETAILS
603	SED NOTES & DETAILS

OWNER/DEVELOPER:

LENNAR HOMES OF TEXAS AND
CONSTRUCTION, LTD
1922 DRY CREEK WAY, SUITE 101
SAN ANTONIO, TEXAS 78259
(210) 403-6200

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NOT FOR CONSTRUCTION
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REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
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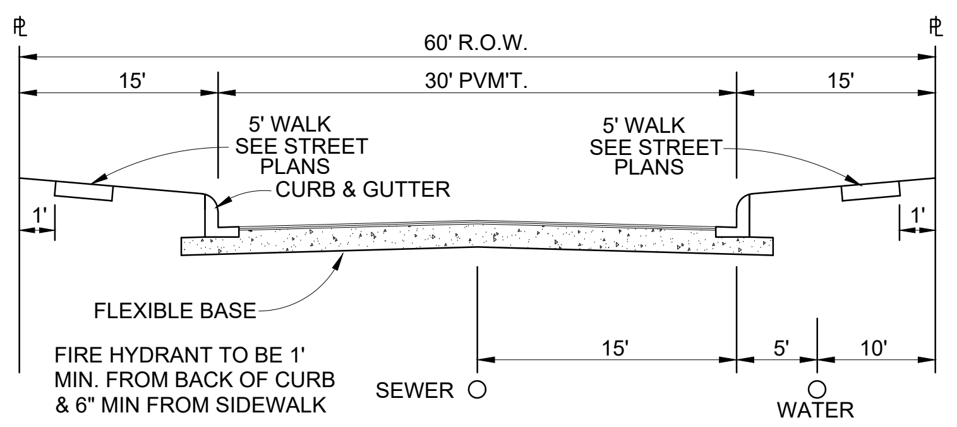
CIBOLO FARMS UNIT 3
CONSTRUCTION COVER

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
100

Date: Jul 31, 2024, 4:12pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 100 CONSTRUCTION COVER.dwg

OVERALL UTILITY PLANS
for
CIBOLO FARMS UNIT 3

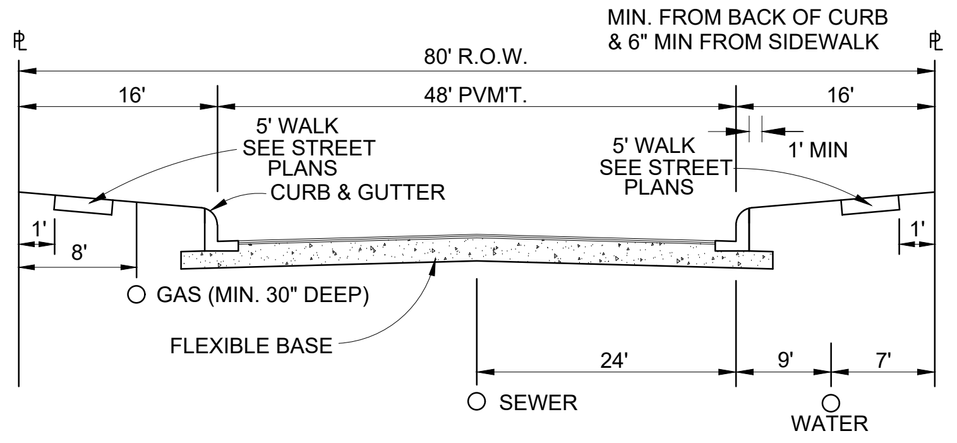


FIRE HYDRANT TO BE 1' MIN. FROM BACK OF CURB & 6" MIN FROM SIDEWALK

TYPICAL LOCAL "A" STREET SECTION

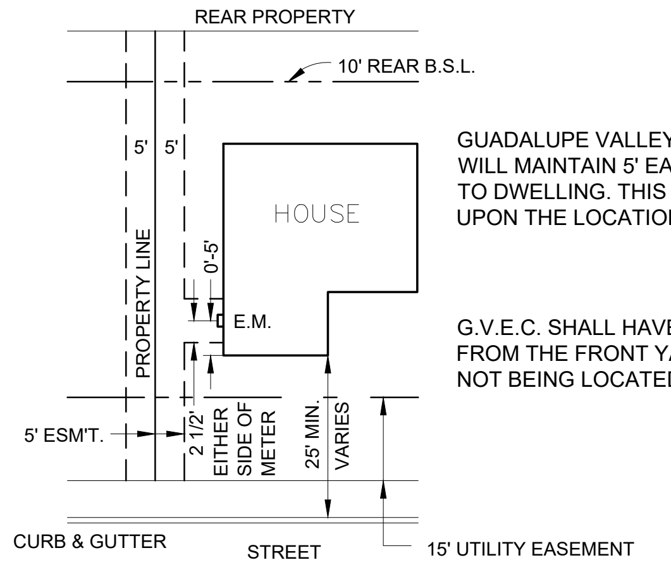
NOT TO SCALE

FIRE HYDRANT TO BE 1' MIN. FROM BACK OF CURB & 6" MIN FROM SIDEWALK



TYPICAL COLLECTOR STREET SECTION

NOT TO SCALE

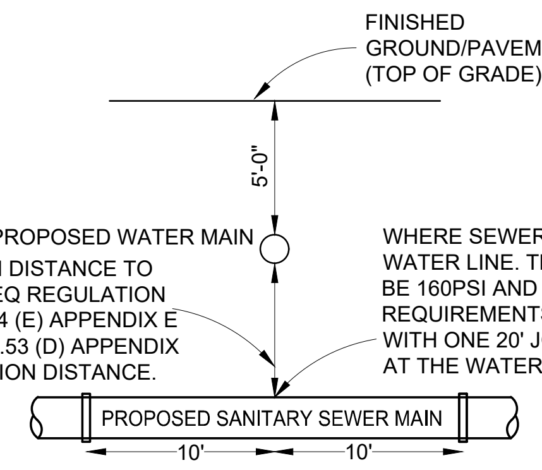


GUADALUPE VALLEY ELECTRIC COOPERATIVE (G.V.E.C.) WILL MAINTAIN 5' EASEMENT FOR SERVICE ENTRANCE TO DWELLING. THIS EASEMENT WILL VARY DEPENDING UPON THE LOCATION OF SAID DWELLING.

G.V.E.C. SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARDS WITH THE METER LOCATIONS NOT BEING LOCATED WITHIN A FENCED AREA.

TYPICAL INTERIOR EASEMENT ALONG PROPERTY LINE

NOT TO SCALE


FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
PROPOSED SANITARY SEWER MAIN
10'
10'

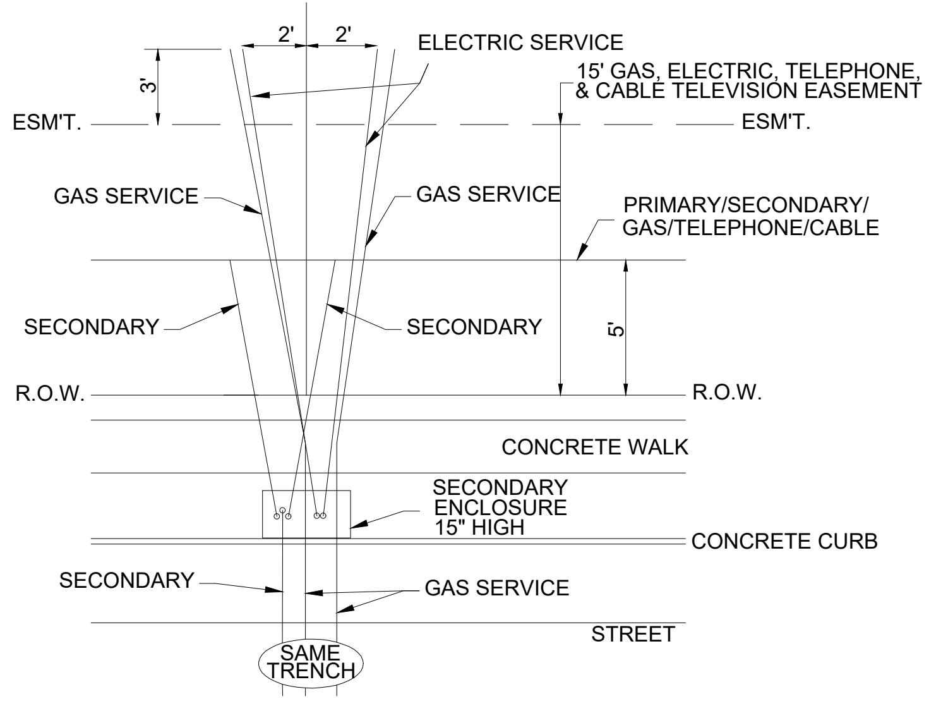
SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.

WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

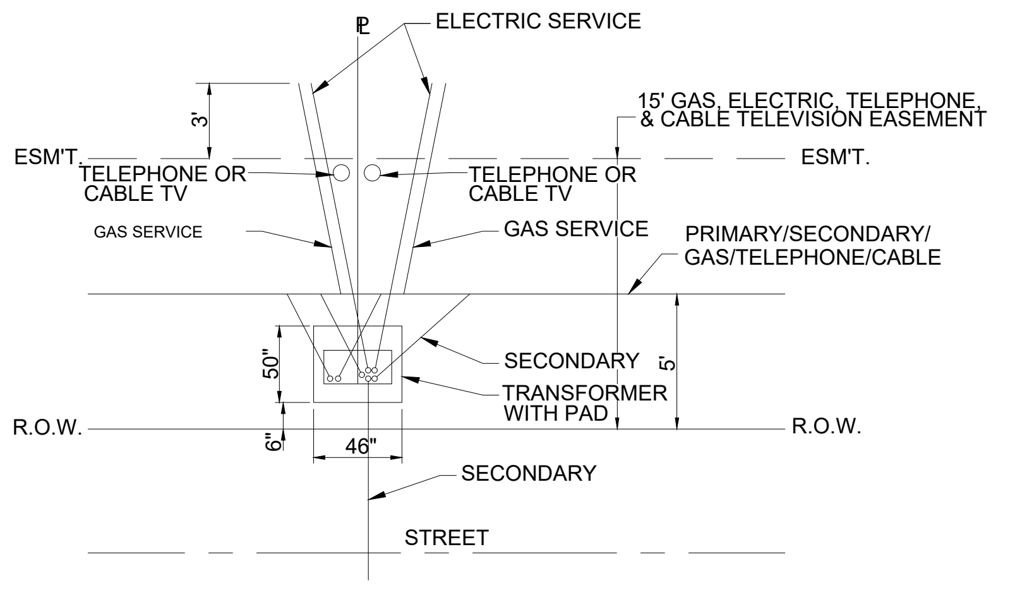
NOTE: ALL CONDUITS TO BE INSTALLED WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.



SECONDARY ENCLOSURE DETAIL

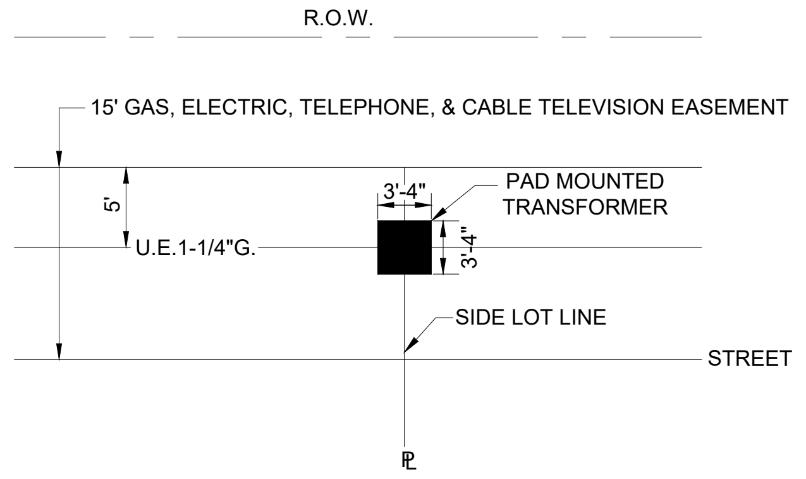
NOT TO SCALE

NOTE: ALL CONDUITS TO BE INSTALLED WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.



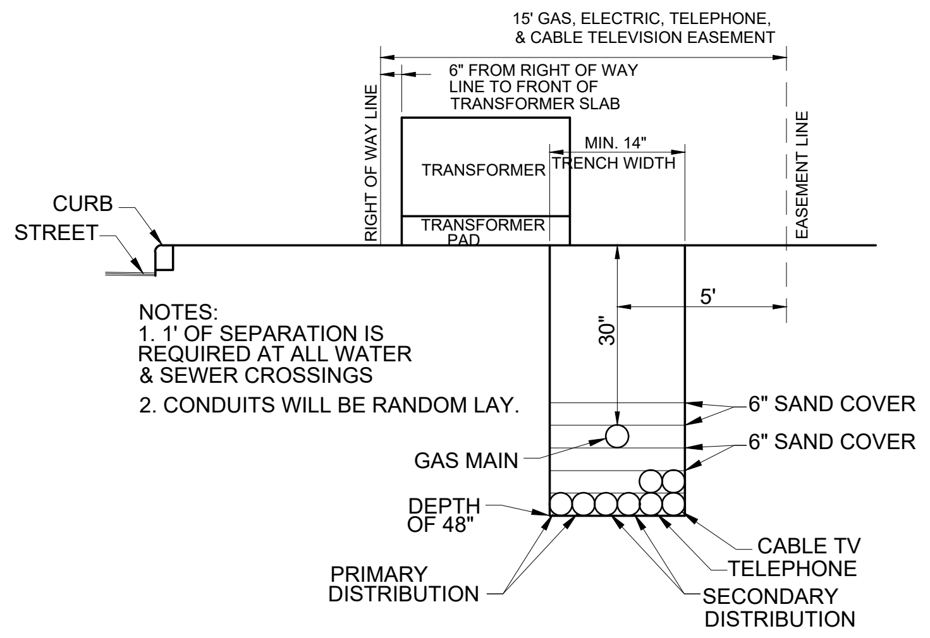
TYPICAL TRANSFORMER DETAIL

NOT TO SCALE



EASEMENT DETAILS

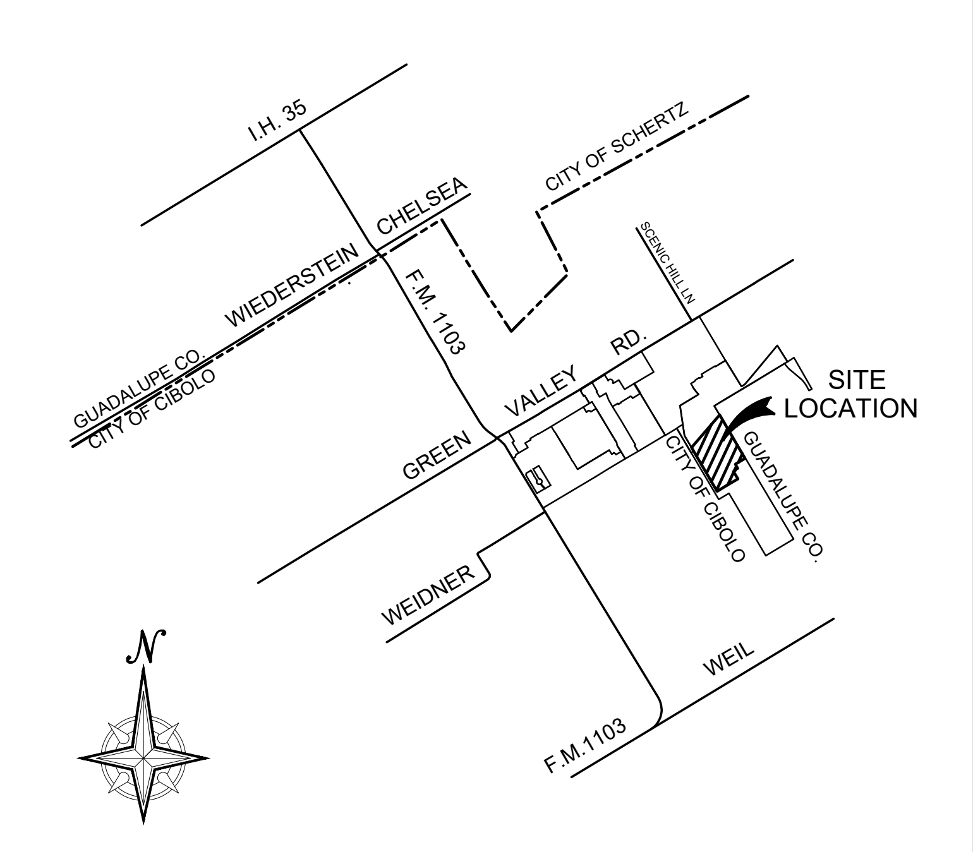
NOT TO SCALE



NOTES:
1. 1' OF SEPARATION IS REQUIRED AT ALL WATER & SEWER CROSSINGS
2. CONDUITS WILL BE RANDOM LAY.

TRENCH DIAGRAM
STANDARDS FOR GAS & ELECTRIC TRENCH
OR ELECTRIC TRENCH WITH JOINT UTILITIES

NOT TO SCALE



LOCATION MAP

N.T.S.

Sheet List Table

Sheet Number	Sheet Title
200	UTILITY COVER & DETAILS
201	OVERALL UTILITY PLAN

LOCATION OF DRY UTILITY INFRASTRUCTURE WITHIN 15' G.E.T.TV.E.:

GVEC: 1' - 5' FROM R.O.W.
DEPTH OF TRENCH: 48" - 54" DEEP

COMMUNICATIONS: 5' - 9' FROM R.O.W.
DEPTH OF TRENCH: 36" DEEP

GAS: 9' - 12' FROM R.O.W.
DEPTH OF TRENCH: 36" DEEP

NOTE: GVEC WILL NEED TO INSTALL FIRST TO AVOID DRY UTILITY CONFLICTS

LEGEND

EXISTING EDGE OF PAVEMENT	——////——————////——
EXISTING SANITARY SEWER MAIN	▶ E8"/12" SS ▶
PROPOSED SANITARY SEWER MAIN	▶ P8"/12" SS ▶
EXISTING WATER MAIN	—— E8"/16" PVC ——
PROPOSED WATER MAIN	– – – P8"/12" PVC – – –
EXISTING GAS MAIN	——G——
PROPOSED GAS MAIN	– – –G– – –
EXISTING UNDERGROUND TELEPHONE	——T——
PROPOSED UNDERGROUND TELEPHONE	– – –T– – –
EXISTING UNDERGROUND ELECTRIC	——E——
PROPOSED UNDERGROUND ELECTRIC	– – –E– – –
EXISTING OVERHEAD ELECTRIC	——O.E.——
PROPOSED OVERHEAD ELECTRIC	– – –O.E.– – –
EXISTING OVERHEAD TELEPHONE	——O.T.——
PROPOSED OVERHEAD TELEPHONE	– – –O.T.– – –
EXISTING UNDERGROUND CABLE T.V.	——T.V.——
PROPOSED UNDERGROUND CABLE T.V.	– – –T.V.– – –
EXISTING OVERHEAD CABLE T.V.	——O.T.V.——
PROPOSED OVERHEAD CABLE T.V.	– – –O.T.V.– – –
SANITARY SEWER MANHOLE	——●——
FIRE HYDRANT	⧓
GAS, ELECTRIC, TELEPHONE & CABLE T.V. EASEMENT	G.E.T.TV.E.
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	● L.P.
PROPOSED STREET LIGHT (250 WATT/SINGLE ARM)	● L.P.(250)
EXISTING STREET LIGHT	☼ E.L.P.
HIGH DENSITY POLYETHYLENE	H.D.P.E.
EXISTING SANITARY SEWER LATERAL	ESS
SANITARY SEWER LATERAL	SS
WATER SERVICE	W
IRRIGATION SERVICE	IS

NOTES:

1. P.V.C. WILL BE REQUIRED FOR G.V.E.C. UTILITY CROSSINGS WHEN DRAIN OR STREET CONSTRUCTION PRECEDES UTILITY CONSTRUCTION. CONTACT ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.
2. 4" P.V.C. SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE T.V. IF ABOVE APPLIES.
3. G.V.E.C. TO HAVE A 5' WIDE ELECTRIC EASEMENT ON ALL ROAD CROSSINGS IN WHICH ELECTRIC LINES ARE PLACED.
4. ALL UTILITY EASEMENTS ARE FOR CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS AND REPAIR OF ALL OVER- HEAD AND UNDERGROUND UTILITIES.
5. ALL G.V.E.C. UTILITY CROSSINGS SHALL BE A MINIMUM OF 7' CLEAR FROM ALL OTHER CONDUITS/TRENCHES AT THE SAME LOCATION.
6. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA/ ANSI C-151.

OWNER/DEVELOPER:

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CONSTRUCTION, LTD
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(210) 403-6200

PREPARED BY:

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SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOT FOR CONSTRUCTION
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REV	DATE	DESCRIPTION

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REGISTRATION #F-10573 / #101943-65

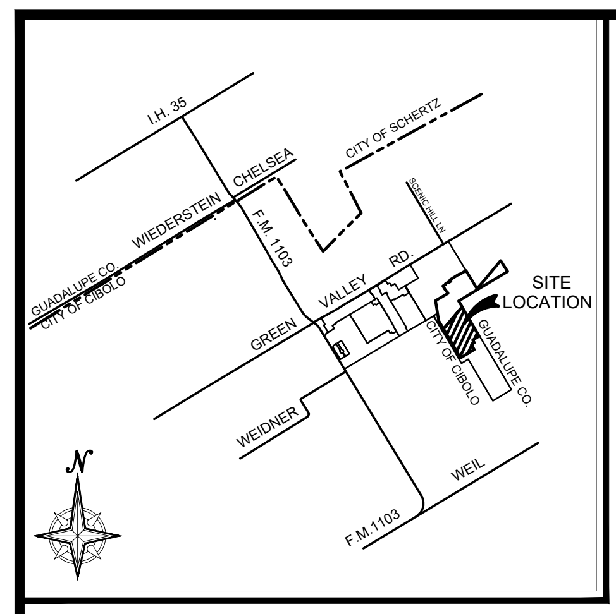
CIBOLO FARMS UNIT 3

UTILITY COVER & DETAILS

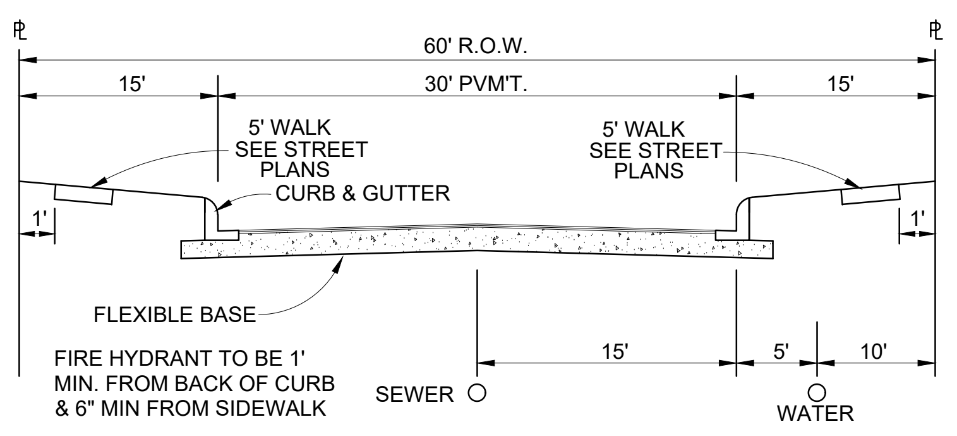
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
200

Date: Jul 31, 2024, 4:12pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 200 OVERALL UTILITY COVER.dwg

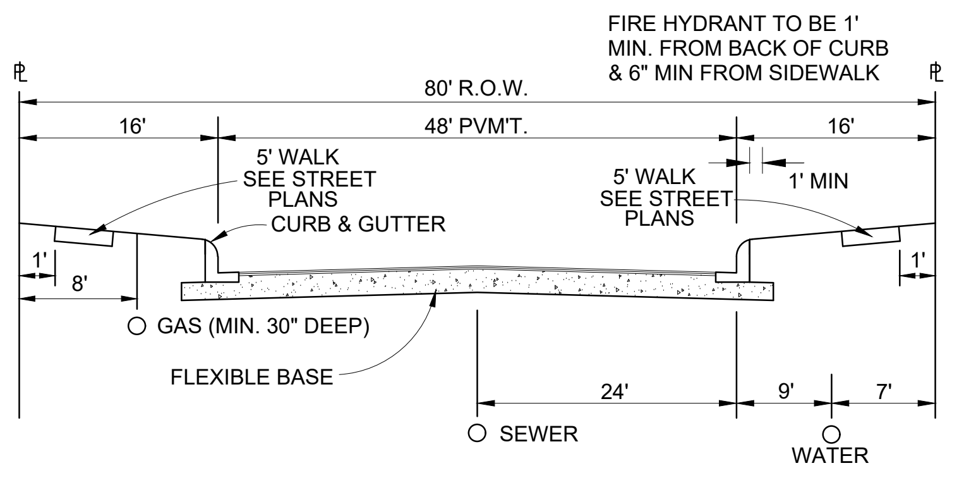


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE



TYPICAL COLLECTOR STREET SECTION

NOT TO SCALE

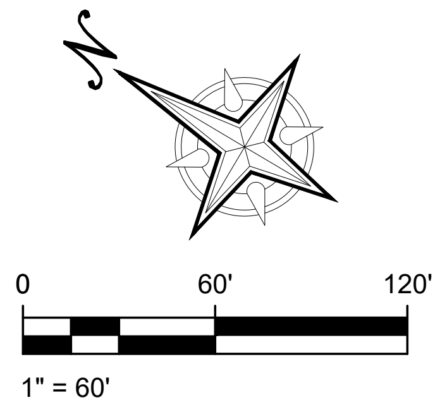
NOTES

1. P.V.C. WILL BE REQUIRED FOR G.V.E.C. UTILITY CROSSINGS WHEN DRAIN OR STREET CONSTRUCTION PRECEDES UTILITY CONSTRUCTION. CONTACT ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.
2. 4" P.V.C. SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE T.V. IF ABOVE APPLIES.
3. G.V.E.C. TO HAVE A 5' WIDE ELECTRIC EASEMENT ON ALL ROAD CROSSINGS IN WHICH ELECTRIC LINES ARE PLACED.
4. ALL UTILITY EASEMENTS ARE FOR CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS AND REPAIR OF ALL OVER-HEAD AND UNDERGROUND UTILITIES.
5. ALL DUCTILE IRON PIPE TO BE AMERICAN , ZINC COATED, AWWA/ ANSI C-151.

LEGEND

EXISTING EDGE OF PAVEMENT	——////————////——
EXISTING SANITARY SEWER MAIN	▬ ○ E8"PVC ○ ▬
PROPOSED SANITARY SEWER MAIN	—●— P8"SS —●—
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — E8"PVC — —
PROPOSED WATER MAIN	—— P8"PVC ——
PROPOSED LIGHT POLE (100 WATT LED)	● L.P.
PVC CONDUIT	=========

PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)



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REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

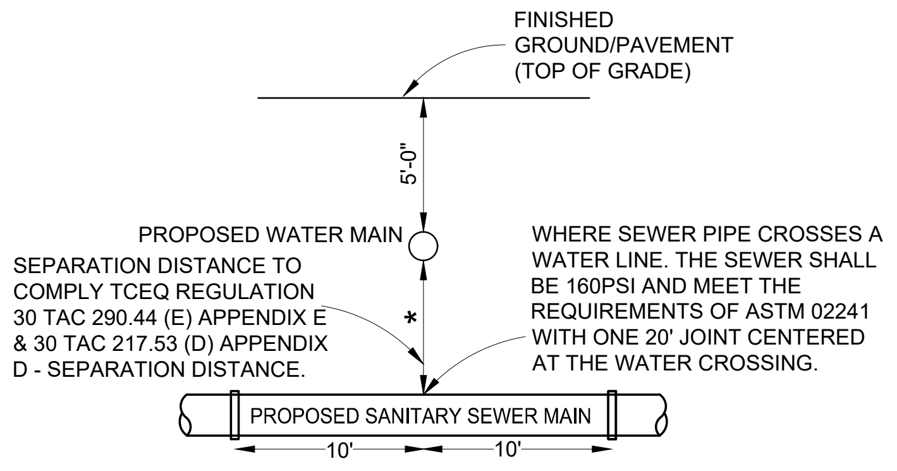
OVERALL UTILITY PLAN

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153
SHEET:	201

Date: Jul 31, 2024, 4:12pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 201 OVERALL UTILITY PLAN.dwg

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.



SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.

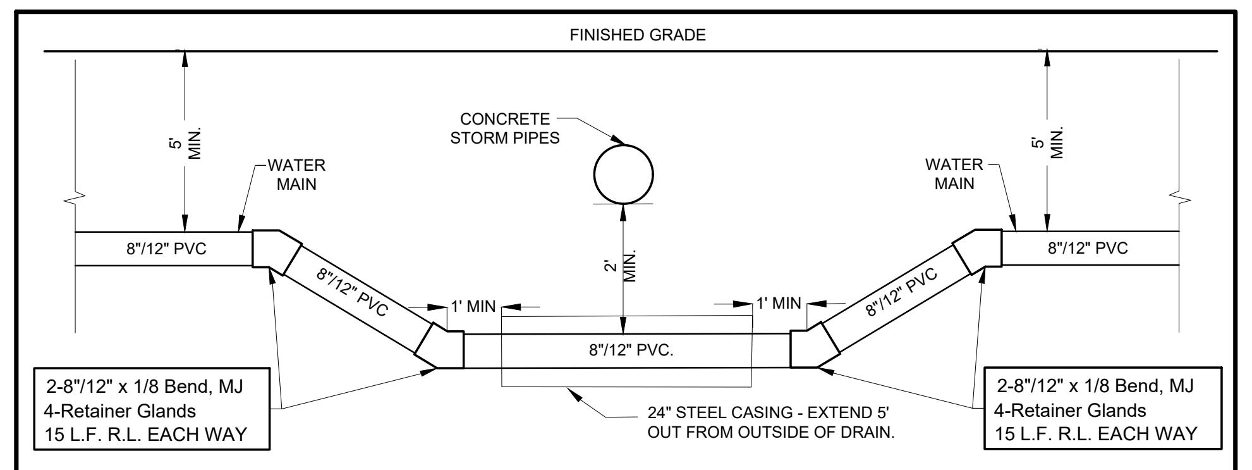
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

NOTE:
MUELLER AND EAST JORDAN HYDRANTS ARE APPROVED FOR INSTALLATION. HYDRANT MUST HAVE FACTORY INSTALLED 5" STORZ CONNECTOR ON STEAMER PORT.

NOTE:
GVSUD REQUIRES THE USE OF PC 235 C909 PVC FOR ALL PROPOSED 8" & 12" WATER LINES.

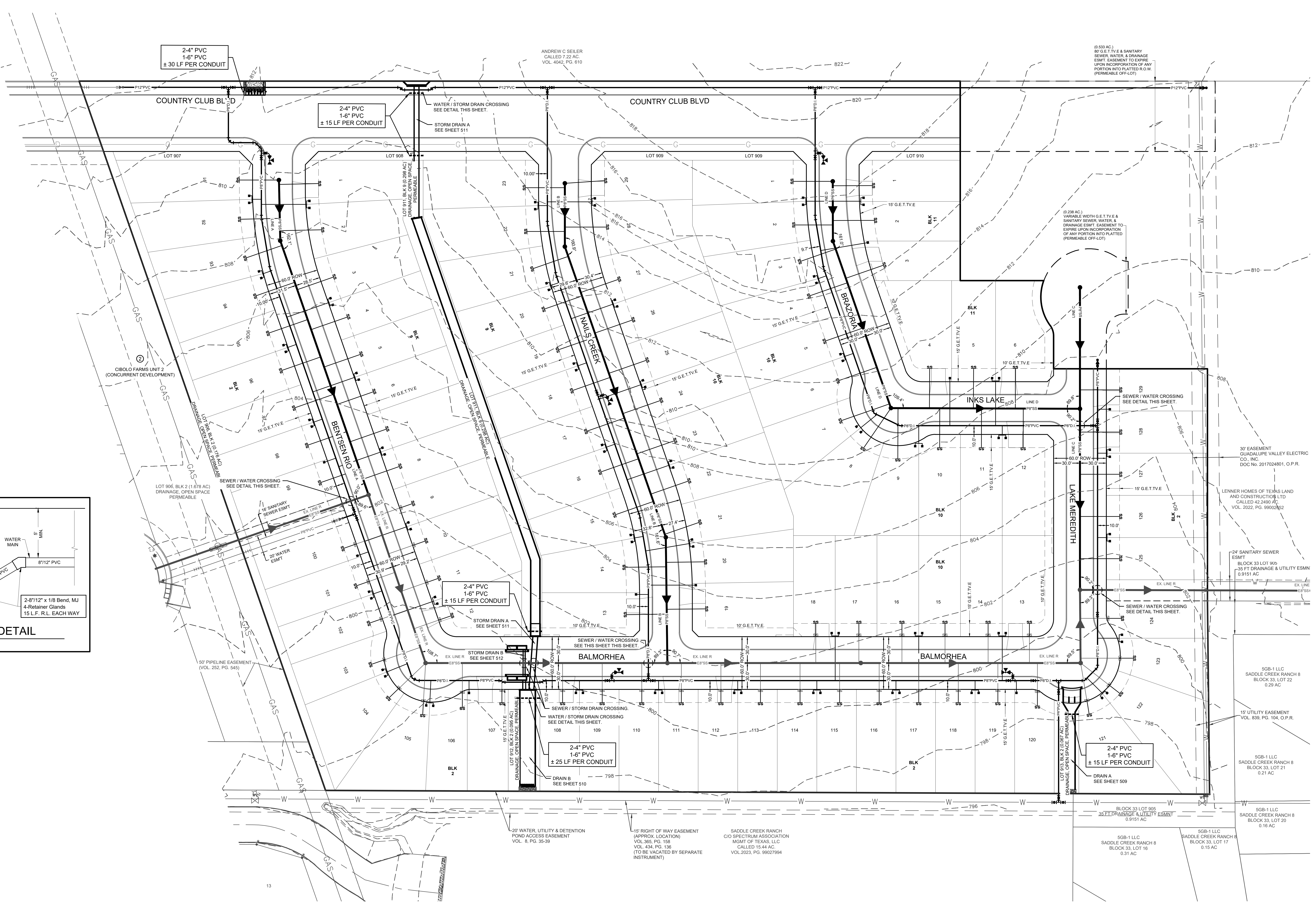


2-8"/12" x 1/8 Bend, MJ
4-Retainer Glands
15 L.F. R.L. EACH WAY

2-8"/12" x 1/8 Bend, MJ
4-Retainer Glands
15 L.F. R.L. EACH WAY

WATER/STORM DRAIN CROSSING DETAIL

N.T.S.



SANITARY SEWER PLANS
for
CIBOLO FARMS UNIT 3

SANITARY SEWER SYSTEM GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION, PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL BE APPROVED BY THE CITY OF CIBOLO AND COMPLY WITH THE FOLLOWING AS APPLICABLE:

A. CURRENT TEXAS NATURAL RESOURCE CONSERVATION COMMISSION'S DESIGN CRITERIA FOR SEWERAGE SYSTEMS [30 TAG 217.1,30 TAG 217.2,30 TAG 217.3 AND 30 TAG 217.13].
B. CURRENT CITY OF CIBOLO STANDARDS.
C. CURRENT "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
D. CURRENT TXDOT " STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
E. CURRENT SAN ANTONIO RIVER AUTHORITY STANDARDS.

2. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS, AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

TEXAS STATE WIDE ONE CALL. LOCATOR 1-800-545-6005
GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC.
AT&T
TIME WARNER CABLE
VALERO ENERGY CO.
CITY OF CIBOLO 210-658-9900
GREEN VALLEY S.U.D. 830-914-2330

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION FROM DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES.

4. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION.

5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, ACCESS TO GAS VALVES MUST BE AVAILABLE AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE PROJECT AREAS.

6. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE AT A MINIMUM EXTENDED TO THE PROPERTY LINE AND CAPPED AND SEALED.

7. TESTING OF SEWERS SHALL INCLUDE AIR TESTING AND MANDREL AT 30 DAYS.

EXCAVATION

8. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

9. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

10. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO THE S.A.W.S. STANDARD SPECIFICATIONS FOR CONSTRUCTION, ITEM NO. 550 & 804.

WATER LINE CROSSING

11. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATER LINES/MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION'S RULES (30 TAC 217.13 APPENDIX E),

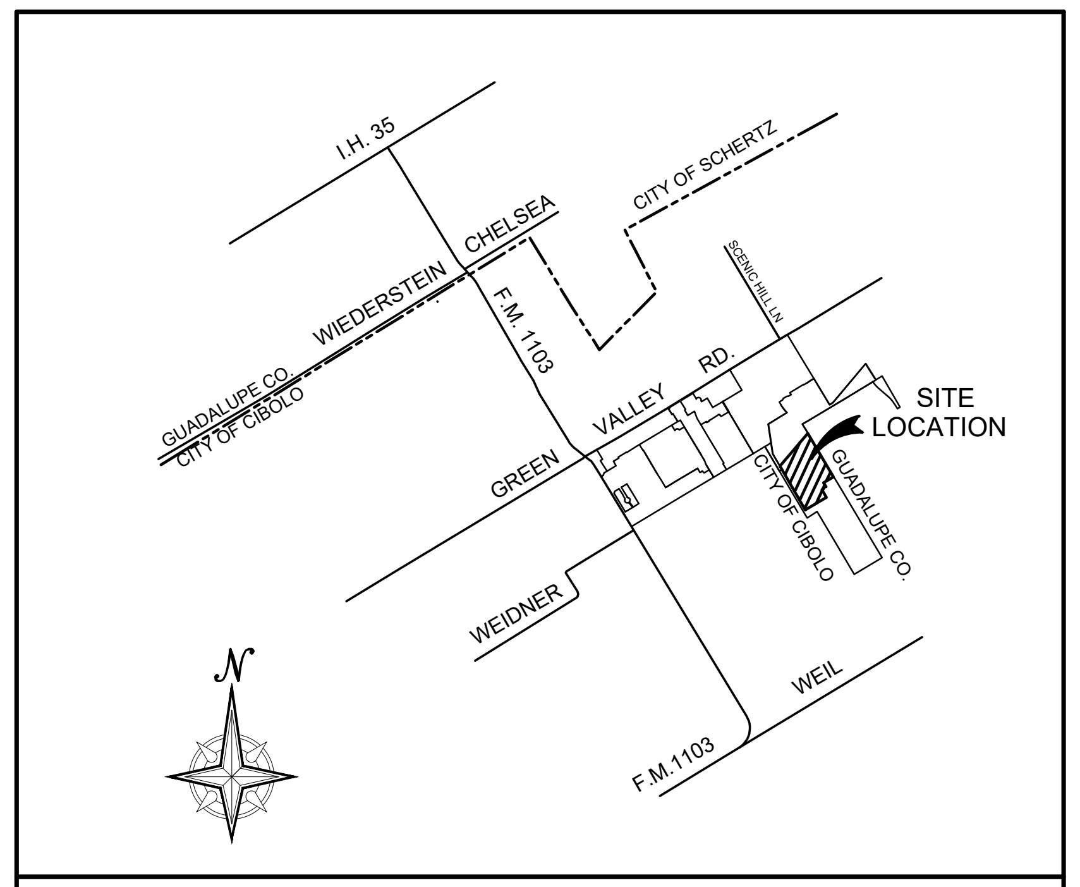
EROSION AND SEDIMENTATION CONTROL

12. THE TEXAS NATURAL RESOUTCE CONSERVATION COMMISSION AND ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTES ON THE PROJECT'S PLAN AND PROFILE SHEETS.

13. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE CITY.

14. NO EXTRA-PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT RELATES.

15. THE DEVELOPER DEDICATES THE SANITARY SEWER MAINS UPON COMPLETION BY THE DEVELOPER AND ACCEPTANCE BY THE CITY. THE CITY WILL OWN AND MAINTAIN SAID SANITARY SEWER MAINS WHICH ARE LOCATED WITHIN THIS PARTICULAR SUBDIVISION. (AS APPLICABLE)

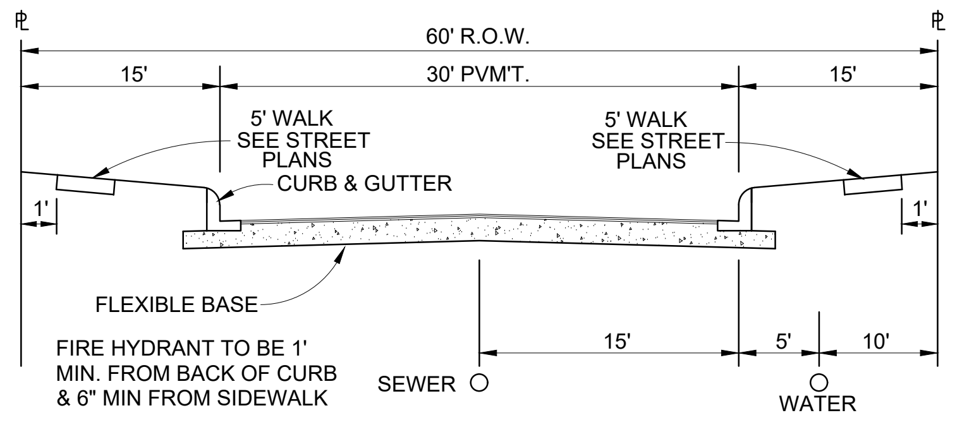


LOCATION MAP
N.T.S.

SEWER QUANTITIES

Onsite Sewer

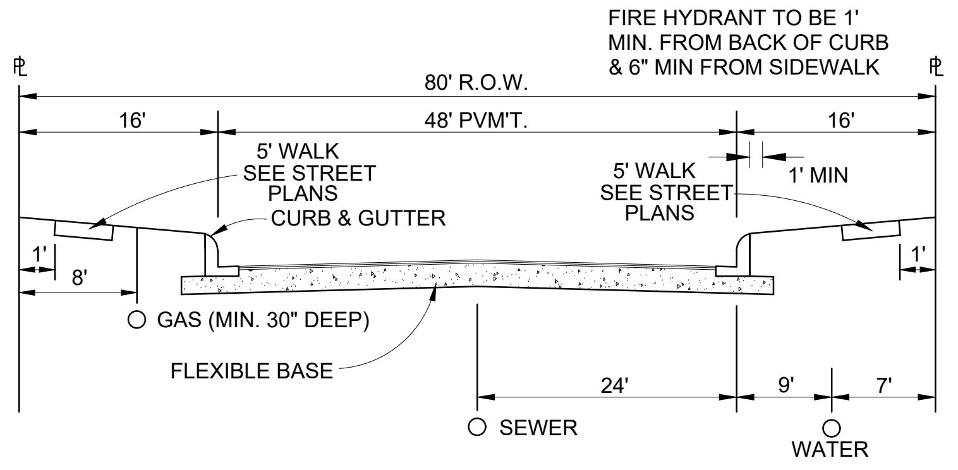
Item No:	Description	Unit	Quantity
550.0	Trench Excavation Safety Protection	L.F.	5,127
848.0	8" PVC Sanitary Sewer Line (6'-8') (SDR 26)	L.F.	1,768
851.0	Adjust Existing Manholes (Rim/ Cone Adjustment)	EA.	3
852.1	Sanitary Sewer Manhole (0'-6') (Watertight/ Unless Specified Vented)	EA.	10
852.3	Extra Depth Manholes (>6')	V.F.	20.39
854.0	Sanitary Sewer Laterals (6")	L.F.	3,359
854.1	One-Way Sanitary Sewer Clean Out	EA.	97
855.0	Tie Into and Reconstruct Existing Sanitary Sewer Manhole (Drop)	EA.	3
858.0	Concrete Encasement, Cradles, Saddles and Collars	CY	2.8
866.0	Sewer Main Television Inspection (8" - 15")	L.F.	1,768



TYPICAL LOCAL "A" STREET SECTION
NOT TO SCALE

Sheet List Table

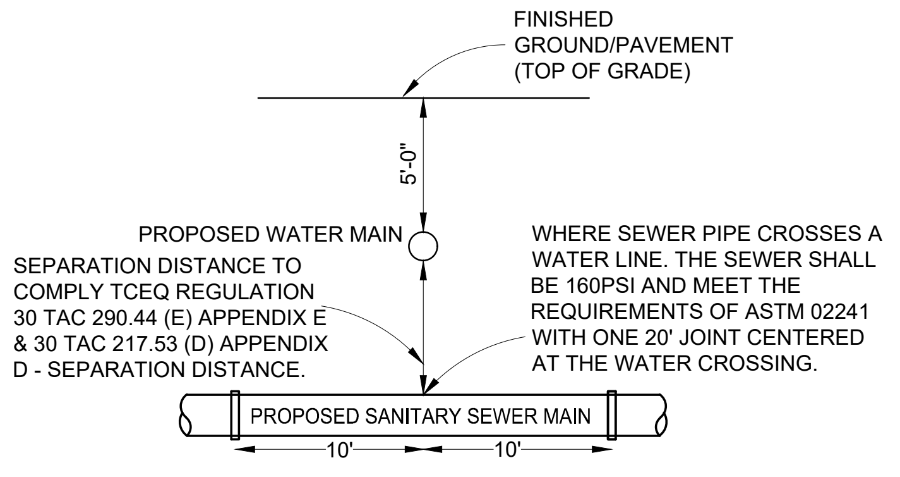
Sheet Number	Sheet Title
300	SANITARY SEWER COVER
301	OVERALL SANITARY SEWER PLAN
302	SANITARY SEWER LINE A PLAN & PROFILE
303	SANITARY SEWER LINE B PLAN & PROFILE
304	SANITARY SEWER LINE C PLAN & PROFILE
305	SANITARY SEWER LINE D PLAN & PROFILE
306	SANITARY SEWER LINE R PLAN & PROFILE
307	SANITARY SEWER DETAILS



TYPICAL COLLECTOR STREET SECTION
NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	---///---///---
EXISTING SANITARY SEWER MAIN	E8"SS
PROPOSED SANITARY SEWER MAIN	P8"SS
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	E8"PVC
PROPOSED WATER MAIN	P8"PVC
PROPOSED LIGHT POLE (100 WATT LED)	● L.P.


FINISHED
GROUND/PAVEMENT
(TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
SEPARATION DISTANCE TO
COMPLY TCEQ REGULATION
30 TAC 290.44 (E) APPENDIX E
& 30 TAC 217.53 (D) APPENDIX
D - SEPARATION DISTANCE.
WHERE SEWER PIPE CROSSES A
WATER LINE. THE SEWER SHALL
BE 160PSI AND MEET THE
REQUIREMENTS OF ASTM 02241
WITH ONE 20' JOINT CENTERED
AT THE WATER CROSSING.
PROPOSED SANITARY SEWER MAIN
10'
10'

TYPICAL SANITARY SEWER/
WATER CROSSING DETAIL
NOT TO SCALE

NOTES

1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 45 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS THAT SLOPE AWAY FROM STREET SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH G.E.T.TV.E.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

OWNER/DEVELOPER:

LENNAR HOMES OF TEXAS AND
CONSTRUCTION, LTD
1922 DRY CREEK WAY, SUITE 101
SAN ANTONIO, TEXAS 78259
(210) 403-6200

PREPARED BY:

KCI TECHNOLOGIES, INC.
2806 W. BITTERS, RD. SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

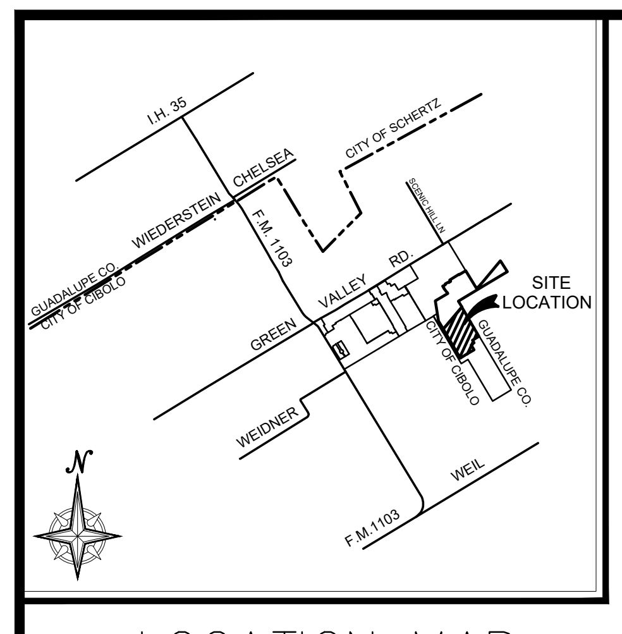
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3
SANITARY SEWER COVER

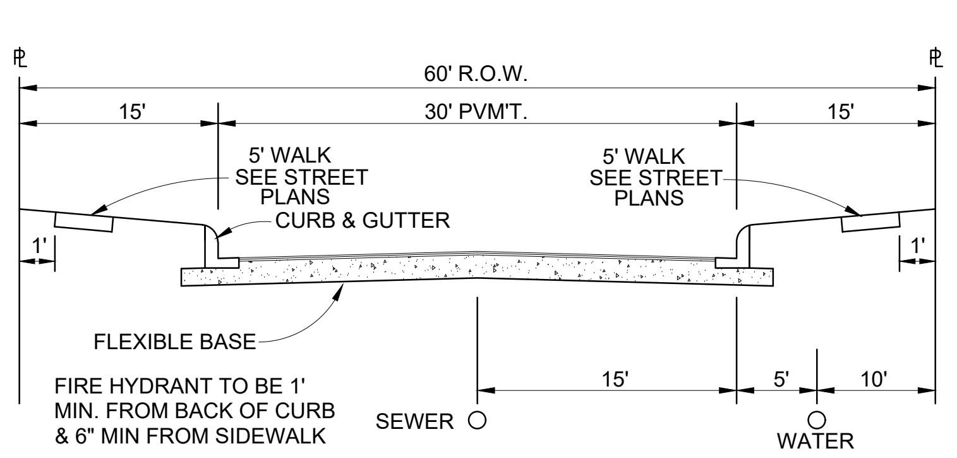
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
300

Date: Jul 31, 2024, 4:13pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 300 SANITARY SEWER COVER.dwg

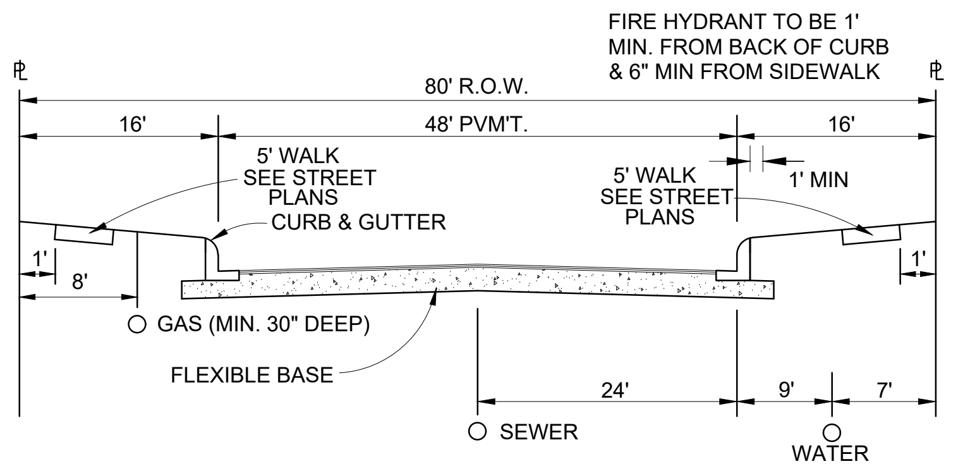


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE



TYPICAL COLLECTOR STREET SECTION

NOT TO SCALE

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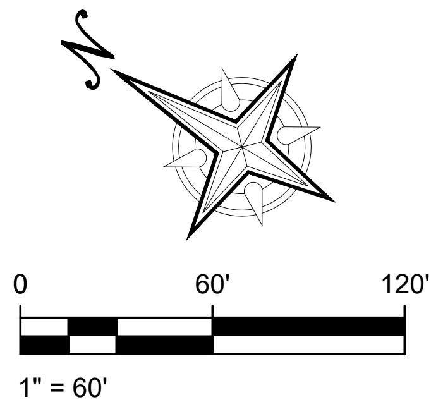
5. CONTRACTOR TO INSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

* DENOTES CONTRACTOR TO INSTALL AND TIE PROPOSED LATERAL TO EXISTING LATERAL.
(LOT 100-124, BLK 2, LOTS 9-12, BLK 9, LOTS 13-18, BLK 10)

LEGEND

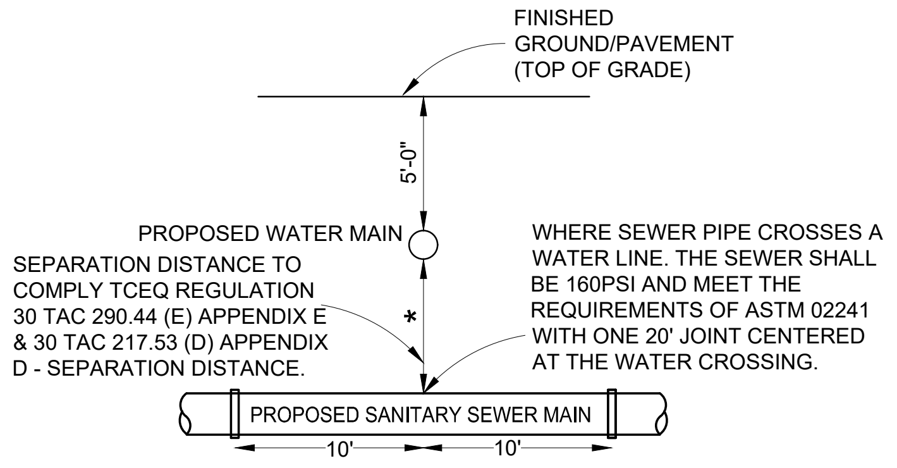
EXISTING EDGE OF PAVEMENT	——////——////——
EXISTING SANITARY SEWER MAIN	▬○▬ E8"SS ▬○▬
PROPOSED SANITARY SEWER MAIN	—●— P8"SS —●—
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — E8"PVC — —
PROPOSED WATER MAIN	—— P8"PVC ——
SEWER SERVICE LATERAL	SS——

PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)



TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

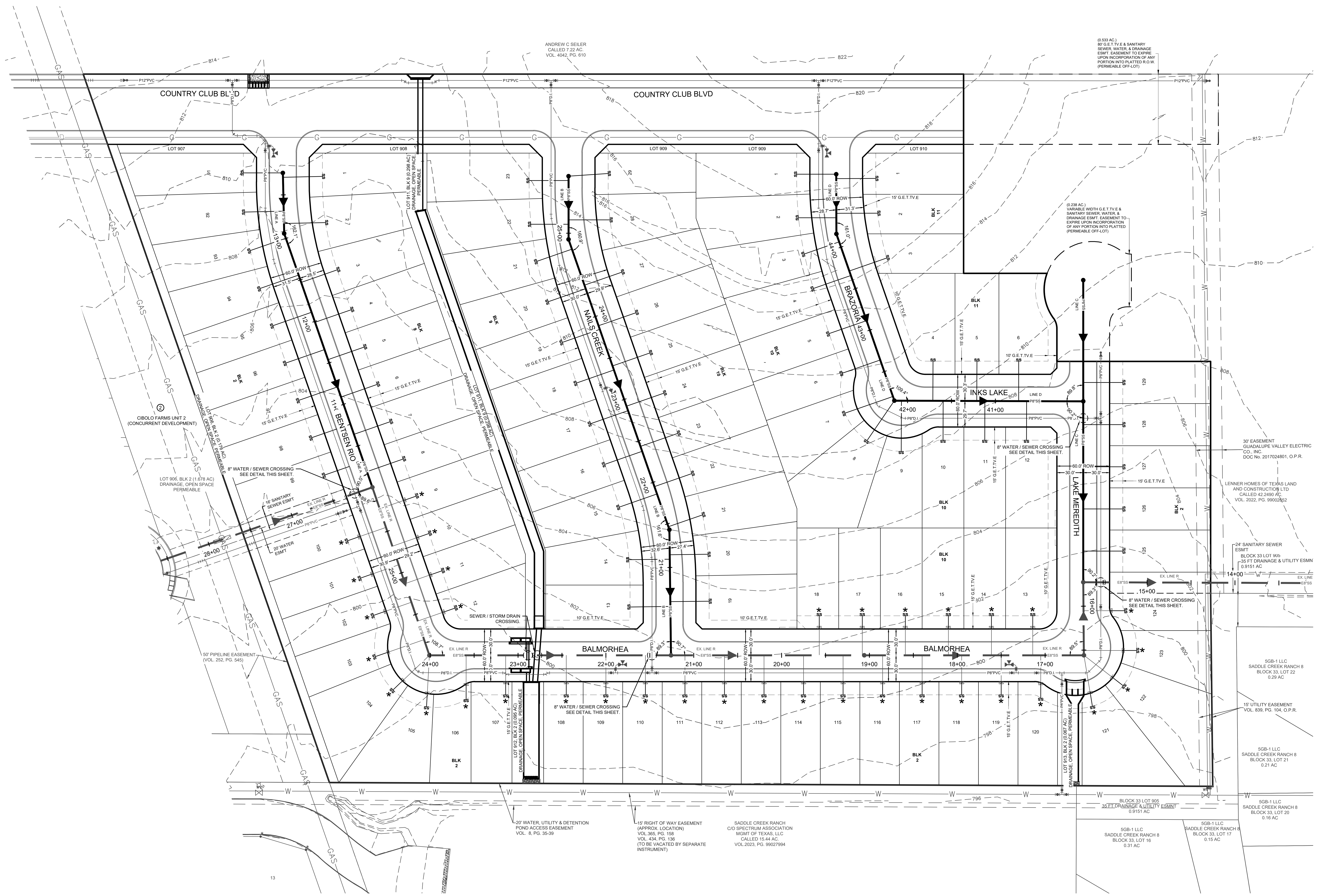


SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.

WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE



NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

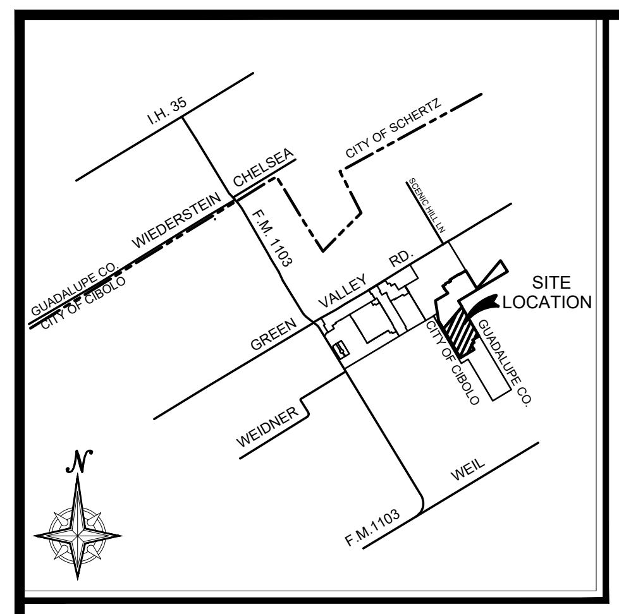
CIBOLO FARMS UNIT 3

OVERALL SANITARY SEWER PLAN

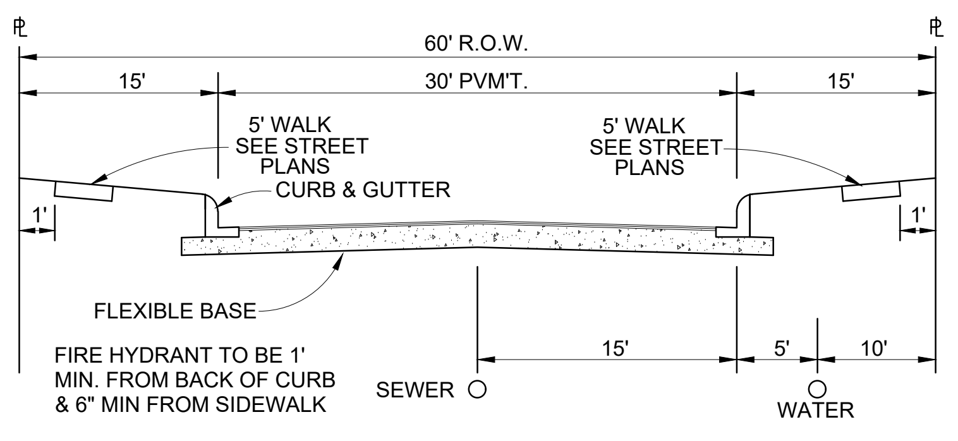
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
301

Date: Jul 31, 2024, 4:13pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 301 OVERALL SANITARY SEWER PLAN.dwg

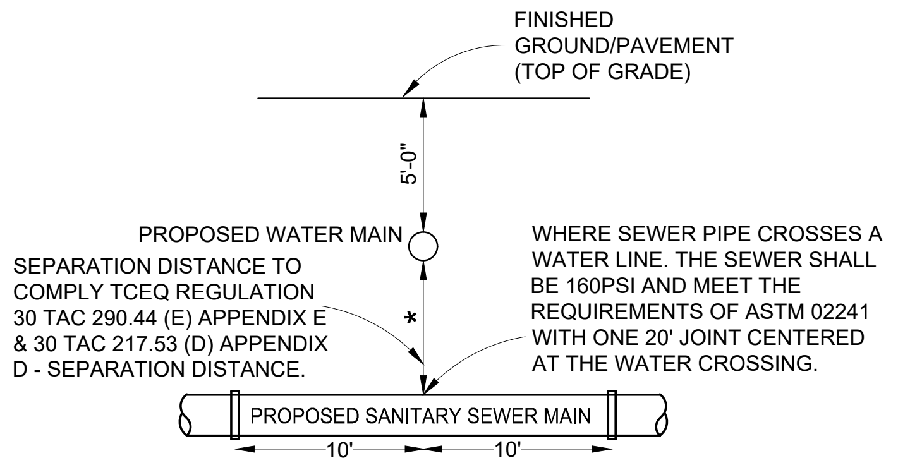


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE

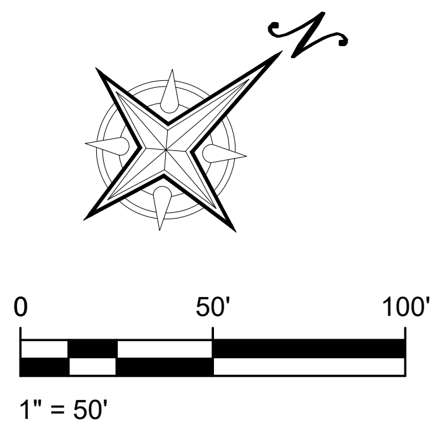

FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.
*
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.
PROPOSED SANITARY SEWER MAIN
10'
10'

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	——////——////——
EXISTING SANITARY SEWER MAIN	E8"SS
PROPOSED SANITARY SEWER MAIN	P8"SS
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	E8"PVC
PROPOSED WATER MAIN	P8"PVC
SEWER SERVICE LATERAL	SS——



TRENCH EXCAVATION SAFETY PROTECTION

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2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS THAT SLOPE AWAY FROM STREET SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH G.E.T.TV.E.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
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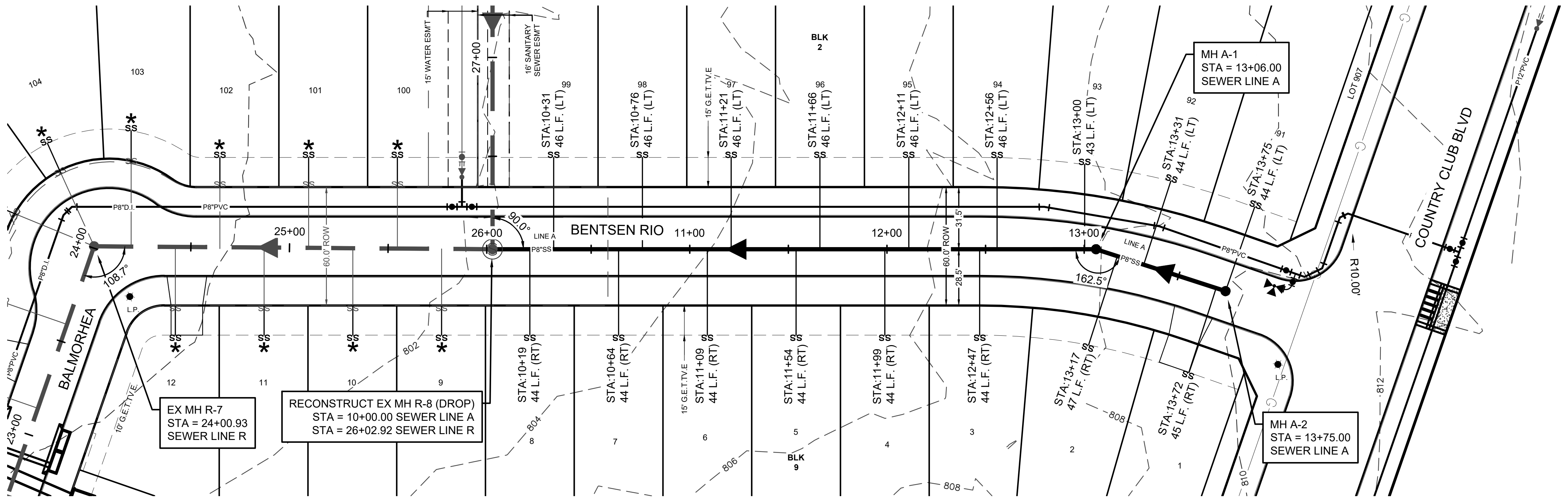
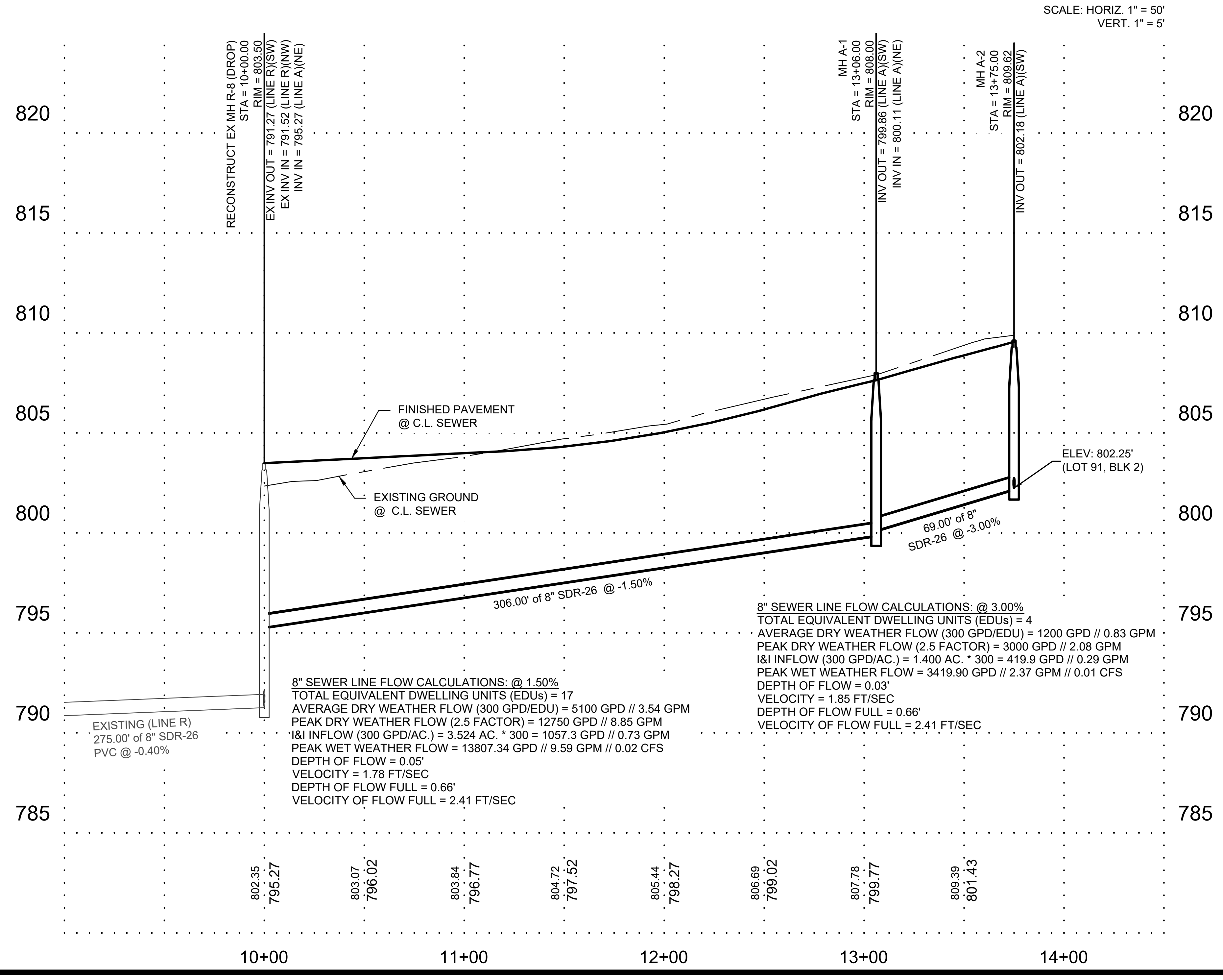
* DENOTES CONTRACTOR TO INSTALL AND TIE PROPOSED LATERAL TO EXISTING LATERAL.
(LOTS 100-104, BLK 2 AND 9-12, BLK 9)



SANITARY SEWER LINE "A"

STA. 10+00.00 TO STA. 13+75.00


SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'
RECONSTRUCT EX MH R-8 (DROP)
STA = 10+00.00
RIM = 803.50
EX INV OUT = 791.27 (LINE R)(SW)
EX INV IN = 791.52 (LINE R)(NW)
INV IN = 795.27 (LINE A)(NE)
MH A-1
STA = 13+06.00
RIM = 808.00
INV OUT = 799.86 (LINE A)(SW)
INV IN = 800.11 (LINE A)(NE)
MH A-2
STA = 13+75.00
RIM = 809.62
INV OUT = 802.18 (LINE A)(SW)
FINISHED PAVEMENT @ C.L. SEWER
EXISTING GROUND @ C.L. SEWER
ELEV: 802.25' (LOT 91, BLK 2)
306.00' of 8" SDR-26 @ -1.50%
69.00' of 8" SDR-26 @ -3.00%
EXISTING (LINE R) 275.00' of 8" SDR-26 PVC @ -0.40%
820
815
810
805
800
795
790
785
802.35
795.27
803.07
796.02
803.84
796.77
804.72
797.52
805.44
798.27
806.69
799.02
807.78
799.77
809.39
801.43
10+00
11+00
12+00
13+00
14+00

8" SEWER LINE FLOW CALCULATIONS: @ 1.50%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 17
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 5100 GPD // 3.54 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 12750 GPD // 8.85 GPM
I&I INFLOW (300 GPD/AC.) = 3.524 AC. * 300 = 1057.3 GPD // 0.73 GPM
PEAK WET WEATHER FLOW = 13807.34 GPD // 9.59 GPM // 0.02 CFS
DEPTH OF FLOW = 0.05'
VELOCITY = 1.78 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 3.00%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 4
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 1200 GPD // 0.83 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 3000 GPD // 2.08 GPM
I&I INFLOW (300 GPD/AC.) = 1.400 AC. * 300 = 419.9 GPD // 0.29 GPM
PEAK WET WEATHER FLOW = 3419.90 GPD // 2.37 GPM // 0.01 CFS
DEPTH OF FLOW = 0.03'
VELOCITY = 1.85 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

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REV	DATE	DESCRIPTION

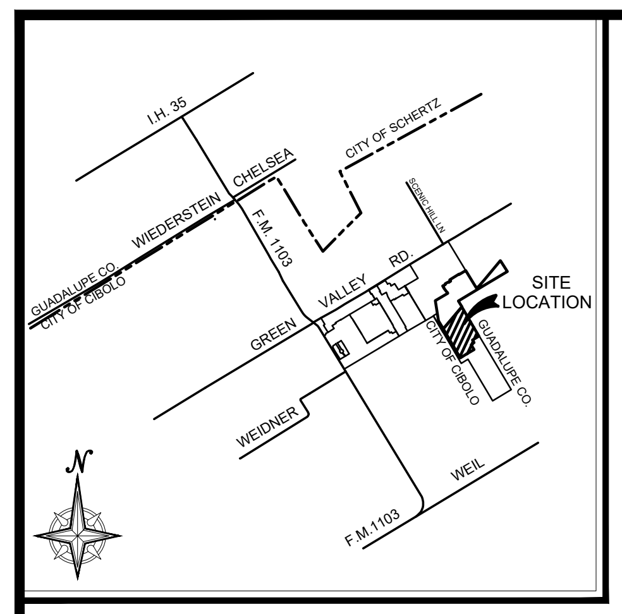
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

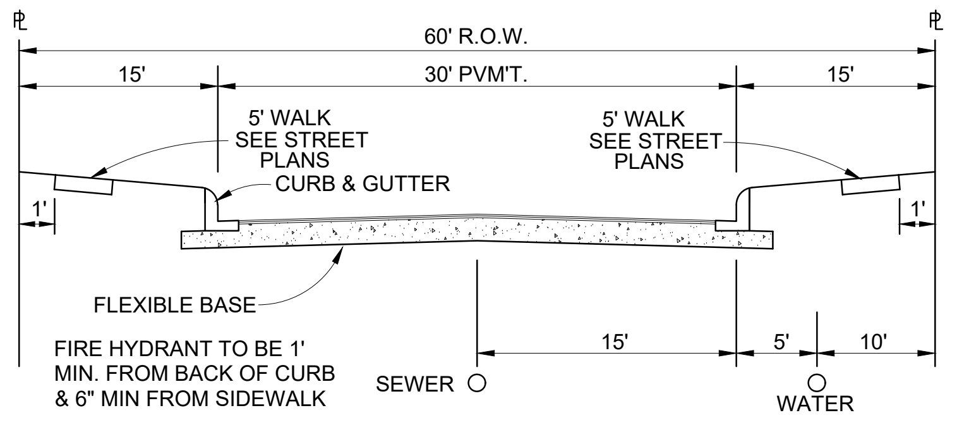
SANITARY SEWER LINE A PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153
SHEET:	302		

Date: Jul 31, 2024, 4:13pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 302 SANITARY SEWER LINE A PLAN & PROFILE.dwg

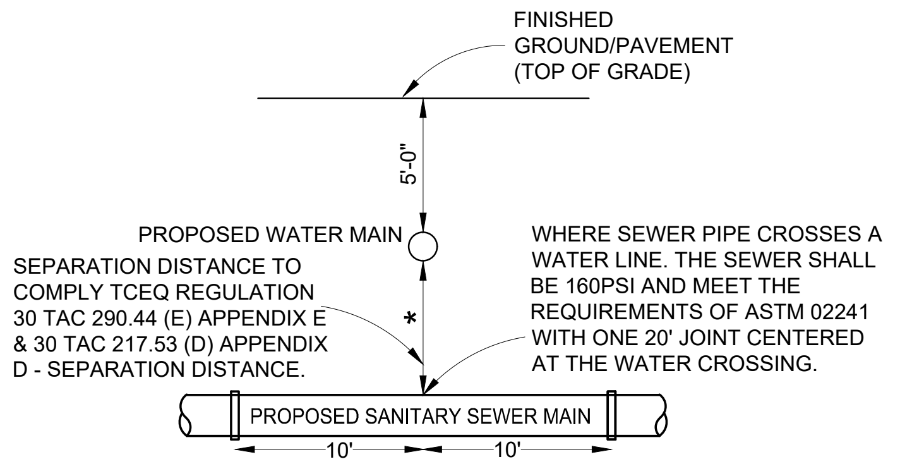


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE


FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
*
PROPOSED SANITARY SEWER MAIN
10'
10'

SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.

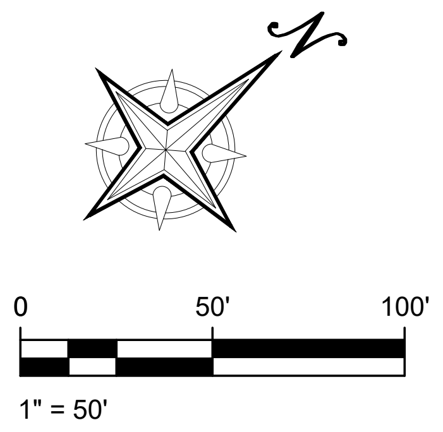
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	——////——————////——
EXISTING SANITARY SEWER MAIN	▬ ▬○▬ E8"SS ▬○▬ ▬
PROPOSED SANITARY SEWER MAIN	━●━ P8"SS ━●━
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — — E8"PVC — — —
PROPOSED WATER MAIN	——— P8"PVC ———
SEWER SERVICE LATERAL	SS———



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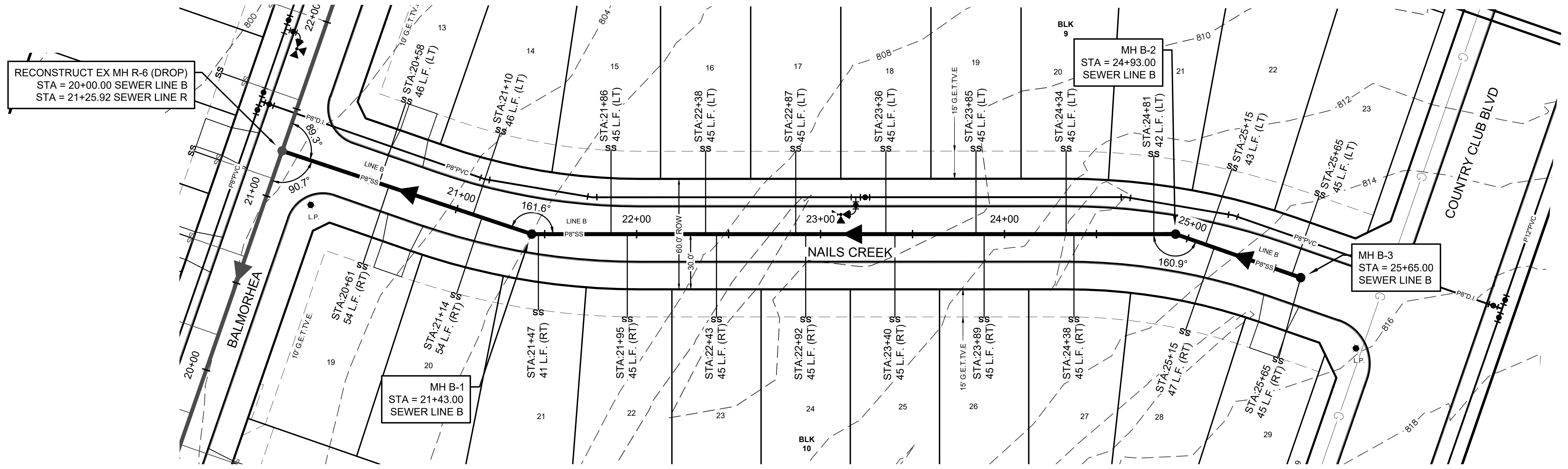
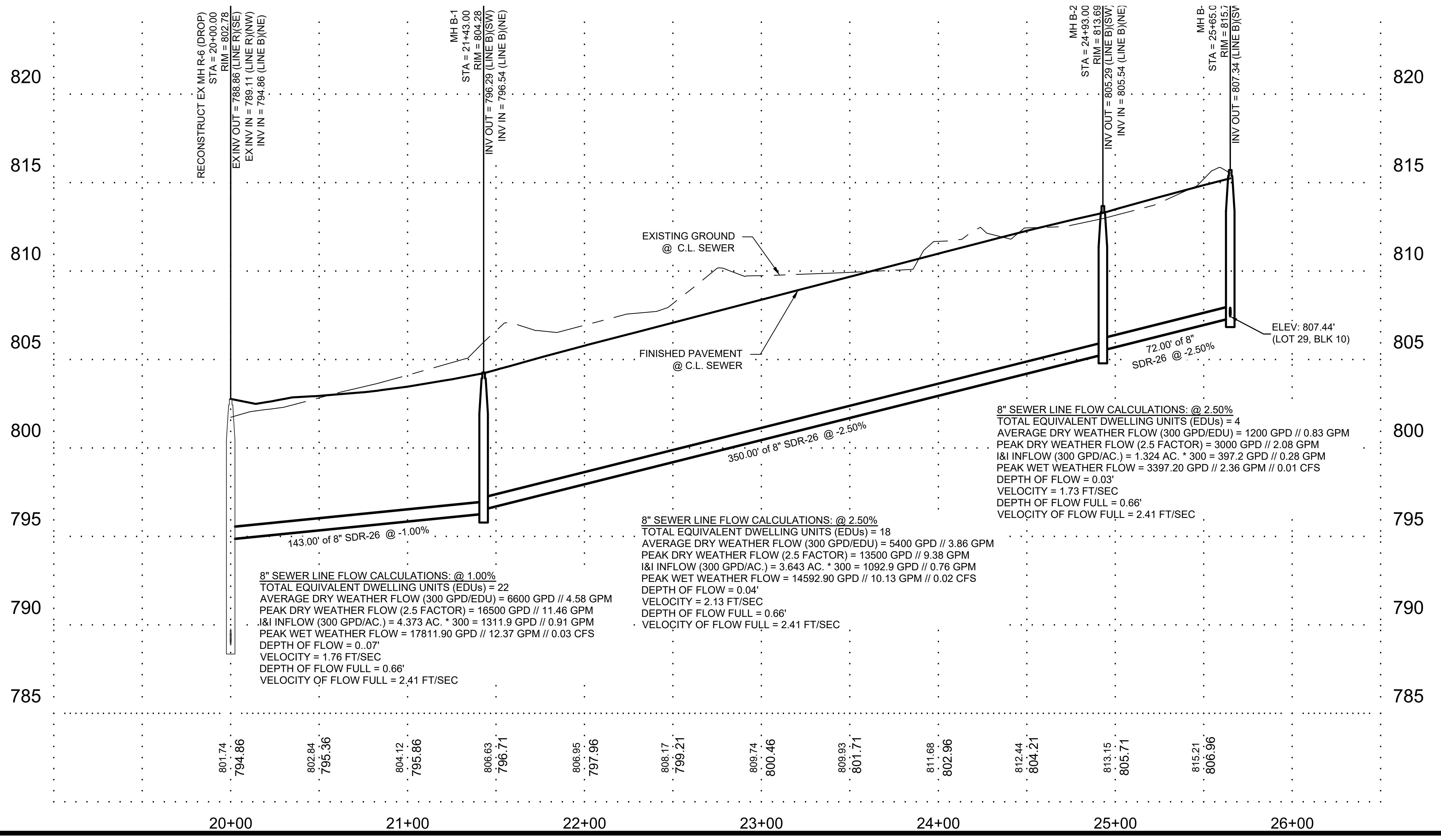


SANITARY SEWER LINE "B"

STA. 20+00.00 TO STA. 25+65.00

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'


RECONSTRUCT EX MH R-6 (DROP)
STA = 20+00.00
RIM = 802.78
EX INV OUT = 788.86 (LINE R)(SE)
EX INV IN = 789.11 (LINE R)(NW)
INV IN = 794.86 (LINE B)(NE)
MH B-1
STA = 21+43.00
RIM = 804.28
INV OUT = 796.29 (LINE B)(SW)
INV IN = 796.54 (LINE B)(NE)
MH B-2
STA = 24+93.00
RIM = 813.69
INV OUT = 805.29 (LINE B)(SW)
INV IN = 805.54 (LINE B)(NE)
MH B-
STA = 25+65.0
RIM = 815.7
INV OUT = 807.34 (LINE B)(SW
EXISTING GROUND @ C.L. SEWER
FINISHED PAVEMENT @ C.L. SEWER
143.00' of 8" SDR-26 @ -1.00%
350.00' of 8" SDR-26 @ -2.50%
72.00' of 8" SDR-26 @ -2.50%
ELEV: 807.44' (LOT 29, BLK 10)
820
815
810
805
800
795
790
785
801.74
794.86
802.84
795.36
804.12
795.86
806.63
796.71
806.95
797.96
808.17
799.21
809.74
800.46
809.93
801.71
811.68
802.96
812.44
804.21
813.15
805.71
815.21
806.96
20+00
21+00
22+00
23+00
24+00
25+00
26+00

8" SEWER LINE FLOW CALCULATIONS: @ 1.00%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 22
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 6600 GPD // 4.58 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 16500 GPD // 11.46 GPM
I&I INFLOW (300 GPD/AC.) = 4.373 AC. * 300 = 1311.9 GPD // 0.91 GPM
PEAK WET WEATHER FLOW = 17811.90 GPD // 12.37 GPM // 0.03 CFS
DEPTH OF FLOW = 0..07'
VELOCITY = 1.76 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 2.50%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 18
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 5400 GPD // 3.86 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 13500 GPD // 9.38 GPM
I&I INFLOW (300 GPD/AC.) = 3.643 AC. * 300 = 1092.9 GPD // 0.76 GPM
PEAK WET WEATHER FLOW = 14592.90 GPD // 10.13 GPM // 0.02 CFS
DEPTH OF FLOW = 0.04'
VELOCITY = 2.13 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 2.50%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 4
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 1200 GPD // 0.83 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 3000 GPD // 2.08 GPM
I&I INFLOW (300 GPD/AC.) = 1.324 AC. * 300 = 397.2 GPD // 0.28 GPM
PEAK WET WEATHER FLOW = 3397.20 GPD // 2.36 GPM // 0.01 CFS
DEPTH OF FLOW = 0.03'
VELOCITY = 1.73 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

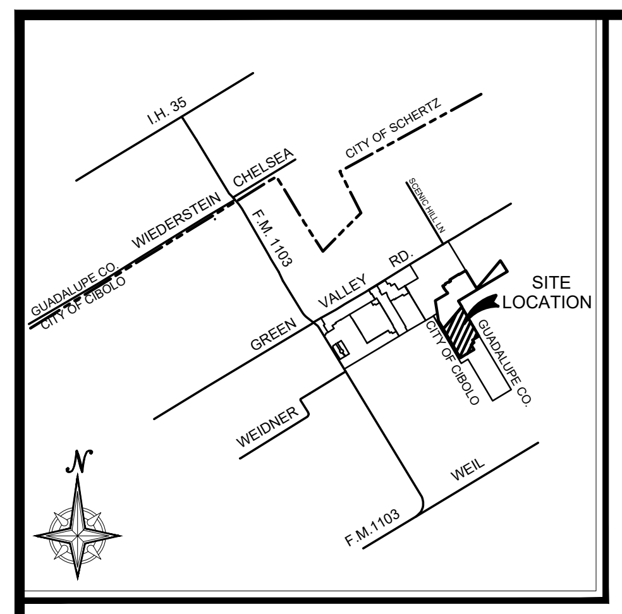
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

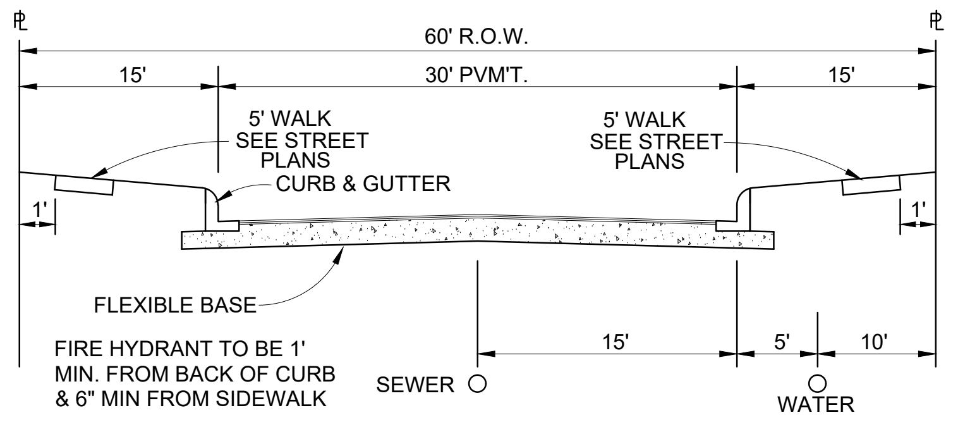
SANITARY SEWER LINE B PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
303

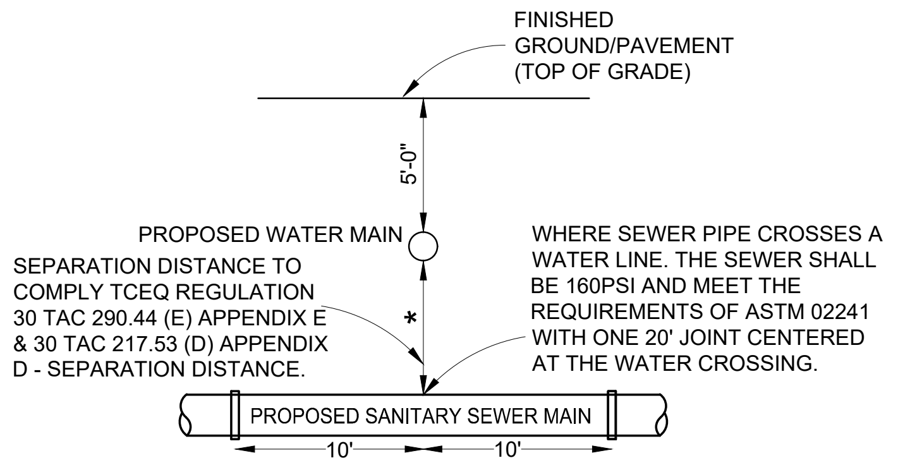


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE


FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
*
PROPOSED SANITARY SEWER MAIN
10'
10'

SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.

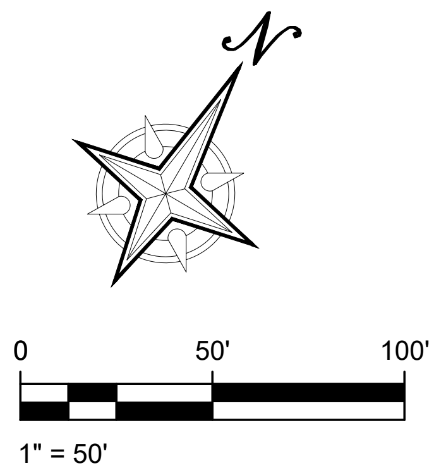
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	——////——————////——
EXISTING SANITARY SEWER MAIN	▬ ○ ▬ E8"SS ▬ ○ ▬
PROPOSED SANITARY SEWER MAIN	━●━ P8"SS ━●━
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — — E8"PVC — — —
PROPOSED WATER MAIN	——— P8"PVC ———
SEWER SERVICE LATERAL	SS———



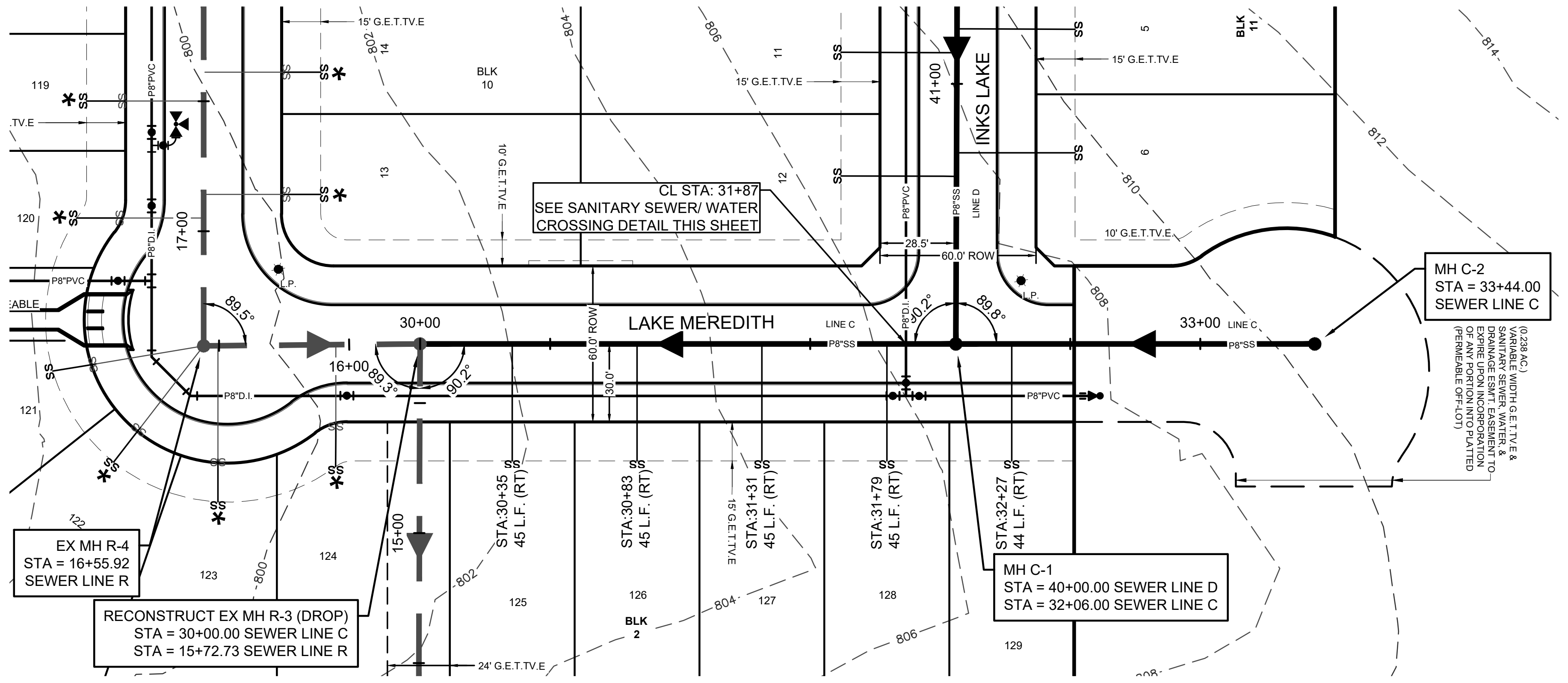
TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

NOTES

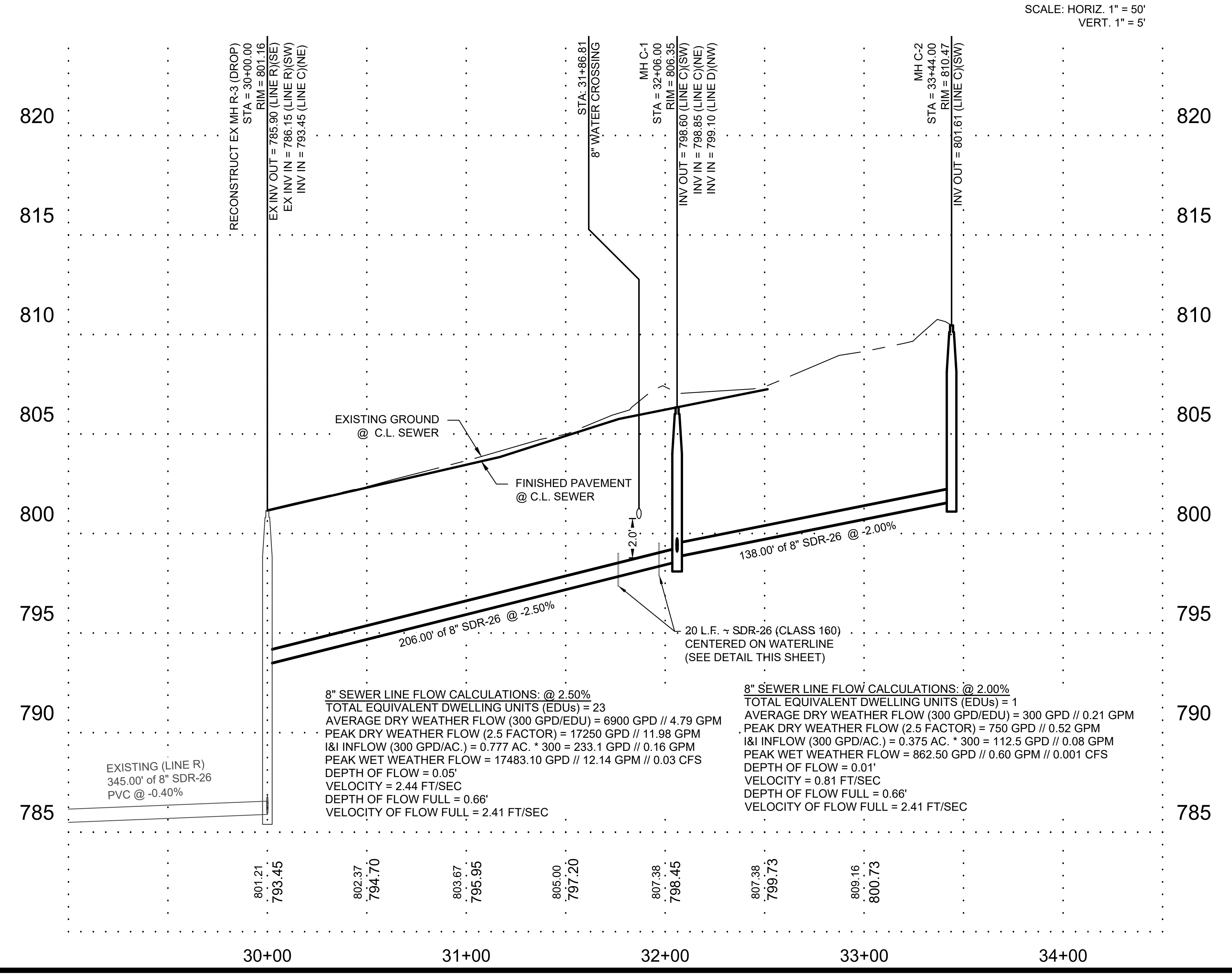
1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 45 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS THAT SLOPE AWAY FROM STREET SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH G.E.T.TV.E.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

* DENOTES CONTRACTOR TO INSTALL AND TIE PROPOSED LATERAL TO EXISTING LATERAL.
(LOTS 119-124, BLK 2, LOTS 13-14, BLK 10)



SANITARY SEWER LINE "C"

STA. 30+00.00 TO STA. 33+44.00


SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'
RECONSTRUCT EX MH R-3 (DROP)
STA = 30+00.00
RIM = 801.18
EX INV OUT = 785.90 (LINE R)(SE)
EX INV IN = 786.15 (LINE R)(SW)
INV IN = 793.45 (LINE C)(NW)
STA 31+86.81
8" WATER CROSSING
MH C-1
STA = 32+06.00
RIM = 806.35
INV OUT = 798.60 (LINE C)(SW)
INV IN = 798.85 (LINE C)(NE)
INV IN = 799.10 (LINE D)(NW)
MH C-2
STA = 33+44.00
RIM = 810.47
INV OUT = 801.61 (LINE C)(SW)
820
815
810
805
800
795
790
785
EXISTING GROUND @ C.L. SEWER
FINISHED PAVEMENT @ C.L. SEWER
2.0'
206.00' of 8" SDR-26 @ -2.50%
138.00' of 8" SDR-26 @ -2.00%
20 L.F. ~ SDR-26 (CLASS 160) CENTERED ON WATERLINE (SEE DETAIL THIS SHEET)
EXISTING (LINE R) 345.00' of 8" SDR-26 PVC @ -0.40%
801.21
793.45
802.37
794.70
803.67
795.95
805.00
797.20
807.38
798.45
807.38
799.73
809.16
800.73
30+00
31+00
32+00
33+00
34+00

8" SEWER LINE FLOW CALCULATIONS: @ 2.50%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 23
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 6900 GPD // 4.79 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 17250 GPD // 11.98 GPM
I&I INFLOW (300 GPD/AC.) = 0.777 AC. * 300 = 233.1 GPD // 0.16 GPM
PEAK WET WEATHER FLOW = 17483.10 GPD // 12.14 GPM // 0.03 CFS
DEPTH OF FLOW = 0.05'
VELOCITY = 2.44 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 2.00%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 1
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 300 GPD // 0.21 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 750 GPD // 0.52 GPM
I&I INFLOW (300 GPD/AC.) = 0.375 AC. * 300 = 112.5 GPD // 0.08 GPM
PEAK WET WEATHER FLOW = 862.50 GPD // 0.60 GPM // 0.001 CFS
DEPTH OF FLOW = 0.01'
VELOCITY = 0.81 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

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FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

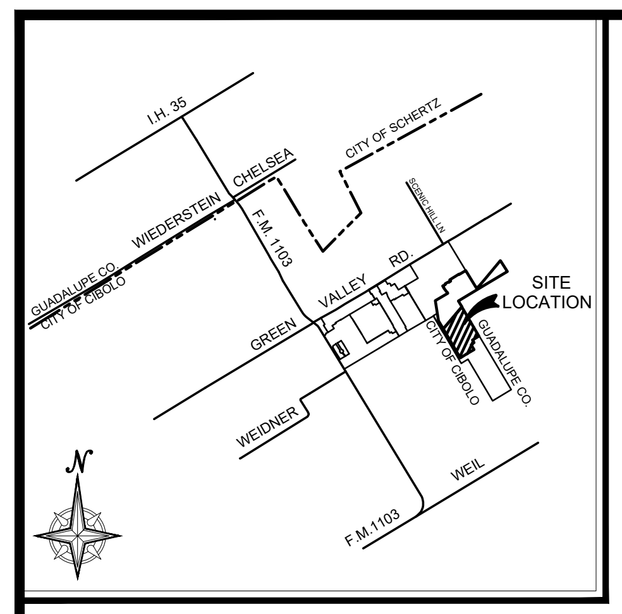
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

SANITARY SEWER LINE C PLAN & PROFILE

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153

SHEET:
304



LOCATION MAP

TRENCH EXCAVATION SAFETY PROTECTION

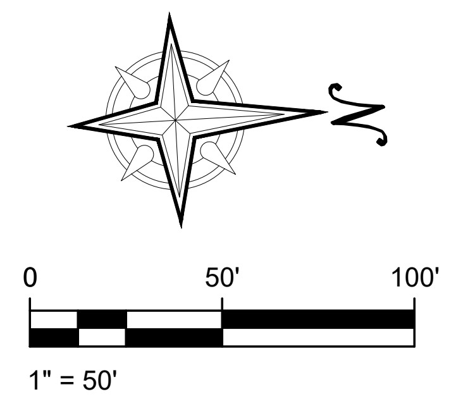
Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

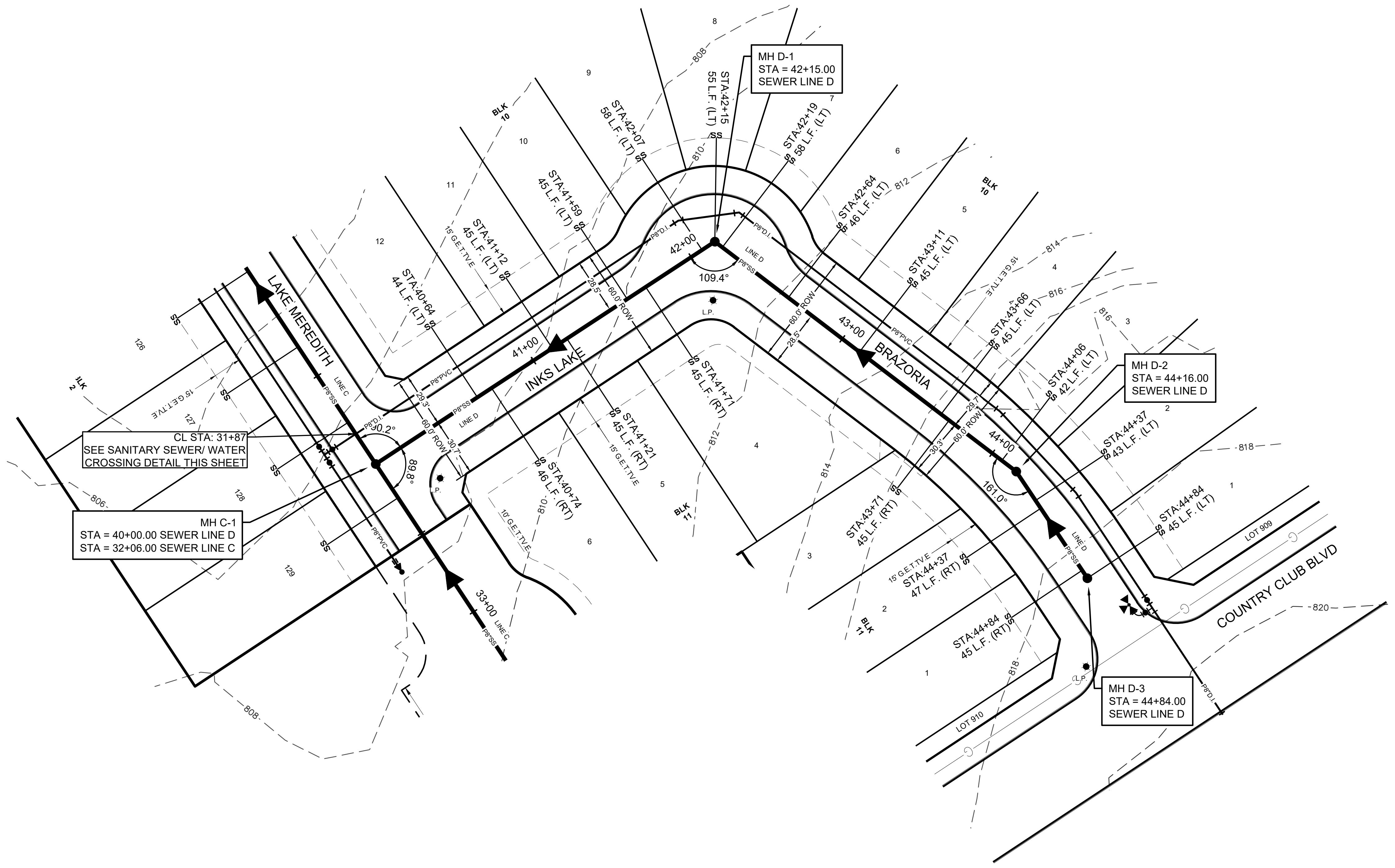
NOTES

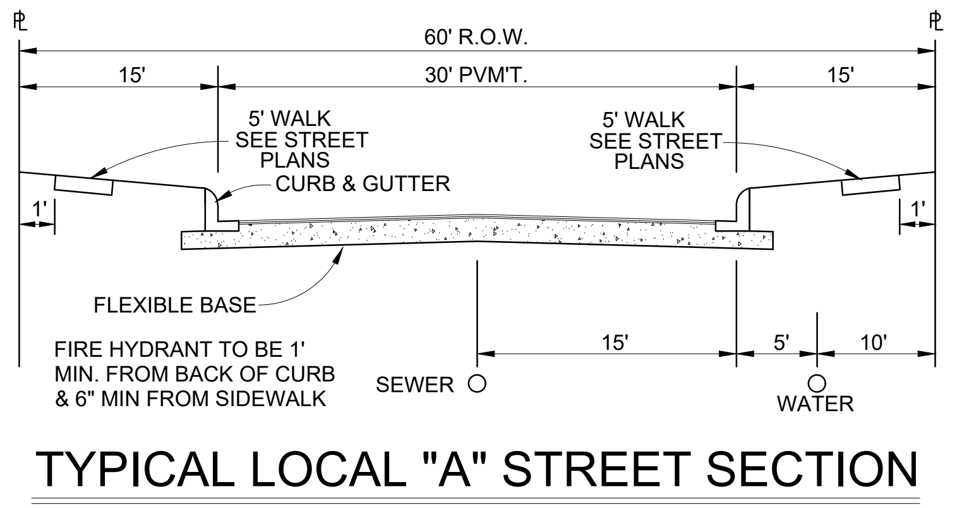
1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 45 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS THAT SLOPE AWAY FROM STREET SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH G.E.T.TV.E.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

LEGEND

EXISTING EDGE OF PAVEMENT	——////——////——
EXISTING SANITARY SEWER MAIN	○ E8"SS ○
PROPOSED SANITARY SEWER MAIN	● P8"SS ●
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — E8"PVC — —
PROPOSED WATER MAIN	—— P8"PVC ——
SEWER SERVICE LATERAL	SS——

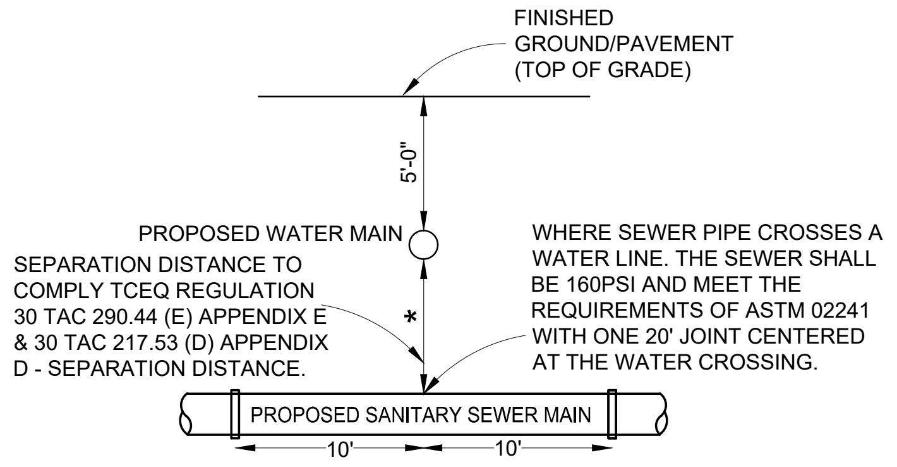






TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE

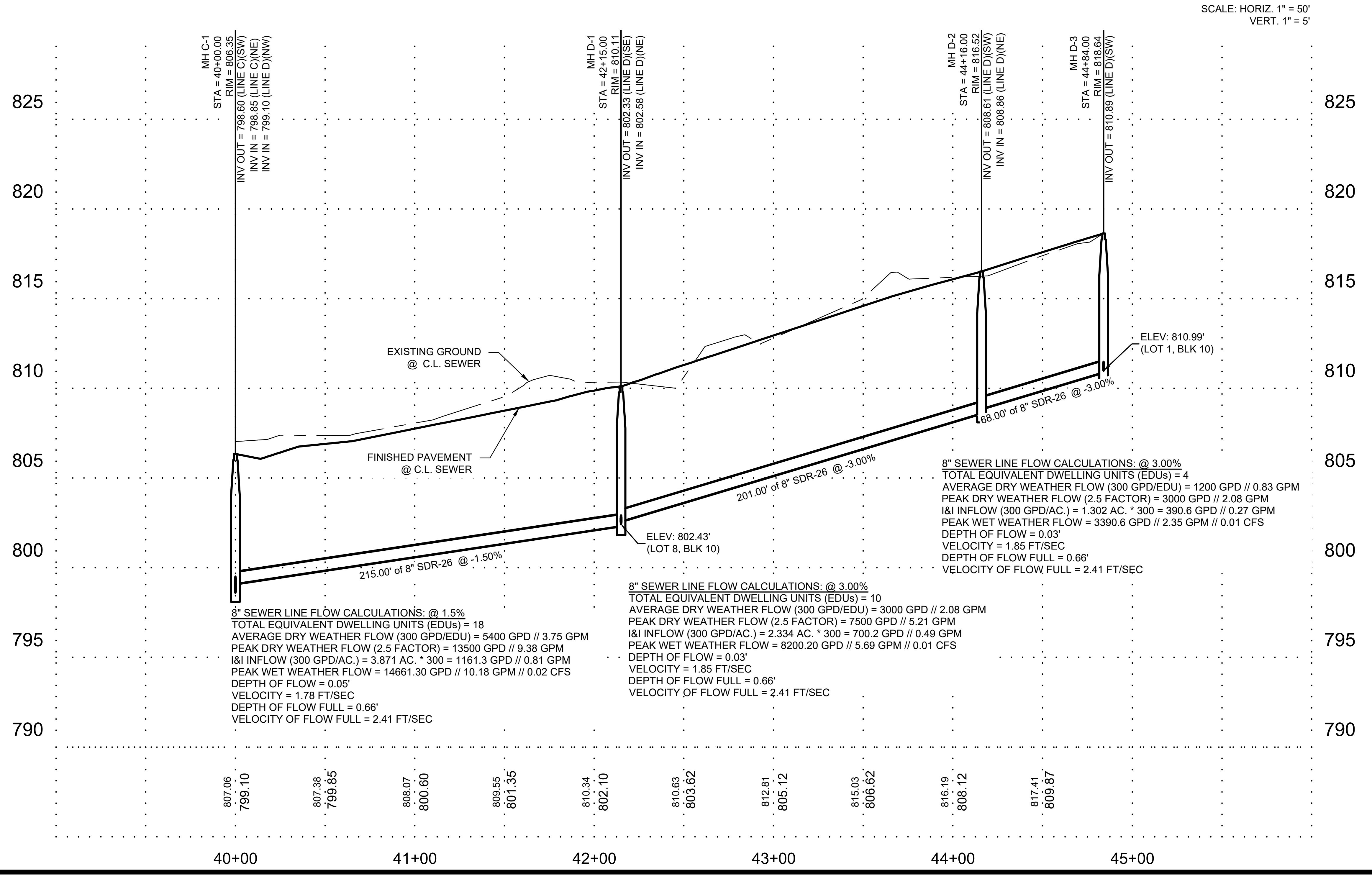

FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.
PROPOSED SANITARY SEWER MAIN
10'
10'

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

SANITARY SEWER LINE "D"

STA. 40+00.00 TO STA. 44+84.00



8" SEWER LINE FLOW CALCULATIONS: @ 1.5%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 18
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 5400 GPD // 3.75 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 13500 GPD // 9.38 GPM
I&I INFLOW (300 GPD/AC.) = 3.871 AC. * 300 = 1161.3 GPD // 0.81 GPM
PEAK WET WEATHER FLOW = 14661.30 GPD // 10.18 GPM // 0.02 CFS
DEPTH OF FLOW = 0.05'
VELOCITY = 1.78 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 3.00%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 10
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 3000 GPD // 2.08 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 7500 GPD // 5.21 GPM
I&I INFLOW (300 GPD/AC.) = 2.334 AC. * 300 = 700.2 GPD // 0.49 GPM
PEAK WET WEATHER FLOW = 8200.20 GPD // 5.69 GPM // 0.01 CFS
DEPTH OF FLOW = 0.03'
VELOCITY = 1.85 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 3.00%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 4
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 1200 GPD // 0.83 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 3000 GPD // 2.08 GPM
I&I INFLOW (300 GPD/AC.) = 1.302 AC. * 300 = 390.6 GPD // 0.27 GPM
PEAK WET WEATHER FLOW = 3390.6 GPD // 2.35 GPM // 0.01 CFS
DEPTH OF FLOW = 0.03'
VELOCITY = 1.85 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

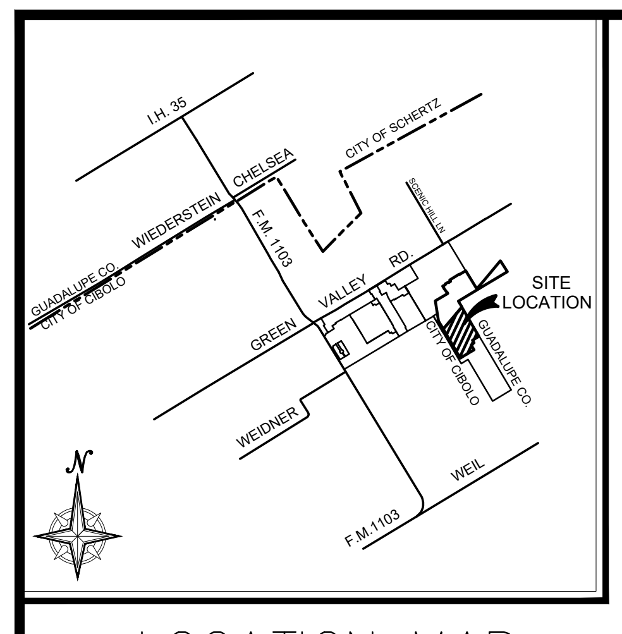
CIBOLO FARMS UNIT 3

SANITARY SEWER LINE D PLAN & PROFILE

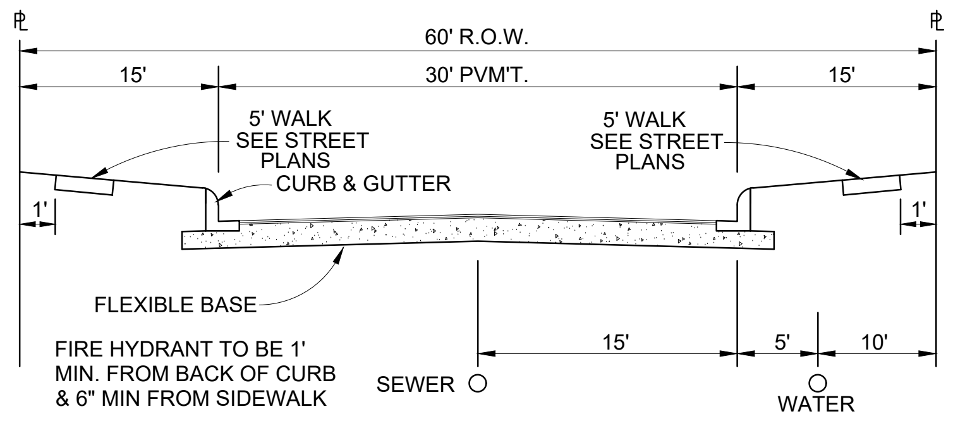
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
305

Date: Jul 31, 2024, 4:15pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 305 SANITARY SEWER LINE D PLAN & PROFILE.dwg

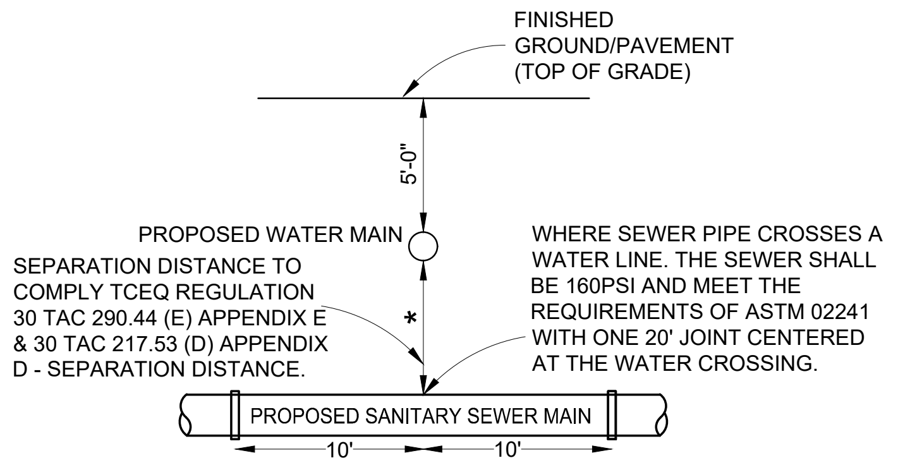


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE



FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.
*
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.
PROPOSED SANITARY SEWER MAIN
10'
10'

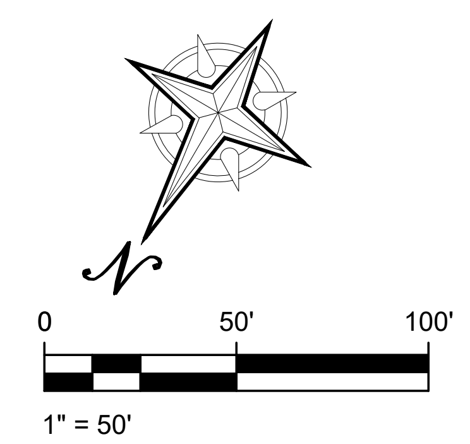
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	——////——////——
EXISTING SANITARY SEWER MAIN	○ E8"SS ○
PROPOSED SANITARY SEWER MAIN	● P8"SS ●
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — E8"PVC — —
PROPOSED WATER MAIN	—— P8"PVC ——
SEWER SERVICE LATERAL	SS——

PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)



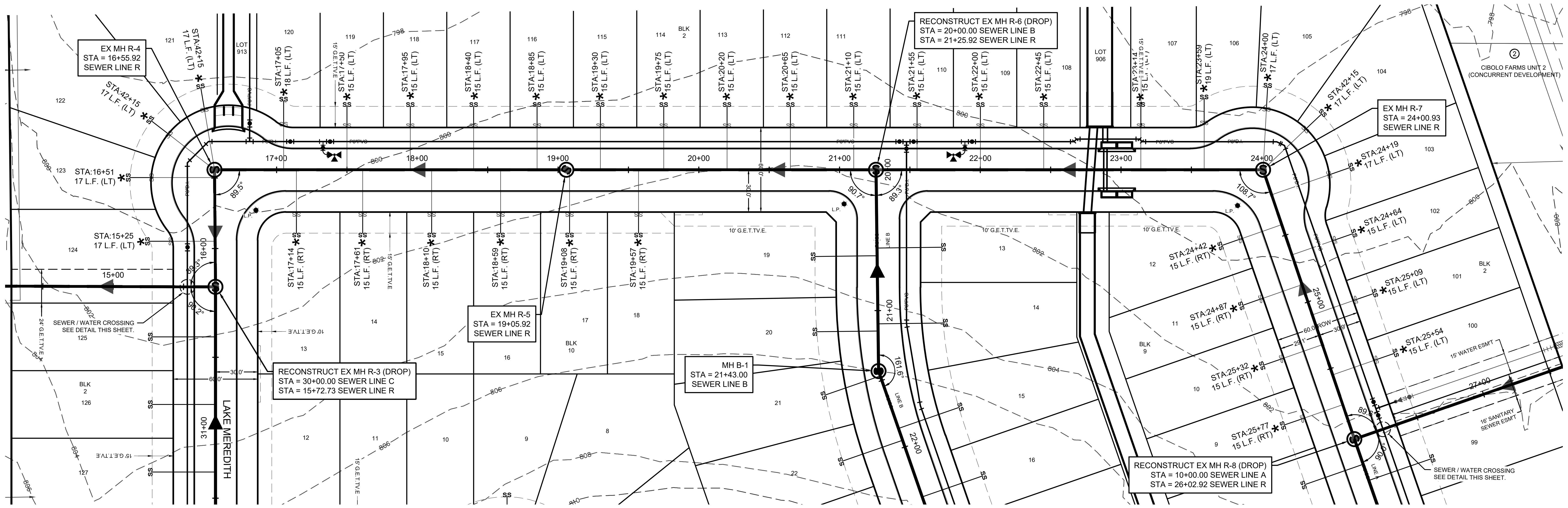
TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

NOTES

1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 45 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS THAT SLOPE AWAY FROM STREET SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH G.E.T.TV.E.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

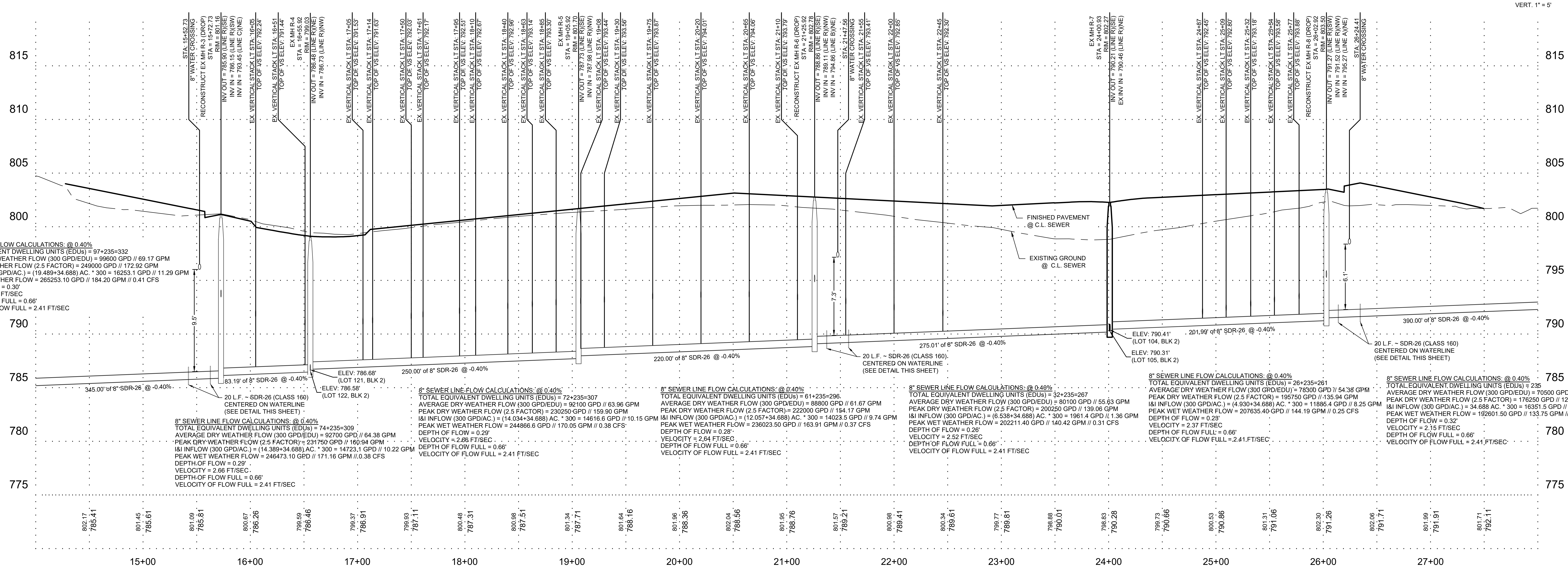
* DENOTES CONTRACTOR TO INSTALL AND TIE PROPOSED LATERAL TO EXISTING LATERAL.
(LOTS 100-124, BLK 2, LOTS 9-12, BLK 9, LOTS 13-18, BLK 10)



SANITARY SEWER LINE "R"

STA. 15+00.00 TO STA. 27+00.00

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



815
810
805
800
795
790
785
780
775
FINISHED PAVEMENT @ C.L. SEWER
EXISTING GROUND @ C.L. SEWER
345.00' of 8" SDR-26 @ -0.40%
83.19' of 8" SDR-26 @ -0.40%
250.00' of 8" SDR-26 @ -0.40%
220.00' of 8" SDR-26 @ -0.40%
275.01' of 8" SDR-26 @ -0.40%
201.99' of 8" SDR-26 @ -0.40%
390.00' of 8" SDR-26 @ -0.40%
9.5'
7.3'
6.1'
20 L.F. ~ SDR-26 (CLASS 160) CENTERED ON WATERLINE (SEE DETAIL THIS SHEET)
ELEV: 786.68' (LOT 121, BLK 2)
ELEV: 786.58' (LOT 122, BLK 2)
ELEV: 790.41' (LOT 104, BLK 2)
ELEV: 790.31' (LOT 105, BLK 2)
8" WATER CROSSING
RECONSTRUCT EX MH R-3 (DROP)
EX MH R-4
EX MH R-5
RECONSTRUCT EX MH R-6 (DROP)
EX MH R-7
RECONSTRUCT EX MH R-8 (DROP)
802.17 785.41
801.45 785.61
801.09 785.81
800.67 786.26
799.59 786.46
799.37 786.91
799.93 787.11
800.48 787.31
800.98 787.51
801.34 787.71
801.64 788.16
801.96 788.36
802.04 788.56
801.95 788.76
801.57 789.21
800.98 789.41
800.34 789.61
799.77 789.81
798.88 790.01
798.83 790.28
799.73 790.66
800.53 790.86
801.31 791.06
802.30 791.26
802.06 791.71
801.99 791.91
801.71 792.11
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
27+00

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 97+235=332
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 99600 GPD // 69.17 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 249000 GPD // 172.92 GPM
I&I INFLOW (300 GPD/AC.) = (19.489+34.688) AC. * 300 = 16253.1 GPD // 11.29 GPM
PEAK WET WEATHER FLOW = 265253.10 GPD // 184.20 GPM // 0.41 CFS
DEPTH OF FLOW = 0.30'
VELOCITY = 2.71 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 74+235=309
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 92700 GPD // 64.38 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 231750 GPD // 160.94 GPM
I&I INFLOW (300 GPD/AC.) = (14.389+34.688) AC. * 300 = 14723.1 GPD // 10.22 GPM
PEAK WET WEATHER FLOW = 246473.10 GPD // 171.16 GPM // 0.38 CFS
DEPTH OF FLOW = 0.29'
VELOCITY = 2.66 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 72+235=307
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 92100 GPD // 63.96 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 230250 GPD // 159.90 GPM
I&I INFLOW (300 GPD/AC.) = (14.034+34.688) AC. * 300 = 14616.6 GPD // 10.15 GPM
PEAK WET WEATHER FLOW = 244866.6 GPD // 170.05 GPM // 0.38 CFS
DEPTH OF FLOW = 0.29'
VELOCITY = 2.66 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 61+235=296
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 88800 GPD // 61.67 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 222000 GPD // 154.17 GPM
I&I INFLOW (300 GPD/AC.) = (12.057+34.688) AC. * 300 = 14023.5 GPD // 9.74 GPM
PEAK WET WEATHER FLOW = 236023.50 GPD // 163.91 GPM // 0.37 CFS
DEPTH OF FLOW = 0.28'
VELOCITY = 2.64 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 32+235=267
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 80100 GPD // 55.63 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 200250 GPD // 139.06 GPM
I&I INFLOW (300 GPD/AC.) = (6.538+34.688) AC. * 300 = 1961.4 GPD // 1.36 GPM
PEAK WET WEATHER FLOW = 202211.40 GPD // 140.42 GPM // 0.31 CFS
DEPTH OF FLOW = 0.26'
VELOCITY = 2.52 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 26+235=261
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 78300 GPD // 54.38 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 195750 GPD // 135.94 GPM
I&I INFLOW (300 GPD/AC.) = (4.930+34.688) AC. * 300 = 11885.4 GPD // 8.25 GPM
PEAK WET WEATHER FLOW = 207635.40 GPD // 144.19 GPM // 0.25 CFS
DEPTH OF FLOW = 0.23'
VELOCITY = 2.37 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

8" SEWER LINE FLOW CALCULATIONS: @ 0.40%
TOTAL EQUIVALENT DWELLING UNITS (EDUs) = 235
AVERAGE DRY WEATHER FLOW (300 GPD/EDU) = 70500 GPD // 48.96 GPM
PEAK DRY WEATHER FLOW (2.5 FACTOR) = 176250 GPD // 122.40 GPM
I&I INFLOW (300 GPD/AC.) = 34.688 AC. * 300 = 16351.5 GPD // 11.36 GPM
PEAK WET WEATHER FLOW = 192601.50 GPD // 133.75 GPM // 0.36 CFS
DEPTH OF FLOW = 0.32'
VELOCITY = 2.15 FT/SEC
DEPTH OF FLOW FULL = 0.66'
VELOCITY OF FLOW FULL = 2.41 FT/SEC

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

SANITARY SEWER LINE R PLAN & PROFILE

DRAFTING: P.R./D.M.		CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		
SHEET:	306		

GREEN VALLEY SPECIAL UTILITY DISTRICT SANITARY SEWER SYSTEM GENERAL NOTES:

THE STANDARD SPECIFICATIONS AND DRAWING (DD) ARE PROVIDED AS A TECHNICAL RESOURCE FOR ENGINEERING PROFESSIONALS FOR USE IN DESIGN AND CONSTRUCTION OF SEWER COLLECTION SYSTEMS PROJECTS MANAGED AND CONTRACTED BY THE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD)

GENERAL: THE OWNER, DEVELOPER, ENGINEERING FIRM SHALL SUBMIT TO THE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD) ENGINEER, FOR APPROVAL, TWO (2) COPIES OF ALL PLATES, PLANS AND PROFILES, PLUMBING LAYOUT, WHICH HAVE BEEN DESIGNED AND THE DRAWINGS SEALED BY A REGISTERED PROFESSIONAL ENGINEER. WHEN APPROVED, ONE (1) COPY WILL BE RETURNED TO THE OWNER, DEVELOPER, ENGINEERING FIRM, SO MARKED. THE OWNER WILL BE REQUIRED TO MAKE ALL CHANGES INDICATED BY THE GVSUD ENGINEER, AND RETURN WITH ALL CHANGES, CORRECTIONS, BACK TO GVSUD FOR APPROVAL.

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE GVSUD AND COMPLY WITH:
   - A. CURRENT GVSUD TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION.
   - B. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), F0RMERLY TEXAS NATURAL RESOURCE CONSERVATION COMMISSION (TNRCC), DESIGN CRITERIA FOR SEWAGE SYSTEMS 31 TAC 317.1, 31 TAC 317.2 AND 31 TAC 317.3, 30 TAC & 213 40 TAC &217.
2. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE GVSUD INSPECTIONS DIVISION AT (830)914-2330 OR (210)372-2228 - 48 HOURS PRIOR TO ANY EXCAVATION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE ANY EXCAVATION OR START OF PROJECT.
3. WORK SHALL NOT BE PERFORMED ON SATURDAYS, SUNDAYS OR HOLIDAYS BEFORE 7:30 A.M. OR AFTER 4:30 P.M., UNLESS PRIOR APPROVAL IS GRANTED BY THE GVSUD ENGINEER.
   - A. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES TO INCLUDE SURFACE LATERALS, SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATION (POT HOLE, VERIFY LOCATION, ELEVATIONS OF ALL) UTILITY SERVICE LINES 48 HOURS PRIOR TO EXCAVATION AND TO PROTECT THE SAME DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES OF EXISTING UTILITIES AND REPAIRS WILL BE AT THE CONTRACTORS EXPENSE.

EXISTING MANHOLES/SEWER

4. CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL MARK, CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION. CONTRACTOR WILL UNPLUG STOPPAGE AT CONTRACTORS EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT THE CONTRACTORS EXPENSE. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO EXISTING OR NEW RINGS, COVERS, OR CONES FROM EQUIPMENT AND MATERIALS USED OR TAKEN THROUGH THE WORK AREA. IF AN EXISTING OR NEW MANHOLE COVER, RING, OR CONE IS DAMAGED BY THE CONTRACTOR IT SHALL BE REPLACED AS DIRECTED BY THE GVSUD INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH THE GVSUD APPROVED SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTORS EXPENSE.
   - A. CONTRACTOR TO ENSURE ALL PLUGS USED TO PLUG SEWER LINES, WHILE TESTING THE PROJECT (SUCH AS AIR PLUGS, SCREW TYPE PLUGS, ETC.) ARE LABELED, MARKED OR TAGGED. PROJECT INSPECTOR WILL RECORD HOW MANY PLUGS ARE BEING USED, LOCATION AND I.D., WITHIN COLLECTION SYSTEM. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS INTO SEWER COLLECTION SYSTEM.
   - B. CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGES TO SEWER COLLECTION SYSTEM STOPPAGES, OVER-FLOWS, BACKUP INTO HOMES CAUSED BY LOST RUN-AWAY SEWER PLUGS THAT WERE USED ON THAT PROJECT OR OUTFALL LINE WASTEWATER TREATMENT PLANTS.
   - C. CONTRACTOR WILL ALSO BE RESPONSIBLE FOR ANY DAMAGE TO WASTEWATER TREATMENT APPARATUS, SUCH AS SCREW PUMPS, ETC. CAUSED BY LOST OF RUN-AWAY SEWER PLUGS. CONTRACTOR WILL BE HELD LIABLE FOR DAMAGES, AS WELL AS COST OF REPAIRS.
5. ALL WORK IN THE TEXAS HIGHWAY DEPARTMENT, BEXAR COUNTY, GUADALUPE COUNTY, AND CITY OF CIBOLO RIGHT OF WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
6. ALL WORK IN PUBLIC STREETS SHALL BE COORDINATED WITH AND APPROVED BY THE BEXAR COUNTY OR GUADALUPE COUNTY PUBLIC WORKS DEPARTMENT TRAFFIC DIVISION AND STREET ENGINEER.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE PROTECTED AREAS.
8. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM THE COMPLETE INSTALLATION OF THE SANITARY SEWER LINES.

   THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:
   - A. PULL MANDREL - AFTER 30 DAYS OF INSTALLATION
   - B. PERFORM AIR TEST
   - C. PULL WIPER (AFTER STREET HAS BE ASPHALTED IN NEW SUBDIVISIONS)
   - D. VACUUM TEST ALL MANHOLES WITHIN THE PROJECT
   - E. CCTV-ALL NEW LINE-PAN (TILL ALL SERVICE LATERALS TO 6"X6" CLEAN OUT. FLOOD ALL LINES BEFORE CCTV, SUMMIT DVD)
9. CONTRACTOR SHALL SUBMIT FIELD COPY PLANS AND PROFILES SHOWING AS-BUILT WORK AT END OF PROJECT, CCTV DVD AND COMPACTION DENSITY REPORTS FOR MAIN SEWER LINE AND ALL SERVICE LATERALS TRENCHES. WARRANTY LETTERS ON MATERIALS, WORKMANSHIP FOR 24 MONTHS AFTER FINAL ACCEPTANCE.
10. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST TWELVE (12) INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS THE MANHOLE RING SHALL BE FLUSH WITH THE PAVEMENT. ALL NEW INSTALLED MANHOLES WILL BE WITH A 30" INCH OPENING, MINIMUM, WITH THE GVSUD LOGO ON THE COVER. EVERY THIRD MANHOLE COVER WILL HAVE A 1" HOLE FOR A VENT.
11. ALL MANHOLES SHALL BE WITH A 30" INCH OPENING, HAVE WATERTIGHT RING AND COVERS, WITH THE GVSUD LOGO. ON PRIVATE PROPERTY, MANHOLE RING AND COVER SHALL BE TYPICAL MANHOLE COVER WATER TIGHT.
   - A. BEFORE BACK FILLING/COMPACTION/CONCRETE ENCASEMENT

     ALL MANHOLE JOINT SECTION RISERS, CONE SECTIONS AND GRADE RING SHALL BE WRAPPED WITH GATOR WRAP SEALING SYSTEMS, BUTYL ADHESIVE SEALANT WITH A MINIMUM THICKNESS OF 30 MILS. INFI-SHIELD WRAPPED WITH RISER-WRAP SEALING SYSTEM, GATOR WRAP

     MATERIAL: RUBBER MEETS ASTM C923/MASTIC MEETS ASTM C 990 OR APPROVE BY THE GVSUD ENGINEER SUBSTITUTION ON OUTSIDE FOR I/I, GROUND WATER TABLE.
12. IF CONCRETE THROAT RINGS ARE TO BE INSTALLED, A MINIMUM OF TWO AND A MAXIMUM OF FOUR THROAT RINGS WILL BE USED AT EACH MANHOLE FOR ADJUSTMENT.
13. INFILTRATION DISHES WILL BE REQUIRED IN MANHOLES WHERE APPLICABLE (I.E., SUCH AS LOW DRAINAGE AREAS) AND EVERY THIRD MANHOLE SHALL BE VENTED. 30" INCH MANHOLE COVER WITH 1" INCH HOLE CENTER OF COVER WHERE APPLICABLE.

Note: Manhole cover inserts shall be FRW Industries, inc., "Inflow Protector-Cover" "Preco Industries Ltd.", "Sewer Guard", or approved equal, and shall be installed in strict accordance with the manufacturer's recommendations. The contractor shall be responsible for making the necessary field measurements for the manufacturer prior to construction.

   - A. ALL MANHOLES MUST HAVE 350-400 FEET SPACING BETWEEN MANHOLES TO PROVIDE ACCESS TO SEWER LINES FOR CLEANING, ON THE GVSUD PUBLIC SEWER EASEMENT. A 16 FOOT GATE WITH LOCK WILL BE PROVIDED BY THE CONTRACTOR FOR ACCESS TO CLEANING AND MAINTAINING SEWER LINES.
   - B. DROP MANHOLES SHALL BE REQUIRED WHEN THE INFLOW ELEVATION IS MORE THAN TWENTY-FOUR (24) INCHES ABOVE THE OUTFLOW ELEVATION. DROP SHALL BE LOCATED OUTSIDE THE MANHOLE WITH ITS FLOW LINE ELEVATION LOCATED BETWEEN THE CENTER LINE AND TOP OF SEWER LINE.
14. ALL MANHOLES WILL BE CONCRETE ENCASEMENT 1 FOOT AROUND RING, 28-INCH DEEP AFTER GATOR WRAP SEALING SYSTEM HAS BEEN APPLIED.
15. NEW MANHOLE PROTECTIVE COATING, LINER IS FOR THE PURPOSE OF INFILTRATION BECAUSE OF HIGH WATER TABLE. APPLICATION PROCEDURES ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND PER THE FOLLOWING SPECIFICATIONS:
   - A. MANHOLE PROTECTIVE COATING: CONTRACTOR WILL BE RESPONSIBLE FOR MANHOLES ON PROJECT SAFETY ASSESSMENT; CONFINED SPACE ENTRY SET BY OCCUPATIONAL SAFETY AND HEALTH STANDARDS, 29 CFR 1910.146 APP E.
   - B. THE CONTRACTOR, SHALL NOTIFY THE GVSUD UTILITIES INSPECTIONS DEPARTMENT WITH A MINIMUM OF 2 DAYS ADVANCE NOTICE OF THE START OF ANY FIELD SURFACE PREPARATION WORK OF COATING APPLICATION WORK OF MANHOLES.
   - C. ALL NEW MANHOLES IN NEW DEVELOPMENTS SHALL BE 30" INCH OPENING, WATERTIGHT AND THE INTERIOR WALL COATED WITH A GVSUD APPROVED SEWER STRUCTURE FOR ALL MANHOLES, SEWPERCOAT 2000 HR REGULAR, WITH THE REQUIRED ONE-INCH THICK APPLICATION.

APPROVED MATERIALS ARE AS FOLLOWS:

CEMENTITIOUS COATING WITH REQUIRED HALF-INCH THICK APPLICATION

- SEWPERCOAT 2000 HR REGULAR
- REFRATTA HAC 100
- MAXIMUM CA PLUS

EPOXY COATING: WITH SPECIFIED THICKNESS APPLICATION

- AROMATIC POLYUREA SCP DROPLINER REQUIRED THICKNESS 125 MILS

   - D. WARRANTY LETTER ON MANHOLE PROTECTIVE COATING FOR 10 YEARS AFTER FINAL ACCEPTANCE OF PROTECTIVE COATINGS CONTRACTOR IS NOT RELIEVED OF ITS RESPONSIBILITIES UNDER THE CONTRACT DOCUMENTS.
     - i. ANY CONNECTIONS TO EXISTING MANHOLES WILL REQUIRE A 36-INCH CRADLE TO SUPPORT INCOMING PIPE. A RUBBER GASKET WILL ALSO BE REQUIRED (CENTERED AT MANHOLE WALL) WITH GROUTING AT INTERIOR AND EXTERIOR PENETRATIONS.

       PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE EXITING THE MANHOLE WILL BE REPLACED AT CONTRACTOR'S EXPENSE. IF COATING SEAL IS BROKEN, THE MANHOLE WILL BE RECOATED WITH THE SAME MATERIALS. IF EXISTING SEWER MANHOLE SEAL COATING IS BROKEN, ALL OF MANHOLE WILL BE RELEASED WITH SAME MATERIALS AND ONE-INCH THICKNESS.
     - ii. ANY AND ALL EXISTING MANHOLES WITHIN CONSTRUCTION PROJECT THAT TIE IN, ARE DONE BY CONTRACTOR TO STUB-OUT ADJUSTMENT, RECONSTRUCTION, OR LEAKING. MANHOLE WILL BE COAT SEALED AT CONTRACTOR'S EXPENSE.
     - iii. MANHOLES WITH STUB-OUTS (8") INCH OR LARGER MUST BE LOCATED AT THE END OF ALL SEWER LINES THAT MAY BE EXTENDED IN THE FUTURE. MANHOLES PLACED AT THE END OF THE WASTEWATER COLLECTION SYSTEM PIPES THAT MAY BE EXTENDED IN THE FUTURE MUST INCLUDE STUB-OUTS WITH PLUGS.

PIPING

16. THE KIND AND DESCRIPTION OF THE PIPE CONDUIT IS SHOWN ON THE PLANS (IF PVC, SDR AND ASTM/ANSI DESIGNATION CLASS). AS SDR 26 PVC, ASTM D-3034 WITH A MINIMUM STIFFNESS OF 115 PSI TEXAS ADMINISTRATIVE CODE (TAC) RULES TO INCLUDE30 TAC & 213, OR ANY REVISIONS THERE TO APPLICABLE TECQ, 30 TAC 7 217, FOR ALL NEW DEVELOPMENT.
17. THE USE OF ASBESTOS CEMENT PIPE WILL BE PROHIBITED UNDER THIS CONTRACT. ALL DUCTILE IRON PIPE USED IN THIS SYSTEM SHALL BE CORROSION PROTECTED ON BOTH THE INTERIOR AND EXTERIOR SURFACES. ALL CORROSION PROTECTION SHALL BE APPLIED AND INSTALLED IN SUCH A MANNER AS TO MAINTAIN A CONTINUOUSLY PROTECTED SURFACE AFTER FINAL PIPE INSTALLATION.
18. ALL PVC SEWER PIPE WITH OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH; MINIMUM PIPE STIFFNESS OF 150 PSI.
19. ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS.
20. SEWER PIPE CONNECTIONS TO PRECAST MANHOLES SHALL BE APPROVED BY THE GVSUD. THIS CONNECTION SHALL USE FLEXIBLE "BOOT" TYPE CONNECTOR SUCH AS THE PSX POSITIVE SEAL SYSTEM OR ENGINEER APPROVED EQUAL AND COMPLY WITH ASTM C-923. SEWER PIPE CONNECTIONS TO MONOLITHIC MANHOLES WILL BE AS SHOWN ON THE STANDARD DETAIL SHEET. ANY CHANGES IN THESE METHODS MUST BE APPROVED BY GVSUD ENGINEER.
21. ALL PIPE TRENCHING, BEDDING AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE ASTM/ANSI SPECIFICATIONS [REFERENCE 31 TAC 317.2(A)(5)(A); ASTMC-12 (ANSI A106.2) OR ASTM D-2321 (ANSI K65.171)]. ALL COMPACTION @ 98% DENSITY TESTS ACROSS THE BOARD, 1 RANDOM DENSITY TEST PER LIFT FOR EVERY 400 FEET.
   - A. SAND MIGRATION, SEEPAGE PREVENTION COLLAR WHEN CHANGING THE INITIAL BACKFILL FROM SELECT INITIAL BACKFILL TO OPTIONAL SELECT INITIAL BACKFILL. A TWO (2) FOOT LONG CLASS D CONCRETE ENCASEMENT, EVERY 180 FEET ALONG PIPE AND 20 FEET FROM WALL OF MANHOLE IN EACH DIRECTION. NO EXTRA PAY ITEM.
   - AA. BEDDING SHALL CONSIST OF TXDOT-GRADE 4 (1 1/2"-1 5/8") COMMONLY KNOWN AS SEWER GRAVEL.
   - B. SEWER LINE LOCATION
     - i. SEWER LINES SHALL BE SIZED AND EXTENDED THROUGH THE LIMITS OF A DEVELOPMENT TO SERVE ADJACENT PROPERTY, WITH MANHOLE AND STUB-OUT AT END OF SEWER LINE.
       - a. IN PHASED CONSTRUCTION OF THOROUGHFARES, THE SEWER LINE SHALL BE EXTENDED THE ENTIRE LENGTH OF THE THOROUGHFARE BEING CONSTRUCTED.
     - ii. NO PUBLIC SEWER LINE SHALL BE LOCATED NEARER THAN FIVE (5) FEET FROM ANY TREE.
     - iii. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE GVSUD ENGINEER AND CONSIDERATION SHALL BE GIVE AS TO POSSIBLE EXTENSIONS FOR FUTURE DEVELOPMENT. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.
22. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN EARLIER PROVIDED, THE CONNECTION MUST BE MADE WITH AN APPROVED SERVICE SADDLE AS PER 31 TAC 313.5(C) (7). NEW INVERT TO BE BUILT, SMOOTH CHANNEL FOR NEW PIPE/SLOPE AT 2% FLOW.
23. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 WITH RATING OF 115 PSI, BE EXTENDED TO THE PROPERTY LINE AT (6 X 6) CAPPED AND SEALED. ATTACH SEWER BURIAL TAPE TO THE END OF ALL SEWER LATERALS AND BRING UP TO THE GROUND LEVEL FOR MARKER (GREEN). (SEE HOUSE LATERALS DETAILS)
   - A. SEWER SERVICE LATERALS. THE SIZES AND LOCATIONS OF LATERALS SHALL BE DESIGNATED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE GVSUD ENGINEER:
     - i. IN GENERAL FOR SINGLE FAMILY DWELLING, THE LATERAL SIZE SHALL BE FOUR (4) INCH MINIMUM. HOUSE LATERALS SHALL BE IN STALL CENTER OF THE LOT AND SHALL HAVE A TEN(10) FOOT SEPARATION FROM THE WATER SERVICE. THE SERVICE SHALL THEN BE EXTENDED AT A FORTY-FIVE (45) DEGREE ANGLE TO FOUR (4) FEET ABOVE THE FINISHED GRADE AND CAPPED. USE SEWER BURIAL TAPE TO MARK ALL SEWER SERVICE LATERALS.
     - ii. MULTIPLE UNITS, APARTMENTS, LOCAL RETAIL AND COMMERCIAL SIX (6) INCH MINIMUM, MANUFACTURING AND INDUSTRIAL - EIGHT (8) INCH MINIMUM, OR LARGER AS REQUIRED.

TRAPS AND INTERCEPTORS (FOG - TECQ)

UNIFORM PLUMBING CODE, CITY OF SAN ANTONIO BUILDING INSPECTIONS DEPARTMENT. ALL COMMERCIAL BUILDINGS WILL HAVE TRAPS (FOG-TECQ).

OIL SEPARATORS

WHICH INCLUDE OIL SEPARATOR-GASOLINE SERVICE STATIONS, CAR WASHES, GARAGES, DRY CLEANERS, CHEMICAL PLANTS, GAS PLANTS, HIDE PROCESSORS, TESTING LABORATORIES, OR ANY PLACE WHERE OIL OR SOLVENTS MAY BE INTRODUCED IN TO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR OIL SEPARATORS SHALL BE BASED ON THE G.P.M. RATE OF ALL FIXTURES, APPLIANCE OR APPURTENANCE, DRAINING INTO SEWER SYSTEM.

SAND INTERCEPTORS

SAND INTERCEPTORS SHALL BE INSTALLED IN THE SEWER SYSTEM OF THE FOLLOWING ESTABLISHMENTS, GARAGES, CAR WASHES, SERVICE STATIONS, OR ANY PLACE OF BUSINESS WHERE HEAVY SOLIDS MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR A SAND INTERCEPTOR SHALL BE BASED ON THE REQUIRED G.P.M. X 12 MINUTE RETENTION TIMES TO OBTAIN THE TANK SIZE IN GALLONS CAPACITY.

AUTOMATIC CAR WASHES

WITH HIGH PRESSURE SPRAYS AND/OR BRUSHES INSTALL A 50 G.P.M. INTERCEPTOR. MINIMUM, FOR A 4-BAY VEHICLE WASH, THE SIZE OF THE INTERCEPTOR SHALL INCREASE 10 G.P.M. FOR EACH ADDITIONAL WASH BAY OVER 4. SINGLE BAY OR PORTABLE WASHER TYPE VEHICLE WASHES SHALL INSTALL A 20 G.P.M. INTERCEPTOR MINIMUM.

NEUTRALIZING DEVICES

IN NO CASE SHALL CORROSIVE LIQUIDS, SPENT ACIDS, OR OTHER HARMFUL CHEMICALS WHICH MIGHT DESTROY OR INJURE A DRAIN, SEWER, SOIL, OR WASTE PIPE, OR WHICH MIGHT CREATE NOXIOUS OR TOXIC FUMES, DISCHARGE INTO THE SANITARY SEWER SYSTEM WITH OUT BEING THOROUGHLY NEUTRALIZED BY PASSING THOROUGHLY CONSTRUCTED AND ACCEPTABLE NEUTRALIZING DEVICE. SUCH DEVICE SHALL BE PROVIDED WITH A SUFFICIENT INTAKE OF NEUTRALIZING MEDIUM, CONSISTING OF LIMESTONE OR MARBLE CHIPS, SO AS THE MAKE ITS CONTENTS NON-INJURIOUS BEFORE BEING DISCHARGED INTO THE SANITARY SEWER SYSTEM.

LINT TRAPS

PUBLIC AND PRIVATE WASHATERIAS AND COMMERCIAL LAUNDRIES SHALL INSTALL A LINT TRAP EQUIPPED WITH A CONVENIENTLY LOCATED AND EASILY REMOVABLE WIRE BASKET OR OTHER SIMILAR DEVICE THAT WILL PREVENT THE STRINGS, RAGS, BUTTONS, OR OTHER PROHIBITED MATERIAL FROM ENTERING THE SANITARY SEWER SYSTEM. THE BASKET OR OTHER SIMILAR DEVICE SHALL PREVENT PASSAGE TO THE SANITARY SEWER SYSTEM OF SOLIDS GREATER THAN 1/2" INCH DIAMETER. THE LINT TRAP SIZE SHALL BE BASED ON THE TOTAL G.P.M. OF ALL FIXTURES, APPLIANCES AND APPURTENANCES DRAINING TO IT IN LIEU OF A LINT TRAP, A LINT INTERCEPTOR MAY BE INSTALL. THE INTERCEPTOR SHALL BE SIZED AND DESIGNED BY A TEXAS REGISTERED ENGINEER WITH HIS SEAL AND SIGNATURE ON THE DRAWINGS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	SANITARY SEWER SYSTEM GENERAL NOTES (1 OF 2)	
REVISED: JANUARY 28, 2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. G-1

SILVER RECOVERY UNITS

SILVER RECOVERY UNITS SHALL BE INSTALLED IN WASTE LINES(S) LEADING FROM X-RAY PROCESSING, PHOTOGRAPHIC PROCESSING, AND/OR ANY PROCEDURES IN ESTABLISHMENT SUCH AS MEDICAL LABS, DENTAL LABS, PHOTO FINISHERS, PRINTERS, GRAPHIC ARTS PRODUCTION FACILITIES, HOSPITAL FACILITIES, VETERINARY HOSPITALS, OR OTHER ESTABLISHMENTS WHERE SILVER MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM.

SOLID INTERCEPTORS

SOLIDS INTERCEPTORS SHALL BE INSTALLED WHEN PRE-TREATMENT OF WASTE STREAMS IS NECESSARY TO PREVENT SOLIDS GREATER THAN $\frac{1}{2}$" IN DIAMETER, WHICH MAY CAUSE LINE STOPPAGE FROM ENTERING THE SANITARY SEWER SYSTEM.

INTERCEPTORS

- a. INTERCEPTORS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN APPROVED BY THE GVSUD CONSISTING OF A MINIMUM OF TWO COMPARTMENTS WITH FITTINGS DESIGNED FOR GREASE RETENTION AND PROVIDE FOR A MINIMUM OF TWELVE (12) MINUTES RETENTION
- b. THERE SHALL BE AN ADEQUATE NUMBER OF MANHOLES TO PROVIDE ACCESS FOR CLEANING ALL AREAS OF AN INTERCEPTOR, ONE MANHOLE PER TRAP COMPARTMENT. MANHOLE COVERS SHALL BE GAS TIGHT IN CONSTRUCTION HAVING A MINIMUM OPENING DIMENSION OF 20 INCHES (0.5 M).
- c. IN AREAS WHERE TRAFFIC MAY EXIST THE INTERCEPTOR SHALL BE DESIGNED TO HAVE ADEQUATE REINFORCEMENT AND COVER.
- d. ALL INTERCEPTORS SHALL HAVE THE SIZE OF THE INTERCEPTOR (IN GALLON PER MINUTE OR GALLON CAPACITY) PERMANENTLY AFFIXED TO THE DEVICE.
- e. ALL CONCRETE UTILIZED IN THE CONSTRUCTION OF INTERCEPTOR SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI.
- f. AN EFFLUENT SAMPLING WELL ON ALL INTERCEPTORS SHALL BE REQUIRED. THE SAMPLE WELL SHALL HAVE A RISER A MINIMUM OF 6" INCHES IN DIAMETER AND SHALL BE INSTALLED AFTER THE CONFLUENCE OF ALL WASTE STREAMS FROM THE FACILITY AND PRIOR TO DISCHARGING INTO SANITARY SEWER COLLECTION SYSTEM. THE WELL SHALL BE PERPENDICULAR TO THE EFFLUENT LATERAL TO ALLOW VISUAL OBSERVATION OF THE FLOW STREAM AND PROVIDE FOR SAMPLING OF WASTEWATER.

WATERTIGHT TESTING (24 HOURS)

- g. ALL INTERCEPTORS SHALL BE WATER TESTED OUT AT JOB SITE AFTER BEING INSTALLED (PLUG BOTH ENDS AND FILL TO TOP OF INTERCEPTOR). INTERCEPTOR SHALL SHOW NO LEAKAGE FROM SECTION SEAMS, PINHOLES, OR OTHER IMPERFECTIONS. ANY LEAKAGE IS CAUSE FOR REJECTION. WHEN LEAKAGE OCCURS, ADDITIONAL WATER TESTING SHALL BE MADE. AFTER CORRECTING MEASURE TEST, REPORTS SHALL SHOW TOTAL NUMBER OF INTERCEPTORS TESTED. WHEN LEAKAGE OCCURS, CORRECTIVE MEASURES TAKEN SHALL BE REPORTED BY GVSUD INSPECTORS. GVSUD INSPECTORS SHALL RECORD IN DAILY LOG WITH PROJECT NAME, DATE IT WAS TESTED AND COMPLETED.

- B. MANHOLES WILL BE REQUIRED ON SIX (6) INCH AND LARGER LATERALS WHERE THEY CONNECT TO THE MAIN.
  - a. LATERALS WILL NOT BE ATTACHED TO SEWER MAINS THAT ARE DEEPER THAN TWELVE (12) FEET.
  - b. FITTINGS ARE NOT PERMITTED ON LATERALS BETWEEN THE WYE AND THE PROPERTY LINE.
  - c. DEEP CUT OR DROP CONNECTIONS SHALL NOT BE PERMITTED.
  - d. A MINIMUM OF ONE (1) LATERAL PER BUILDING SHALL BE REQUIRED. ALSO, A MINIMUM OF ONE (1) LATERAL PER RESIDENTIAL LOT SHALL BE REQUIRED. DUPLEXES SHALL HAVE TWO (2) LATERALS THAT SHALL BE INDEPENDENTLY ATTACHED TO THE MAIN.
  - e. ALL SEWER LATERAL CROSSING WATER MAINS SHALL CONFORM TO THE REQUIREMENTS OF THE TCEQ CHAPTER 317 (DESIGN CRITERIA FOR SEWERAGE SYSTEMS) LATEST REVISION, SDR 26 150 PSI, OR DUCTILE IRON PIPE, CONCRETE ENCASEMENT.

24. WHERE REQUIRED CONCRETE ENCASEMENT SHALL BE PLACED FOR FULL WIDTH OF THE TRENCH TO A PLAIN SIX (6) INCHES ABOVE THE TOP OF THE PIPE WITH PAY UNITS AS SHOWN ON THE STANDARD DETAILS SHEET.
25. A MINIMUM OF FOUR (4) FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT GRADE, OTHERWISE CONCRETE ENCASEMENT IS REQUIRED.
26. WHERE POROUS MATERIAL , INCLUDING "SUBGRADE FILLER" IS USED FOR BACKFILL IN THE BEDDING AND INITIAL BACKFILL ZONES, SEEPAGE RETAINERS ARE REQUIRED AT AN APPROXIMATE OF 180 FEET. RETAINERS SHALL CONSIST OF CLASS "D" CONCRETE ENCASEMENT. THE RETAINERS SHALL EXTEND FROM THE BOTTOM OF THE TRENCH TO THE TOP OF THE GRANULAR MATERIAL FOR THE ENTIRE TRENCH WIDTH. ENCASEMENT SHALL BE 24 INCHES LONG. NO EXTRA PAY ITEM

BLASTING

27. WHEN ALLOWABLE, BLASTING SHALL BE PREFORMED IN ACCORDANCE WITH THE ABOVE CRITERIA ESTABLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION 312 TAC 313.5(C) (6).
28. BLASTING SEWER LINE EXCAVATION MUST BE DONE IN SUCH A MANNER AS TO MINIMIZE THE FRACTURING OF ROCK BEYOND THE REQUIRED EXCAVATION. THE CONTRACTOR SHALL CONSIDER THE ELEVATION OF THE EXISTING SANITARY SEWER MAIN IN RELATION TO THE BLASTING CHARGE AND RELATIVE DIRECTION OF EXISTING AND PROPOSED TRENCHES. BLASTING WITHIN SUCH AREAS SHALL BE ACCOMPLISHED ONLY BY QUALIFIED BLASTING CONTRACTORS WHO HOLD BLASTING LICENSES FROM A QUALIFIED AGENCY SUCH AS THE SAN ANTONIO FIRE DEPARTMENT IN BEXAR COUNTY. ANY DAMAGE TO EXISTING SANITARY SEWERS RESULTING FROM BLASTING SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE.
29. NO BLASTING SHALL BE PERFORMED WITHIN 75 FEET OF EXISTING UTILITIES.

TESTING

30. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE FOLLOWING:
    - A. 317.2(A)(5)(B); DEFLECTION TEST FOR FLEXIBLE AND SEMI-RIGID PIPE CONDUCTED AFTER FINAL BACKFILL AS BEEN IN PLACE AT LEAST 30 DAYS.
    - B. 317.2(A)(4)(A) & (B) OR SARA SPECIFICATIONS INFILTRATION AND OR EXFILTRATION AND OR LOW-PRESSURE AIR TEST.
    - C. 313.5(C)(10)(C) OR SARA SPECIFICATIONS: ALL MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES.
    - D. IN THE EVENT THAT TESTING REQUIREMENTS CONFLICT, THE LATEST TCEQ DESIGN CRITERIA SHALL BE USED.
31. SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
32. SANITARY SEWER CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WHICH REQUIRE PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPLACED AT CONTRACTORS EXPENSE AND WILL REQUIRE SUCCESSFUL TESTING OF THE EXISTING MANHOLE IN ACCORDANCE WITH THE GVSUD SPECIFICATIONS. THEY MUST HAVE A PROTECTIVE COATING WITH SEWPERCOAT, RAVEN 405, SAUEREISEN 210, SPRAY WALL OR APPROVED EQUIVALENT BY THE ENGINEER. COATING WILL BE MINIMUM OF 200 MILS THICKNESS DEPENDING ON EXISTING CONDITIONS. TO PROTECT INFRASTRUCTURE INFILTRATION. FOLLOW MANUFACTURER'S RECOMMENDATION ON PROTECTIVE COATING.
33. AFTER CONSTRUCTION, TESTING WILL BE DONE BY PAN/TILT TV CAMERA BY THE CONTRACTOR AND OBSERVED BY INSPECTOR, WASTEWATER ENGINEERING PERSONNEL AND CONTRACTOR AS CAMERA IS RUN THROUGH THE LINES. PAN/TILT ALL 6" SERVICE LATERALS TO 6"X6" STUB-OUT. VIDEOS MUST INCLUDE SUBDIVISION NAME, MANHOLE NUMBER, SERVICE LATERAL STATION NUMBER, FLOW DIRECTION, LOCATION ANY ABNORMALITIES, SUCH AS BROKEN PIPE OR MISALIGNED, JOINT, GRAVEL, DIRT, MUST BE CLEANED OUT, REPLACE AT CONTRACTOR'S EXPENSE. NEW SEWER SYSTEM WILL BE FLOODED WITH H20 BEFORE BEING TV. ALL SEWER LINES MUST BE PRESSURE CLEANED TO INCLUDE SERVICE LATERALS 6" INCH TO STUB-OUT. ALL VIDEOS SHALL BE SUBMITTED IN DVD FORMAT WITH WRITTEN REPORTS.
34. A COPY OF ALL TESTING REPORTS INCLUDING BACKFILL COMPACTION TESTS SHALL BE FORWARDED TO GVSUD.
    - A. DENSITY TEST WILL BE REQUIRED ON ALL SANITARY SEWER TRENCHES INCLUDING SERVICE LATERALS. SERVICE LATERALS TO BE CHOSEN RANDOMLY BY FIELD INSPECTOR. DENSITIES ON SERVICE LATERAL SHALL NOT EXCEED 25% OF TOTAL NUMBER OF SERVICES.

EXCAVATION

35. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY , SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
36. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100 YEAR FLOODPLAIN WITHOUT AN APPROVED FLOODPLAIN PERMIT.
37. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO SARA SPECIFICATIONS.

WATERLINE CROSSING

38. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATERLINES CANNOT BE MAINTAINED, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ RULES (31 TAC 317.3 APPENDIX E), SDR 26 ASTM 150 PSI OR CONCRETE ENCASEMENT DUCT IRON.

EROSION AND SEDIMENTATION

39. THE TCEQ AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECT PLAN AND PROFILE SHEETS.
40. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY GVSUD.

SUPPLEMENTING

41. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER PAY ITEM 10 WHICH IT RELATES TO.
42. UNLESS THE DEVELOPMENT IS PRIVATELY OWNED, THE DEVELOPERS DEDICATES THE SANITARY SEWER MAIN AND MANHOLES TO THE GVSUD. UPON COMPLETION BY THE DEVELOPER AND FINAL ACCEPTANCE BY THE GVSUD. GVSUD WILL OWN AND MAINTAIN THE SANITARY SEWER MAINS AND MANHOLES WHICH ARE LOCATED WITHIN THIS PARTICULAR SUBDIVISION.
43. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF THE GVSUD CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
44. GVSUD IS NOT TO BE RESPONSIBLE FOR ANY ABNORMALITIES ON STUB-OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE IN OR SERVICE LATERAL TIE IN.
45. ENGINEER, DEVELOPER, AND BUILDER, WILL HAVE PLUMBER AND CONTRACTOR WITH BID PRICE ON NEW INSTALLATION OF ALL 4" INCH SEWER SERVICE LATERALS TO COMPLY WITH TRENCH SAFETY (OSHA) SHORING PROTECTION ON ALL NEW INSTALLATION OF 4" INCH SEWER SERVICE LATERALS. GVSUD WILL NOT BE HELD RESPONSIBLE FOR ANY INJURIES OR DEATH CAUSED BY TRENCH FAILURE OR A WRONG OR DAMAGE DONE TO A PERSON OR TO HIS PROPERTY, OSHA GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
46. ALL 4" INCH SEWER SERVICE LATERALS WILL BE HYDRAULIC TESTED AND OR LOW AIR PRESSURE TESTED.

    ALL 4" INCH SEWER SERVICE LATERALS WILL BE TELEVISED (TV) FROM 4" INCH CLEAN OUT AT OUTSIDE EACH RESIDENCE TO 6"X6" CLEAN OUT. CONTRACTOR AND PLUMBER WILL SUBMIT REPORTS AND/OR VIDEOS TO GVSUD, WITH THE FOLLOWING INFORMATION: SUBDIVISION NAME, LOT NUMBER, BLOCK NUMBER, STATION NUMBER, STREET NAME AND ADDRESS OF EACH SEWER SERVICE LATERAL.

PLUMBER WILL BE PROVIDED PLAN/PROFILE BY ENGINEER/BUILDER. PLUMBER WILL WORK CLOSELY WITH THE GVSUD INSPECTOR ON DAILY TESTING AND TELEVISION BY MAKING ARRANGEMENTS 48 HOURS IN ADVANCE. SEWER SERVICE LATERALS THAT HAVE NOT BEEN INSPECTED OR APPROVED AND/OR COVERED UP, WILL HAVE TO BE RE-DUG AT CONTRACTOR/PLUMBER EXPENSE AND RE-INSPECTED.

- A. A PROPERTY LINE CLEAN OUT (6"X6") SHALL BE INSTALLED FOR RESIDENTIAL SERVICES. CLEAN OUTS IN THE SIDEWALK OR DRIVEWAY SHALL HAVE A CAST IRON BOOT. CLEAN OUT NOT LOCATED IN A SIDEWALK OR DRIVEWAY SHALL BE LOCATED ON REINFORCED CONCRETE PAD A MINIMUM OF TWELVE (12") INCHES BY TWELVE (12") INCHES BY SIX (6") INCHES THICK. ALL PROPERTY LINE CLEAN OUTS SHALL INCLUDE A LID WITH SEWER IN GREEN COLOR.

47. N1 FENCING: ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR NOTE IDENTIFIED ON THE PLANS, MUST BE MAINTAINED AT ALL TIMES. ANY AND ALL DAMAGES DIRECTLY ATTRIBUTED TO THE CONTRACTOR MUST BE REPLACED TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY THE PROJECT MANAGER. GAPS IN THE FENCING MUST BE PROVIDED AT ALL LOCATIONS WHERE THE SEWER LINE EASEMENT CROSSES FENCING. FENCING REQUIRED TO MAINTAIN LIVESTOCK MUST BE MAINTAINED AT ALL TIMES.
48. N2 DAMAGE TO ADJACENT LAND: THE CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS. ANY AND ALL CLAIMS DIRECTORY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM HIS STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE APPROPRIATE LANDOWNER.
49. N3 PROPERTY OWNER ACCESS: THE CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR MUST REPLACE THE ACCESS TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE, AS APPROVED BY THE ENGINEER.
50. N4 CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION ALL UTILITIES WHETHER OR NOT SHOWN ON THE PLANS. SHOULD THE CONTRACTOR DAMAGE ANY UTILITIES THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS TO REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION. CONTRACTOR IS SOLELY RESPONSIBLE FOR LOST REVENUE, LOSSES, ETC CLAIMED BY UTILITY COMPANIES DUE TO CONTRACTORS WORK. CONTRACTOR SHALL NOTIFY GVSUD AND IMPACTED UTILITY COMPANIES 48 HRS. PRIOR TO BEGINNING WORK. CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
51. N5 CLEARING PERMANENT EASEMENTS: THE LIMITS OF BOTH THE EXISTING AND PARALLEL SEWER LINES PERMANENT EASEMENTS, AS DELINEATED IN THESE PLANS, MUST BE CLEARED IN ACCORDANCE WITH THE SPECIFICATION. THE CONTRACTOR MAY BE DIRECTED BY THE ENGINEER TO PROTECT AND AVOID CERTAIN TRESS WITHIN THE LIMITS OF THE PERMANENT CONSTRUCTION EASEMENTS. ALL BRUSH MUST BE REMOVED FROM SITE. NO BRUSH PILES TO REMAIN AFTER CONSTRUCTION. BURNING OF BRUSH OR TRASH WILL NOT BE ACCEPTABLE.
52. N7 CONTRACTOR SHALL PROVIDE APPROPRIATE SAFE ACCESS AND BARRICADE WORK AT ALL TIMES TO PROTECT THE PUBLIC. THIS INCLUDES SUBSTANTIAL BARRICADES AROUND ALL TRENCHES, BORE PITS, OPEN EXCAVATIONS, EQUIPMENT, ETC. THE SITE MUST BE LEFT IN SECURE SAFE CONDITION AT NIGHT. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC THROUGHOUT THE DURATION OF THE PROJECT.
53. N14 SHOULD CONTRACTOR SELECT A TRENCH EXCAVATION PROCEDURE THAT EXTENDS THE LIMITS OF SEEDING OR PAVING AND FINAL SITE PREPARATION (I.E. SLOPE BACK PROTECTION SYSTEM) HE WILL BE RESPONSIBLE FOR MEETING PLAN AND SPECIFICATION REQUIREMENTS TO THE NEW LIMITS AT NO ADDITIONAL COST TO GVSUD.
54. N16 WARNING: NOTE THAT CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND/OR CROSS EXISTING UTILITIES. THE CONTRACTORS WILL BE REQUIRED TO PROTECT EXISTING UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY BE REQUIRED. IT IS SPECIFICALLY THE CONTRACTORS RESPONSIBILITY TO PROTECT HIS WORKERS, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE JOB.
55. N17 OVERHEAD ELECTRIC, CITY PUBLIC SERVICE (CPS) AN APPROPRIATELY SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CITY PUBLIC SERVICE AT 353-2700 AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF THE CPS OVERHEAD ELECTRIC LINE CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.
56. N23 BYPASS PUMPING: THE CONTRACTOR IS RESPONSIBLE FOR ALL BYPASS PUMPING REQUIRED TO COMPLETE THE WORK. BYPASS PUMPS SHALL BE ADEQUATE TO HANDLE PEAK FLOW EVENTS DURING STORM EVENTS. CONTRACTOR SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN CASE PRIMARY PUMP FAILS. CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL COSTS FOR CLEANUP OF AN UNAUTHORIZED DISCHARGE AND ANY ASSOCIATED FINES.
57. N26 CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AT THE END OF THE DAY. CONTRACTOR SHALL NO INSTALL MORE PIPE THAN CAN BE COVERED. NO OPEN TRENCHES WILL BE PERMITTED OVERNIGHT ALL END OF OPEN PIPE WILL BE PLUGGED OVERNIGHT.
58. N33 THE PROJECT AREA MAY BE SUBJECT TO ARCHEOLOGICAL MONITORING, SHOULD THE CONTRACTOR ENCOUNTER ANY ARCHEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL STOP ALL WORK IN THE AREA OF THE DEPOSITS AND IMMEDIATELY CALL THE PROJECT MANAGER.
59. N37 CONTRACTOR TO NOTE THAT PORTIONS OF THE CONSTRUCTION ARE WITHIN THE LIMITS OF THE 100 YEAR FLOODPLAIN. THE CONTRACTOR IS REQUIRED TO KEEP THE CHANNEL CLEAR OF POTENTIAL OBSTRUCTIONS TO FLOOD FLOWS. POTENTIAL OBSTRUCTIONS INCLUDE HEAVY CONSTRUCTION EQUIPMENT, TEMPORARY ROADS ACROSS CHANNEL, EXCAVATED MATERIAL, STOCKPILED DEBRIS, ETC. UNDER THREATENING WEATHER CONDITIONS WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO GVSUD. THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	SANITARY SEWER SYSTEM GENERAL NOTES (2 OF 2)	
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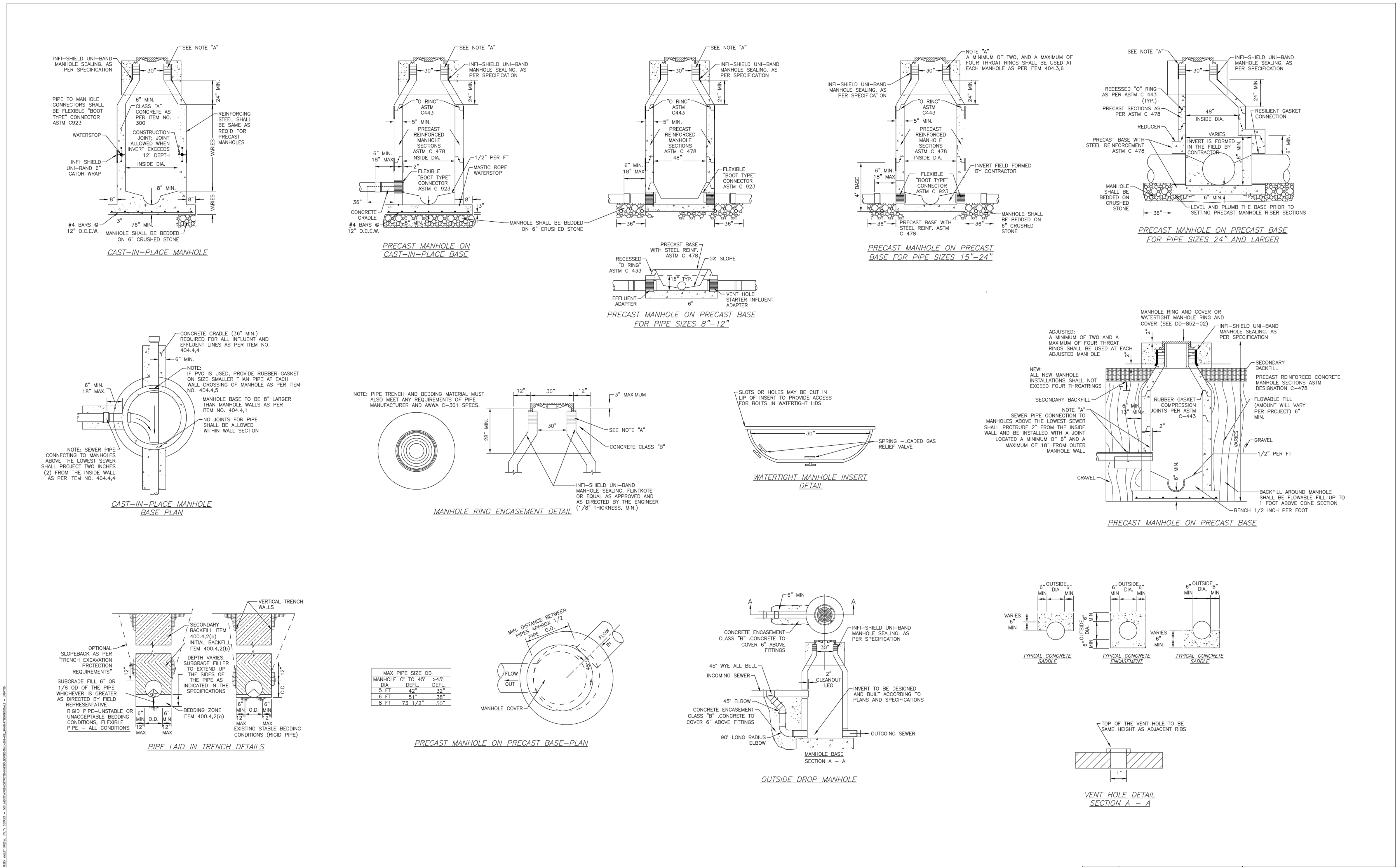
CAST-IN-PLACE MANHOLE
PRECAST MANHOLE ON CAST-IN-PLACE BASE
PRECAST MANHOLE ON PRECAST BASE FOR PIPE SIZES 8"-12"
PRECAST MANHOLE ON PRECAST BASE FOR PIPE SIZES 15"-24"
PRECAST MANHOLE ON PRECAST BASE FOR PIPE SIZES 24" AND LARGER
CAST-IN-PLACE MANHOLE BASE PLAN
MANHOLE RING ENCASEMENT DETAIL
WATERTIGHT MANHOLE INSERT DETAIL
PRECAST MANHOLE ON PRECAST BASE
PIPE LAID IN TRENCH DETAILS
PRECAST MANHOLE ON PRECAST BASE-PLAN
OUTSIDE DROP MANHOLE
TYPICAL CONCRETE SADDLE
VENT HOLE DETAIL SECTION A – A
SEE NOTE "A"
INFI-SHIELD UNI-BAND MANHOLE SEALING. AS PER SPECIFICATION
NOTE "A" A MINIMUM OF TWO, AND A MAXIMUM OF FOUR THROAT RINGS SHALL BE USED AT EACH MANHOLE AS PER ITEM 404.3,6
RECESSED "O" RING AS PER ASTM C 443
30"
24" MIN.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	SANITARY SEWER SYSTEM STANDARD DETAILS (1 OF 2)	
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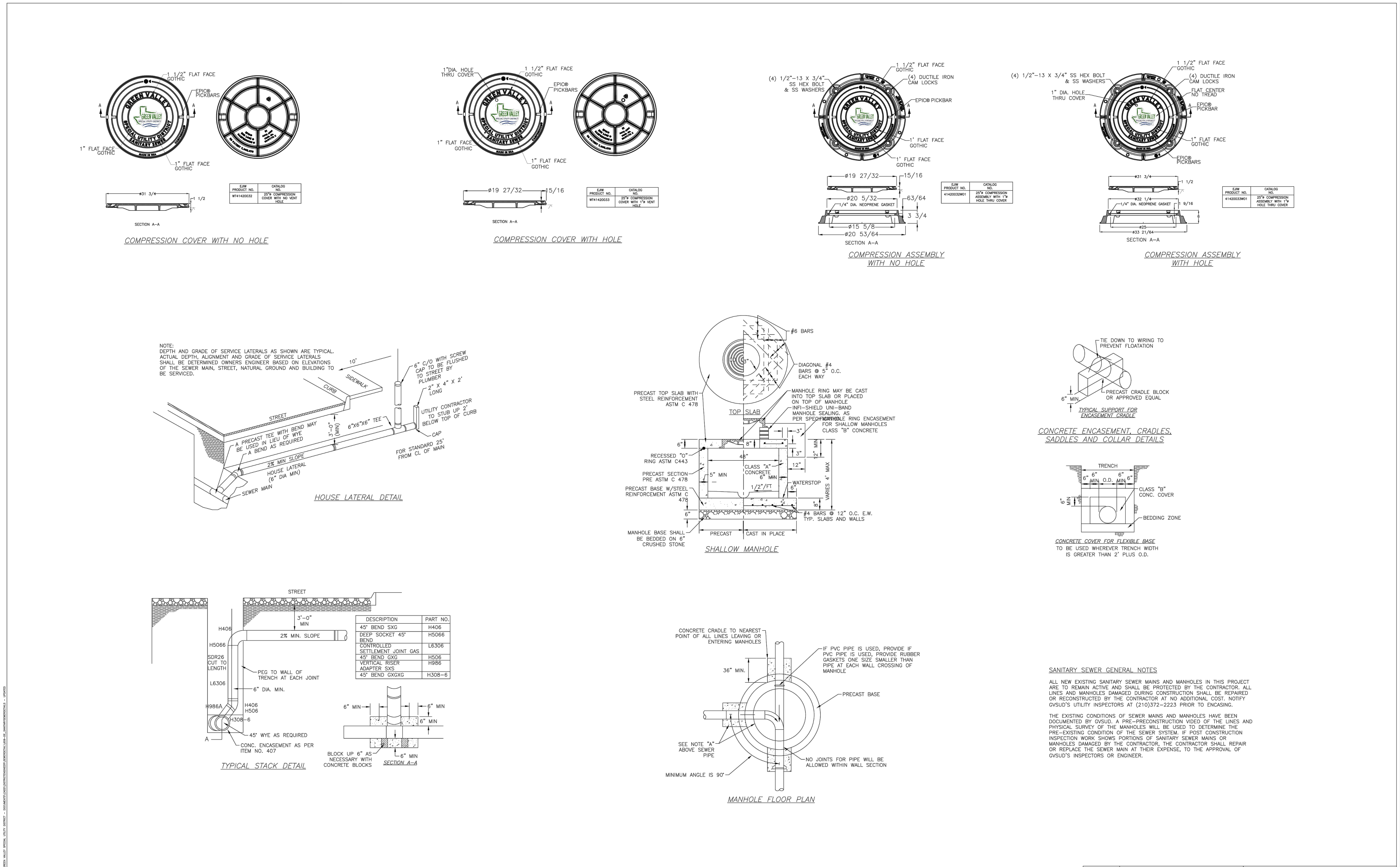
COMPRESSION COVER WITH NO HOLE
COMPRESSION COVER WITH HOLE
COMPRESSION ASSEMBLY WITH NO HOLE
COMPRESSION ASSEMBLY WITH HOLE
HOUSE LATERAL DETAIL
SHALLOW MANHOLE
CONCRETE ENCASEMENT, CRADLES, SADDLES AND COLLARS
TYPICAL STACK DETAIL
MANHOLE FLOOR PLAN
SANITARY SEWER GENERAL NOTES
1 1/2" FLAT FACE GOTHIC
EPIC® PICKBARS
1"DIA. HOLE THRU COVER
(4) 1/2"–13 X 3/4" SS HEX BOLT & SS WASHERS
(4) DUCTILE IRON CAM LOCKS
FLAT CENTER NO TREAD

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	SANITARY SEWER SYSTEM STANDARD DETAILS (2 OF 2)	
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NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

SANITARY SEWER DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
307

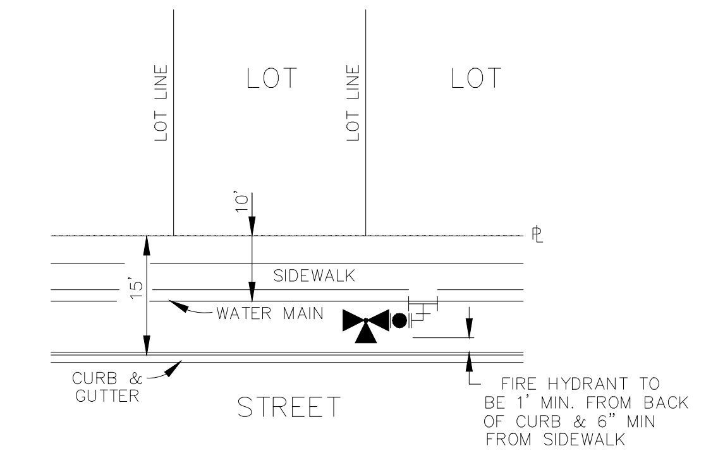
WATERLINE PLANS
for
CIBOLO FARMS UNIT 3

GVSUD CONSTRUCTION PLAN GENERAL NOTES
Revised July 22, 2022

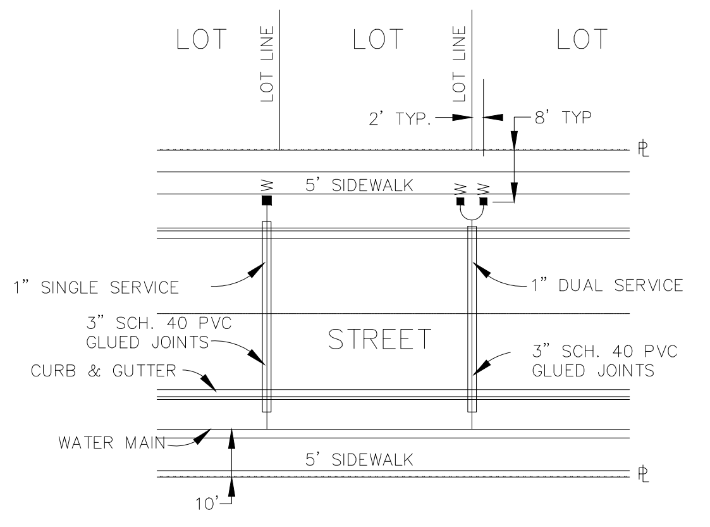
1. ALL WORKMANSHIP AND MATERIALS FOR THE WATER SYSTEM SHALL CONFORM TO THE WATER STANDARDS AND DESIGN CRITERIA OF GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD).
2. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 5-FEET BELOW ROADWAY LEVEL AND 42- INCHES IN ALL OTHER AREAS.
3. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE KOPR KOTE OR APPROVED EQUAL ANTI- SEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTER ADAPTOR OR ANCHOR NIPPLE. FOSTER ADAPTER, ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES.
4. TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING INITIAL BACKFILL.
5. EXCEEDING MAXIMUM DEFLECTION IS PROHIBITED. THE ANGULAR DEFLECTION AT BELL- SPIGOT JOINTS SHOULD NOT EXCEED ONE (1) DEGREE. THIS WILL PRODUCE A 4-INCH OFFSET FOR EVERY 20-FOOT SECTION OF PIPE. JOINT DEFLECTION IS ACHIEVED AFTER THE JOINT IS ASSEMBLED IN STRAIGHT ALIGNMENT AND DEFLECTED TO THE REFERENCE MARK. THE BELL SHOULD BE BRACED TO ALLOW THE FREE END TO MOVE LATERALLY UNDER STEADY PRESSURE USING A PRY BAR OR OTHER SUITABLE MEANS. CARE SHOULD BE TAKEN NOT TO EXCEED THE MAXIMUM DEFLECTION ALLOWED OR TO DAMAGE THE PIPE WITH MACHINERY. ABRUPT CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS.
6. OVER STRESSING THE BELL BY OVER INSERTING THE JOINTS, OVERBELLING, AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION.
7. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN. ONLY MUELLER HYDRANTS AND EJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE.
8. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.
9. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS.
10. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.
11. SMALL SERVICE TAPS SHALL BE EITHER 1-INCH OR 2 INCH AND SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE WITH IRON PIPE THREADS. EXCEPTION: IF LOCATED WITHIN CITY OF CIBOLO- SERVICE TAPS TO BE MADE WITH DOUBLE STAINLESS STRAP EPOXY COATING SADDLES WITH IRON PIPE THREADS.
12. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1 INCH SERVICE REQUIRES 3 INCH CASING AND 2 INCH SERVICE REQUIRES 4 INCH CASING. CASING SHALL BE PVC SCHEDULE 40 OR APPROVED EQUAL.
13. SINGLE 5/8” & ¾” METER BOXES SHALL BE DFW36C 16” X 11”. DUAL 5/8” & ¾” METER BOXES SHALL BE DFW38C 17” X 15”. 1-INCH METER BOXES SHALL BE DFW65C-14-1A 15 1/4" X 30 3/8”. ALL METER BOXES SHALL BE PLASTIC WITH LIDS HAVING REBAR, ARM, AND KNOCKOUT.
14. THE FORD U BRANCH IS TO BE USED ON ALL DUAL SERVICES (U48-43Q) WITH THE 5/8” X 3/4” FEMALE THREAD ANGLE HEAD. ALL OTHER ANGLE HEADS WILL BE THE FORD Q NUT. ALL CORPORATION STOPS WILL BE IPS X Q NUT. ALL BRASS VALVES TO BE 'BALL' TYPE MINIMUM 200 PSI PRESSURE RATING. "CC" THREADED CORPORATION STOPS PROHIBITED.
15. TAPPING MACHINES UTILIZED FOR INSTALLING ANY TYPE OF TAP 1-INCH TO 2-INCHES WILL BE OF THE PURGE TYPE, WHICH AT THE TIME OF TAPPING SHALL EXPEL ALL CHIPS AND RESIDUE TO ATMOSPHERE THROUGH AN APPROPRIATE OUTLET AND/OR BE ABLE TO RETAIN THE COUPON.
16. ALL WATER MAIN, PIPE, CASINGS, FITTINGS, AND VALVES SHALL BE LAID IN MANUFACTURED SAND EMBEDMENT PER DETAILS. THE SAND SHALL FULLY ENCASE ALL PIPES, INCLUDING FITTINGS AND VALVES, BY A MINIMUM OF 12-INCHES. ALL FITTINGS AND VALVES ARE TO RECEIVE THRUST BLOCKING, FOSTER ADAPTER, ANCHOR NIPPLE, FORD UNI-FLANGE RETAINER GLAND JOINT RESTRAINTS, AND BELL JOINT RESTRAINTS WHEN SPECIFIED BY GVSUD OR THE DISTRICT'S ENGINEER.
17. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS.
18. PRIOR TO CONSTRUCTION OF THE SEWER AND WATER MAINS, ALL R.O.W. ROADWAYS AND PARKWAY SHALL HAVE REFERENCE SURVEY STAKING AND BE EXCAVATED OR PROPERLY FILLED TO SUB-GRADE ELEVATION.
19. SURVEY STAKING OFFSETS ARE REQUIRED FOR ALL WATER MAIN AND APPURTENANCES.
20. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. CONTRACTOR SHALL INVESTIGATE AND FIELD VERIFY UTILITY LOCATIONS A MINIMUM OF 300 LF AHEAD OF CROSSING AND TIE-IN LOCATIONS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE PROTECTION OF THE EXISTING UTILITIES, WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.
21. ALL WASTEWATER PIPES CROSSING THE POTABLE WATER DISTRIBUTION SYSTEM WILL BE HELD IN STRICT ACCORDANCE WITH TCEQ RULES AND REGULATIONS. PROPOSED SUB-GRADE LIMITS AND DIMENSIONS MUST BE SHOWN ON THE PLANS, AND CONSTRUCTION PROCEDURES WILL BE INSPECTED TO VERIFY COMPLIANCE WITH TCEQ 290.44(E).
22. OTHER UTILITIES SHALL NOT BE LOCATED CLOSER THAN 3-FEET TO WATER MAINS.
23. THE GREEN VALLEY INSPECTOR SHALL BE NOTIFIED AT LEAST FORTY-EIGHT HOURS PRIOR TO BACK FILLING OR TESTING.
24. A FIELD PRE-CONSTRUCTION MEETING SHALL BE HELD BEFORE CONSTRUCTION BEGINS AND MATERIAL SHALL BE AVAILABLE ON-SITE FOR INSPECTION.
25. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655; THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO GVSUD.
26. OPERATION OF EXISITNG VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL ONLY BE AS APPROVED BY GVSUD AND IN THE PRESENCE OF GVSUD PERSONNEL. THE CONTRACTOR SHALL NOTIFY GVSUD WHEN A VALVE NEEDS TO BE OPERATED AND MAY ONLY OPERATE A VALVE IN THE PRESENCE OF THE GVSUD INSPECTOR.
27. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND ANSI/AWWA.
28. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 200 LF (MAX) OF LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.
29. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH AND CONFINED SPACE ENTRY SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION AND ALL RELATED WORK. ANY TRENCH PROTECTION SAFETY VIOLATION WILL BE DOCUMENTED AND WILL RESULT IN AN IMMEDIATE WORK STOPPAGE BY THE GVSUD INSPECTOR AT MINUMUM UNTIL THE NEXT WORKDAY.
30. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING.
31. NO TREES MAY BE PLANTED IN THE AREAS DESIGNATED AS WATER OR UTILITY EASEMENTS, OR AREAS WHERE WATER MAINS AND WATER SERVICE CROSSINGS EXIST OR ARE PLANNED TO BE CONSTRUCTED.
32. ALL GARBAGE OR SPOIL MATERIAL FROM THE WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
33. CONTRACTOR SHALL PROVIDE “AS-BUILT” WATER LINE PLANS AT THE PRELIMINARY WALK THRU FOR THE GVSUD INSPECTOR AND ENGINEER. THE PLANS SHALL LIST MATERIAL MANUFACTURERS, LINE LENGTH FROM FITTING TO FITTING, AND TAP LOCATIONS.
34. GPS FILES SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AND GVSUD INSPECTOR FOR THE PLAN OF RECORD. CONTRACTOR SHALL PROVIDE AN ASCII COMMA DELIMITED OR EXCEL FILE CONTAINING THREE-DIMENSIONAL GPS SURVEY POINTS WITH FOUR

(4) DECIMAL PLACES OF PRECISION, LESS THAN FOUR (4) INCHES OF HORIZONTAL POSITION ACCURACY, AND LESS THAN EIGHT (8) INCHES OF VERTICAL POSITION ACCURACY. POINTS SHALL BE PROVIDED FOR A MINIMUM OF THREE (3) CONTROL POINTS AND ALL FITTINGS, APPURTENANCES, ENCASEMENTS, VAULTS, AND TANKS. THE ENGINEER SHALL FURNISH PLAN OF RECORD DRAWINGS TO GVSUD FOR APPROVAL HAVING FINAL MEASUREMENTS AND THAT MATCH THE GPS 'X', 'Y', AND 'Z' COORDINATES.

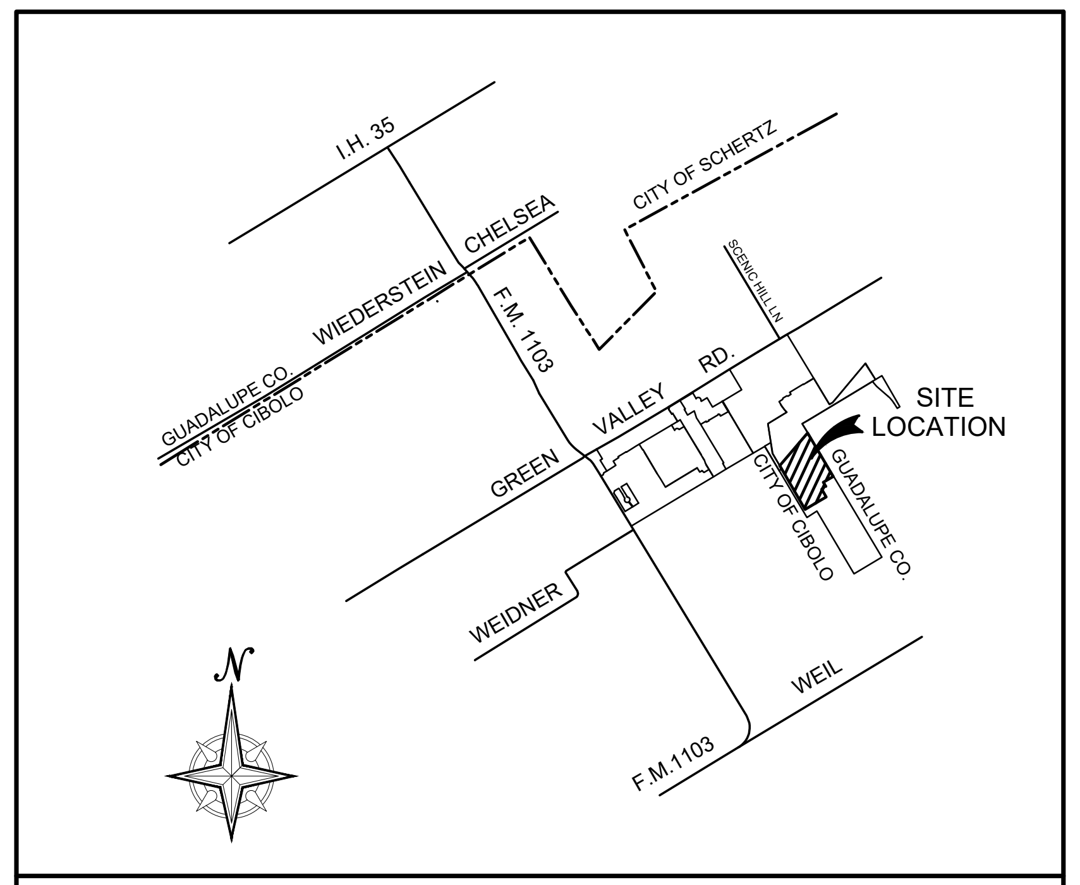
35. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL THE INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY GVSUD THE GIS PACKAGE FOR APPROVAL.
36. A FINAL WALK THRU FOR FINAL FIELD ACCPETANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK THRU PUNCH LIST ITEMS HAVE BEEN COMPLETED AND AFTER THE GIS PACKAGE IS APPROVED AND ACCEPTED BY GVSUD.
37. GVSUD CONTACT NUMBER: 830-914-2330


LOT LINE
LOT
LOT LINE
LOT
10'
℄
15'
SIDEWALK
WATER MAIN
CURB & GUTTER
STREET
FIRE HYDRANT TO BE 1' MIN. FROM BACK OF CURB & 6" MIN FROM SIDEWALK

FIRE HYDRANT DETAIL
N.T.S.



METER BOX DETAIL
N.T.S.



LOCATION MAP
N.T.S.

WATER QUANTITIES

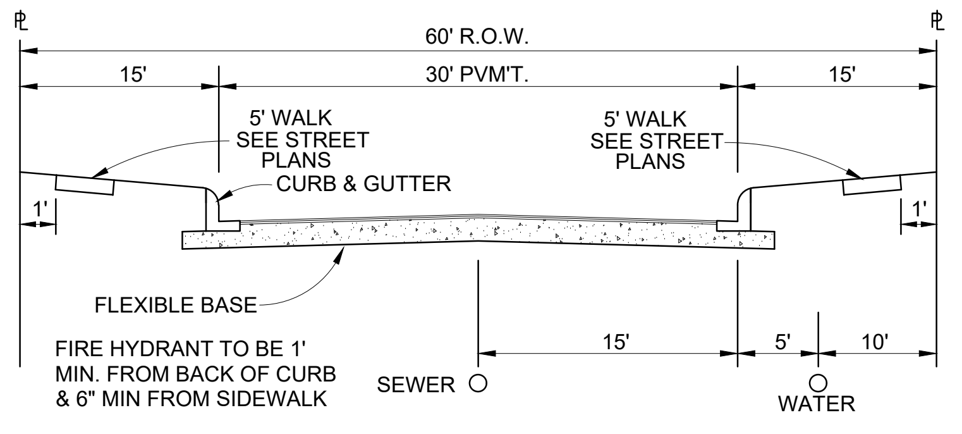
Onsite Water

Item No:	Description	Unit	Quantity
550.0	Trench Protection	L.F.	4602
818.0	8" Pipe, P.V.C. C-909, Class 235 (DR-18)	L.F.	2658
818.0	8" Pipe, Ductile Iron C-151	LF	706
818.0	12" Pipe, P.V.C. C-909, Class 235 (DR-18)	L.F.	1238
824.0	1" Single Water Service - Short	EA.	6
824.0	1" Single Water Service - Long	EA.	3
824.0	1" Dual Water Service - Short	EA.	28
824.0	1" Dual Water Service - Long	EA.	16
828.0	8" Gate Valve MJ W/ Box	EA.	20
828.0	12" Gate Valve MJ W/ Box	EA.	6
828.0	16" Gate Valve MJ W/ Box	EA.	2
833.0	Meter Box	EA.	97
834.1	Standard Fire Hydrant	EA.	5
836.0	D.I. MJ Compact Fittings (C153)	TON	1.80
840.0	8" PVC Water Tie-In To Existing 8" PVC	EA.	1
840.0	12" PVC Water Tie-In To Existing 12" PVC	EA.	1
840.0	8" PVC Water Tie-In To Existing 16" PVC	EA.	1
841.0	Hydrostatic Test	EA.	1
844.0	2" Blowoff (Permanent)	EA.	2
844.0	2" Blowoff (Temporary)	EA.	3

Sheet List Table

Sheet Number	Sheet Title
400	WATER COVER
401	OVERALL WATER PLAN
402	WATER DETAILS
403	WATER DETAILS

1" SINGLE SERVICE - SHORT	6
1" SINGLE SERVICE - LONG	3
1" DUAL SERVICE - SHORT	28
1" DUAL SERVICE - LONG	16
TOTAL SERVICES	9 SINGLE / 44 DUAL
TOTAL EDUS	97 EDUS



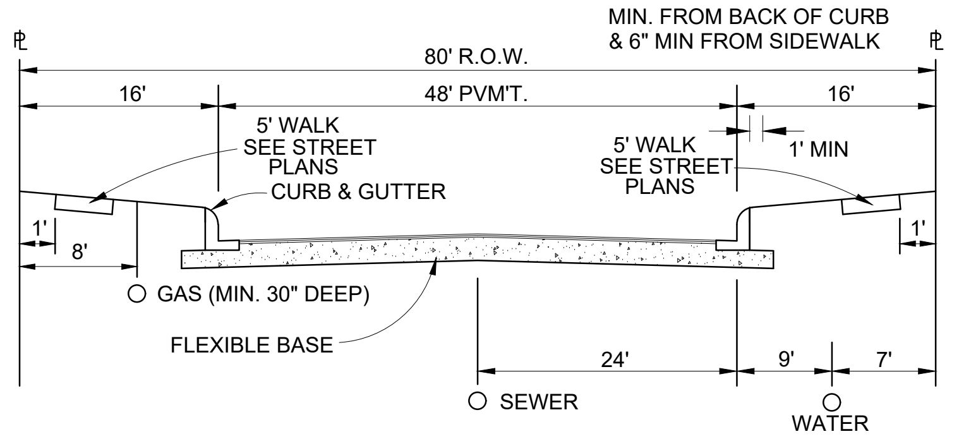
FIRE HYDRANT TO BE 1' MIN. FROM BACK OF CURB & 6" MIN FROM SIDEWALK

TYPICAL LOCAL "A" STREET SECTION
NOT TO SCALE

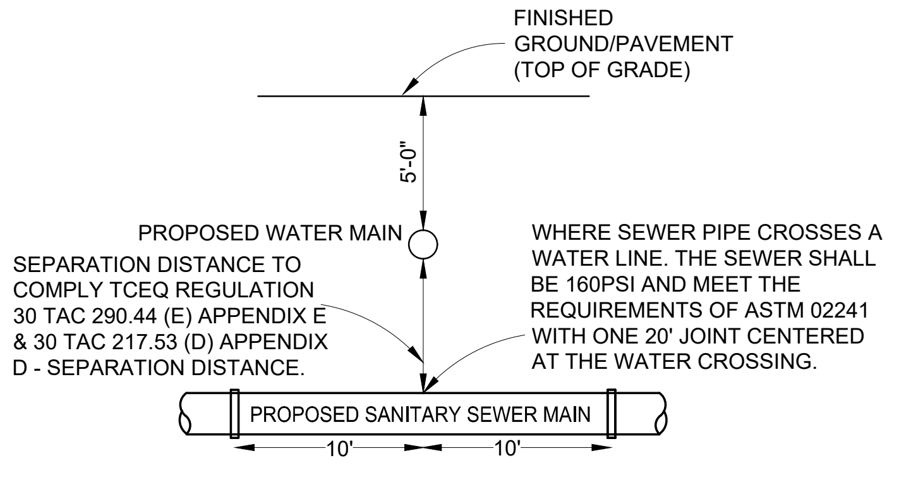
LEGEND

EXISTING EDGE OF PAVEMENT	——////——————////——
EXISTING SANITARY SEWER MAIN	▬ ○ E8"PVC ○ ▬
PROPOSED SANITARY SEWER MAIN	● P8"SS ●
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — — E8"PVC — — —
PROPOSED WATER MAIN	—— P8"PVC ——
PROPOSED LIGHT POLE (100 WATT LED)	● L.P.
PROPOSED WATER SERVICE / METER	■—
PROPOSED FIRE HYDRANT	⧓

FIRE HYDRANT TO BE 1' MIN. FROM BACK OF CURB & 6" MIN FROM SIDEWALK



TYPICAL COLLECTOR STREET SECTION
NOT TO SCALE


FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.
PROPOSED SANITARY SEWER MAIN
10'
10'

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
NOT TO SCALE

NOTE:
1. GVSUD REQUIRES THE USE OF PC 235 C909 PVC FOR ALL PROPOSED 8" & 12" WATER LINES.
2. MUELLER AND EAST JORDAN HYDRANTS ARE APPROVED FOR INSTALLATION. HYDRANT MUST HAVE FACTORY INSTALLED 5" STORZ CONNECTOR ON STEAMER PORT.
3. WHERE DUAL WATER SERVICE / METER CONFLICTS WITH ELECTRICAL AND / OR STREET LIGHTS, USE SINGLE SERVICE OFFSET 3' TO EITHER SIDE.
4. CONTRACTOR TO CURB CUT V's FOR VALVES AND X's FOR METERS.
5. CONTRACTOR TO VERIFY LOCATION OF EXISTING WATER MAIN A MINIMUM OF 300 LF AHEAD OF NEW MAIN INSTALLATION AT ALL TIE-IN LOCATIONS OR CORSSINGS, AND NOTIFY GVSUD INSPECTOR.
6. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING OR OTHER APPROVED MEANS.
7. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND / OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
8. SOILS MOISTURE DENSITY COMPACTION TESTING - MAIN LINE REQUIRED EVERY 200 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL AND AT ALL ROADWAY CROSSINGS. SERVICES AS REQUIRED BY GVSUD INSPECTOR
9. ALL TESTING AND TESTING REPORTS COORDINATED BY CONTRACTOR WITH GVSUD INSPECTOR.
10. DISINFECTION SHALL BE BY MACHINE CHLORINATION
11. MOISTURE DENSITY COMPACTION TESTING SHALL BE REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL.
12. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA/ANSI C-151.
13. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM THE BACK OF CURB, WHEN IN CITY OF CIBOLO.
14. STREET CROSSINGS ARE DUCTILE IRON C-151 AND EXTEND 10' PAST BACK OF CURB.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

OWNER/DEVELOPER:

LENNAR HOMES OF TEXAS AND
CONSTRUCTION, LTD
1922 DRY CREEK WAY, SUITE 101
SAN ANTONIO, TEXAS 78259
(210) 403-6200

PREPARED BY:

KCI TECHNOLOGIES, INC.
2806 W. BITTERS, RD. SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

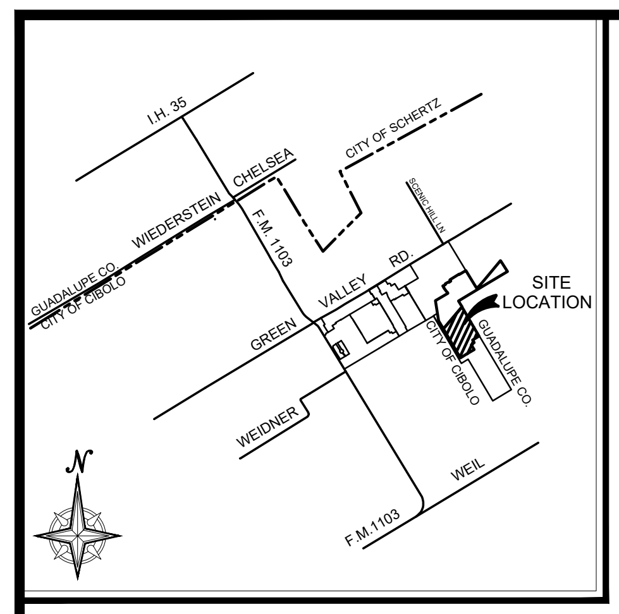
REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD. SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

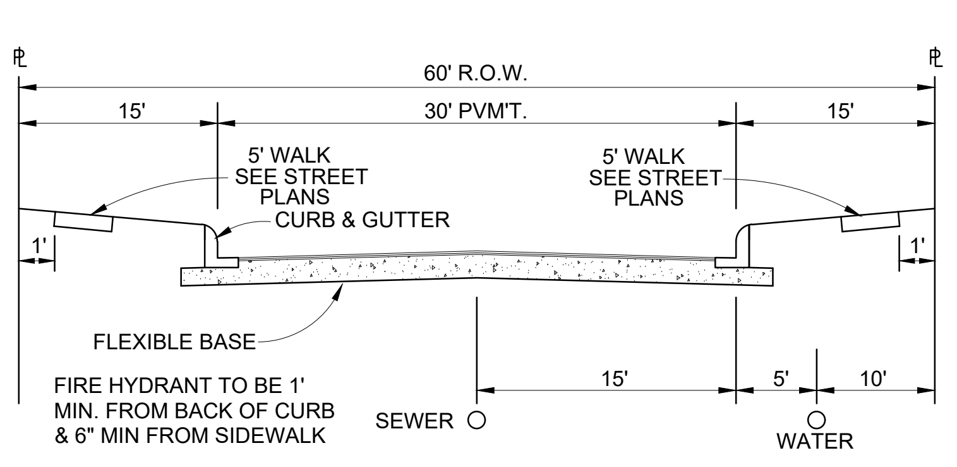
CIBOLO FARMS UNIT 3
WATER COVER

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
400

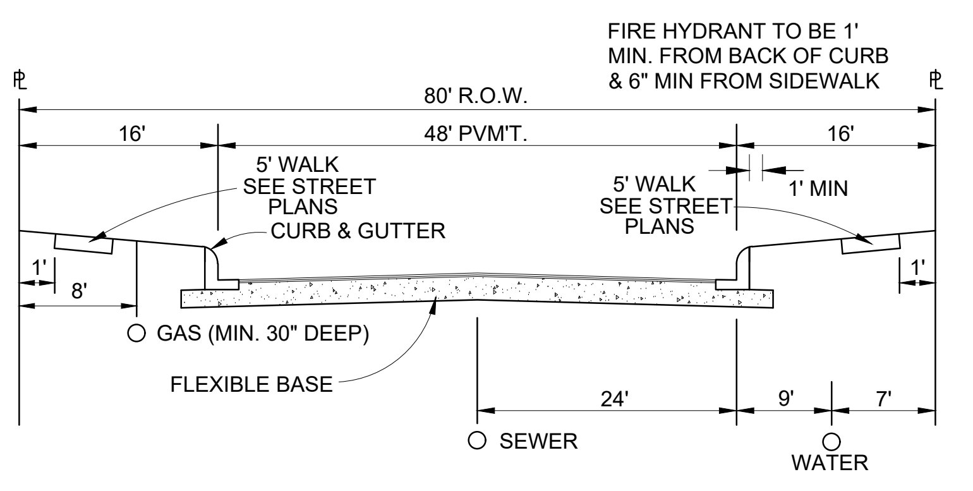


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE



TYPICAL COLLECTOR STREET SECTION

NOT TO SCALE

NOTE:

1. GVSUD REQUIRES THE USE OF PC 235 C909 PVC FOR ALL PROPOSED 8" & 12" WATER LINES.
2. MUELLER AND EAST JORDAN HYDRANTS ARE APPROVED FOR INSTALLATION. HYDRANT MUST HAVE FACTORY INSTALLED 5" STORZ CONNECTOR ON STEAMER PORT.
3. WHERE DUAL WATER SERVICE / METER CONFLICTS WITH ELECTRICAL AND / OR STREET LIGHTS, USE SINGLE SERVICE OFFSET 3' TO EITHER SIDE.
4. CONTRACTOR TO CURB CUT V's FOR VALVES AND X's FOR METERS.
5. CONTRACTOR TO VERIFY LOCATION OF EXISTING WATER MAIN A MINIMUM OF 300 LF AHEAD OF NEW MAIN INSTALLATION AT ALL TIE-IN LOCATIONS OR CORSSINGS, AND NOTIFY GVSUD INSPECTOR.
6. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING OR OTHER APPROVED MEANS.
7. CONTRACTOR TO UTILIZE APPROVED WATER LINE STOPS AND / OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.
8. SOILS MOISTURE DENSITY COMPACTION TESTING - MAIN LINE REQUIRED EVERY 200 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL AND AT ALL ROADWAY CROSSINGS. SERVICES AS REQUIRED BY GVSUD INSPECTOR
9. ALL TESTING AND TESTING REPORTS COORDINATED BY CONTRACTOR WITH GVSUD INSPECTOR.
10. DISINFECTION SHALL BE BY MACHINE CHLORINATION
11. MOISTURE DENSITY COMPACTION TESTING SHALL BE REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL.
12. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA/ANSI C-151.
13. FIRE HYDRANTS SHALL BE MUELLER OR EJ TYPE AND SHALL BE 1' MINIMUM AND 7' MAXIMUM FROM THE BACK OF CURB, WHEN IN CITY OF CIBOLO.
14. STREET CROSSINGS ARE DUCTILE IRON C-151 AND EXTEND 10' PAST BACK OF CURB.

LEGEND

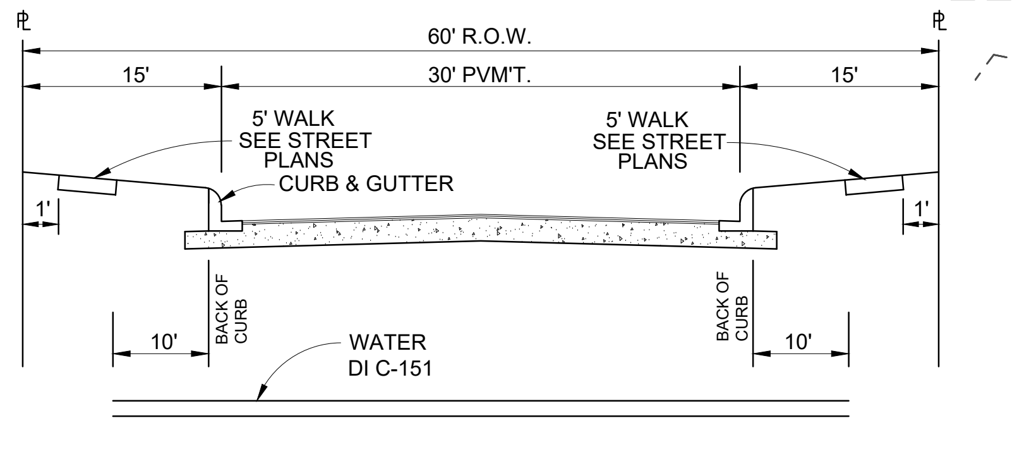
EXISTING EDGE OF PAVEMENT	——////——————////——
EXISTING SANITARY SEWER MAIN	▬ ○ E8"PVC ○ ▬
PROPOSED SANITARY SEWER MAIN	● P8"SS ●
DIRECTION OF FLOW	▶
EXISTING WATER MAIN	— — E8"PVC — —
PROPOSED WATER MAIN	—— P8"PVC ——
PROPOSED LIGHT POLE (100 WATT LED)	● L.P.
PROPOSED WATER SERVICE / 5/8" METER BOX	■—
PROPOSED WATER SERVICE / DUAL 5/8" METER BOX	■■
PROPOSED FIRE HYDRANT	

PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)

0 60' 120'

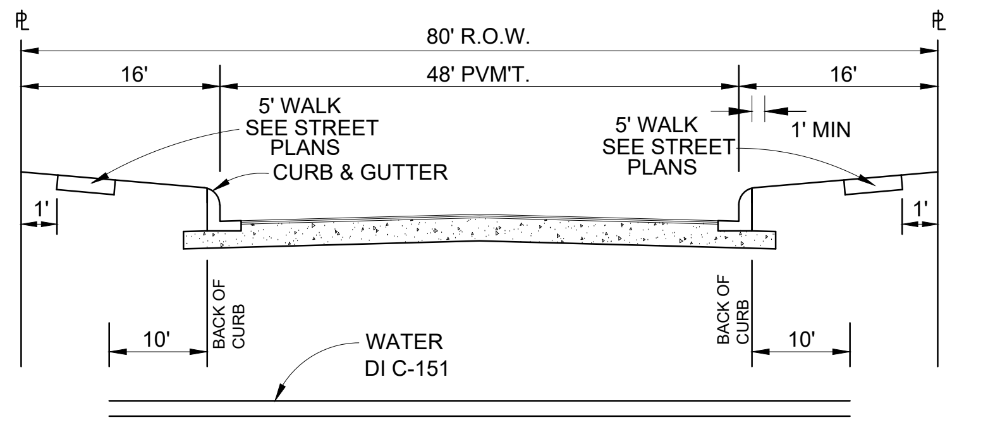
1" = 60'

1" SINGLE SERVICE - SHORT	6
1" SINGLE SERVICE - LONG	3
1" DUAL SERVICE - SHORT	28
1" DUAL SERVICE - LONG	16
TOTAL SERVICES	9 SINGLE / 44 DUAL
TOTAL EDUS	97 EDUS



WATERLINE STREET CROSSING LOCAL "A"

NOT TO SCALE

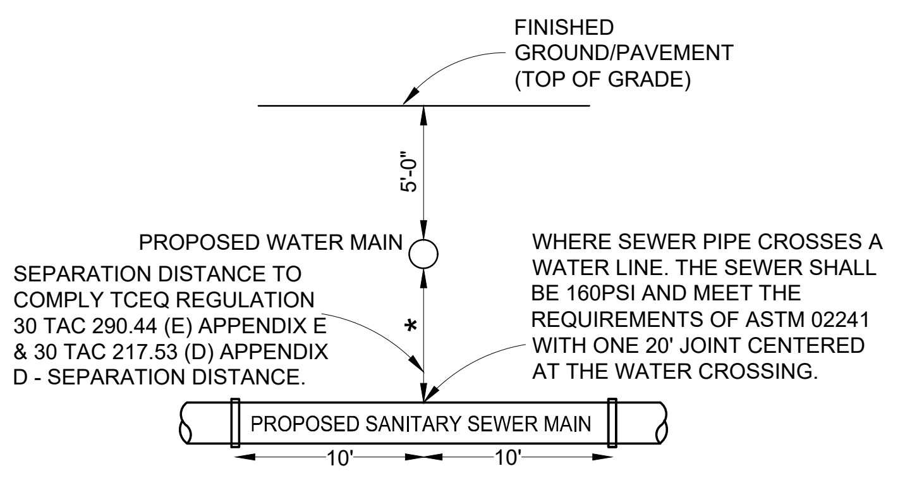


WATERLINE STREET CROSSING "COLLECTOR"

NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

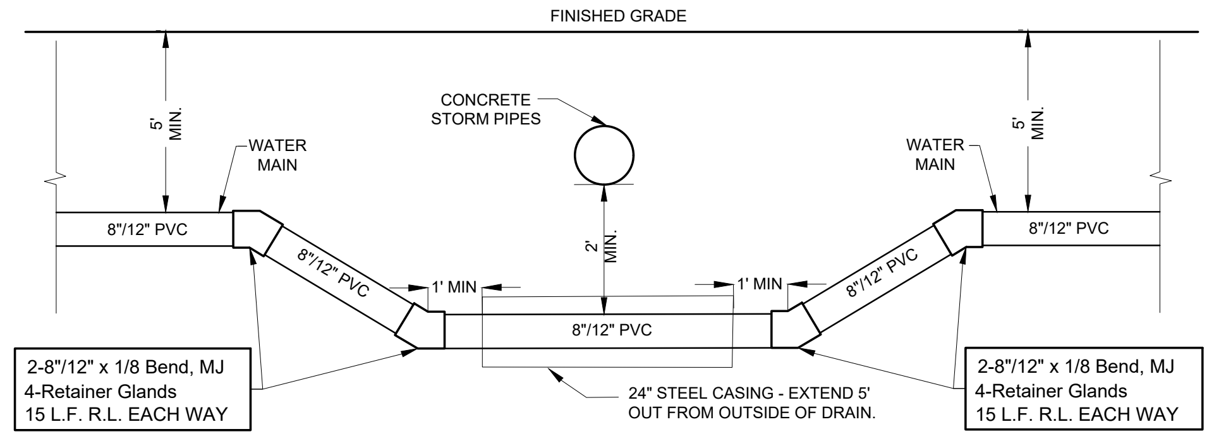

FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
*
PROPOSED SANITARY SEWER MAIN
10'
10'

SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.

WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE



2-8"/12" x 1/8 Bend, MJ
4-Retainer Glands
15 L.F. R.L. EACH WAY

2-8"/12" x 1/8 Bend, MJ
4-Retainer Glands
15 L.F. R.L. EACH WAY

WATER/STORM DRAIN CROSSING DETAIL

N.T.S.

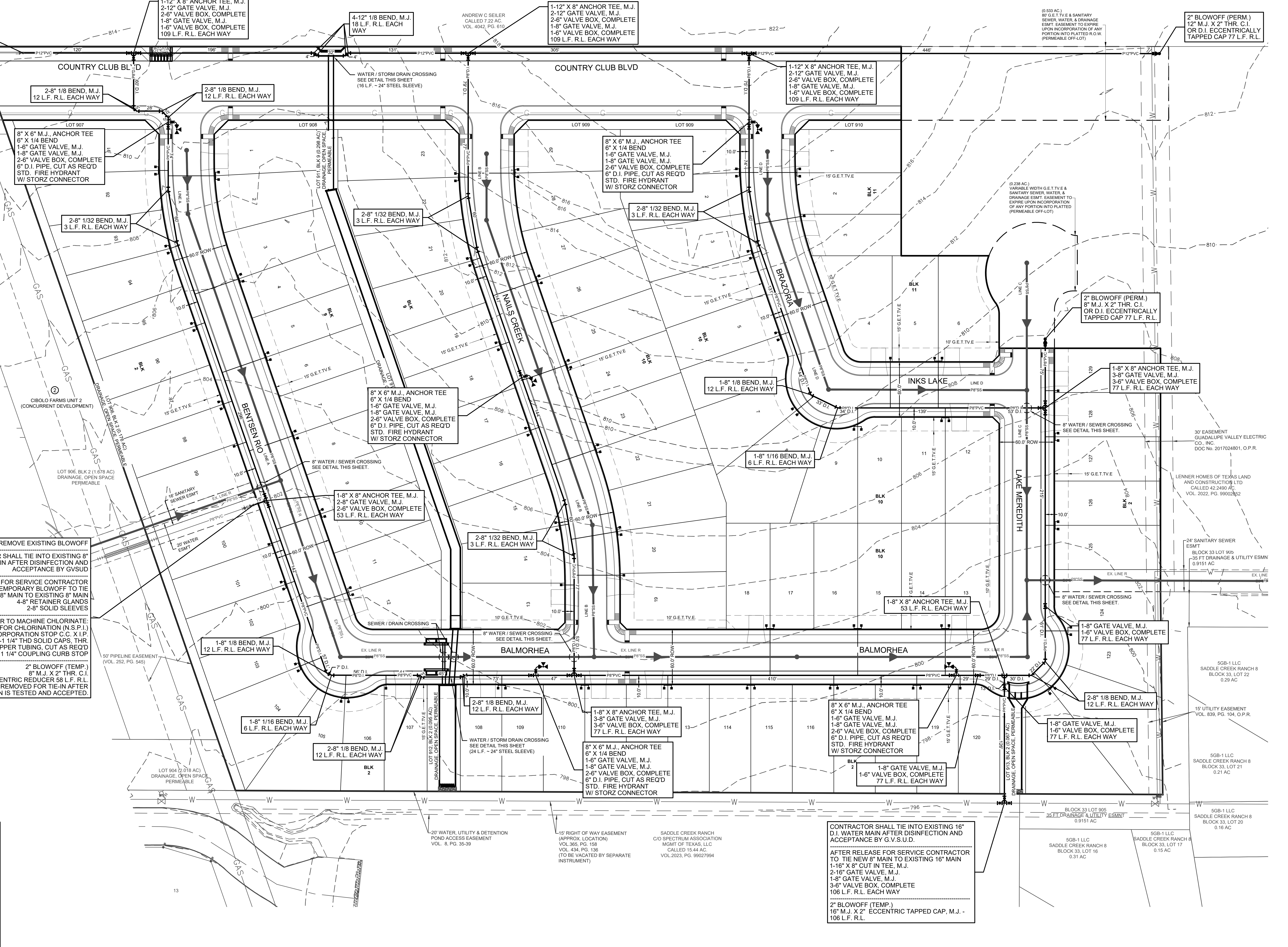
REMOVE EXISTING BLOWOFF

CONTRACTOR SHALL TIE INTO EXISTING 12" PVC WATER MAIN AFTER DISINFECTION AND ACCEPTANCE BY GVSUD

AFTER RELEASE FOR SERVICE CONTRACTOR TO REMOVE 2" TEMPORARY BLOWOFF TO TIE IN NEW 12" MAIN TO EXISTING 12" MAIN
4-12" RETAINER GLANDS
2-12" SOLID SLEEVES

CONTRACTOR TO MACHINE CHLORINATE:
INSTALL FOR CHLORINATION (N.S.P.I.)
2-1" CORPORATION STOP C.C. X I.P.
2-1 1/4" THD SOLID CAPS, THR.
2-1" COPPER TUBING, CUT AS REQ'D
2-1" COMP. X 1 1/4" COUPLING CURB STOP

2" BLOWOFF (TEMP.)
12" M.J. X 2" THR. C.I.
OR D.I. ECCENTRIC REDUCER 82 L.F. R.L.
TO BE REMOVED FOR TIE-IN AFTER NEW MAIN IS TESTED AND ACCEPTED.


COUNTRY CLUB BLVD
COUNTRY CLUB BLVD
BENTSEN RIO
NAILS CREEK
BRAZORIA
INKS LAKE
LAKE MEREDITH
BALMORHEA
BALMORHEA
P12"PVC
P8"PVC
P8"D.I.
P8"SS
120'
196'
131'
305'
446'
32'
60.0' ROW
LOT 907
LOT 908
LOT 909
LOT 909
LOT 910
BLK 9
BLK 10
BLK 11
BLK 2
GAS
ANDREW C SEILER CALLED 7.22 AC. VOL. 4042, PG. 610
1-12" X 8" ANCHOR TEE, M.J. 2-12" GATE VALVE, M.J. 2-6" VALVE BOX, COMPLETE 1-8" GATE VALVE, M.J. 1-6" VALVE BOX, COMPLETE 109 L.F. R.L. EACH WAY
4-12" 1/8 BEND, M.J. 18 L.F. R.L. EACH WAY
WATER / STORM DRAIN CROSSING SEE DETAIL THIS SHEET (16 L.F. ~ 24" STEEL SLEEVE)
2-8" 1/8 BEND, M.J. 12 L.F. R.L. EACH WAY
8" X 6" M.J., ANCHOR TEE 6" X 1/4 BEND 1-6" GATE VALVE, M.J. 1-8" GATE VALVE, M.J. 2-6" VALVE BOX, COMPLETE 6" D.I. PIPE, CUT AS REQ'D STD. FIRE HYDRANT W/ STORZ CONNECTOR
2-8" 1/32 BEND, M.J. 3 L.F. R.L. EACH WAY
1-8" X 8" ANCHOR TEE, M.J. 2-8" GATE VALVE, M.J. 2-6" VALVE BOX, COMPLETE 53 L.F. R.L. EACH WAY
8" WATER / SEWER CROSSING SEE DETAIL THIS SHEET.
16' SANITARY SEWER ESM'T
20' WATER ESM'T
EX. LINE R
LOT 906, BLK 2 (1.678 AC) DRAINAGE, OPEN SPACE PERMEABLE
LOT 911, BLK 9 (0.298 AC) DRAINAGE, OPEN SPACE, PERMEABLE
50' PIPELINE EASEMENT (VOL. 252, PG. 545)
1-8" 1/8 BEND, M.J. 12 L.F. R.L. EACH WAY
1-8" 1/16 BEND, M.J. 6 L.F. R.L. EACH WAY
SEWER / DRAIN CROSSING
WATER / STORM DRAIN CROSSING SEE DETAIL THIS SHEET (24 L.F. ~ 24" STEEL SLEEVE)
1-8" X 8" ANCHOR TEE, M.J. 3-8" GATE VALVE, M.J. 3-6" VALVE BOX, COMPLETE 77 L.F. R.L. EACH WAY
1-8" GATE VALVE, M.J. 1-6" VALVE BOX, COMPLETE 77 L.F. R.L. EACH WAY
1-8" X 8" ANCHOR TEE, M.J. 53 L.F. R.L. EACH WAY
2" BLOWOFF (PERM.) 8" M.J. X 2" THR. C.I. OR D.I. ECCENTRICALLY TAPPED CAP 77 L.F. R.L.
2" BLOWOFF (PERM.) 12" M.J. X 2" THR. C.I. OR D.I. ECCENTRICALLY TAPPED CAP 77 L.F. R.L.
(0.533 AC.) 80' G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED R.O.W. (PERMEABLE OFF-LOT)
(0.238 AC.) VARIABLE WIDTH G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED (PERMEABLE OFF-LOT)
30' EASEMENT GUADALUPE VALLEY ELECTRIC CO., INC. DOC No. 2017024801, O.P.R.
LENNER HOMES OF TEXAS LAND AND CONSTRUCTION LTD CALLED 42.2490 AC. VOL. 2022, PG. 99002652
24' SANITARY SEWER ESM'T
BLOCK 33 LOT 905 35 FT DRAINAGE & UTILITY ESMNT 0.9151 AC
15' G.E.T.TV.E
10' G.E.T.TV.E
LOT 912, BLK 2 (0.095 AC) DRAINAGE, OPEN SPACE, PERMEABLE
LOT 913, BLK 2 (0.067 AC) DRAINAGE, OPEN SPACE, PERMEABLE
LOT 904 (2.018 AC) DRAINAGE, OPEN SPACE PERMEABLE
20' WATER, UTILITY & DETENTION POND ACCESS EASEMENT VOL. 8, PG. 35-39
15' RIGHT OF WAY EASEMENT (APPROX. LOCATION) VOL.365, PG. 158 VOL. 434, PG. 136 (TO BE VACATED BY SEPARATE INSTRUMENT)
SADDLE CREEK RANCH C/O SPECTRUM ASSOCIATION MGMT OF TEXAS, LLC CALLED 15.44 AC. VOL.2023, PG. 99027994
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 22 0.29 AC
15' UTILITY EASEMENT VOL. 839, PG. 104, O.P.R.
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 21 0.21 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 20 0.16 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 16 0.31 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 17 0.15 AC

REMOVE EXISTING BLOWOFF

CONTRACTOR SHALL TIE INTO EXISTING 8" PVC WATER MAIN AFTER DISINFECTION AND ACCEPTANCE BY GVSUD

AFTER RELEASE FOR SERVICE CONTRACTOR TO REMOVE 2" TEMPORARY BLOWOFF TO TIE IN NEW 8" MAIN TO EXISTING 8" MAIN
4-8" RETAINER GLANDS
2-8" SOLID SLEEVES

CONTRACTOR TO MACHINE CHLORINATE:
INSTALL FOR CHLORINATION (N.S.P.I.)
2-1" CORPORATION STOP C.C. X I.P.
2-1 1/4" THD SOLID CAPS, THR.
2-1" COPPER TUBING, CUT AS REQ'D
2-1" COMP. X 1 1/4" COUPLING CURB STOP

2" BLOWOFF (TEMP.)
8" M.J. X 2" THR. C.I.
OR D.I. ECCENTRIC REDUCER 58 L.F. R.L.
TO BE REMOVED FOR TIE-IN AFTER NEW MAIN IS TESTED AND ACCEPTED.

CONTRACTOR SHALL TIE INTO EXISTING 16" D.I. WATER MAIN AFTER DISINFECTION AND ACCEPTANCE BY G.V.S.U.D.

AFTER RELEASE FOR SERVICE CONTRACTOR TO TIE NEW 8" MAIN TO EXISTING 16" MAIN
1-16" X 8" CUT IN TEE, M.J.
2-16" GATE VALVE, M.J.
1-8" GATE VALVE, M.J.
3-6" VALVE BOX, COMPLETE
106 L.F. R.L. EACH WAY

2" BLOWOFF (TEMP.)
16" M.J. X 2" ECCENTRIC TAPPED CAP, M.J. - 106 L.F. R.L.

REV	DATE	DESCRIPTION

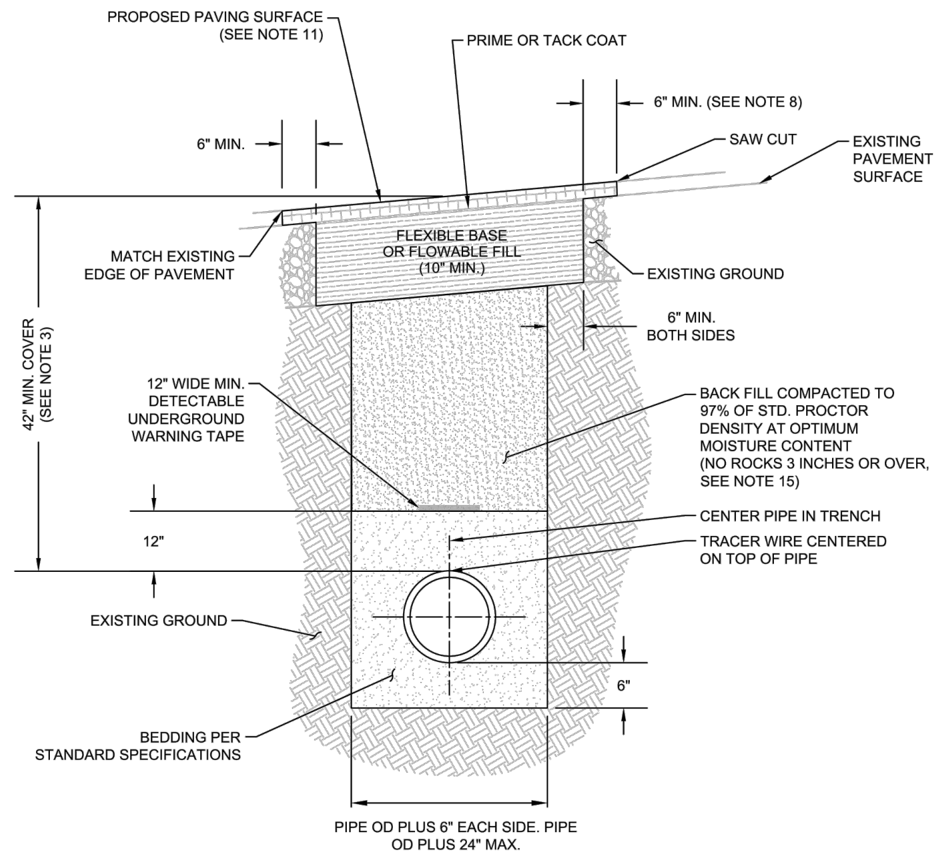
NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

OVERALL WATER PLAN

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153
SHEET:	401

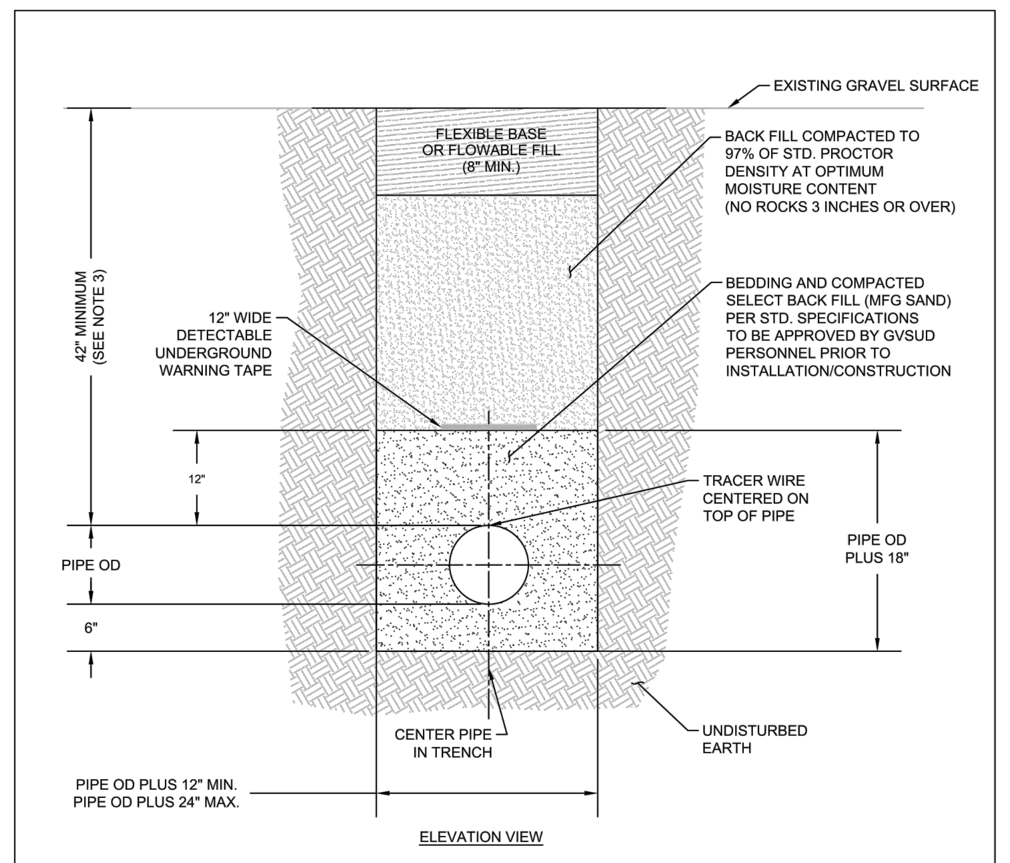

PROPOSED PAVING SURFACE (SEE NOTE 11)
PRIME OR TACK COAT
6" MIN. (SEE NOTE 8)
6" MIN.
SAW CUT
EXISTING PAVEMENT SURFACE
MATCH EXISTING EDGE OF PAVEMENT
FLEXIBLE BASE OR FLOWABLE FILL (10" MIN.)
EXISTING GROUND
6" MIN. BOTH SIDES
42" MIN. COVER (SEE NOTE 3)
12" WIDE MIN. DETECTABLE UNDERGROUND WARNING TAPE
BACK FILL COMPACTED TO 97% OF STD. PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT (NO ROCKS 3 INCHES OR OVER, SEE NOTE 15)
CENTER PIPE IN TRENCH
TRACER WIRE CENTERED ON TOP OF PIPE
12"
EXISTING GROUND
6"
BEDDING PER STANDARD SPECIFICATIONS
PIPE OD PLUS 6" EACH SIDE. PIPE OD PLUS 24" MAX.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
TRENCH DETAIL FOR PAVED AREAS (I OF 2)
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-1

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE SHALL BE USED IN WASTEWATER WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE BLUE IN COLOR.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCH MINIMUM COVER AND 72 INCH MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCH MINIMUM COVER AND 15 FOOT MAXIMUM COVER.
4. GENERAL CONTRACTOR SHALL CONTACT THE APPROPRIATE STREET OWNER AND PROCESS, POST FISCAL SURETY, AND HAVE STREET CUT PERMIT ISSUED IN THEIR NAME.
5. CONTRACTOR TO REPAIR PAVED AREA TO STREET OWNER'S ROAD STANDARDS FOR ALL DISTURBED AREA. GREEN VALLEY SPECIAL UTILITY DISTRICT PAYS FOR QUANTITY OF REPAIR SHOWN IN DETAIL.
6. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
7. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE, A MINIMUM OF 12 INCHES WIDER THAN UNDISTURBED SIDES OF THE TRENCH AND SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
8. ANY CONCRETE PAVING SHALL BE CUT 6 INCHES WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
9. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH TEMPORARY COLD MIX ASPHALT CONCRETE OR TEMPORARY HOT MIXED ASPHALT CONCRETE. TEMPORARY MIX SHALL BE PLACED OVER FLEXIBLE BASE.
10. FLEXIBLE BASE SHALL BE REPLACED IN KIND WITH BASE AND PAVEMENT THICKNESS WITH BASE EQUAL TO EXISTING BASE THICKNESS PLUS 3 INCHES, BUT IN NO CASE LESS THAN 10 INCHES.
11. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 2 INCHES HOT MIXED ASPHALT CONCRETE AND A BASE OF 10 INCHES OR A THICKNESS MATCHING EXISTING, WHICHEVER IS GREATER.
12. TACK COAT ALL EXPOSED EDGES AND SURFACES.
13. TYPE AND THICKNESS OF PROPOSED PAVING SURFACE SHALL BE AS FOLLOWS:
    - TWO COURSE SURFACE TREATMENT: SHALL MATCH EXISTING SURFACE AND SHALL BE IN ACCORDANCE WITH SPECIFICATION 02770.
    - ASPHALT PAVING: SHALL BE IN ACCORDANCE WITH SPECIFICATION 02740. HOT MIXED ASPHALT CONCRETE TYPE 'D' SHALL BE USED FOR LIFT THICKNESS UP TO 2 INCHES, AND TYPE 'C' FOR LIFT THICKNESS OVER 2 INCHES AND UP TO 3 INCHES. LIFT THICKNESS SHALL NOT BE MORE THAN 3 INCHES.
14. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE DETECTABLE UNDERGROUND WARNING TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE.
15. PIPE BEDDING SHALL BE PLACED BEFORE PIPING IS LAID, UP TO BOTTOM OF PIPE, AND COMPACTED TO 97% STANDARD PROCTOR DENSITY.
16. PLACE PIPE BEDDING IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
17. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
TRENCH DETAIL FOR PAVED AREAS (2 OF 2)
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-1

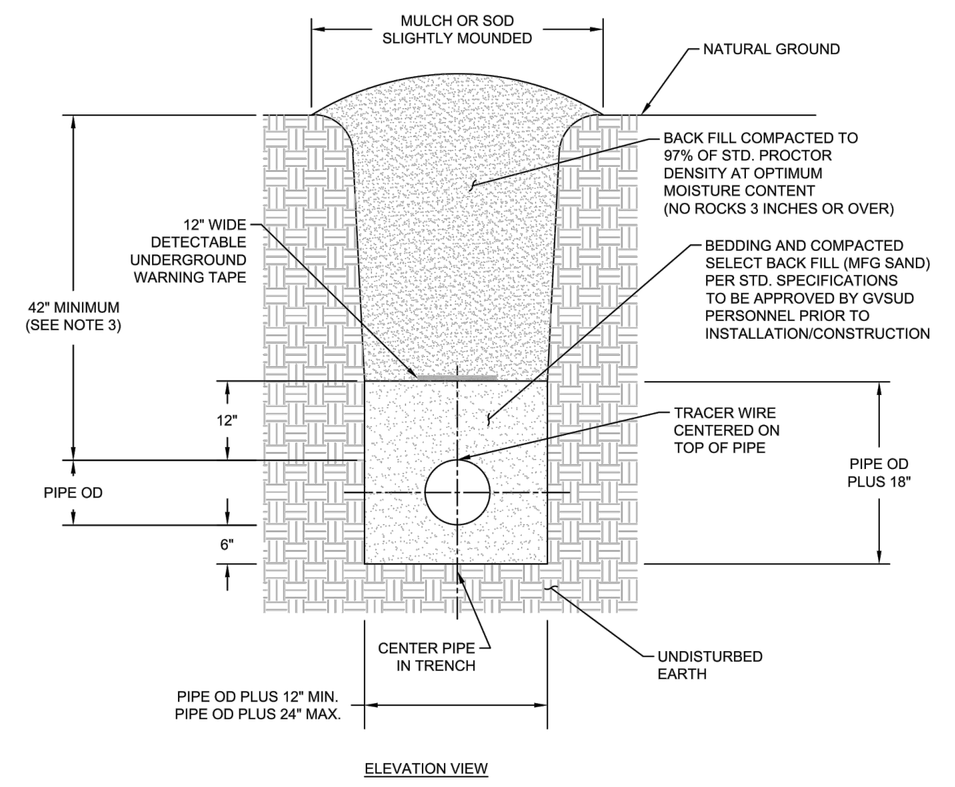

EXISTING GRAVEL SURFACE
FLEXIBLE BASE OR FLOWABLE FILL (8" MIN.)
BACK FILL COMPACTED TO 97% OF STD. PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT (NO ROCKS 3 INCHES OR OVER)
42" MINIMUM (SEE NOTE 3)
12" WIDE DETECTABLE UNDERGROUND WARNING TAPE
BEDDING AND COMPACTED SELECT BACK FILL (MFG SAND) PER STD. SPECIFICATIONS TO BE APPROVED BY GVSUD PERSONNEL PRIOR TO INSTALLATION/CONSTRUCTION
12"
TRACER WIRE CENTERED ON TOP OF PIPE
PIPE OD
PIPE OD PLUS 18"
6"
CENTER PIPE IN TRENCH
UNDISTURBED EARTH
PIPE OD PLUS 12" MIN. PIPE OD PLUS 24" MAX.

ELEVATION VIEW

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE WILL BE USED IN WASTEWATER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI. WATER PVC PIPING SHALL BE COLOR CODED BLUE.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCHES MINIMUM COVER AND 72 INCHES MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCHES MINIMUM COVER AND 15 FEET MAXIMUM COVER.
4. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
5. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
6. PIPE BEDDING PLACED BEFORE PIPING IS LAID UP TO BOTTOM OF PIPE COMPACTED TO 95% ASHTO DENSITY.
7. PLACE IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
8. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
TRENCH DETAIL FOR GRAVEL SURFACED AREAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-2

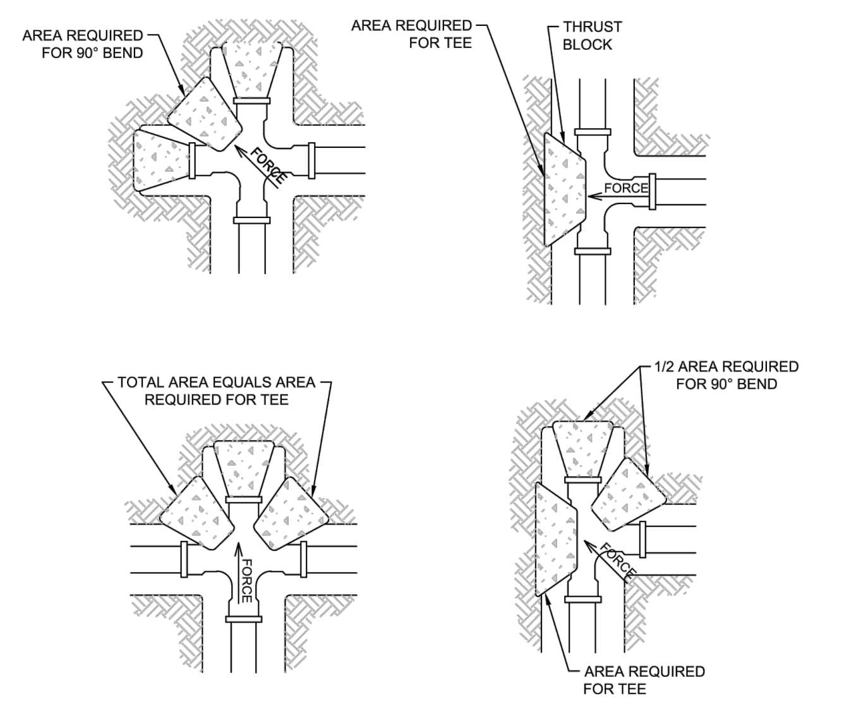

MULCH OR SOD SLIGHTLY MOUNDED
NATURAL GROUND
BACK FILL COMPACTED TO 97% OF STD. PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT (NO ROCKS 3 INCHES OR OVER)
12" WIDE DETECTABLE UNDERGROUND WARNING TAPE
BEDDING AND COMPACTED SELECT BACK FILL (MFG SAND) PER STD. SPECIFICATIONS TO BE APPROVED BY GVSUD PERSONNEL PRIOR TO INSTALLATION/CONSTRUCTION
42" MINIMUM (SEE NOTE 3)
12"
TRACER WIRE CENTERED ON TOP OF PIPE
PIPE OD
PIPE OD PLUS 18"
6"
CENTER PIPE IN TRENCH
UNDISTURBED EARTH
PIPE OD PLUS 12" MIN. PIPE OD PLUS 24" MAX.

ELEVATION VIEW

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE WILL BE USED IN WASTEWATER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE COLOR CODED BLUE.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCHES MINIMUM COVER AND 72 INCHES MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCHES MINIMUM COVER AND 15 FEET MAXIMUM COVER.
4. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
5. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
6. PIPE BEDDING PLACED BEFORE PIPING IS LAID UP TO BOTTOM OF PIPE COMPACTED TO 95% AASHTO DENSITY.
7. PLACE IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
8. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
TRENCH DETAIL FOR NON-PAVED AREAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-3

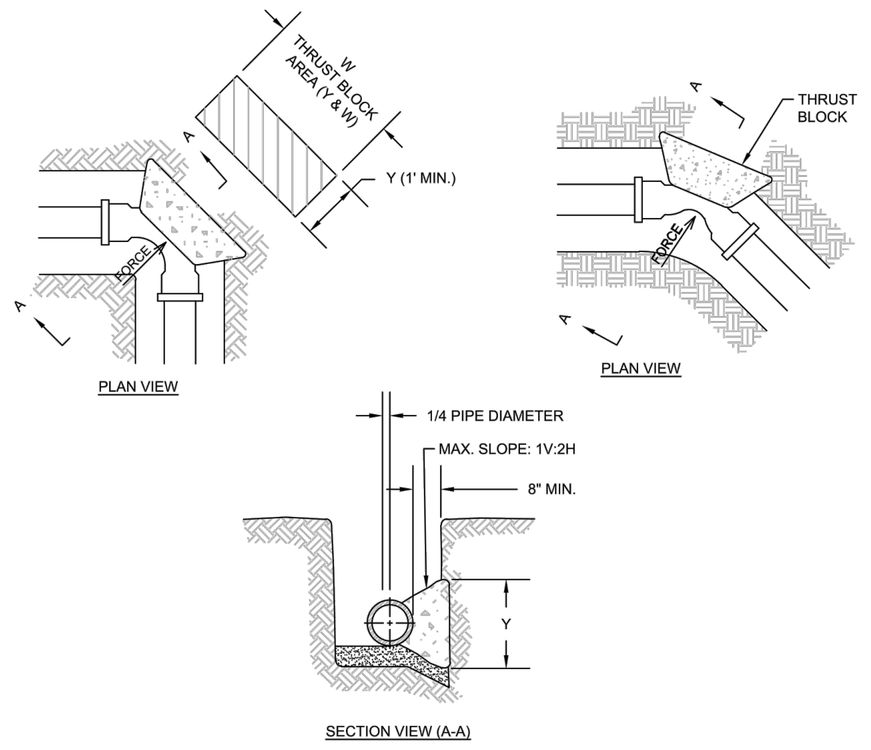

AREA REQUIRED FOR 90° BEND
AREA REQUIRED FOR TEE
THRUST BLOCK
FORCE
TOTAL AREA EQUALS AREA REQUIRED FOR TEE
1/2 AREA REQUIRED FOR 90° BEND
AREA REQUIRED FOR TEE

MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

NOTES:

1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500 PSI).
4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
CONCRETE THRUST BLOCKING (1 OF 2)
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-4

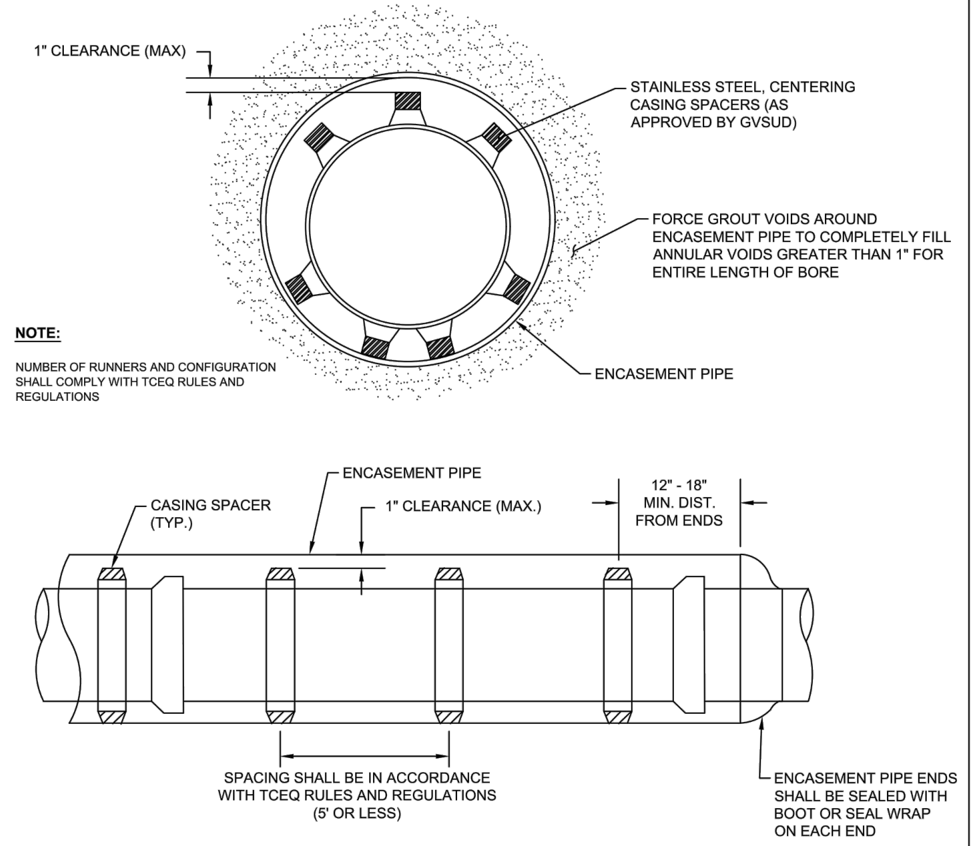


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

NOTES:

1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500 PSI).
4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
CONCRETE THRUST BLOCKING (2 OF 2)
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-4


1" CLEARANCE (MAX)
STAINLESS STEEL, CENTERING CASING SPACERS (AS APPROVED BY GVSUD)
FORCE GROUT VOIDS AROUND ENCASEMENT PIPE TO COMPLETELY FILL ANNULAR VOIDS GREATER THAN 1" FOR ENTIRE LENGTH OF BORE
ENCASEMENT PIPE
ENCASEMENT PIPE
CASING SPACER (TYP.)
1" CLEARANCE (MAX.)
12" - 18" MIN. DIST. FROM ENDS
SPACING SHALL BE IN ACCORDANCE WITH TCEQ RULES AND REGULATIONS (5' OR LESS)
ENCASEMENT PIPE ENDS SHALL BE SEALED WITH BOOT OR SEAL WRAP ON EACH END

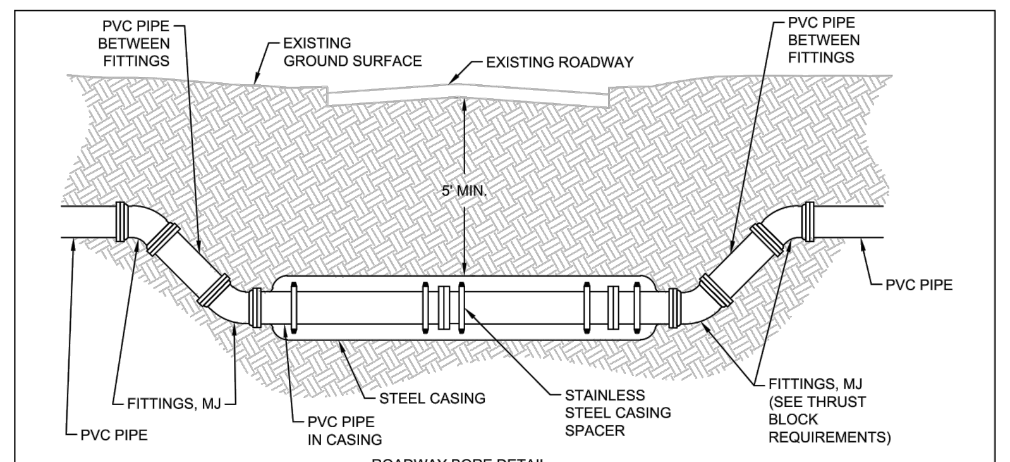
NOTE:

NUMBER OF RUNNERS AND CONFIGURATION SHALL COMPLY WITH TCEQ RULES AND REGULATIONS

NOTES:

1. TCEQ RULES AND REGULATIONS ON SANITARY SEWER, STORM SEWER AND WATER MAIN CROSSING AND SEPARATIONS WILL BE STRICTLY ENFORCED TO TAC, CHAPTER 290, SUBCHAPTER D.
2. ALL PIPE IN ENCASEMENT PIPE SHALL BE RESTRAINED AT JOINTS FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
3. AT ANY CREEK CROSSING OR DRAINAGE DITCH THE PIPE SHALL BE ENCASED IN STEEL PIPE AND HAVE A MINIMUM OF 3 FEET OF COVER FROM THE BOTTOM OF THE CREEK/STREAM.
4. AT ANY ROADWAY CROSSING THE MAIN SHALL BE STEEL ENCASED AND HAVE A MINIMUM OF 5 FEET OF COVER FROM THE BOTTOM OF THE BASE MATERIAL.
5. BORE SHALL HAVE SUFFICIENT ROOM FOR 2" PVC O.D. (MIN) FOR FORCE GROUTING AS REQUIRED.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
ENCASEMENT DETAIL WITH ENCASEMENT SPACERS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-6


PVC PIPE BETWEEN FITTINGS
EXISTING GROUND SURFACE
EXISTING ROADWAY
PVC PIPE BETWEEN FITTINGS
5' MIN.
PVC PIPE
FITTINGS, MJ
STEEL CASING
STAINLESS STEEL CASING SPACER
FITTINGS, MJ (SEE THRUST BLOCK REQUIREMENTS)
PVC PIPE
PVC PIPE IN CASING

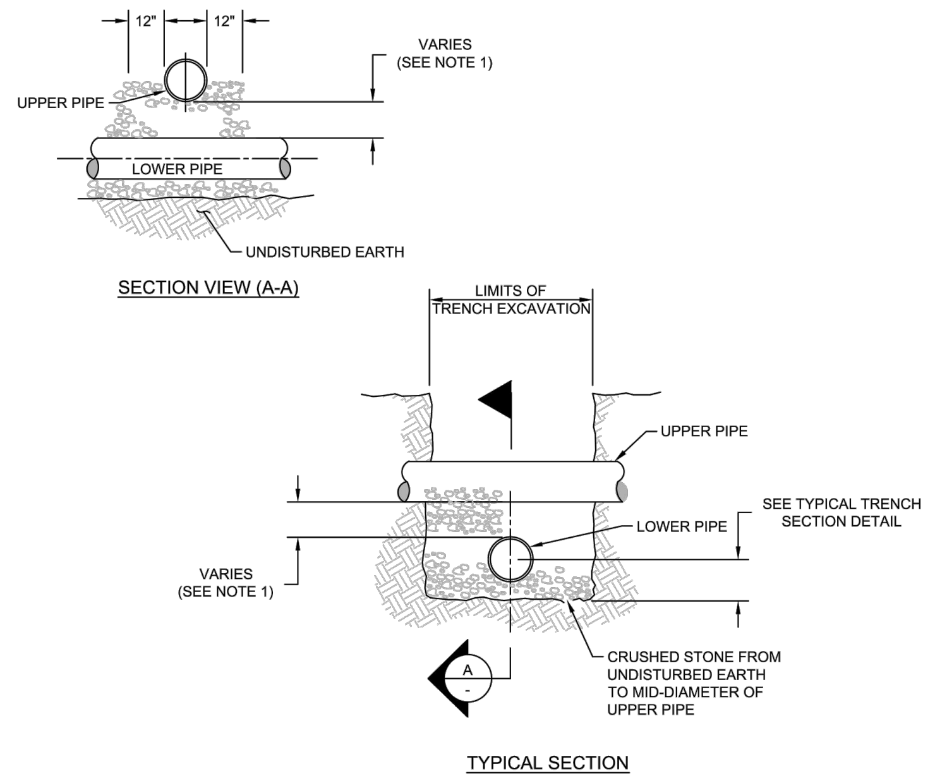
ROADWAY BORE DETAIL

NOTES:

1. ALL PIPE IN ENCASEMENT PIPE SHALL BE RESTRAINED WITH AN APPROVED METHOD FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
2. FOR A PIPE 20 FEET IN LENGTH, A MINIMUM OF 4 SPACERS ARE REQUIRED. FOR A PIPE 13 FEET IN LENGTH, A MINIMUM OF 3 SPACERS ARE REQUIRED.
3. FOR ENCASED PIPE LOCATED IN PROXIMITY TO SANITARY SEWERS, SPACERS SHALL CONFORM TO TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290, SUBCHAPTER D.
4. AT ANY ROADWAY CROSSING THE PIPE SHALL BE STEEL ENCASED AND HAVE A MINIMUM OF 5 FEET OF COVER FROM THE BOTTOM OF THE BASE MATERIAL.
5. FOR ROAD WAY CROSSINGS, THE ENDS OF THE CASING PIPE SHALL EXTEND TO THE RIGHT OF WAY LINES.
6. ALL PIPE FITTINGS, VALVES, AND APPURTENANCES SHALL MATCH OR EXCEED CLASS RATING OF PIPE AS SHOWN ON THE PLANS.
7. SEE ENCASEMENT DETAIL WITH ENCASEMENT SPACER DETAIL W-6.
8. DUCTILE IRON PIPE,AMERICAN ZINC COATED AWWA/ANSI C-151 MAY BE USED IN LIEU OF STEEL CASING WHEN APPROVED BY GVSUD.

WATER LINE IN ENCASEMENT PIPE			
WATER LINE SIZE (INCHES)	NOM. DIA. STEEL (INCHES)	ENCASEMENT PIPE THICKNESS (INCHES)	PIPE WEIGHT (LBS./FT.)
6	18	0.375	70.59
8	24	0.375	94.62
12	24	0.375	94.62
16	30	0.375	118.65
20	36	0.438	166.19
24	42	0.438	194.02
30	48	0.50	259.02
36	54	0.50	291.07

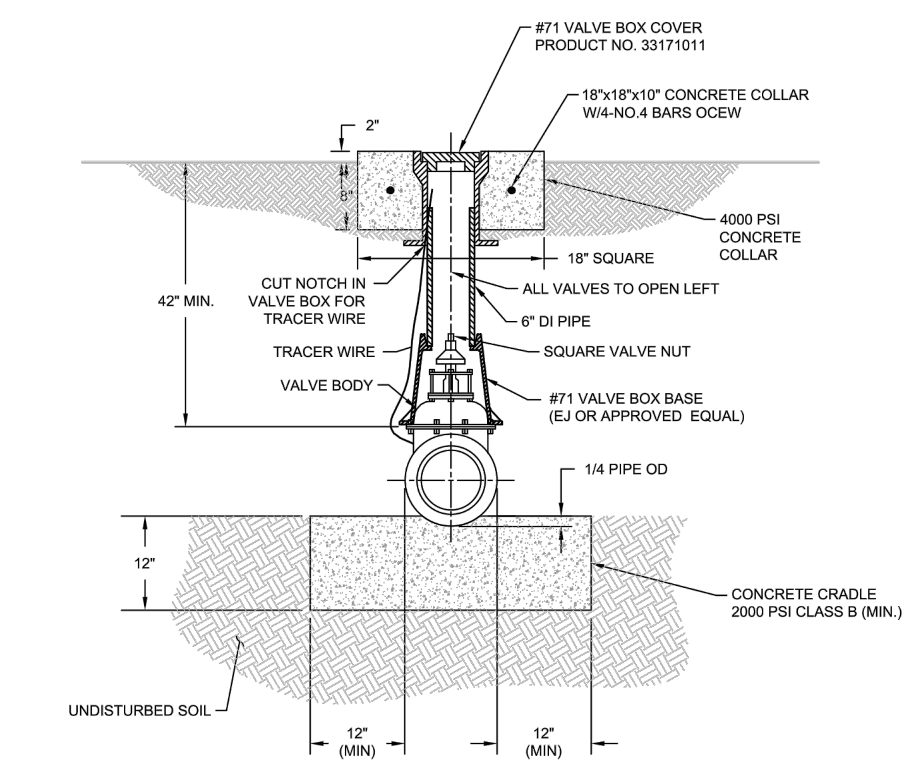
GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
INSTALLATION OF PIPE IN STEEL ENCASEMENT UNDER ROADS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-7



NOTES:

1. MAINTAIN A MINIMUM 5 FOOT HORIZONTAL AND 2 FOOT VERTICAL SEPARATION FROM BETWEEN UTILITIES AND WATER AND WASTEWATER PIPES AND SERVICES. GAS, ELECTRIC, CABLE, ETC. TO BE LOCATED OPPOSITE SIDES OF PROPERTIES.
2. UTILITY CROSSINGS SEPARATED BY LESS THAN 5 FEET SHALL BE ENCASED WITH A MINIMUM OF 6 INCHES OF CONCRETE.
3. SPECIFICATIONS: BEDDING MATERIAL MUST BE APPROVED BY AUTHORIZED GVSUD PERSONNEL, BEFORE START OF JOB.
4. AT ANY CREEK CROSSING OR DRAINAGE DITCH THE MAIN SHALL BE ENCASED WITH STEEL PIPE AND/OR 6 INCHES CONCRETE ENCASEMENT TO WITHIN 10 FEET OUTSIDE OF CREEK OR DRAINAGE DITCH AREA.
5. PIPE JOINTS SHALL BE AT LEAST 9 FEET HORIZONTALLY FROM CROSSINGS.

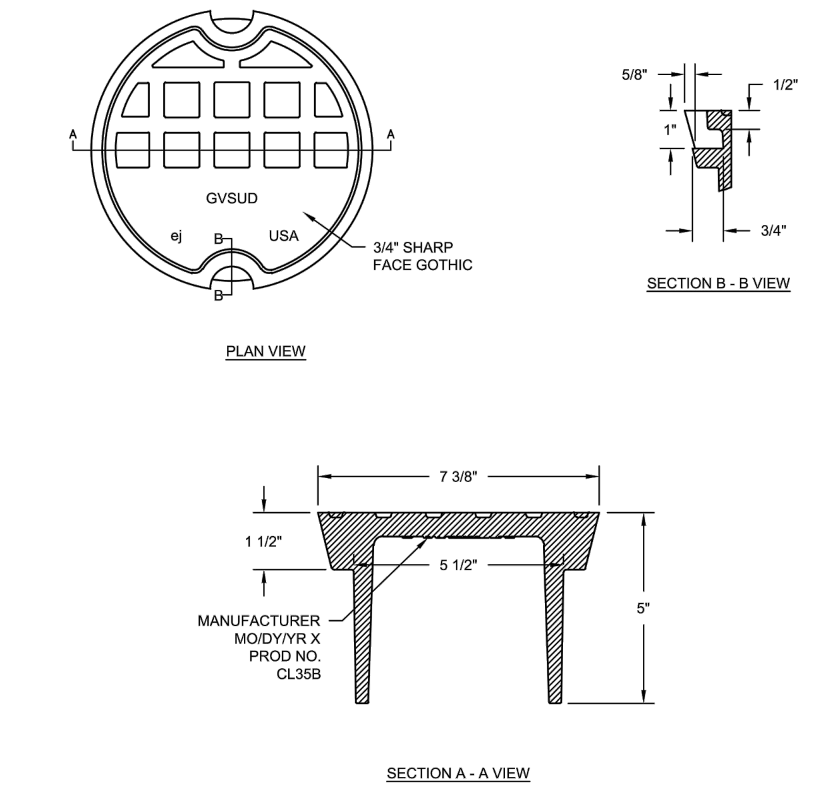
GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
UTILITIES CROSSING DETAIL
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-10


#71 VALVE BOX COVER PRODUCT NO. 33171011
18"x18"x10" CONCRETE COLLAR W/4-NO.4 BARS OCEW
2"
8"
4000 PSI CONCRETE COLLAR
18" SQUARE
42" MIN.
CUT NOTCH IN VALVE BOX FOR TRACER WIRE
ALL VALVES TO OPEN LEFT
6" DI PIPE
TRACER WIRE
SQUARE VALVE NUT
VALVE BODY
#71 VALVE BOX BASE (EJ OR APPROVED EQUAL)
1/4 PIPE OD
12"
CONCRETE CRADLE 2000 PSI CLASS B (MIN.)
UNDISTURBED SOIL
12" (MIN)
12" (MIN)

NOTES:

1. WELD 2 1/2 INCH X 2 INCH DEEP SOCKET TO 1 INCH (SCHEDULE 40) ROUND STEM EXTENSION AND ON OPERATING NUT. FOR PIPE EXTENSIONS OVER 10 FEET, STEM EXTENSION SHALL BE A SCHEDULE 80 PIPE.
2. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3 FEET DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 18 TO 24 INCHES FROM FINISHED GRADE.
3. CONCRETE COLLARS TO BE INSTALLED ON ALL VALVE BOXES LOCATED OUTSIDE PAVEMENT. SEE APPROPRIATE VALVE BOX ADJUSTMENT DETAILS.
4. GATE VALVES SHALL BE MUELLER TYPE OR APPROVED EQUAL.
5. FOR VALVE DEEPER THAN 5 FEET, ADD EXTENSION.
6. VALVE TURNS UNDERNEATH CAP.

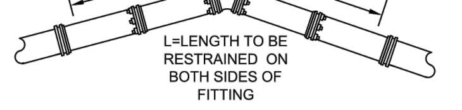
GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
NON-RISING STEM VERTICAL GATE VALVE WITH BOX ASSEMBLY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-11



NOTES:

1. VALVE BOX COVER SHALL BE EJ GROUP, INC. $71 VALVE BOX COVER PRODUCT NUMBER 33171011, OR APPROVED EQUIVALENT WITH GVSUD LOGO.
2. TYPICAL FILLET IS 3/16 INCH RADIUS.
3. LETTERING SHALL BE 3/4 INCH SHARP FACE GOTHIC AND LOCATED AS SHOWN.
4. LID REQUIRES TWO (2) PICK SLOTS.
5. THE MANUFACTURER'S IDENTIFICATION, CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINS AND FLASHING AND PAINT WITH BLACK ASPHALT COATING.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
VALVE BOX CASTING LID
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-12



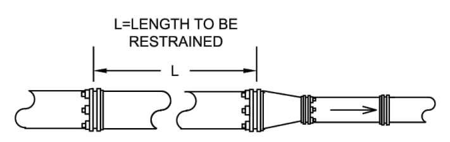
RESTRAINED LENGTH FOR BENDS

PIPE SIZE (INCHES)	BEND ANGLE (DEG)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	90	23
6	45	9
6	22.5	5
6	11.25	2
8	90	30
8	45	12
8	22.5	6
8	11.25	3
12	90	43
12	45	18
12	22.5	8
12	11.25	4
16	90	63
16	45	26
16	22.5	13
16	11.25	7
24	90	85
24	45	35
24	22.5	17
24	11.25	9

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
BEND RESTRAINED LENGTH DESIGN
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-18



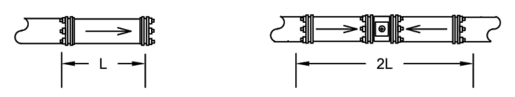
RESTRAINED LENGTH FOR REDUCERS

PIPE SIZE (INCHES)	SMALL SIZE (INCHES)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	4	30
8	4	55
8	6	32
12	4	95
12	6	80
12	8	58
16	4	131
16	6	120
16	8	104
16	12	60
24	16	110

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
REDUCER RESTRAINED LENGTH DESIGN
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-19



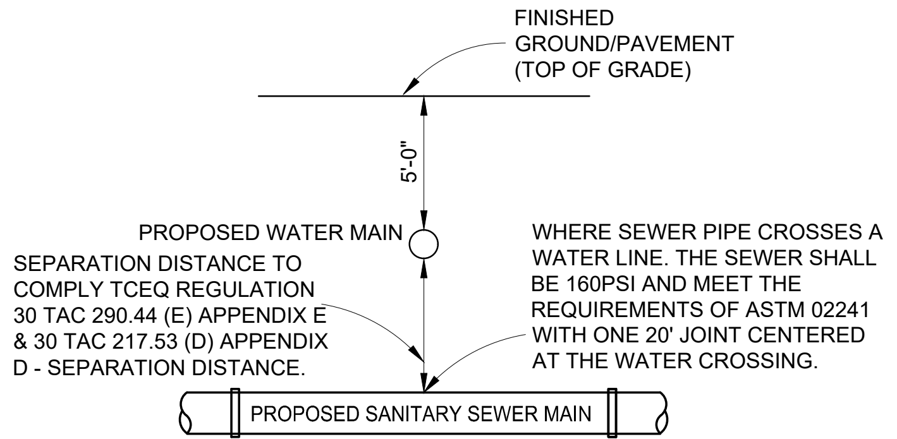
RESTRAINED LENGTH FOR DEAD ENDS/INLINE VALVES

PIPE SIZE (INCHES)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
4	42
6	59
8	77
12	109
16	142
24	202

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED: JANUARY 2024
VALVE AND DEAD END RESTRAINED LENGTH DESIGN
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO. W-20


FINISHED GROUND/PAVEMENT (TOP OF GRADE)
5'-0"
PROPOSED WATER MAIN
SEPARATION DISTANCE TO COMPLY TCEQ REGULATION 30 TAC 290.44 (E) APPENDIX E & 30 TAC 217.53 (D) APPENDIX D - SEPARATION DISTANCE.
WHERE SEWER PIPE CROSSES A WATER LINE. THE SEWER SHALL BE 160PSI AND MEET THE REQUIREMENTS OF ASTM 02241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.
PROPOSED SANITARY SEWER MAIN
10'
10'

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

NOTE:

SUITABLE REACTION BLOCKING OR ANCHORAGE SHALL BE PROVIDED AT ALL OF THE FOLLOWING; DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH GVSUD REQUIREMENTS. ALL MECHANICAL RESTRAINTS SHALL BE BIDIRECTIONAL. ANCHOR BLOCKS SHALL BE CONSTRUCTED SOLIDLY BEHIND THE FITTING AND SYMMETRICAL WITH THE AXIS OF RESULTANT THRUST, EXCEPT WHERE THIS IS NOT POSSIBLE AS IN THE CASE OF GRAVITY ANCHORAGE FOR VERTICAL BENDS. SPECIAL TIES AND ANCHOR FITTINGS MAY BE UTILIZED IN CONJUNCTION WITH BLOCKING. ALL THRUST BLOCKING SHALL BE A MINIMUM OF 3000 PSI CONCRETE PLACED BETWEEN SOLID GROUND AND THE FITTING EXCEPT AS OTHERWISE SHOWN ON THE PLANS. THE AREA OF BEARING IN CONTACT WITH SOLID GROUND. IN ALL CASES, THE DESIGN OF THRUST BLOCKING SHALL BE OF SUFFICIENT SIZE TO WITHSTAND A SOIL PRESSURE OF 2500 PSF, UNLESS SPECIFIED OTHERWISE IN THE JOB PLANS OR SPECIFICATIONS. THE BLOCKING SHALL BE PLACED SO THAT PIPE AND FITTING JOINTS WILL BE ACCESSIBLE. PIPE POLYWRAP SHALL BE PLACED BETWEEN THE PIPE OR FITTING AND THE CONCRETE.

REV	DATE	DESCRIPTION

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD. SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

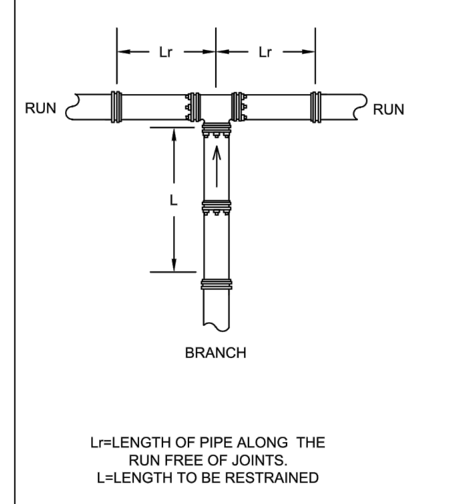
KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

WATER DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
402



Lr=LENGTH OF PIPE ALONG THE RUN FREE OF JOINTS.
L=LENGTH TO BE RESTRAINED

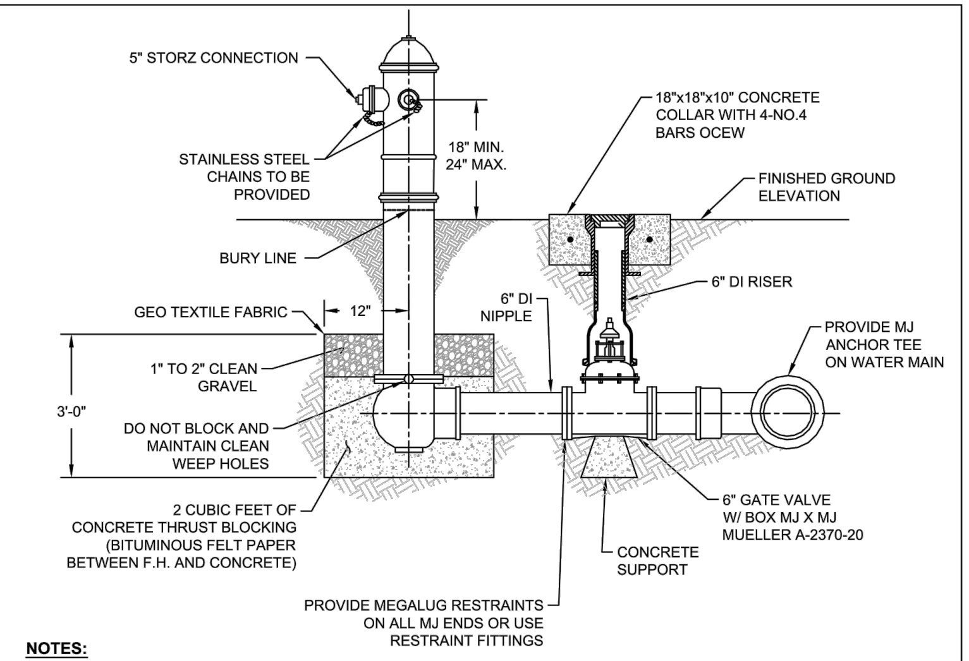
NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

RESTRAINED LENGTH FOR TEES

PIPE SIZE (INCHES)	BRANCH SIZE (INCHES)	LENGTH OF RUN (FEET)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	4	0	42
6	4	5	7
6	4	10	1
6	6	0	59
6	6	5	35
6	6	10	11
8	4	0	42
8	4	5	1
8	6	0	59
8	6	5	28
8	6	10	1
8	8	0	77
8	8	5	53
8	8	10	30
8	8	15	6
12	4	0	42
12	4	5	1
12	6	0	59
12	6	5	13
12	6	10	1
12	8	0	77
12	8	5	42
12	8	10	7
12	8	15	1
12	12	0	109
12	12	5	86
12	12	10	63
12	12	15	39
16	4	0	42
16	4	5	1
16	6	0	59
16	6	5	1
16	8	0	78
16	8	5	39
16	8	10	1
16	12	0	110
16	12	5	84
16	12	10	59
16	12	15	33
16	12	20	7
16	16	0	142
16	16	5	123
16	16	10	104
16	16	15	85
16	16	20	65
24	24	5	169
24	24	10	136
24	24	15	103
24	24	20	70

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
TEE RESTRAINED LENGTH DESIGN
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-21

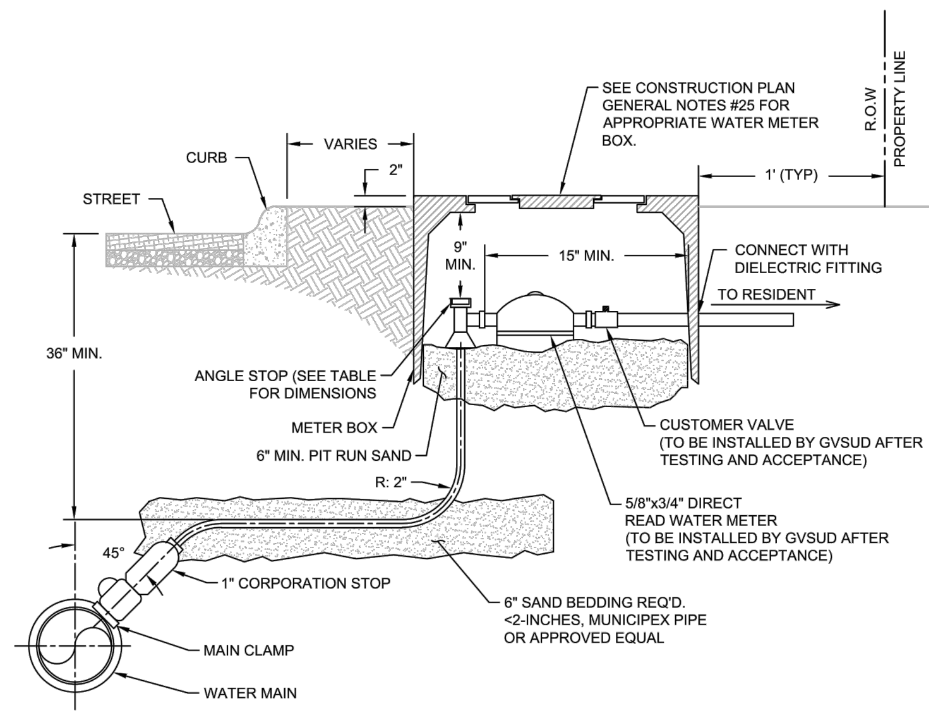


5" STORZ CONNECTION
18"x18"x10" CONCRETE COLLAR WITH 4-NO.4 BARS OCEW
18" MIN. 24" MAX.
STAINLESS STEEL CHAINS TO BE PROVIDED
FINISHED GROUND ELEVATION
BURY LINE
6" DI RISER
GEO TEXTILE FABRIC
12"
6" DI NIPPLE
PROVIDE MJ ANCHOR TEE ON WATER MAIN
1" TO 2" CLEAN GRAVEL
3'-0"
DO NOT BLOCK AND MAINTAIN CLEAN WEEP HOLES
2 CUBIC FEET OF CONCRETE THRUST BLOCKING (BITUMINOUS FELT PAPER BETWEEN F.H. AND CONCRETE)
6" GATE VALVE W/ BOX MJ X MJ MUELLER A-2370-20
CONCRETE SUPPORT
PROVIDE MEGALUG RESTRAINTS ON ALL MJ ENDS OR USE RESTRAINT FITTINGS

NOTES:

1. HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT, VALVE, DIP, DI FITTINGS, ANCHOR RESTRAINERS, AND PIPE TO DISTRIBUTION SYSTEM.
2. FIRE HYDRANTS SHALL HAVE A MINIMUM OF 3 FEET OF CLEARANCE SURROUNDING HYDRANT.
3. HYDRANTS SHALL BE A MINIMUM DISTANCE OF 3 FEET BEHIND THE CURB OR 3 FEET FROM THE R.O.W. UNDER NO CIRCUMSTANCES SHALL VALVES OR HYDRANTS BE PLACED IN A CURB OR SIDEWALK. IN AREAS WITHOUT CURBS OR SIDEWALKS, HYDRANT SHALL BE PLACED 3-6 FEET FROM THE DISTRIBUTION SYSTEM.
4. FOR BURY DEPTHS GREATER THAN 5 FEET, ONE BARREL EXTENSION NOT EXCEEDING 3 FEET IN LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT.
5. 1 CU FOOT (MIN) OF CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND WEEP HOLE FOR A RADIUS OF 12 INCHES AND EXTEND 12 INCHES ABOVE THE OUTLET.
6. VALVE, DUCTILE IRON PIPE, AND STANDARD FIRE HYDRANT SYSTEM SHALL BE RESTRAINT JOINT CONTINUOUSLY TOGETHER.
7. FIRE HYDRANT SHALL BE 6 INCH (3) WAY HYDRANT WITH BREAK AWAY BOLTS (SHOE TYPES) PROVIDED WITH STORZ CONNECTION. DEPTH OF BURY SHALL BE 42 INCHES MINIMUM. FIRE HYDRANTS MUST BE SET PLUMB. HOSE CONNECTION MUST FACE ROADWAY.
8. HYDRANT ASSEMBLY SHALL BE RESTRAINED FROM TEE TO HYDRANT.
9. IN THE CITY OF CIBOLO'S CITY LIMITS, FIRE HYDRANTS SHALL BE MUELLER TYPE AND SHALL BE 1 FOOT MINIMUM AND 7 FEET MAXIMUM FROM THE BACK OF CURB.
10. HYDRANTS UPPER BARREL SHALL BE FACTORY PAINTED RED WITH BONNET AND CAPS COATED PER CURRENT NFPA 291 STANDARDS.
11. HYDRANTS LOCATED IN RURAL AREAS SHALL HAVE 6' TALL POLLARD WATER FLEXIFLAG #PP68802.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
STANDARD HYDRANT ASSEMBLY INSTALLATION
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-22



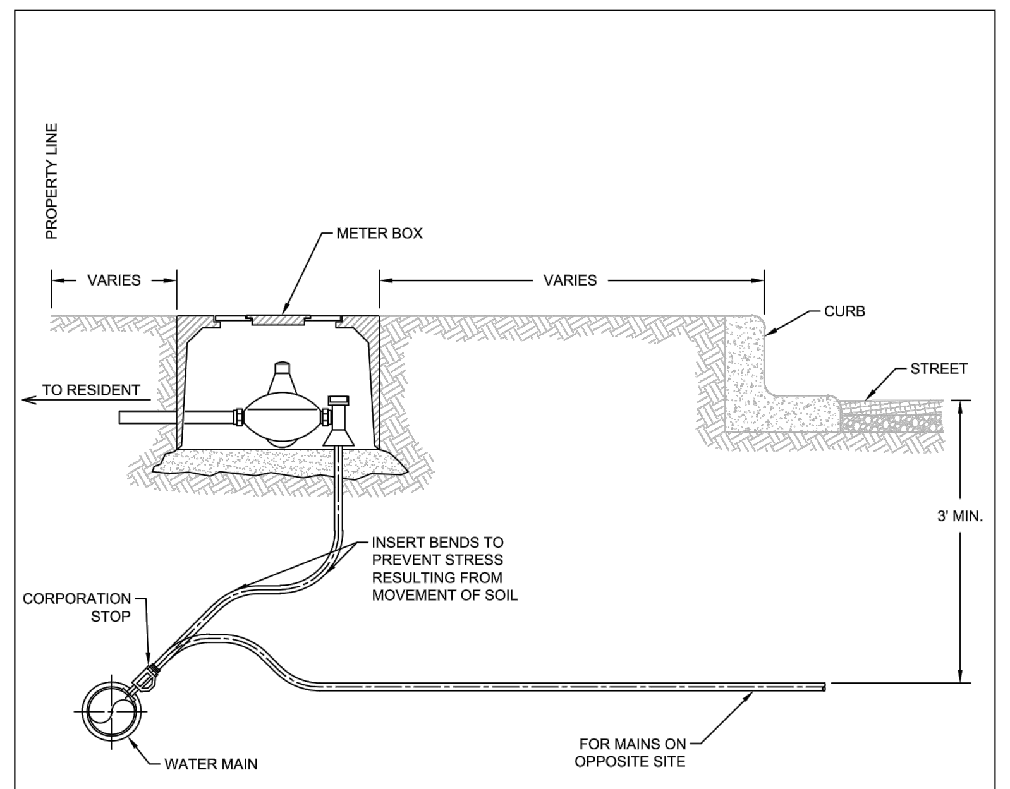
SEE CONSTRUCTION PLAN GENERAL NOTES #25 FOR APPROPRIATE WATER METER BOX.
R.O.W. PROPERTY LINE
CURB
VARIES
2"
1" (TYP.)
STREET
9" MIN.
15" MIN.
CONNECT WITH DIELECTRIC FITTING
TO RESIDENT
36" MIN.
ANGLE STOP (SEE TABLE FOR DIMENSIONS
METER BOX
6" MIN. PIT RUN SAND
R. 2"
CUSTOMER VALVE (TO BE INSTALLED BY GVSUD AFTER TESTING AND ACCEPTANCE)
5/8"x3/4" DIRECT READ WATER METER (TO BE INSTALLED BY GVSUD AFTER TESTING AND ACCEPTANCE)
45°
1" CORPORATION STOP
MAIN CLAMP
WATER MAIN
6" SAND BEDDING REQ'D. <2-INCHES, MUNICIPEX PIPE OR APPROVED EQUAL

MAIN SIZE	METER SIZE	MAIN SADDLE	CORPORATION	ANGLE STOP
<12"	5/8" OR 3/4"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"x 3/4"
<12"	1"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"X1"

NOTES:

1. FITTINGS SHALL BE MUELLER OR APPROVED EQUAL.
2. A TRACER WIRE SHALL BE INSTALLED ON THE SERVICE LINE TAPED AT 10-INCH INCREMENTS.

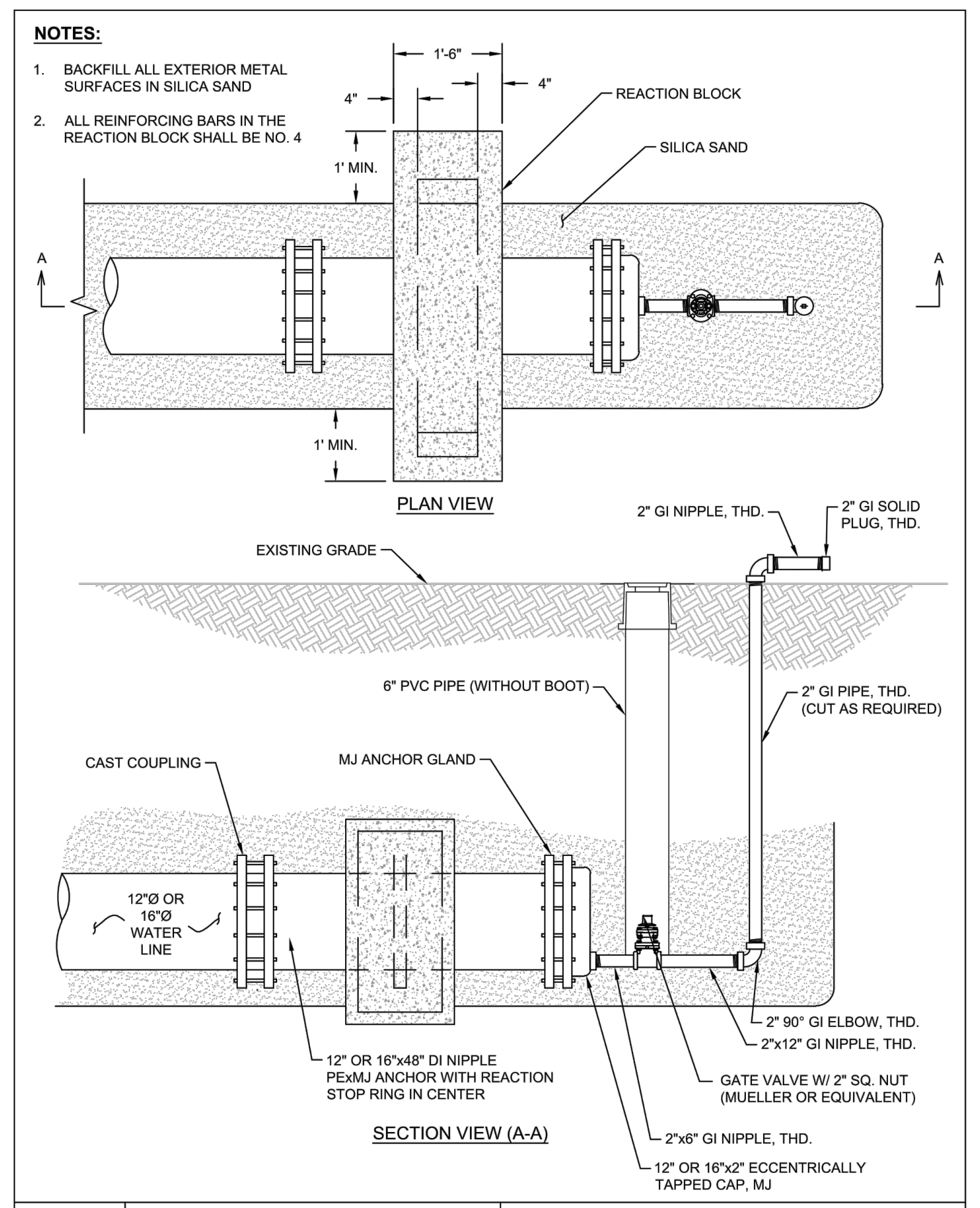
GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
STANDARD SERVICE CONNECTION
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-23



GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
TYPICAL SERVICE LOCATION DETAIL
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-24

NOTES:

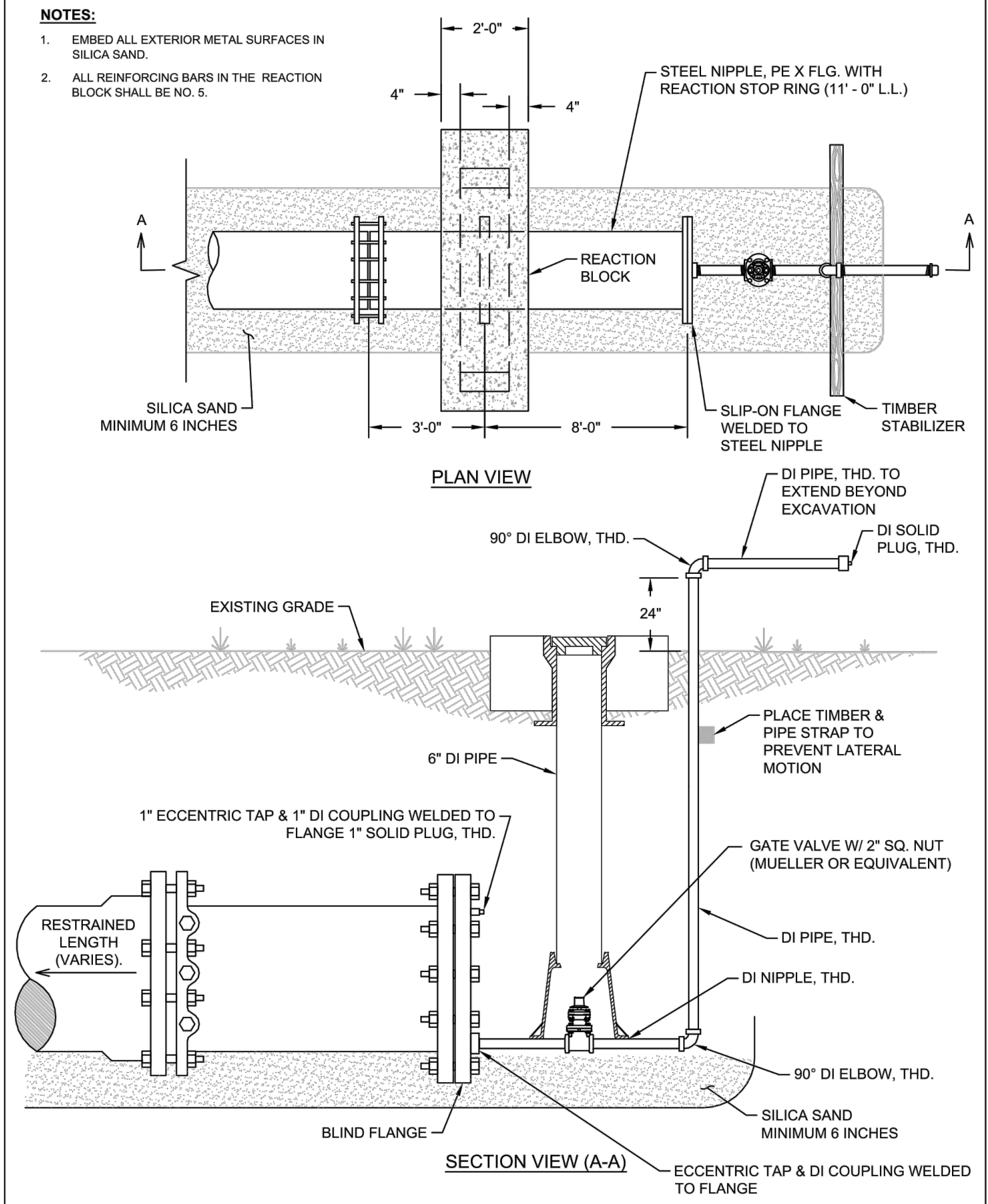
1. BACKFILL ALL EXTERIOR METAL SURFACES IN SILICA SAND
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 4



GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" TO 16" MAINS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-25

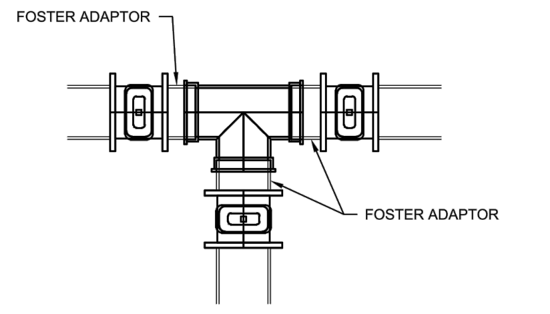
NOTES:

1. EMBED ALL EXTERIOR METAL SURFACES IN SILICA SAND.
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 5.

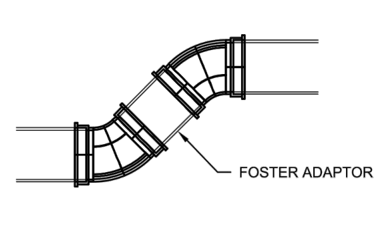


2'-0"
4"
4"
STEEL NIPPLE, PE X FLG. WITH REACTION STOP RING (11' - 0" L.L.)
A
A
REACTION BLOCK
SILICA SAND MINIMUM 6 INCHES
2'-0"
8'-0"
SLIP-ON FLANGE WELDED TO STEEL NIPPLE
TIMBER STABILIZER
PLAN VIEW
DI PIPE, THD. TO EXTEND BEYOND EXCAVATION
DI SOLID PLUG, THD.
90° DI ELBOW, THD.
24"
EXISTING GRADE
PLACE TIMBER & PIPE STRAP TO PREVENT LATERAL MOTION
6" DI PIPE
1" ECCENTRIC TAP & 1" DI COUPLING WELDED TO FLANGE 1" SOLID PLUG, THD.
GATE VALVE W/ 2" SQ. NUT (MUELLER OR EQUIVALENT)
RESTRAINED LENGTH (VARIES)
DI PIPE, THD.
DI NIPPLE, THD.
90° DI ELBOW, THD.
SILICA SAND MINIMUM 6 INCHES
BLIND FLANGE
SECTION VIEW (A-A)
ECCENTRIC TAP & DI COUPLING WELDED TO FLANGE

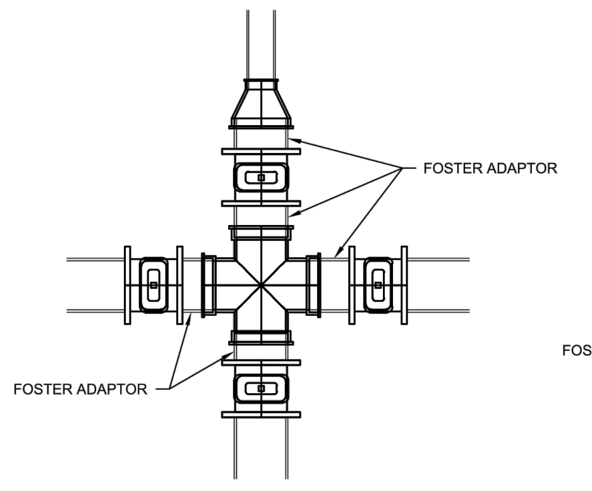
GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
2" & 4" PERMANENT RURAL BLOW-OFF ASSEMBLY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-27



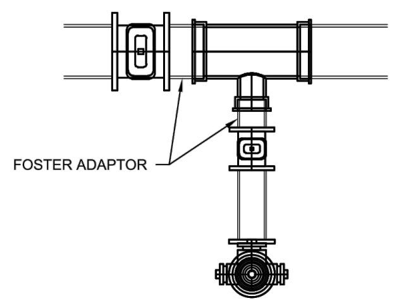
TYPICAL TEE CONDITION



TYPICAL FITTING TO FITTING CONDITION



TYPICAL CROSS CONDITION

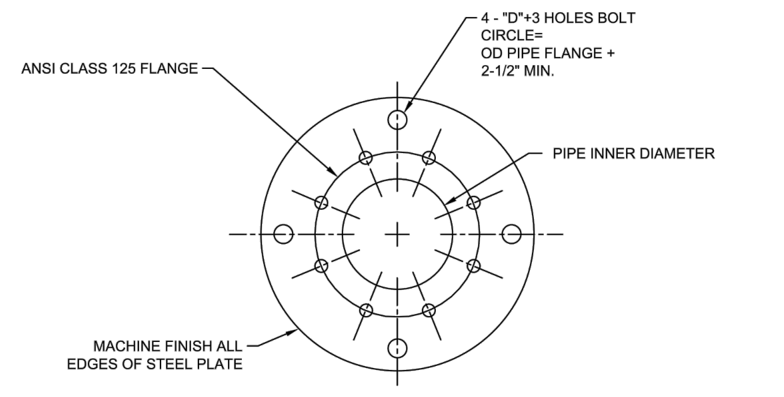


TYPICAL FIRE HYDRANT CONDITION

NOTE:

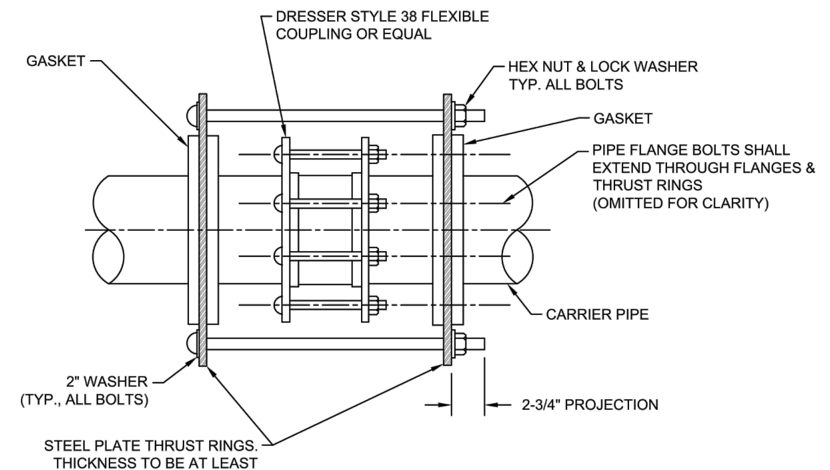
1. FOSTER ADAPTORS, OR APPROVED EQUAL, REQUIRED AT ALL FITTING TO FITTING CONNECTIONS AND FITTING TO VALVE CONNECTIONS.
2. ANCHOR COUPLINGS MAY BE SUBSTITUTED FOR FOSTER ADAPTORS AT GVSUD'S DISCRETION.

GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
MECHANICAL JOINT ADAPTOR DETAIL
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-31



4 - 7/2"+3 HOLES BOLT CIRCLE= OD PIPE FLANGE + 2-1/2" MIN.
ANSI CLASS 125 FLANGE
PIPE INNER DIAMETER
MACHINE FINISH ALL EDGES OF STEEL PLATE

PLAN VIEW



DRESSER STYLE 38 FLEXIBLE COUPLING OR EQUAL
GASKET
HEX NUT & LOCK WASHER TYP. ALL BOLTS
GASKET
PIPE FLANGE BOLTS SHALL EXTEND THROUGH FLANGES & THRUST RINGS (OMITTED FOR CLARITY)
CARRIER PIPE
2" WASHER (TYP., ALL BOLTS)
2-3/4" PROJECTION
STEEL PLATE THRUST RINGS. THICKNESS TO BE AT LEAST AS THICK AS PIPE FLANGE.

SECTION VIEW

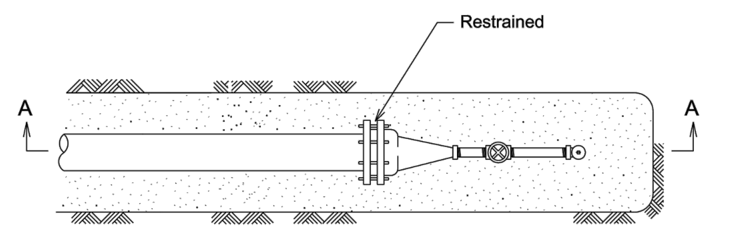
NOTES:

1. A MINIMUM OF 2 TIE RODS SHALL BE USED FOR CARRIER PIPES 6 INCHES OR LESS. PIPES GREATER THAN 6 INCHES SHALL HAVE A MINIMUM OF 4 TIE RODS.
2. TIE RODS SHALL HAVE MINIMUM DIAMETER OF 3/4 INCH FOR PIPES 6 INCHES OR LESS, AND 1 INCH FOR PIPES GREATER THAN 6 INCHES.

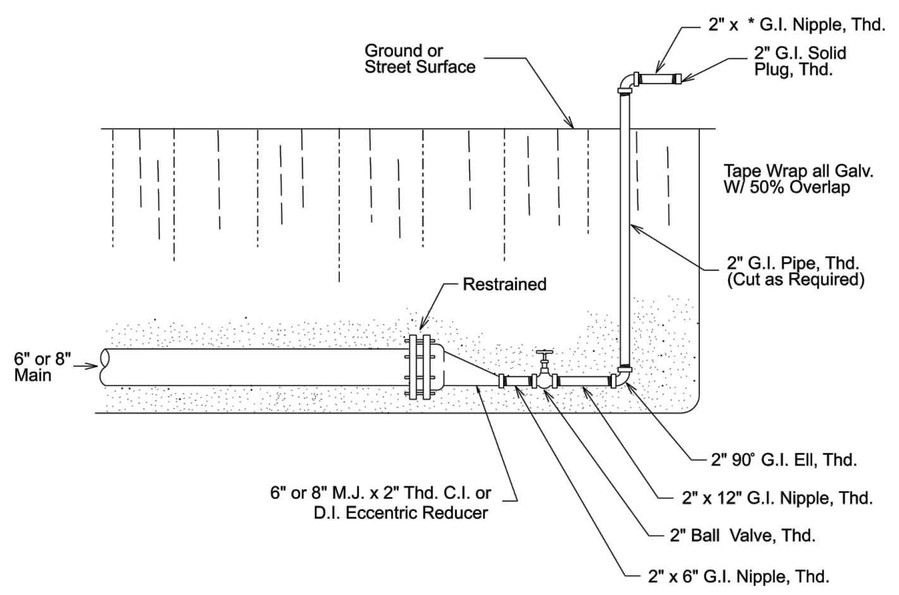
GREEN VALLEY SPECIAL UTILITY DISTRICT
STANDARD DETAILS
REVISED:
JANUARY 2024
FLEXIBLE COUPLING AND THRUST RESTRAINT HARNESS DETAIL
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
DETAIL NO.
W-34

NOTE:
MUELLER AND EAST JORDAN HYDRANTS ARE APPROVED FOR INSTALLATION. HYDRANT MUST HAVE FACTORY INSTALLED 5" STORZ CONNECTOR ON STEAMER PORT.

NOTE:
GVSUD REQUIRES THE USE OF PC 235 C909 PVC FOR ALL PROPOSED 8" & 12" WATER LINES.



PLAN

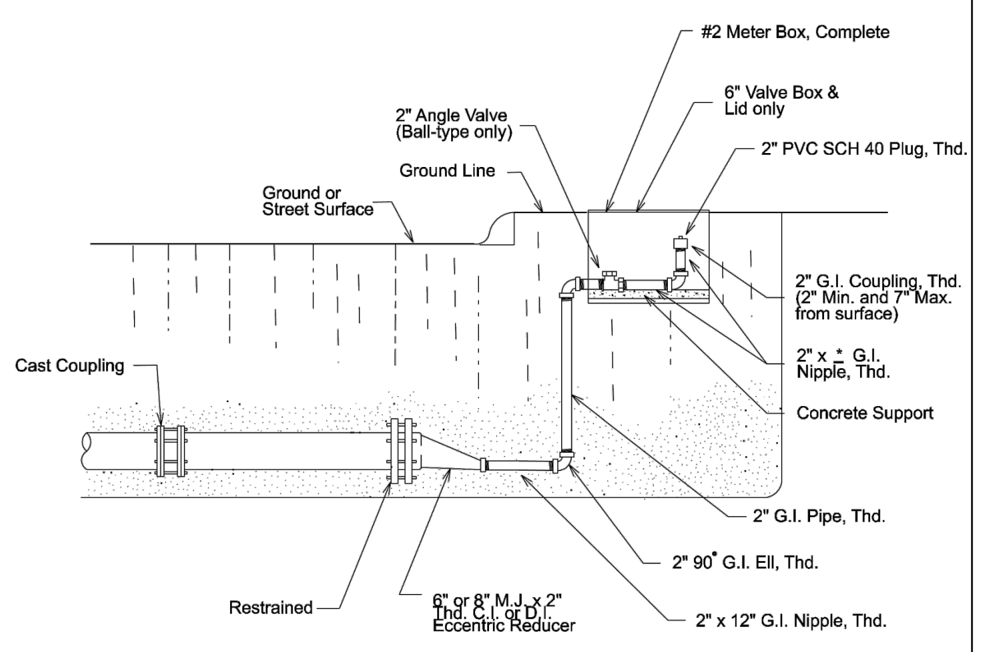


2" x * G.I. Nipple, Thd.
Ground or Street Surface
2" G.I. Solid Plug, Thd.
Tape Wrap all Galv. W/ 50% Overlap
Restrained
2" G.I. Pipe, Thd. (Cut as Required)
6" or 8" Main
2" 90° G.I. Ell, Thd.
6" or 8" M.J. x 2" Thd. C.I. or D.I. Eccentric Reducer
2" x 12" G.I. Nipple, Thd.
2" Ball Valve, Thd.
2" x 6" G.I. Nipple, Thd.

SECTION A-A

* Cut as required to extend beyond excavation

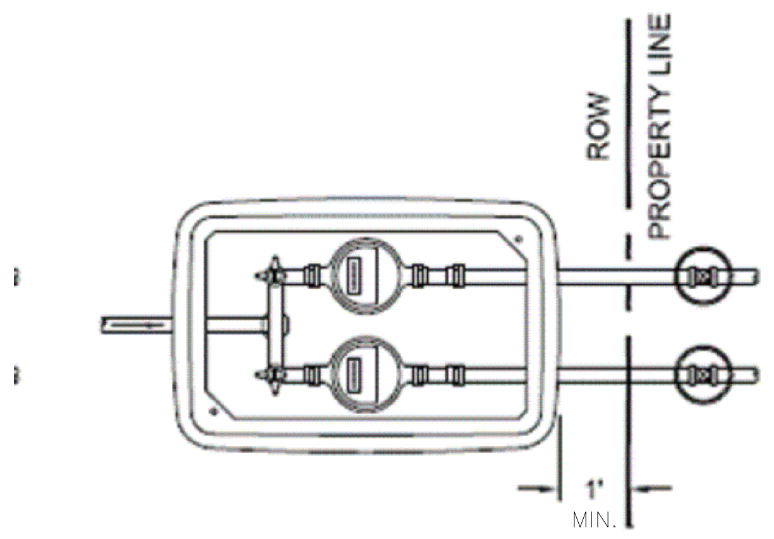
PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS
2" TEMPORARY BLOW-OFF ASSEMBLY ON 6" & 8" D.I. MAINS
APPROVED MARCH 2008
REVISED APRIL 2014
DD-844-01
SHEET 1 OF 4



* Cut to fit in meter box.

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS
2" PERMANENT BLOW-OFF ASSEMBLY ON 6" & 8" MAINS
APPROVED MARCH 2008
REVISED APRIL 2014
DD-844-02
SHEET 3 OF 5

METER
INSIDE ROW / PROPERTY LINE



NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3
WATER DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.

SUBMITTAL PHASE:
DATE: 02/2024
KCI JOB #: 762309153
SHEET:
403

Date: Jul 31, 2024, 4:17pm User ID: Lance.Elling File: L:\devel [illegible]

STREET & DRAIN CONSTRUCTION PLANS
for
CIBOLO FARMS UNIT 3

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL, BE APPROVED BY THE CITY OF CIBOLO PUBLIC WORKS AND COMPLY WITH THE FOLLOWING AS APPLICABLE:

   A. CURRENT "CIBOLO SUBDIVISION ORDINANCE"
   B. REFERENCE TO CURRENT "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION"
   C. CURRENT TXDOT "STANDARD. SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE"

2. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS, AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

   CITY OF CIBOLO PUBLIC WORKS 210 658-9900

3. THE CONTRACTOR SHALL NOTIFY THE CITY PRIOR TO THE START OF EACH PHASE OF STREET CONSTRUCTION AND CALL FOR INSPECTIONS WITH A MINIMUM OF 48 HOURS NOTICE.

4. TESTING WILL BE PAID FOR BY DEVELOPER, COORDINATED BY CONTRACTOR, AND WITNESSED BY CITY.

5. TESTING SCHEDULE:

DENSITIES - SUBGRADE	1 PER 500 FOOT MINIMUM
DENSITIES - BASE	1 PER 500 FOOT MINIMUM
PROCTORS - SUBGRADE	1 PER MATERIAL PER SUBDIVISION
PROCTORS - BASE	1 PER 5,000 C.Y.
LIME SERIES - SUBGRADE	1 PER MATERIAL PER SUBDIVISION
CONCRETE - STRUCTURES	1 SET (3) PER 50 C.Y.

6. TRANSITION WASHOUT CROWN TO NORMAL CROWN IN 25'.

7. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).

9. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

10. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.

11. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.

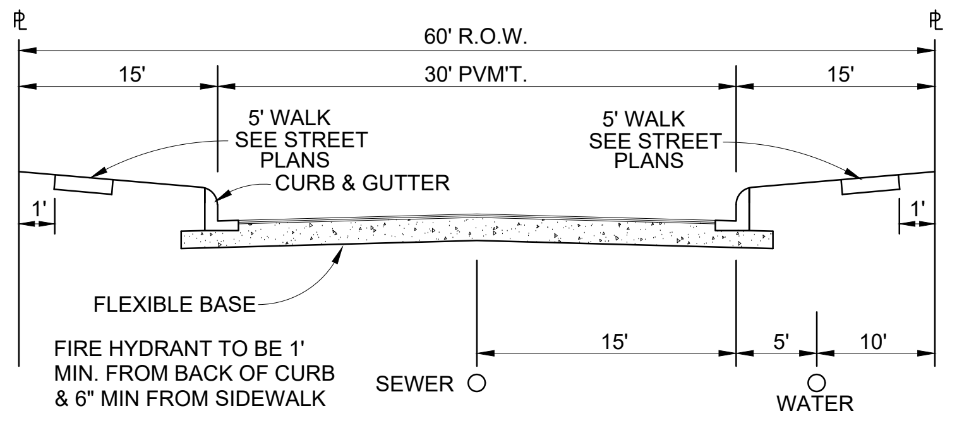
12. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

13. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND/OR TRACKED CONSTRUCTION MATERIALS AND/OR DEBRIS.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.

TRENCH EXCAVATION SAFETY PROTECTION

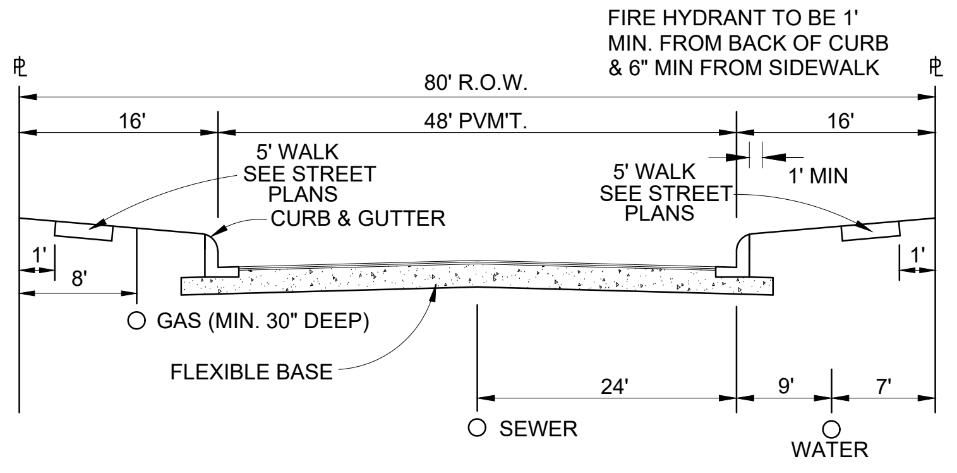
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



TYPICAL LOCAL "A" STREET SECTION

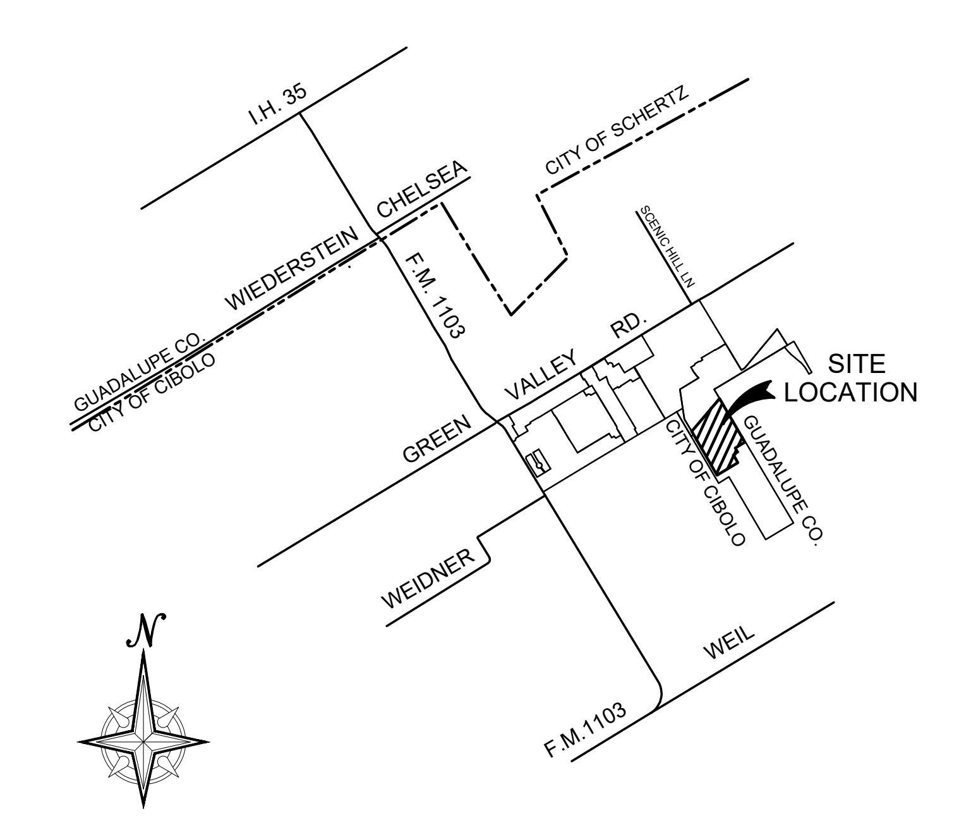
NOT TO SCALE

REFERENCE SHEET 516 FOR
DETAILED STREET SECTION



TYPICAL COLLECTOR STREET SECTION

NOT TO SCALE



LOCATION MAP

N.T.S.

Sheet List Table

Sheet Number	Sheet Title
500	STREET & DRAINS COVER
501	OVERALL GRADING PLAN
502	BENTSON RIO PLAN & PROFILE
503	NAILS CREEK PLAN & PROFILE
504	BRAZORIA PLAN & PROFILE
505	INKS LAKE PLAN & PROFILE
506	BALMORHEA PLAN & PROFILE
507	LAKE MEREDITH PLAN & PROFILE
508	COUNTRY CLUB BLVD PLAN & PROFILE
509	DRAIN A PLAN & PROFILE
510	DRAIN B PLAN & PROFILE
511	STORM DRAIN A PLAN & PROFILE
512	STORM DRAIN B PLAN & PROFILE
513	STREET DETAILS
514	STREET DETAILS
516	DRAIN DETAILS
517	DRAIN DETAILS
518	OVERALL SIGN PLAN

STREET IMPROVEMENTS

ITEM	DESCRIPTION	UNIT	EST/QTY
103.1	Remove Header Curb, Timber Guard Post, End of Road Markers	LF	55
104.1	Street Excavation	CY	9,422
107.1	Embankment (Final) (Dens. Cont.) (Type A)	CY	3,484
108.1	6" Lime Treated Subgrade - Local A	SY	10,736
108.1	6" Lime Treated Subgrade - Collector	SY	5,992
108.2	Lime (35#/S.Y.)	TON	293
200.1	13" Flexible Base - Local A	SY	10,616
200.1	26" Flexible Base - Collector	SY	5,915
202.1	Prime Coat	GAL	3,306
203.1	Tack Coat	GAL	1,641
205.2	7" Hot Mix Asphaltic Pavement (Type B) - Special Pavement	SY	292
205.4	2.5" Hot Mix Asphaltic Pavement (Type D) - Local A	SY	10,728
205.4	4" Hot Mix Asphaltic Pavement (Type D) - Collector	SY	5,391
500.1	Concrete Curb and Gutter w/ Rebar	LF	7,400
500.1	Header Curb	LF	78
502.1	Concrete Sidewalk	SY	981
510.10	Timber Guard Posts	EA	15
531.3	R1-1 Stop Sign (30"x30") (High Intensity)	EA	5
531.56	OM4-3 End of Road Marker	EA	6
531.57	9" Street Name, Block Numbers (High Intensity)	EA	16
536.1	4 Inch Wide Thermoplastic Solid Yellow Line	LF	1,500
536.2	4 Inch Wide Thermoplastic Broken White Line (10' Segments)	LF	380
537.6	Raised Pavement Marker (Reflective) (Type I-C)	EA	22
537.8	Raised Pavement Marker (Reflective) (Type II A-A)	EA	88
537.80	Two-Way Blue Reflective Marker (Fire Hydrant)	EA	5
-	TxDOT Sidewalk Bridge	EA	1

DRAIN "A" IMPROVEMENTS

ITEM	DESCRIPTION	UNIT	EST/QTY
104.1	Excavation	CY	22
107.1	Embankment (Final) (Dens. Cont.) (Type A)	CY	2
307.1	18' Elevated Sidewalk	CY	16.3
505.1	6" Concrete Rip-Rap	SY	121
522.1	Sidewalk Pipe Railing	LF	83
SP1	Slotted Armor Curb	LF	19
SP2	Rock Rubble (12"-18")	SY	9

DRAIN "B" IMPROVEMENTS

ITEM	DESCRIPTION	UNIT	EST/QTY
104.1	Excavation	CY	54
107.1	Embankment (Final) (Dens. Cont.) (Type A)	CY	4
307.1	Concrete Structure (Baffle Blocks)	CY	0.6
307.1	Concrete Headwall	CY	3.8
505.1	6" Concrete Rip-Rap	SY	256
505.1	8" Concrete Rip-Rap	SY	13
522.1	Sidewalk Pipe Railing	LF	65
SP1	Rock Rubble (12"-18")	SY	11

STORM DRAIN "A" IMPROVEMENTS

ITEM	DESCRIPTION	UNIT	EST/QTY
104.1	Excavation	CY	273
107.1	Embankment (Final) (Dens. Cont.) (Type A)	CY	12
307.1	Concrete Headwall & Wings	CY	9.2
309.1	Precast Reinforced Concrete Box Culvert (5' x 2')	LF	215
505.1	6" Concrete Rip-Rap	SY	836
505.1	8" Concrete Rip-Rap	SY	16
522.1	Sidewalk Pipe Railing	LF	85

STORM DRAIN "B" IMPROVEMENTS

ITEM	DESCRIPTION	UNIT	EST/QTY
401.1	Reinforced Concrete Pipe (Class III) (30" DIA)	LF	31.16
401.1	Reinforced Concrete Pipe (Class III) (36" DIA)	LF	11.75
403.12	Inlet Type C (Complete) (10 FT)	EA	4
407.4	Concrete Collars	CY	1.8

OWNER/DEVELOPER:
LENNAR HOMES OF TEXAS AND
CONSTRUCTION, LTD
1922 DRY CREEK WAY, SUITE 101
SAN ANTONIO, TEXAS 78259
(210) 403-6200

PREPARED BY:
KCI TECHNOLOGIES, INC.
2806 W. BITTERS, RD. SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

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FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

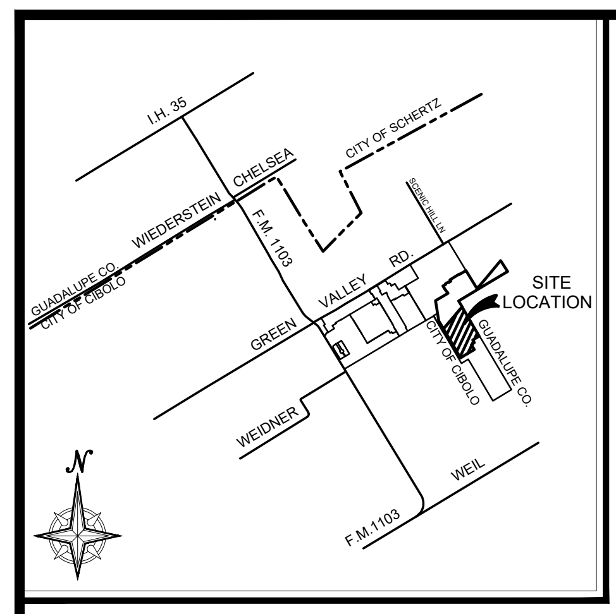
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3
STREET & DRAINS COVER

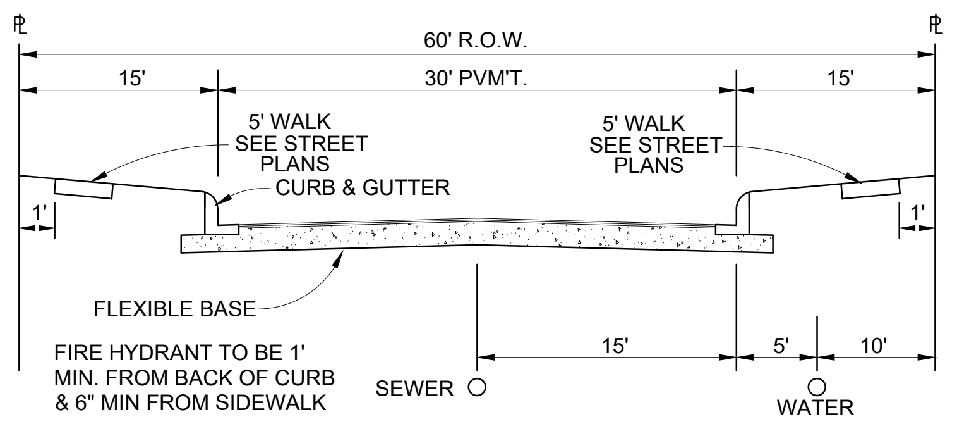
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
500

Date: Jul 31, 2024, 4:17pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 500 STREET & DRAINS COVER.dwg

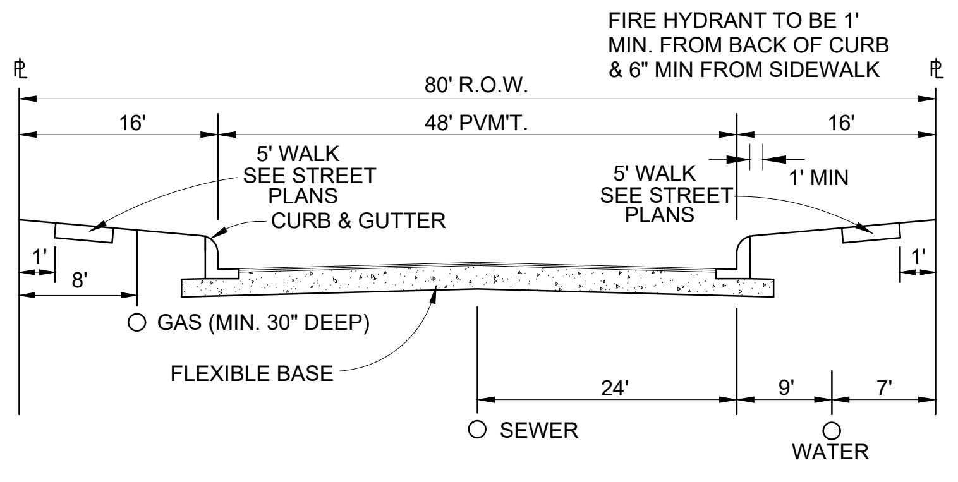


LOCATION MAP



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE



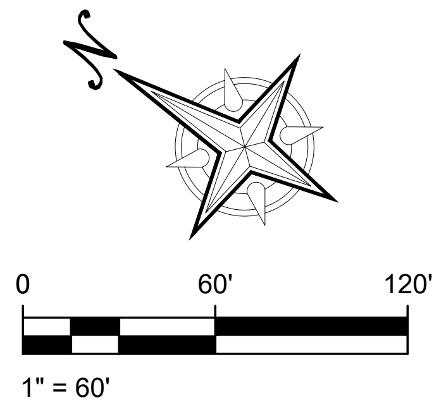
TYPICAL COLLECTOR STREET SECTION

NOT TO SCALE

LEGEND

(740)	PROPOSED FINISHED CONTOUR
— — 740 — —	EXISTING CONTOUR
A, B & C	LOT GRADING TYPE

A-LOT DRAINS TO FRONT
B-LOT DRAINS TO FRONT AND REAR
C-LOT DRAINS TO REAR



PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)

TRENCH EXCAVATION SAFETY PROTECTION

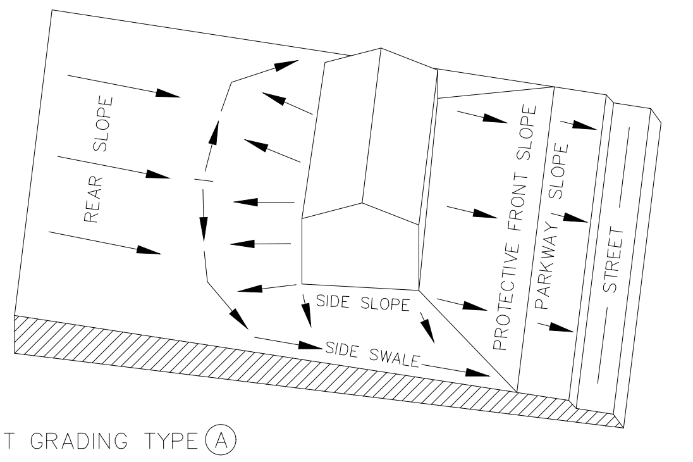
Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

NOTES:

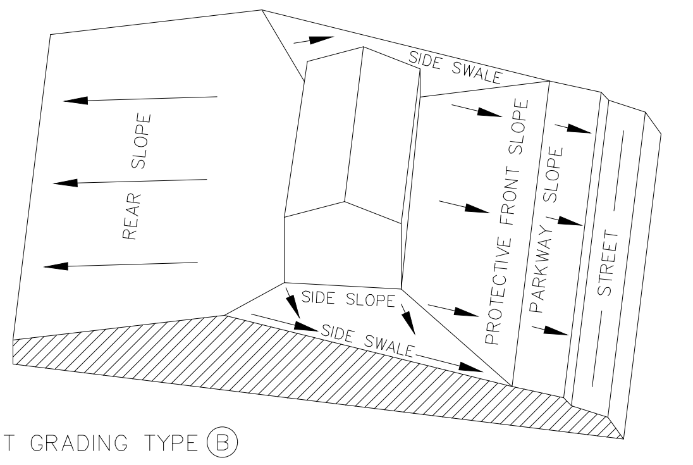
1. DRIVEWAYS SHALL BE LOCATED ON THE HIGH SIDE OF EACH LOT UNLESS THERE IS A WATER/SEWER SERVICE CONFLICT.
2. FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 8" ABOVE FINAL GRADE AFTER PLACEMENT OF TOP SOIL AND SOD.
3. FINAL LOT SWALES SHALL BE PLACED WITH HOME CONSTRUCTION.

GENERAL NOTES

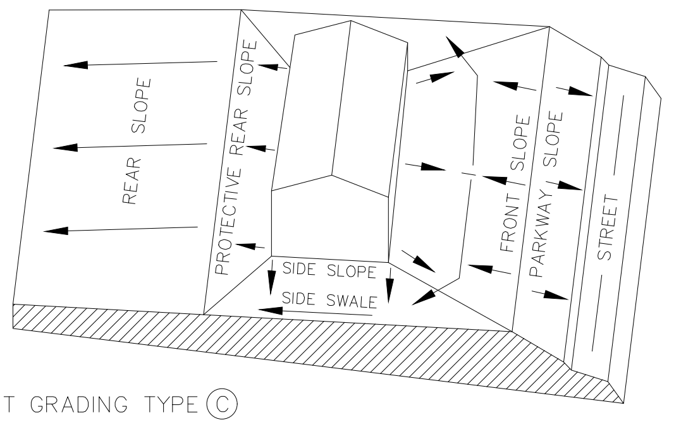
1. Fill Materials: Materials shall consist of soils approved by the Engineer from sources identified and approved. The soil shall be free of vegetable matter and other deleterious substance and shall not contain rocks or lumps having a diameter greater than six inches (6").
2. Depth and Mixing of Fill Layers: The selected fill material shall be placed in level, uniform layers which, when compacted, shall have a density conforming to required amount of compaction. Each layer shall be thoroughly blade mixed during the spreading to insure uniformity of material in each layer. Compacted layer thickness normally will be six inches (6"), however, it may be increased to twelve inches (12") if compaction equipment of demonstrated capability will be used. Per Geotechnical report, maximum 6" lifts for fill and base construction areas for this project.
3. Rock: When fill material includes rock; the maximum rock size acceptable shall be six inches (6"). No large rocks shall be allowed to nest and all voids must be carefully filled with small stones or earth, and properly compacted. No large rocks will be allowed within twelve inches (12") of the finished surface.
4. Moisture Content: The fill material shall be compacted at the appropriate moisture content specified for the soils being used and identified in soil and laboratory reports. Moisture content tolerances shall be plus or minus 3% from optimum.
5. Amount of Compaction: After each layer (lift) has been placed, mixed and spread evenly, it shall be compacted to the specified density. The specified density shall be stated as a percentage of the maximum density attainable using current ASTM D 698 to 95 percent density.
6. Compaction of Fill Layer: Compaction equipment shall be of such design that it will compact the fill to the appropriate specified density at the optimum moisture content. Compaction effort shall be continuous over each layer until density has been achieved.
7. Density Tests: Field density tests shall be made by the Soils Engineer after the compaction of each layer. When test indicate that the density of any layer or portion is below required density, the area shall be reworked until density is obtained. The number of tests shall be established by the Soil Engineer to certify to the required 79G letter requirements.



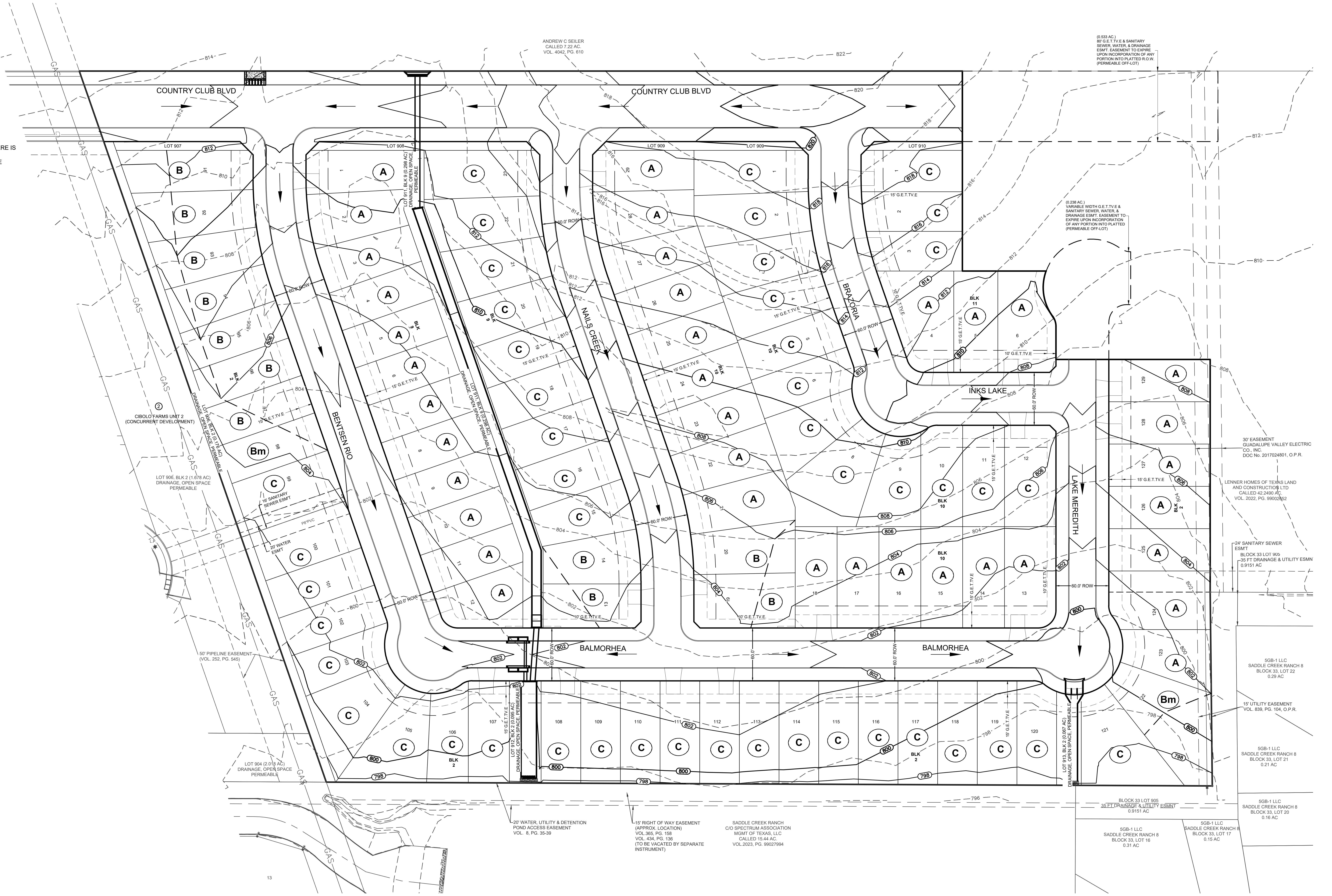
LOT GRADING TYPE Ⓐ
ALL DRAINAGE TO STREET



LOT GRADING TYPE Ⓑ
DRAINAGE TO STREET &
REAR LOT LINE



LOT GRADING TYPE Ⓒ
ALL DRAINAGE TO
REAR LOT LINE


COUNTRY CLUB BLVD
COUNTRY CLUB BLVD
ANDREW C SEILER
CALLED 7.22 AC.
VOL. 4042, PG. 610
(0.533 AC.)
80' G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED R.O.W. (PERMEABLE OFF-LOT)
(0.238 AC.)
VARIABLE WIDTH G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED (PERMEABLE OFF-LOT)
LOT 907
LOT 908
LOT 909
LOT 910
LOT 911, BLK 9 (0.298 AC) DRAINAGE, OPEN SPACE, PERMEABLE
BENTSEN RIO
NAILS CREEK
BRAZORIA
INKS LAKE
LAKE MEREDITH
BALMORHEA
BALMORHEA
60.0' ROW
15' G.E.T.TV.E
10' G.E.T.TV.E
② CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)
LOT 906, BLK 2 (0.176 AC) DRAINAGE, OPEN SPACE, PERMEABLE
LOT 906, BLK 2 (1.678 AC) DRAINAGE, OPEN SPACE PERMEABLE
16' SANITARY SEWER ESM'T
P8"PVC
20' WATER ESM'T
GAS
50' PIPELINE EASEMENT (VOL. 252, PG. 545)
LOT 904 (2.018 AC) DRAINAGE, OPEN SPACE PERMEABLE
LOT 912, BLK 2 (0.095 AC) DRAINAGE, OPEN SPACE, PERMEABLE
LOT 913, BLK 2 (0.067 AC) DRAINAGE, OPEN SPACE, PERMEABLE
30' EASEMENT GUADALUPE VALLEY ELECTRIC CO., INC. DOC No. 2017024801, O.P.R.
LENNER HOMES OF TEXAS LAND AND CONSTRUCTION LTD CALLED 42.2490 AC. VOL. 2022, PG. 99002652
24' SANITARY SEWER ESM'T
BLOCK 33 LOT 905 35 FT DRAINAGE & UTILITY ESMNT 0.9151 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 22 0.29 AC
15' UTILITY EASEMENT VOL. 839, PG. 104, O.P.R.
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 21 0.21 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 20 0.16 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 17 0.15 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 16 0.31 AC
20' WATER, UTILITY & DETENTION POND ACCESS EASEMENT VOL. 8, PG. 35-39
15' RIGHT OF WAY EASEMENT (APPROX. LOCATION) VOL.365, PG. 158 VOL. 434, PG. 136 (TO BE VACATED BY SEPARATE INSTRUMENT)
SADDLE CREEK RANCH C/O SPECTRUM ASSOCIATION MGMT OF TEXAS, LLC CALLED 15.44 AC. VOL.2023, PG. 99027994
BLK 2
BLK 9
BLK 10
BLK 11
798
800
802
804
806
808
810
812
814
816
818
820
822

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KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

OVERALL GRADING PLAN

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153
SHEET:	501

Date: Jul 31, 2024, 4:18pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 501 OVERALL GRADING PLAN.dwg

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

STREETLIGHT NOTE

STREETLIGHT POLES TO BE SET BETWEEN BACK OF CURB AND SIDEWALK; MINIMUM 1' FROM CURB AND MINIMUM 2' FRONT OF SIDEWALK .

DRIVEWAY NOTE

DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

SIDEWALK NOTE

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CLEAR VISION NOTE:

CLEAR VISION AREAS MUST BE FREE OF VISUAL OBSTRUCTION IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, OR LATEST VERSION THEREOF.

Line Table

Line	Length	Direction
L1	449.21'	N40°32'21"E
L2	82.62'	N59°41'54"E
L3	13.00'	S84°52'53"E

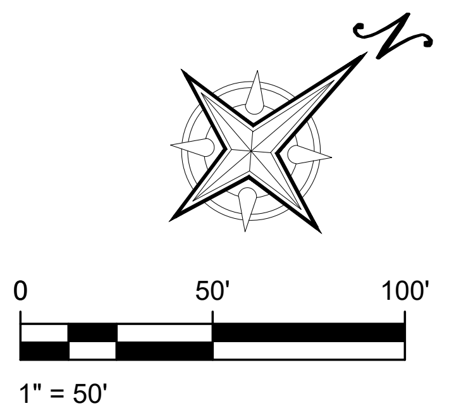
Curve Table

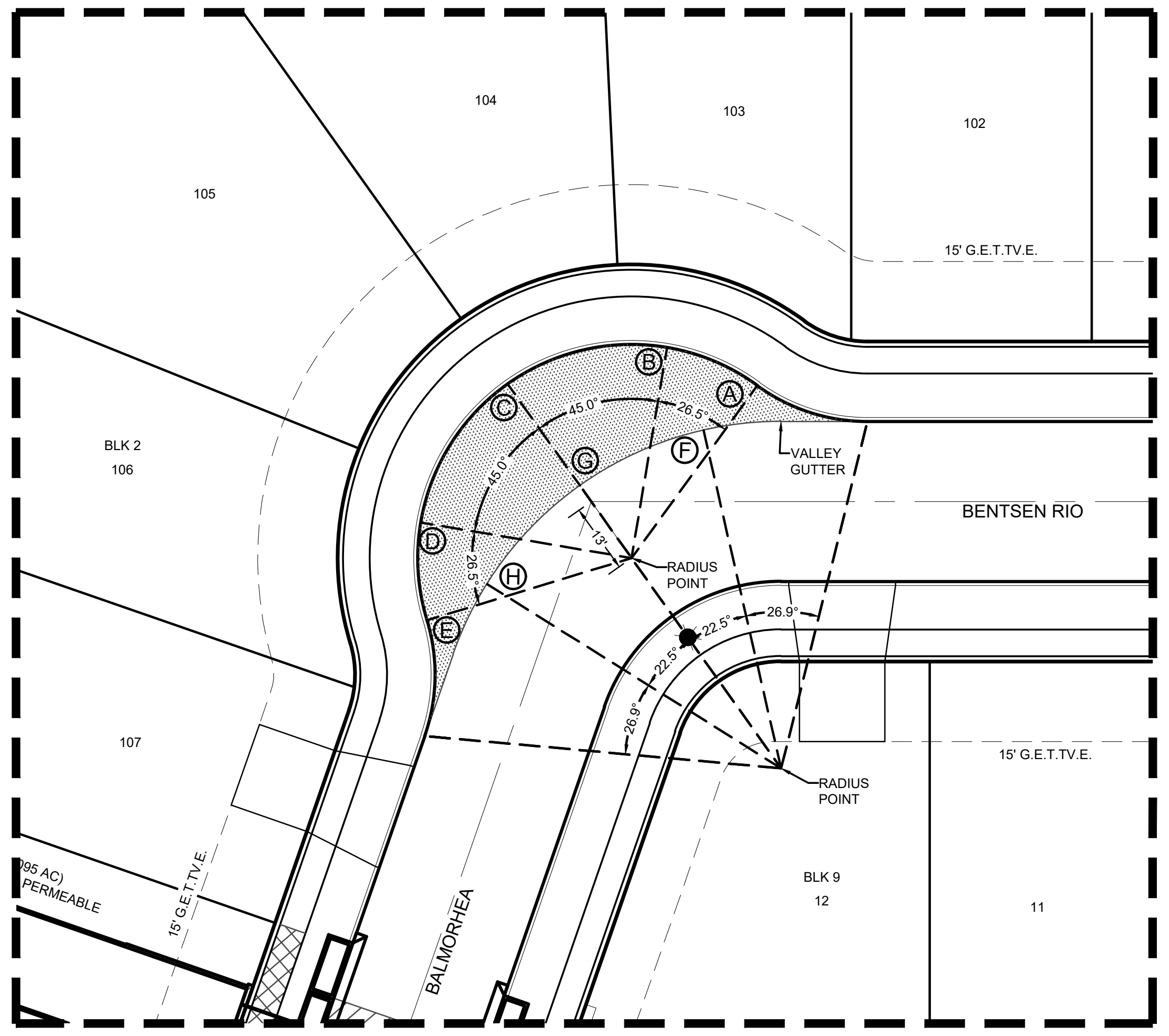
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	117.04'	350.00'	019°09'33"	N50° 07' 07"E	116.49'

③ TYPICAL SIDEWALK RAMP ~ TYPE III
④ TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▩
SIDEWALK TO BE BUILT BY DEVELOPER	▦
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✸ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

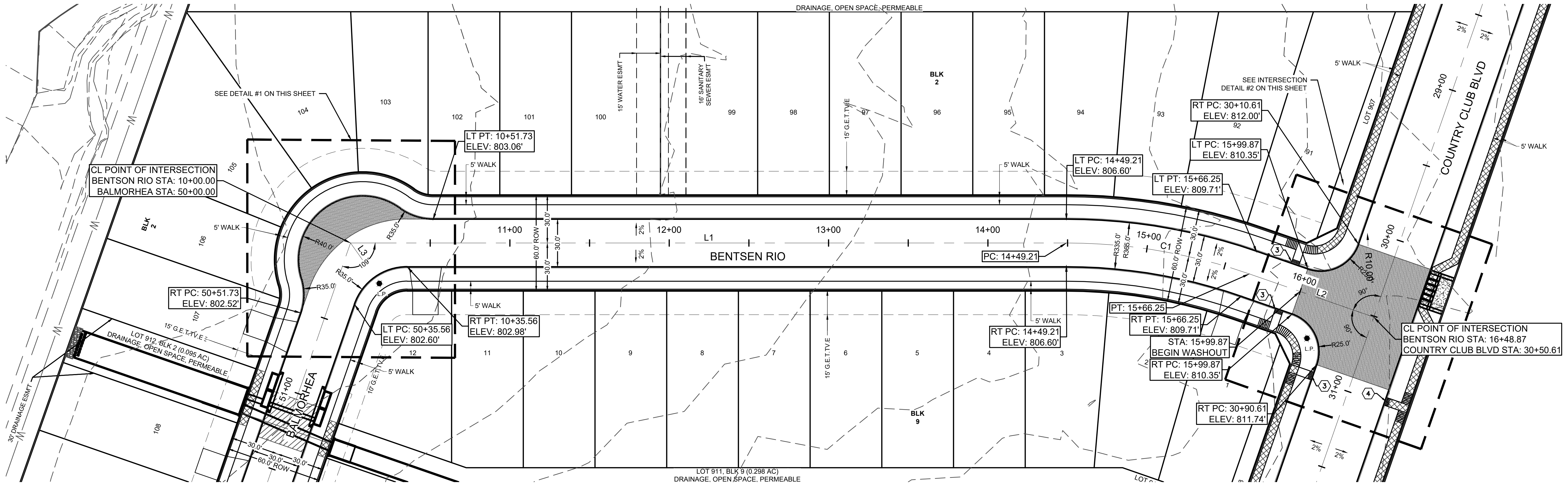




KNUCKLE SAC DETAIL #1

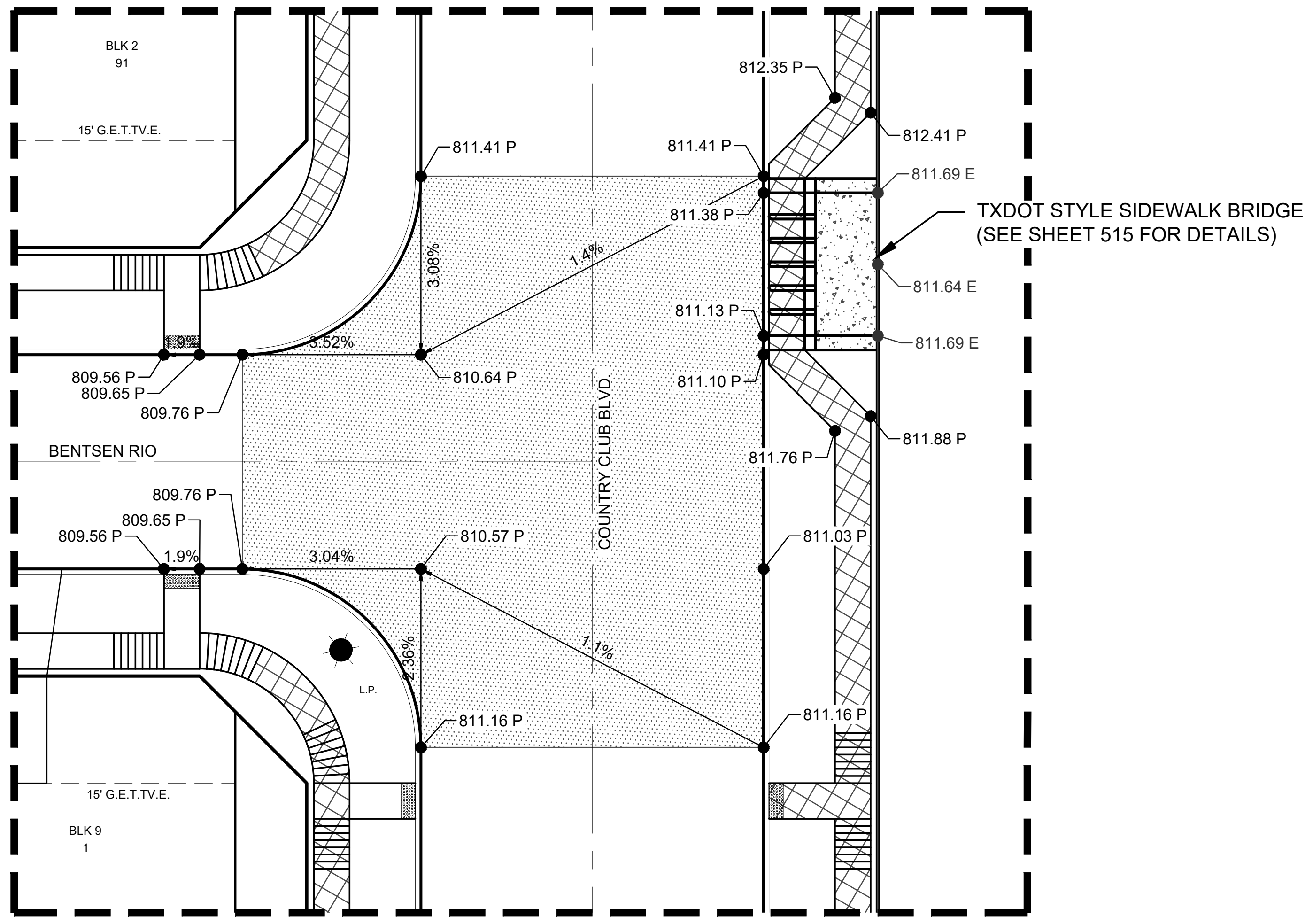
SCALE: 1" = 20'

POINT	CURB ELEV.	GUTTER ELEV.
LT PT	803.06	802.47
A	803.16	802.58
B	803.45	802.87
C	802.78	802.20
D	803.36	802.78
E	802.79	802.21
F		802.37
G		802.23
H		802.12
RT PT	802.52	801.94



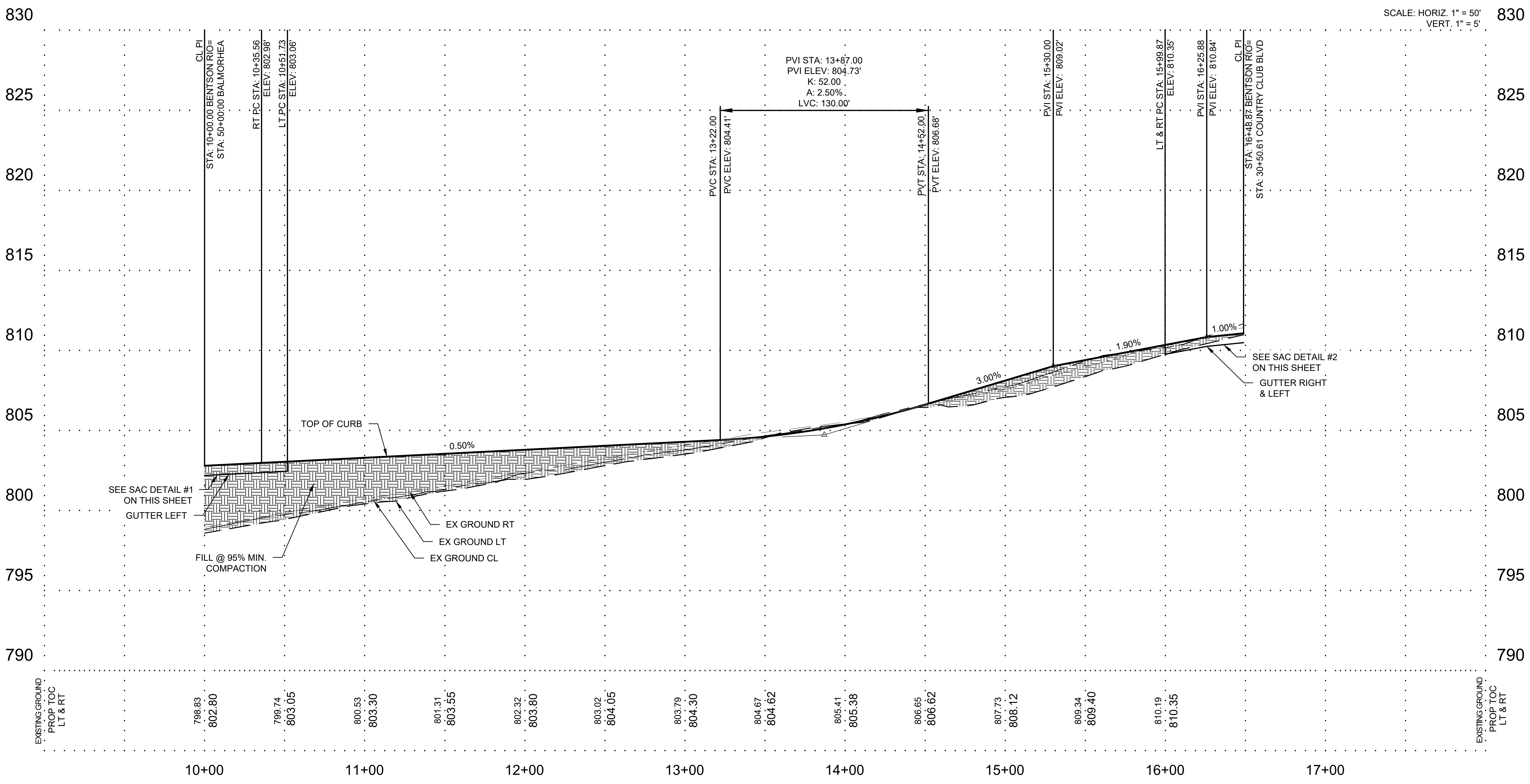
BENTSEN RIO

STA. 10+00.00 TO STA. 16+48.87



INTERSECTION DETAIL #2

SCALE: 1" = 20'



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REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

BENTSON RIO PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
502

TRENCH EXCAVATION SAFETY PROTECTION

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Line Table

Line	Length	Direction
L1	83.47'	N59°41'54"E
L2	231.91'	N40°32'21"E
L3	89.55'	N59°41'54"E

Curve Table

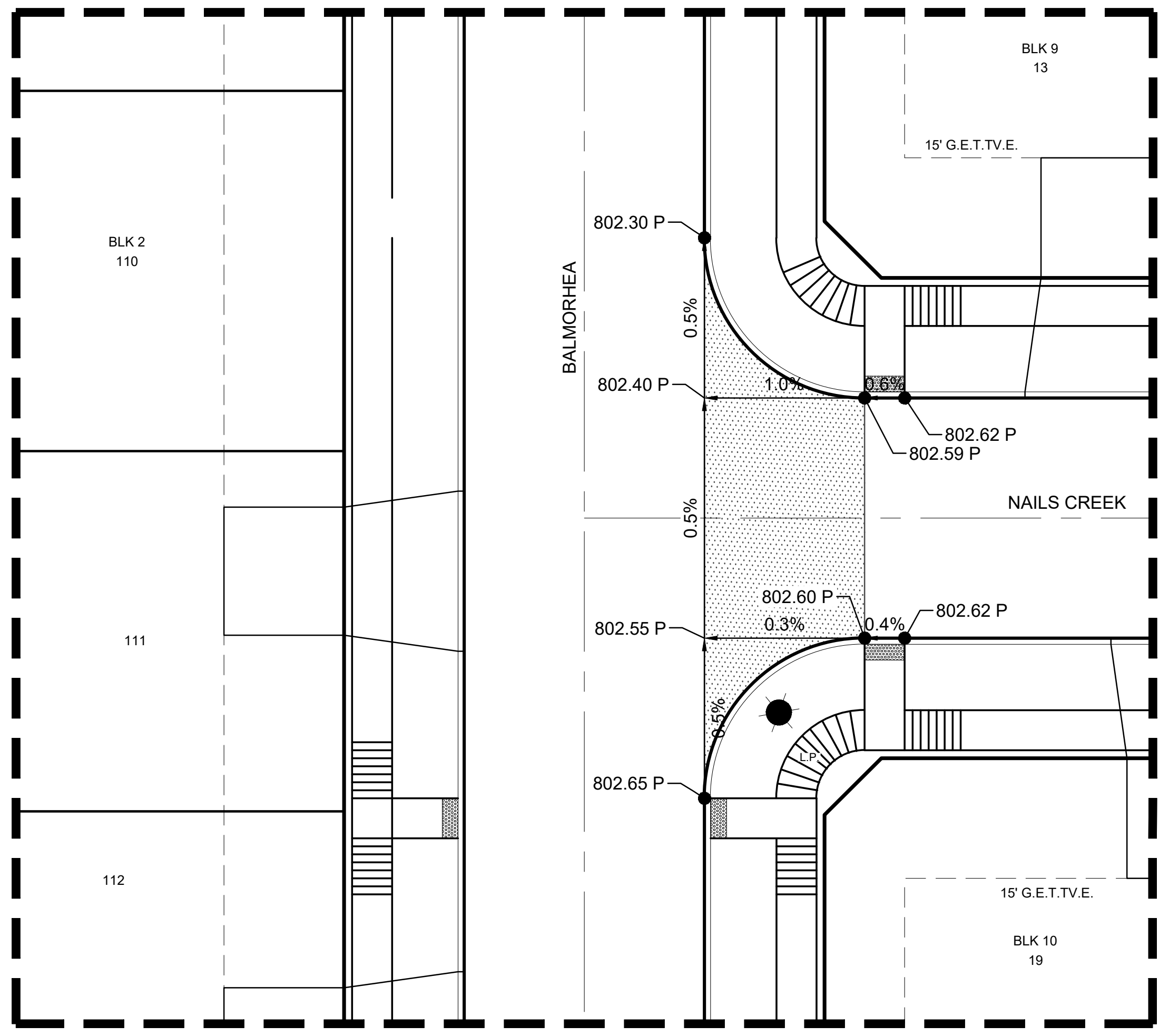
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	117.04'	350.00'	019°09'33"	N50° 07' 07"E	116.49'
C2	117.04'	350.00'	019°09'33"	N50° 07' 07"E	116.49'

③ TYPICAL SIDEWALK RAMP ~ TYPE III
④ TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

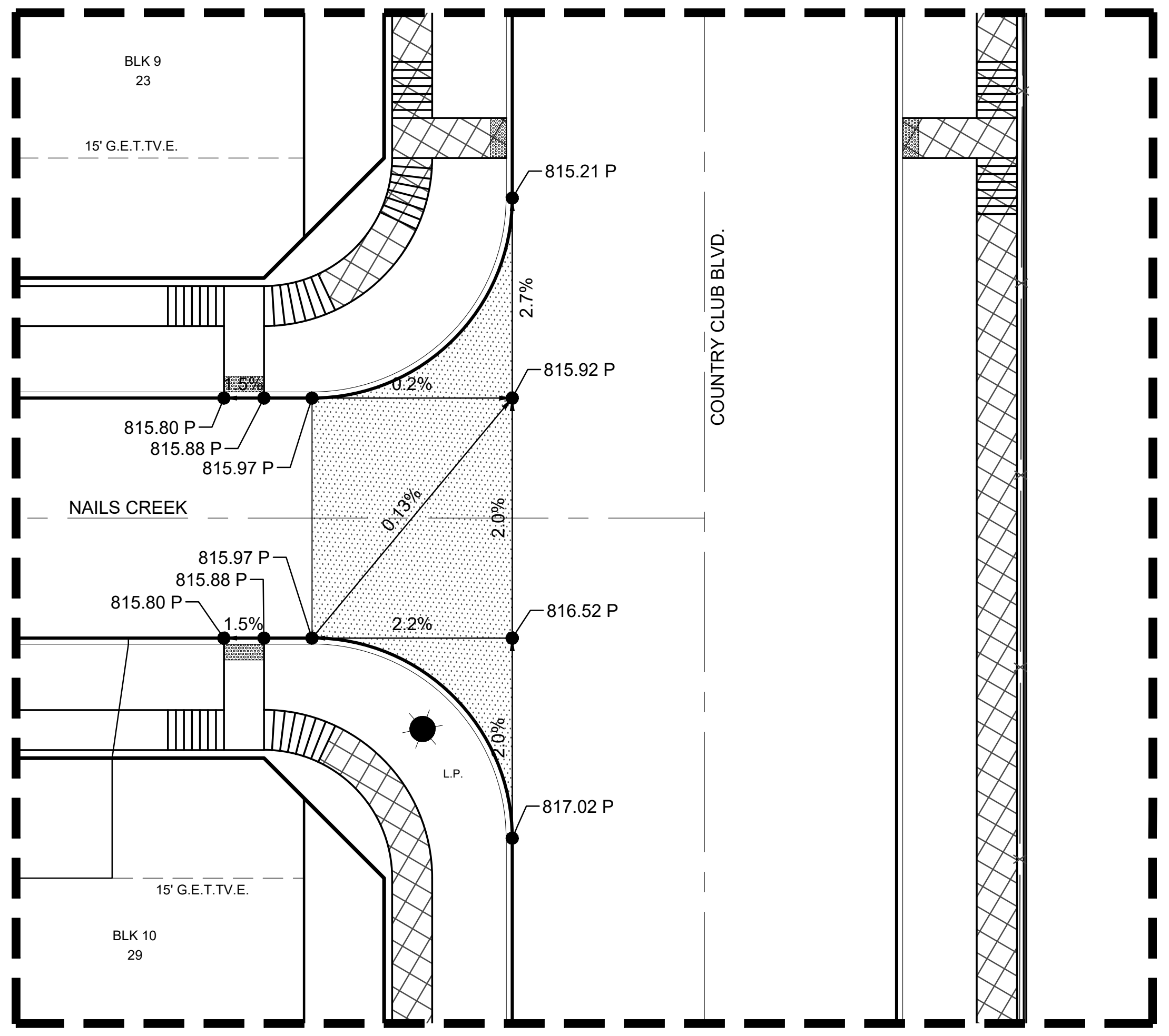
WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▩
SIDEWALK TO BE BUILT BY DEVELOPER	▨
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✱ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

0 50' 100'
1" = 50'



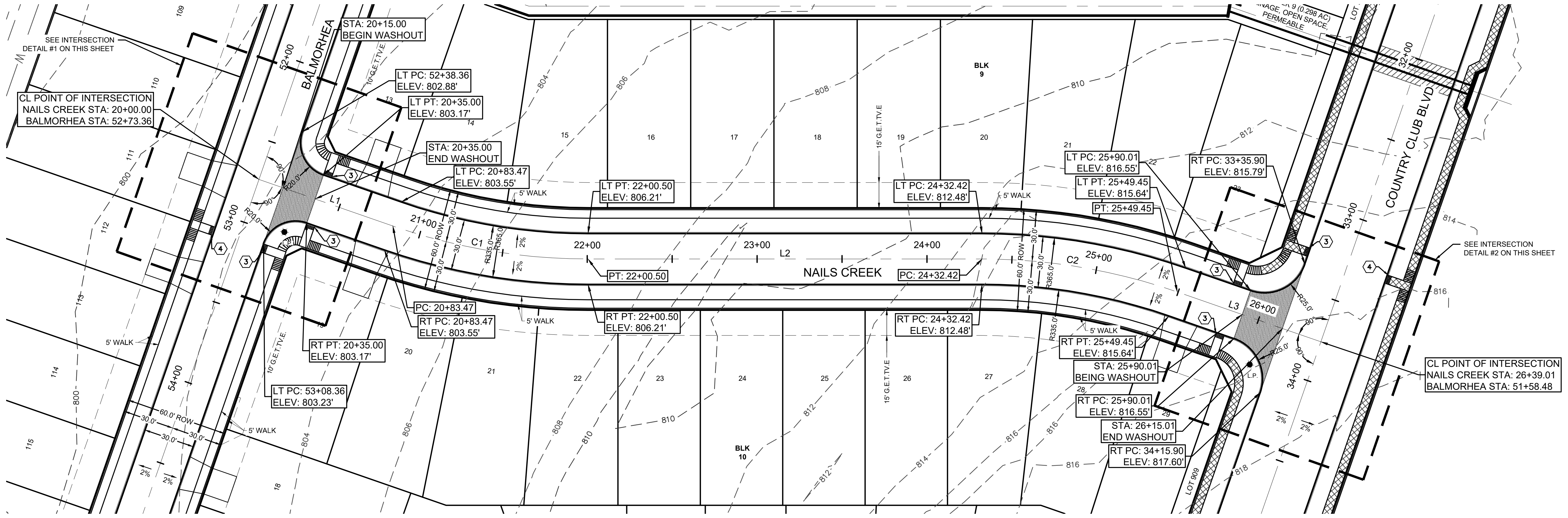
INTERSECTION DETAIL #1

SCALE: 1" = 20'



INTERSECTION DETAIL #2

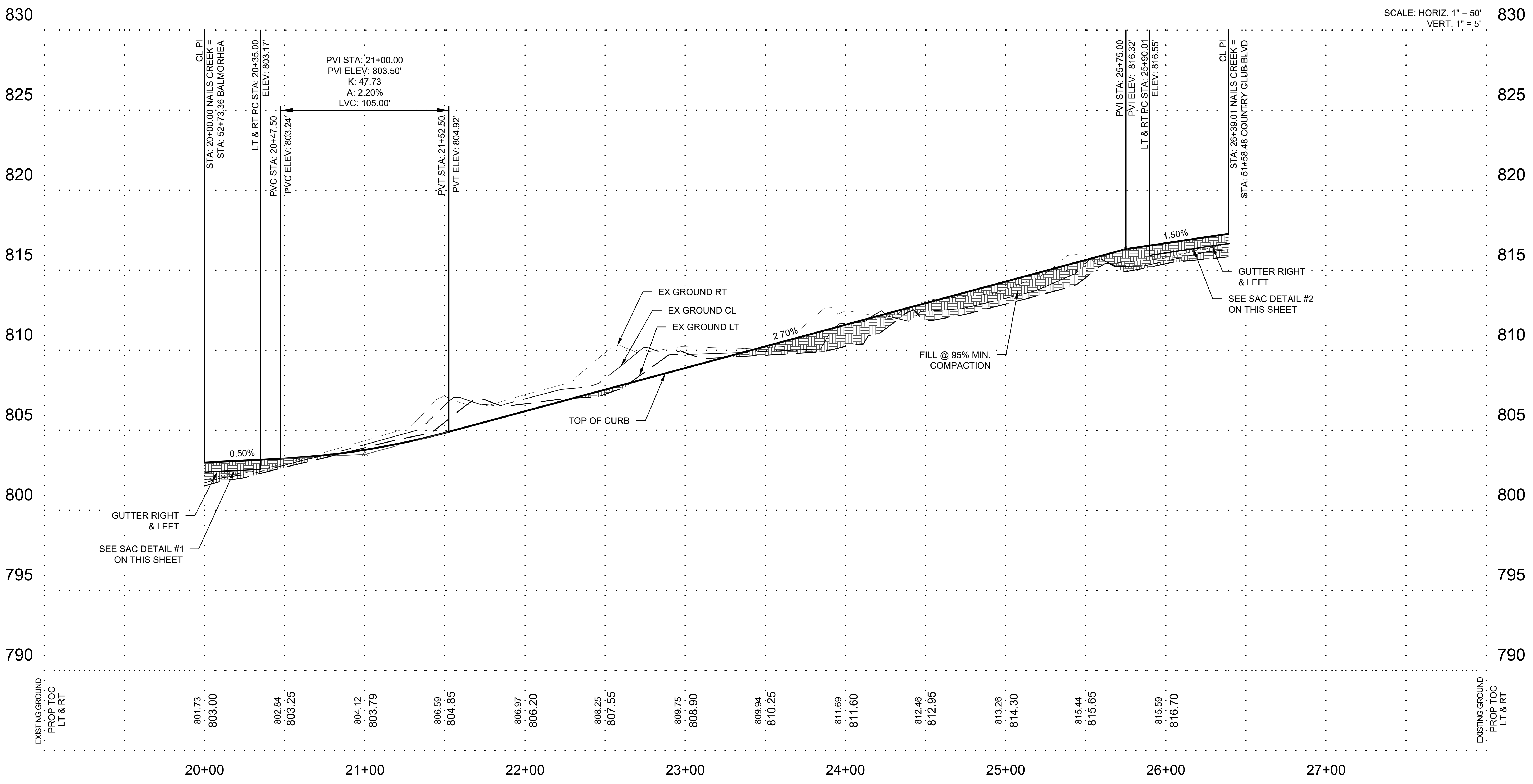
SCALE: 1" = 20'



SEE INTERSECTION DETAIL #1 ON THIS SHEET
BALMORHEA
STA: 20+15.00 BEGIN WASHOUT
CL POINT OF INTERSECTION NAILS CREEK STA: 20+00.00 BALMORHEA STA: 52+73.36
LT PC: 52+38.36 ELEV: 802.88'
LT PT: 20+35.00 ELEV: 803.17'
STA: 20+35.00 END WASHOUT
LT PC: 20+83.47 ELEV: 803.55'
LT PT: 22+00.50 ELEV: 806.21'
LT PC: 24+32.42 ELEV: 812.48'
LT PC: 25+90.01 ELEV: 816.55'
LT PT: 25+49.45 ELEV: 815.64'
PT: 25+49.45
RT PC: 33+35.90 ELEV: 815.79'
COUNTRY CLUB BLVD
SEE INTERSECTION DETAIL #2 ON THIS SHEET
BLK 9
BLK 10
21+00
22+00
23+00
24+00
25+00
26+00
53+00
54+00
34+00
L1
L2
L3
C1
C2
NAILS CREEK
PT: 22+00.50
PC: 24+32.42
PC: 20+83.47
RT PC: 20+83.47 ELEV: 803.55'
RT PT: 20+35.00 ELEV: 803.17'
LT PC: 53+08.36 ELEV: 803.23'
RT PT: 22+00.50 ELEV: 806.21'
RT PC: 24+32.42 ELEV: 812.48'
RT PT: 25+49.45 ELEV: 815.64'
STA: 25+90.01 BEING WASHOUT
RT PC: 25+90.01 ELEV: 816.55'
STA: 26+15.01 END WASHOUT
RT PC: 34+15.90 ELEV: 817.60'
CL POINT OF INTERSECTION NAILS CREEK STA: 26+39.01 BALMORHEA STA: 51+58.48
5' WALK
60.0' ROW
30.0'
15' G.E.T.V.E.

NAILS CREEK

STA. 20+00.00 TO STA. 26+39.01



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REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

NAILS CREEK PLAN & PROFILE

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153

SHEET:
503

Date: Jul 31, 2024, 4:19pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 503 NAILS CREEK PLAN & PROFILE.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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STREETLIGHT NOTE

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Line Table

Line	Length	Direction
L1	142.21'	N40°32'21"E
L2	82.62'	N59°41'54"E
L3	15.00'	S84°52'53"E

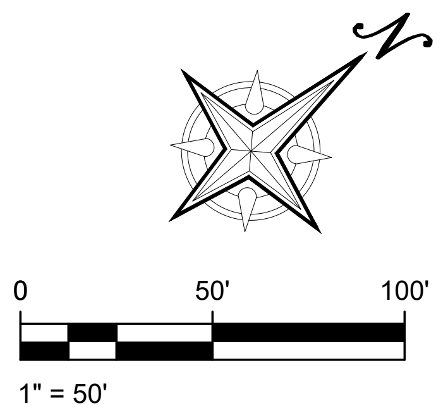
Curve Table

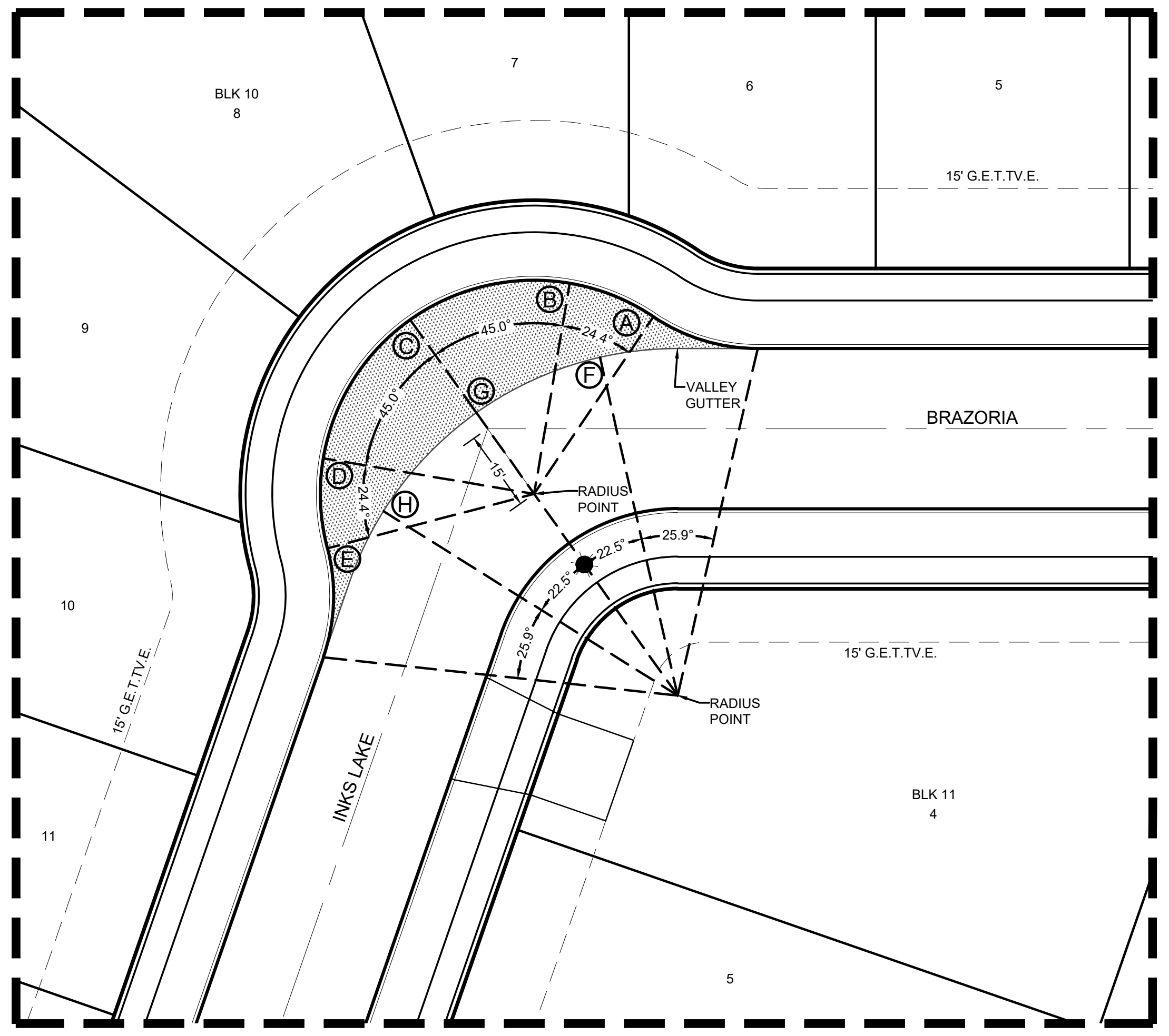
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	117.04'	350.00'	019°09'33"	N50° 07' 07"E	116.49'

③ TYPICAL SIDEWALK RAMP ~ TYPE III
④ TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▨
SIDEWALK TO BE BUILT BY DEVELOPER	▩
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✹ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

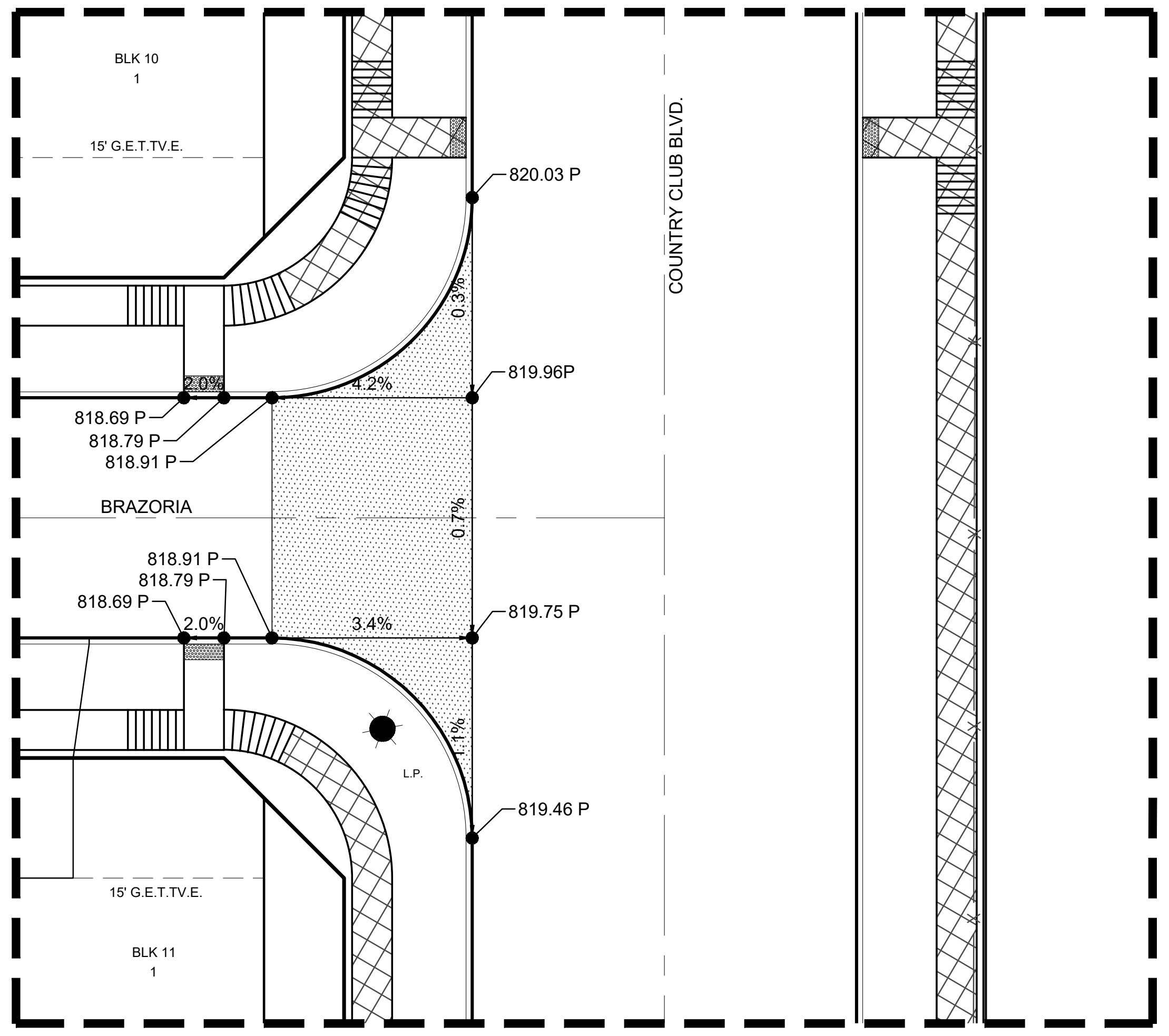




KNUCKLE SAC DETAIL #1

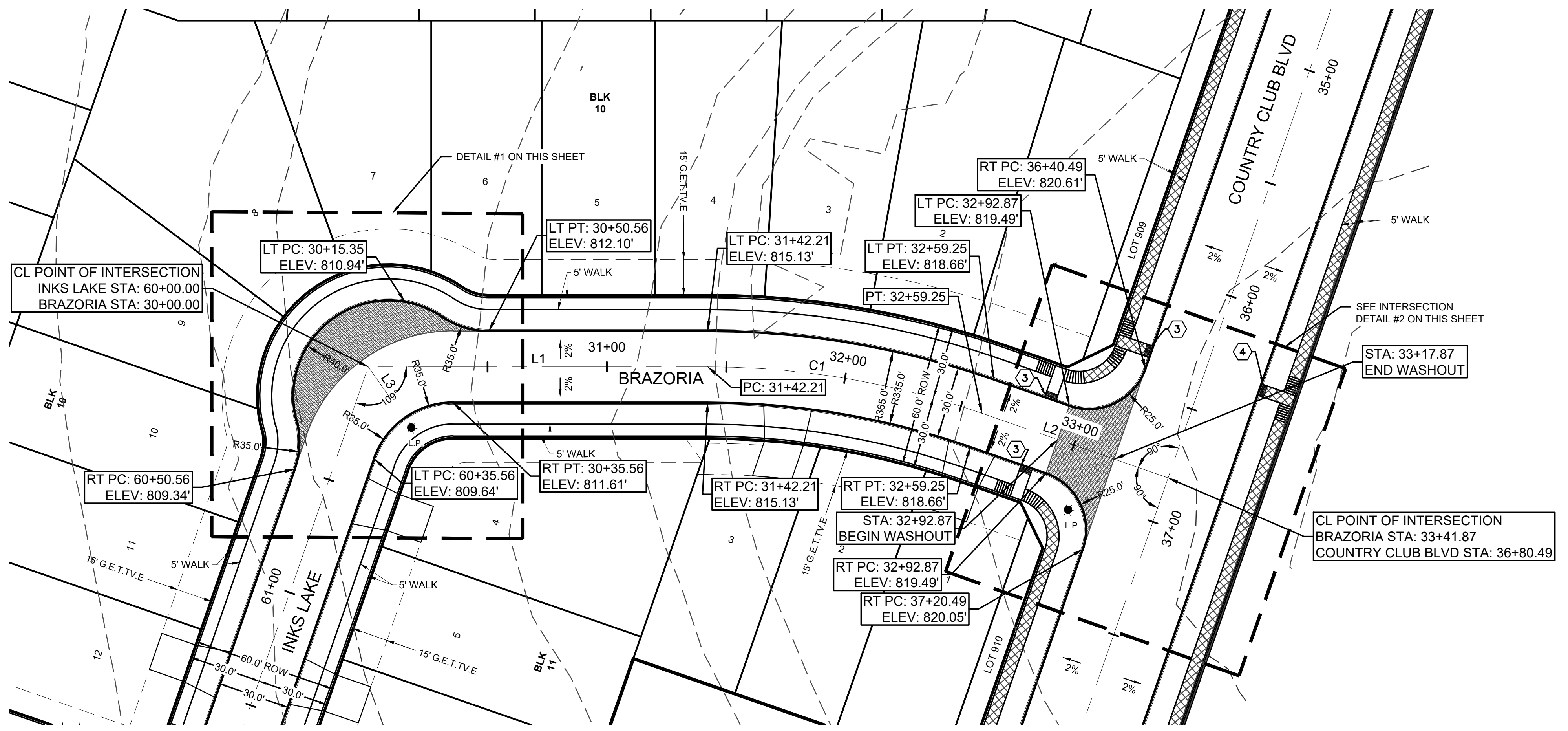
SCALE: 1" = 20'

POINT	CURB ELEV.	GUTTER ELEV.
LT PT	812.10	811.52
A	812.00	811.42
B	811.92	811.34
C	810.72	810.14
D	810.45	809.87
E	809.76	809.18
F		810.70
G		810.07
H		809.44
RT PT	809.34	808.76



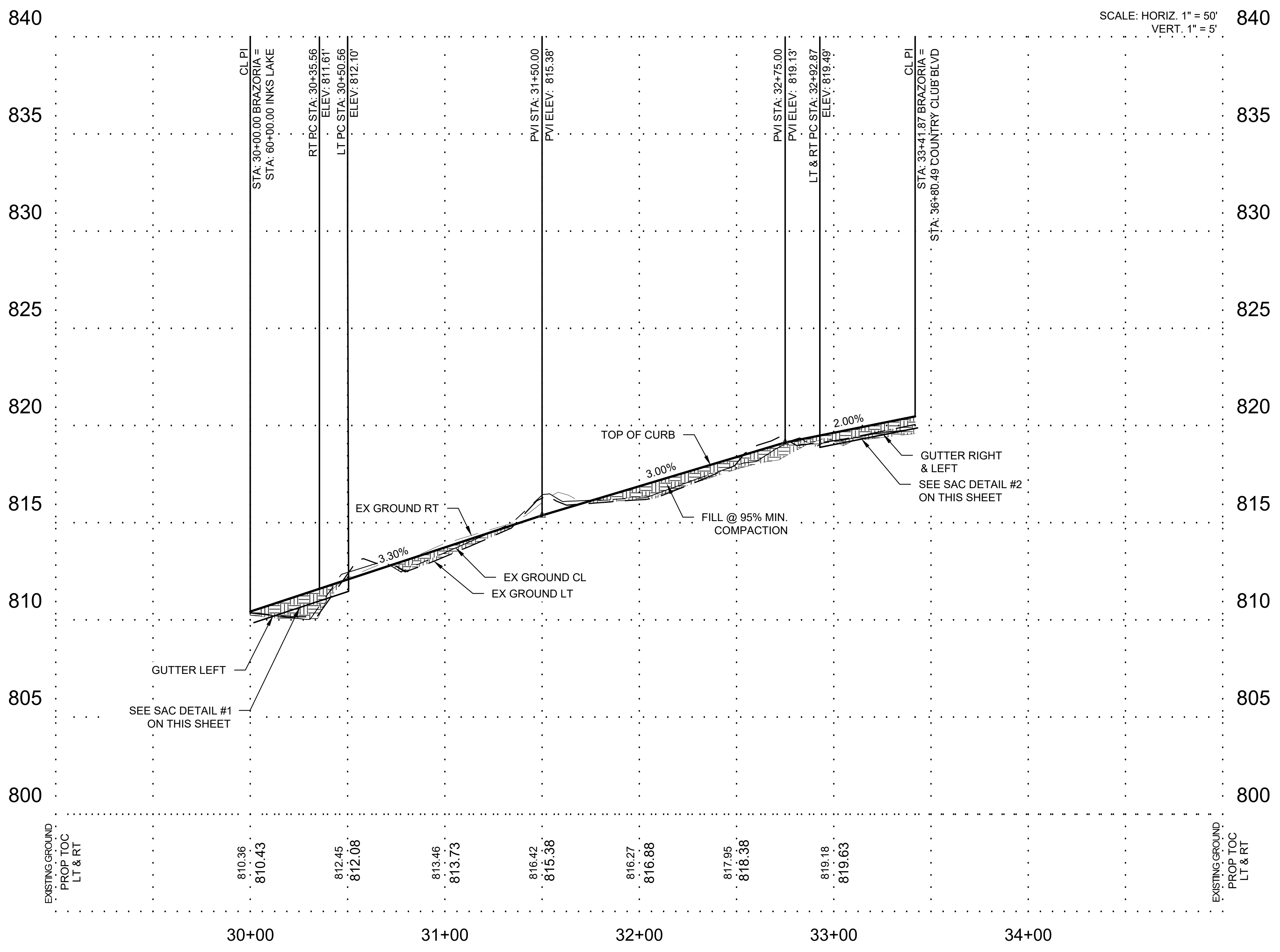
INTERSECTION DETAIL #2

SCALE: 1" = 20'



B R A Z O R I A

STA. 30+00.00 TO STA. 33+41.87



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SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
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REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

BRAZORIA PLAN & PROFILE

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153

SHEET:
504

TRENCH EXCAVATION SAFETY PROTECTION

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Line Table

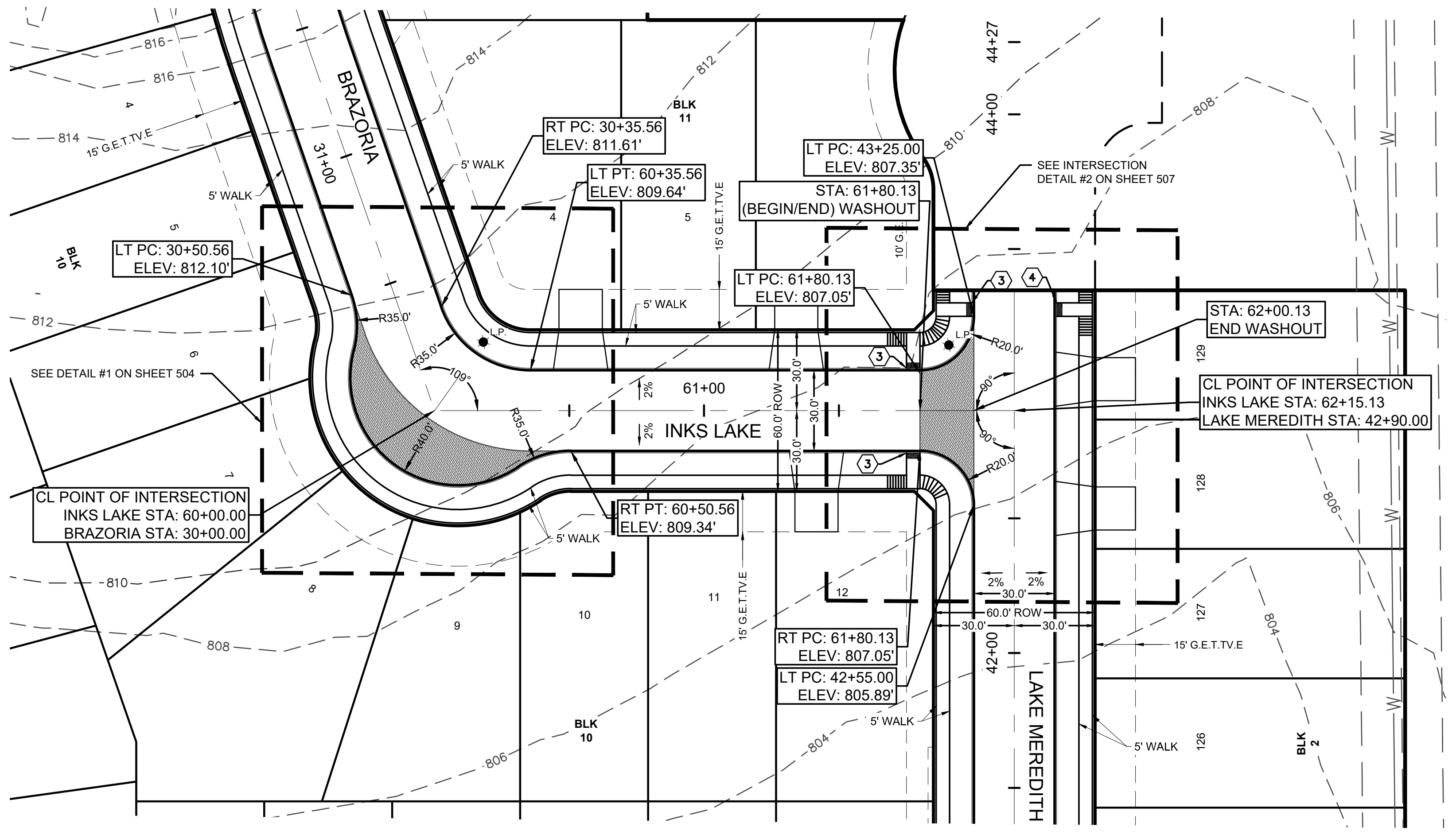
Line	Length	Direction
L1	215.13'	S30°18'06"E
L2	15.00'	S84°52'53"E

③	TYPICAL SIDEWALK RAMP ~ TYPE III
④	TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

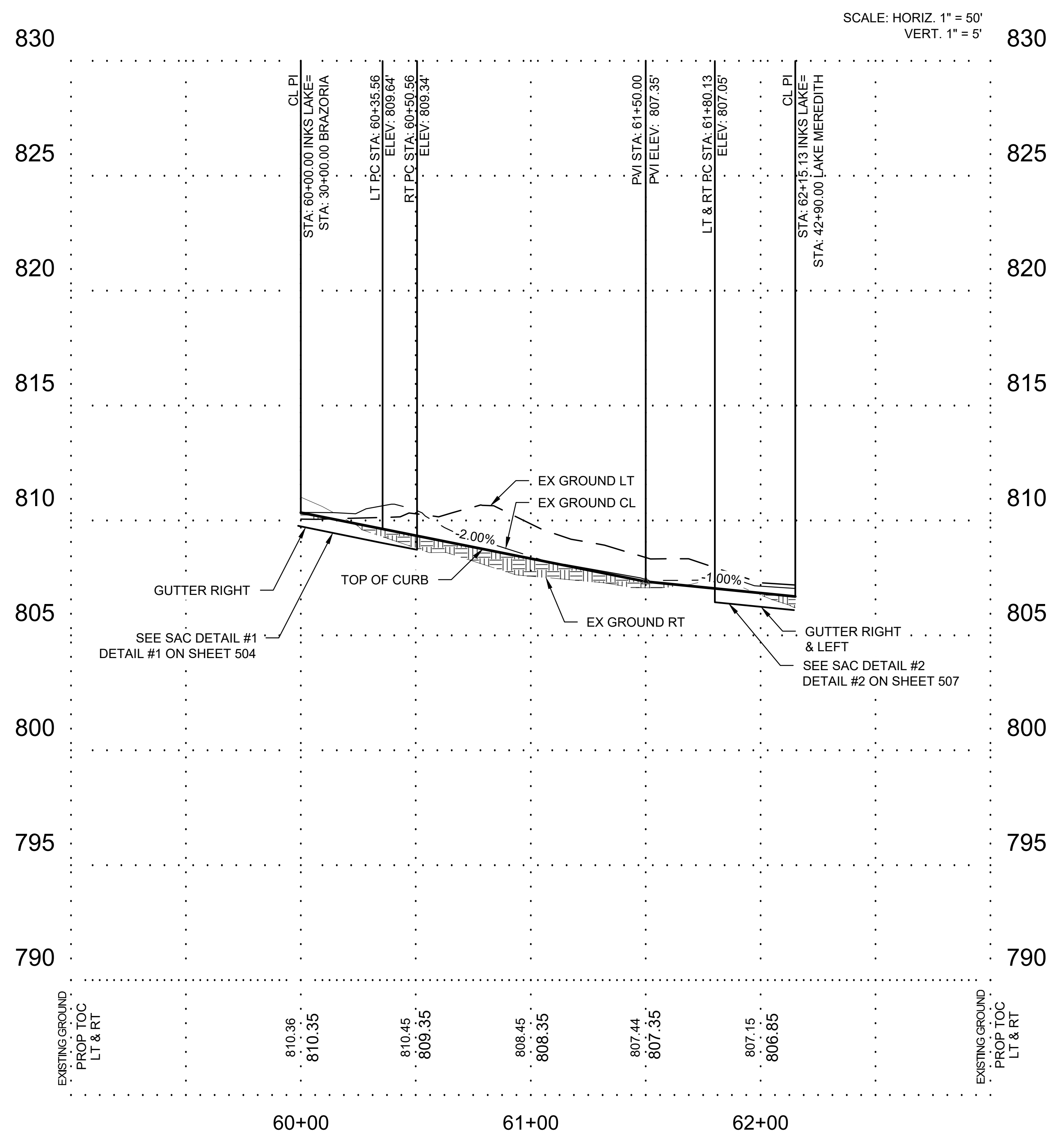
WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▩
SIDEWALK TO BE BUILT BY DEVELOPER	▨
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✱ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

0 50' 100'
1" = 50'



INKS LAKE

STA. 60+00.00 TO STA. 62+15.13



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REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

INKS LAKE PLAN & PROFILE

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
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KCI JOB #:	762309153

SHEET:
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STREETLIGHT NOTE

STREETLIGHT POLES TO BE SET BETWEEN BACK OF CURB AND SIDEWALK; MINIMUM 1' FROM CURB AND MINIMUM 2' FRONT OF SIDEWALK .

DRIVEWAY NOTE

DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

SIDEWALK NOTE

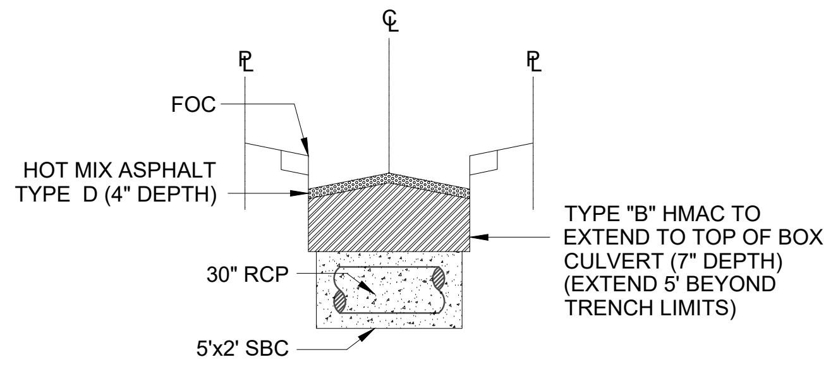
CONTRACTOR IS TO MATCH EXISTING CONCRETE CURB, CONCRETE SIDEWALK, AND PAVEMENT ELEVATIONS.

CLEAR VISION NOTE:

CLEAR VISION AREAS MUST BE FREE OF VISUAL OBSTRUCTION IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, OR LATEST VERSION THEREOF.

Line Table

Line	Length	Direction
L1	744.26'	S30°18'06"E
L2	13.00'	S84°52'53"E
L3	13.00'	N14°41'54"E


℄
℄
℄
FOC
HOT MIX ASPHALT TYPE D (4" DEPTH)
TYPE "B" HMAC TO EXTEND TO TOP OF BOX CULVERT (7" DEPTH) (EXTEND 5' BEYOND TRENCH LIMITS)
30" RCP
5'x2' SBC

DETAIL "A"

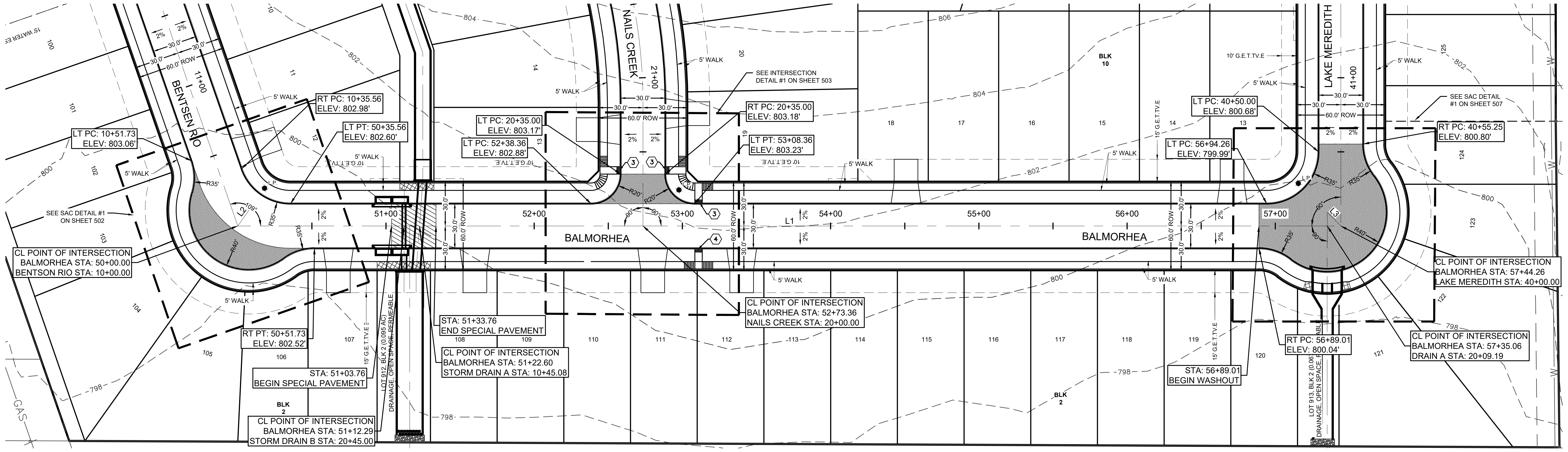
BALMORHEA PAVEMENT SECTION
STA. 51+03.76 TO STA. 51+33.76

③ TYPICAL SIDEWALK RAMP ~ TYPE III
④ TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

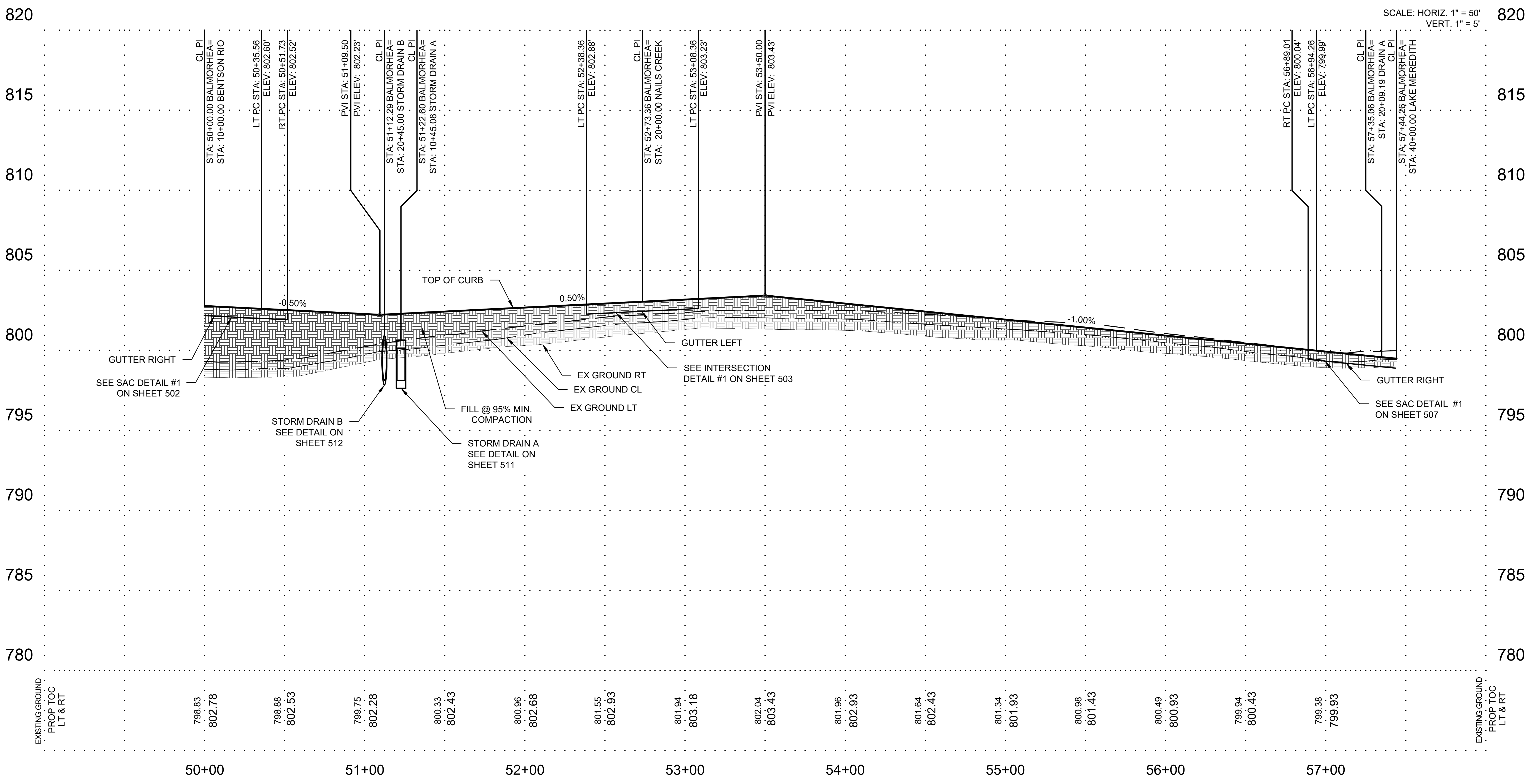
WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▩
SIDEWALK TO BE BUILT BY DEVELOPER	▨
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✸ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

0 50' 100'
1" = 50'


BENTSEN RIO
11+00
60.0' ROW
30.0'
2%
NAILS CREEK
21+00
LAKE MEREDITH
41+00
5' WALK
10' G.E.T.TV.E.
15' G.E.T.TV.E
SEE INTERSECTION DETAIL #1 ON SHEET 503
SEE SAC DETAIL #1 ON SHEET 502
SEE SAC DETAIL #1 ON SHEET 507
RT PC: 10+35.56 ELEV: 802.98'
LT PC: 10+51.73 ELEV: 803.06'
LT PT: 50+35.56 ELEV: 802.60'
LT PC: 20+35.00 ELEV: 803.17'
LT PC: 52+38.36 ELEV: 802.88'
RT PC: 20+35.00 ELEV: 803.18'
LT PT: 53+08.36 ELEV: 803.23'
LT PC: 40+50.00 ELEV: 800.68'
LT PC: 56+94.26 ELEV: 799.99'
RT PC: 40+55.25 ELEV: 800.80'
CL POINT OF INTERSECTION BALMORHEA STA: 50+00.00 BENTSON RIO STA: 10+00.00
RT PT: 50+51.73 ELEV: 802.52'
STA: 51+03.76 BEGIN SPECIAL PAVEMENT
CL POINT OF INTERSECTION BALMORHEA STA: 51+12.29 STORM DRAIN B STA: 20+45.00
STA: 51+33.76 END SPECIAL PAVEMENT
CL POINT OF INTERSECTION BALMORHEA STA: 51+22.60 STORM DRAIN A STA: 10+45.08
CL POINT OF INTERSECTION BALMORHEA STA: 52+73.36 NAILS CREEK STA: 20+00.00
STA: 56+89.01 BEGIN WASHOUT
RT PC: 56+89.01 ELEV: 800.04'
CL POINT OF INTERSECTION BALMORHEA STA: 57+44.26 LAKE MEREDITH STA: 40+00.00
CL POINT OF INTERSECTION BALMORHEA STA: 57+35.06 DRAIN A STA: 20+09.19
LOT 912, BLK 2 (0.095 AC) DRAINAGE, OPEN SPACE, PERMEABLE
LOT 913, BLK 2 DRAINAGE, OPEN SPACE
BALMORHEA
51+00
52+00
53+00
54+00
55+00
56+00
57+00
L1
L2
L3
R35'
R40'
R20'
BLK 10
BLK 2
GAS

B A L M O R H E A

STA. 50+00.00 TO STA. 57+44.26



REV	DATE	DESCRIPTION

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

BALMORHEA PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
506

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

STREETLIGHT NOTE

STREETLIGHT POLES TO BE SET BETWEEN BACK OF CURB AND SIDEWALK; MINIMUM 1' FROM CURB AND MINIMUM 2' FRONT OF SIDEWALK .

DRIVEWAY NOTE

DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

SIDEWALK NOTE

CONTRACTOR IS TO MATCH EXISTING CONCRETE CURB, CONCRETE SIDEWALK, AND PAVEMENT ELEVATIONS.

CLEAR VISION NOTE:

CLEAR VISION AREAS MUST BE FREE OF VISUAL OBSTRUCTION IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, OR LATEST VERSION THEREOF.

Line Table

Line	Length	Direction
L1	426.82'	N59°41'54"E
L2	13.08'	N14°41'54"E

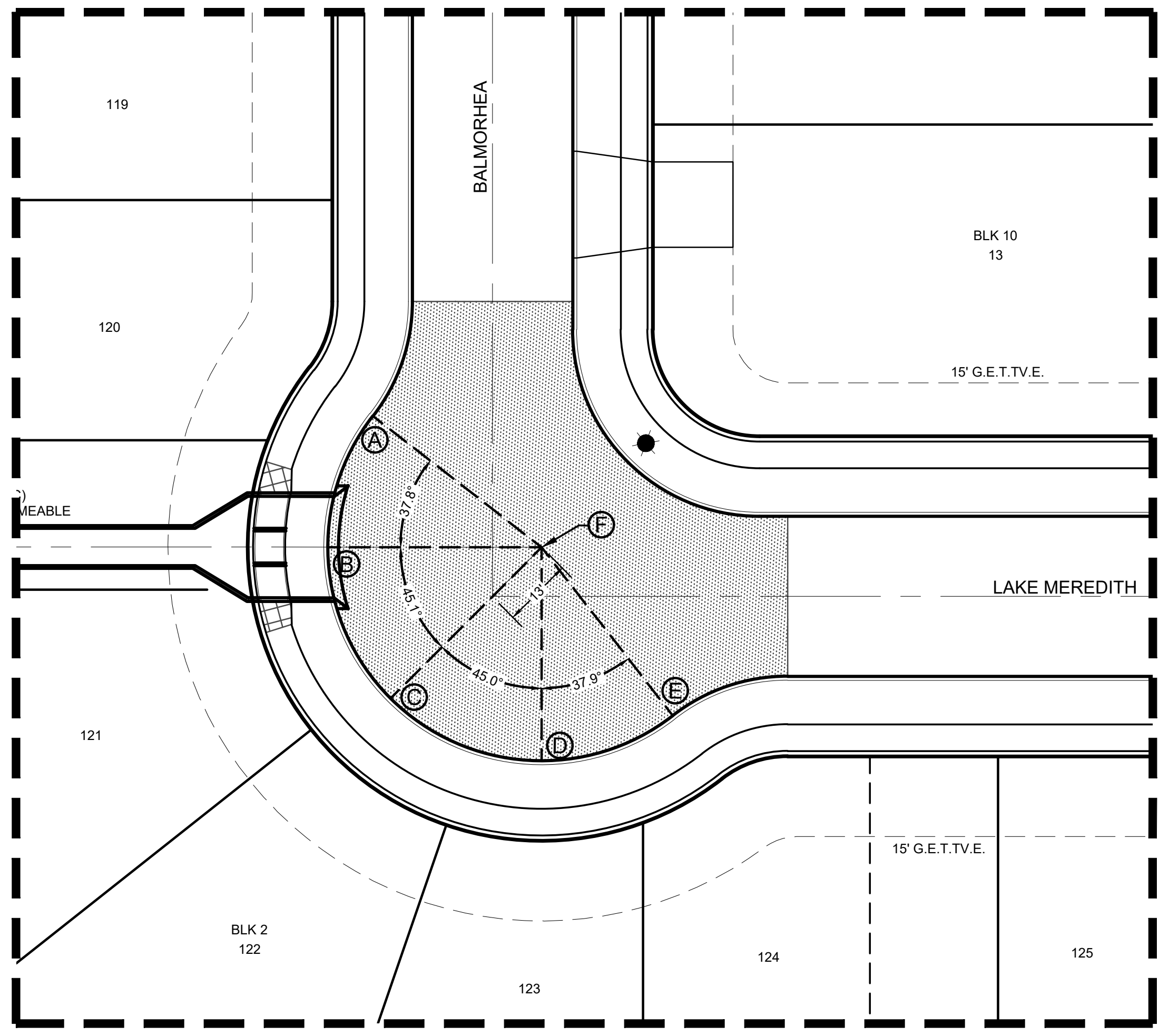
③ TYPICAL SIDEWALK RAMP ~ TYPE III
④ TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▩
SIDEWALK TO BE BUILT BY DEVELOPER	▨
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✱ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

N

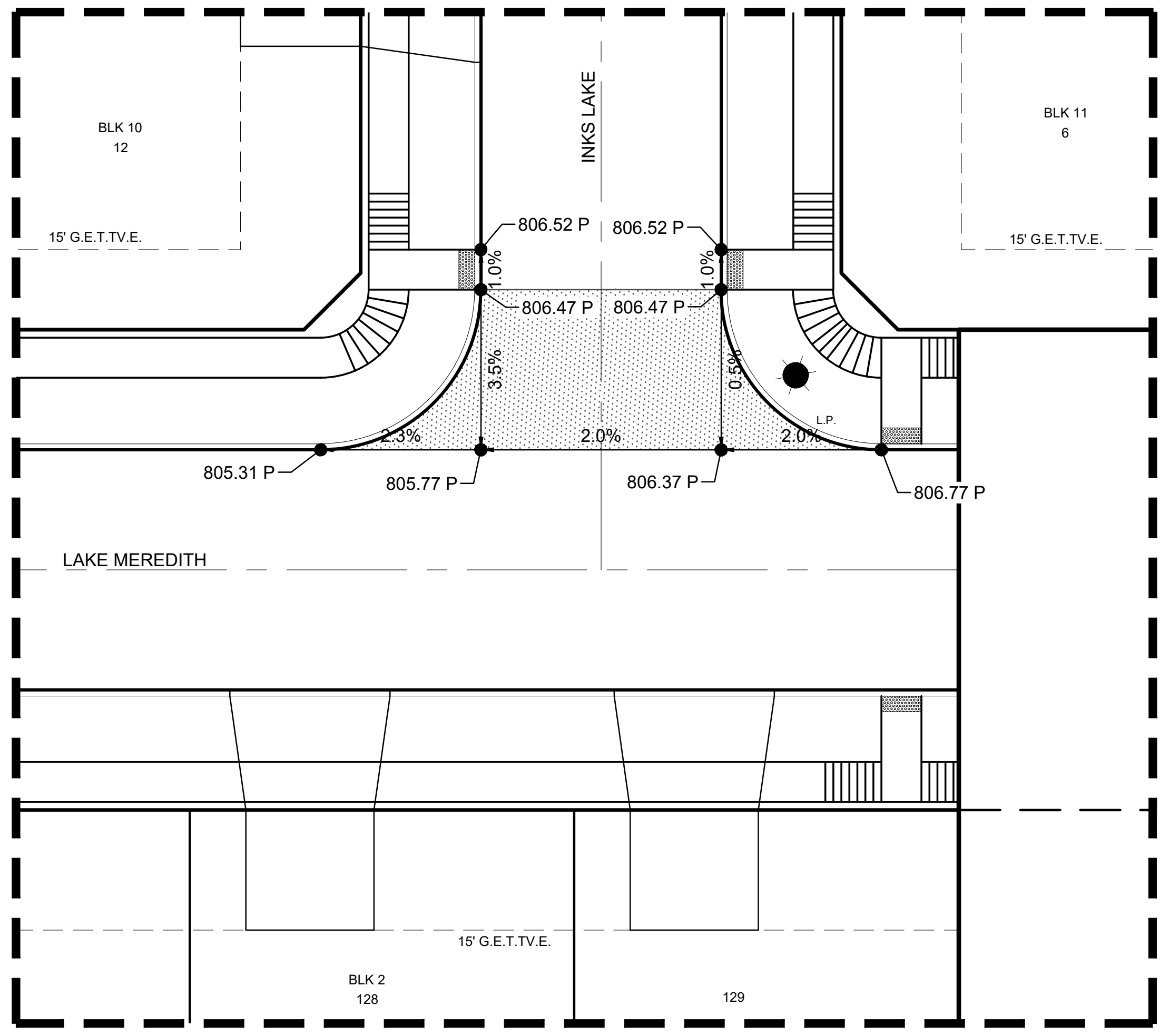
0 50' 100'
1" = 50'



KNUCKLE SAC DETAIL #1

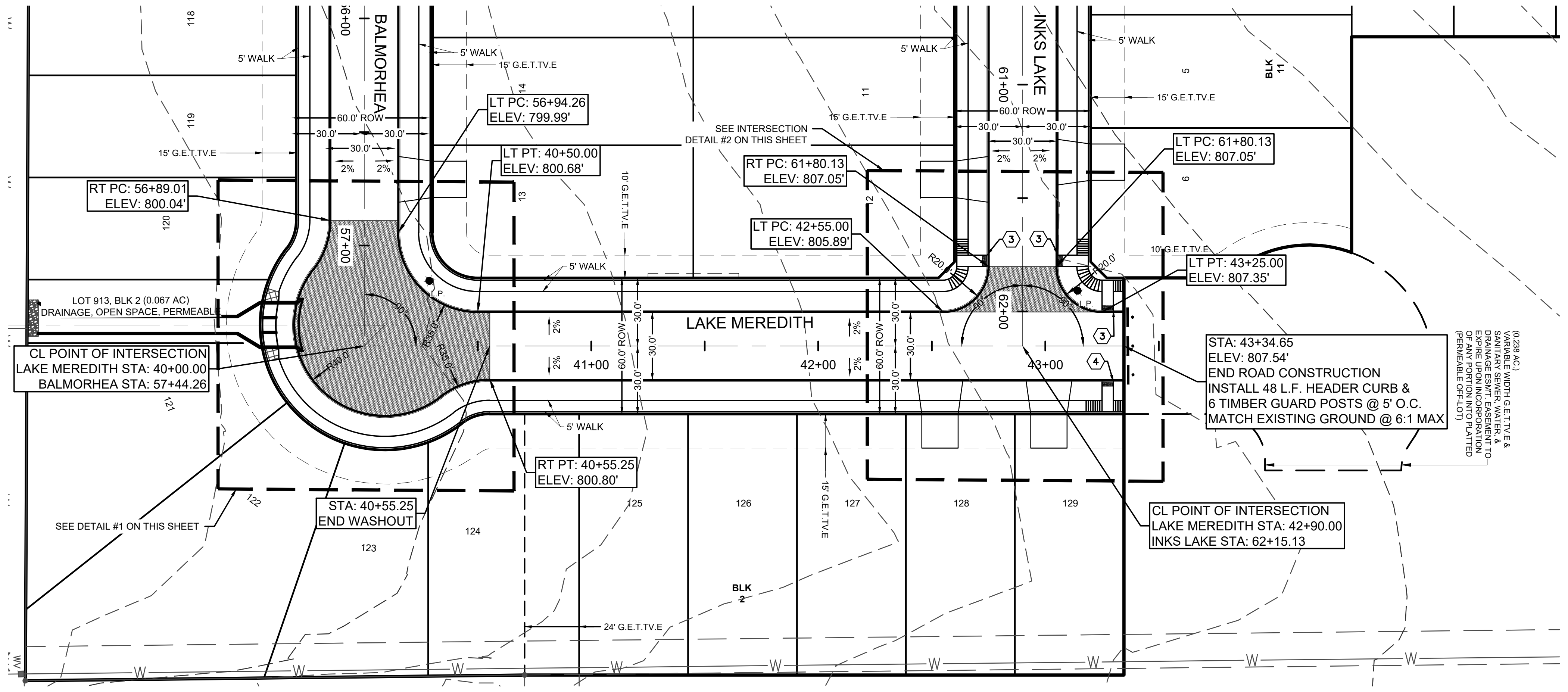
SCALE: 1" = 20'

POINT	CURB ELEV.	GUTTER ELEV.
RT PT	800.04	799.46
A	799.63	799.05
B	799.30	798.72
C	799.64	799.06
D	800.21	799.63
E	800.45	799.87
F		799.07
RT PT	800.80	800.22



INTERSECTION DETAIL #2

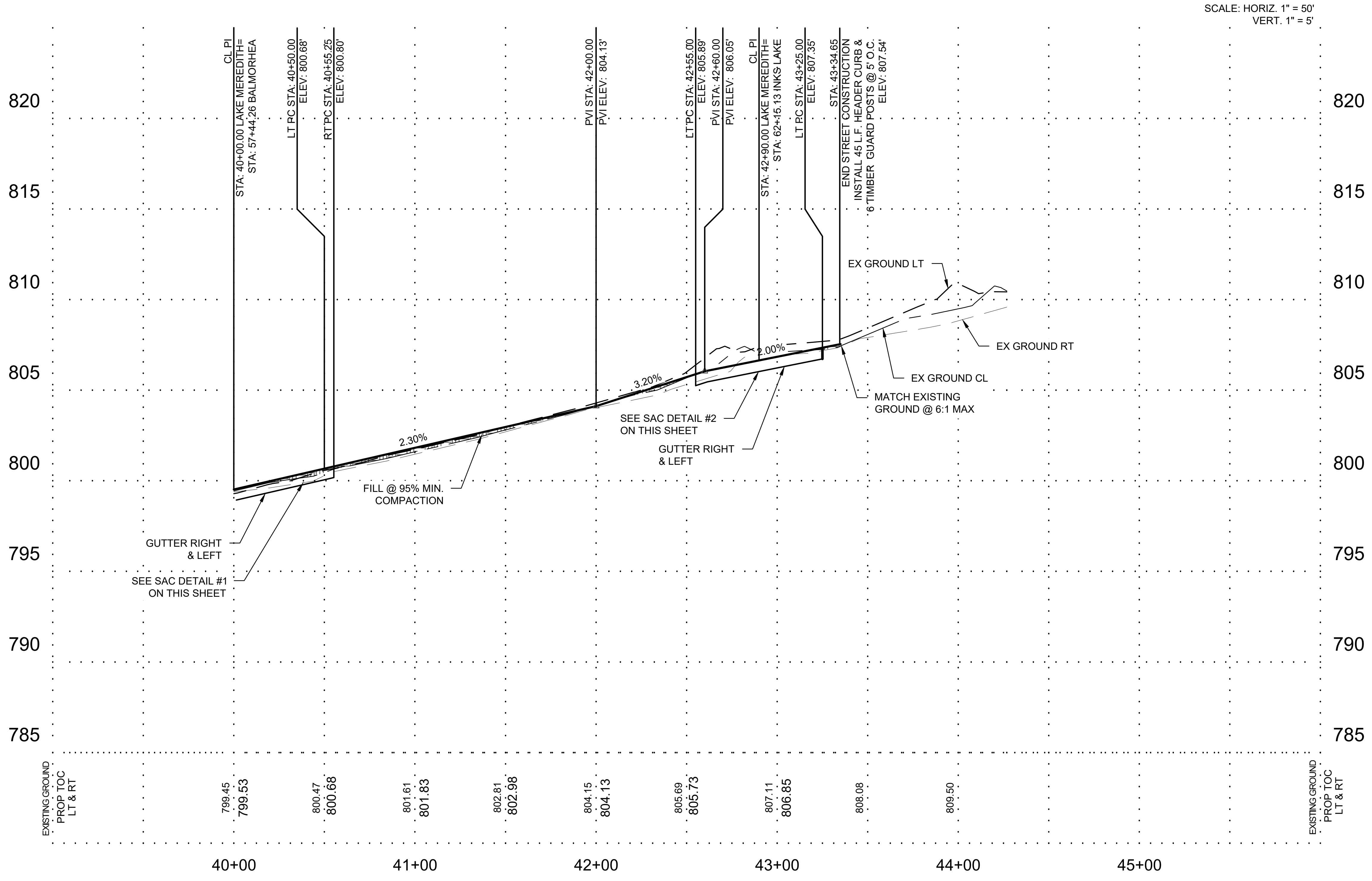
SCALE: 1" = 20'



LAKE MEREDITH

STA. 40+00.00 TO STA. 43+34.65

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

LAKE MEREDITH PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
507

Date: Jul 31, 2024, 4:20pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 507 LAKE MEREDITH PLAN & PROFILE.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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DRIVEWAY NOTE

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SIDEWALK NOTE

CONTRACTOR IS TO MATCH EXISTING CONCRETE CURB, CONCRETE SIDEWALK, AND PAVEMENT ELEVATIONS.

CLEAR VISION NOTE:

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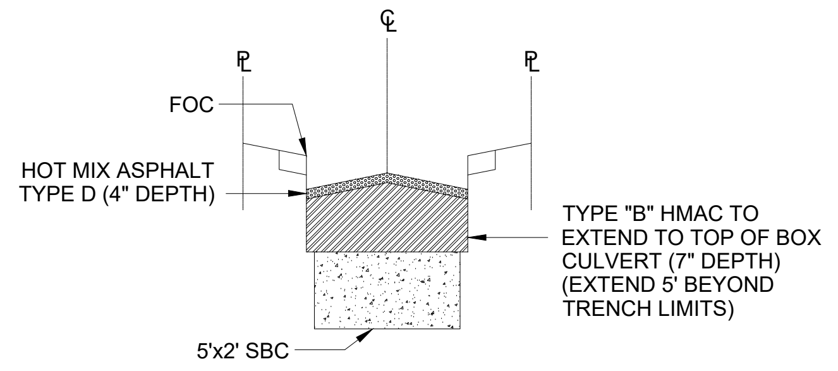
Line Table

Line	Length	Direction
L1	988.21'	S30°18'06"E


℄
℞
℞
FOC
HOT MIX ASPHALT TYPE D (4" DEPTH)
TYPE "B" HMAC TO EXTEND TO TOP OF BOX CULVERT (7" DEPTH) (EXTEND 5' BEYOND TRENCH LIMITS)
5'x2' SBC

DETAIL "A"

COUNTRY CLUB BLVD.
PAVEMENT SECTION
STA. 31+99.61 TO STA. 32+14.61

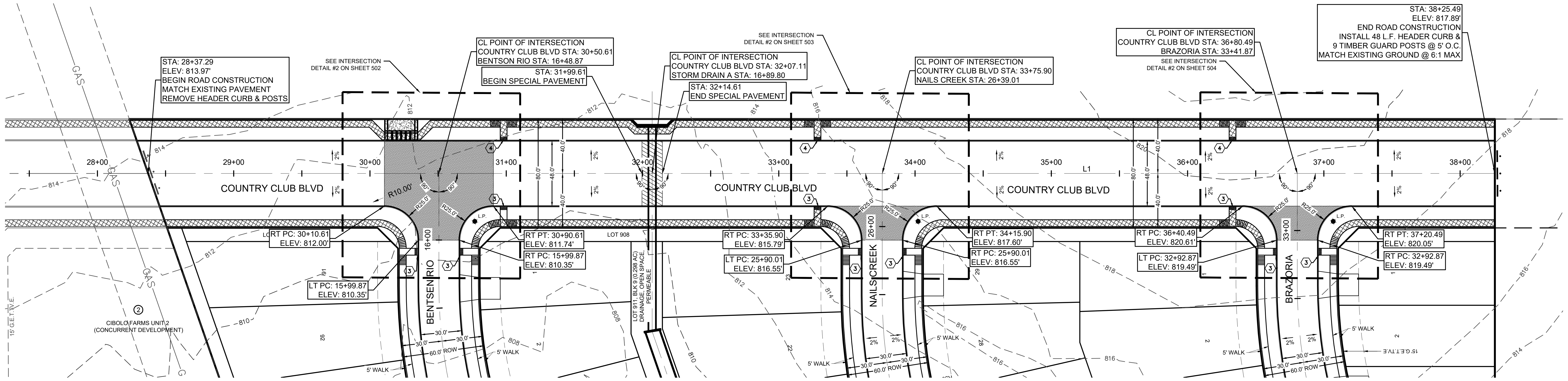
- ③ TYPICAL SIDEWALK RAMP ~ TYPE III
- ④ TYPICAL SIDEWALK RAMP ~ TYPE IV

LEGEND

WHEELCHAIR RAMPS	▥
WASHOUT CROWN	▩
SIDEWALK TO BE BUILT BY DEVELOPER	▨
PROPOSED DRIVEWAY	DW
TOP OF CURB ELEVATION	940
EXISTING STREET LIGHT	✹ ELP
PROPOSED STREET LIGHT (100 WATT)	● LP

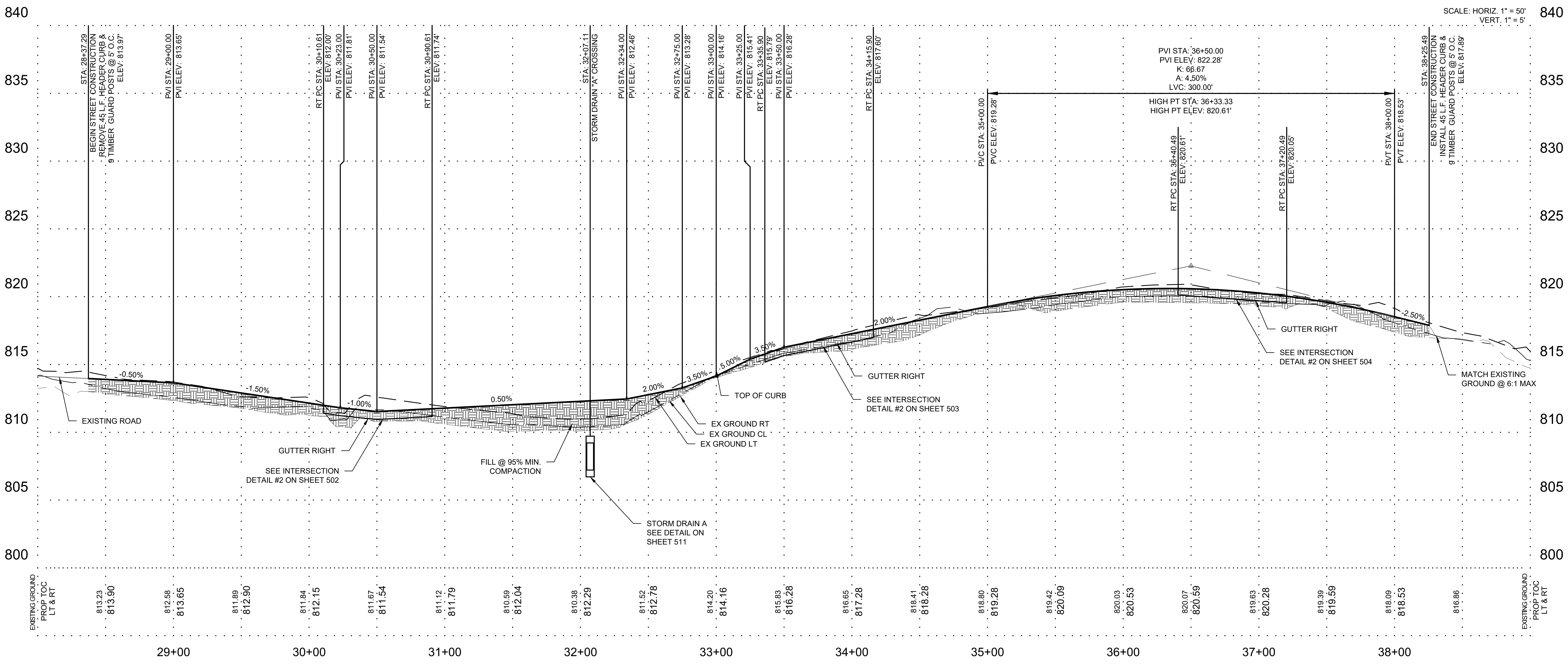
PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)

0 50' 100'
1" = 50'



COUNTRY CLUB BLVD.

STA. 28+37.29 TO STA. 38+25.49



REV	DATE	DESCRIPTION

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

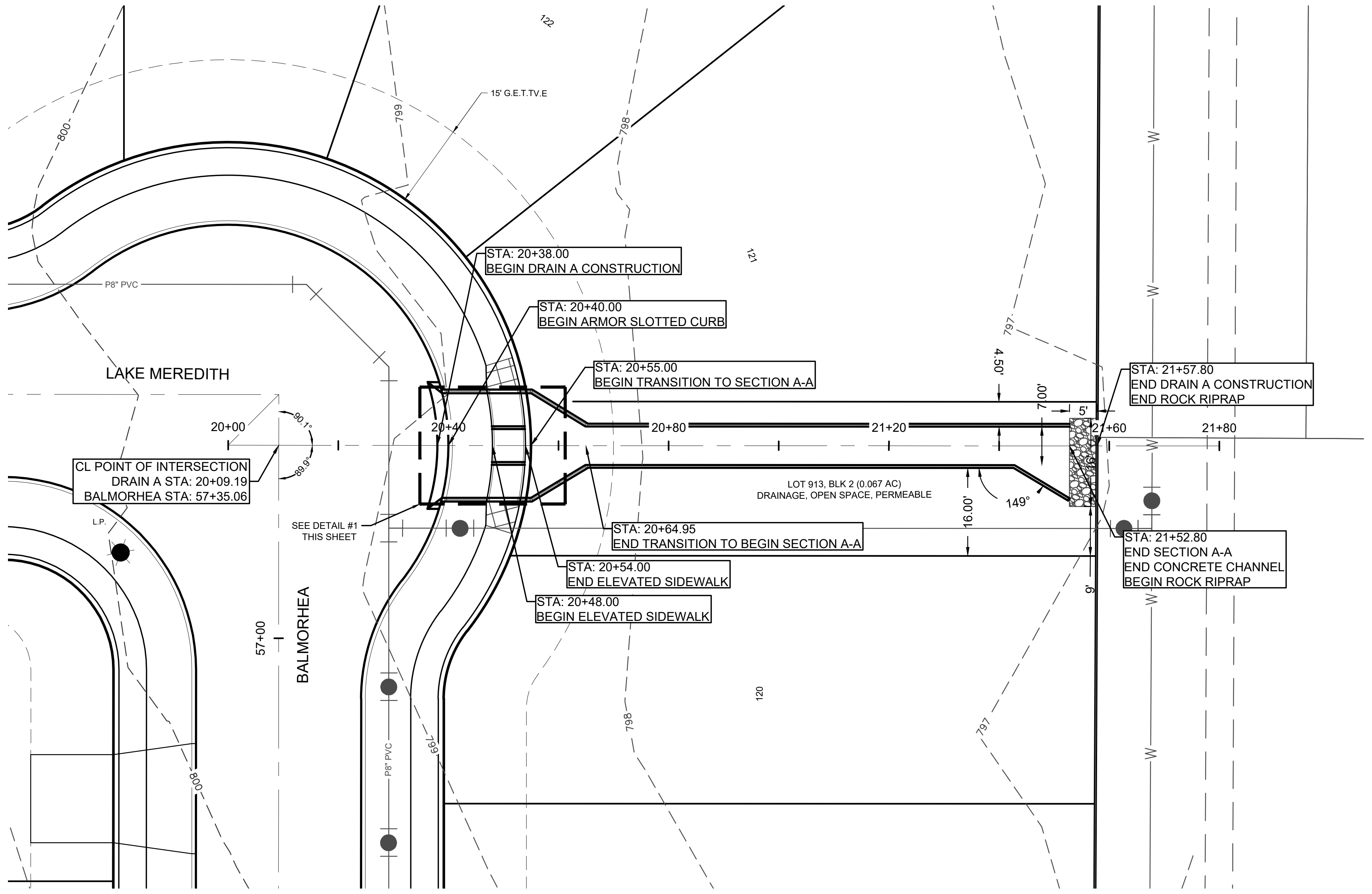
CIBOLO FARMS UNIT 3

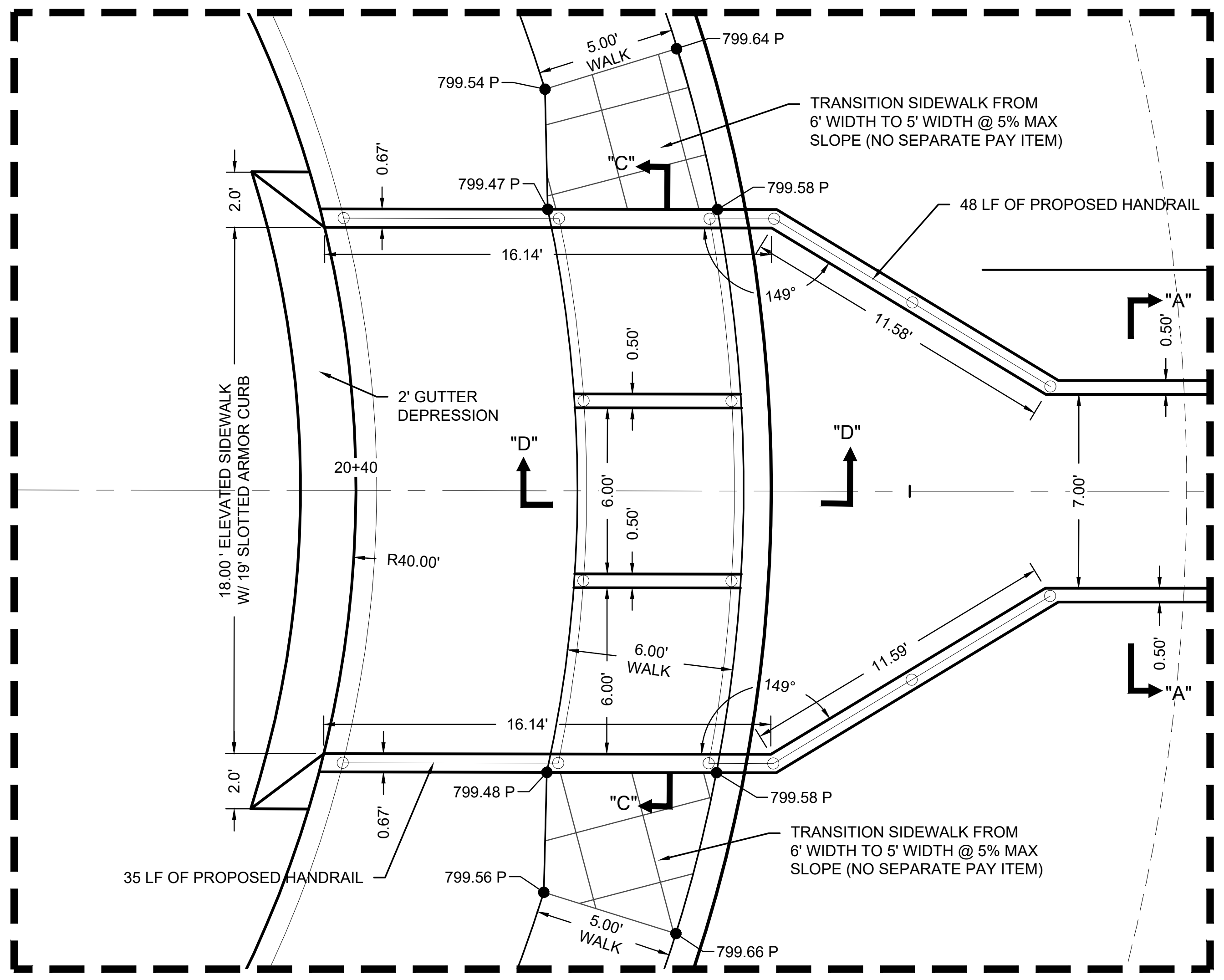
COUNTRY CLUB BLVD PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
508

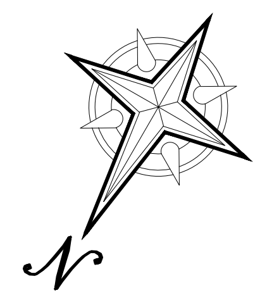
Date: Jul 31, 2024, 4:21pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 508 COUNTRY CLUB BLVD PLAN & PROFILE.dwg




5.00' WALK
799.54 P
799.64 P
TRANSITION SIDEWALK FROM 6' WIDTH TO 5' WIDTH @ 5% MAX SLOPE (NO SEPARATE PAY ITEM)
799.47 P
"C"
799.58 P
48 LF OF PROPOSED HANDRAIL
2.0'
0.67'
16.14'
149°
11.56'
"A"
0.50'
2' GUTTER DEPRESSION
18.00' ELEVATED SIDEWALK W/ 18' SLOTTED ARMOR CURB
"D"
20+40
0.50'
6.00'
7.00'
R40.00'
6.00' WALK
11.59'
"A"
0.50'
799.48 P
799.58 P
TRANSITION SIDEWALK FROM 6' WIDTH TO 5' WIDTH @ 5% MAX SLOPE (NO SEPARATE PAY ITEM)
35 LF OF PROPOSED HANDRAIL
799.56 P
5.00' WALK
799.66 P

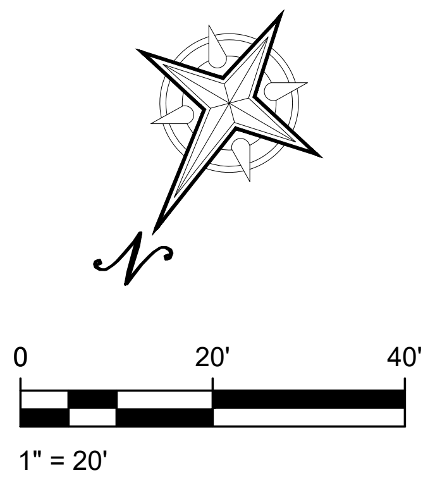
DETAIL #1

SCALE: 1" = 5'



LEGEND

PROPOSED CONTOURS	662
EXISTING CONTOURS	670



NOTE:

CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF DRAINS AND THAT NO PONDING WILL OCCUR.

TRENCH EXCAVATION SAFETY PROTECTION

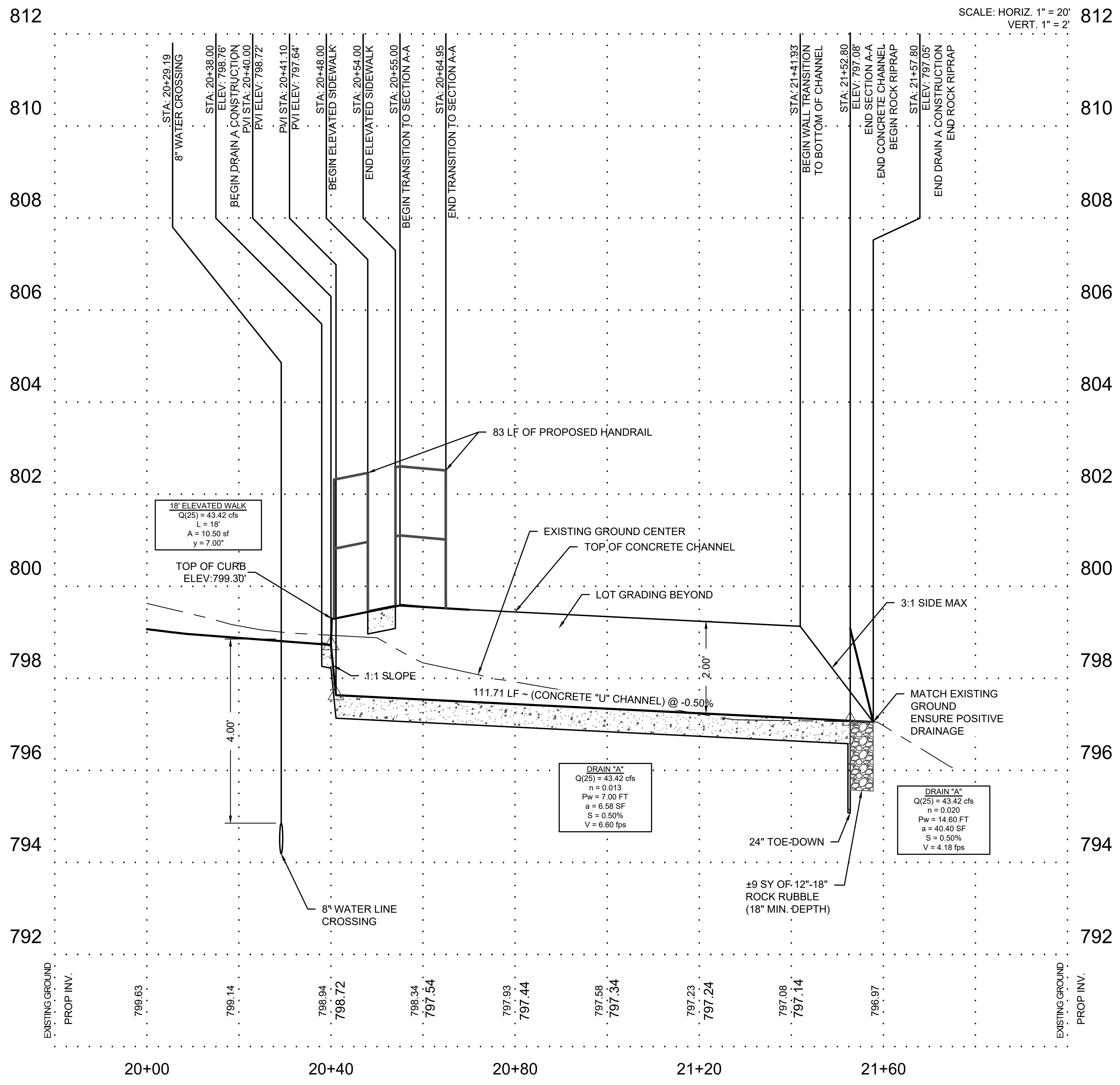
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, OR SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROJECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACTOR'S DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

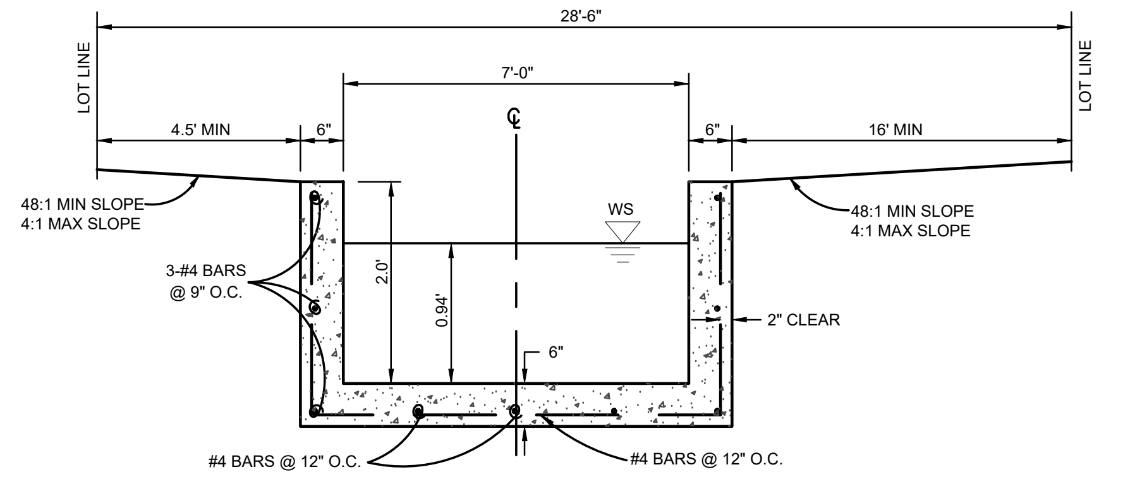
PRIOR TO CONSTRUCTION NOTE:

CONTRACTOR TO COORDINATE WITH HOME OWNERS AND GIVE TWO WEEK NOTICE FOR WORK WITHIN SINGLE FAMILY LOTS. WORK WILL REQUIRE THE USE OF SMALL MACHINERY TO LIMIT AREA OF DISTURBANCE. PROTECTION OF EXISTING HOME AND PROPERTY SHALL FOLLOW RECOMMENDATIONS OF THE STRUCTURAL ENGINEER. WORK AND DISTURBANCE WILL BE LIMITED TO EASEMENT AREAS ONLY. FENCES, UTILITY BUILDINGS, AND GRASS AREA SHALL BE REMOVED AND REPLACED TO A BETTER THAN EXISTING CONDITION (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE). TEMPORARY FENCING TO PROTECT PROPERTY, PEOPLE, AND PETS SHALL BE UTILIZED (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE). CONTRACTOR SHALL PRESENT A SCHEDULE OF CONSTRUCTION OPERATION TO MINIMIZE DISTURBANCE TO HOMEOWNERS BUT IN NO WAY EXTEND MORE THAN 14 CALENDAR DAYS. BACKFILL AROUND STRUCTURE SHALL BE WITH 413 HIGH STRENGTH FLOWABLE FILL (500 PSI) TO ONE FOOT BELOW EXISTING GRADE ALLOWING FOR TOPSOIL AND GRASS REPLACEMENT (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE).

DRAIN "A"

STA. 20+38.00 TO STA. 21+62.80





SECTION "A-A"

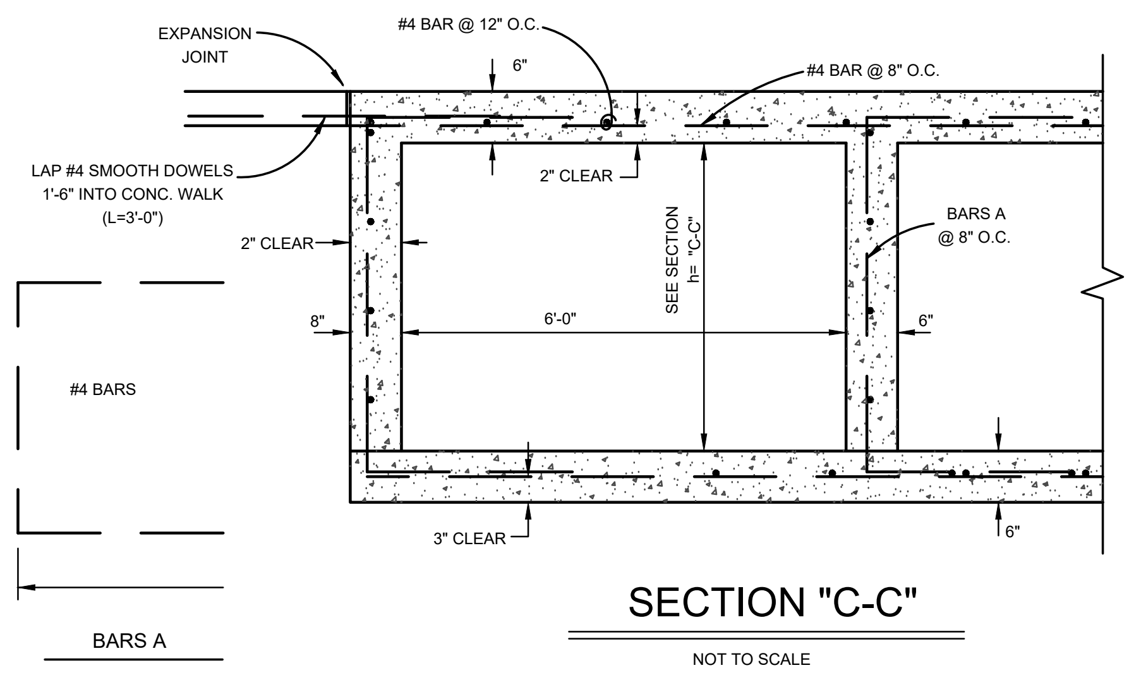
NOT TO SCALE

STA: 20+64.95 TO STA: 21+41.93

NOTES:

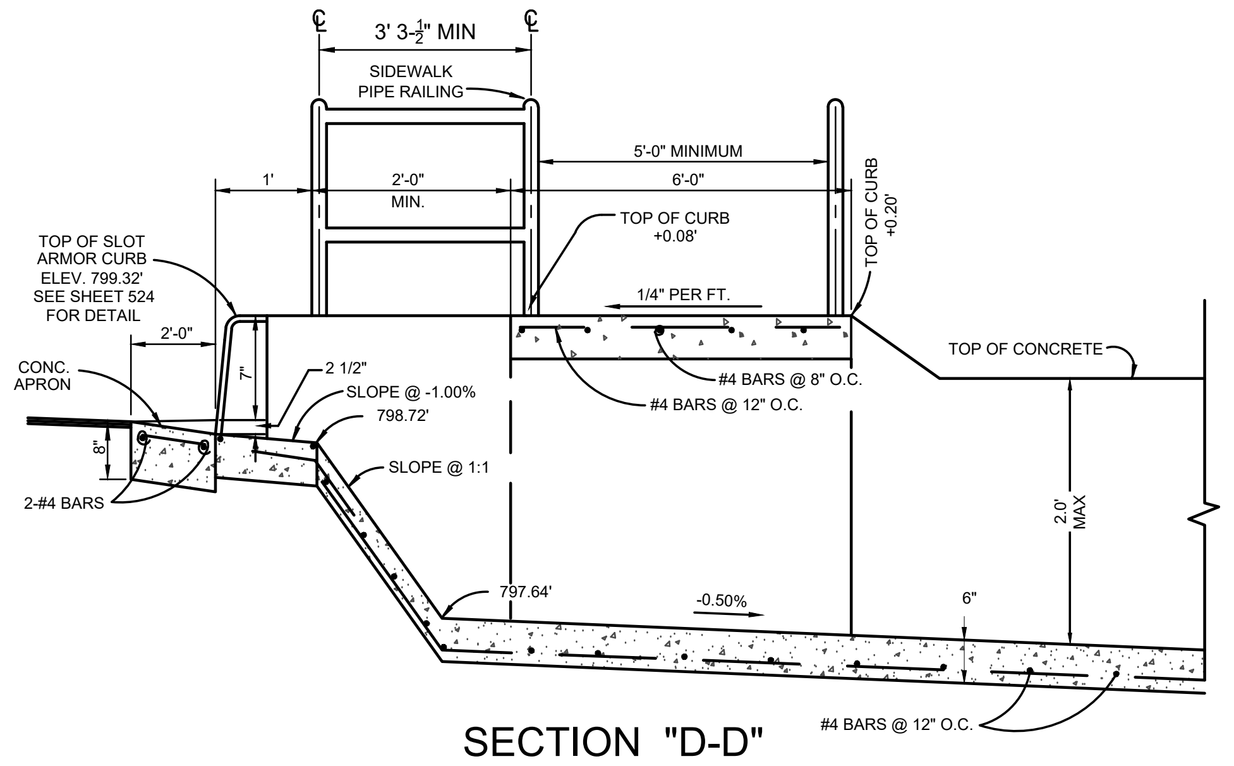
1. Cover for reinforceing steel is 2" unless noted.
2. All concrete shall be class "C" 3600 psi. @ 28 day with Course Aggregate Grade 2-5.
3. Minimum bar development length for splice and bends shall be 24 inches.
4. Transition from standard curb to elevated walk. No separate pay item.

NOTE: SEE SHEET 513 FOR HANDRAIL DETAILS



SECTION "C-C"

NOT TO SCALE



SECTION "D-D"

NOT TO SCALE

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

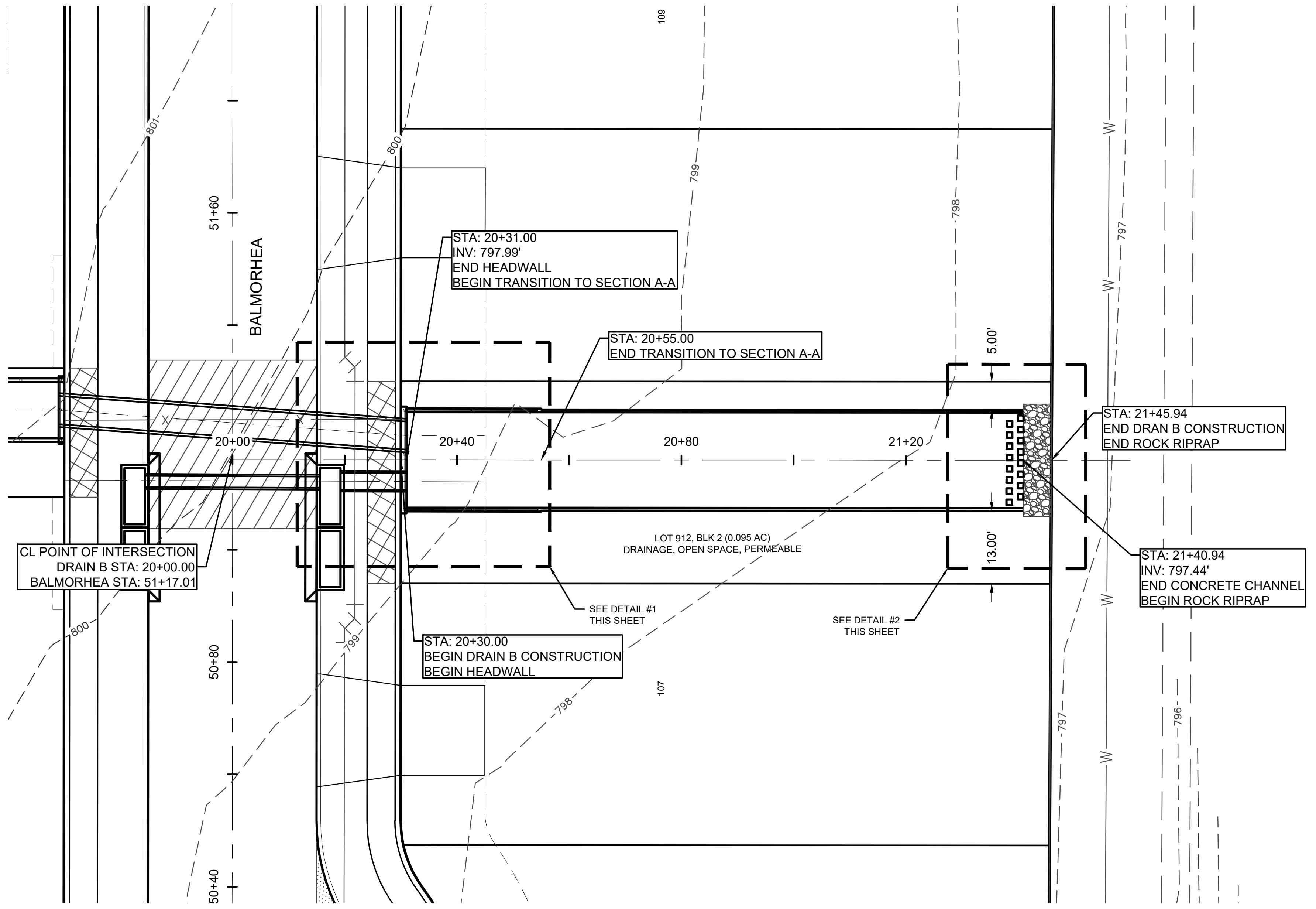
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

DRAIN A PLAN & PROFILE

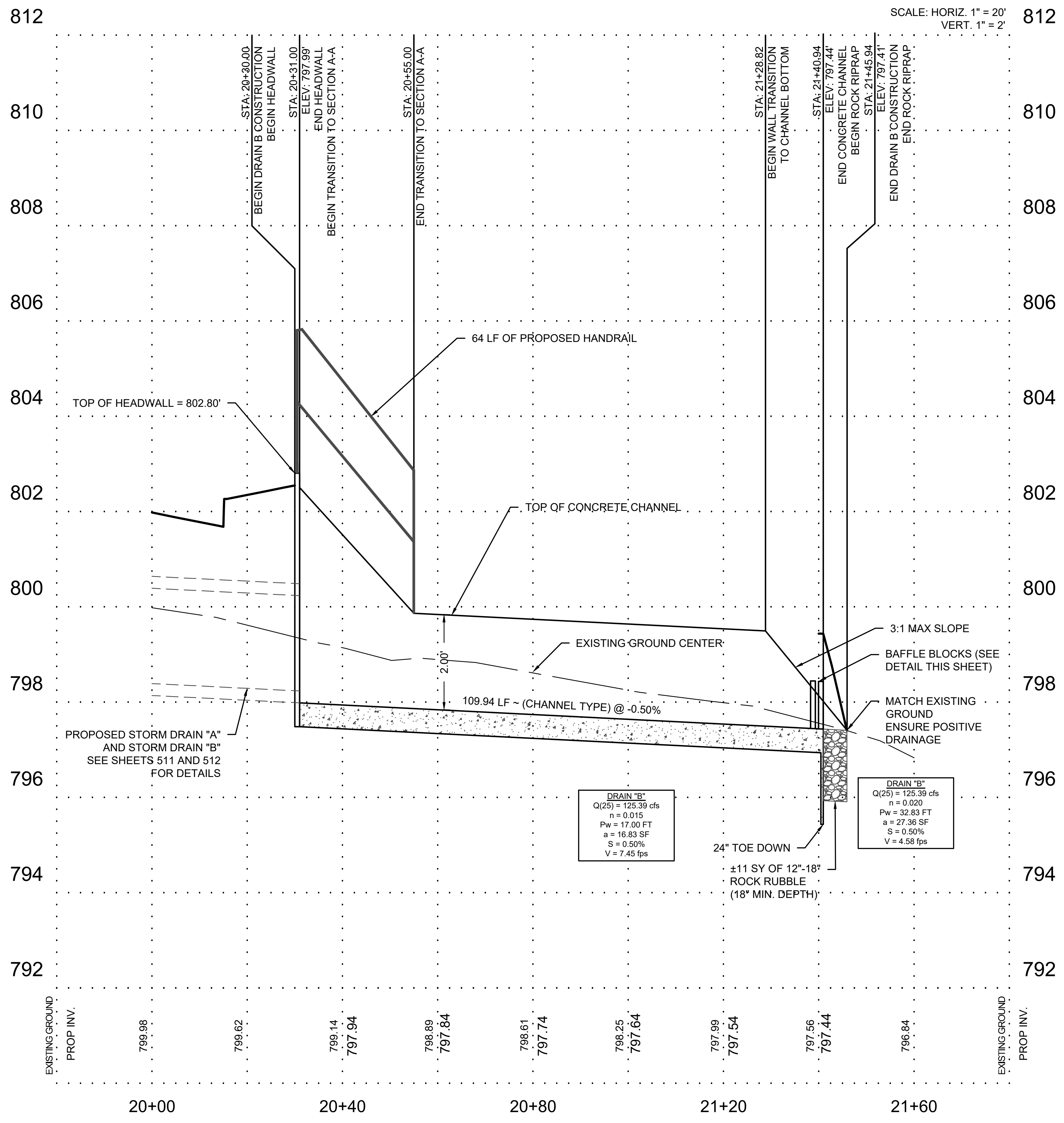
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:



DRAIN "B"

STA. 20+00.00 TO STA. 21+60.00



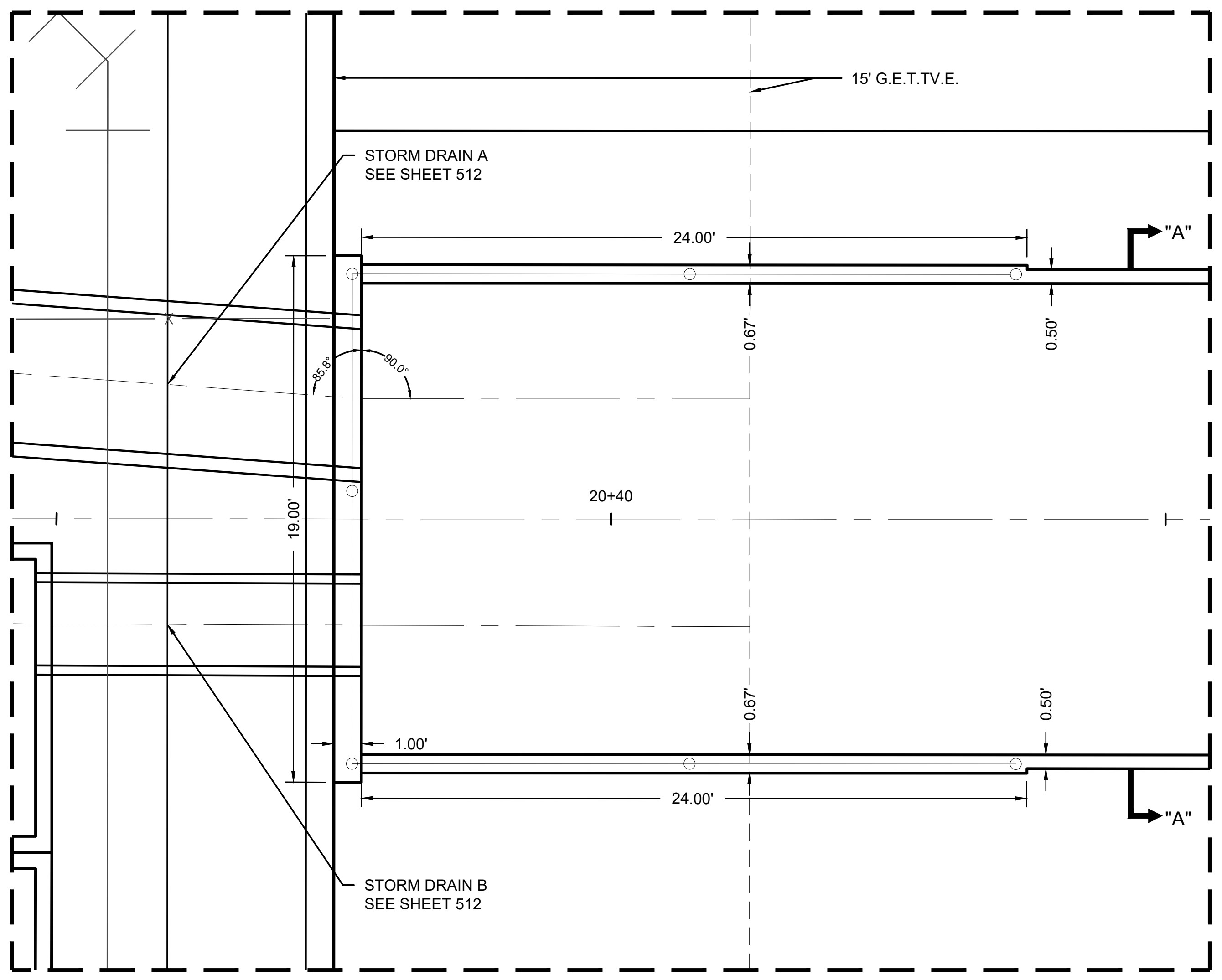
DRAIN "B"
Q(25) = 125.39 cfs
n = 0.015
Pw = 17.00 FT
a = 16.83 SF
S = 0.50%
V = 7.45 fps

DRAIN "B"
Q(25) = 125.39 cfs
n = 0.020
Pw = 32.83 FT
a = 27.36 SF
S = 0.50%
V = 4.58 fps

LEGEND

PROPOSED CONTOURS	662
EXISTING CONTOURS	670

0 20' 40'
1" = 20'



DETAIL #1

SCALE: 1" = 5'

NOTE:

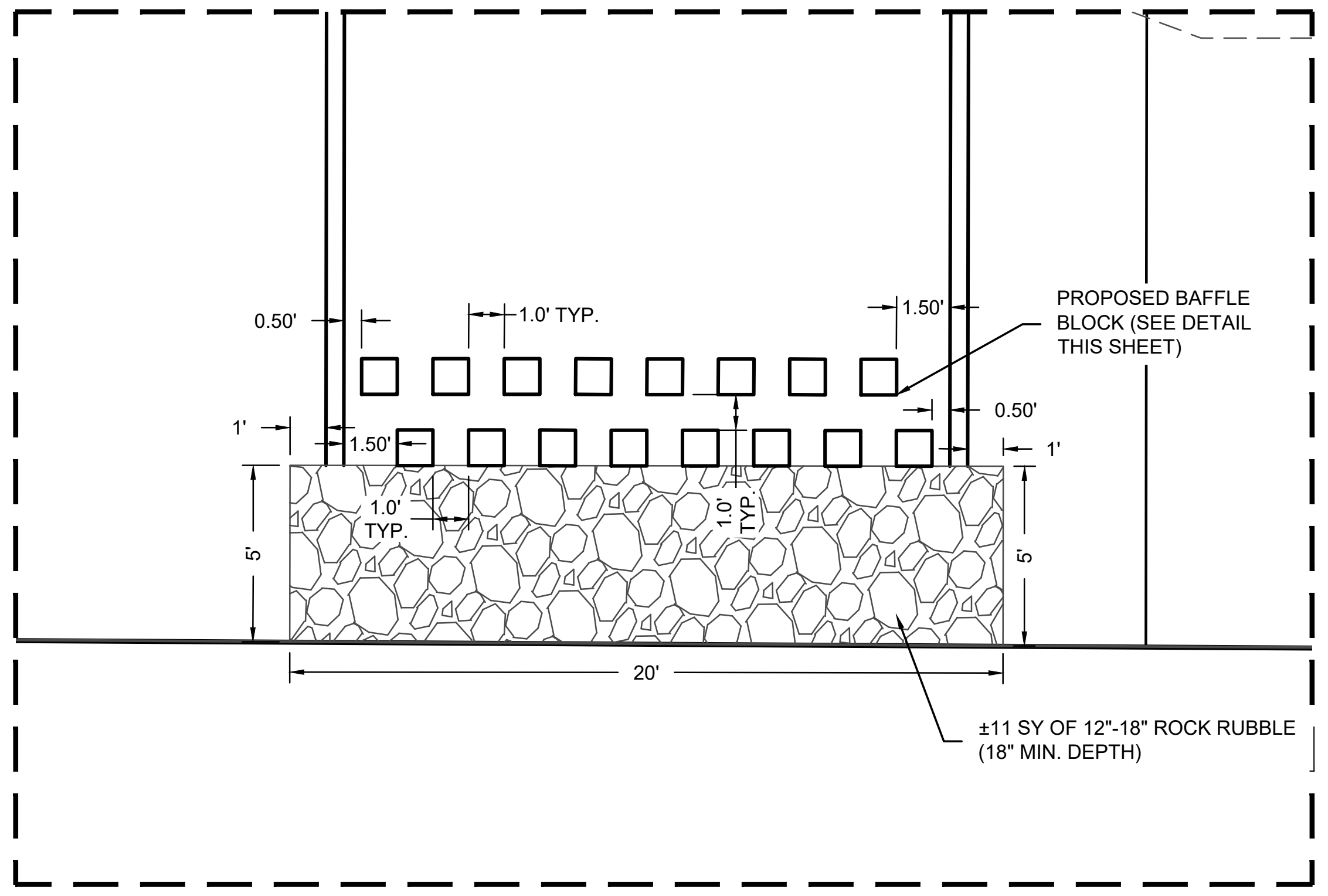
CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF DRAINS AND THAT NO PONDING WILL OCCUR.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, OR SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROJECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACTOR'S DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

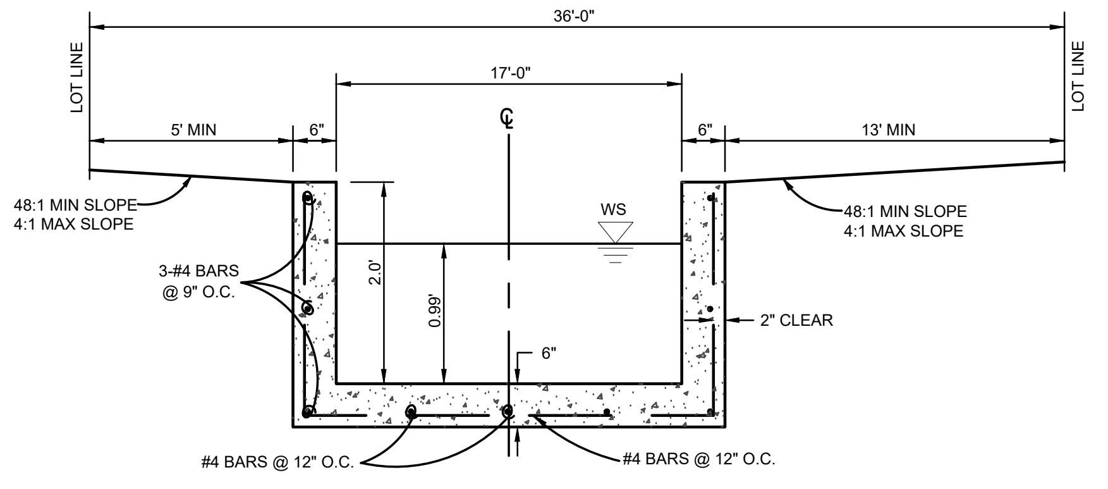
PRIOR TO CONSTRUCTION NOTE:

CONTRACTOR TO COORDINATE WITH HOME OWNERS AND GIVE TWO WEEK NOTICE FOR WORK WITHIN SINGLE FAMILY LOTS. WORK WILL REQUIRE THE USE OF SMALL MACHINERY TO LIMIT AREA OF DISTURBANCE. PROTECTION OF EXISTING HOME AND PROPERTY SHALL FOLLOW RECOMMENDATIONS OF THE STRUCTURAL ENGINEER. WORK AND DISTURBANCE WILL BE LIMITED TO EASEMENT AREAS ONLY. FENCES, UTILITY BUILDINGS, AND GRASS AREA SHALL BE REMOVED AND REPLACED TO A BETTER THAN EXISTING CONDITION (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE). TEMPORARY FENCING TO PROTECT PROPERTY, PEOPLE, AND PETS SHALL BE UTILIZED (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE). CONTRACTOR SHALL PRESENT A SCHEDULE OF CONSTRUCTION OPERATION TO MINIMIZE DISTURBANCE TO HOMEOWNERS BUT IN NO WAY EXTEND MORE THAN 14 CALENDAR DAYS. BACKFILL AROUND STRUCTURE SHALL BE WITH 413 HIGH STRENGTH FLOWABLE FILL (500 PSI) TO ONE FOOT BELOW EXISTING GRADE ALLOWING FOR TOPSOIL AND GRASS REPLACEMENT (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE).


0.50'
1.0' TYP.
1.50'
PROPOSED BAFFLE BLOCK (SEE DETAIL THIS SHEET)
0.50'
1'
1.50'
1'
1.0' TYP.
1.0' TYP.
5'
5'
20'
±11 SY OF 12"-18" ROCK RUBBLE
(18" MIN. DEPTH)

DETAIL #2

SCALE: 1" = 5'



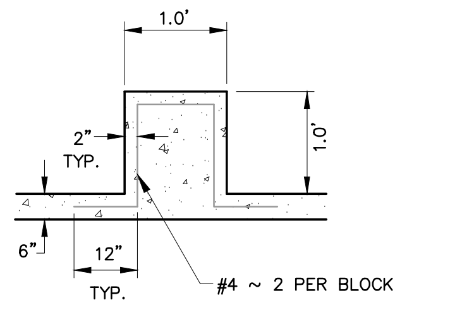
SECTION "A-A"

NOT TO SCALE
STA: 20+55.00 TO STA: 21+28.82

NOTES:

1. Cover for reinforceing steel is 2" unless noted.
2. All concrete shall be class "C" 3600 psi. @ 28 day with Course Aggregate Grade 2-5.
3. Minimum bar development length for splice and bends shall be 24 inches.
4. Transition from standard curb to elevated walk. No separate pay item.

NOTE: SEE SHEET 513 FOR HANDRAIL DETAILS



BAFFLE BLOCK REINFORCEMENT

SCALE: N.T.S.

REV	DATE	DESCRIPTION

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

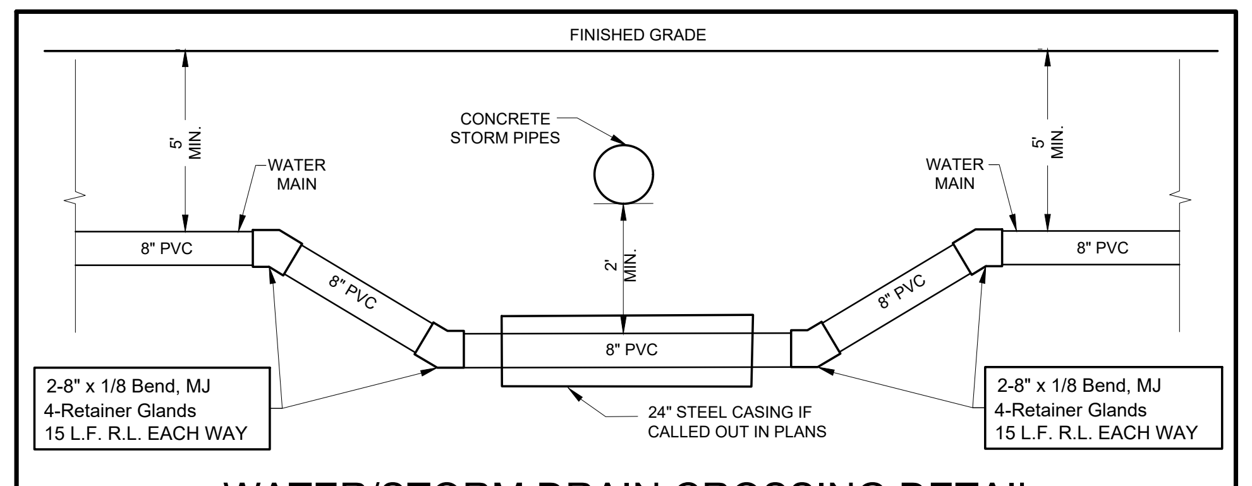
CIBOLO FARMS UNIT 3

DRAIN B PLAN & PROFILE

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153
SHEET:	510

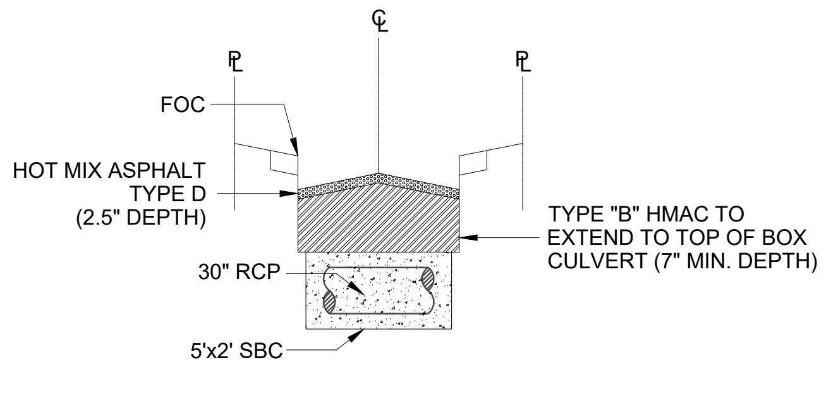
TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



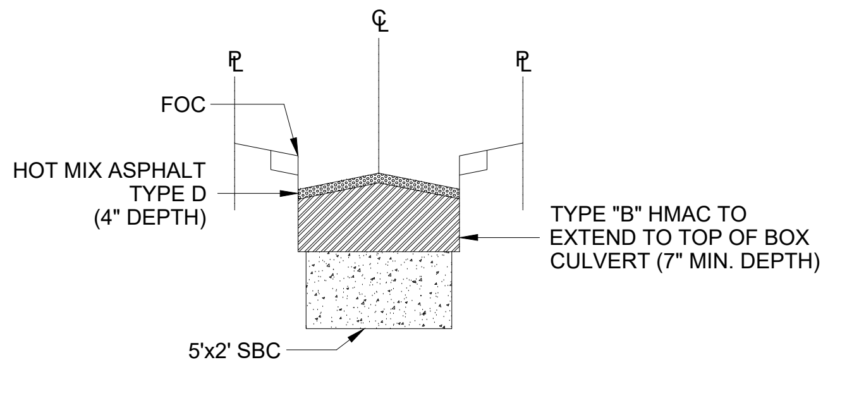
WATER/STORM DRAIN CROSSING DETAIL

N.T.S.


℄
PL
PL
FOC
HOT MIX ASPHALT TYPE D (2.5" DEPTH)
TYPE "B" HMAC TO EXTEND TO TOP OF BOX CULVERT (7" MIN. DEPTH)
30" RCP
5'x2' SBC

DETAIL "A"'

BALMORHEA PAVEMENT SECTION
STA. 51+03.76 TO STA. 51+33.76

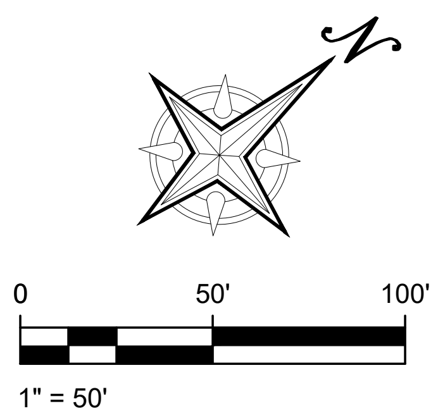

℄
PL
PL
FOC
HOT MIX ASPHALT TYPE D (4" DEPTH)
TYPE "B" HMAC TO EXTEND TO TOP OF BOX CULVERT (7" MIN. DEPTH)
5'x2' SBC

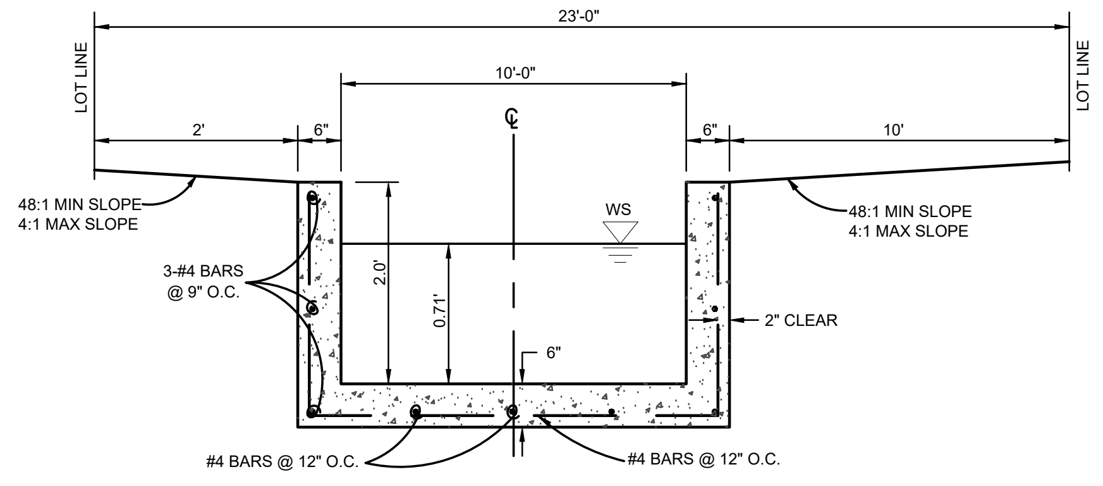
DETAIL "B"

COUNTRY CLUB BLVD.
PAVEMENT SECTION
STA. 31+99.61 TO STA. 32+14.61

LEGEND

PROPOSED CONTOURS	662
EXISTING CONTOURS	670





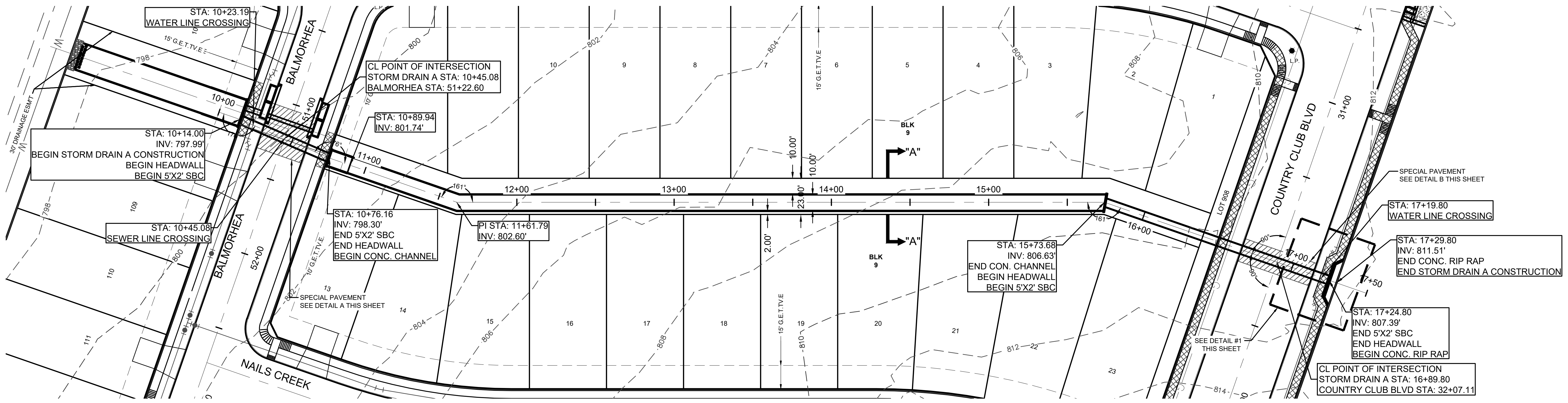
SECTION "A-A"

NOT TO SCALE
STA:10+76.16 TO STA:16+00.00

NOTES:

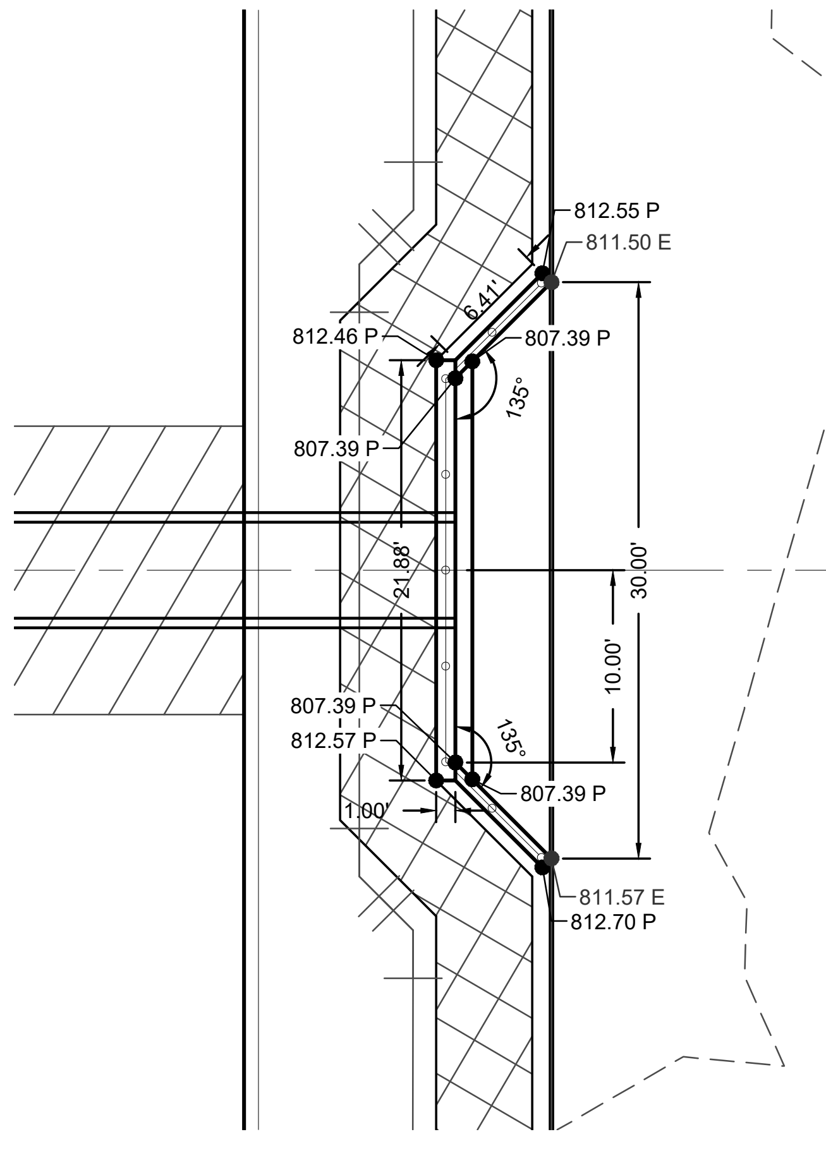
1. Cover for reinforceing steel is 2" unless noted.
2. All concrete shall be class "C" 3600 psi. @ 28 day with Course Aggregate Grade 2-5.
3. Minimum bar development length for splice and bends shall be 24 inches.
4. Transition from standard curb to elevated walk. No separate pay item.

NOTE: SEE SHEET 513 FOR HANDRAIL DETAILS



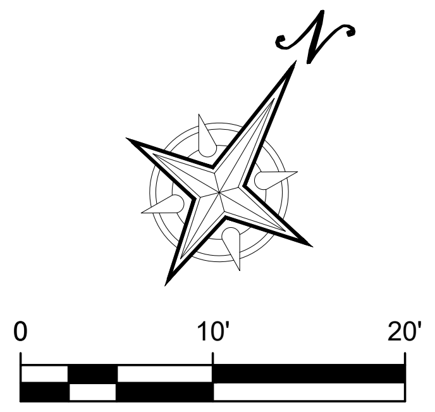
STORM DRAIN "A"

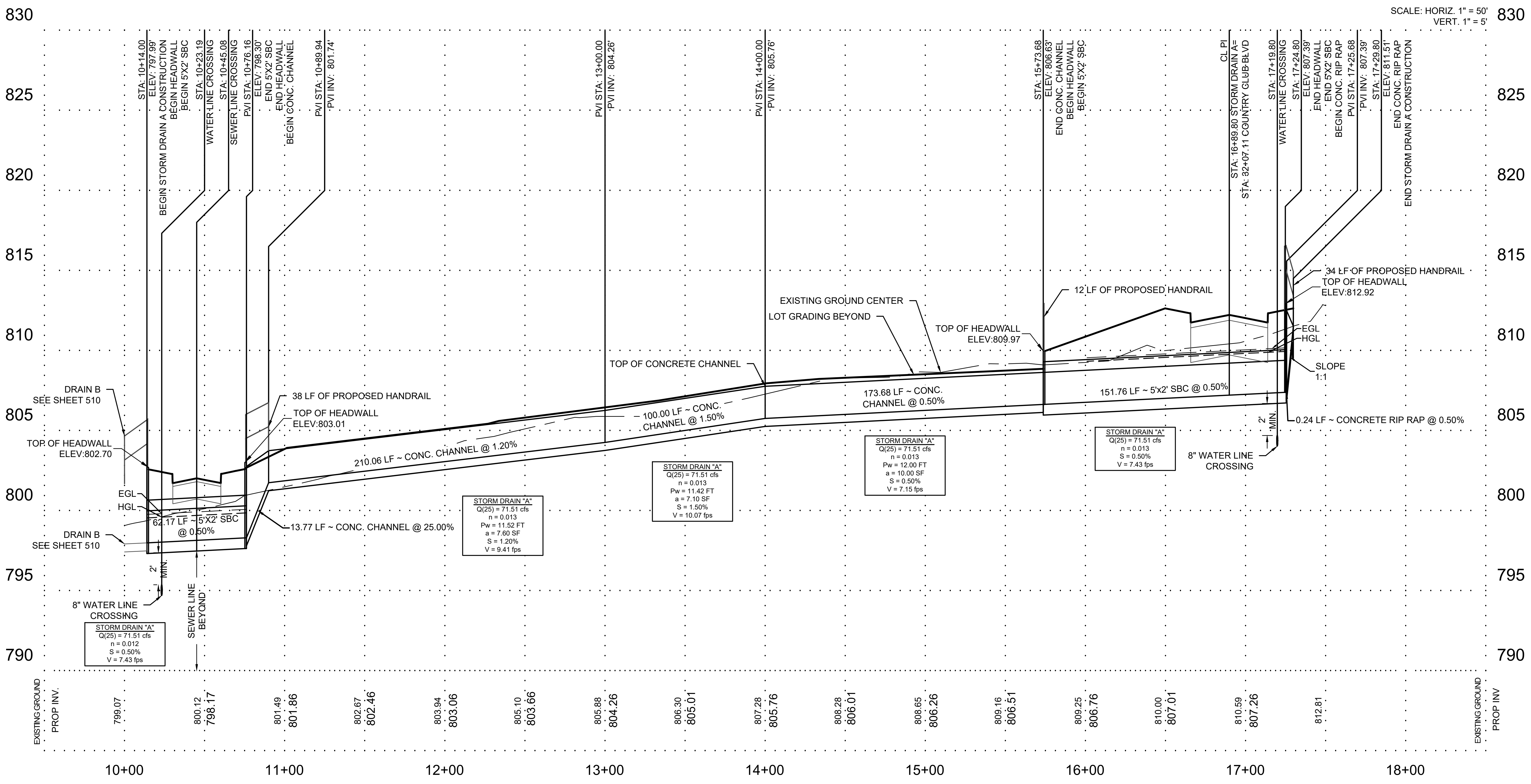
STA. 10+14.00 TO STA. 17+29.80



DETAIL #1

SCALE: 1" = 10'





NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

STORM DRAIN A PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
511

Date: Jul 31, 2024, 4:22pm User ID: Lance.Elling File: L:\develop\Proj_2023\KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 511 STORM DRAIN A PLAN & PROFILE.dwg

TRENCH EXCAVATION SAFETY PROTECTION

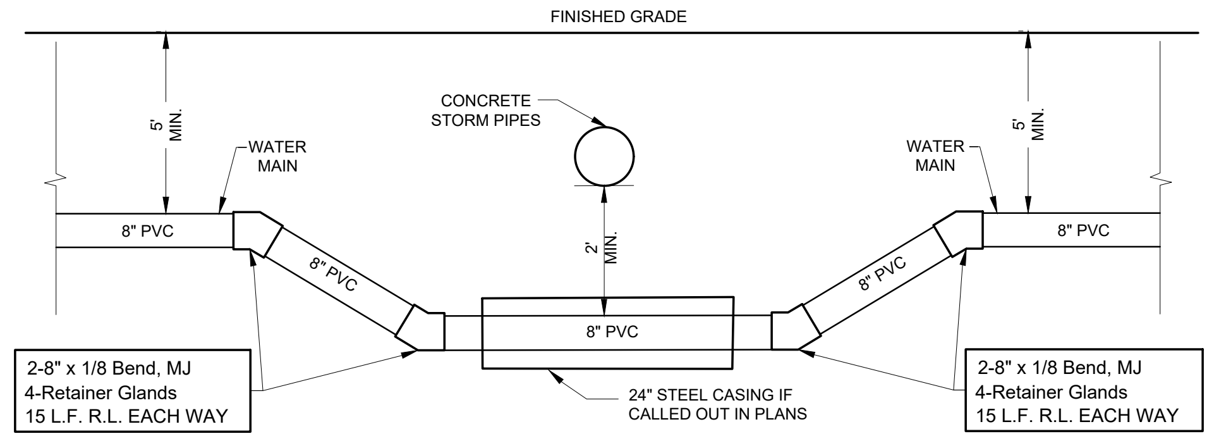
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

NOTE:

CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF DRAINS AND THAT NO PONDING WILL OCCUR.

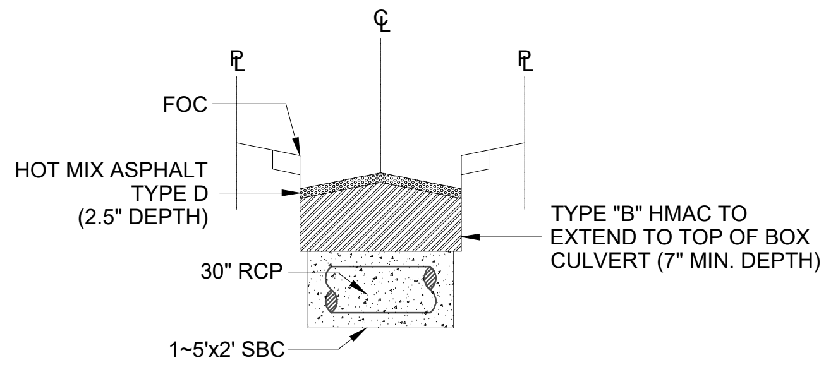
TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, OR SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROJECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACTOR'S DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



WATER/STORM DRAIN CROSSING DETAIL

N.T.S.

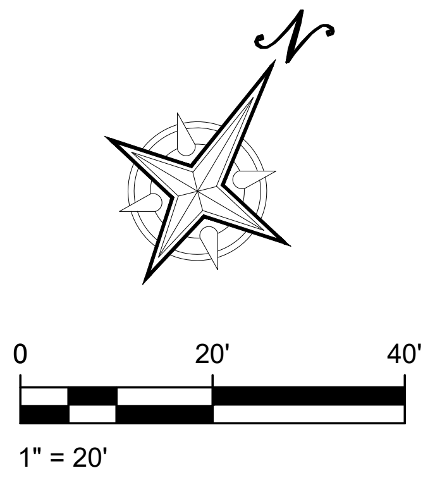

℄
PL
PL
FOC
HOT MIX ASPHALT TYPE D (2.5" DEPTH)
TYPE "B" HMAC TO EXTEND TO TOP OF BOX CULVERT (7" MIN. DEPTH)
30" RCP
1~5'x2' SBC

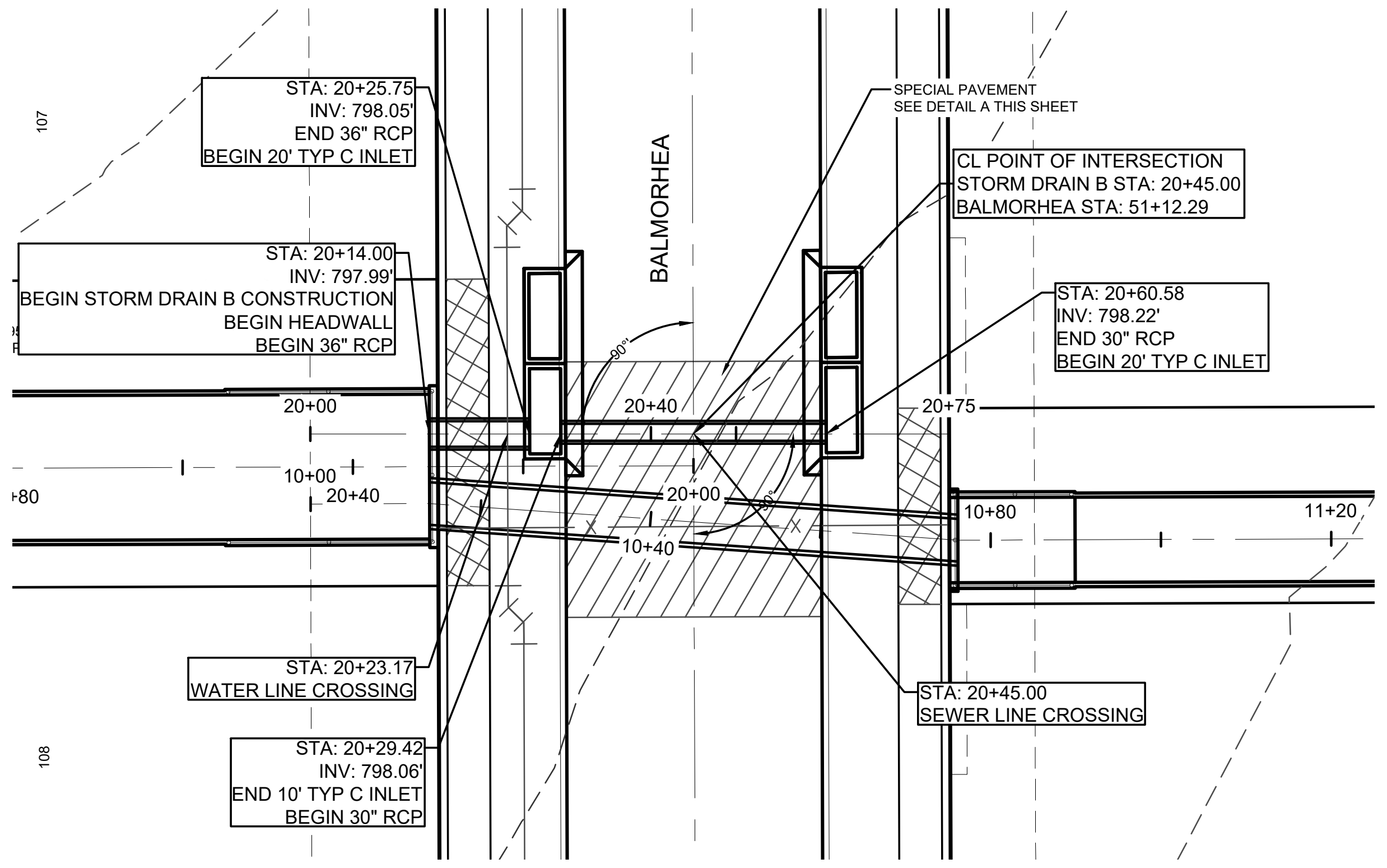
DETAIL "A'"

BALMORHEA PAVEMENT SECTION
STA. 51+03.76 TO STA. 51+33.76

LEGEND

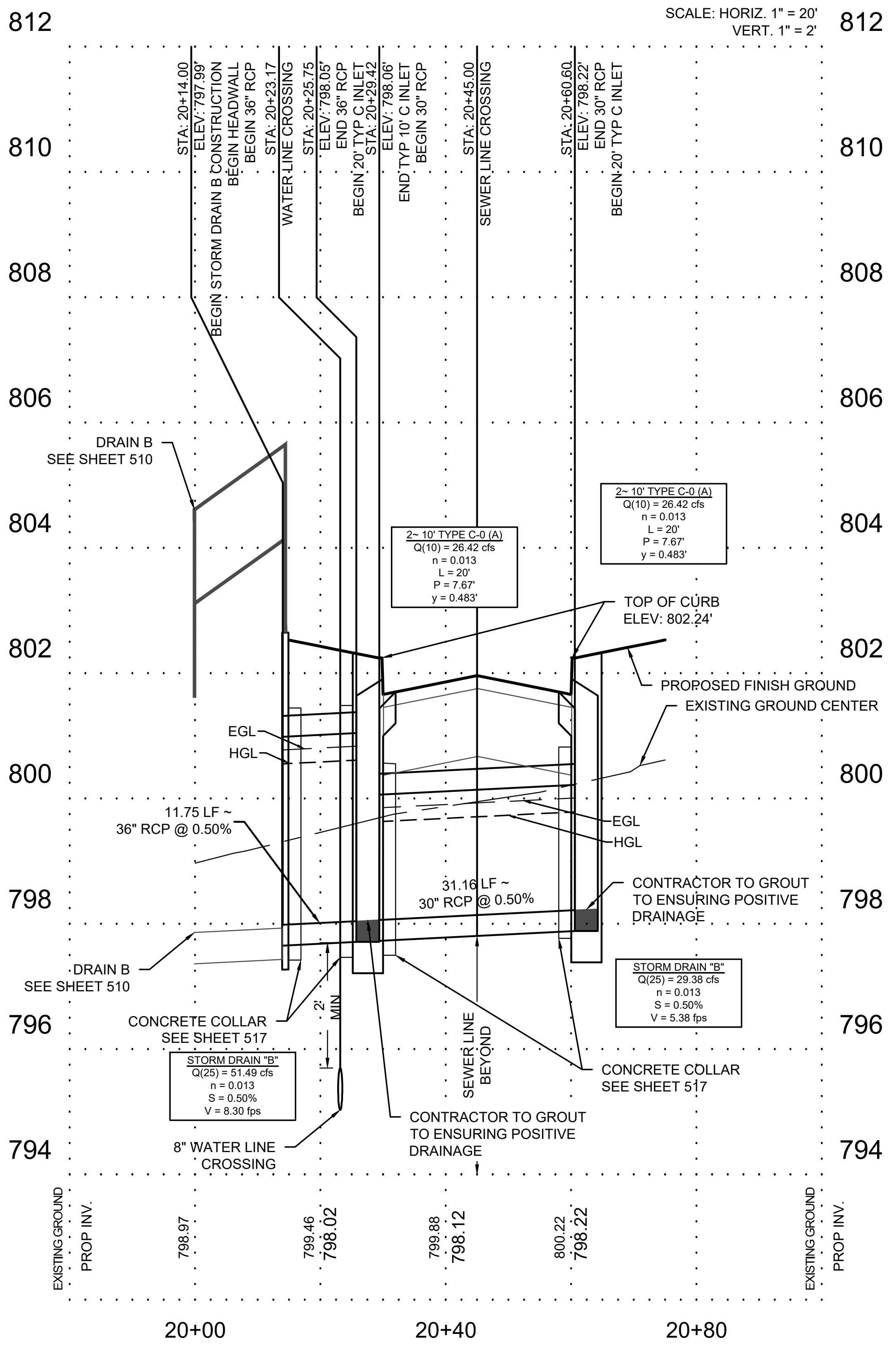
PROPOSED CONTOURS	662
EXISTING CONTOURS	670





S T O R M   D R A I N   " B "

STA. 20+00.00 TO STA. 20+60.60



NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

STORM DRAIN B PLAN & PROFILE

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
512

COLLECTOR PAVEMENT DESIGN

PAVEMENT DESIGN WAS PREPARED BY TTL, INC.

PAVEMENT STRUCTURE (DESIGN CBR=3)	STR. COEF.	STR. NO.
4" HOT MIX ASPHALT TYPE D	0.44	1.76
26" FLEXIBLE BASE (TYPE A, GRADE 1 OR 2)	0.14	3.64
6" LIME TREATED SUBGRADE (35#/SY)	--	--
	TOTAL	5.40

NOTE:
ADDITIVE OPTION - TENSAR TX-5 GEOGRID OR EQUIVALENT APPROVED BY ENGINEER TO BE PLACED BELOW TOP LIFT OF BASE AND FULLY UNDER CURB AND GUTTER.

COUNTRY CLUB BLVD	STA.	28+37.29	TO	STA.	38+25.49

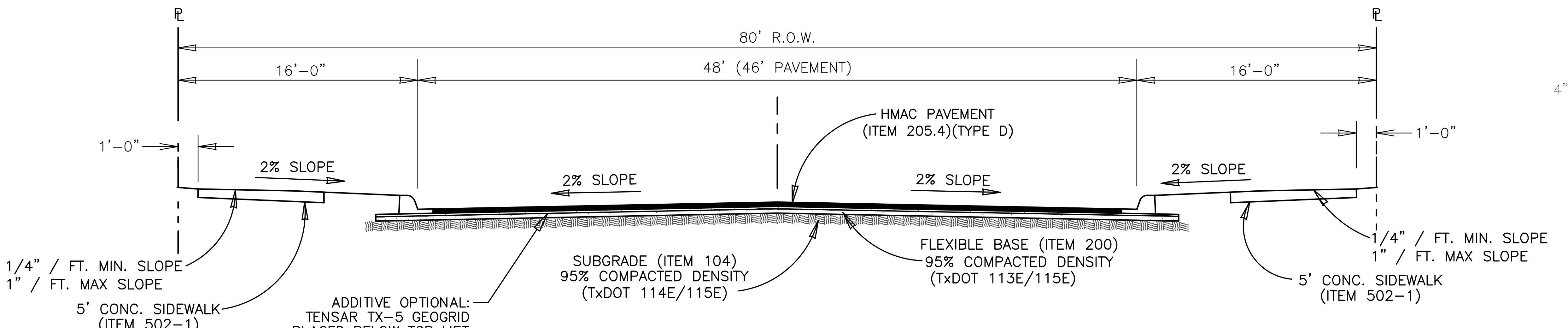
LOCAL A PRIMARY PAVEMENT DESIGN

PAVEMENT DESIGN WAS PREPARED BY TTL, INC.

PAVEMENT STRUCTURE (DESIGN CBR=2)	STR. COEF.	STR. NO.
2.5" HOT MIX ASPHALT TYPE D	0.44	1.10
13" FLEXIBLE BASE (TYPE A, GRADE 1 OR 2)	0.14	1.82
6" LIME TREATED SUBGRADE (35#/SY)	--	--
	TOTAL	2.9200

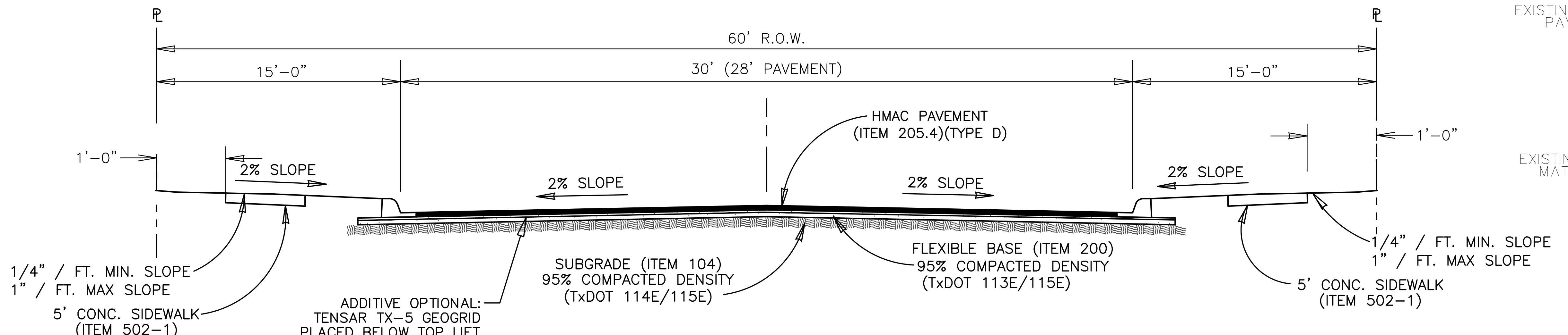
NOTE:
ADDITIVE OPTION - TENSAR TX-5 GEOGRID OR EQUIVALENT APPROVED BY ENGINEER TO BE PLACED BELOW TOP LIFT OF BASE AND FULLY UNDER CURB AND GUTTER.

BENTSON RIO	STA.	10+00.00	TO	STA.	16+48.87
NAILS CREEK	STA.	20+00.00	TO	STA.	26+39.01
BRAZORA	STA.	30+00.00	TO	STA.	33+41.87
LAKE MEREDITH	STA.	40+00.00	TO	STA.	43+34.65
BALMORHEA	STA.	50+00.00	TO	STA.	57+44.26
INKS LAKE	STA.	60+00.00	TO	STA.	62+15.13



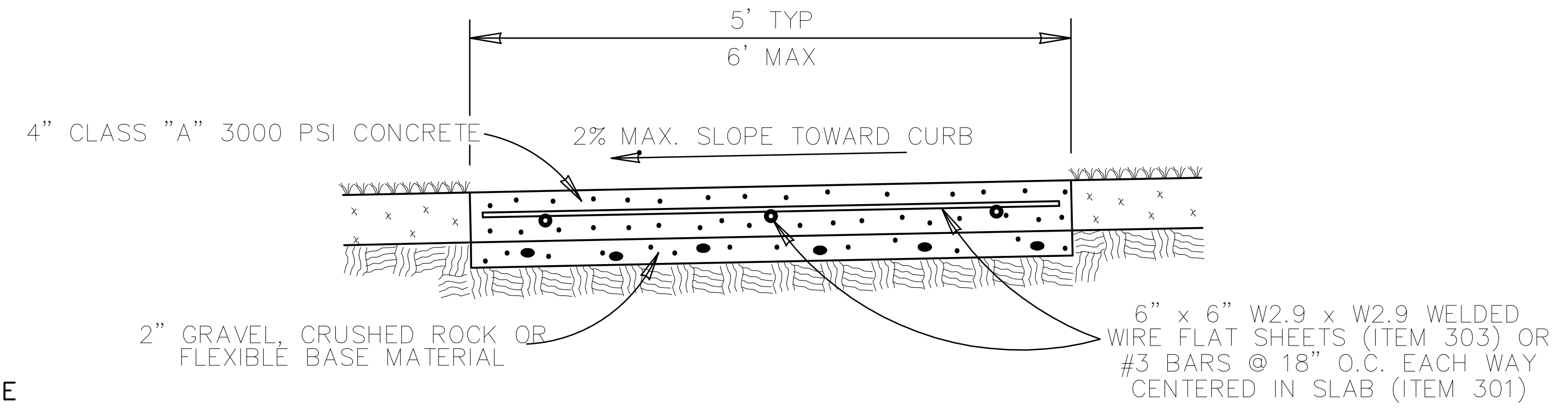
℘
80' R.O.W.
16'-0"
48' (46' PAVEMENT)
16'-0"
1'-0"
1'-0"
HMAC PAVEMENT (ITEM 205.4)(TYPE D)
2% SLOPE
2% SLOPE
2% SLOPE
2% SLOPE
1/4" / FT. MIN. SLOPE
1" / FT. MAX SLOPE
5' CONC. SIDEWALK (ITEM 502-1)
ADDITIVE OPTIONAL: TENSAR TX-5 GEOGRID PLACED BELOW TOP LIFT OF BASE AND FULLY UNDER CURB AND GUTTER
SUBGRADE (ITEM 104) 95% COMPACTED DENSITY (TxDOT 114E/115E)
FLEXIBLE BASE (ITEM 200) 95% COMPACTED DENSITY (TxDOT 113E/115E)
1/4" / FT. MIN. SLOPE
1" / FT. MAX SLOPE
5' CONC. SIDEWALK (ITEM 502-1)

TYPICAL COLLECTOR STREET SECTION
NOT TO SCALE



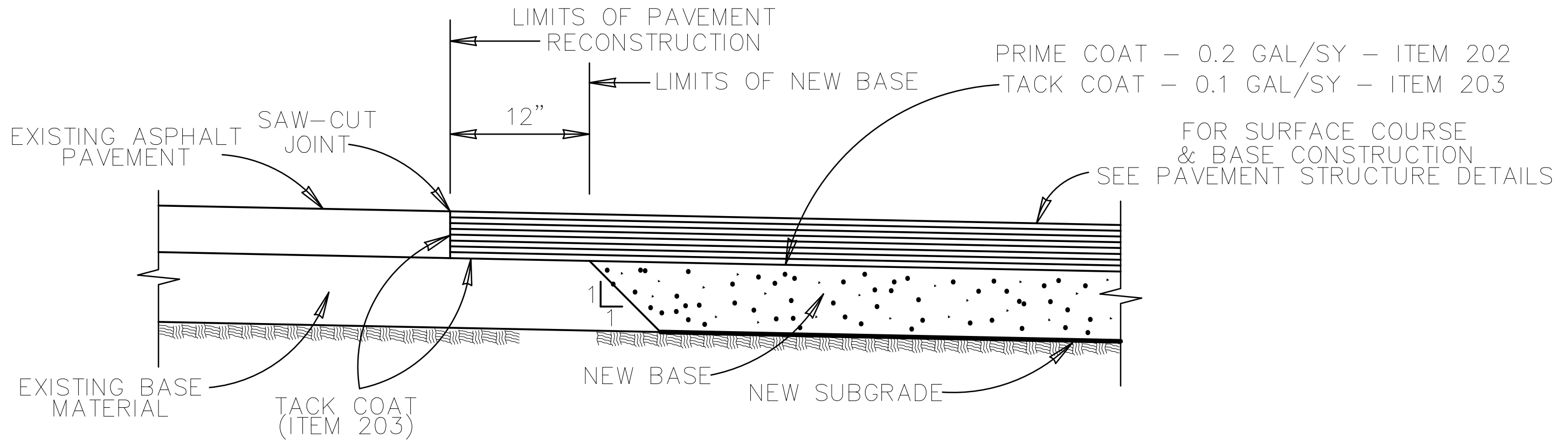
℘
60' R.O.W.
15'-0"
30' (28' PAVEMENT)
15'-0"
1'-0"
1'-0"
HMAC PAVEMENT (ITEM 205.4)(TYPE D)
2% SLOPE
2% SLOPE
2% SLOPE
2% SLOPE
1/4" / FT. MIN. SLOPE
1" / FT. MAX SLOPE
5' CONC. SIDEWALK (ITEM 502-1)
ADDITIVE OPTIONAL: TENSAR TX-5 GEOGRID PLACED BELOW TOP LIFT OF BASE AND FULLY UNDER CURB AND GUTTER
SUBGRADE (ITEM 104) 95% COMPACTED DENSITY (TxDOT 114E/115E)
FLEXIBLE BASE (ITEM 200) 95% COMPACTED DENSITY (TxDOT 113E/115E)
1/4" / FT. MIN. SLOPE
1" / FT. MAX SLOPE
5' CONC. SIDEWALK (ITEM 502-1)

TYPICAL LOCAL "A" STREET SECTION
NOT TO SCALE



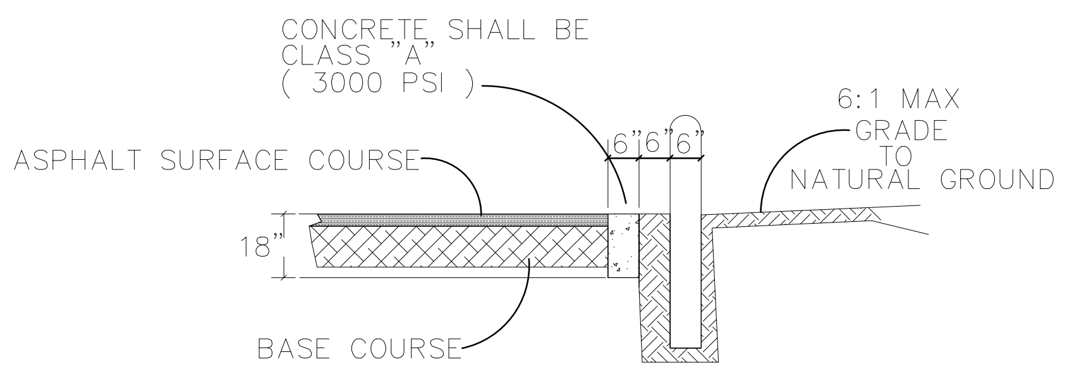
5' TYP
6' MAX
4" CLASS "A" 3000 PSI CONCRETE
2% MAX. SLOPE TOWARD CURB
2" GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL
6" x 6" W2.9 x W2.9 WELDED WIRE FLAT SHEETS (ITEM 303) OR #3 BARS @ 18" O.C. EACH WAY CENTERED IN SLAB (ITEM 301)

CONCRETE SIDEWALK SECTION
ITEM 502.1



LIMITS OF PAVEMENT RECONSTRUCTION
LIMITS OF NEW BASE
PRIME COAT – 0.2 GAL/SY – ITEM 202
TACK COAT – 0.1 GAL/SY – ITEM 203
EXISTING ASPHALT PAVEMENT
SAW-CUT JOINT
12"
FOR SURFACE COURSE & BASE CONSTRUCTION SEE PAVEMENT STRUCTURE DETAILS
1
1
EXISTING BASE MATERIAL
TACK COAT (ITEM 203)
NEW BASE
NEW SUBGRADE

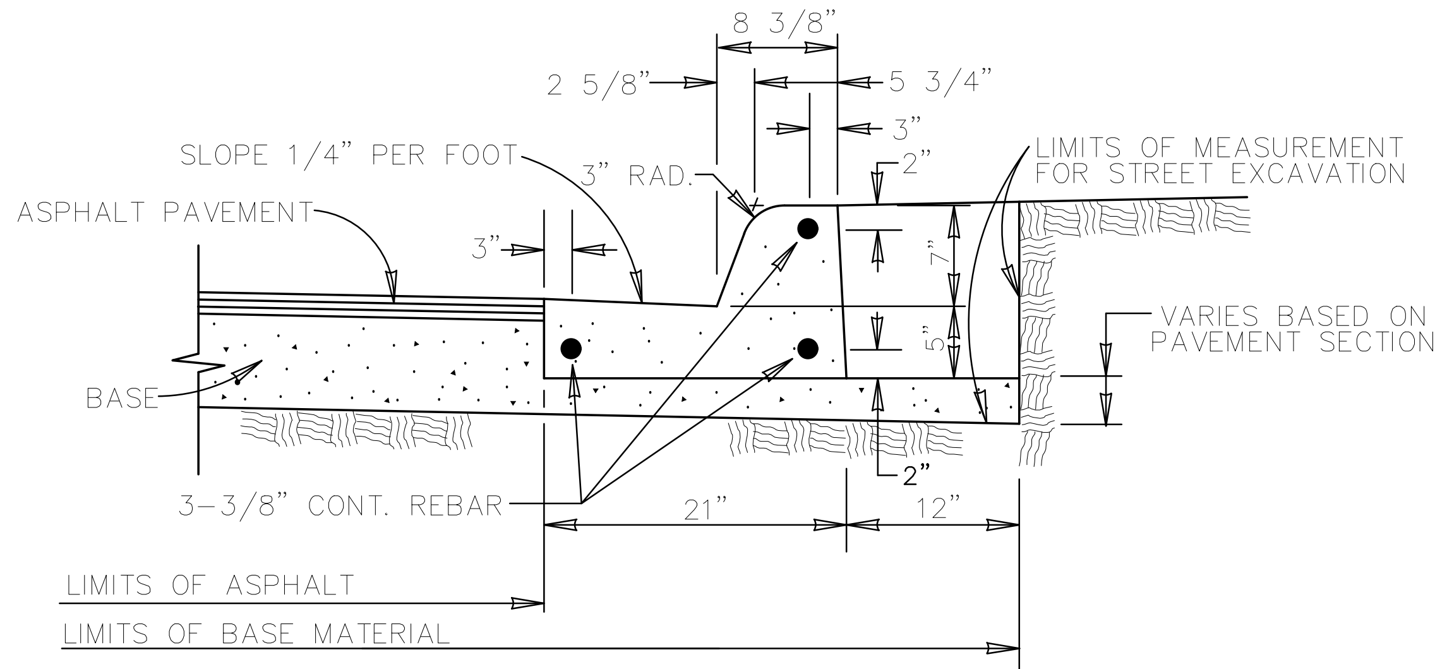
PAVEMENT JUNCTION DETAILS
NOT TO SCALE



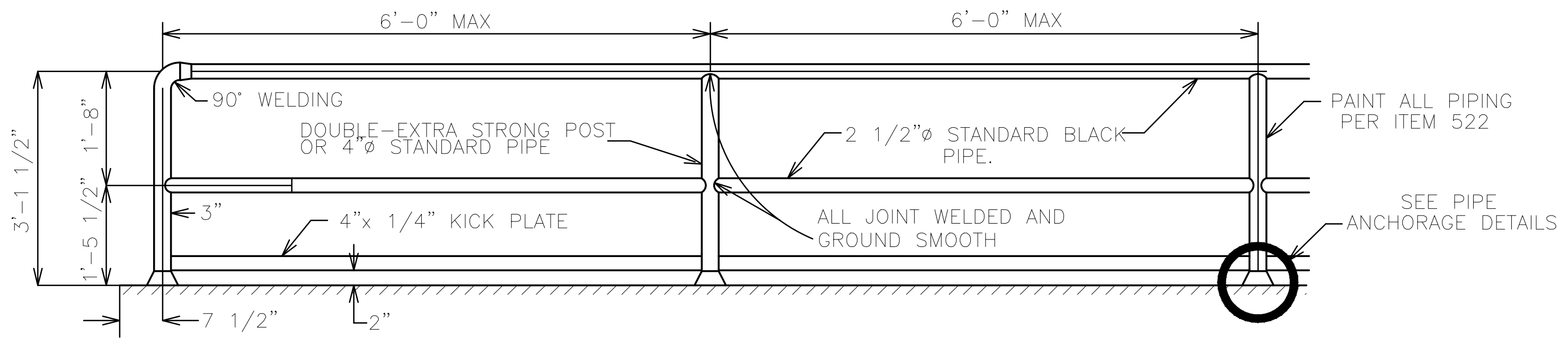
CONCRETE SHALL BE CLASS "A" (3000 PSI)
6" 6" 6"
6:1 MAX GRADE TO NATURAL GROUND
ASPHALT SURFACE COURSE
18"
BASE COURSE

NOTE:
1. ALLOW FOR REFLECTION BUTTONS ON BARRICADE POST USE ONE 3" BUTTON PER POST.
2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.
3. 6" X 5'-6" BARRICADE POST PLACED 6" BACK OF CURB WITH 2'-4" ABOVE GROUND & 3'-2" BELOW GROUND. (5'-0" o.c. TYP.)

CONCRETE FLUSH CURB
& BARRICADE POST

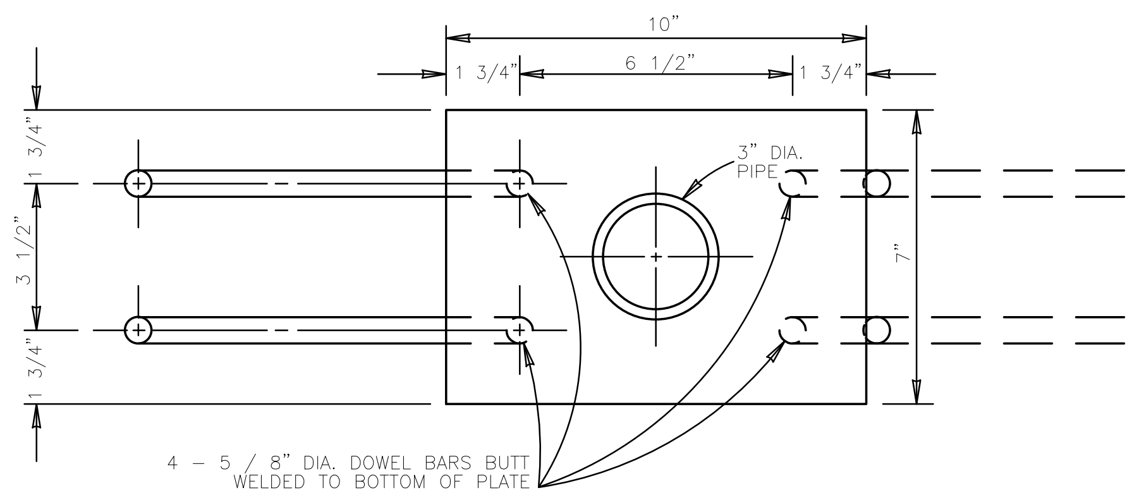


TYPICAL CURB & GUTTER DETAIL
NOT TO SCALE
CLASS "A" 3000 PSI CONCRETE



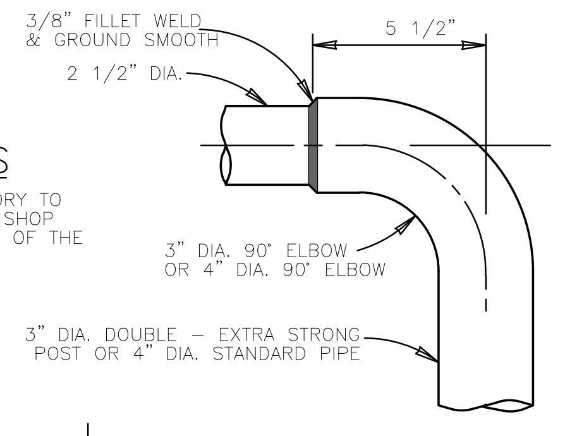
6'-0" MAX
6'-0" MAX
3'-1 1/2"
1'-8"
1'-5 1/2"
90° WELDING
DOUBLE-EXTRA STRONG POST OR 4"Ø STANDARD PIPE
2 1/2"Ø STANDARD BLACK PIPE.
PAINT ALL PIPING PER ITEM 522
3"
4"x 1/4" KICK PLATE
ALL JOINT WELDED AND GROUND SMOOTH
SEE PIPE ANCHORAGE DETAILS
7 1/2"
2"

SIDEWALK PIPE RAILING
NOT TO SCALE

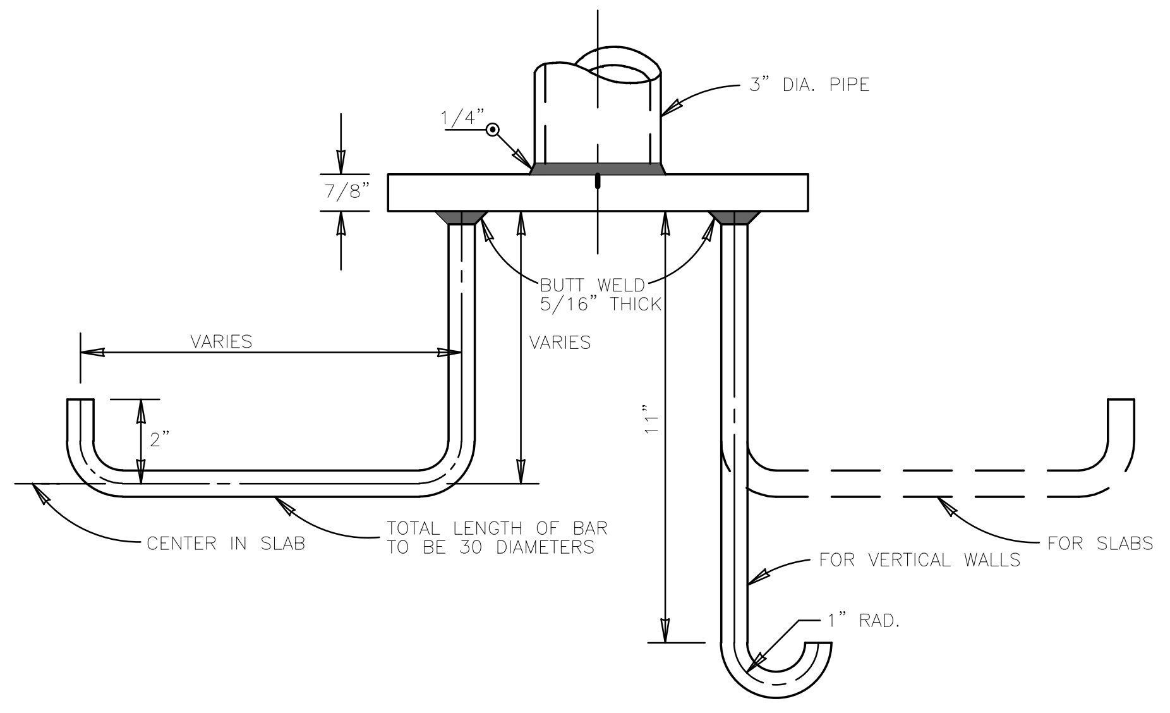


DETAIL OF 90°
WELDING ELBOWS

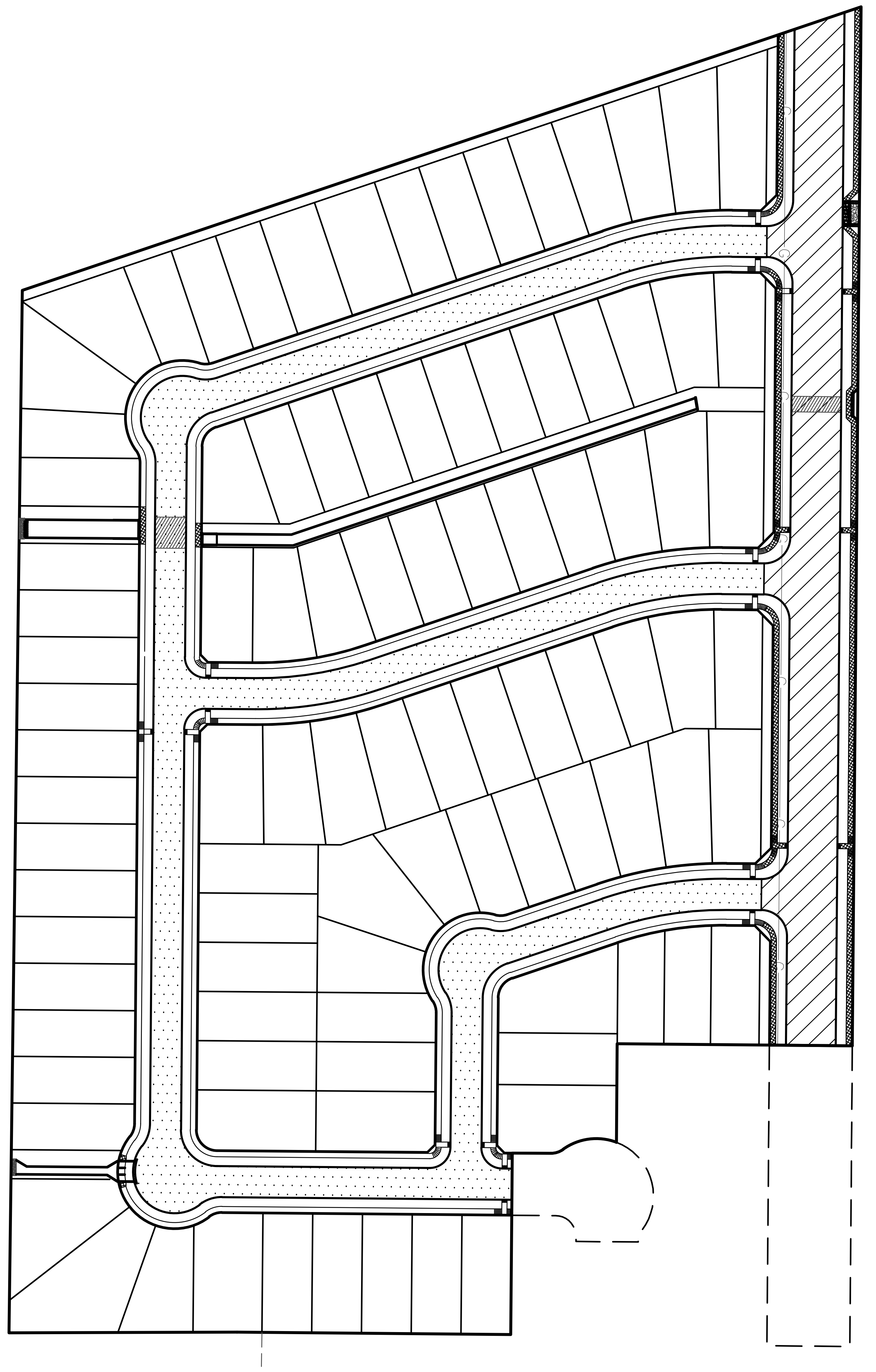
* A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.
NOT TO SCALE



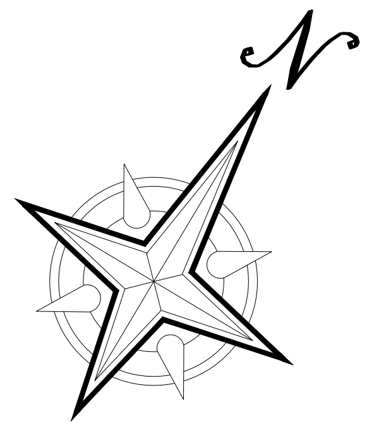
3/8" FILLET WELD & GROUND SMOOTH
5 1/2"
2 1/2" DIA.
3" DIA. 90° ELBOW OR 4" DIA. 90° ELBOW
3" DIA. DOUBLE – EXTRA STRONG POST OR 4" DIA. STANDARD PIPE



PIPE ANCHORAGE DETAILS
NOT TO SCALE.



GEOTECHNICAL ENGINEERING REPORT
(SCHULMEIR–SEILER TRACT SUBDIVISION)
BY: TTL, INV.
PROJECT: NO. 00200902826.00
BY: FEBRUARY 11, 2021



LEGEND

░	(LOCAL "A") (60' ROW)
▨	(COLLECTOR)
▩	SIDEWALK BY DEVELOPER
▨	COLLECTOR-SPECIAL PAVEMENT
▩	LOCAL A-SPECIAL PAVEMENT

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

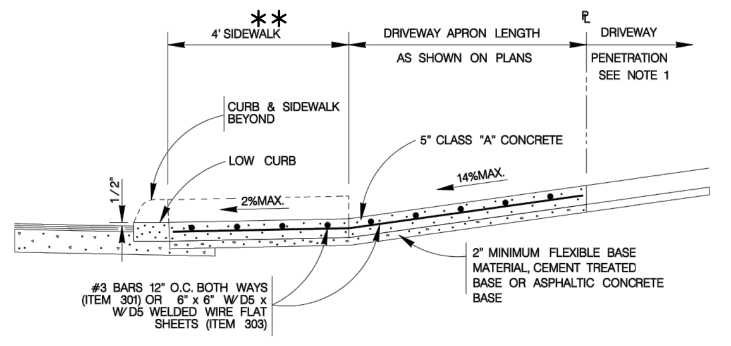
CIBOLO FARMS UNIT 3

STREET DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		
SHEET:	513		

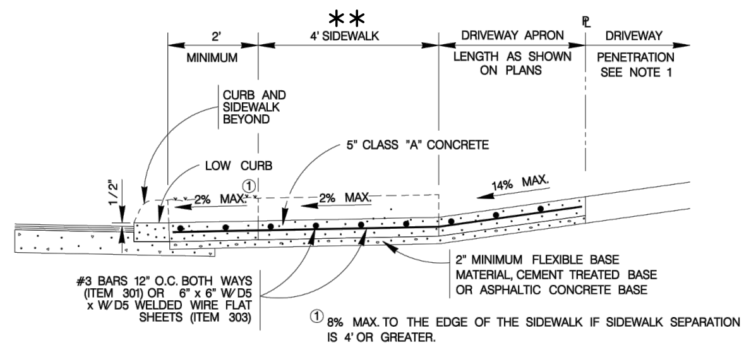
**** CITY OF CIBOLO STANDARD SIDEWALK WIDTH NOTE:**

CITY OF SAN ANTONIO WHEELCHAIR RAMP STANDARDS ARE USED BUT SHALL HAVE MINIMUM SIDEWALK WIDTH OF 5 FEET.


**
4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
CURB & SIDEWALK BEYOND
LOW CURB
5" CLASS "A" CONCRETE
2%MAX.
14%MAX.
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
#3 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D5 x W/D5 WELDED WIRE FLAT SHEETS (ITEM 303)

TYPICAL RESIDENTIAL DRIVEWAY SECTION

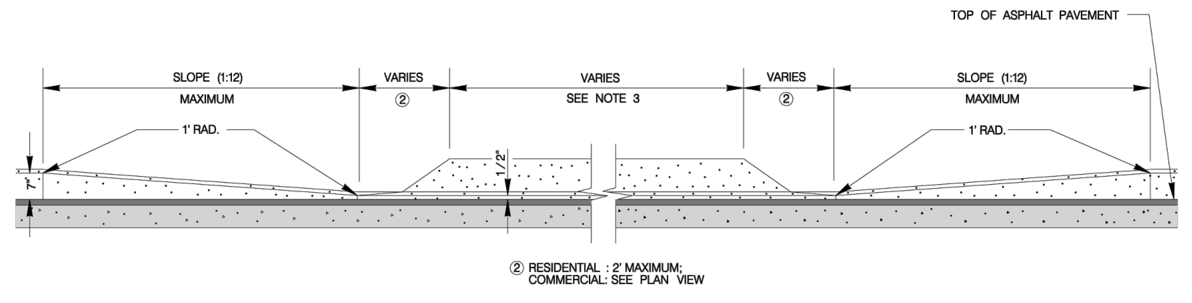
WITH SIDEWALK ABUTTING CURB
ITEM 503.1


2' MINIMUM
**
4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
CURB AND SIDEWALK BEYOND
LOW CURB
5" CLASS "A" CONCRETE
2% MAX.
14% MAX.
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
#3 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D5 x W/D5 WELDED WIRE FLAT SHEETS (ITEM 303)

① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

TYPICAL RESIDENTIAL DRIVEWAY SECTION

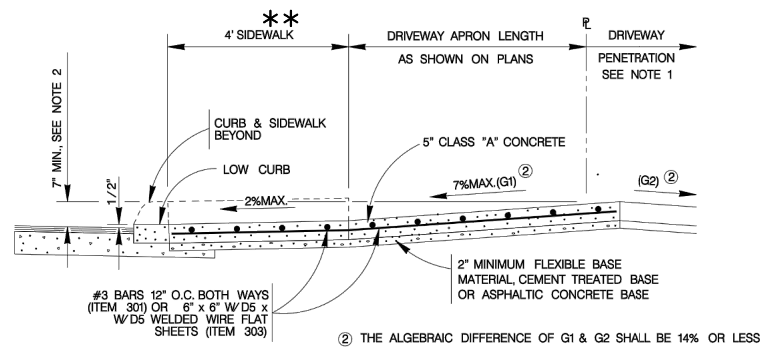
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1



② RESIDENTIAL 2' MAXIMUM, COMMERCIAL SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

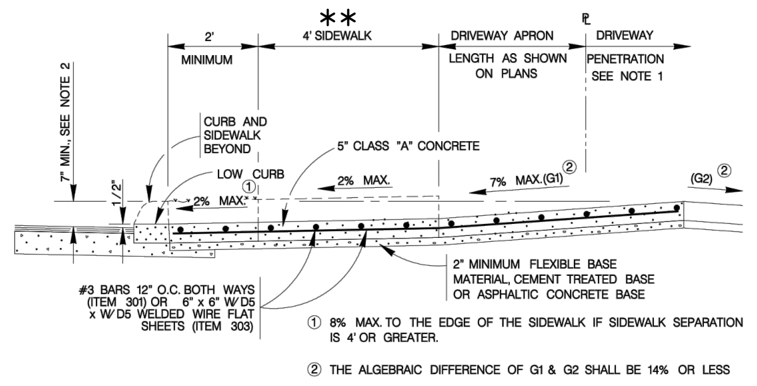
WITH SIDEWALK ABUTTING CURB


**
4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
7" MIN. SEE NOTE 2
CURB & SIDEWALK BEYOND
LOW CURB
5" CLASS "A" CONCRETE
2%MAX.
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
#3 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D5 x W/D5 WELDED WIRE FLAT SHEETS (ITEM 303)

② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1

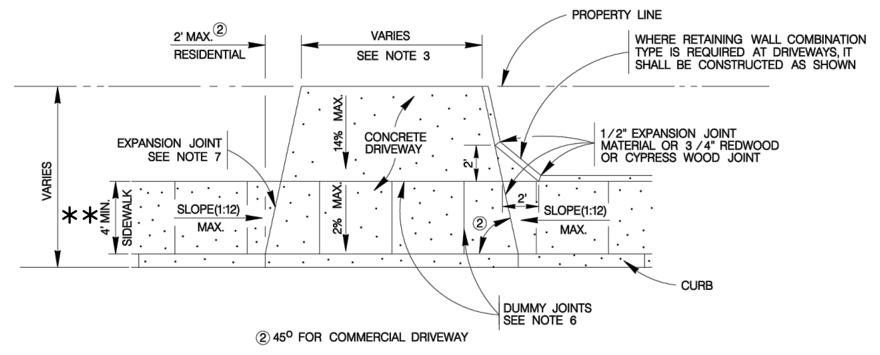

2' MINIMUM
**
4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
7" MIN. SEE NOTE 2
CURB AND SIDEWALK BEYOND
LOW CURB
5" CLASS "A" CONCRETE
2% MAX.
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
#3 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D5 x W/D5 WELDED WIRE FLAT SHEETS (ITEM 303)

① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

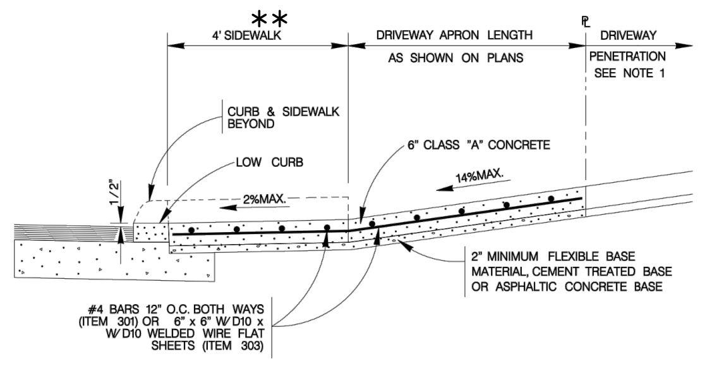
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 503.1


2' MAX.② RESIDENTIAL
VARIES
SEE NOTE 3
PROPERTY LINE
WHERE RETAINING WALL COMBINATION TYPE IS REQUIRED AT DRIVEWAYS, IT SHALL BE CONSTRUCTED AS SHOWN
EXPANSION JOINT SEE NOTE 7
CONCRETE DRIVEWAY
1-1/2" EXPANSION JOINT MATERIAL OR 3/4" REDWOOD OR CYPRESS WOOD JOINT
**
SLOPE (1:12) MAX.
DUMMY JOINTS SEE NOTE 6
CURB

② 45° FOR COMMERCIAL DRIVEWAY

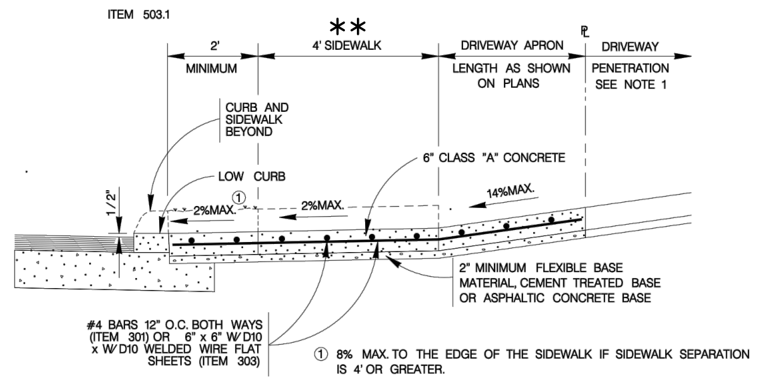
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB


**
4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
CURB & SIDEWALK BEYOND
LOW CURB
6" CLASS "A" CONCRETE
2%MAX.
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
#4 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D10 x W/D10 WELDED WIRE FLAT SHEETS (ITEM 303)

TYPICAL COMMERCIAL DRIVEWAY SECTION

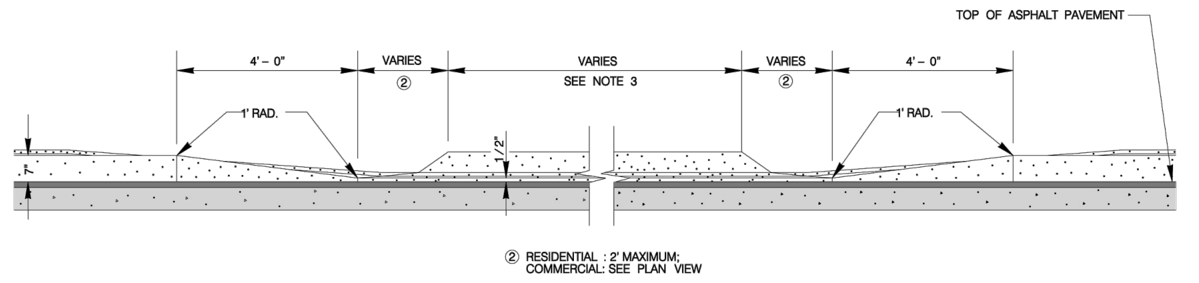
WITH SIDEWALK ABUTTING CURB
ITEM 503.2


2' MINIMUM
**
4' SIDEWALK
DRIVEWAY APRON LENGTH AS SHOWN ON PLANS
DRIVEWAY PENETRATION SEE NOTE 1
CURB AND SIDEWALK BEYOND
LOW CURB
6" CLASS "A" CONCRETE
2%MAX.
2" MINIMUM FLEXIBLE BASE MATERIAL, CEMENT TREATED BASE OR ASPHALTIC CONCRETE BASE
#4 BARS 12" O.C. BOTH WAYS (ITEM 301) OR 6" x 6" W/D10 x W/D10 WELDED WIRE FLAT SHEETS (ITEM 303)

① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2



② RESIDENTIAL 2' MAXIMUM, COMMERCIAL SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

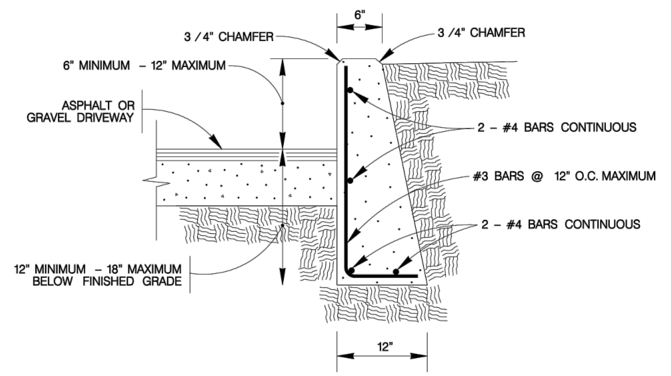
WITH SIDEWALK SEPARATED FROM CURB

CONCRETE DRIVEWAY NOTES

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
   - A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.
   - B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
   - C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL – ONE WAY	12'	20'
COMMERCIAL – TWO WAY	24'	30'

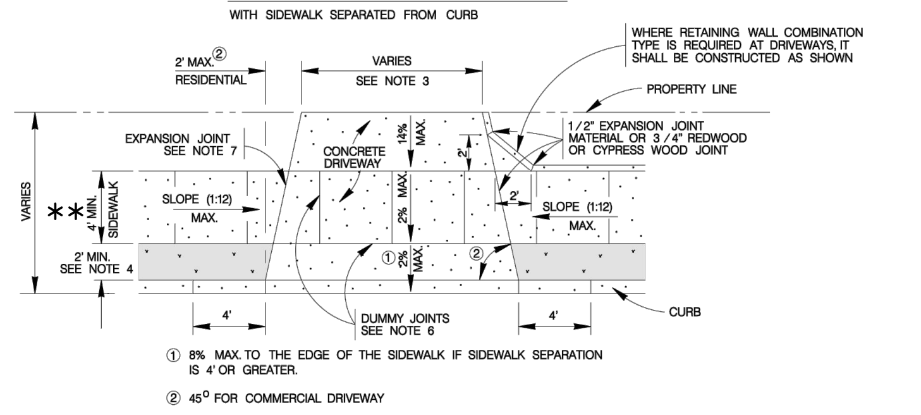
4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.


3/4" CHAMFER
4"
3/4" CHAMFER
6" MINIMUM – 12" MAXIMUM
ASPHALT OR GRAVEL DRIVEWAY
2 – #4 BARS CONTINUOUS
#3 BARS @ 12" O.C. MAXIMUM
2 – #4 BARS CONTINUOUS
12" MINIMUM – 18" MAXIMUM BELOW FINISHED GRADE
12"

NOTE:
1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

DRIVEWAY – CONCRETE RETAINING WALL

ON COMPACTED SUBGRADE
ITEM 307.1


2' MAX.② RESIDENTIAL
VARIES
SEE NOTE 3
WHERE RETAINING WALL COMBINATION TYPE IS REQUIRED AT DRIVEWAYS, IT SHALL BE CONSTRUCTED AS SHOWN
PROPERTY LINE
EXPANSION JOINT SEE NOTE 7
CONCRETE DRIVEWAY
1-1/2" EXPANSION JOINT MATERIAL OR 3/4" REDWOOD OR CYPRESS WOOD JOINT
**
SLOPE (1:12) MAX.
2' MIN. SEE NOTE 4
①
2% MAX.
②
4'
DUMMY JOINTS SEE NOTE 6
4'
CURB

① 8% MAX. TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.

② 45° FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

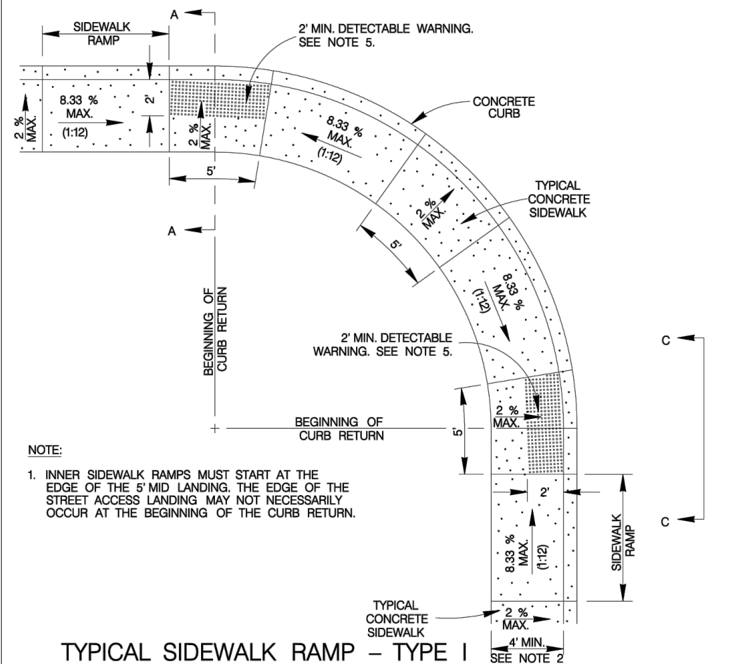
WITH SIDEWALK SEPARATED FROM CURB

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

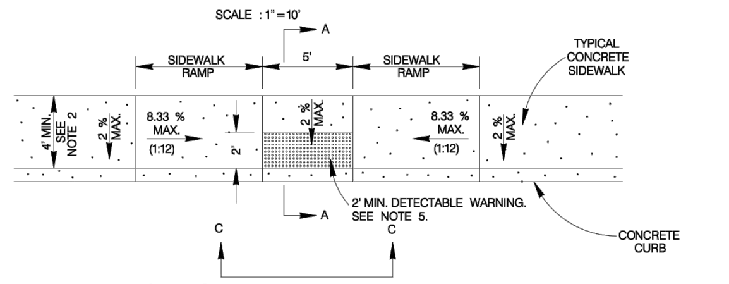
____% SUBMITTAL	PROJECT NO.:________		DATE:________
DRWN. BY: V. VASQUEZ	DSGN. BY:________	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:____OF____



NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP – TYPE I

SIDEWALK ABUTS THE CURB
SCALE : 1"=10'

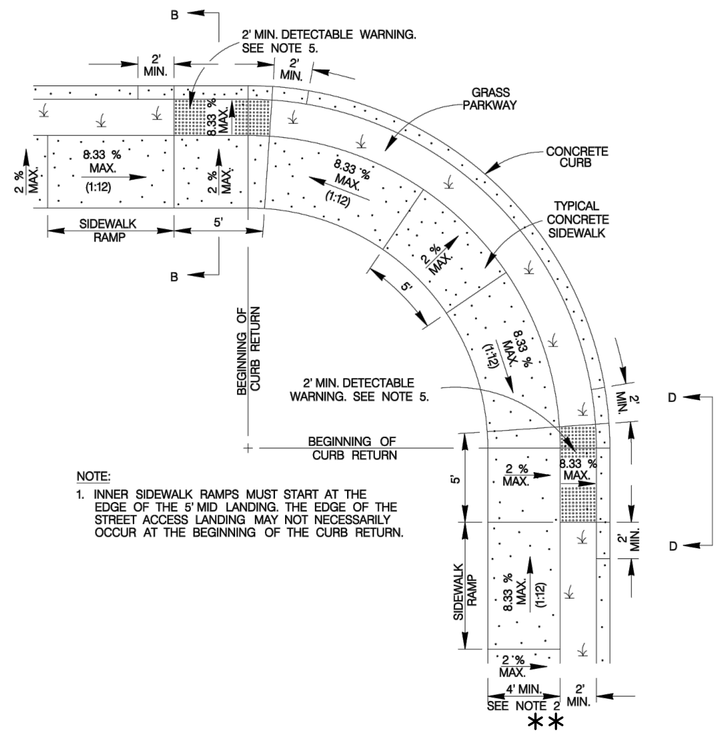


TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB
SCALE : 1"=10'

GENERAL NOTES

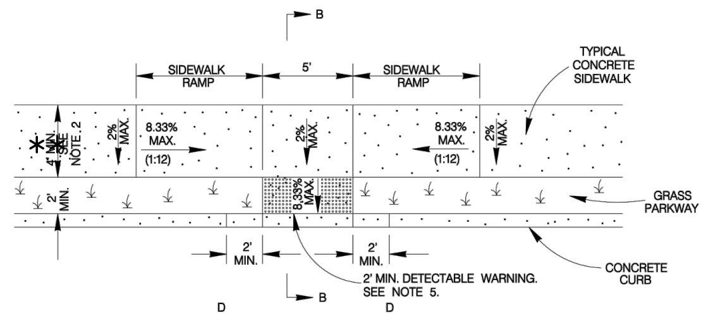
1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MININMUM OF 1 FOOT BUFFER. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
2. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB–RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP (IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES, ALIGNED IN A GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER–TO–CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE A CAST–IN–PLACE TILE CONFORMING TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS ~~OR PAVERS CONFORMING TO TXDOT STANDARD PED-05, PEDESTRIAN FACILITIES.~~
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 – CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER" AND / OR "502 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY, ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33–(–2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MID LANDING. THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

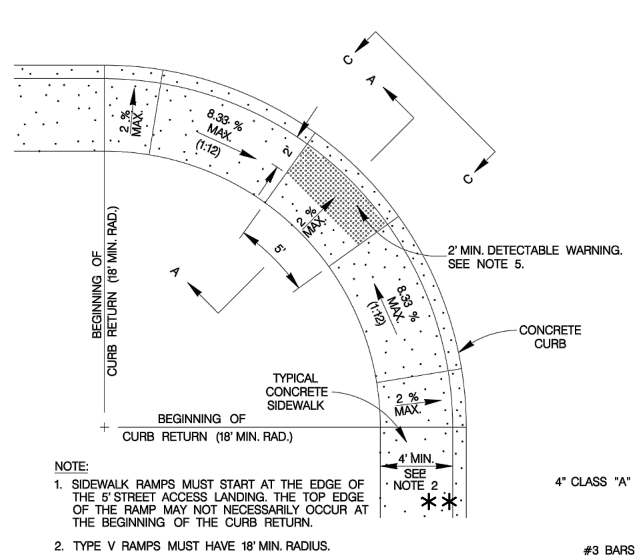
TYPICAL SIDEWALK RAMP – TYPE III

SIDEWALK SEPARATED FROM CURB
SCALE : 1"=10'



TYPICAL SIDEWALK RAMP – TYPE IV

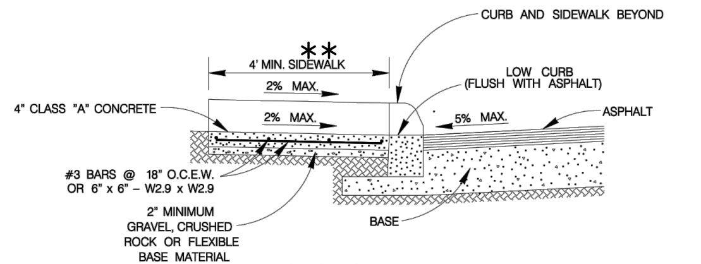
USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1"=10'


BEGINNING OF CURB RETURN (18' MIN. RAD.)
2' MIN. DETECTABLE WARNING. SEE NOTE 5.
8.33 % MAX. (1:12)
CONCRETE CURB
A
5'
TYPICAL CONCRETE SIDEWALK
2 % MAX.
BEGINNING OF CURB RETURN (18' MIN. RAD.)
4' MIN. SEE NOTE 2
**

NOTE:
1. SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' STREET ACCESS LANDING. THE TOP EDGE OF THE RAMP MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.
2. TYPE V RAMPS MUST HAVE 18' MIN. RADIUS.

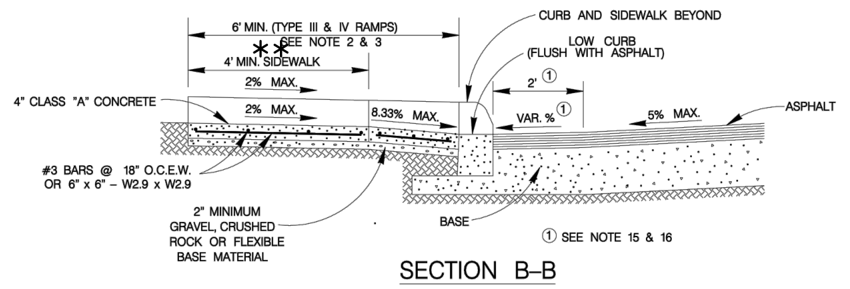
TYPICAL SIDEWALK RAMP – TYPE V

SIDEWALK ABUTS CURB
SCALE : 1"=10'


**
4' MIN. SIDEWALK
CURB AND SIDEWALK BEYOND
LOW CURB (FLUSH WITH ASPHALT)
4" CLASS "A" CONCRETE
2% MAX.
8% MAX.
ASPHALT
#3 BARS @ 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9
2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL
BASE

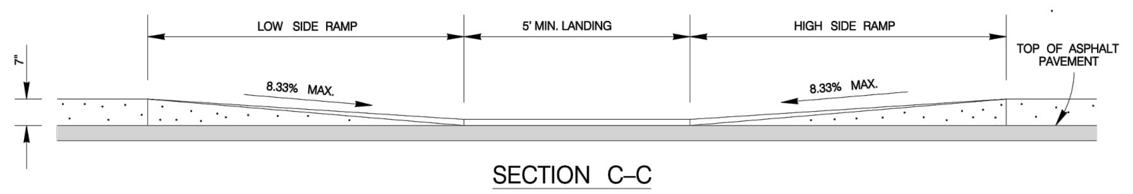
SECTION A–A

SCALE : 1"=4'


6' MIN. (TYPE III & IV RAMPS) SEE NOTE 2 & 3
**
4' MIN. SIDEWALK
CURB AND SIDEWALK BEYOND
LOW CURB (FLUSH WITH ASPHALT)
4" CLASS "A" CONCRETE
2% MAX.
8.33% MAX.
5% MAX.
ASPHALT
BASE
#3 BARS @ 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9
2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL
① SEE NOTE 15 & 16

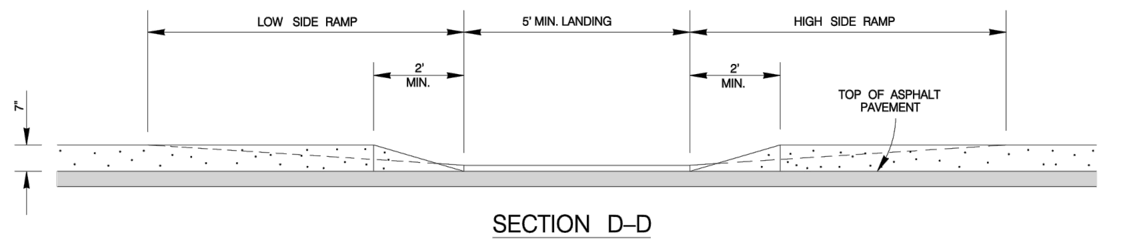
SECTION B–B

SCALE : 1"=4'



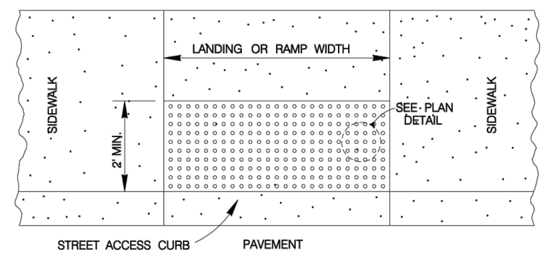
SECTION C–C

CURB PROFILE WHERE SIDEWALK ABUTS CURB
SCALE : 1"=4'



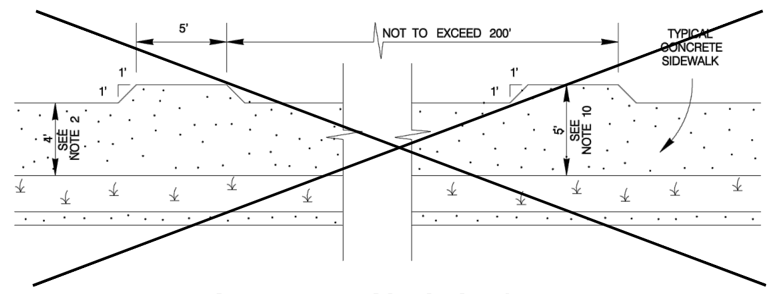
SECTION D–D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1"=4'



DETECTABLE WARNING SURFACE

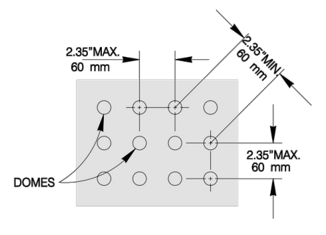
SCALE : 1"=4'



SIDEWALK PASSING SPACE

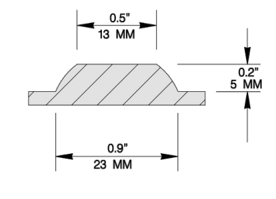
SCALE : 1"=10'

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"



PLAN DETAIL

NO SCALE



DOME SECTION

NO SCALE

NOTE:
STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS. CONTRACTOR MUST SUBMIT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

____% SUBMITTAL	PROJECT NO.:________		DATE:________
DRWN. BY: V. VASQUEZ	DSGN. BY:________	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:____OF____

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

STREET DETAILS

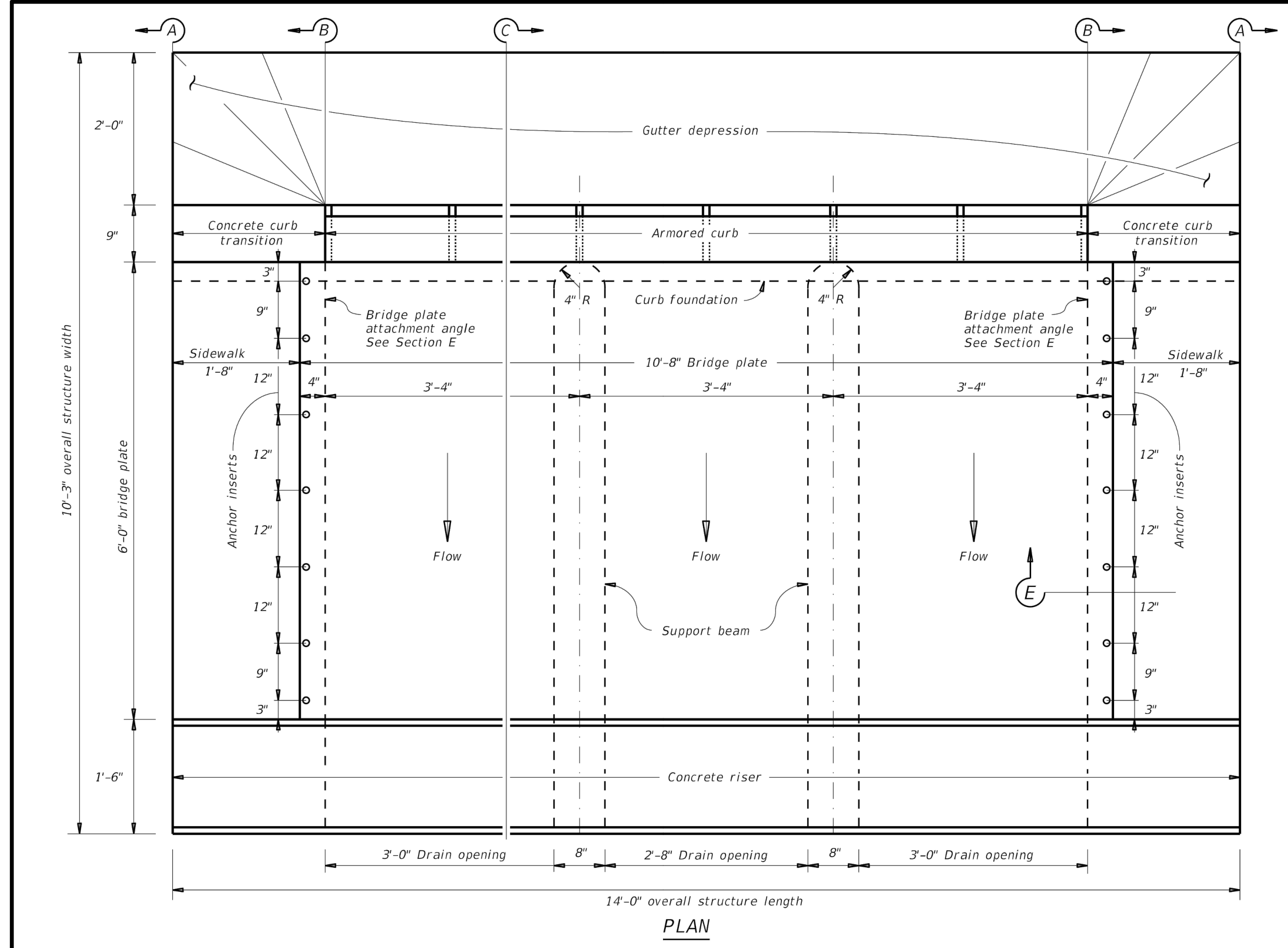
DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
514

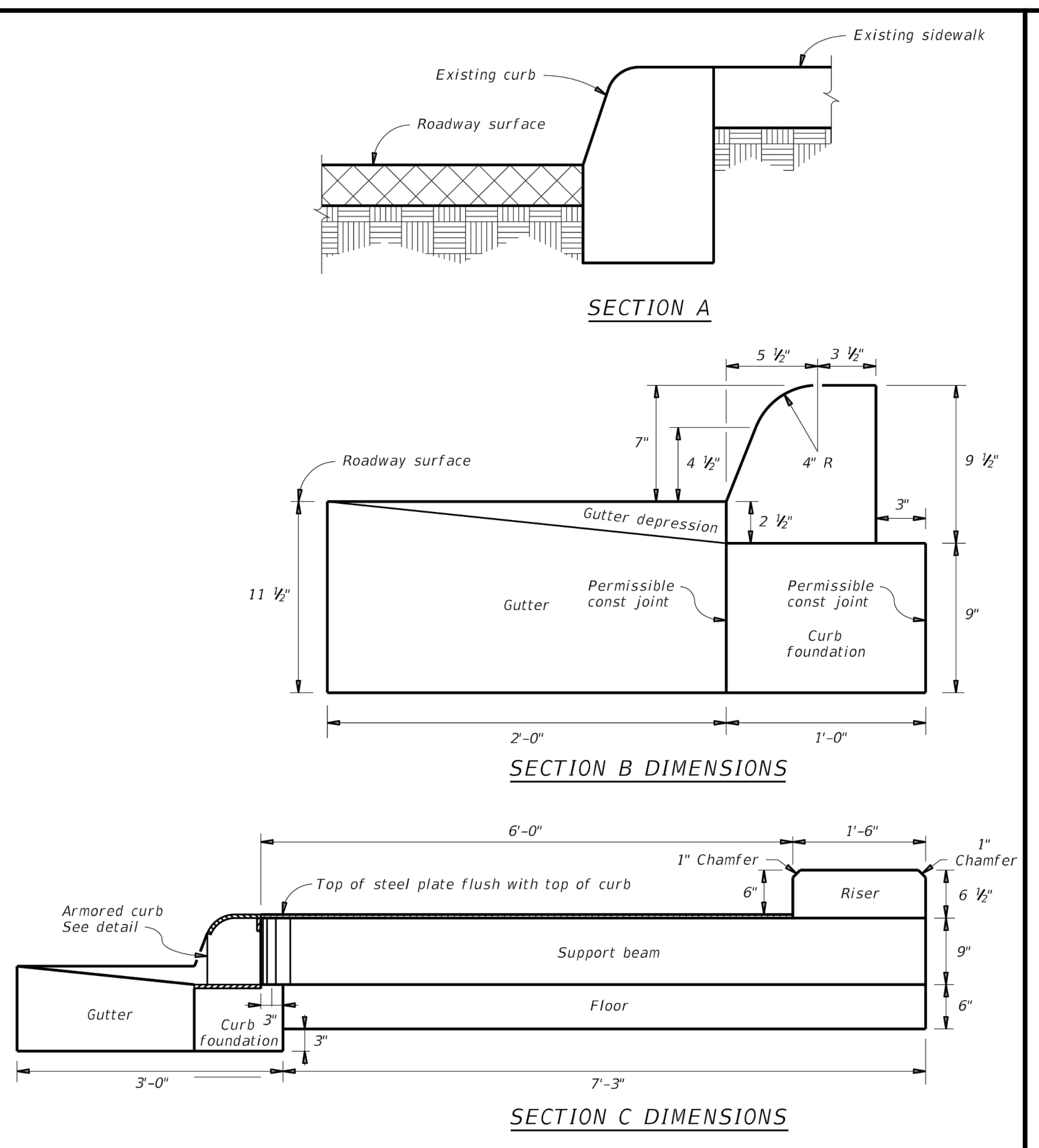
Date: Jul 31, 2024, 4:23pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 513-514 STREET DETAILS.dwg

**** CITY OF CIBOLO STANDARD SIDEWALK WIDTH NOTE:**

CITY OF SAN ANTONIO WHEELCHAIR RAMP STANDARDS ARE USED BUT
SHALL HAVE MINIMUM SIDEWALK WIDTH OF 5 FEET.



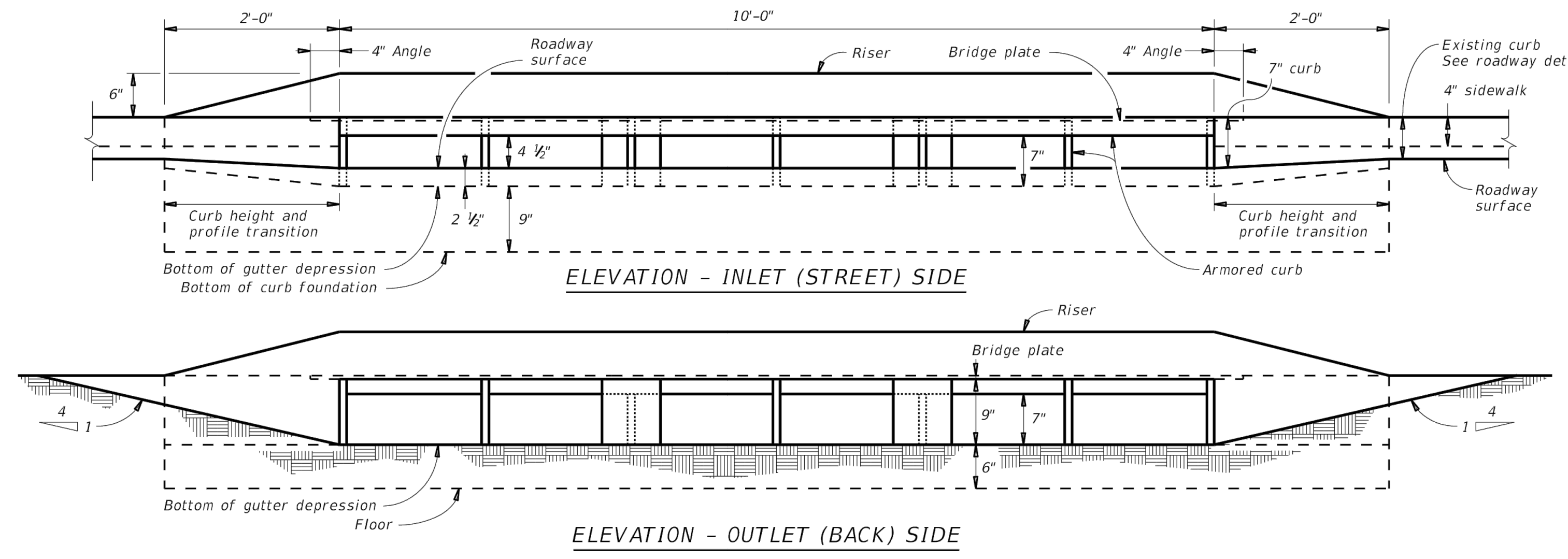
PLAN



SECTION A

SECTION B DIMENSIONS

SECTION C DIMENSIONS


4" Angle
Roadway surface
Riser
Bridge plate
7" curb
Existing curb See roadway details
4" sidewalk
Roadway surface
Curb height and profile transition
Bottom of gutter depression
Bottom of curb foundation
Armored curb
Riser
Bridge plate
Bottom of gutter depression
Floor

ELEVATION - INLET (STREET) SIDE

ELEVATION - OUTLET (BACK) SIDE

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions are out-to-out of bar.

Contractor is responsible for verifying all dimensions and quantities in the field before beginning work.

SHEET 1 OF 3

Texas Department of Transportation
San Antonio District (Structural Design)
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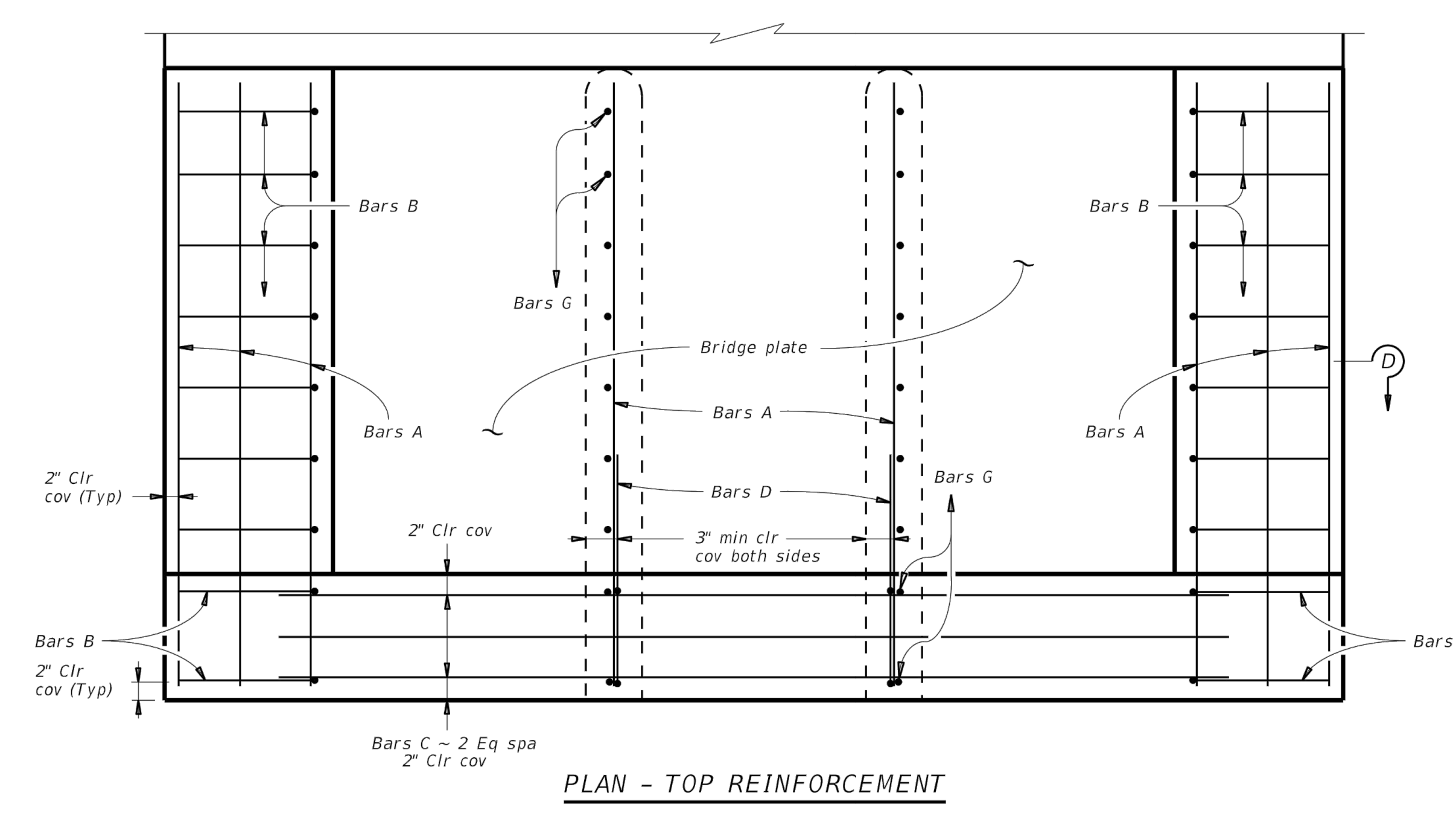
SIDEWALK BRIDGE
SAN ANTONIO DISTRICT STANDARD

DN: BCL	CK:	FILENAME: SA District Sidewalk Bridge.dgn		
DW: SRF	CK:	ORIGINAL DRAWING DATE: January 2020		
DIST	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		COUNTY
SAT	6			COUNTY
CONTROL	SECTION	JOB	SHEET NO.	ROUTE
0000	00	000	000	ROUTE

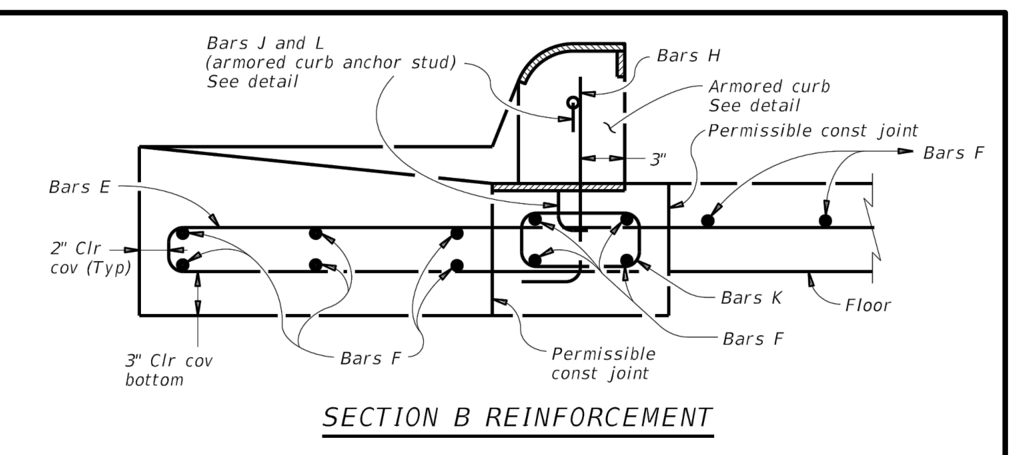
REVISIONS:



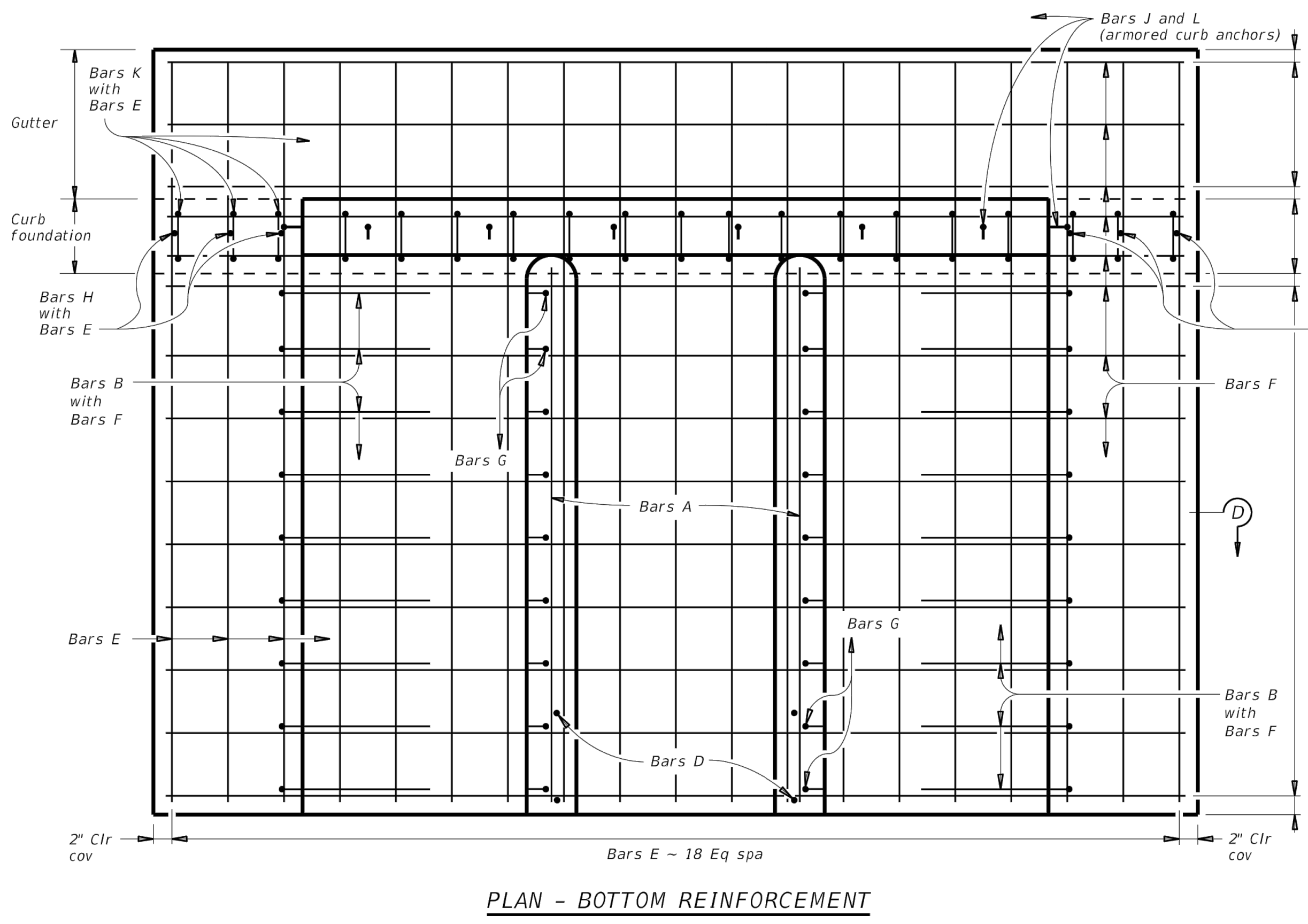
PLAN - TOP REINFORCEMENT

TABLE OF ESTIMATED QUANTITIES
For Contractor information only.

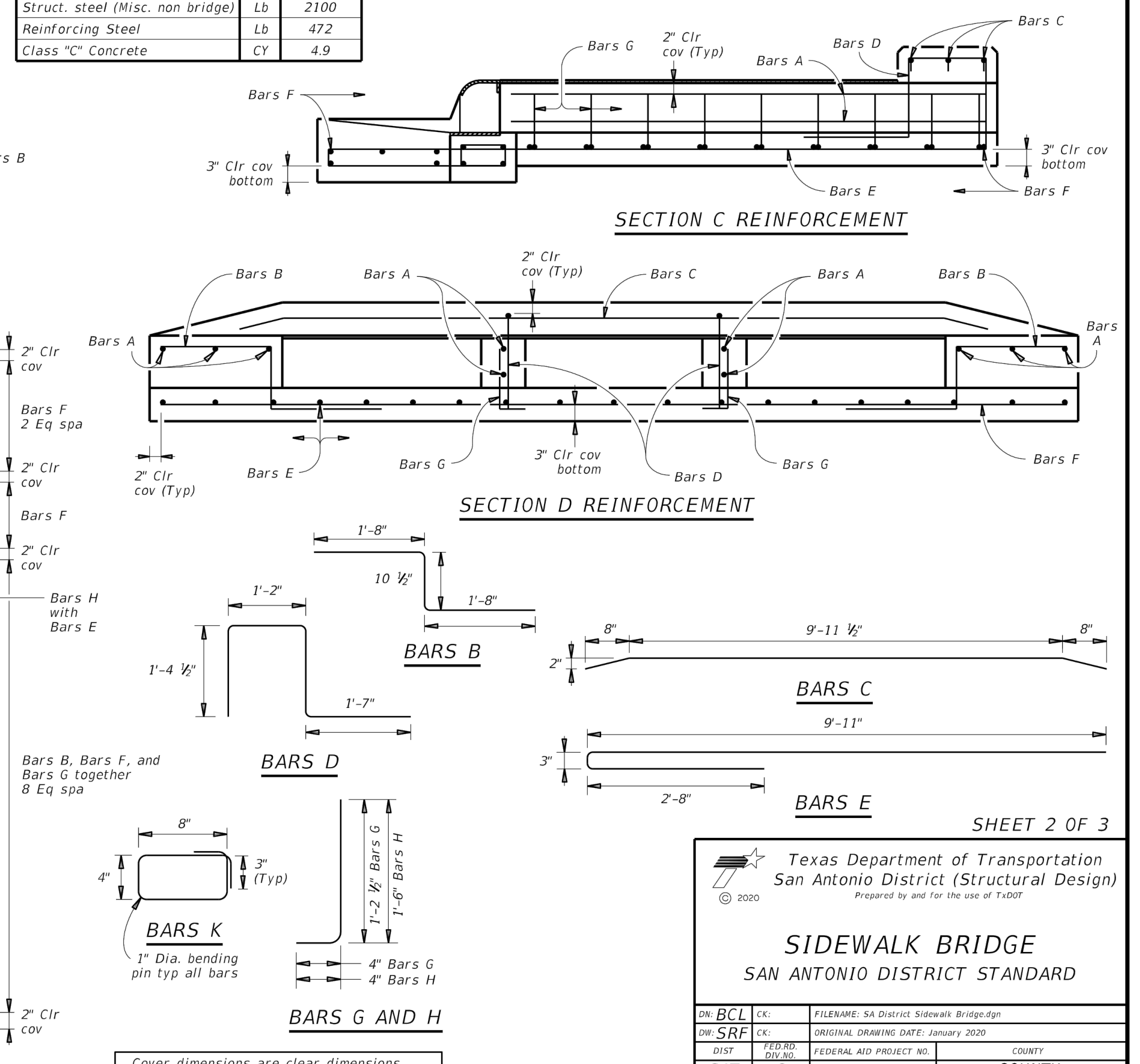
Bar	No.	Size	Length	Weight
A	10	#4	7'-2"	48
B	18	#4	4'-3"	52
C	3	#4	11'-4"	23
D	2	#4	5'-6"	8
E	19	#4	12'-10"	163
F	14	#4	13'-8"	128
G	18	#4	1'-6"	18
H	6	#4	1'-10"	8
I	6	#4	0'-8"	3
J	2	#4	0'-9"	1
K	19	#3	2'-6"	18
L	6	#4	0'-5"	2
Struct. steel (Misc. non bridge)			Lb	2100
Reinforcing Steel			Lb	472
Class "C" Concrete			CY	4.9



SECTION B REINFORCEMENT



PLAN - BOTTOM REINFORCEMENT



SECTION C REINFORCEMENT

SECTION D REINFORCEMENT

BARS B

BARS D

BARS C

BARS E

BARS K

BARS G AND H

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions are out-to-out of bar.

Contractor is responsible for verifying all dimensions and quantities in the field before beginning work.

SHEET 2 OF 3

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San Antonio District (Structural Design)
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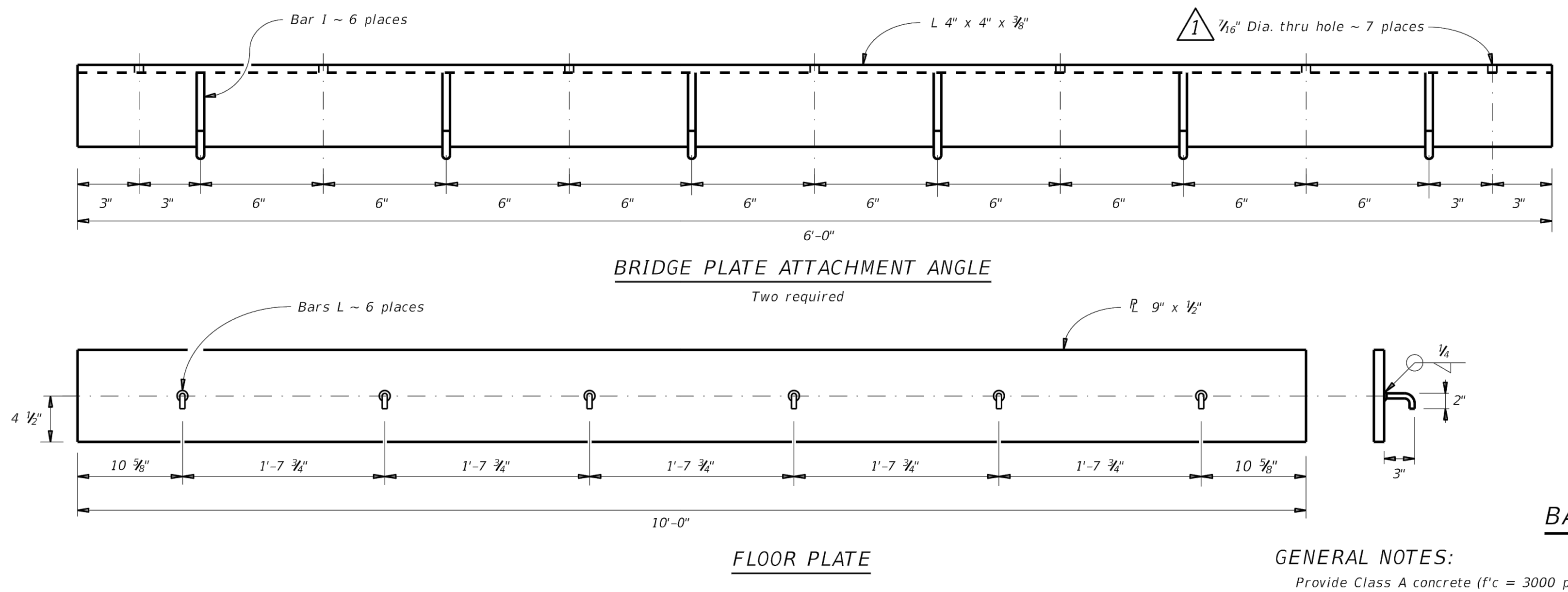
SIDEWALK BRIDGE
SAN ANTONIO DISTRICT STANDARD

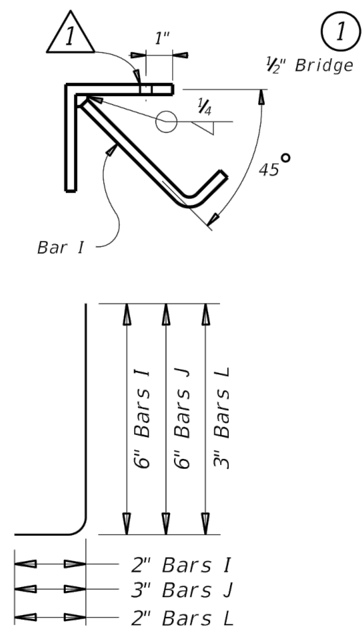
DN: BCL	CK:	FILENAME: SA District Sidewalk Bridge.dgn		
DW: SRF	CK:	ORIGINAL DRAWING DATE: January 2020		
DIST	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		COUNTY
SAT	6			COUNTY
CONTROL	SECTION	JOB	SHEET NO.	ROUTE
0000	00	000	000	ROUTE

REVISIONS:

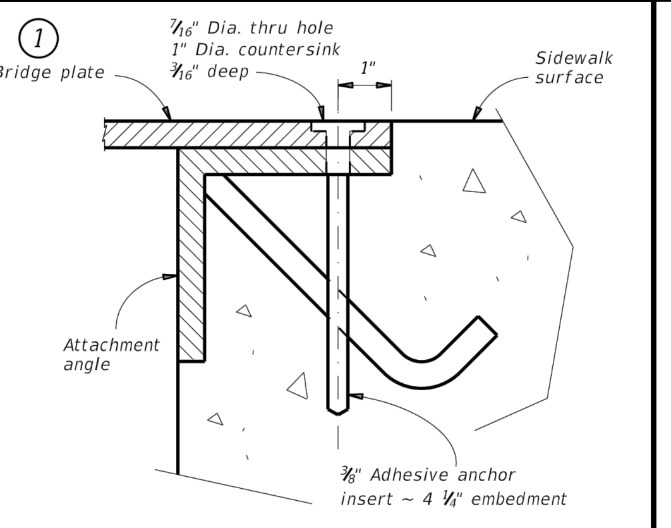


BRIDGE PLATE ATTACHMENT ANGLE
Two required

FLOOR PLATE



BARS I, J, AND L



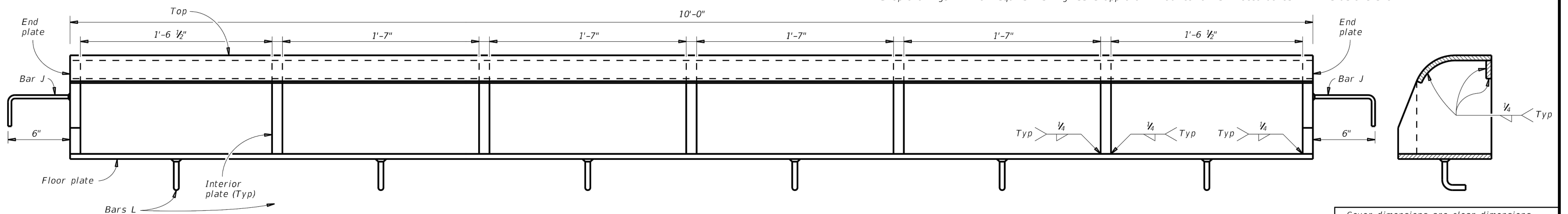
SECTION E

APPROVED SLIP RESISTANT PLATE	
Product	Manufacturer Website
Algrip™, Steel	www.algrip.com
Mebac® #3, Steel	www.harscoikg.com
SlipNOT® Grade 2, Steel	www.slipnot.com

① Provide cover plates fabricated with a product from this list. No exceptions are permitted.

GENERAL NOTES:

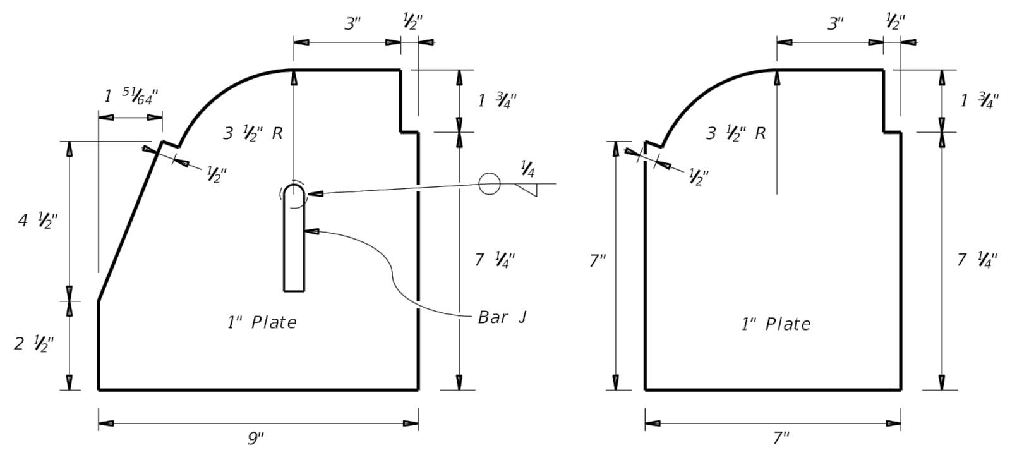
Provide Class A concrete (f'c = 3000 psi).
Provide Grade 60 reinforcing steel.
Structural steel components must be Grade A36.
All exposed edges of the armored curb must receive a ⅛" bevel.
All structural steel components must be galvanized after fabrication in accordance with Item 445, "Galvanizing".
Galvanizing damaged during transport or construction must be repaired in accordance with the Specification.
The bridge plate must be hot-dip galvanized slip resistant steel (see table). Checker or diamond plate is not allowed, nor are slip resistant tapes, films, or non-metallic coatings.
Adhesive anchor system must be HIT HY 150 H.I.S. internally threaded inserts as furnished by Hilti, Inc., Tulsa, OK, or approved equivalent.
Sidewalk bridge, including all labor, armored curb, bridge plate, and other material complete and in place must be paid for under Item 465, "Inlet (Comp) (Ty Sidewalk Bridge)" by location.
Shop drawings will not require the Engineer's approval if fabrication is in accordance with the details shown.



ARMORED CURB ASSEMBLY INLET ELEVATION

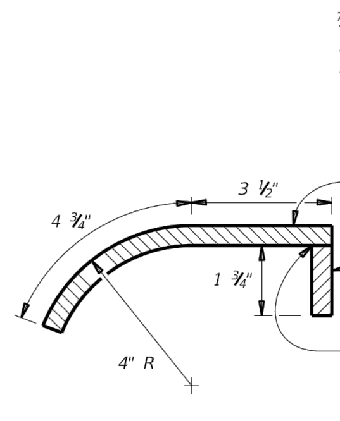
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions are out-to-out of bar.

Contractor is responsible for verifying all dimensions and quantities in the field before beginning work.

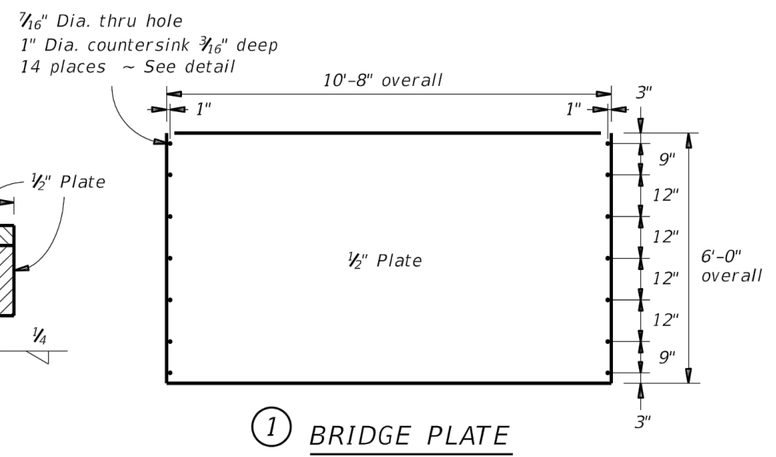


END PLATE
Two required

INTERIOR PLATE
Five required



TOP (SECTION)
10'-0" length



① BRIDGE PLATE
Hole location dimensions to center of hole

SHEET 3 OF 3

Texas Department of Transportation
San Antonio District (Structural Design)
Prepared by and for the use of TxDOT
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SIDEWALK BRIDGE
SAN ANTONIO DISTRICT STANDARD

DN: BCL	CK:	FILENAME: SA District Sidewalk Bridge.dgn		
DW: SRF	CK:	ORIGINAL DRAWING DATE: January 2020		
DIST	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		COUNTY
SAT	6			COUNTY
CONTROL	SECTION	JOB	SHEET NO.	ROUTE
0000	00	000	000	ROUTE

REVISIONS:
⚠1 12/7/22 Corrected hole placement error. Moved holes from side to top of angle.

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FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

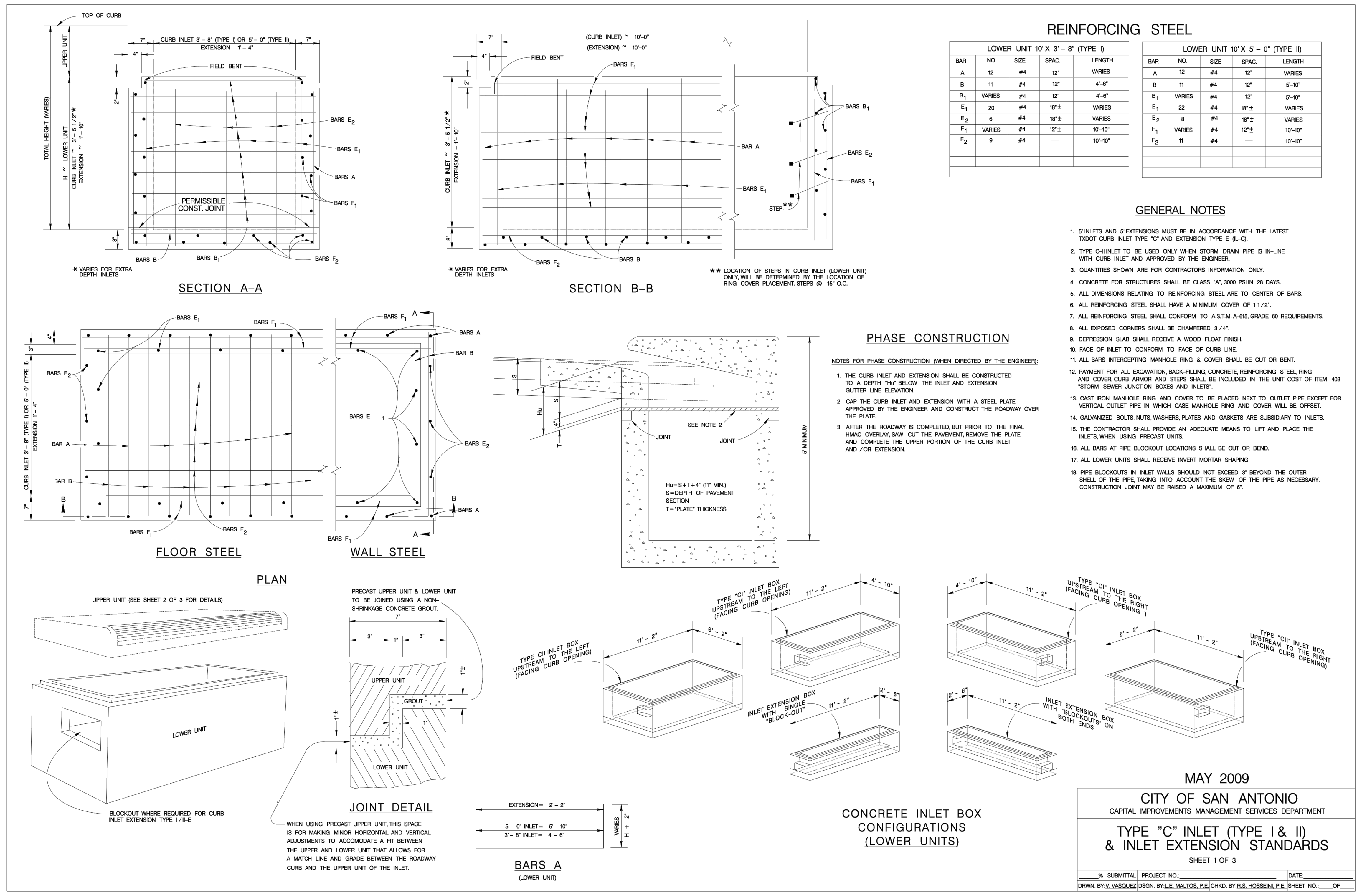
KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

STREET DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
515


SECTION A–A
SECTION B–B
FLOOR STEEL
WALL STEEL
PLAN
JOINT DETAIL
BARS A
CONCRETE INLET BOX CONFIGURATIONS (LOWER UNITS)
TYPE "CI" INLET BOX UPSTREAM TO THE RIGHT (FACING CURB OPENING)
INLET EXTENSION BOX WITH "BLOCKOUTS" ON BOTH ENDS
5' MINIMUM

LOCATION OF STEPS IN CURB INLET (LOWER UNIT) ONLY WILL BE DETERMINED BY THE LOCATION OF RING COVER PLACEMENT. STEPS @ 15" O.C.

REINFORCING STEEL

LOWER UNIT 10' X 3' – 8" (TYPE I)				
BAR	NO.	SIZE	SPAC.	LENGTH
A	12	#4	12"	VARIES
B	11	#4	12"	4'–6"
B_1	VARIES	#4	12"	4'–6"
E_1	20	#4	18"±	VARIES
E_2	6	#4	18"±	VARIES
F_1	VARIES	#4	12"±	10'–10"
F_2	9	#4	—	10'–10"

LOWER UNIT 10' X 5' – 0" (TYPE II)				
BAR	NO.	SIZE	SPAC.	LENGTH
A	12	#4	12"	VARIES
B	11	#4	12"	5'–10"
B_1	VARIES	#4	12"	5'–10"
E_1	22	#4	18"±	VARIES
E_2	8	#4	18"±	VARIES
F_1	VARIES	#4	12"±	10'–10"
F_2	11	#4	—	10'–10"

GENERAL NOTES

1. 5' INLETS AND 5' EXTENSIONS MUST BE IN ACCORDANCE WITH THE LATEST TXDOT CURB INLET TYPE "C" AND EXTENSION TYPE E (IL–C).
2. TYPE C–II INLET TO BE USED ONLY WHEN STORM DRAIN PIPE IS IN–LINE WITH CURB INLET AND APPROVED BY THE ENGINEER.
3. QUANTITIES SHOWN ARE FOR CONTRACTORS INFORMATION ONLY.
4. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
5. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 1 1/2".
7. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A–615, GRADE 60 REQUIREMENTS.
8. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3 / 4".
9. DEPRESSION SLAB SHALL RECEIVE A WOOD FLOAT FINISH.
10. FACE OF INLET TO CONFORM TO FACE OF CURB LINE.
11. ALL BARS INTERCEPTING MANHOLE RING & COVER SHALL BE CUT OR BENT.
12. PAYMENT FOR ALL EXCAVATION, BACK–FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER, CURB ARMOR AND STEPS SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 "STORM SEWER JUNCTION BOXES AND INLETS".
13. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE, EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
14. GALVANIZED BOLTS, NUTS, WASHERS, PLATES AND GASKETS ARE SUBSIDIARY TO INLETS.
15. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MEANS TO LIFT AND PLACE THE INLETS, WHEN USING PRECAST UNITS.
16. ALL BARS AT PIPE BLOCKOUT LOCATIONS SHALL BE CUT OR BEND.
17. ALL LOWER UNITS SHALL RECEIVE INVERT MORTAR SHAPING.
18. PIPE BLOCKOUTS IN INLET WALLS SHOULD NOT EXCEED 3" BEYOND THE OUTER SHELL OF THE PIPE, TAKING INTO ACCOUNT THE SKEW OF THE PIPE AS NECESSARY. CONSTRUCTION JOINT MAY BE RAISED A MAXIMUM OF 6".

PHASE CONSTRUCTION

NOTES FOR PHASE CONSTRUCTION (WHEN DIRECTED BY THE ENGINEER):

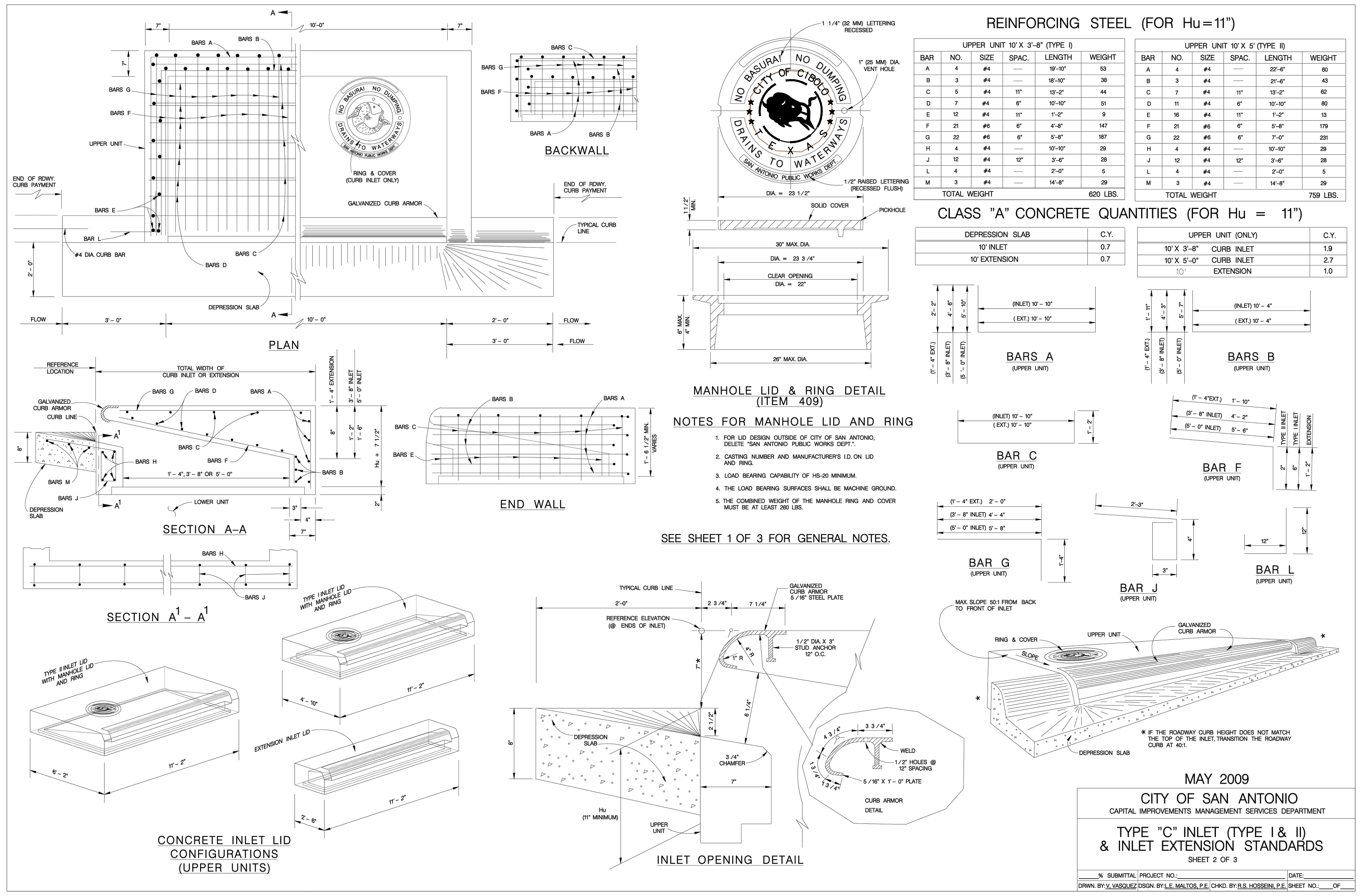
1. THE CURB INLET AND EXTENSION SHALL BE CONSTRUCTED TO A DEPTH "Hu" BELOW THE INLET AND EXTENSION GUTTER LINE ELEVATION.
2. CAP THE CURB INLET AND EXTENSION WITH A STEEL PLATE APPROVED BY THE ENGINEER AND CONSTRUCT THE ROADWAY OVER THE PLATE.
3. AFTER THE ROADWAY IS COMPLETED, BUT PRIOR TO THE FINAL HMAC OVERLAY, SAW CUT THE PAVEMENT, REMOVE THE PLATE AND COMPLETE THE UPPER PORTION OF THE CURB INLET AND / OR EXTENSION.

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 1 OF 3

______% SUBMITTAL	PROJECT NO.:______		DATE:______
DRWN. BY: V. VASQUEZ	DSGN. BY: L.E. MALTOS, P.E.	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:____OF____



REINFORCING STEEL (FOR Hu = 11")

UPPER UNIT 10' X 3'–8" (TYPE I)					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	—	19'–10"	53
B	3	#4	—	18'–10"	38
C	5	#4	11"	13'–2"	44
D	7	#4	6"	10'–10"	51
E	12	#4	11"	1'–2"	9
F	21	#6	6"	4'–8"	147
G	22	#6	6"	5'–8"	187
H	4	#4	—	10'–10"	29
J	12	#4	12"	3'–6"	28
L	4	#4	—	2'–0"	5
M	3	#4	—	14'–8"	29
TOTAL WEIGHT					620 LBS.

UPPER UNIT 10' X 5' (TYPE II)					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	—	22'–6"	60
B	3	#4	—	21'–6"	43
C	7	#4	11"	13'–2"	62
D	11	#4	6"	10'–10"	80
E	16	#4	11"	1'–2"	13
F	21	#6	6"	5'–8"	179
G	22	#6	6"	7'–0"	231
H	4	#4	—	10'–10"	29
J	12	#4	12"	3'–6"	28
L	4	#4	—	2'–0"	5
M	3	#4	—	14'–8"	29
TOTAL WEIGHT					759 LBS.

CLASS "A" CONCRETE QUANTITIES (FOR Hu = 11")

DEPRESSION SLAB	C.Y.
10' INLET	0.7
10' EXTENSION	0.7

UPPER UNIT (ONLY)	C.Y.
10' X 3'–8" CURB INLET	1.9
10' X 5'–0" CURB INLET	2.7
10' EXTENSION	1.0

NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT.".
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS–20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

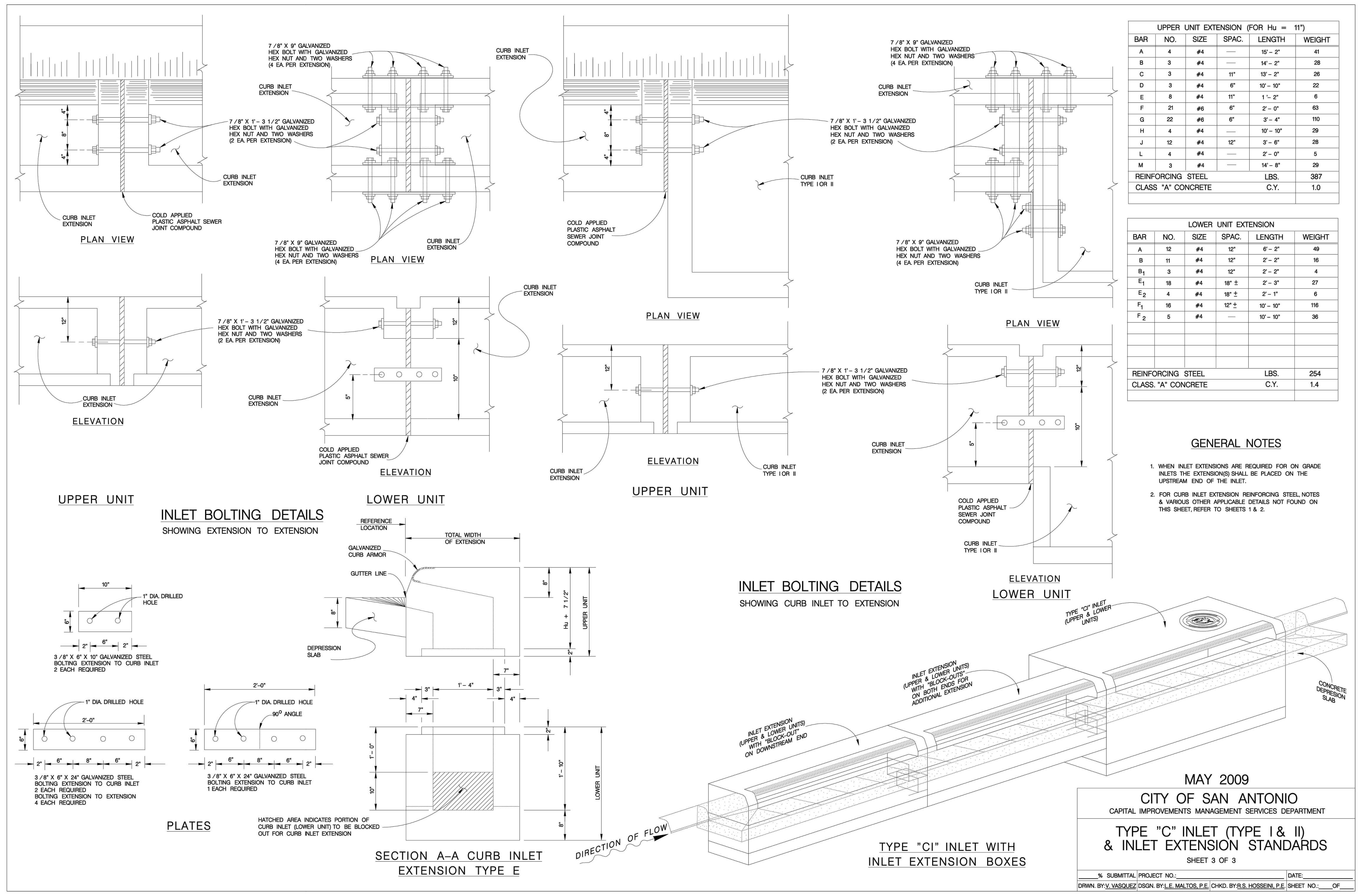
SEE SHEET 1 OF 3 FOR GENERAL NOTES.

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 2 OF 3

______% SUBMITTAL	PROJECT NO.:______		DATE:______
DRWN. BY: V. VASQUEZ	DSGN. BY: L.E. MALTOS, P.E.	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:____OF____


PLAN VIEW
ELEVATION
UPPER UNIT
LOWER UNIT
INLET BOLTING DETAILS
SHOWING EXTENSION TO EXTENSION
SHOWING CURB INLET TO EXTENSION
PLATES
SECTION A–A CURB INLET EXTENSION TYPE E
TYPE "CI" INLET WITH INLET EXTENSION BOXES
DIRECTION OF FLOW

UPPER UNIT EXTENSION (FOR Hu = 11")					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	—	15' – 2"	41
B	3	#4	—	14' – 2"	28
C	3	#4	11"	13' – 2"	26
D	3	#4	6"	10' – 10"	22
E	8	#4	11"	1 '– 2"	6
F	21	#6	6"	2' – 0"	63
G	22	#6	6"	3' – 4"	110
H	4	#4	—	10' – 10"	29
J	12	#4	12"	3' – 6"	28
L	4	#4	—	2' – 0"	5
M	3	#4	—	14' – 8"	29
REINFORCING STEEL				LBS.	387
CLASS "A" CONCRETE				C.Y.	1.0

LOWER UNIT EXTENSION					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	12	#4	12"	6' – 2"	49
B	11	#4	12"	2' – 2"	16
B_1	3	#4	12"	2' – 2"	4
E_1	18	#4	18" ±	2' – 3"	27
E_2	4	#4	18" ±	2' – 1"	6
F_1	16	#4	12" ±	10' – 10"	116
F_2	5	#4	—	10' – 10"	36
REINFORCING STEEL				LBS.	254
CLASS. "A" CONCRETE				C.Y.	1.4

GENERAL NOTES

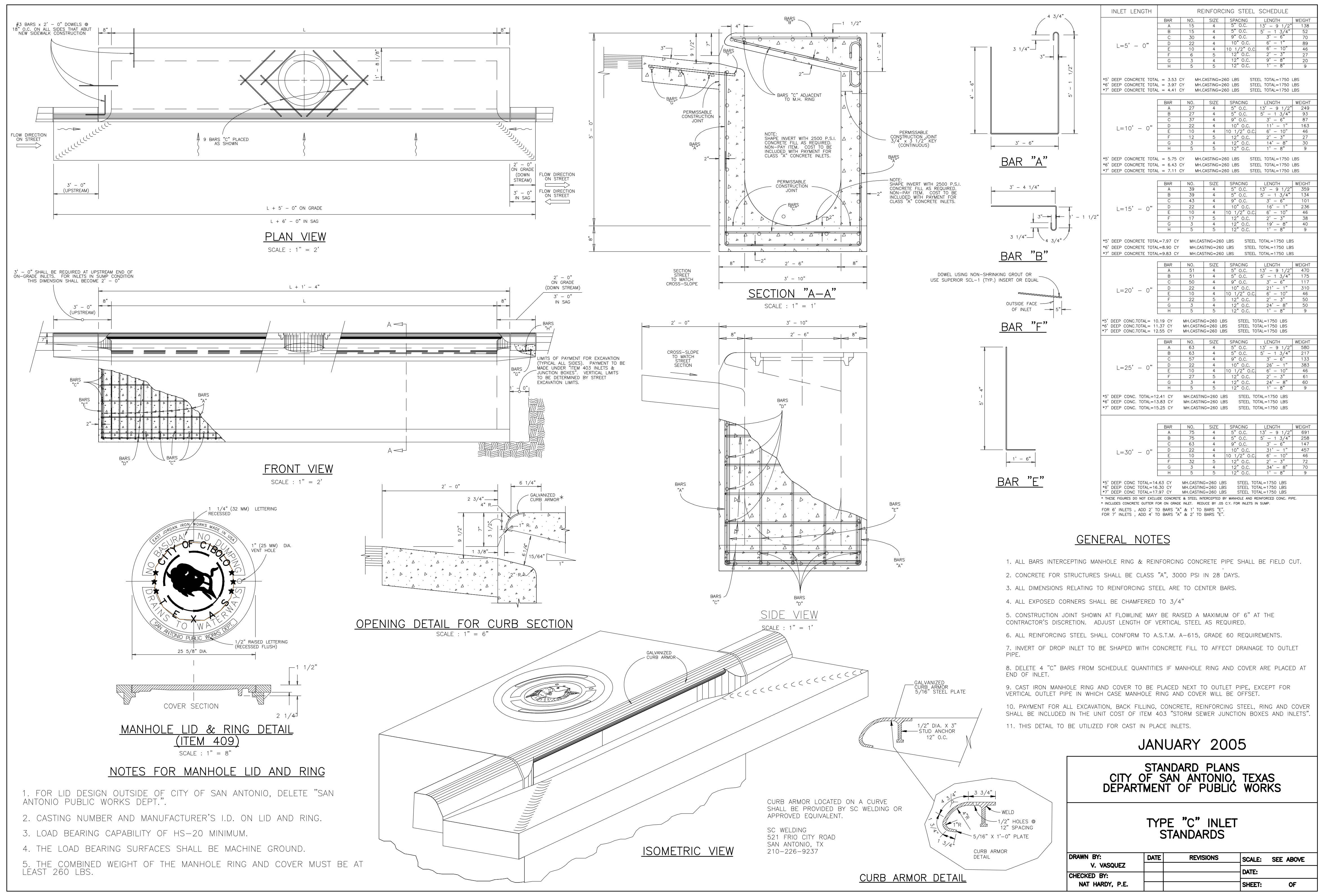
1. WHEN INLET EXTENSIONS ARE REQUIRED FOR ON GRADE INLETS THE EXTENSION(S) SHALL BE PLACED ON THE UPSTREAM END OF THE INLET.
2. FOR CURB INLET EXTENSION REINFORCING STEEL, NOTES & VARIOUS OTHER APPLICABLE DETAILS NOT FOUND ON THIS SHEET, REFER TO SHEETS 1 & 2.

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II)
& INLET EXTENSION STANDARDS
SHEET 3 OF 3

______% SUBMITTAL	PROJECT NO.:______		DATE:______
DRWN. BY: V. VASQUEZ	DSGN. BY: L.E. MALTOS, P.E.	CHKD. BY: R.S. HOSSEINI, P.E.	SHEET NO.:____OF____



MANHOLE LID & RING DETAIL (ITEM 409)
SCALE : 1" = 8"

INLET LENGTH	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
L=5' – 0"	A	15	4	5" O.C.	13' – 9 1/2"	138
	B	15	4	5" O.C.	5' – 1 3/4"	52
	C	30	4	9" O.C.	3' – 6"	70
	D	22	4	10" O.C.	6' – 1"	89
	E	10	4	10 1/2" O.C.	6' – 10"	46
	F	6	5	12" O.C.	2' – 3"	27
	G	3	4	12" O.C.	9' – 8"	20
	H	5	5	12" O.C.	1' – 8"	9

*5' DEEP CONCRETE TOTAL = 3.53 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*6' DEEP CONCRETE TOTAL = 3.97 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*7' DEEP CONCRETE TOTAL = 4.41 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS

INLET LENGTH	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
L=10' – 0"	A	27	4	5" O.C.	13' – 9 1/2"	249
	B	27	4	5" O.C.	5' – 1 3/4"	93
	C	37	4	9" O.C.	3' – 6"	87
	D	22	4	10" O.C.	11' – 1"	163
	E	10	4	10 1/2" O.C.	6' – 10"	46
	F	12	5	12" O.C.	2' – 3"	27
	G	3	4	12" O.C.	14' – 8"	30
	H	5	5	12" O.C.	1' – 8"	9

*5' DEEP CONCRETE TOTAL = 5.75 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*6' DEEP CONCRETE TOTAL = 6.43 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*7' DEEP CONCRETE TOTAL = 7.11 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS

INLET LENGTH	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
L=15' – 0"	A	39	4	5" O.C.	13' – 9 1/2"	359
	B	39	4	5" O.C.	5' – 1 3/4"	134
	C	43	4	9" O.C.	3' – 6"	101
	D	22	4	10" O.C.	16' – 1"	236
	E	10	4	10 1/2" O.C.	6' – 10"	46
	F	17	5	12" O.C.	2' – 3"	38
	G	3	4	12" O.C.	19' – 8"	40
	H	5	5	12" O.C.	1' – 8"	9

*5' DEEP CONCRETE TOTAL=7.97 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*6' DEEP CONCRETE TOTAL=8.90 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*7' DEEP CONCRETE TOTAL=9.83 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS

INLET LENGTH	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
L=20' – 0"	A	51	4	5" O.C.	13' – 9 1/2"	470
	B	51	4	5" O.C.	5' – 1 3/4"	175
	C	50	4	9" O.C.	3' – 6"	117
	D	22	4	10" O.C.	21' – 1"	310
	E	10	4	10 1/2" O.C.	6' – 10"	46
	F	22	5	12" O.C.	2' – 3"	50
	G	3	4	12" O.C.	24' – 8"	50
	H	5	5	12" O.C.	1' – 8"	9

*5' DEEP CONC.TOTAL= 10.19 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*6' DEEP CONC.TOTAL= 11.37 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*7' DEEP CONC.TOTAL= 12.55 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS

INLET LENGTH	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
L=25' – 0"	A	63	4	5" O.C.	13' – 9 1/2"	580
	B	63	4	5" O.C.	5' – 1 3/4"	217
	C	57	4	9" O.C.	3' – 6"	133
	D	22	4	10" O.C.	26' – 1"	383
	E	10	4	10 1/2" O.C.	6' – 10"	46
	F	27	5	12" O.C.	2' – 3"	61
	G	3	4	12" O.C.	24' – 8"	60
	H	5	5	12" O.C.	1' – 8"	9

*5' DEEP CONC. TOTAL=12.41 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*6' DEEP CONC. TOTAL=13.83 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*7' DEEP CONC. TOTAL=15.25 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS

INLET LENGTH	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
L=30' – 0"	A	75	4	5" O.C.	13' – 9 1/2"	691
	B	75	4	5" O.C.	5' – 1 3/4"	258
	C	63	4	9" O.C.	3' – 6"	147
	D	22	4	10" O.C.	31' – 1"	457
	E	10	4	10 1/2" O.C.	6' – 10"	46
	F	32	5	12" O.C.	2' – 3"	72
	G	3	4	12" O.C.	34' – 8"	70
	H	5	5	12" O.C.	1' – 8"	9

*5' DEEP CONC TOTAL=14.63 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*6' DEEP CONC TOTAL=16.30 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS
*7' DEEP CONC TOTAL=17.97 CY MH.CASTING=260 LBS STEEL TOTAL=1750 LBS

* THESE FIGURES DO NOT EXCLUDE CONCRETE & STEEL INTERCEPTED BY MANHOLE AND REINFORCED CONC. PIPE.
* INCLUDES CONCRETE GUTTER FOR ON GRADE INLET. REDUCE BY .05 C.Y. FOR INLETS IN SUMP.
FOR 6' INLETS , ADD 2' TO BARS "A" & 1' TO BARS "E".
FOR 7' INLETS , ADD 4' TO BARS "A" & 2' TO BARS "E".

NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT.".
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS–20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

GENERAL NOTES

1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4"
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION. ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A–615, GRADE 60 REQUIREMENTS.
7. INVERT OF DROP INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DELETE 4 "C" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED AT END OF INLET.
9. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE, EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION, BACK FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 "STORM SEWER JUNCTION BOXES AND INLETS".
11. THIS DETAIL TO BE UTILIZED FOR CAST IN PLACE INLETS.

JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

TYPE "C" INLET
STANDARDS

DRAWN BY:	DATE	REVISIONS	SCALE: SEE ABOVE
V. VASQUEZ			DATE:
CHECKED BY: NAT HARDY, P.E.			SHEET: OF

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARD COPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.

REV	DATE	DESCRIPTION
		NOT FOR CONSTRUCTION FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

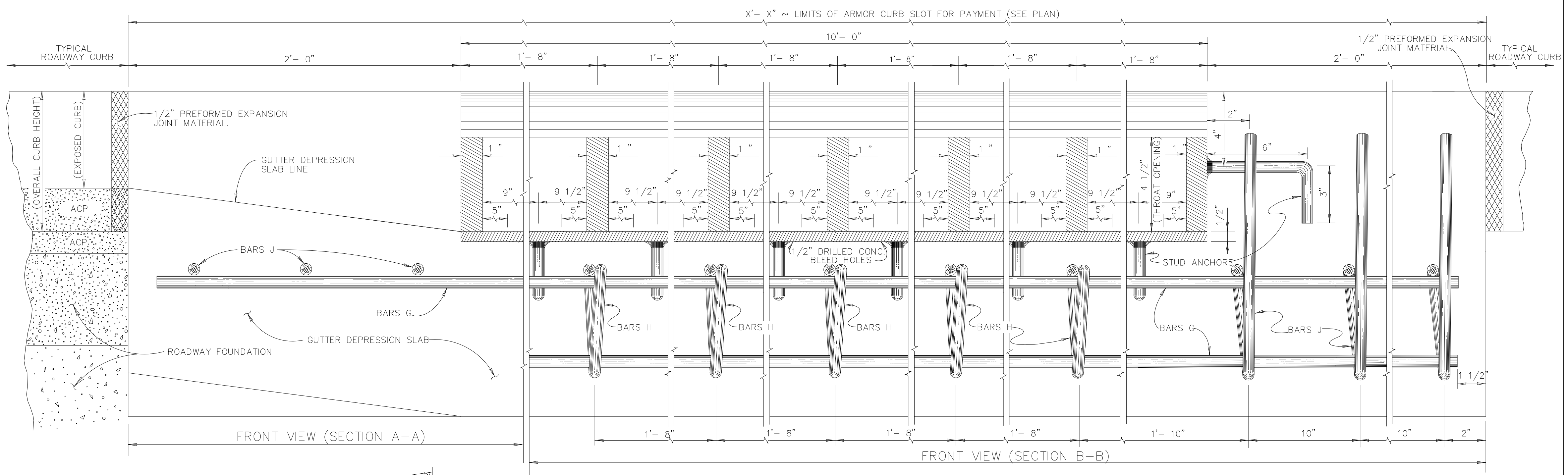
CIBOLO FARMS UNIT 3

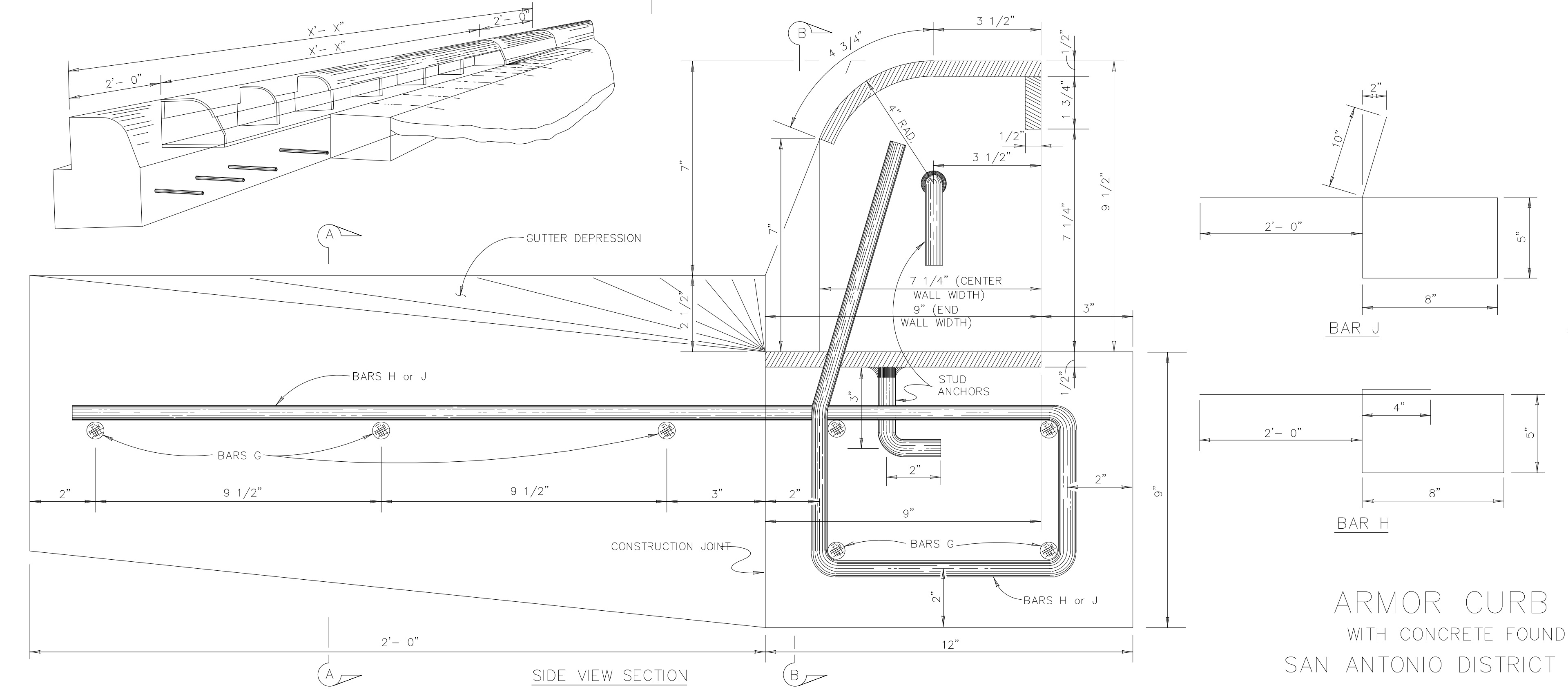
DRAIN DETAILS

DRAFTING: P.R./D.M.		CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
516

Date: Jul 31, 2024, 4:23pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 515-516 DRAIN DETAILS.dwg


X'– X" ~ LIMITS OF ARMOR CURB SLOT FOR PAYMENT (SEE PLAN)
TYPICAL ROADWAY CURB
1/2" PREFORMED EXPANSION JOINT MATERIAL
GUTTER DEPRESSION SLAB LINE
BARS J
BARS G
GUTTER DEPRESSION SLAB
ROADWAY FOUNDATION
1/2" DRILLED CONC. BLEED HOLES
STUD ANCHORS
BARS H
FRONT VIEW (SECTION A–A)
FRONT VIEW (SECTION B–B)



ESTIMATED QUANTITIES FOR REINFORCING STEEL					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
G	7	#4	SHOWN	13'– 9"	64
H	5	#4	1'– 8"	4'– 6"	15
J	6	#4	8"	5'– 0"	20
TOTAL WEIGHT *				LBS.	99
CONCRETE FOR FOUNDATION *				C.Y.	0.47
CONCRETE FOR GUTTER DEPRESSION *				C.Y.	0.78

STRUCTURAL STEEL FOR ARMOR CURB SLOT		
STUD ANCHORS (1/2"DIA.)	LBS.	3.5
STEEL PLATE	LBS.	451
TOTAL WEIGHT*	LBS.	454.5

* FOR CONTRACTORS INFO ONLY.

GENERAL NOTES:

ALL CONCRETE SHALL BE CL."A".

ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.

ALL SIDES OF ARMOR CURB SLOT AND STUD ANCHORS SHALL BE 1/4" FILLET WELDS.

ALL EXPOSED STRUCTURAL STEEL (ARMOR) SHALL BE GALVANIZED.

ALL EXPOSED EDGES ON ARMOR CURB SHALL RECEIVE A 1/8" BEVEL.

THE SHAPE OF THE TYPICAL ROADWAY CURB SHALL TRANSITION TO THE ARMOR CURB AS APPROVED BY THE ENGINEER.

ARMOR CURB SLOT
WITH CONCRETE FOUNDATION
SAN ANTONIO DISTRICT STANDARDS

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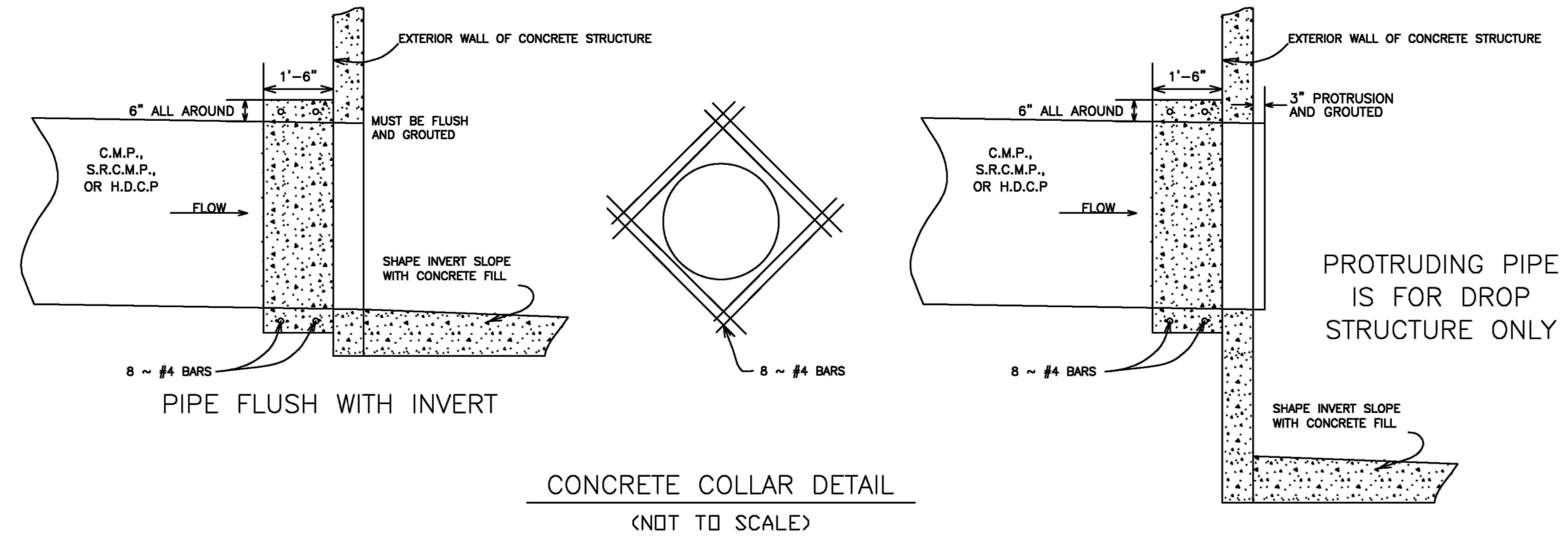
10/95
REV.07/01

FED.RD. DIV.NO.	PROJECT NO.		SHEET NO.
6			
STATE	STATE DISTRICT	COUNTY	
TEXAS	SAT		
CONT.	SECT.	JOB	HIGHWAY NO.

---

1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM. A–15. THE DEFORMATION SHALL CONFORM TO ASTM. A–305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD–CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).


EXTERIOR WALL OF CONCRETE STRUCTURE
1'–6"
6" ALL AROUND
MUST BE FLUSH AND GROUTED
C.M.P., S.R.C.M.P., OR H.D.C.P
FLOW
SHAPE INVERT SLOPE WITH CONCRETE FILL
8 ~ #4 BARS
PIPE FLUSH WITH INVERT
3" PROTRUSION AND GROUTED
PROTRUDING PIPE IS FOR DROP STRUCTURE ONLY

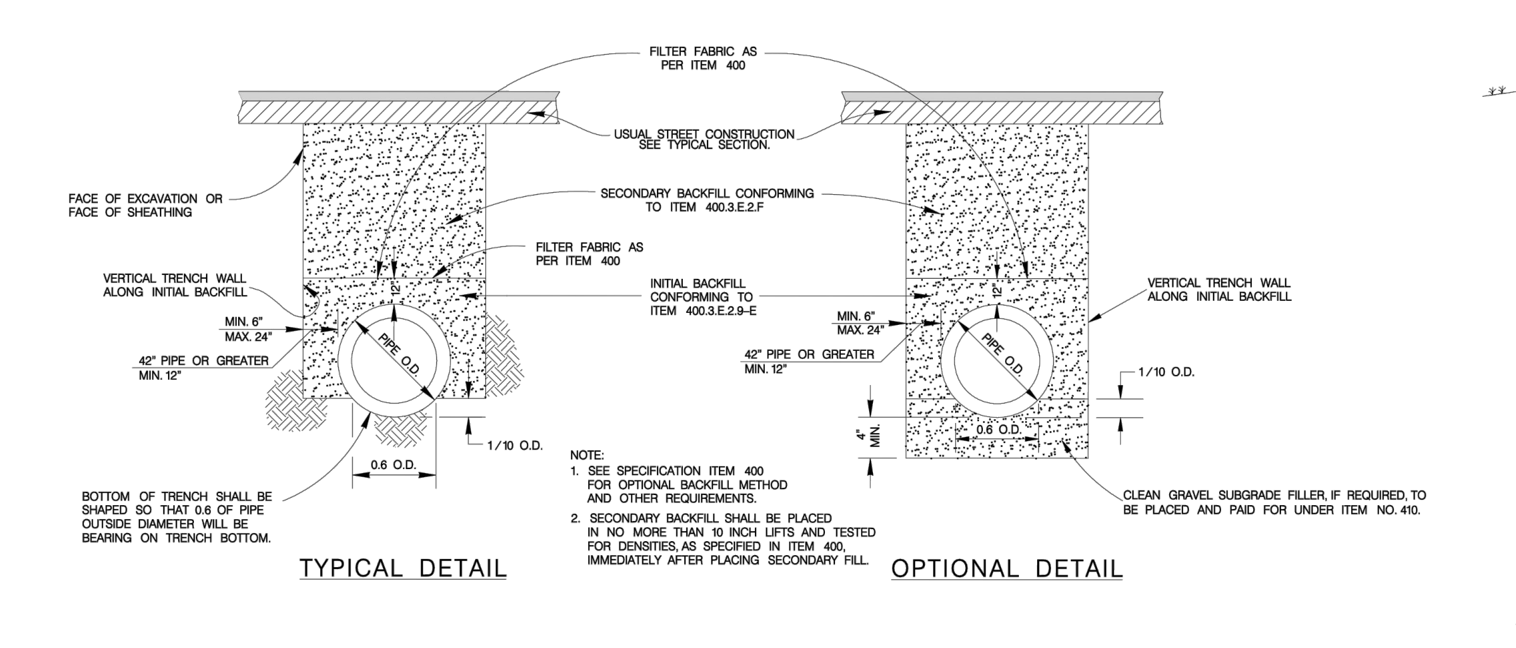
CONCRETE COLLAR DETAIL
(NOT TO SCALE)

JANUARY 2006

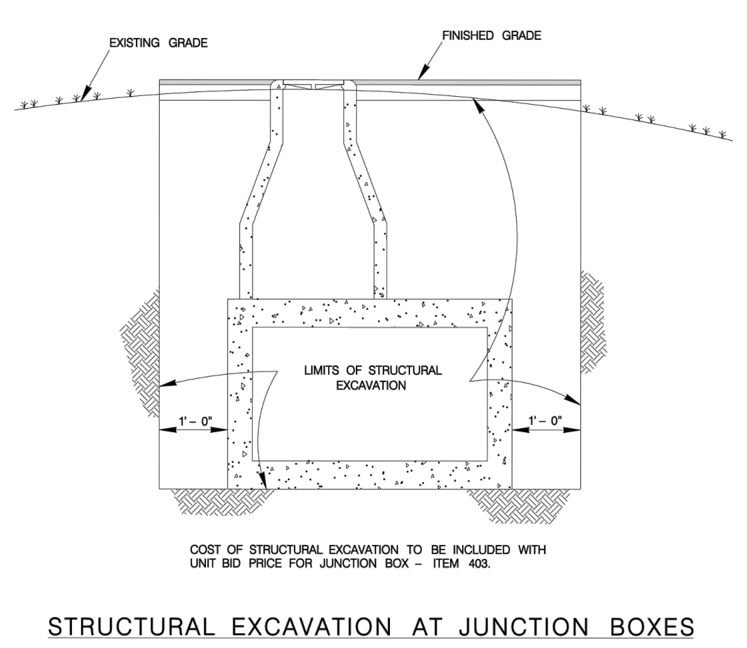
STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEVELOPMENT SERVICES

CONCRETE COLLAR DETAIL

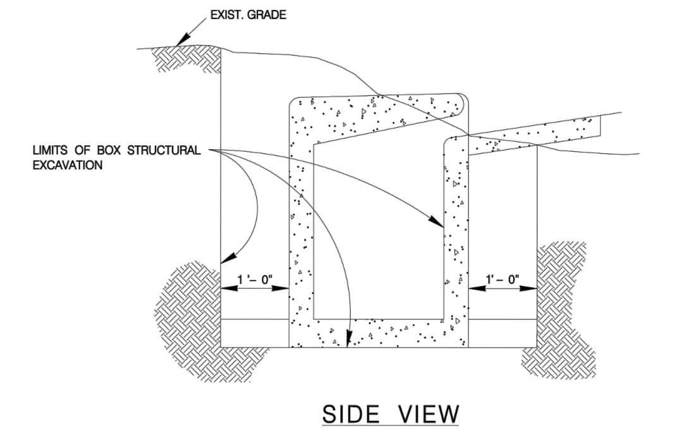
DRAWN BY: ANDREW WINTER, P.E.	DATE	REVISIONS	SCALE: SEE ABOVE
			DATE: 19 JANUARY 2006
CHECKED BY: SAM DENT, P.E.			SHEET: 1 OF 1


FILTER FABRIC AS PER ITEM 400
USUAL STREET CONSTRUCTION SEE TYPICAL SECTION
FACE OF EXCAVATION OR FACE OF SHEATHING
SECONDARY BACKFILL CONFORMING TO ITEM 400.3.E.F
VERTICAL TRENCH WALL ALONG INITIAL BACKFILL
INITIAL BACKFILL CONFORMING TO ITEM 400.3.E.2.B-C
42" PIPE OR GREATER
BOTTOM OF TRENCH SHALL BE SHAPED SO THAT 0.6 OF PIPE OUTSIDE DIAMETER WILL BE BEARING ON TRENCH BOTTOM.
CLEAN GRAVEL SUBGRADE FILLER, IF REQUIRED, TO BE PLACED AND PAID FOR UNDER ITEM NO. 400.
TYPICAL DETAIL
OPTIONAL DETAIL

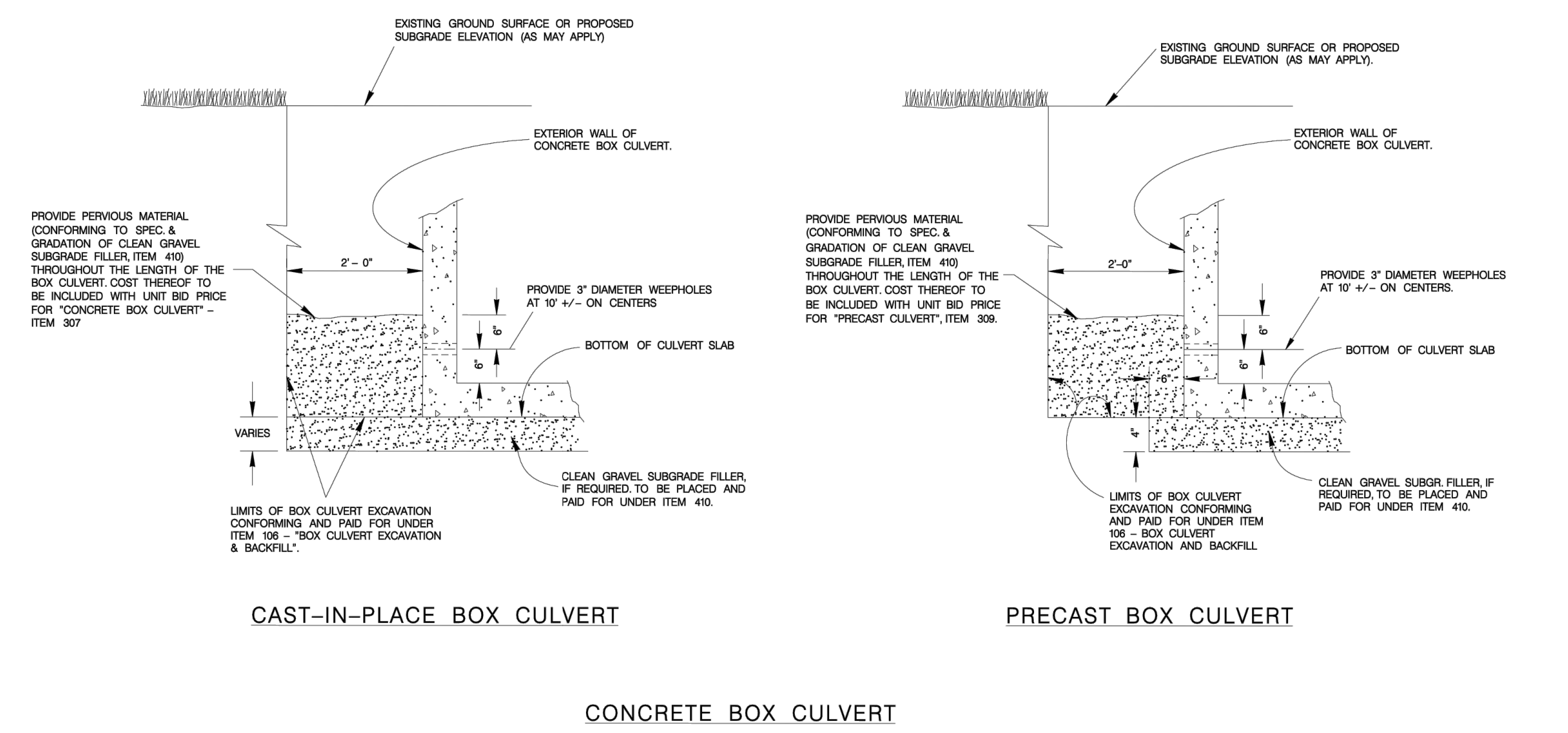
PIPE BEDDING & BACKFILL DETAILS


EXISTING GRADE
FINISHED GRADE
LIMITS OF STRUCTURAL EXCAVATION
COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR JUNCTION BOX – ITEM 403.

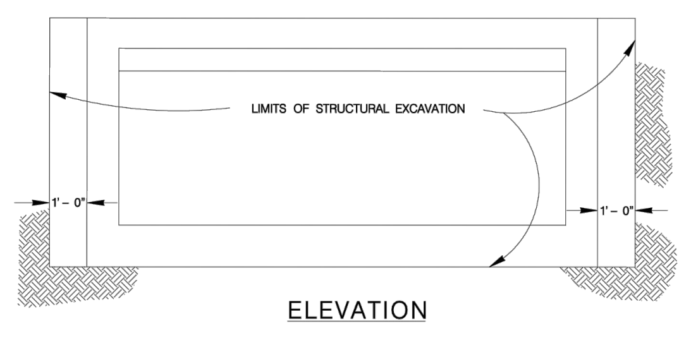
STRUCTURAL EXCAVATION AT JUNCTION BOXES
NO SCALE



SIDE VIEW


EXISTING GROUND SURFACE OR PROPOSED SUBGRADE ELEVATION (AS MAY APPLY)
EXTERIOR WALL OF CONCRETE BOX CULVERT
PROVIDE 3" DIAMETER WEEPHOLES AT 10' +/– ON CENTERS
BOTTOM OF CULVERT SLAB
CLEAN GRAVEL SUBGRADE FILLER, IF REQUIRED, TO BE PLACED AND PAID FOR UNDER ITEM 400.
CAST–IN–PLACE BOX CULVERT
PRECAST BOX CULVERT

CONCRETE BOX CULVERT



ELEVATION

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR INLETS – ITEM 403.

STRUCTURAL EXCAVATIONS AT DRAINAGE INLETS
NO SCALE

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

PIPE BEDDING & MISCELLANEOUS DRAINAGE DETAILS

____% SUBMITTAL	PROJECT NO.:____		DATE:____
DRWN. BY:____	DSGN. BY:____	CHKD. BY:____	SHEET NO.:____OF____

TABLE OF DIMENSIONS AND REINFORCING STEEL (Wings for one structure end)										
Dimensions					Variable Reinforcing				Estimated Quantities ③ per ft of wing length (2~wings)	
					Bars J1		Bars J2			
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING (2~wings)			
Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
R	#5	6	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES			
Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:
(All values are in feet.)

$Hw = H + T + C - 0.250'$
$A = (Hw - 0.333') (SL)$
$B = (A) \tan (30°)$
$Lw = (A) \div \cos (30°)$

For cast–in–place culverts:
$Ltw = (N) (S) + (N + 1) (U)$

For precast culverts:
$Ltw = (N) (2U + S) + (N - 1) (0.5')$

Total wingwall area (two wings ~ SF) = (Hw + 0.333') (Lw)

Hw = Height of wingwall
SL:1 = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans

See applicable box culvert standard sheet for H, S, T, and U values.

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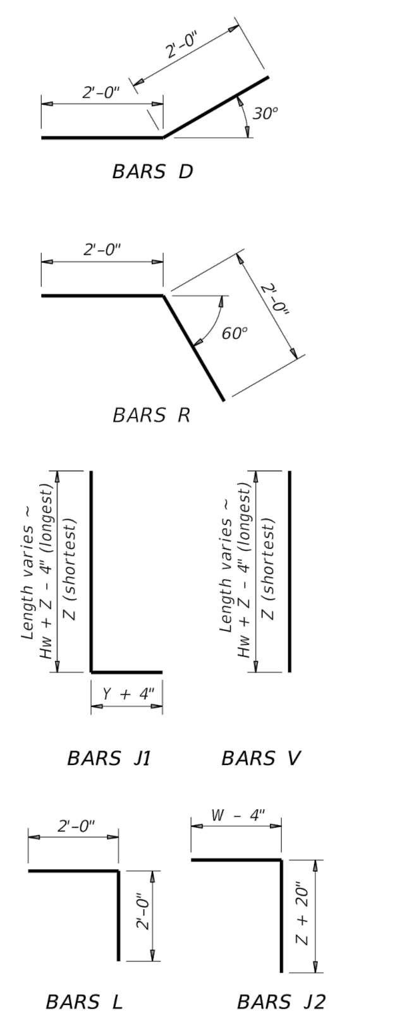

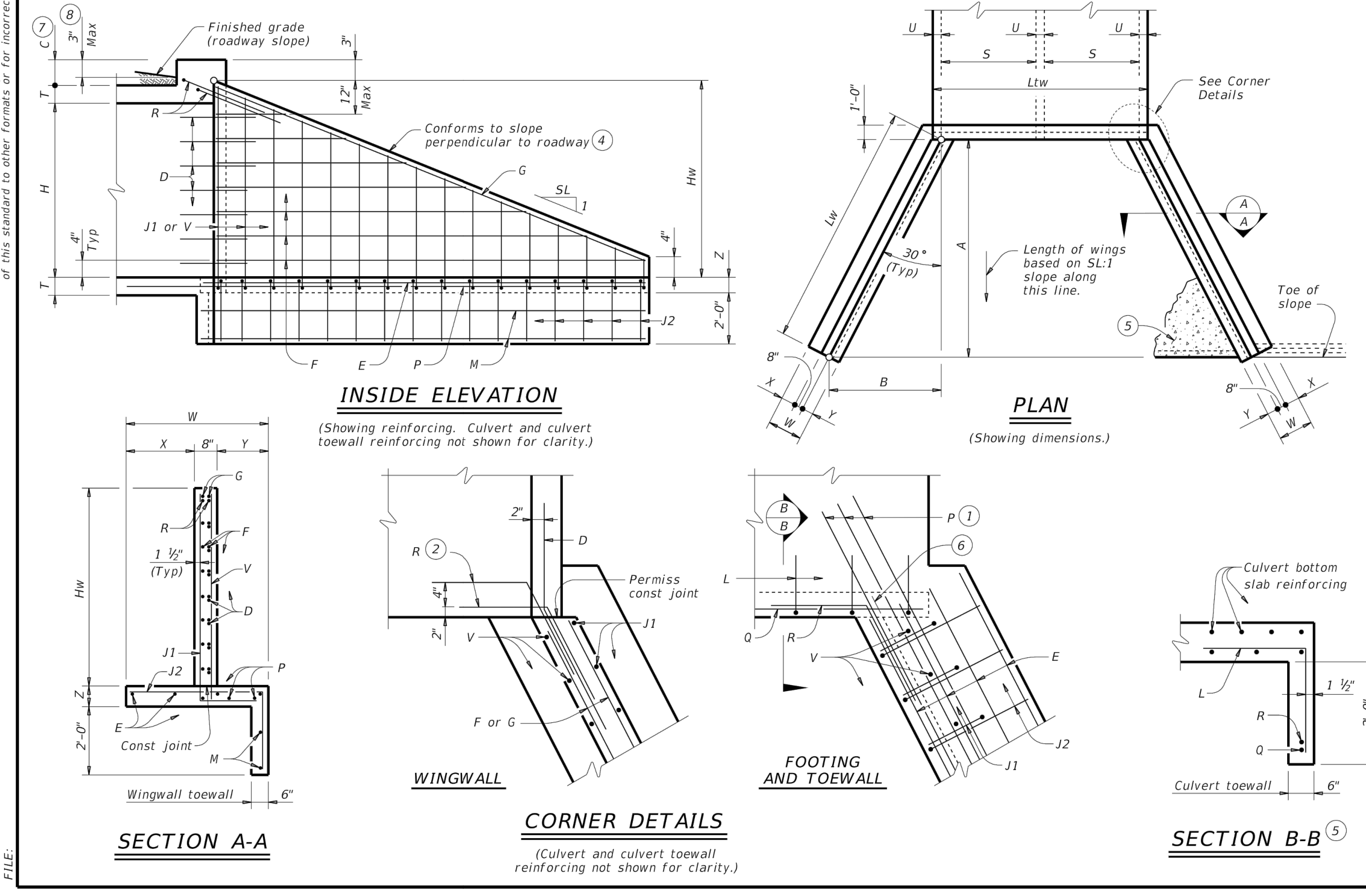
⑦ ⑧ C 3" Max
Finished grade (roadway slope)
12" Max
Conforms to slope perpendicular to roadway ④
T
R
D
G
SL
J1 or V
J2
Hw
INSIDE ELEVATION
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)
See Corner Details
Length of wings based on SL:1 slope along this line.
Toe of slope
30° Typ
Lw
A
B
U S
PLAN
(Showing dimensions.)
W X Y
Hw
1 ½" (Typ)
Const joint
Wingwall toewall
SECTION A-A
WINGWALL
F or G
Permiss const joint
CORNER DETAILS
(Culvert and culvert toewall reinforcing not shown for clarity.)
FOOTING AND TOEWALL
Culvert bottom slab reinforcing
Culvert toewall
SECTION B-B ⑤

① Extend Bars P 3'–0" minimum into bottom slab of box culvert.

② Adjust as necessary to maintain 1 1#2" clear cover and 4" minimum between bars.

③ Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.

④ Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.

⑤ When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap". Unless otherwise shown on the plans or directed by the Engineer, provide a 6" wide by 1'–6" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B–B will not be required.

⑥ At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.

⑦ 0" Min to 5'–0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'–0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631–CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

⑧ For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

MATERIAL NOTES:

Provide Class C concrete (f'c=3,600 psi).

Provide Grade 60 reinforcing steel.

Provide galvanized reinforcing steel if required elsewhere in the plans.

In riprap concrete synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.

When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.

See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.

The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out–to–out of bars.

Texas Department of Transportation
Bridge Division Standard

CONCRETE WINGWALLS
WITH FLARED WINGS FOR
0° SKEW BOX CULVERTS

FW-0

FILE: fw-0stde-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

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FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

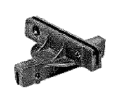
KCI TECHNOLOGIES

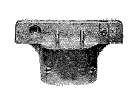
CIBOLO FARMS UNIT 3
DRAIN DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153
SHEET:			517

Date: Jul 31, 2024, 4:23pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 515-516 DRAIN DETAILS.dwg

TAPCO 037-00021 Street Sign Cross Piece Bracket, 5 1/2 In





or

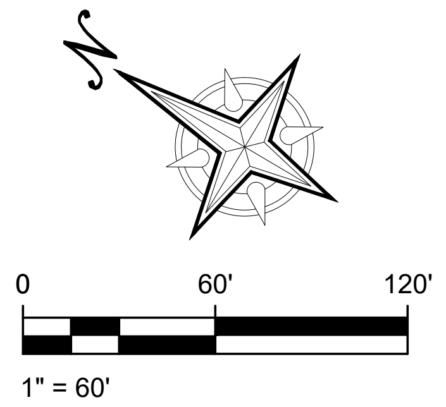
Brady 56681 Street Sign 4-Way Cross Piece

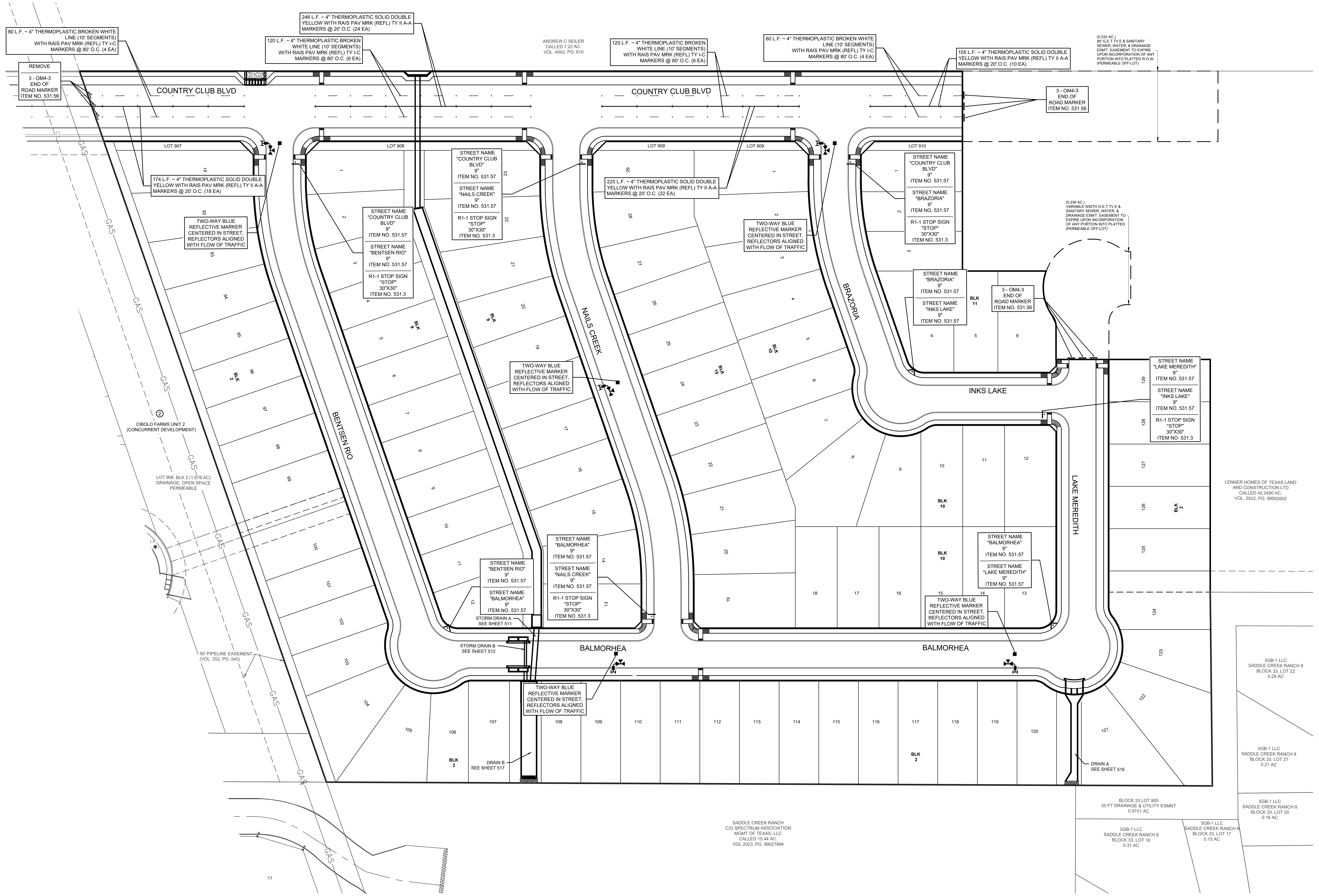
Brady 56687 Street Sign Tubular Post Top

NOTES

1. SIGNS AND MOUNTING TO MEET TXDOT SIGNAGE STANDARD DETAILS.

PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)




80 L.F. ~ 4" THERMOPLASTIC BROKEN WHITE LINE (10' SEGMENTS) WITH RAIS PAV MRK (REFL) TY I-C MARKERS @ 80' O.C. (4 EA)
REMOVE 3 - OM4-3 END OF ROAD MARKER ITEM NO. 531.56
246 L.F. ~ 4" THERMOPLASTIC SOLID DOUBLE YELLOW WITH RAIS PAV MRK (REFL) TY II A-A MARKERS @ 20' O.C. (24 EA)
120 L.F. ~ 4" THERMOPLASTIC BROKEN WHITE LINE (10' SEGMENTS) WITH RAIS PAV MRK (REFL) TY I-C MARKERS @ 80' O.C. (6 EA)
ANDREW C SEILER CALLED 7.22 AC. VOL. 4042, PG. 610
120 L.F. ~ 4" THERMOPLASTIC BROKEN WHITE LINE (10' SEGMENTS) WITH RAIS PAV MRK (REFL) TY I-C MARKERS @ 80' O.C. (6 EA)
60 L.F. ~ 4" THERMOPLASTIC BROKEN WHITE LINE (10' SEGMENTS) WITH RAIS PAV MRK (REFL) TY I-C MARKERS @ 80' O.C. (4 EA)
105 L.F. ~ 4" THERMOPLASTIC SOLID DOUBLE YELLOW WITH RAIS PAV MRK (REFL) TY II A-A MARKERS @ 20' O.C. (10 EA)
(0.533 AC.) 80' G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED R.O.W. (PERMEABLE OFF-LOT)
3 - OM4-3 END OF ROAD MARKER ITEM NO. 531.56
COUNTRY CLUB BLVD
COUNTRY CLUB BLVD
LOT 907
LOT 908
LOT 909
LOT 909
LOT 910
174 L.F. ~ 4" THERMOPLASTIC SOLID DOUBLE YELLOW WITH RAIS PAV MRK (REFL) TY II A-A MARKERS @ 20' O.C. (18 EA)
TWO-WAY BLUE REFLECTIVE MARKER CENTERED IN STREET, REFLECTORS ALIGNED WITH FLOW OF TRAFFIC
STREET NAME "COUNTRY CLUB BLVD" 9" ITEM NO. 531.57 / STREET NAME "BENTSEN RIO" 9" ITEM NO. 531.57 / R1-1 STOP SIGN "STOP" 30"X30" ITEM NO. 531.3
STREET NAME "COUNTRY CLUB BLVD" 9" ITEM NO. 531.57 / STREET NAME "NAILS CREEK" 9" ITEM NO. 531.57 / R1-1 STOP SIGN "STOP" 30"X30" ITEM NO. 531.3
225 L.F. ~ 4" THERMOPLASTIC SOLID DOUBLE YELLOW WITH RAIS PAV MRK (REFL) TY II A-A MARKERS @ 20' O.C. (22 EA)
TWO-WAY BLUE REFLECTIVE MARKER CENTERED IN STREET, REFLECTORS ALIGNED WITH FLOW OF TRAFFIC
STREET NAME "COUNTRY CLUB BLVD" 9" ITEM NO. 531.57 / STREET NAME "BRAZORIA" 9" ITEM NO. 531.57 / R1-1 STOP SIGN "STOP" 30"X30" ITEM NO. 531.3
(0.238 AC.) VARIABLE WIDTH G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED (PERMEABLE OFF-LOT)
STREET NAME "BRAZORIA" 9" ITEM NO. 531.57 / STREET NAME "INKS LAKE" 9" ITEM NO. 531.57
BLK 11
3 - OM4-3 END OF ROAD MARKER ITEM NO. 531.56
BENTSEN RIO
NAILS CREEK
BRAZORIA
INKS LAKE
LAKE MEREDITH
BALMORHEA
BALMORHEA
TWO-WAY BLUE REFLECTIVE MARKER CENTERED IN STREET, REFLECTORS ALIGNED WITH FLOW OF TRAFFIC
STREET NAME "LAKE MEREDITH" 9" ITEM NO. 531.57 / STREET NAME "INKS LAKE" 9" ITEM NO. 531.57 / R1-1 STOP SIGN "STOP" 30"X30" ITEM NO. 531.3
② CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)
LOT 906, BLK 2 (1.678 AC) DRAINAGE, OPEN SPACE PERMEABLE
L.P.
GAS
50' PIPELINE EASEMENT (VOL. 252, PG. 545)
LENNER HOMES OF TEXAS LAND AND CONSTRUCTION LTD CALLED 42.2490 AC. VOL. 2022, PG. 99002652
STREET NAME "BENTSEN RIO" 9" ITEM NO. 531.57 / STREET NAME "BALMORHEA" 9" ITEM NO. 531.57
STREET NAME "BALMORHEA" 9" ITEM NO. 531.57 / STREET NAME "NAILS CREEK" 9" ITEM NO. 531.57 / R1-1 STOP SIGN "STOP" 30"X30" ITEM NO. 531.3
STREET NAME "BALMORHEA" 9" ITEM NO. 531.57 / STREET NAME "LAKE MEREDITH" 9" ITEM NO. 531.57
TWO-WAY BLUE REFLECTIVE MARKER CENTERED IN STREET, REFLECTORS ALIGNED WITH FLOW OF TRAFFIC
STORM DRAIN A SEE SHEET 511
STORM DRAIN B SEE SHEET 512
TWO-WAY BLUE REFLECTIVE MARKER CENTERED IN STREET, REFLECTORS ALIGNED WITH FLOW OF TRAFFIC
DRAIN B SEE SHEET 517
DRAIN A SEE SHEET 516
BLK 2
BLK 9
BLK 10
BLK 2
91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 22 0.29 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 21 0.21 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 20 0.16 AC
BLOCK 33 LOT 905 35 FT DRAINAGE & UTILITY ESMNT 0.9151 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 16 0.31 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 17 0.15 AC
SADDLE CREEK RANCH C/O SPECTRUM ASSOCIATION MGMT OF TEXAS, LLC CALLED 15.44 AC. VOL.2023, PG. 99027994
13

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REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

OVERALL SIGN PLAN

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		
SHEET:	518		

Date: Jul 31, 2024, 4:24pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 517 OVERALL SIGN PLAN.dwg

SEDIMENTATION & EROSION CONTROL PLANS
for
CIBOLO FARMS UNIT 3

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF CIBOLO DESIGN AND CONSTRUCTION MANUAL AND THE UNIFIED DEVELOPMENT CODE, HERE AFTER REFERRED TO THE UDC.

2. APPROVAL OF THESE CONSTRUCTION PLANS BY THE CITY OF CIBOLO DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEER.

3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF CIBOLO MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

4. DESIGN PROCEDURES ARE IN COMPLETE COMPLIANCE WITH THE CITY OF CIBOLO DESIGN AND CONSTRUCTION MANUAL. IT IS THE RESPONSIBILITY OF THE ENGINEER TO REQUEST A WAIVER FROM ANY ASPECT OF THESE PLANS THAT DO NOT COMPLY WITH THE UDC.

5. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF CIBOLO, CONSULTING ENGINEER, CONTRACTOR, AND ANY OTHER AFFECTED PARTIES. NOTIFY THE CITY OF CIBOLO AT LEAST 48 HOURS PRIOR TO THE TIME OF THE CONFERENCE AND 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

6. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.

7. BARRICADES, BUILT TO CITY OF CIBOLO SPECIFICATIONS, SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY.

8. ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE SUBDIVISION.

9. THE LOCATION OF ANY WATER AND/OR WASTEWATER LINES SHOWN ON THE PLANS MUST BE VERIFIED BY THE PUBLIC WORKS DEPARTMENT.

10. USE ONE CALL UTILITY SYSTEM: DIAL 1-800-344-8377, 48 HOURS BEFORE YOU DIG.

11. ALL STORM SEWER PIPES TO BE CLASS III RCP UNLESS NOTED OTHERWISE.

12. THE SUBGRADE MATERIAL WAS TEST BY INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P. IN JULY 2013 AND THE STREET SECTION DESIGNED ACCORDING TO CITY OF CIBOLO DESIGN AND CONSTRUCTION MANUAL.

13. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEER.

14. THESE PLANS ARE NOT INTENDED FOR THE PURPOSE OF GATE DESIGN OR BUILD. SEPARATE PERMIT AND PLAN REVIEW REQUIRED. PLAN REVIEW REQUIRED FOR DETAILED GATE DESIGN AND INSTALLATION.

CONSTRUCTION SEQUENCING

1.) CALL THE COMMUNITY DEVELOPMENT SERVICES DEPARTMENT 48 HOURS PRIOR TO BEGINNING ANY WORK AND SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE CITY AND ALL AFFECTED UTILITY PROVIDERS, THE GENERAL CONTRACTOR, THE DEVELOPER AND THE DEVELOPER'S ENGINEER.

2.) OBTAIN A SITE DEVELOPMENT PERMIT FROM THE COMMUNITY DEVELOPMENT SERVICES DEPARTMENT.

3.) PROVIDE THE COMMUNITY DEVELOPMENT SERVICES DEPARTMENT WITH EVIDENCE ALL TCEQ LICENSES AND REQUIREMENTS ARE UP TO DATE.

4.) INSTALL TEMPORARY EROSION CONTROLS AND TREE PROTECTION FENCING PRIOR TO ANY CLEARING AND GRUBBING. NOTIFY THE CITY WHEN INSTALLED.

5.) ROUGH-CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW MEETING THE REQUIREMENTS OF THE UDC. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.

6.) DELIVER APPROVED ROUGH CUT SHEETS TO THE CITY ENGINEER PRIOR TO CLEARING AND GRUBBING.

7.) ROUGH GRADE STREETS. NO DEVELOPMENT OF EMBANKMENT WILL BE PERMITTED AT THIS TIME.

8.) INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT OR WITHIN THE ROAD RIGHT-OF-WAY.

9.) DELIVER STORM SEWER CUT SHEETS TO THE CITY ENGINEER.

10.) BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS.

11.) DELIVER FINAL FINAL GRADE CUT SHEETS TO THE CITY ENGINEER.

12.) RE-GRADE STREETS TO SUB-GRADE.

13.) ENSURE THAT UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY 1ST COURSE BASE MATERIAL ON STREETS.

14.) INSTALL CURB AND GUTTER.

15.) LAY FINAL BASE COURSE ON ALL STREETS.

16.) LAY ASPHALT.

17.) COMPLETE FINAL GRADING AND RESTORATION OF DETENTION, SEDIMENTATION/FILTRATION PONDS.

18.) COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.

19.) REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS.

20.) COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED.

COMMENCE OF CONSTRUCTION

1. INITIAL PROJECT CLEARING WILL NEED TO BE LIMITED TO THE LOCATIONS OF THE PROPOSED TEMPORARY SWP3 BEST MANAGEMENT PRACTICES (BMP) DESIGNED BY THE ENGINEER. THESE BMPS MAY INCLUDE, BUT ARE NOT LIMITED TO:STABILIZED CONSTRUCTION EXIT(S), SILT FENCE, DISCHARGE POINT ROCK BERMS/CHECK DAMS, TRASH CONTAINMENT, TEMPORARY SEDIMENT BASINS (IF APPLICABLE), DEMARCATION OF PROTECTED SITE FEATURES FOR EXAMPLE; WETLANDS, ENVIRONMENTAL BUFFERS, CAVES OR SOLUTION FEATURES, AND HABITATS,

2. PRIOR TO COMMENCEMENT OF ADDITIONAL CLEARING OR EARTH DISTURBING ACTIVITIES, THE PROPOSED BMPS WILL NEED TO BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY A LENNAR REPRESENTATIVE. CONTRACTOR MUST PROVIDE AT MINIMUM, 48-HOURS OF NOTICE TO LENNAR WHEN THE BMPS ARE SCHEDULED TO BE INSTALLED AND COMPLETED. THE LENNAR REPRESENTATIVE WILL COORDINATE THE LAND DEVELOPMENT MANAGER TO RELEASE THE PROJECT FOR CONSTRUCTION.

3. WHEN A TEMPORARY SEDIMENT BASIN IS REQUIRED FOR THE PROJECT, LIMITED CLEARING OF THE PROPOSED BASIN LOCATION AND ANY MATERIAL BORROW AREAS TO CONSTRUCT THE TEMPORARY SEDIMENT BASIN MAY OCCUR DURING THE INITIAL BMP INSTALLATION PERIOD. THE TEMPORARY SEDIMENT BASIN MUST BE COMPLETELY CONSTRUCTED TO ENGINEER'S DESIGN. THIS MAY INCLUDE THE FOLLOWING; CONSTRUCTION OF THE DEWATERING STRUCTURE (RISER PIPE OR FAIR CLOTH SKIMMER AND PUMP), CONSTRUCTION OF THE EMERGENCY OVERFLOW STRUCTURE, INSTALLATION OF A SEDIMENT DEPTH MARKER. NOTE-ONCE ACCESSIBLE TO APPROPRIATE EQUIPMENT, THE ONLY THE TEMPORARY SEDIMENT BASIN BERMS/SLOPES SHALL BE TEMPORARILY STABILIZED.

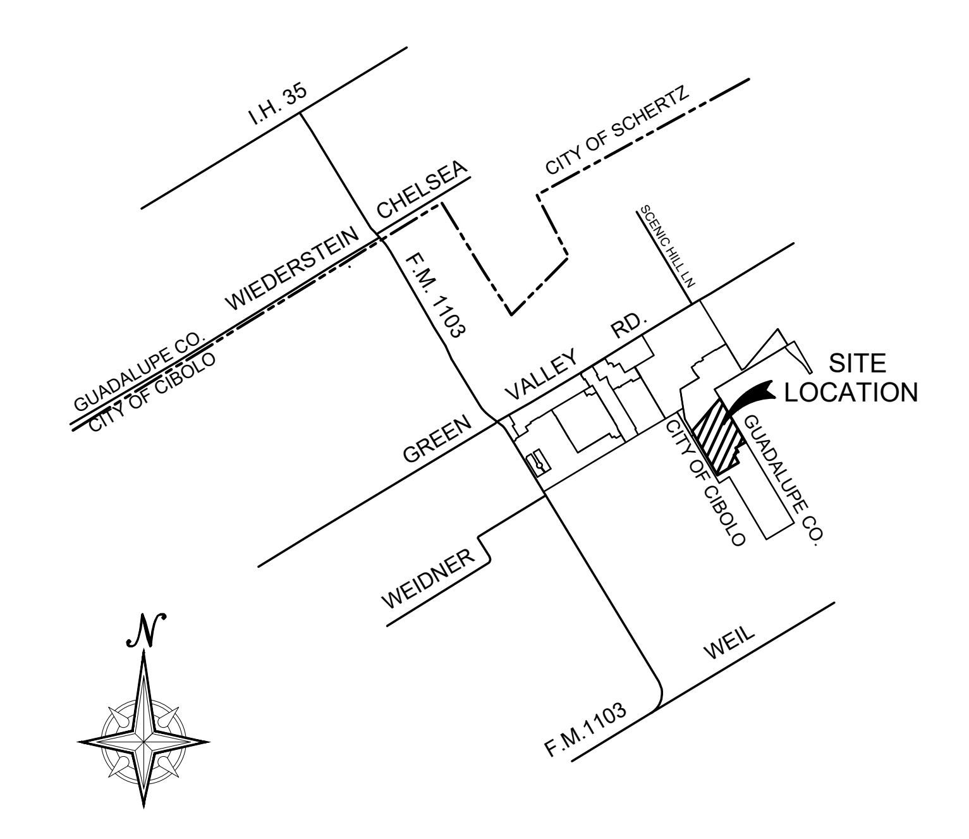
4. GENERAL CONTRACTOR IS TO MAINTAIN ALL POLLUTION CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION THROUGHOUT THE CONTRACT PERIOD TO THE EXTENT ACHIEVABLE. TO ENSURE BMPS ARE OPERATING EFFECTIVELY, AND IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT, LENNAR WILL PROVIDE REGULAR AND IF APPLICABLE, POST-RAIN EVENT BMP INSPECTIONS AND INSPECTION REPORTS. THE GENERAL CONTRACTOR WILL BE PROVIDED AN ELECTRONIC COPY OF THE BMP INSPECTION REPORT VIA EMAIL. WEEKLY REGARDING ISSUES WITH BMPS AT THE PROJECT THROUGH THE LENNAR SWP3 INSPECTION PROCESS. ITEMS NOTED IN THE BMP INSPECTION REPORT MUST BE ADDRESSED BY THE GENERAL CONTRACTOR AS SOON AS POSSIBLE, AND WITHIN 7 CALENDAR DAYS. GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE ASSIGNED LENNAR LAND DEVELOPMENT PROJECT MANAGER TO INCLUDE:A. ACTIONS TAKEN IN RESPONSE TO THE BMP INSPECTION REPORT AND DATE(S) THE ACTIONS WERE COMPLETED OR, B. STATEMENT OF EXTENUATING CIRCUMSTANCE AS TO WHY AN ITEM COULD NOT BE COMPLETED WITHIN THE 7-DAY TIMEFRAME AND PROPOSED SCHEDULED DATE OF COMPLETION.

5. CONTRACTOR TO MAINTAIN SPILL RESPONSE SUPPLIES/KIT AT THE PROJECT LOCATION WHILE ACTIVELY WORKING ONSITE.

6. WHEN DEWATERING ACTIVITIES DISCHARGE INTO ONSITE CREEKS OR RIVERS, OR DISCHARGE OUTSIDE THE LIMITS OF CONSTRUCTION, DAILY DEWATERING INSPECTIONS MUST BE DOCUMENTED IN ACCORDANCE WITH THE 03.05.2023 TCEQ CONSTRUCTION GENERAL PERMIT. DAILY REPORT MUST BE SENT TO LENNAR WITHIN 24-HOURS.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



LOCATION MAP
N.T.S.

Sheet List Table

Sheet Number	Sheet Title
600	SEDIMENT & EROSION CONTROL COVER
601	OVERALL SED PLAN
602	SED NOTES & DETAILS
603	SED NOTES & DETAILS

LEGEND

SCF	TEMPORARY SEDIMENT CONTROL FENCE
RFD	TEMPORARY ROCK FILTER DAM
▦	TYPE 1 CONSTRUCTION EXIT
▨	CONCRETE WASHOUT PIT
○○○○○	GRAVEL FILTER BAGS
LOC	LIMITS OF CONSTRUCTION
→	GRADING SLOPE ARROW
PSCF	POST CONSTRUCTION SEDIMENT CONTROL FENCE (PHASE 2)
▼▼▼	EARTHEN BERM W/ POLYLINER AND SPILLWAY

TOTAL QUANTITIES

SILT FENCE (PHASE 1)	2,438	L.F.
SILT FENCE (PHASE 2)	5,901	L.F.
TEMPORARY ROCK FILTER DAM "TYPE 2"	35	L.F.
TYPE I CONSTRUCTION EXIT	1	EA.
CONCRETE WASHOUT PIT	1	E.A.
GRAVEL FILTER BAGS	150	L.F.
EARTHEN BERM W/ POLYLINER	274	L.F.

OWNER/DEVELOPER:

LENNAR HOMES OF TEXAS AND
CONSTRUCTION, LTD
1922 DRY CREEK WAY, SUITE 101
SAN ANTONIO, TEXAS 78259
(210) 403-6200

PREPARED BY:

KCI TECHNOLOGIES, INC.
2806 W. BITTERS, RD. SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
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REGISTRATION #F-10573 / #101943-65

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REGISTRATION #F-10573 / #101943-65

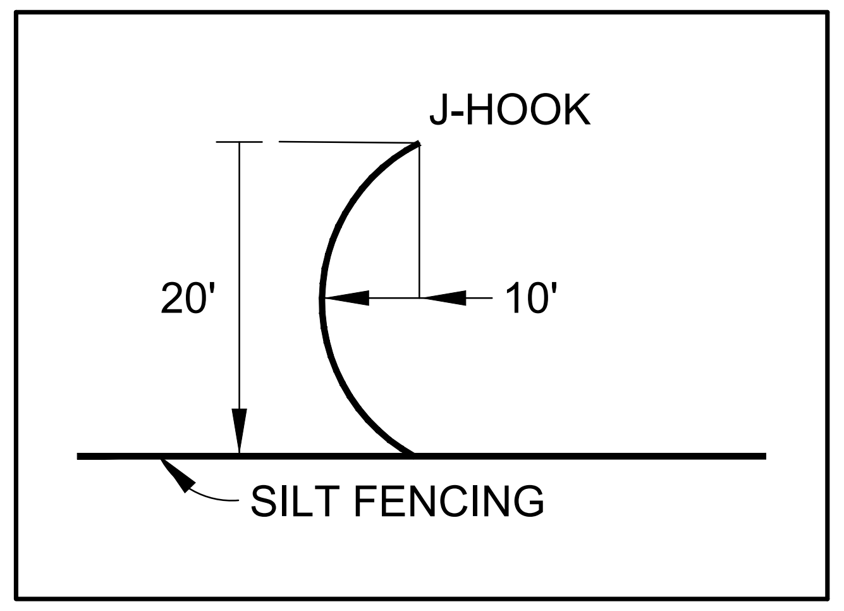
CIBOLO FARMS UNIT 3
SEDIMENT & EROSION
CONTROL COVER

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
600

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall. review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies with as a minimum, OSHA standards for trench excavations. Specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

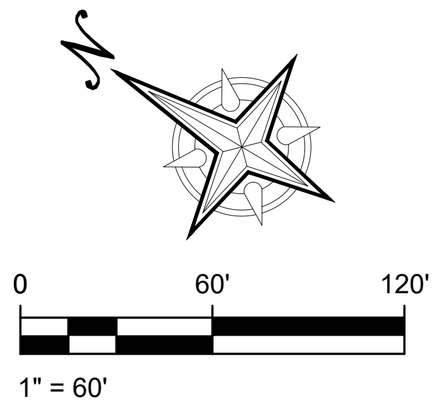


J-HOOK DETAIL

SCALE: NTS

LEGEND

SCF	TEMPORARY SEDIMENT CONTROL FENCE
RFD	TEMPORARY ROCK FILTER DAM
▨	TYPE 1 CONSTRUCTION EXIT
▨	CONCRETE WASHOUT PIT
○○○○○	GRAVEL FILTER BAGS
LOC	LIMITS OF CONSTRUCTION
→	GRADING SLOPE ARROW
PSCF	POST CONSTRUCTION SEDIMENT CONTROL FENCE (PHASE 2)
▼▼▼	EARTHEN BERM W/ POLYLINER AND SPILLWAY



PLAT REFERENCE	
②	CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)

NOTES:

1. DRIVEWAYS SHALL BE LOCATED ON THE HIGH SIDE OF EACH LOT.
2. FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 8" ABOVE FINAL GRADE AFTER PLACEMENT OF TOP SOIL AND SOD.
3. FINAL LOT SWALES SHALL BE PLACED WITH HOME CONSTRUCTION.

S.W.P.P.P. GENERAL NOTES

1. THE CONTROL MEASURES CONTAINED HEREON (AND AS FURTHER DESCRIBED BY THE STANDARD SPECIFICATIONS) SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION CONTRACT TO ASSURE EFFECTIVE AND CONTINUOUS WATER POLLUTION CONTROL DURING CONSTRUCTION AND POST CONSTRUCTION PERIODS.

2. A RAIN GAUGE SHALL BE PROVIDED BY THE CONTRACTOR AND LOCATED AT THE PROJECT SITE. WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE (AS MEASURED BY THE PROJECT SITE GAUGE) THE CONTRACTOR AND INSPECTOR WILL DO INSPECTIONS EVERY 7 DAYS OF THE ENTIRE PROJECT TO DETERMINE THE CONDITION OF THE CONTROL MEASURES. SEDIMENT WILL BE REMOVED AND DEVICES REPAIRED AS SOON AS PRACTICABLE BUT NO LATER THAN 7 DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE BEING CAUSED BY REPAIR OPERATIONS.

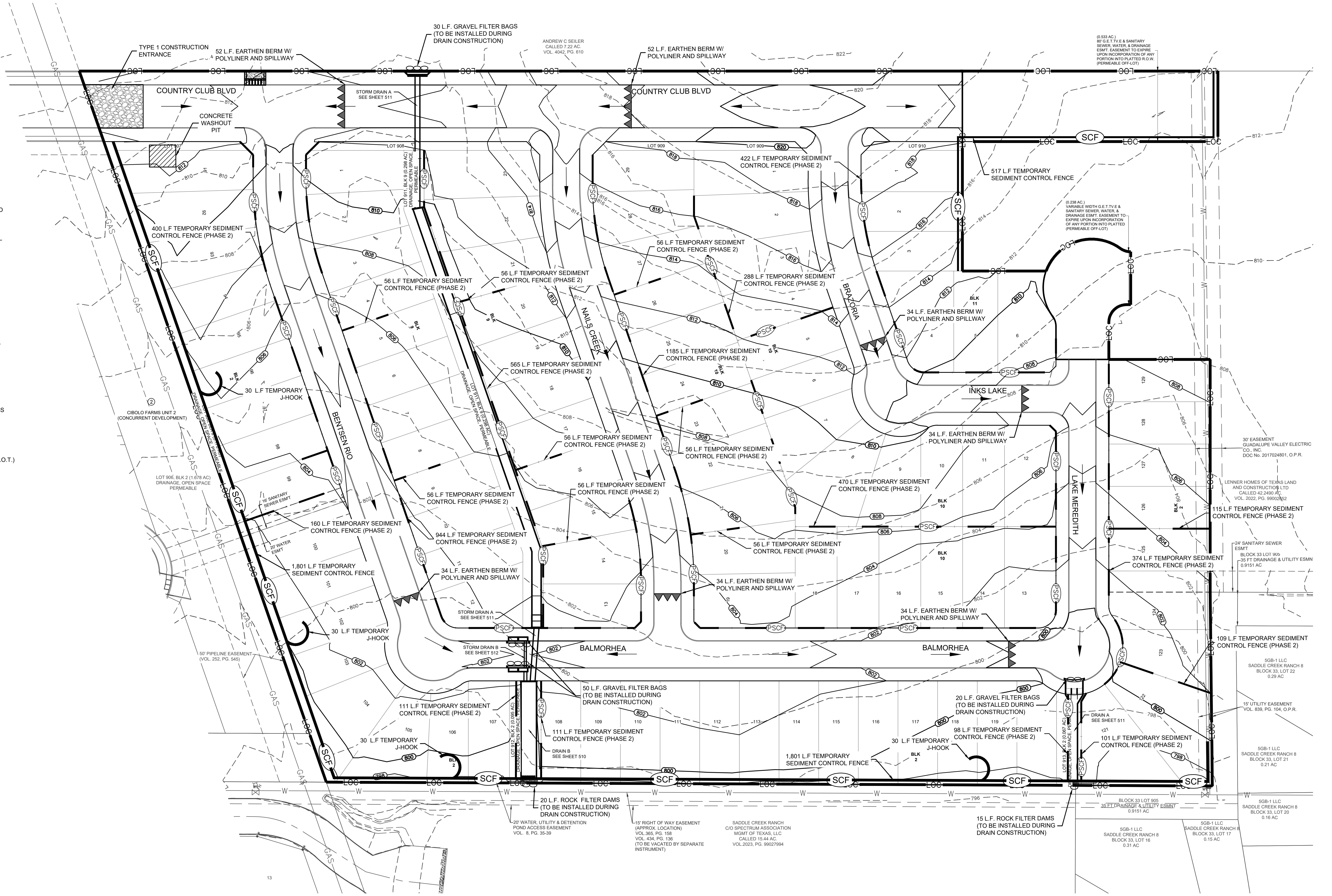
3. THE CONTRACTOR SHALL CLEAN PAVED SURFACES (ADJACENT TO THE CONSTRUCTION AREAS) AS NECESSARY TO REMOVE SEDIMENT WHICH HAS ACCUMULATED ON THE ROADWAY DUE TO STORMWATER FLOWS AND VEHICULAR TRAFFIC THROUGH AND ACROSS THE CONSTRUCTION SITE.

4. IN CASE OF FAILURE ON THE PART OF THE CONTRACTOR TO PREVENT AND CONTROL SOIL EROSION, SEDIMENTATION AND WATER POLLUTION WHICH MAY DEGRADE RECEIVING WATERS, THE DEVELOPER/OWNER RESERVES THE RIGHT TO EMPLOY OUTSIDE ASSISTANCE OR USE OTHER FORCES TO PROVIDE THE NECESSARY CORRECTIVE MEASURES. ALL COST (INCLUDING ENGINEERING) COST WILL BE DEDUCTED FROM ANY MONEYS DUE TO OR TO BECOME DUE TO THE CONTRACTOR.

5. UPON COMPLETION OF CONSTRUCTION AND THE INSTALLATION OF PERMANENT EROSION CONTROL METHODS, A FINAL EROSION CONTROL INSPECTION WILL BE PERFORMED AS PART OF ACCEPTANCE OF THE PROJECT BY THE DEVELOPER/OWNER. IN THE EVENT THAT THE PERMANENT EROSION CONTROL IS INADEQUATE DUE TO IMPROPER DESIGN OR INSTALLATION. THE PERMANENT EROSION CONTROL MEASURES MUST BE CORRECTED OR REDESIGNED TO FUNCTION PROPERLY.

6. THE TPDES NOTICE OF INTENT (N.0.I.) SHALL BE SIGNED AND SUBMITTED BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR MOVING ONTO THE SITE.

7. THE CONTRACTOR SHALL SUBMIT A SIGNED NOTICE OF TERMINATION (N.O.T.)


TYPE 1 CONSTRUCTION ENTRANCE
52 L.F. EARTHEN BERM W/ POLYLINER AND SPILLWAY
30 L.F. GRAVEL FILTER BAGS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
ANDREW C SEILER CALLED 7.22 AC. VOL. 4042, PG. 610
52 L.F. EARTHEN BERM W/ POLYLINER AND SPILLWAY
(0.533 AC.) 80' G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED R.O.W. (PERMEABLE OFF-LOT)
COUNTRY CLUB BLVD
STORM DRAIN A SEE SHEET 511
CONCRETE WASHOUT PIT
LOT 907
LOT 908
LOT 909
LOT 910
LOT 911, BLK 9 (0.298 AC) DRAINAGE, OPEN SPACE, PERMEABLE
422 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
517 L.F TEMPORARY SEDIMENT CONTROL FENCE
(0.238 AC.) VARIABLE WIDTH G.E.T.TV.E & SANITARY SEWER, WATER, & DRAINAGE ESM'T. EASEMENT TO EXPIRE UPON INCORPORATION OF ANY PORTION INTO PLATTED (PERMEABLE OFF-LOT)
400 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
56 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
288 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
NAILS CREEK
BRAZORIA
34 L.F. EARTHEN BERM W/ POLYLINER AND SPILLWAY
1185 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
565 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
INKS LAKE
30 L.F TEMPORARY J-HOOK
CIBOLO FARMS UNIT 2 (CONCURRENT DEVELOPMENT)
BENTSEN RIO
LAKE MEREDITH
470 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
30' EASEMENT GUADALUPE VALLEY ELECTRIC CO., INC. DOC No. 2017024801, O.P.R.
LENNER HOMES OF TEXAS LAND AND CONSTRUCTION LTD CALLED 42.2490 AC. VOL. 2022, PG. 99002652
115 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
LOT 906, BLK 2 (1.678 AC) DRAINAGE, OPEN SPACE PERMEABLE
16' SANITARY SEWER ESM'T
160 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
944 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
20' WATER ESM'T
1,801 L.F TEMPORARY SEDIMENT CONTROL FENCE
24' SANITARY SEWER ESM'T
BLOCK 33 LOT 905 35 FT DRAINAGE & UTILITY ESMNT 0.9151 AC
374 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
STORM DRAIN A SEE SHEET 511
STORM DRAIN B SEE SHEET 512
BALMORHEA
109 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
50' PIPELINE EASEMENT (VOL. 252, PG. 545)
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 22 0.29 AC
50 L.F. GRAVEL FILTER BAGS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
20 L.F. GRAVEL FILTER BAGS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
111 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
15' UTILITY EASEMENT VOL. 839, PG. 104, O.P.R.
98 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
DRAIN A SEE SHEET 511
101 L.F TEMPORARY SEDIMENT CONTROL FENCE (PHASE 2)
LOT 912, BLK 2 (0.095 AC) DRAINAGE, OPEN SPACE, PERMEABLE
LOT 913, BLK 2 (0.067 AC) DRAINAGE, OPEN SPACE, PERMEABLE
DRAIN B SEE SHEET 510
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 21 0.21 AC
20 L.F. ROCK FILTER DAMS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
20' WATER, UTILITY & DETENTION POND ACCESS EASEMENT VOL. 8, PG. 35-39
15' RIGHT OF WAY EASEMENT (APPROX. LOCATION) VOL.365, PG. 158 VOL. 434, PG. 136 (TO BE VACATED BY SEPARATE INSTRUMENT)
SADDLE CREEK RANCH C/O SPECTRUM ASSOCIATION MGMT OF TEXAS, LLC CALLED 15.44 AC. VOL.2023, PG. 99027994
15 L.F. ROCK FILTER DAMS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 16 0.31 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 17 0.15 AC
5GB-1 LLC SADDLE CREEK RANCH 8 BLOCK 33, LOT 20 0.16 AC
BLK 2
BLK 9
BLK 10
BLK 11
GAS
SCF
PSCF
LOC
W

REV | DATE | DESCRIPTION

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

CIBOLO FARMS UNIT 3

OVERALL SED PLAN

DRAFTING: P.R./D.M.	CHECK: C.P.
DESIGN: C.P.	CHECK: L.E.
SUBMITTAL PHASE:	
DATE:	02/2024
KCI JOB #:	762309153
SHEET:	601

Date: Jul 31, 2024, 4:24pm User ID: Lance.Elling File: L:\[illegible]

SITE DESCRIPTION

PROJECT LIMITS: 20.117 acre phase is located south of the intersection of Green Valley Rd and Country Club Blvd.

LATITUDE 29°36'04"N   LONGITUDE 98°12'06"W

PROJECT DESCRIPTION: Construction of subdivision improvements including: streets, water lines, sanitary sewer lines and drainage improvements.

MAJOR SOIL DISTURBING ACTIVITIES: Soil disturbing activities will include preparing right-of-way clearing, and grubbing, grading, excavation and embankment for the street, excavation for water, sanitary sewer, storm sewer, and structures. Erosion and sediment controls.

TOTAL PROJECT AREA: 20.117 AC

TOTAL AREA TO BE DISTURBED: 20.117 Acres (100%)

WEIGHTED RUNOFF COEFFICIENT
(PRE-CONSTRUCTION): 0.37

WEIGHTED RUNOFF COEFFICIENT
(POST-CONSTRUCTION): 0.60

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: The existing topsoil is Clayey Sand with Gravel. Existing Vegetation is 60% covered with underbrush.

NAME OF RECEIVING WATERS: The storm water will flow into the Town Creek Watershed.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

☐ TEMPORARY SEEDING
☑ PERMANENT PLANTING, SODDING, OR SEEDING
☐ MULCHING
☐ SOIL RETENTION BLANKET
☐ BUFFER ZONES
☐ PRESERVATION OF NATURAL RESOURCES

OTHER: Refer to Construction Construction General Permit TPDES General Permit No. TXR150000 ; Part III, Section F; Page 34-35 "iii. Erosion control and stabilization measures must be initiated immediately in portions of the site where construction activities have temporarily ceased and will not resume for a period exceeding fourteen (14) calendar days. Stabilization measures that provide a protective cover must be initiated immediately in portions of the site where construction activities have permanently ceased. The term “immediately” is used to define the deadline for initiating stabilization measures. In the context of this requirement, “immediately” means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased."

STRUCTURAL PRACTICES:

☑ SILT FENCES
☐ HAY BALES
☑ ROCK BERMS
☐ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
☐ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
☑ DIVERSION DIKE AND SWALE COMBINATIONS
☑ PIPE SLOPE DRAINS
☐ PAVED FLUMES
☑ ROCK BEDDING AT CONSTRUCTION EXIT
☐ TIMBER MATTING AT CONSTRUCTION EXIT
☐ CHANNEL LINERS
☐ SEDIMENT TRAPS
☐ SEDIMENT BASINS
☐ STORM INLET SEDIMENT TRAP
☐ STONE OUTLET STRUCTURES
☑ CURBS AND GUTTERS
☑ STORM SEWERS
☑ VELOCITY CONTROL DEVICES

OTHER:

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

The order of activities will be as follows:

1. Install temporary control, establish limits of construction, install silt fence, construction entrance/exit, and concrete wash out area.

2. Clear, grub, excavate, and embank for channels/drains/pond/utilities.

3. Construct sanitary sewer.

4. Construct storm drain.

5. Install berm controls/BMP's.

6. Construct water lines.

7. Construct streets.

8. Follow up with developer on BMP removal sequence.

9. When all construction activity is complete and the site is stabilized and approved by the project engineer, remove all temporary structural controls and stabilize areas disturbed by their removal.

10. The contractor is responsible for implementing and maintaining the storm water pollution prevention plan.

STORM WATER MANAGEMENT: Storm water drainage will be conveyed by existing drainage structures, storm sewer, and streets.

NON-STORM WATER DISCHARGE: Any water discharged on the site for approved non-storm water discharges, shall be per permit conditions. The source of the non-storm water water is from the San Antonio Water System and should have no detrimental effect on the site or downstream from the site.

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: All erosion and sediment controls will be maintained in good working order. If a repair is necessary, it will be done at the earliest date possible, but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from heavy equipment. The areas adjacent to creeks and drainage ways shall have priority followed by devices protecting storm sewer inlets.

INSPECTION: An inspection will be performed by a designated inspector every week as well as after every half inch or more of rain (as recorded on a non-freezing rain gauge to be located at the Project Site). An inspection and Maintenance Report will be made per each Inspection. Based on the inspection results, the controls shall be located at the Project Site). An inspection and Maintenance Report will be made per each revised per the inspection report.

WASTE MATERIALS: All waste materials will be collected and stored in a secured metal dumpster. The dumpster will meet all state and local city solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as necessary or as required by local regulations and the trash will be hauled to a local dump. No construction waste material will be buried on site.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): At a minimum, any products in the following categories are considered to be hazardous: paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, chemical additives for soil stabilization or concrete curing compounds and additives. In the event of a hazardous material spill, the spill coordinator shall be contacted immediately.

SANITARY WASTE: All sanitary waste will be collected from portable units as necessary, or as required by local regulations by a Licensed Sanitary Waste Management Contractor.

OFFSITE VEHICLE TRACKING:

☐ HAUL ROADS DAMPENED FOR DUST CONTROL
☐ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
☑ EXCESS DIRT ON ROAD REMOVED DAILY
☑ STABILIZED CONSTRUCTION ENTRANCE

PERMITS:

REMARKS: Disposal areas, stockpiles, and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed. Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants. All waterways shall be cleared as soon as practicable of temporary embankment, temporary bridges, matting, falsework, piling, debris or other obstructions placed during construction operations that are not a part of the finished work.

OWNERS CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE ____________________ DATE

CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general Texas Pollutant Discharge Elimination System (TPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification plan.

SIGNATURE (CONTRACTOR) ____________________ DATE

REV	DATE	DESCRIPTION

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

KCI TECHNOLOGIES, INC.
2806 W. BITTERS RD, SUITE 218
SAN ANTONIO, TEXAS 78248
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

SED NOTES & DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:	02/2024		
KCI JOB #:	762309153		

SHEET:
602

Date: Jul 31, 2024, 4:25pm User ID: Lance.Elling File: L:\develop\Proj_2023_KCI\762309153_Cibolo_Farms_Subdivision-Unit_3\Cadd\762309153 602-603 SED NOTES & DETAILS.dwg

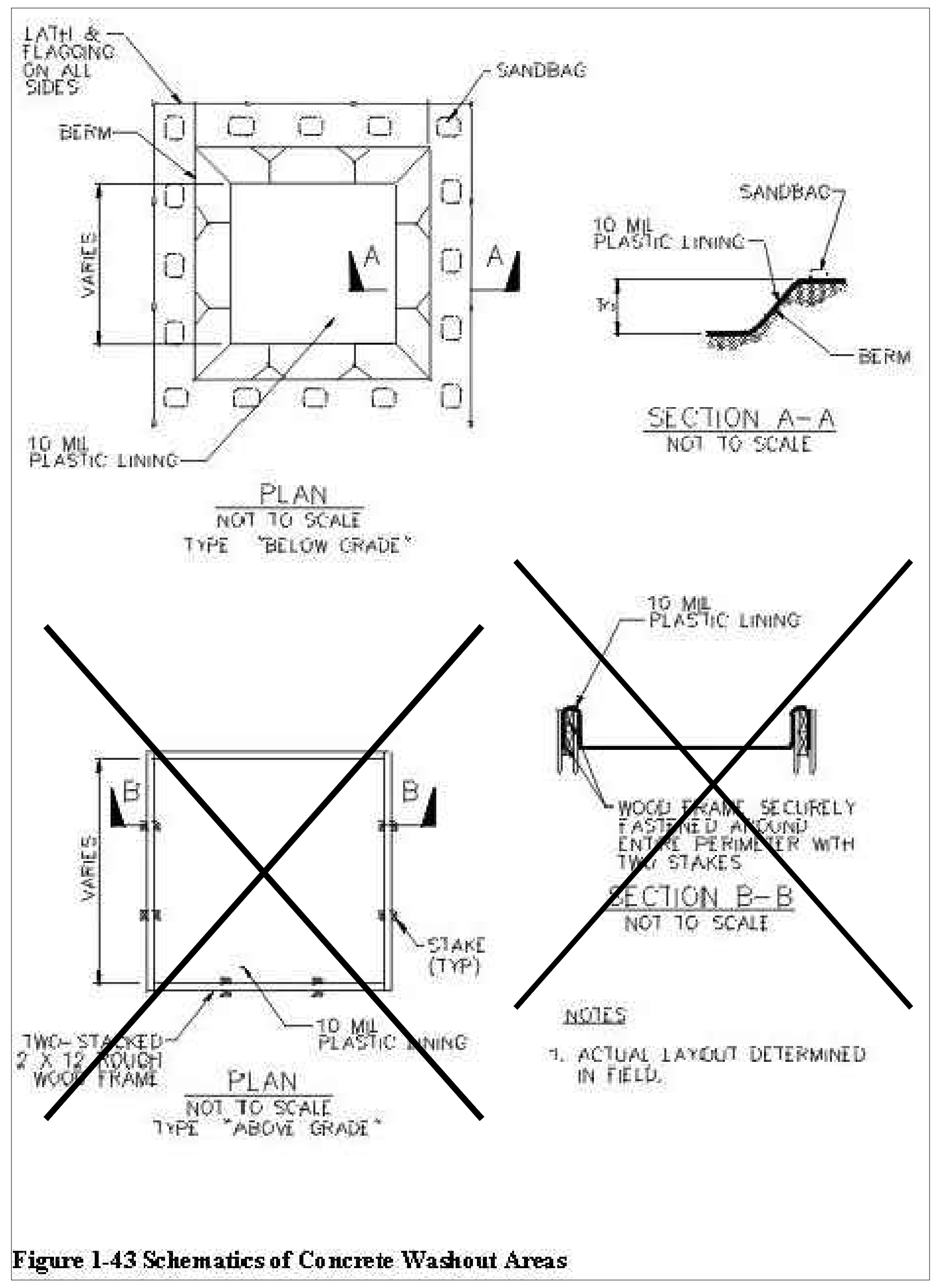


Figure 1-43 Schematics of Concrete Washout Areas

CONCRETE TRUCK WASHOUT PIT

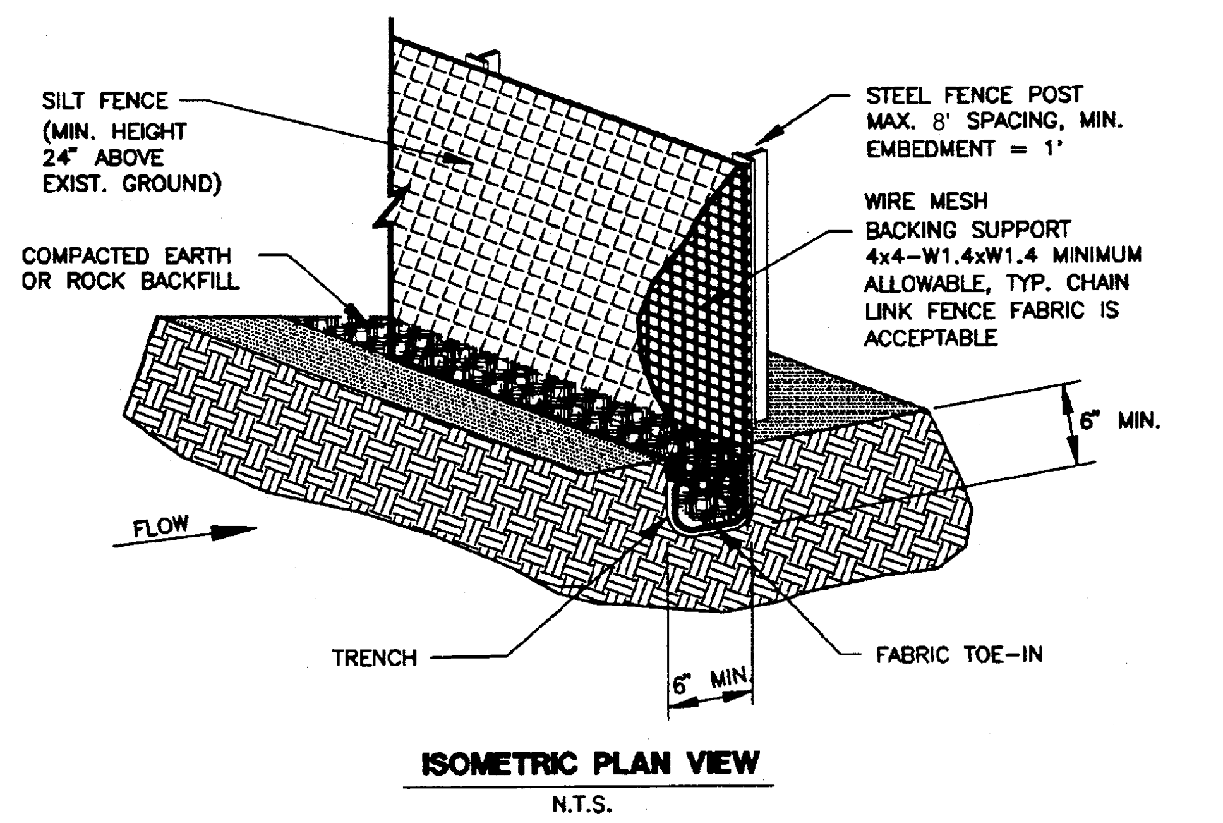

SILT FENCE (MIN. HEIGHT 24" ABOVE EXIST. GROUND)
STEEL FENCE POST MAX. 8' SPACING, MIN. EMBEDMENT = 1'
WIRE MESH BACKING SUPPORT 4x4–W1.4xW1.4 MINIMUM ALLOWABLE, TYP. CHAIN LINK FENCE FABRIC IS ACCEPTABLE
COMPACTED EARTH OR ROCK BACKFILL
6" MIN.
FLOW
TRENCH
6" MIN.
FABRIC TOE-IN
ISOMETRIC PLAN VIEW
N.T.S.

Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

GENERAL NOTES:

1. Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
2. Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.
3. Woven wire backing to support the fabric should be galvanized 2"x 4"welded wire, 12 gauge minimum.

Installation:

1. Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1–foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
2. Lay out fencing down–slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
3. The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down–slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
4. The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
5. Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3–foot overlap, securely fastened where ends of fabric meet.
6. Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

SILT FENCE

1. The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
2. The aggregate should be placed with a minimum thickness of 8 inches.
3. The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
4. If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation:

1. Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
2. The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
3. The construction entrance should be at least 50 feet long.
4. If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
5. Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
6. Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
8. Install pipe under pad as needed to maintain proper public road drainage.

Washing: When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public roadway, when washing is required, it shall be done on an area stabilized basin. all sediment shall be prevented from entering any storm drain, ditch, or watercourse using approved methods.

Maintenance: The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public roadway must be removed immediately.

CONSTRUCTION EXIT

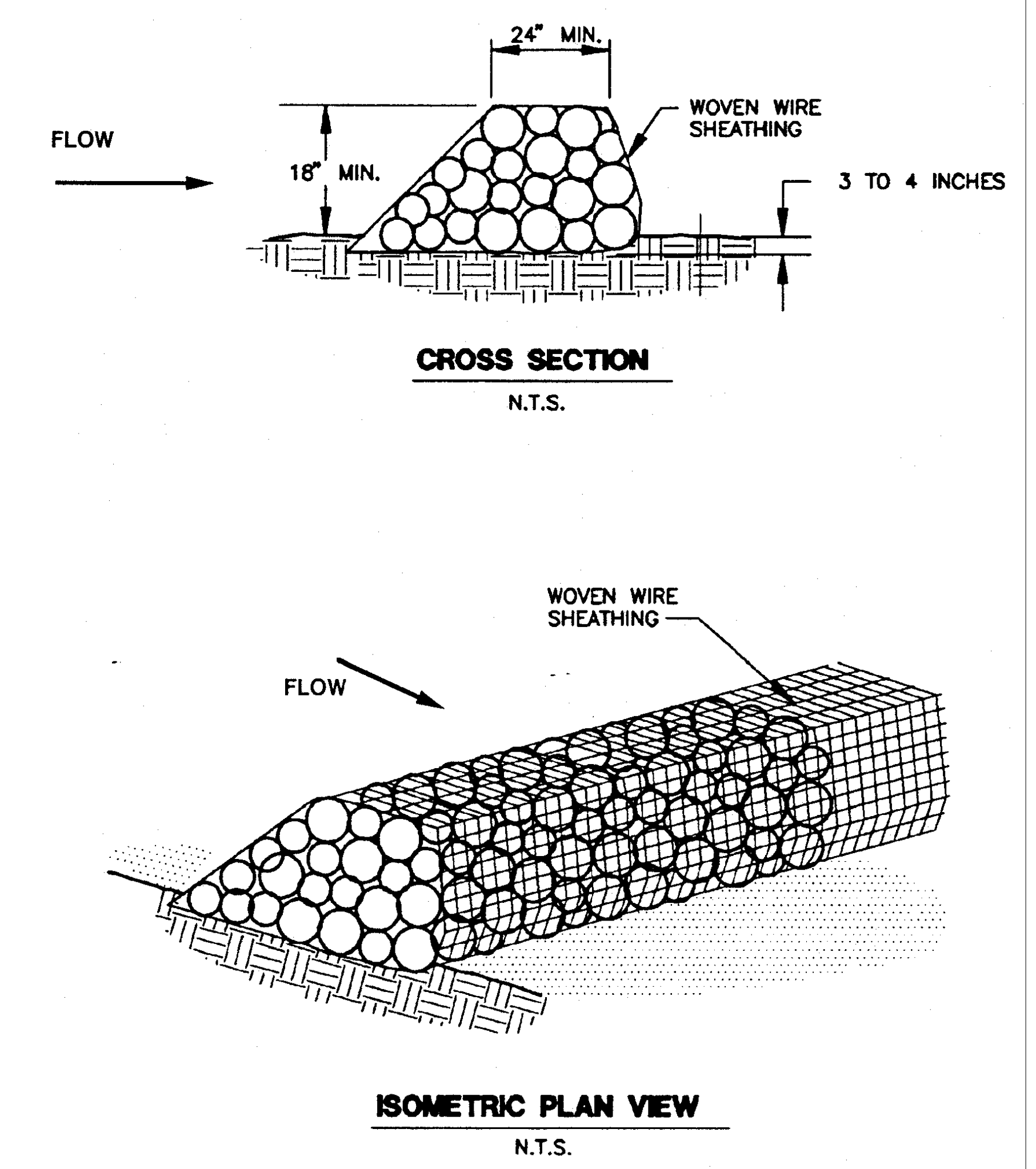


Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

1. The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
2. Clean, open graded 3– to 5–inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5– to 8–inch diameter rocks may be used.

Installation:

1. Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
2. Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
3. Place the rock along the sheathing as shown in the diagram (Figure 1–28), to a height not less than 18".
4. Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
5. Berm should be built along the contour at zero percent grade or as near as possible.
6. The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

ROCK BERM

FOR EROSION AND SEDIMENT CONTROL OVER THE EDWARDS AQUIFER CONTRIBUTING ZONE, THE RESPECTIVE BMP DETAILS HAVE BEEN SHOWN ON THIS SHEET AND SW1. THE DETAILS ARE EXCERPTS FROM THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL; RG–348, JULY 2005.

REFER TO THE EROSION CONTROL PLAN (SW1), FOR USE LOCATIONS / PARAMETERS OF THE DETAILS SHOWN IN THE PLAN SET.

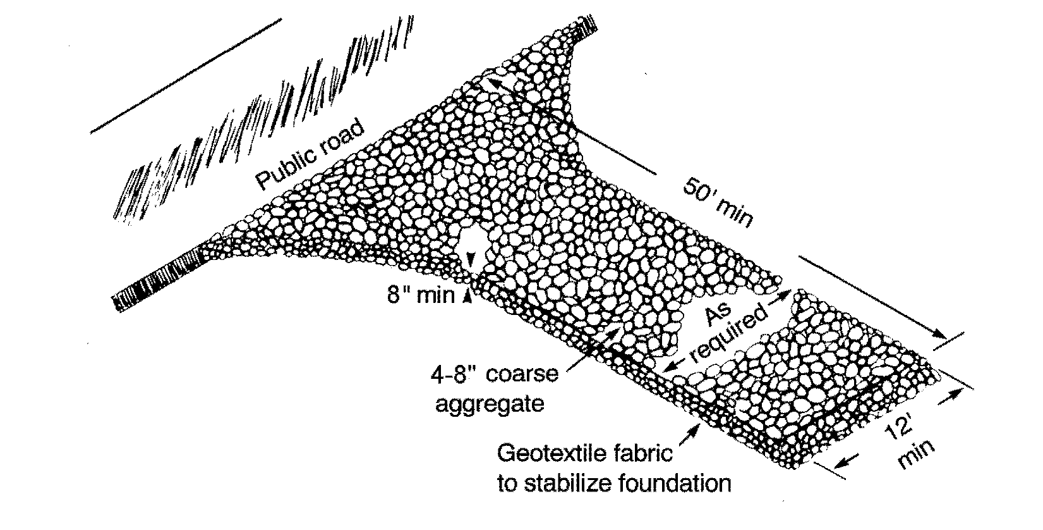


Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

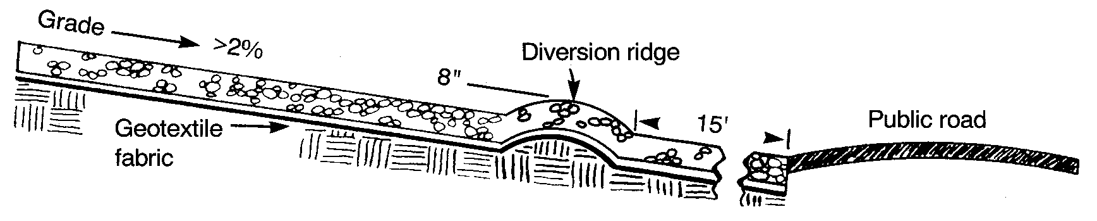
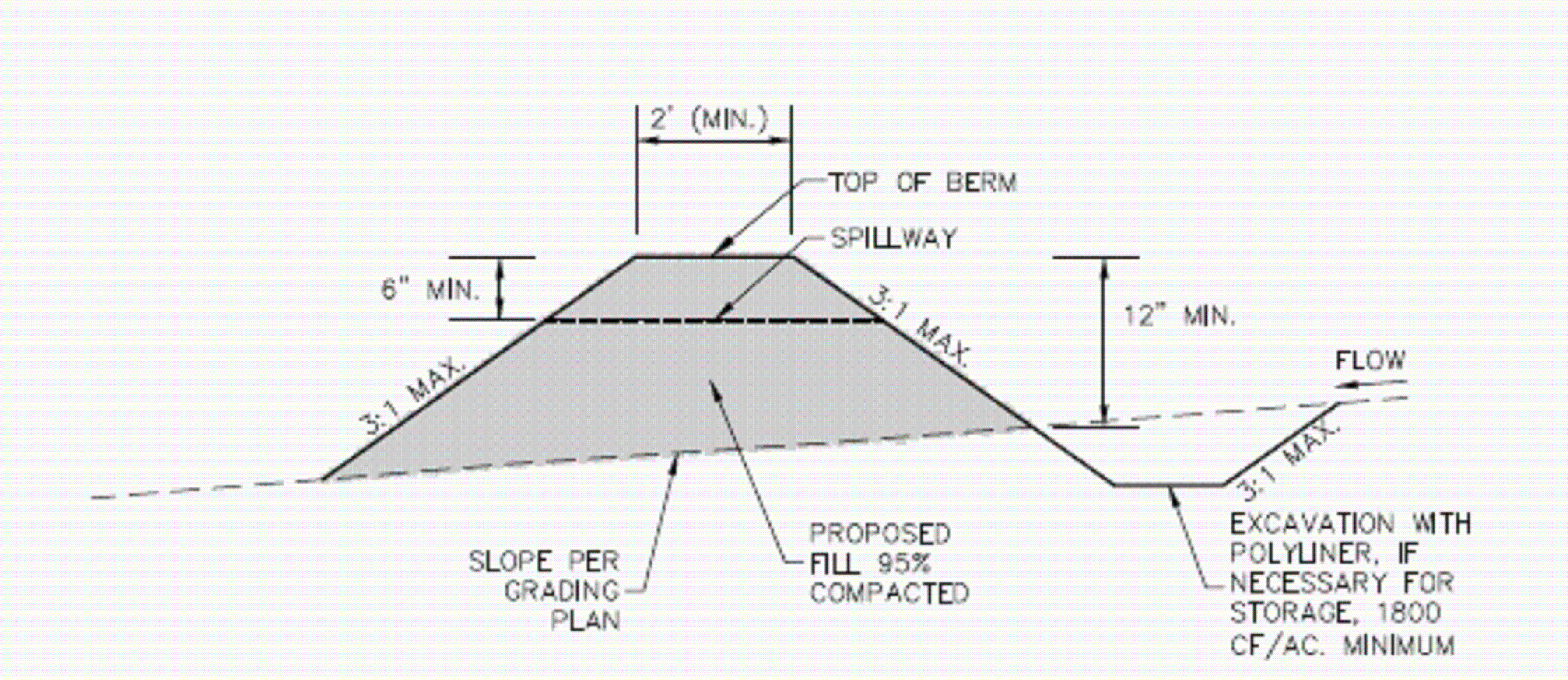


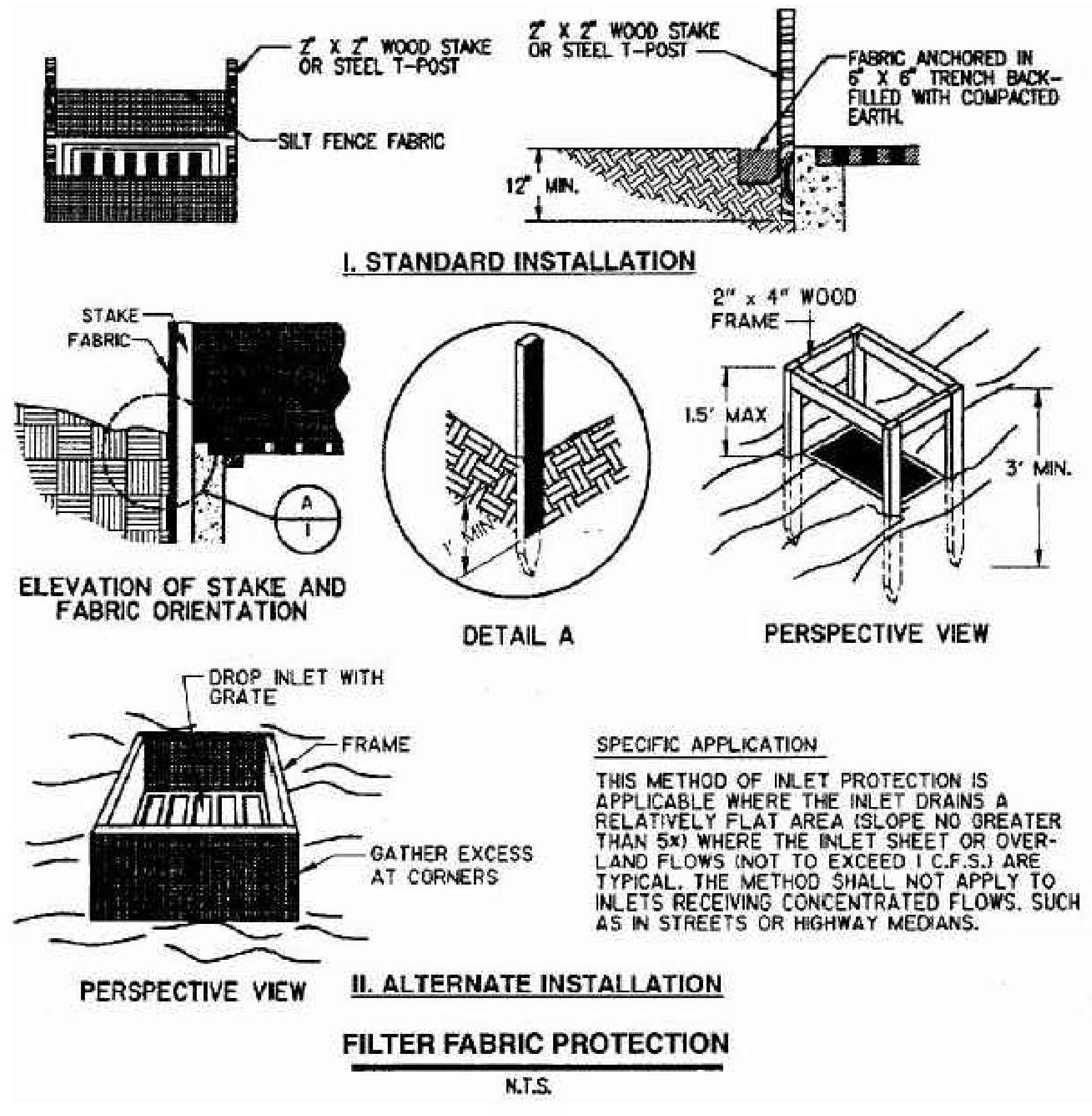
Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)


2' (MIN.)
TOP OF BERM
SPILLWAY
6" MIN.
3:1 MAX.
3:1 MAX.
12" MIN.
FLOW
3:1 MAX.
SLOPE PER GRADING PLAN
PROPOSED FILL 95% COMPACTED
EXCAVATION WITH POLYLINER, IF NECESSARY FOR STORAGE, 1800 CF/AC. MINIMUM

EARTHEN BERM W/ POLYLINER AND SPILLWAY

NOT TO SCALE

NOTE: EARTHEN BERMS ARE TO SPAN ACROSS PROPOSED STREET SECTION (APPROX. 30–FEET WIDE) FROM CURB TO CURB



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT TO EXCEED 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREETS OR HIGHWAY MEDIANS.

Figure 1-33 Filter Fabric Inlet Protection (NCTCOG, 1993)

GENERAL NOTES:

NOTE THAT THE DETAIL ABOVE, ONLY METAL POSTS / STAKES SHOULD BE USED. WOOD POSTS / STAKES ARE NOT ALLOWED

1. Filter fabric should be a nylon reinforced polypropylene fabric which meets the following minimum criteria: Tensile Strength, 90 lbs.; Puncture Rating, 60 lbs.; Mullen Burst Rating, 280 psi; Apparent Opening Size, U.S. Sieve No. 70.
2. Posts for fabric should be galvanized steel, tubular in cross–section or they may be standard fence "T"posts.
3. Concrete blocks should be standard 8"x 8"x 16"concrete masonry units.
4. Wire mesh should be standard hardware cloth or comparable wire mesh with an opening size not to exceed 1/2 inch.

Guidelines for installation:

Silt Fence Drop Inlet Protection

1. Silt fence should conform to the specifications listed above and should be cut from a continuous roll to avoid joints.
2. For posts, use metal ones with a minimum length of 3 feet.
3. Space stakes evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely drive them into the ground, approximately 18 inches deep (Figure 1–33).
4. To provide needed stability to the installation, a frame with 2 x 4–inch wood strips around the crest of the overflow area at a maximum of 1½ feet above the drop inlet crest should be provided.

INLET PROTECTION (FABRIC)

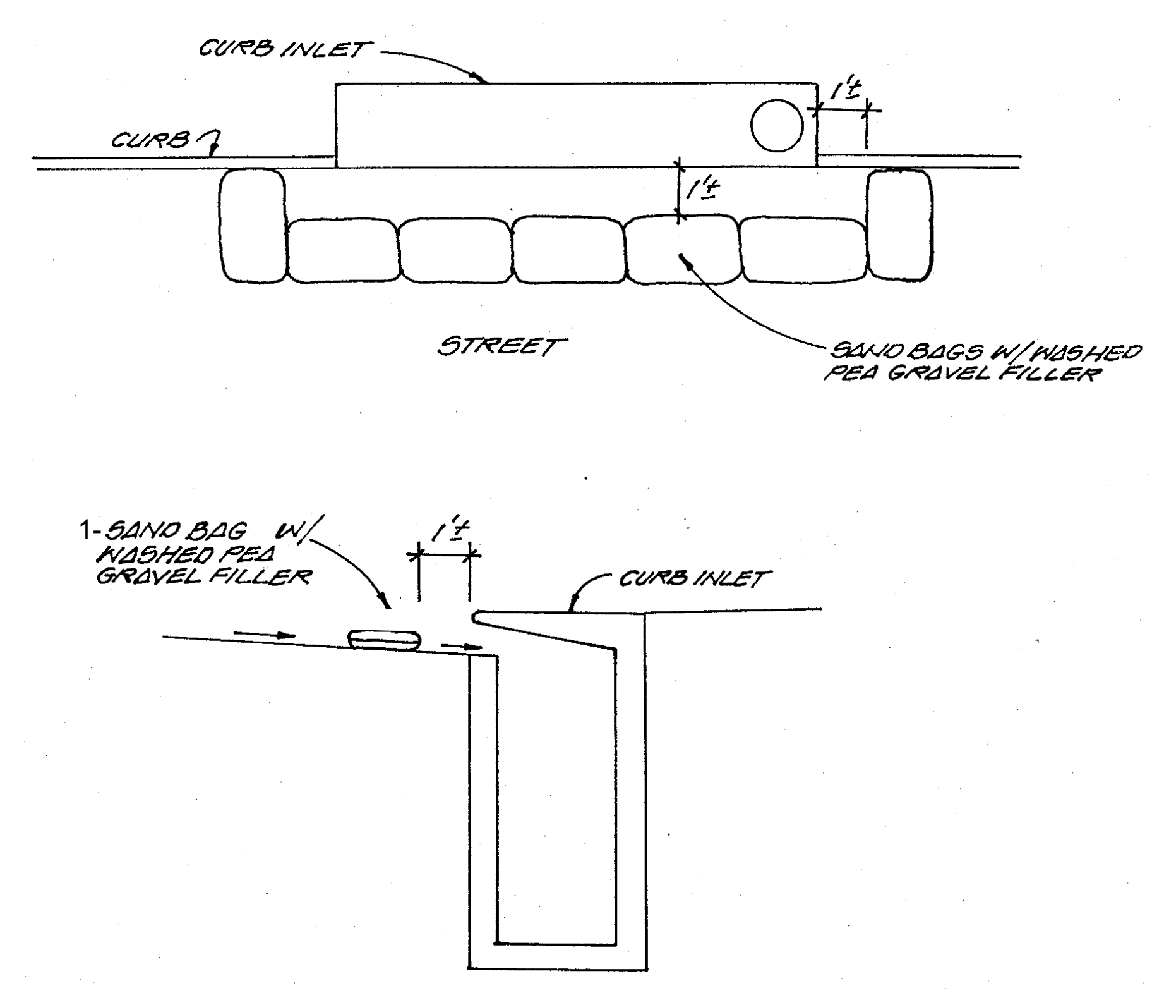

CURB INLET
CURB
1'±
1'±
STREET
SAND BAGS W/ WASHED PEA GRAVEL FILLER
1-SAND BAG W/ WASHED PEA GRAVEL FILLER
1'±
CURB INLET

Figure 1-39 Diagram of Bagged Gravel Curb Inlet Protection (Pape-Dawson).

GENERAL NOTES:

1. Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

INLET PROTECTION (GRAVEL FILTER BAGS)

NOT FOR CONSTRUCTION
FOR BIDDING PURPOSES ONLY

REV	DATE	DESCRIPTION

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KCI TECHNOLOGIES

CIBOLO FARMS UNIT 3

SED NOTES & DETAILS

DRAFTING:	P.R./D.M.	CHECK:	C.P.
DESIGN:	C.P.	CHECK:	L.E.
SUBMITTAL PHASE:			
DATE:			02/2024
KCI JOB #:			762309153

SHEET:
603