PLAT NO. 23-11800480

CONSTRUCTION PLANS FOR

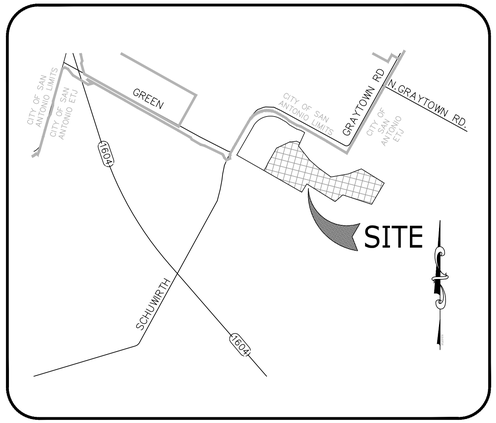
LEGACY AT GREEN ENCLAVE, UNIT 2

SUBMITTED BY:

MOY TARIN RAMIREZ ENGINEERS, LLC.
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

OWNER/DEVELOPER

FOUR BROTHERS CAPITAL, LLC
85 N.E. LOOP 410, SUITE 203
SAN ANTONIO, TX 78216

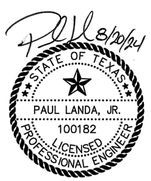


VICINITY MAP
N.T.S.

SUBMITTAL DATE:

LEGAL DESCRIPTION:

BEING A TOTAL OF 40.793 ACRE TRACT OF LAND PARTIALLY SITUATED IN THE ANDREW JF PHELAN SURVEY NO. 45, ABSTRACT NO. 580, COUNTY BLOCK 5107, AND PARTIALLY IN THE PI CO SURVEY NO. 4, ABSTRACT NO. 909, COUNTY BLOCK 5107, BOTH OF BEXAR COUNTY, TEXAS, BEING A PORTION OF A 125.588 ACRE TRACT AS CONVEYED TO HELEN RAKOWITZ BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN VOLUME 1741, PAGE 299, OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.



• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

Sheet List Table

Sheet Number	Sheet Title
COVER SHEET	
C0.0	OVERALL COVER
UTILITY PLANS	
C1.0	UTILITY COVER
C1.1	UTILITY OVERALL
C1.2	UTILITY OVERALL
SEWER PLANS	
C2.0	SEWER COVER
C2.1	SEWER OVERALL
C2.2	SEWER OVERALL
C2.3	EXISTING LINE "A" PLAN & PROFILE
C2.4	EXISTING LINE "F" PLAN & PROFILE
C2.5	LINE "G" PLAN & PROFILE
C2.6	LINE "H" PLAN & PROFILE
C2.7	LINE "J" PLAN & PROFILE
C2.8	SANITARY SEWER DETAILS
C2.9	SANITARY SEWER DETAILS
WATER PLANS	
C3.0	WATER COVER
C3.1	WATER OVERALL
C3.2	WATER OVERALL
C3.3	OFF-SITE WATER OVERALL
C3.4	WATER DETAILS
STREET & DRAIN PLANS	
C4.0	STREET COVER
C4.1	TRAFFIC PLAN
C4.2	TRAFFIC PLAN
C4.3	TRAFFIC DETAILS
C4.4	TRAFFIC DETAILS
C4.5	KIANA WAY PLAN AND PROFILE
C4.6	AYAAN COVE & ARMAAN RUN PLAN AND PROFILE
C4.7	MAYA COVE PLAN AND PROFILE
C4.8	MISHA WAY PLAN AND PROFILE
C4.9	KIANA RUN PLAN AND PROFILE
C4.10	STANDARD DETAILS
C4.11	STANDARD DETAILS
C4.12	TYPICAL STREET SECTIONS
C4.13	DRAIN "C" PLAN AND PROFILE
C4.14	DRAIN "D" PLAN AND PROFILE
GRADING PLANS	
C5.0	GRADING PLAN
C5.1	GRADING PLAN
SW3P PLANS	
C6.0	SW3P PLAN
C6.1	SW3P DETAILS

BEXAR COUNTY

SUBMITTAL SET

TEXAS C0.0

PLAT NO. 23-11800480

CONSTRUCTION PLANS FOR

LEGACY AT GREEN ENCLAVE, UNIT 2

UTILITY IMPROVEMENTS

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 for the project described in the contract 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.

UTILITY GENERAL NOTES

1. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF ALL UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES.
2. ALL EXCAVATION IS UNCLASSIFIED. THERE IS NO ADDITIONAL PAYMENT FOR ROCK EXCAVATION.
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A. STREET CENTERLINE STAKING FOR CLEARING.
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C. SEWER STAKING AT 100-FT INTERVALS.
D. STAKING FOR WATER SERVICES.
E. STAKING FOR DRAINAGE CHANNELS.
F. FINAL STREET STAKING.
G. METER BOX STAKING.
H. CPS STAKING.
I. SETTING OF LOT CORNERS.

CPS NOTES:

1. CPS TO SUPPLY ALL ELECTRIC CONDUITS FOR TRENCH AS FOLLOW:

   PRIMARY – 2 1/2" HDPE SCHEDULE 40
   SECONDARY – 3" PVC SCHEDULE 40
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NOTE :

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LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
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PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN	8"SS
EXISTING SANITARY SEWER MAIN	E8"SS
EXISTING OVERHEAD ELECTRIC	OHE
EXISTING UNDERGROUND ELECTRIC	UE
EXISTING UNDERGROUND TELEPHONE	UGT
EXISTING STREET LIGHT	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	D.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.
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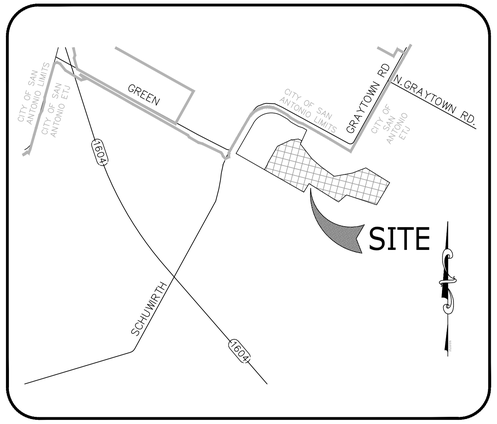
PROPOSED STREET LIGHT UG, 250W AND SINGLE ARM	
EXISTING POWER POLE	PP
EXISTING SECONDARY ENCLOSURE	
PROPOSED SECONDARY ENCLOSURE	
PROPOSED POWER POLE	PP
PROPOSED TRANSFORMER	
PROPOSED WATER SERVICE	
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT	
EXISTING TRANSFORMER	
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	



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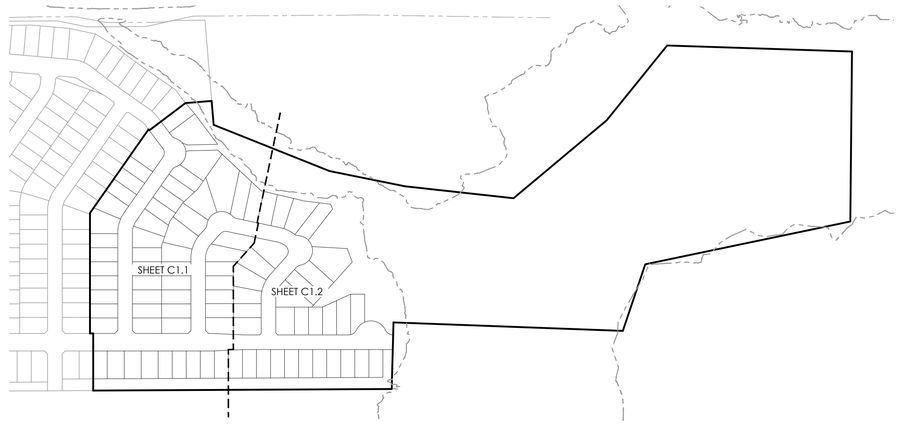
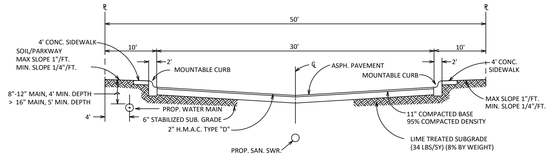
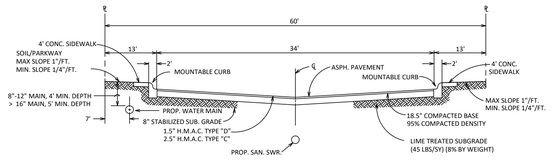


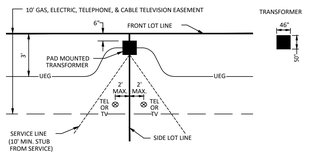
INDEX MAP
NOT TO SCALE



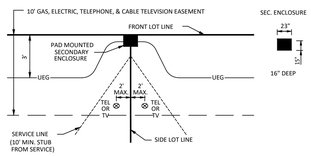
TYPICAL STREET CROSS-SECTION (30' PAVEMENT)
N.T.S.



TYPICAL STREET CROSS-SECTION (34' PAVEMENT)
N.T.S.



TRANSFORMER



SECONDARY ENCLOSURE
FRONT LOADED

SUBMITTAL DATE:

MARCH 2021

LEGAL DESCRIPTION:

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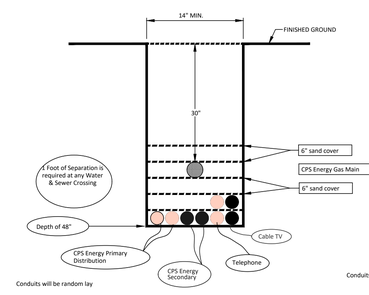
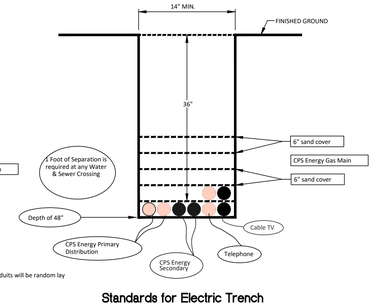
NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.



Standards for Gas and Electric Trench
or Electric Trench with Joint Utilities
NOT TO SCALE
Trench Diagram



Standards for Electric Trench
or Electric Trench with Joint Utilities
NOT TO SCALE
Trench Diagram

TRENCH DETAILS

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

SUBMITTED BY:
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OWNER/DEVELOPER
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85 N.E. LOOP 410, SUITE 203
SAN ANTONIO, TX 78216

BEXAR COUNTY

SUBMITTAL SET

TEXAS C1.0

R:\Rakowitz DU\Unit 2\Drawings\123149_C1.0 Utility Cover.dwg
Plot Date: August 20, 2024 User ID: Samuel Garcia

PLAT NO. 23-11800480

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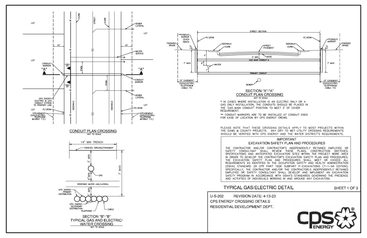

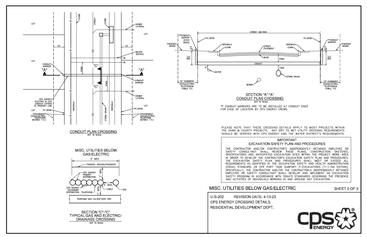

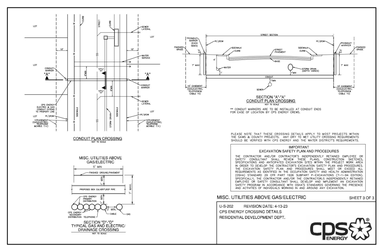

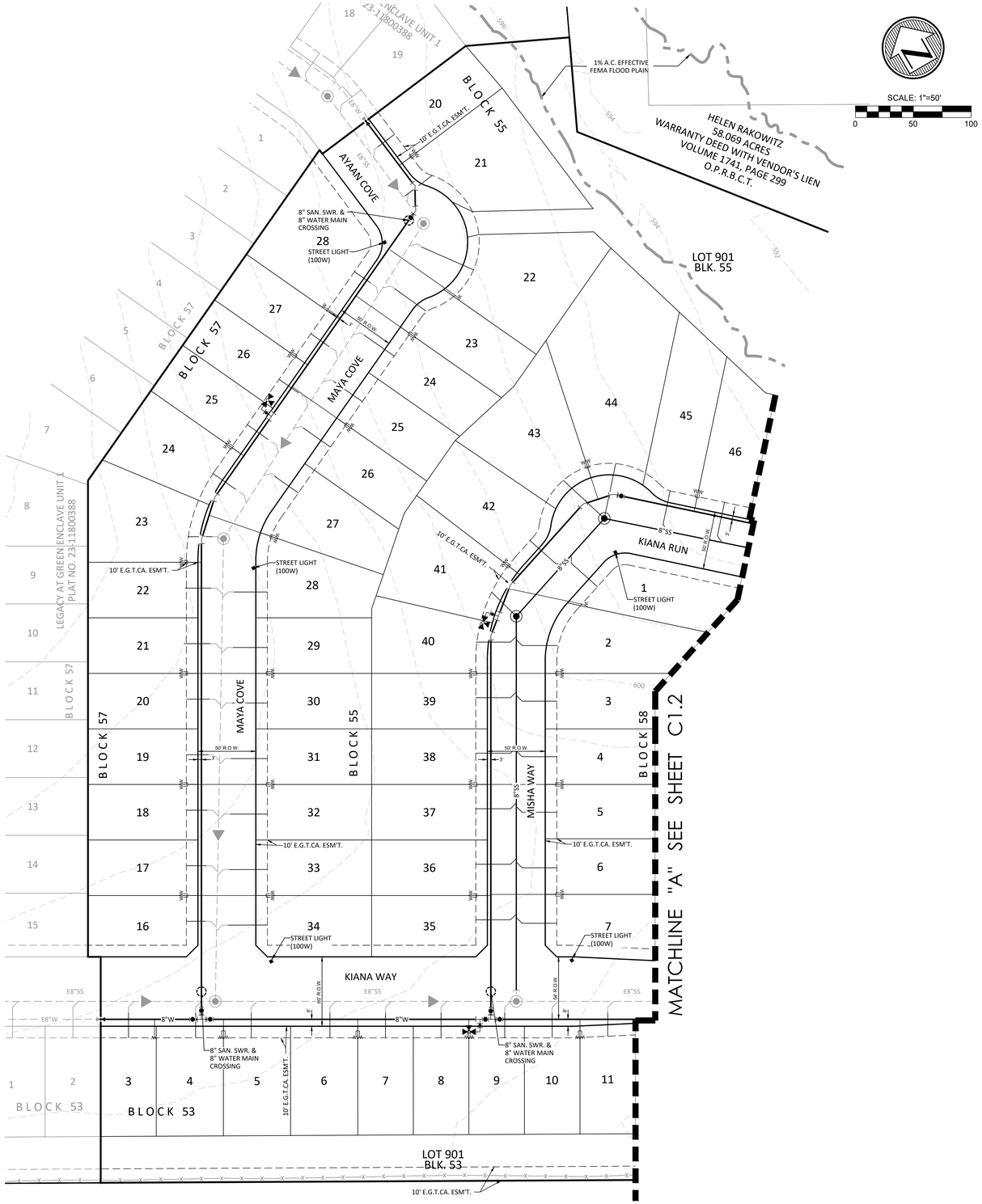

LEGEND

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OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	D.P.R.B.C.T.
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PROPOSED WATER SERVICE	W
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CAUTION: EXISTING UNDERGROUND UTILITIES, CONTRACTOR TO VERIFY PRIOR TO START OF ANY CONSTRUCTION.

REVISIONS						
NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC

TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
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STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE, UNIT 2

OVERALL UTILITY IMPROVEMENTS PLAN

SHEET
C1.1

SUBMITTAL SET

Plot Date: August 05, 2024 User ID: Samuel Garcia
G:\Projects\21044_2 Green\Civil\21044_2C1-C2 Utility Overall.dwg

PLAT NO. 23-11800480

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TELEPHONE AND CABLE LINES TO GO IN JOINT TRENCH WITH CITY PUBLIC SERVICE.

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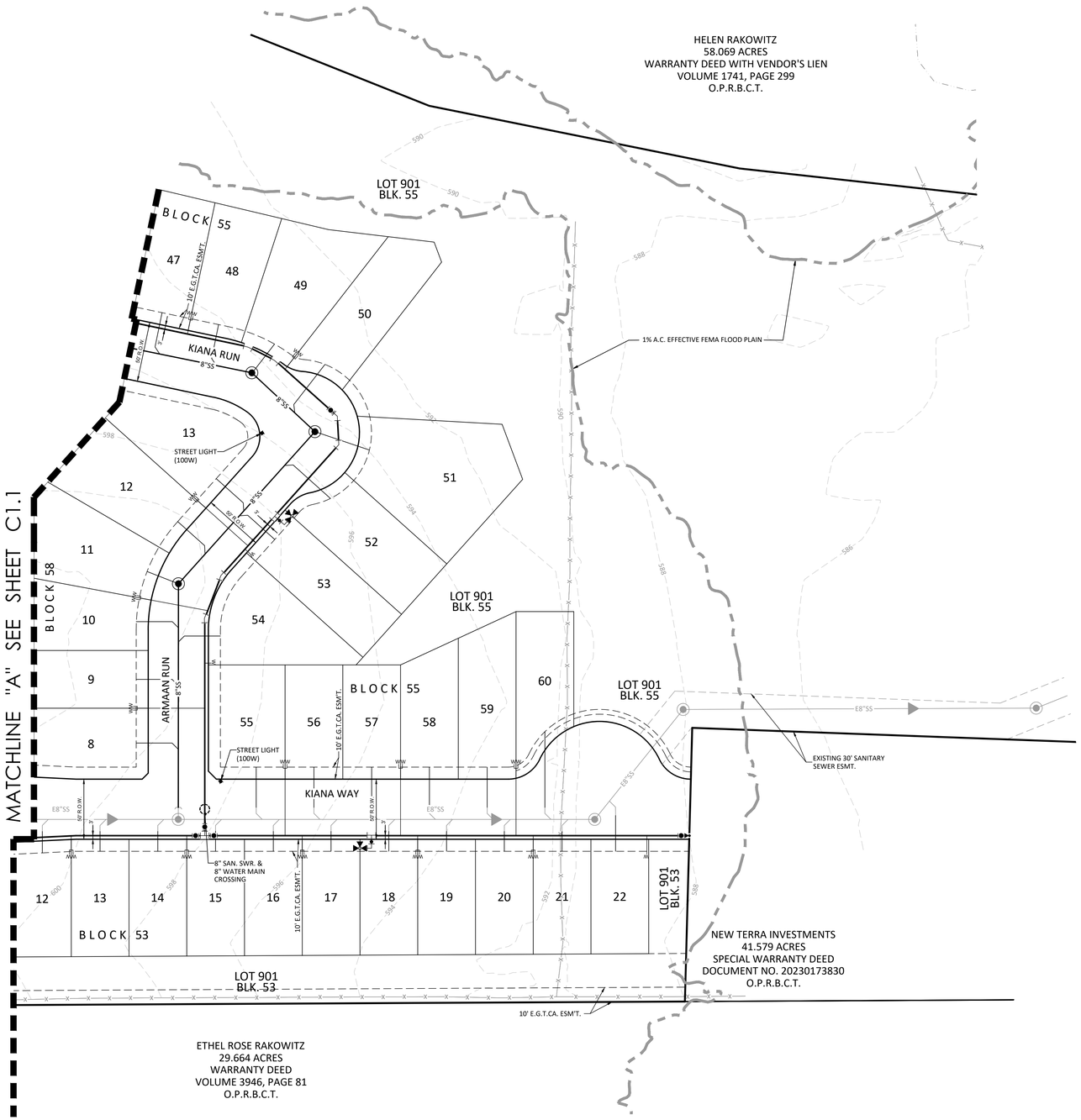
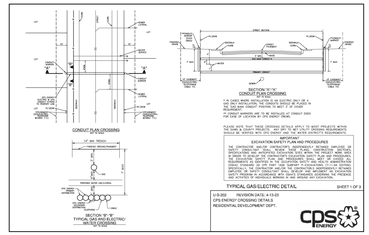
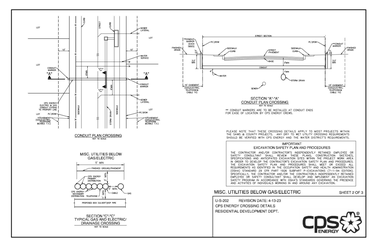


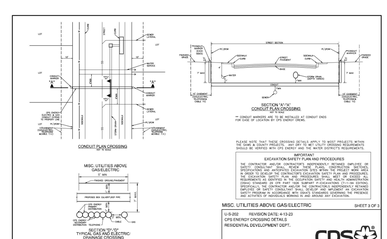
SCALE: 1"=50'
0 50 100

LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN	8"SS
EXISTING SANITARY SEWER MAIN	E8"SS
EXISTING OVERHEAD ELECTRIC	OHE
EXISTING UNDERGROUND ELECTRIC	UE
EXISTING UNDERGROUND TELEPHONE	UGT
EXISTING STREET LIGHT	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	D.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.
PROPOSED STREET LIGHT UG, 100W AND SINGLE ARM	
PROPOSED STREET LIGHT UG, 250W AND SINGLE ARM	
EXISTING POWER POLE	PP
EXISTING SECONDARY ENCLOSURE	
PROPOSED SECONDARY ENCLOSURE	
PROPOSED POWER POLE	PP
PROPOSED TRANSFORMER	
PROPOSED WATER SERVICE	
PROPOSED IRRIGATION SERVICE	IR
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEANOUT	
EXISTING TRANSFORMER	
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	







• Engineers
• Surveyors
• Planners

MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

REVISIONS						
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:	BY:

LEGACY AT GREEN ENCLAVE, UNIT 2

OVERALL UTILITY IMPROVEMENTS PLAN

SHEET
C1.2

SUBMITTAL SET

PLAT NO. 23-11800480

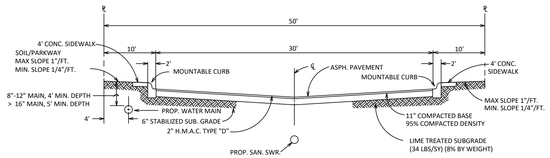
CONSTRUCTION PLANS FOR

LEGACY AT GREEN ENCLAVE, UNIT 2

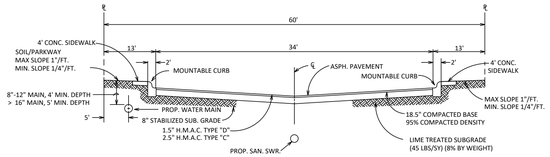
SANITARY SEWER IMPROVEMENTS

SUBMITTED BY:
MOY TARIN RAMIREZ ENGINEERS, LLC.
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

OWNER/DEVELOPER
FOUR BROTHERS CAPITAL, LLC
85 N.E. LOOP 410, SUITE 203
SAN ANTONIO, TX 78216



TYPICAL STREET CROSS-SECTION (30' PAVEMENT)
N.T.S.



TYPICAL STREET CROSS-SECTION (34' PAVEMENT)
N.T.S.

CAUTION!
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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 for the project described in the contract 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.

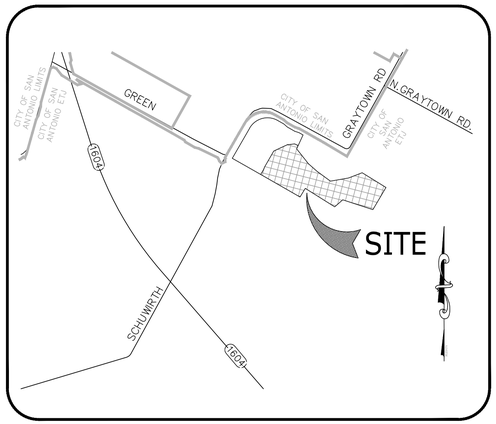
NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

GENERAL SEWER NOTES

1. ALL SEWER CONSTRUCTION IS WITHIN THE JURISDICTION OF THE SAN ANTONIO RIVER AUTHORITY (SARA).
2. A PRECONSTRUCTION CONFERENCE WILL BE HELD WITH THE CONTRACTOR, CONSULTANT AND SARA STAFF PRIOR TO START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL OBTAIN A COPY OF THE TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION, DATED APRIL, 2012, AS PUBLISHED BY THE SAN ANTONIO RIVER AUTHORITY. THESE SPECIFICATIONS AND THE GENERAL NOTES SHOWN ON THE PLANS WILL GOVERN ALL SEWER CONSTRUCTION IN THIS PROJECT.
4. DENSITY TESTING OF SECONDARY BACKFILL MATERIAL IN SEWER TRENCHES WILL BE REQUIRED. SEE SECTION 400.4 OF THE SPECIFICATIONS FOR MORE INFORMATION.
5. SEEPAGE RETAINERS WILL BE REQUIRED AT CERTAIN LOCATIONS. SEE SECTION 400.4(C) OF THE SPECIFICATIONS FOR MORE INFORMATION.
6. COORDINATE ALL WORK WITH THE SARA INSPECTOR.
7. 6" CLEANOUTS ARE NOT ALLOWED IN DRIVEWAY



VICINITY MAP
N.T.S.

SUBMITTAL DATE:

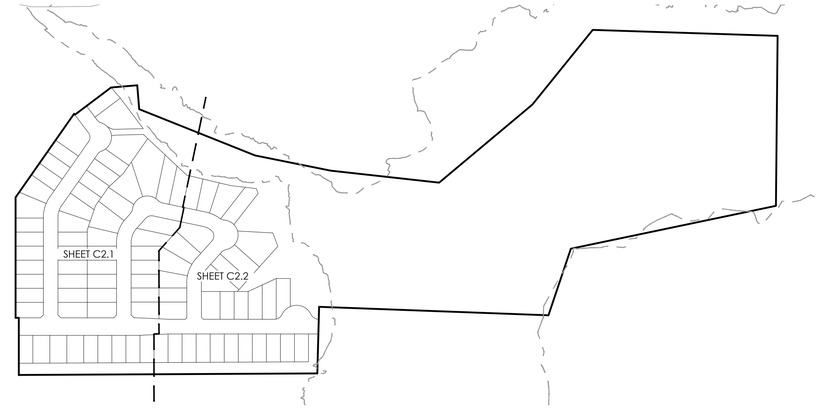
JUNE 2024

REVISION DATE:

LEGAL DESCRIPTION:

BEING A TOTAL OF 40.793 ACRE TRACT OF LAND PARTIALLY SITUATED IN THE ANDREW JF PHELAN SURVEY NO. 45, ABSTRACT NO. 580, COUNTY BLOCK 5107, AND PARTIALLY IN THE PI CO SURVEY NO. 4, ABSTRACT NO. 909, COUNTY BLOCK 5107, BOTH OF BEXAR COUNTY, TEXAS, BEING A PORTION OF A 125.588 ACRE TRACT AS CONVEYED TO HELEN RAKOWITZ BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN VOLUME 1741, PAGE 299, OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085



INDEX MAP
NOT TO SCALE

Sheet List Table

Sheet Number	Sheet Title
SEWER PLANS	
C2.0	SEWER COVER
C2.1	SEWER OVERALL
C2.2	SEWER OVERALL
C2.3	EXISTING LINE "A" PLAN & PROFILE
C2.4	EXISTING LINE "F" PLAN & PROFILE
C2.5	LINE "G" PLAN & PROFILE
C2.6	LINE "H" PLAN & PROFILE
C2.7	LINE "J" PLAN & PROFILE
C2.8	SANITARY SEWER DETAILS
C2.9	SANITARY SEWER DETAILS

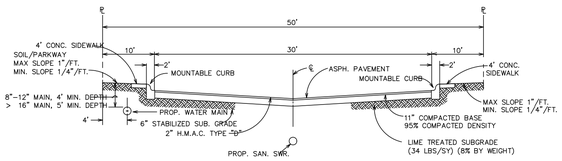
ESTIMATED SEWER QUANTITIES

BEXAR COUNTY TEXAS

SUBMITTAL SET

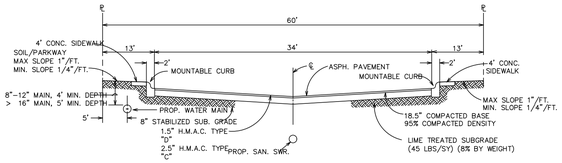
R:\Rakowitz D\Unit 2\Drawings\23149_C2.0-Sewer Cover.dwg
Plot Date: September 4, 2024 User ID: Samuel Garcia

PLAT NO. 23-11800480



TYPICAL STREET CROSS-SECTION (30' PAVEMENT)

N.T.S.



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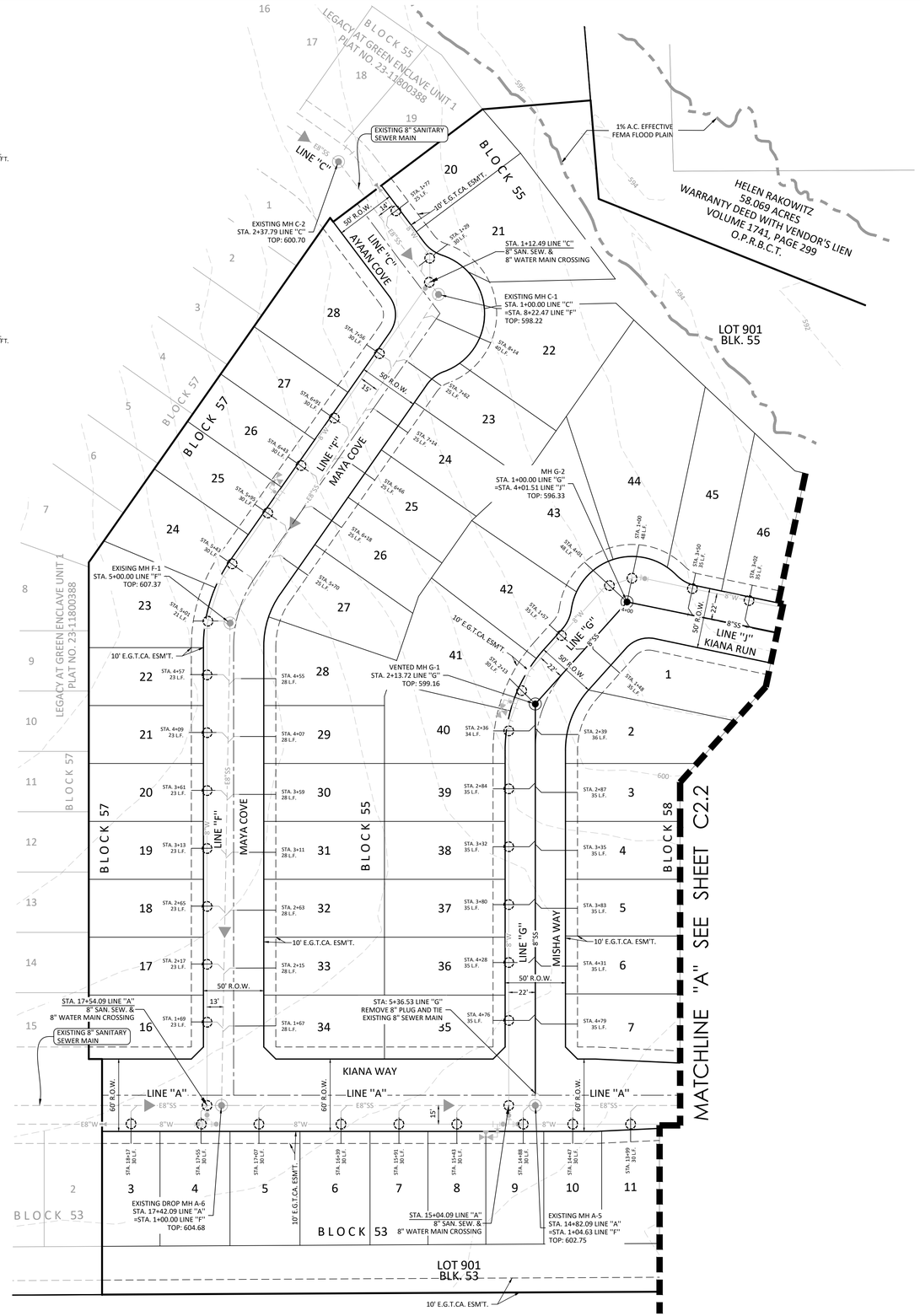
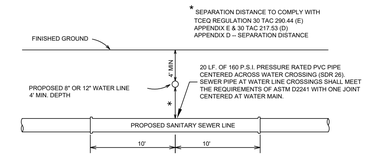
N.T.S.



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

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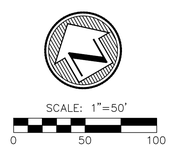

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC

TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
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SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

LEGACY AT GREEN ENCLAVE UNIT 2

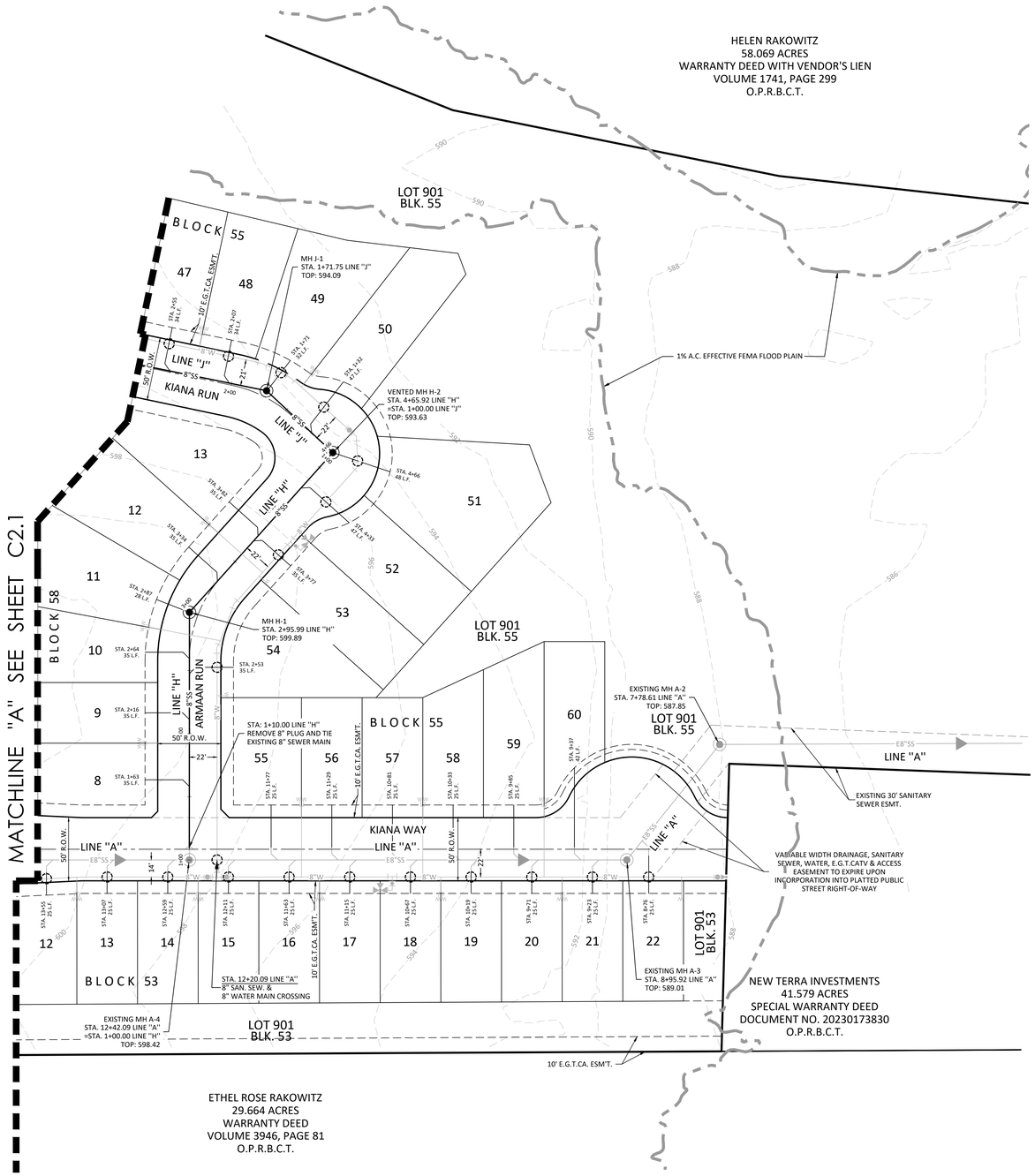
SANITARY SEWER OVERALL PLAN

SHEET

C2.1

Plot Date: September 4, 2024 User ID: Samuel Garcia
R:\Revit\ 01Work 2\Civil\23140_LEG2_C2.1 Sewer Overall.dwg

PLAT NO. 23-11800480



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
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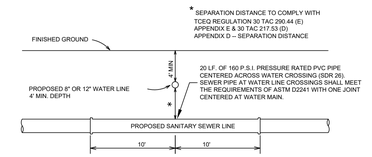
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

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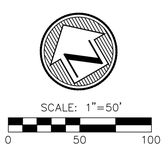

SUBMITTAL SET

NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

REVISIONS

• Engineers
• Surveyors
• Planners
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TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
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SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
9/4/24

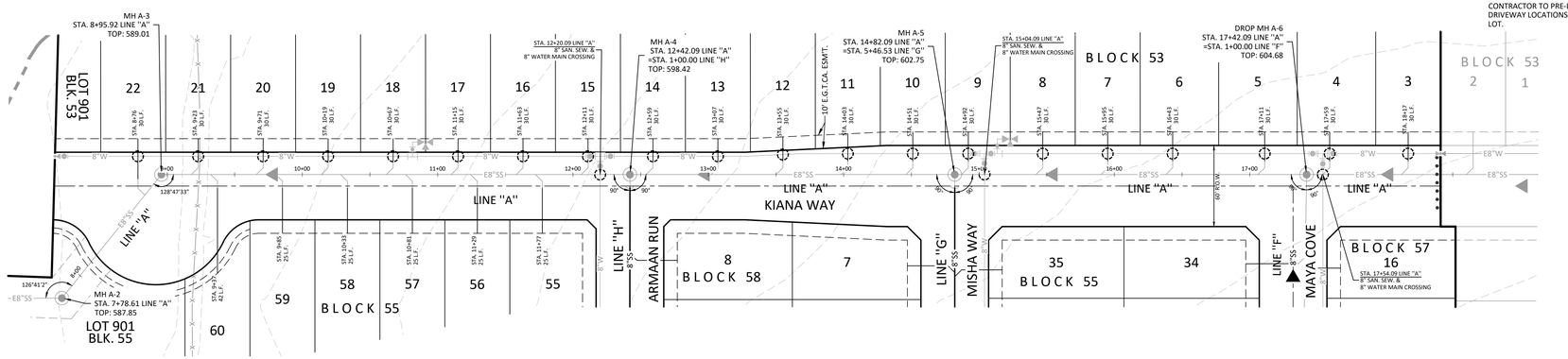
LEGACY AT GREEN ENCLAVE, UNIT 2

SANITARY SEWER OVERALL PLAN

SHEET
C2.2

Plot Date: September 4, 2024 User ID: Samuel Garcia
P:\Projects\23-044 Legacy at Green Enclave\Civil\C2.2 - Sewer Overall.dwg

PLAT NO. 23-11800480



SCALE: 1"=50'

0 50 100

NOTE:
LATERALS TO BE LOCATED OUTSIDE OF DRIVEWAY LOCATIONS. CONTRACTOR TO PRE-DETERMINE DRIVEWAY LOCATIONS FOR EACH LOT.

LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
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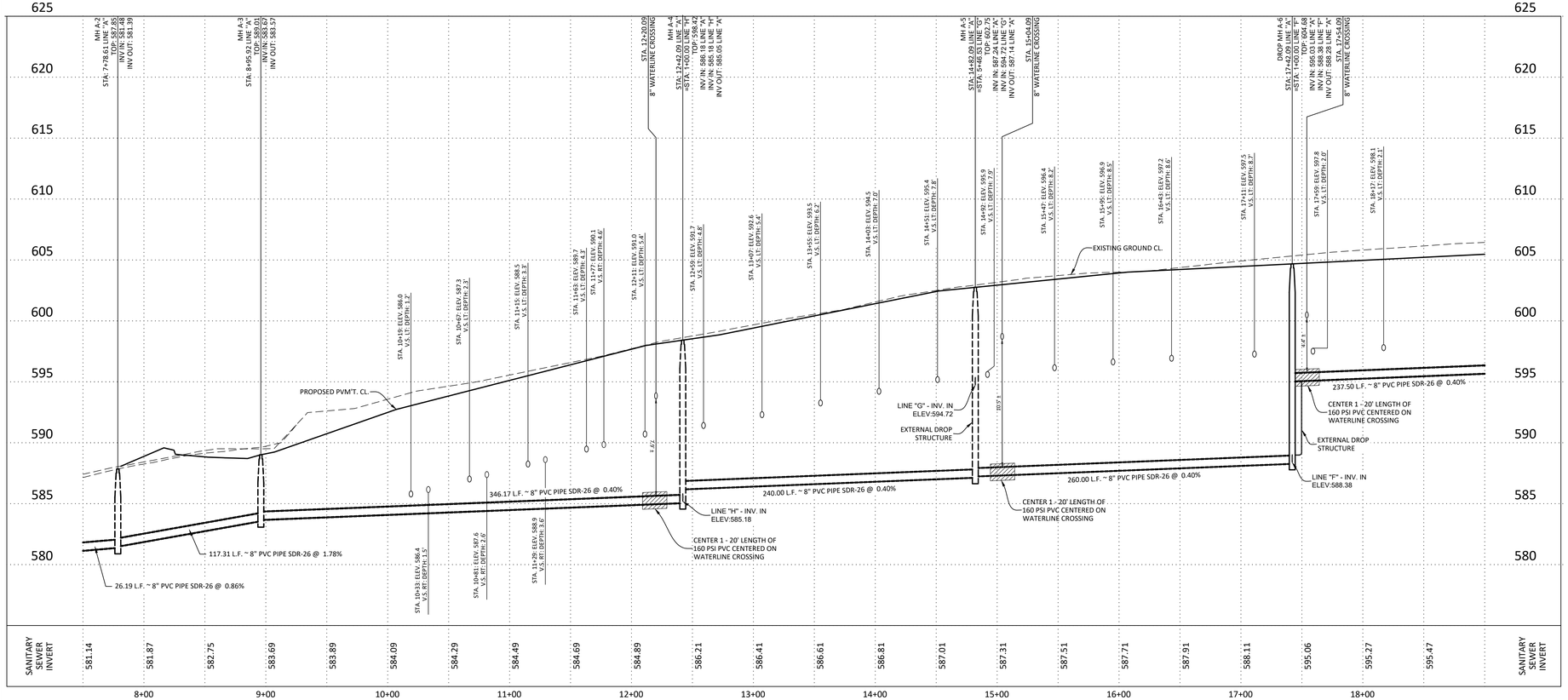
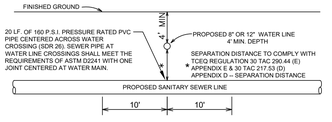
EXISTING LINE "A"

STA. 7+80.89 TO STA. 18+17+00

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'





TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

N.T.S.

SUBMITTAL SET

REVISIONS

NO.	DESCRIPTION	DATE	BY:

PROJ. #: DGN. BY: DWN. BY: CHKD. BY: DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9/4/24

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER PLAN & PROFILE
LINE "A"
STA. 7+80.89 TO STA. 18+17+00

SHEET
C2.3

Plot Date: September 4, 2024 User ID: Samuel Garcia
P:\Projects\Legacy at Green Enclave\Civil\Sheets\C2.3 Line "A" Plan.dwg

PLAT NO. 23-11800480

CAUTION:
EXISTING UTILITIES:
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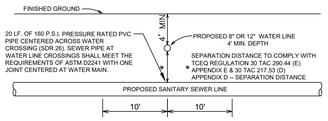
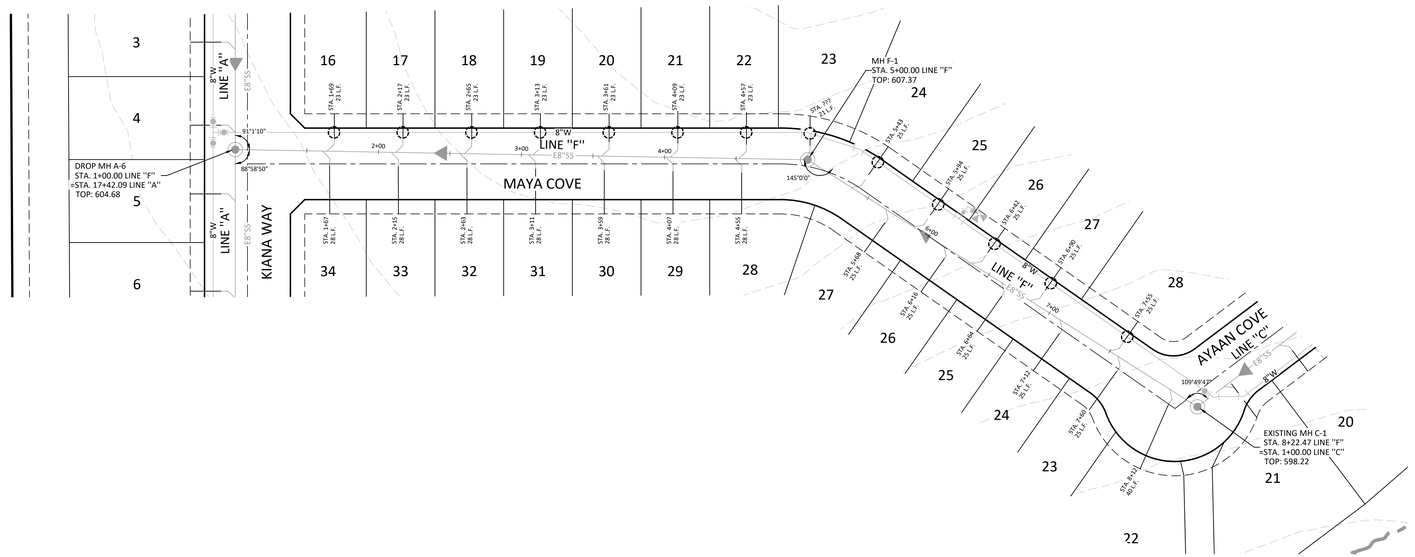


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
N.T.S.



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

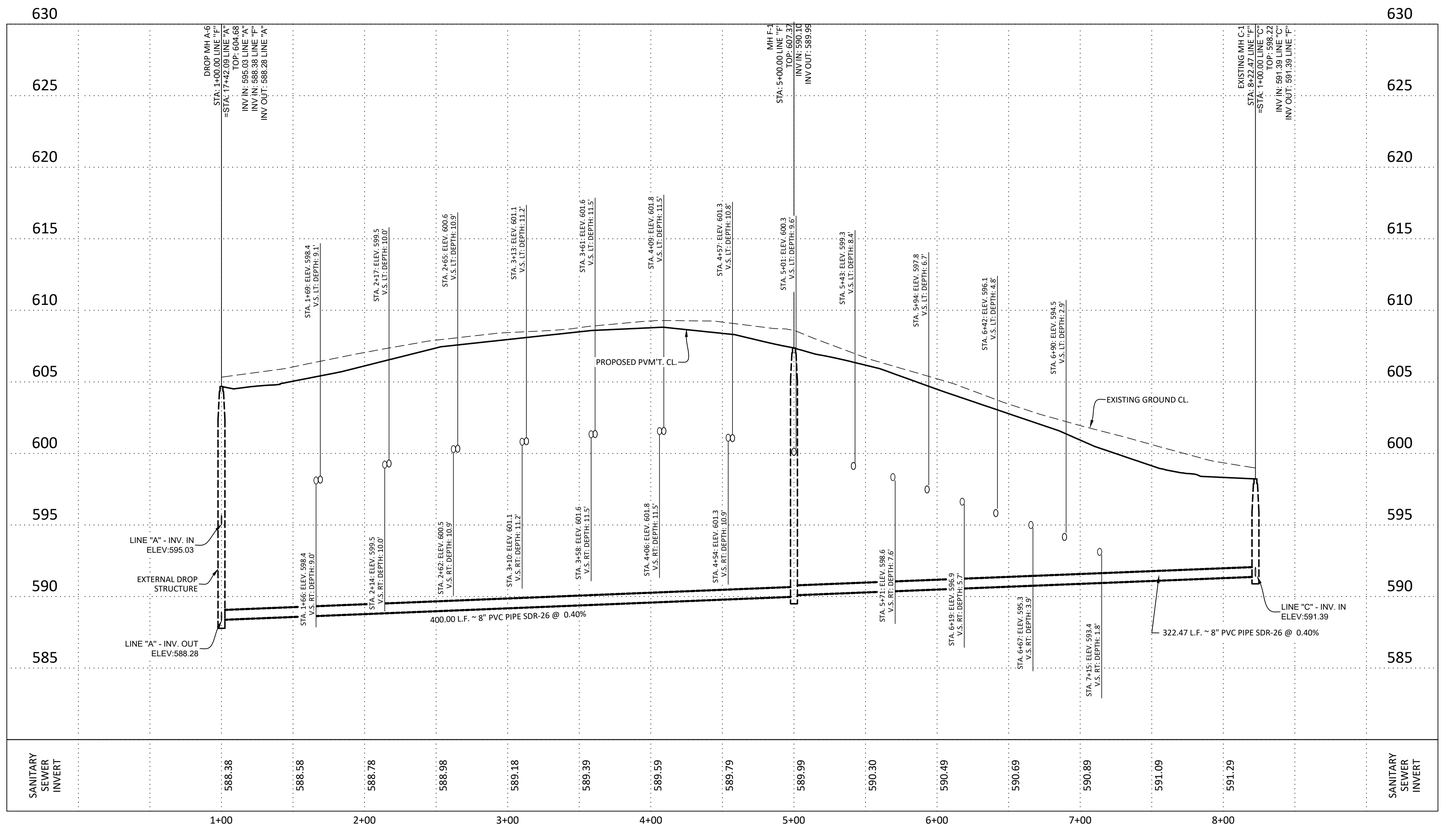
SCALE: 1"=50'
0 50 100

NOTE:
LATERALS TO BE LOCATED OUTSIDE OF DRIVEWAY LOCATIONS. CONTRACTOR TO PRE-DETERMINE DRIVEWAY LOCATIONS FOR EACH LOT.

EXISTING LINE "F"

STA. 1+00.00 TO STA. 8+01.97

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



REVISIONS

NO.	DESCRIPTION	DATE	BY:

PROJ. #: DSN. BY: DWN. BY: CHKD. BY: DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
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SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
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LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9/4/24

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER PLAN & PROFILE
LINE "F"
STA. 1+00.00 TO STA. 8+01.97

SHEET
C2.4

SUBMITTAL SET

Plot Date: September 4, 2024 User ID: Samuel Garcia
N:\Drawings\Projects\Legacy at Green Enclave\Unit 2\Civil\Plat\Plat 23-11800480.dwg

CAUTION:
EXISTING UTILITIES:
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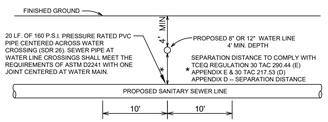
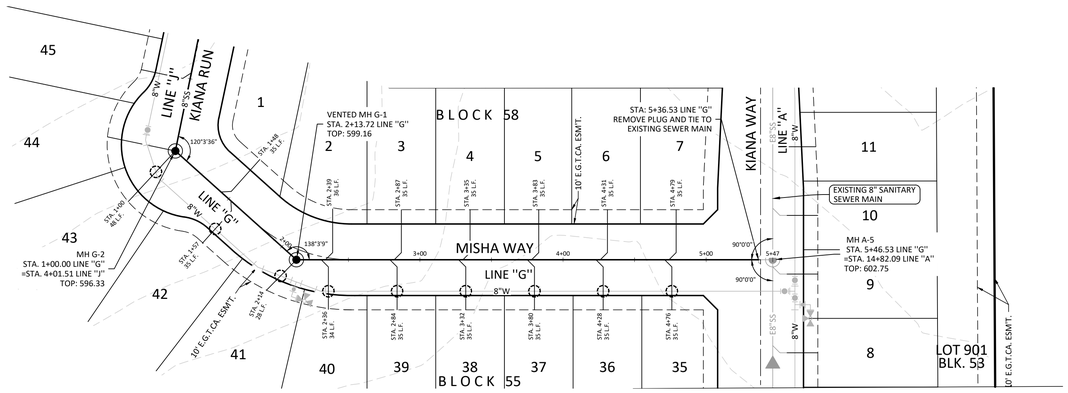


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

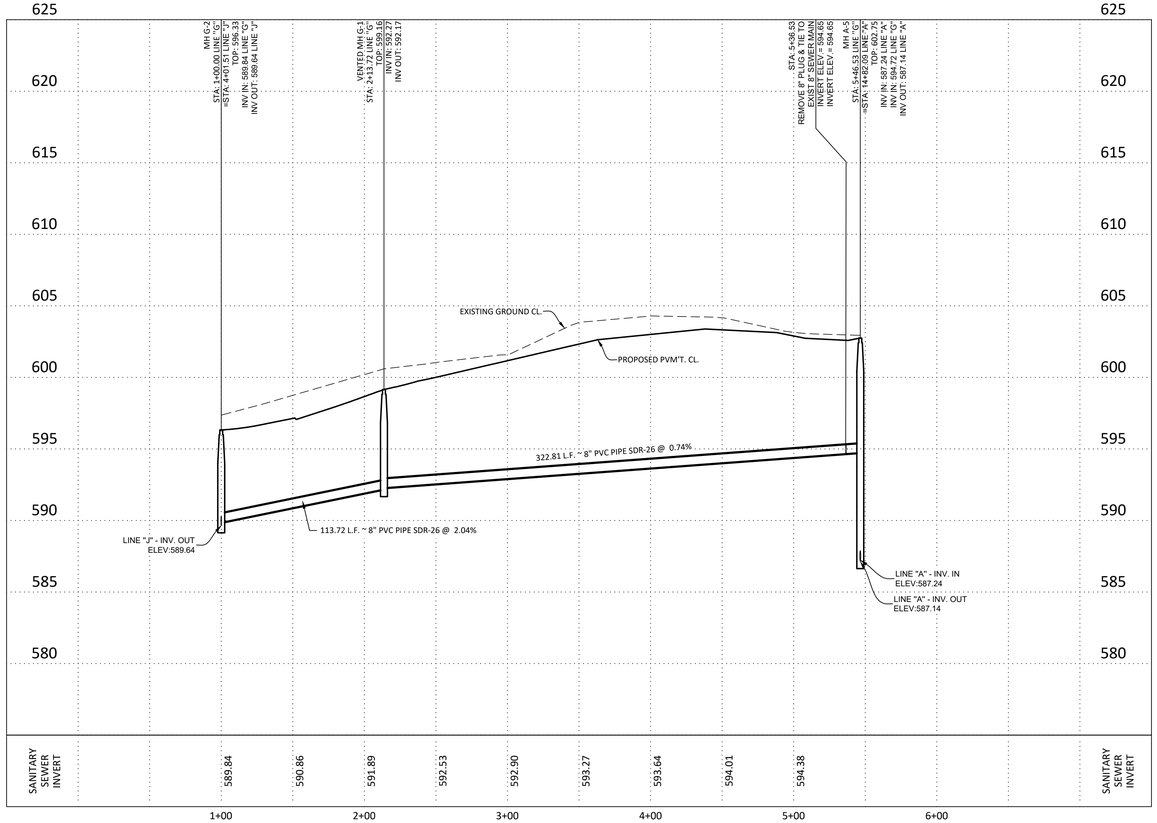
N.T.S.



LINE G

STA. 1+00.00 TO STA. 5+46.53

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

SCALE: 1"=50'
0 50 100

NOTE:
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PLAT NO. 23-11800480

REVISIONS

NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
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PAUL LANDA, JR
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9/4/24

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER PLAN & PROFILE
LINE G
STA. 1+00.00 TO STA. 5+46.53

SHEET
C2.5

SUBMITTAL SET

Plot Date: September 4, 2024 User ID: Samuel Garcia
N:\Active Projects\2349.023-Kiana "G" Map.dwg

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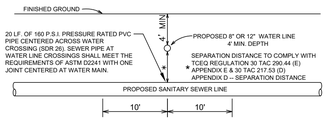
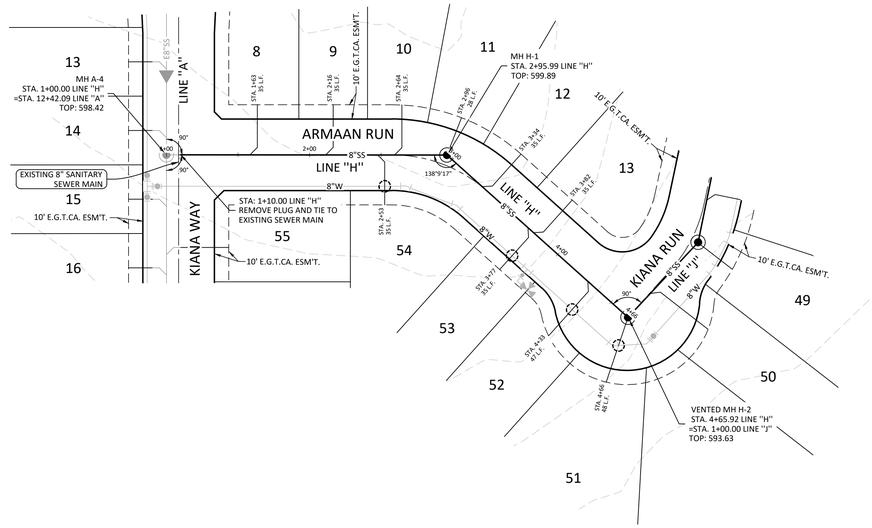


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

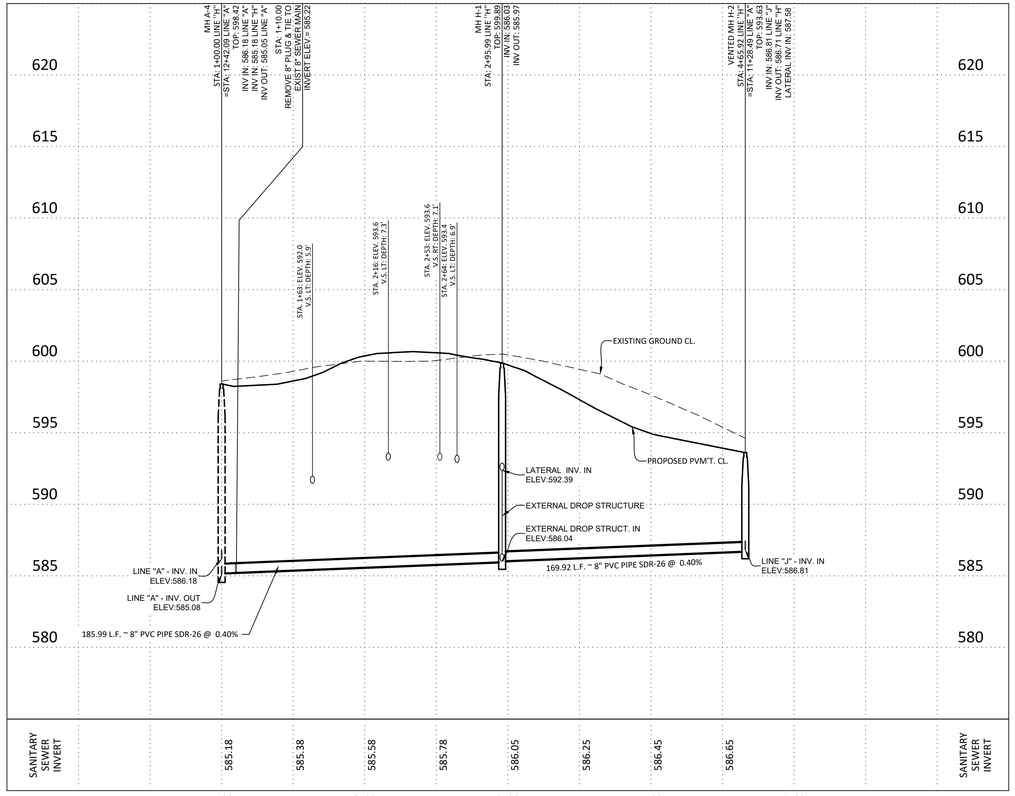
N.T.S.



LINE H

STA. 1+00.00 TO STA. 4+57.42

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



PLAT NO. 23-11800480

LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

SCALE: 1"=50'
0 50 100

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NO.	DATE	REVISIONS DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
9/6/24

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER PLAN & PROFILE
LINE H
STA. 1+00.00 TO STA. 4+57.42

SHEET
C2.6

SUBMITTAL SET

Plot Date: December 16, 2024 User ID: Lisa Perez
P:\Projects\LGCM\LGCM-22\Civil\Sht\LGCM-22-Line "H" Hgt.dwg

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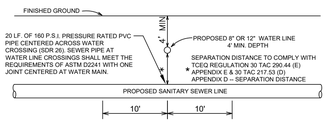
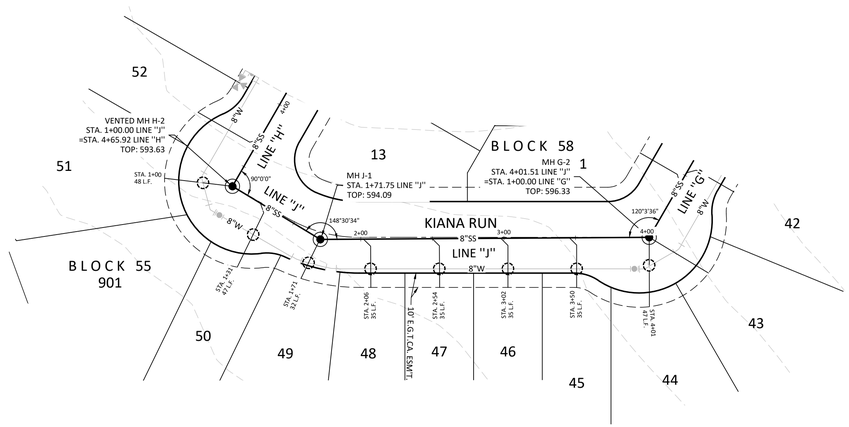


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

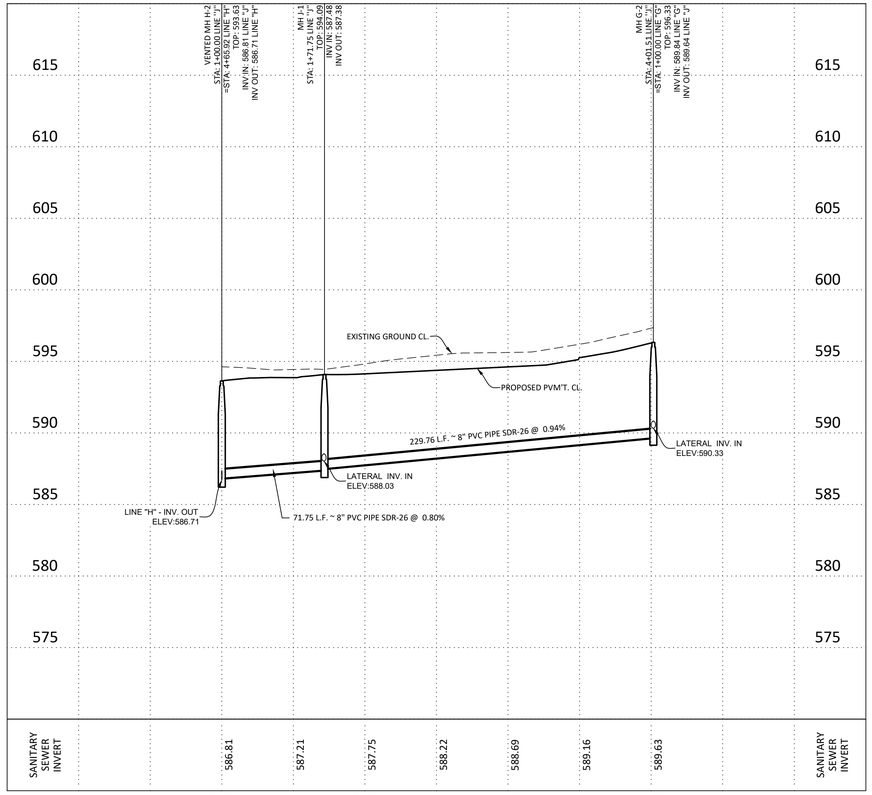
N.T.S.



LINE J

STA. 1+00.00 TO STA. 4+01.51

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



PLAT NO. 23-11800480

LEGEND

EXISTING WATER MAIN	EX 8"W
PROPOSED WATER MAIN	8"W
PROPOSED FIRE HYDRANT	
EXISTING FIRE HYDRANT	
PROPOSED GATE VALVE	
EXISTING GATE VALVE	
PROPOSED SANITARY SEWER MAIN & MANHOLE	8"SS
EXISTING SANITARY SEWER MAIN & MANHOLE	EX 8"SS
PROPOSED SERVICE LATERAL WITH ONE-WAY CLEAN-OUT	
VERTICAL STACK	VS
ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT	E.G.T.CA.E.
TEMPORARY BENCHMARK	
PROPOSED MINIMUM FINISH FLOOR ELEVATION	MIN. F.F. = 795.5
SANITARY SEWER/WATER CROSSING LOCATION	
OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS	O.P.R.B.C.T.
OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS	O.P.R.M.C.T.

SCALE: 1"=50'
0 50 100

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STATE OF TEXAS
9/6/24

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER PLAN & PROFILE
LINE J

STA. 1+00.00 TO STA. 4+01.51

SHEET
C2.7

SUBMITTAL SET

Plot Date: September 4, 2024 User ID: Samuel Garcia
N:\Active Projects\Legacy at Green Enclave\Drawings\Sheets\C2.5-Line J.dwg

PLAT NO. 23-11800480

GENERAL NOTES:

1. SAN ANTONIO RIVER AUTHORITY (RIVER AUTHORITY) STANDARD SPECIFICATIONS AND STANDARD DETAILS ARE PROVIDED FOR DESIGN AND CONSTRUCTION OF SEWER COLLECTION SYSTEMS MANAGED BY THE RIVER AUTHORITY.

2. AT ANY TIME, THESE STANDARD SPECIFICATIONS AND DETAILS MAY BE ALTERED OR SUPERSEDED BY THE GENERAL CONDITIONS, SUPPLEMENTAL CONDITIONS, PLANS OR PROJECT SPECIFICATIONS WITHIN THE CONTRACT DOCUMENT PER DIRECTION FROM THE RIVER AUTHORITY.

3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY RIVER AUTHORITY AND COMPLY WITH THE CONTRACT DOCUMENTS AND THE FOLLOWING AS APPLICABLE:

   3.1. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30, PART 1, CHAPTER 217.

   3.2. CURRENT TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT), "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".

   3.3. CURRENT RIVER AUTHORITY "STANDARD SPECIFICATIONS FOR SANITARY SEWER CONSTRUCTION".

   3.4. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL".

4. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE RIVER AUTHORITY INSPECTIONS DIVISION AT (210) 302-4200 FORTY EIGHT (48) HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL ALSO PROVIDE PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE START OF PROJECT.

5. WORK SHALL NOT BE PERFORMED ON SATURDAYS, SUNDAYS, FEDERAL HOLIDAYS, RIVER AUTHORITY HOLIDAYS, BEFORE 7:30 AM, OR AFTER 4:30 PM, UNLESS PRIOR APPROVAL IS GRANTED BY THE RIVER AUTHORITY ENGINEER. REQUEST TO PERFORM WORK DURING THESE TIMES MUST BE EMAILED 48 HOURS IN ADVANCE TO UTILITIESDEVELOPMENT@SARIVERAUTHORITY.ORG.

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

7. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF RIVER AUTHORITY WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTOR.

8. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO CONSTRUCTION REGARDLESS OF ILLUSTRATION ON THE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO RIVER AUTHORITY. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES AND REPAIRS WILL BE AT CONTRACTOR'S EXPENSE.

9. CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND/OR CROSS EXISTING UTILITIES, AND CONTRACTOR IS REQUIRED TO PROTECT THESE UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY BE REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL PERSONNEL ON SITE, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES, AND REPAIRS WILL BE AT CONTRACTOR'S FULL EXPENSE.

10. WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE LESS THAN 9 FEET (I.E. WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES OR WATER LINES NEXT TO MANHOLES), THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC 217 AND 30 TAC 290.

11. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE PROJECT AREAS.

12. A SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL OVERHEAD EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CPS AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF CPS OVERHEAD LINES. CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.

13. ALL WORK IN THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) RIGHT-OF-WAY SHALL PROCEED DURING WORKING HOURS AGREED UPON BY RIVER AUTHORITY AND TXDOT INSPECTORS.

14. BEFORE THE START OF ANY CONSTRUCTION, CONTRACTOR SHALL FULLY DOCUMENT THE SITE WITH PHOTOS AND DIGITAL VIDEO WITH ONE COPY SUBMITTED TO RIVER AUTHORITY PRIOR TO STARTING WORK. THE PRE-CON SITE VIDEO SHALL PROVIDE ACCURATE DOCUMENTATION OF EXISTING CONDITIONS.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGE DONE DURING THE PROJECT CONSTRUCTION.

16. ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR NOT 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 RIVER AUTHORITY INSPECTOR. GATES, OR GAPS IN THE FENCING IF APPROVED, MUST BE PROVIDED AT ALL LOCATIONS WHERE THE SEWER LINE EASEMENT CROSSES FENCING. FENCING REQUIRED TO MAINTAIN LIVESTOCK MUST BE MAINTAINED AT ALL TIMES. ALL GATES SHALL BE APPROVED PRIOR TO INSTALLATION.

17. CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS OR EASEMENTS. ANY CLAIMS DIRECTLY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF RIVER AUTHORITY AND THE APPROPRIATE LANDOWNER.

18. CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AND BUSINESSES AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR MUST REPLACE THE ACCESS TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY RIVER AUTHORITY.

19. CONTRACTOR MUST COMPLY WITH TEXAS GOVERNMENT CODE SECTION 2166.303 UNIFORM TRENCH SAFETY CONDITIONS.

20. CONTRACTOR SHALL NOT BACKFILL ANY TRENCHES UNTIL INSPECTION CAN BE CONDUCTED BY THE RIVER AUTHORITY. NO OPEN TRENCHES SHALL BE PERMITTED OVERNIGHT. ALL ENDS OF OPEN PIPE SHALL BE PLUGGED OVERNIGHT.

21. CONTRACTOR SHALL HAVE THE LATEST APPROVED COPY OF PLANS AND SPECIFICATIONS ON SITE AT ALL TIMES FOR REFERENCE.

22. NO TREES SHALL BE REMOVED AS PART OF THIS PROJECT UNLESS OTHERWISE SPECIFIED IN THE PLANS.

23. FOR PORTIONS OF THE CONSTRUCTION THAT 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, AND ALL OTHER ITEMS DEEMED UNACCEPTABLE BY RIVER AUTHORITY. UNDER THREATENING WEATHER CONDITIONS AND WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO RIVER AUTHORITY. THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK. NO EQUIPMENT OR MATERIALS SHALL BE STOCKPILED IN THE 100-YEAR FLOODPLAIN OVERNIGHT.

24. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING DRAINAGE AREAS THAT WILL BLOCK OR ALTER FLOW LIMITS OR NATURAL DRAINAGE.

25. IF A THREATENED OR ENDANGERED PLANT OR ANIMAL SPECIES AND/OR CULTURAL/ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY THE APPROPRIATE PERSONNEL.

SEWER NOTES:

26. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THE WORK. ALL PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON THE PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

   26.1. IDENTIFY THE SOURCE OF THE SSO AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE.
   26.2. NOTIFY RIVER AUTHORITY CONSTRUCTION INSPECTIONS DIVISION AT (210) 302-4200 AND ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
   26.3. CONTAIN SEWAGE FROM THE SSO TO PREVENT CONTAMINATION OF WATERWAYS.
   26.4. CLEAN UP THE SPILL AREA AND REMOVE CONTAMINATED MATERIALS.
   26.5. DISINFECT THE AREA OF THE SPILL THE PROPER MIXTURE OF HTH CHLORINE AND WATER.
   26.6. CLEAN THE AFFECTED SEWER LINE AND REMOVE ANY DEBRIS.
   26.7. IDENTIFY AND TRAIN PERSONNEL RESPONSIBLE FOR SPILLAGE PREVENTION AND CONTROL.
   26.8. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND RIVER AUTHORITY.

27. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED. CONTRACTOR SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN CASE PRIMARY PUMP FAILS. THE CONTRACTOR SHALL PROVIDE A SEQUENCE OF BYPASS PUMPING FOR REVIEW AND APPROVAL BY RIVER AUTHORITY. THE CONTRACTOR SHALL ALSO PROVIDE A DETAILED SKETCH SHOWING THE LOCATION OF BYPASS PUMPING; SPECIFICATIONS FOR THE PUMPING EQUIPMENT; AND TYPE, SIZE, CAPACITY AND NUMBER OF PUMPS REQUIRED TO HANDLE THE PEAK WET WEATHER FLOW.

28. CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND FIX ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION AT CONTRACTOR'S EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT CONTRACTOR'S 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 RIVER AUTHORITY INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH RIVER AUTHORITY APPROVED SEALANT. IF SEAL COATING IS COMPROMISED, CONTRACTOR WILL HAVE MANHOLE RECOATED AND RESEAL ALL LEAKS AT CONTRACTOR EXPENSE.

29. CONTRACTOR TO ENSURE ALL PLUGS USED TO PLUG SEWER LINES WHILE TESTING THE PROJECT ARE LABELED, MARKED OR TAGGED. THE CONTRACTOR SHALL RECORD HOW MANY PLUGS ARE BEING USED, AS WELL AS THE LOCATION AND IDENTIFICATION OF EACH PLUG. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS. CONTRACTOR SHALL ONLY BE ALLOWED TO USE SCREW TYPE PLUG ON PROJECT.

30. CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGE TO SEWER COLLECTION SYSTEM, WASTEWATER TREATMENT EQUIPMENT, STOPPAGES, OVER-FLOWS, OR BACKUPS INTO HOMES CAUSED BY LOST OR RUNAWAY SEWER PLUGS.

31. RIVER AUTHORITY IS NOT RESPONSIBLE FOR ANY ABNORMALITIES ON STUB OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE-IN OR SERVICE LATERALS. CONTRACTOR SHALL BE RESPONSIBLE FOR RE-CONSTRUCTION, IF NECESSARY.

MANHOLE NOTES:

32. ALL MANHOLES SHALL BE CONSTRUCTED PER LATEST DETAILED DRAWINGS AND SPECIFICATIONS, UNLESS AN EXCEPTION IS NOTED.

33. PENETRATION INTO THE MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPAIRED AT CONTRACTOR'S EXPENSE. IF EXISTING SEWER MANHOLE SEAL COATING IS COMPROMISED, ALL OF THE MANHOLE WILL BE RESEALED AND RECOATED PER CURRENT SPECIFICATIONS AND APPROVED PRODUCT LIST.

34. IF ANY EXISTING MANHOLES CONNECTED WITH THIS PROJECT ARE FOUND TO HAVE INFILTRATION, THE MANHOLES SHALL BE SEALED AND TESTED AT CONTRACTORS EXPENSE.

35. UPON REQUEST FROM THE RIVER AUTHORITY, CONTRACTOR SHALL PROVIDE SAMPLE VERIFYING PROPER INSTALLATION OF FLOWABLE BACKFILL, INCLUDING, BUT NOT LIMITED TO CORE SAMPLES.

SANITARY SEWER PIPING:

36. THE TYPE AND DESCRIPTION OF THE PIPE IS SHOWN ON THE PLANS. REFER TO RIVER AUTHORITY SPECIFICATIONS AND APPROVED PRODUCT LIST FOR MATERIALS, STIFFNESS, AND TYPE.

37. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE RIVER AUTHORITY ENGINEER.

38. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.

SEWER SERVICE LATERALS:

39. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN PROVIDED, THE CONNECTION MUST BE CONDUCTED PER THE LATEST RIVER AUTHORITY STANDARD DETAILS AND APPROVED PRODUCT LIST. REFER TO THE RIVER AUTHORITY APPROVED PRODUCTS LIST FOR ACCEPTABLE FITTINGS AND CONNECTIONS.

40. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 PVC WITH RATING OF 115 PSI OR 160 PSI, DETERMINED BY RIVER AUTHORITY SPECIFICATION. LINE SHALL BE EXTENDED TO THE PROPERTY LINE AND 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).

41. UPON REQUEST FROM THE SAN ANTONIO RIVER AUTHORITY, CONTRACTOR SHALL PROVIDE SAMPLE VERIFYING PROPER INSTALLATION OF FLOWABLE BACKFILL, INCLUDING, BUT NOT LIMITED TO CORE SAMPLES.

SANITARY SEWER PIPING:

42. THE TYPE AND DESCRIPTION OF THE PIPE IS SHOWN ON THE PLANS. REFER TO LATEST RIVER AUTHORITY SPECIFICATIONS AND APPROVED PRODUCT LIST FOR MATERIALS, STIFFNESS, AND TYPE.

43. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE RIVER AUTHORITY ENGINEER.

44. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.

SANITARY SEWER TESTING:

45. TESTING SHALL NOT BE CONDUCTED UNTIL ALL OTHER UTILITIES WITHIN THE VICINITY OF SANITARY SEWER ARE FULLY INSTALLED.

46. TESTING SHALL BE CONDUCTED PER LATEST RIVER AUTHORITY SPECIFICATIONS AND SHALL NOT BEGIN WITHOUT 48 HOURS NOTICE TO RIVER AUTHORITY INSPECTOR.

47. A COPY OF ALL TESTING REPORTS, INCLUDING BACKFILL COMPACTION, SHALL BE FORWARDED TO THE RIVER AUTHORITY IMMEDIATELY.

48. DENSITY TESTING WILL BE REQUIRED ON ALL SANITARY SEWER TRENCHES INCLUDING SERVICE LATERALS. TESTING FOR SERVICE LATERALS TO BE IDENTIFIED BY RIVER AUTHORITY INSPECTOR AT RANDOM. DENSITY TESTING FOR SERVICE LATERALS SHALL NOT EXCEED 25% OF TOTAL NUMBER OF LATERALS.

EXCAVATION:

49. 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 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. SPECIALLY, CONTRACTOR AND/OR CONTRACTORS 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.

50. IF A SAFETY VIOLATION IS NOTED BY A RIVER AUTHORITY INSPECTOR, THE RIVER AUTHORITY RESERVES THE RIGHT TO STOP WORK.

51. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.

52. CONTRACTOR IS RESPONSIBLE FOR UPDATING AND MAINTAINING ALL FIELD UTILITY MARKINGS.

SAN ANTONIO RIVER AUTHORITY
100 E. GUENTHER STREET
SAN ANTONIO, TEXAS 78283

REVISIONS

NO.	DATE	DESCRIPTION	BY

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
DATE: FILE:

NO.	REVISION	DATE	BY

REVISED 3/31/2024

GENERAL NOTES

SHEET 1 OF 1

• Engineers • Surveyors • Planners

MTR

Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
4/4/24

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER DETAILS

SHEET
C2.8

SAN ANTONIO RIVER AUTHORITY
100 E. GUENTHER STREET
P.O. BOX 839980
SAN ANTONIO, TEXAS 78283-9980

SAN ANTONIO RIVER AUTHORITY
Water Brings Us Together

SUBMITTAL SET

Plot Date: September 4, 2024 User ID: Samuel Garcia
N:\Shared Projects\Legacy at Green Enclave\Unit 2\Civil\Sheet Files\C2.8-Sheet Cover.dwg

PLAT NO. 23-11800480

GENERAL NOTES:

1. STEPS SHALL NOT BE INSTALLED IN ANY MANHOLE.
2. SANITARY SEWER PIPE MATERIAL MUST BE THE SAME FROM MANHOLE TO MANHOLE. CHANGES IN TYPE OF PIPE SHALL ONLY BE MADE AT MANHOLES, OR SPECIAL STRUCTURES, EXCEPT AS APPROVED BY THE RIVER AUTHORITY.
3. ADAPTORS AND CONCRETE COLLARS SHALL BE USED AS DIRECTED BY THE RIVER AUTHORITY.
4. WATERTIGHT MANHOLE RINGS AND COVERS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCT LIST.
5. THE MINIMUM ANGLE OF FLOW FOR A CONNECTING SEWER TO THE DIRECTION OF FLOW DEFINED BY A COLLECTION SYSTEM IS 90 DEGREES.

SAN ANTONIO RIVER AUTHORITY
PRECAST MANHOLE PRECAST BASE TYPICAL DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-01 · SHEET 1 OF 28

PRECAST MANHOLE ON PRECAST BASE FOR PIPE SIZES 24" AND LARGER

SAN ANTONIO RIVER AUTHORITY
PRECAST MANHOLES
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-02 · SHEET 2 OF 28

NOTES:

1. PRICE FOR DROP FITTINGS AND ENCASEMENT TO BE INCLUDED WITH THE PRICE OF MANHOLE.
2. CONCRETE FOR DROP STRUCTURES SHALL BE FORMED ON ALL SIDES.
3. ALL MANHOLE PENETRATIONS SHALL BE MADE BY CORE DRILLING, AND INSPECTOR SHALL BE NOTIFIED PRIOR TO WORK BEING PERFORMED.
4. ALL INTERIOR COATING SHALL BE REPAIRED AS NECESSARY.
5. DROP STRUCTURES SHALL BE APPROVED, IN WRITING, BY RIVER AUTHORITY.

SAN ANTONIO RIVER AUTHORITY
OUTSIDE DROP MANHOLE
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-03 · SHEET 3 OF 28

SAN ANTONIO RIVER AUTHORITY
TYPICAL FIBERGLASS MANHOLE DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-04 · SHEET 4 OF 28

MANHOLE RING ENCASEMENT (COLLAR) DETAIL

SAN ANTONIO RIVER AUTHORITY
MISCELLANEOUS MANHOLE DETAILS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-05 · SHEET 5 OF 28

NOTE:

1. MANHOLE RING ENCASEMENT (COLLAR) REQUIRED ON ALL MANHOLES. SEE DETAIL.

SAN ANTONIO RIVER AUTHORITY
VENTED MANHOLE RING AND COVER
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-06 · SHEET 6 OF 28

SAN ANTONIO RIVER AUTHORITY
INSTALLATION OF PIPE IN BORE
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-07-01 · SHEET 7 OF 28

CONCRETE COVER FOR FLEXIBLE PIPE

TO BE USED WHEREVER TRENCH WIDTH IS GREATER THAN TWO FEET (2') PLUS O.D.

TYPICAL CONCRETE SADDLE

SAN ANTONIO RIVER AUTHORITY
TYPICAL CONCRETE DETAILS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-06-08-01 · SHEET 8 OF 28

SAN ANTONIO RIVER AUTHORITY
SANITARY SEWER TRENCH DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-05-01 · SHEET 9 OF 28

SAN ANTONIO RIVER AUTHORITY
TYPICAL UTILITY TRENCH DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-05-02 · SHEET 10 OF 28

SAN ANTONIO RIVER AUTHORITY
RESTRAINED LENGTHS FOR HORIZONTAL BENDS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-01 · SHEET 11 OF 28

SAN ANTONIO RIVER AUTHORITY
RESTRAINED LENGTHS FOR TEES
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-02 · SHEET 12 OF 28

SAN ANTONIO RIVER AUTHORITY
RESTRAINED LENGTHS FOR DEAD END/ INLINE VALVES
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-04 · SHEET 13 OF 28

SAN ANTONIO RIVER AUTHORITY
RESTRAINED LENGTHS FOR VERTICAL OFFSETS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-04 · SHEET 14 OF 28

SAN ANTONIO RIVER AUTHORITY
RESTRAINED LENGTHS FOR REDUCERS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-05 · SHEET 15 OF 28

NOTE: ALL NEW PRESSURIZED PIPELINES SHALL USE RESTRAINED JOINTS ONLY. THIS DETAIL IS TO ACCOMMODATE EXISTING PRESSURED PIPELINES AS DIRECTED.

SAN ANTONIO RIVER AUTHORITY
JOINT RESTRAINTS FOR FITTINGS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-06 · SHEET 16 OF 28

NOTE:
ALL NEW PRESSURIZED PIPELINES SHALL USE RESTRAINED JOINTS ONLY. THIS DETAIL IS TO ACCOMODATE EXISTING PRESSURED PIPELINES AS DIRECTED.

SAN ANTONIO RIVER AUTHORITY
RESTRAINED LENGTHS FOR VERTICAL OFFSETS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-04 · SHEET 17 OF 28

NOTE:
ALL NEW PRESSURIZED PIPELINES SHALL USE RESTRAINED JOINTS ONLY. THIS DETAIL IS TO ACCOMODATE EXISTING PRESSURED PIPELINES AS DIRECTED.

SAN ANTONIO RIVER AUTHORITY
THRUST BLOCKS FOR HIGH PRESSURE SYSTEM
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-08 · SHEET 18 OF 28

NOTE:
ALL NEW SEWER SYSTEMS SHALL USE RESTRAINED JOINTS ONLY. THIS DETAIL IS TO ACCOMODATE EXISTING PRESSURE SEWER SYSTEMS UNLESS INDICATED OTHERWISE. ALL CONCRETE USED FOR THRUST BLOCKING SHALL HAVE A MINIMUM CONCRETE STRENGTH OF 3500 PSI

SAN ANTONIO RIVER AUTHORITY
THRUST BLOCKS FOR HIGH PRESSURE SYSTEM
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-09 · SHEET 19 OF 28

SAN ANTONIO RIVER AUTHORITY
NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-10 · SHEET 20 OF 28

NOTE: IN RURAL AREAS, RISER SHOULD BE AT PROPERTY LINE AND AT MAXIMUM HEIGHT.

SAN ANTONIO RIVER AUTHORITY
INSTALLATION OF 1" AIR RELEASE VALVE
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-11 · SHEET 21 OF 28

NOTE: IN RURAL AREAS, RISER SHOULD BE AT PROPERTY LINE AND AT MAXIMUM HEIGHT.

SAN ANTONIO RIVER AUTHORITY
INSTALLATION OF 2" AIR RELEASE VALVE
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-12 · SHEET 22 OF 28

NOTES:

1. VALVE MARKER IS 3" STEEL PIPE PAINTED AS SHOWN
2. VALVE MEASUREMENTS SHALL BE REFERENCED TO MARKER
3. SARA DECAL SHALL BE NOTED ON THE MARKER AND FACING THE DIRECTION OF THE VALVE.

SAN ANTONIO RIVER AUTHORITY
VALVE MARKER
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-13 · SHEET 23 OF 28

NOTE:

1. EXCEPT AS DIRECTED BY THE ENGINEER, ANTI CORROSION EMBEDMENT SHALL BE PROVIDED FOR ALL DUCTILE-IRON PIPE FITTINGS, AND VALVES, AND AT ALL VALVE FITTINGS, OR OUTLETS FOR NON-FERROUS OR REINFORCED CONCRETE STEEL CYLINDER PIPE. THE EMBEDDING MATERIAL SHOULD BE MODIFIED GRADE 5 GRAVEL WASHED SAND.

SAN ANTONIO RIVER AUTHORITY
2" PERMANENT BLOW-OFF ASSEMBLY
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-14 · SHEET 24 OF 28

NOTES:

1. A MINIMUM OF 36" OF COVER FROM GRADE IS REQUIRED. IF 36" OF COVER CANNOT BE OBTAINED, THEN CONCRETE ENCASEMENT WILL BE REQUIRED.
2. DEPTH AND GRADE OF SERVICE LATERALS AS SHOWN, ARE TYPICAL AND NOT TO SCALE. ACTUAL DEPTH, ALIGNMENT AND GRADE OF SERVICE LATERALS SHALL BE DETERMINED BY THE ENGINEER BASED ON THE ELEVATIONS OF THE SEWER MAIN, STREET, NATURAL GROUND AND BUILDING TO BE SERVICED.

SAN ANTONIO RIVER AUTHORITY
HOUSE LATERAL DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-15 · SHEET 25 OF 28

NOTE:
CONCRETE ENCASEMENT TO BE 2" PAST JOINT OF WYE

SAN ANTONIO RIVER AUTHORITY
VERTICAL STACK DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-16 · SHEET 26 OF 28

SAN ANTONIO RIVER AUTHORITY
TCEQ WASTEWATER SEPARATION REQUIREMENTS
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-31-00-17 · SHEET 27 OF 28

SAN ANTONIO RIVER AUTHORITY
STANDARD CLEANOUT DETAIL
APPROVED APRIL 2012 · REVISED MAY 2024
SD 33-05-61-01 · SHEET 28 OF 28

SUBMITTAL SET

SAN ANTONIO RIVER AUTHORITY
100 E. GUENTHER STREET
P.O. BOX 839980
SAN ANTONIO, TEXAS 78283-9980

SAN ANTONIO RIVER AUTHORITY
Water Brings Us Together

LEGACY AT GREEN ENCLAVE UNIT 2

SANITARY SEWER DETAILS

NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. # · DGN. BY: · DWN. BY: · CHKD. BY: · DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
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12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
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PAUL LANDA, JR.
100182
9/4/24

SHEET
C2.9

Plot Date: September 4, 2024 User ID: Samuel Garcia
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PLAT NO. 23-11800480

CONSTRUCTION PLANS FOR

LEGACY AT GREEN ENCLAVE, UNIT 2

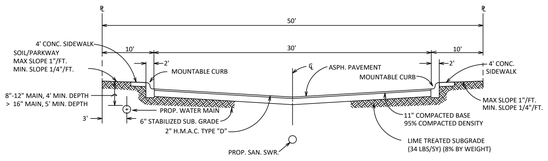
WATER IMPROVEMENTS

LEGEND

EXISTING WATER MAIN	— — — — 8"W — — — —
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
RESTRAINT/RESTRAINT LENGTH (FT.)	25
ELEC, GAS, TELE, CABLE TV ESM'T.	E.G.T.TV.E.
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	

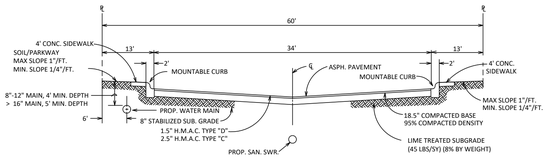
DEED & PLAT RECORDS OF BEXAR COUNTY, TEXAS D.P.R.B.C.T.

OFFICIAL PUBLIC RECORDS OF MEDINA COUNTY, TEXAS O.P.R.M.C.T.



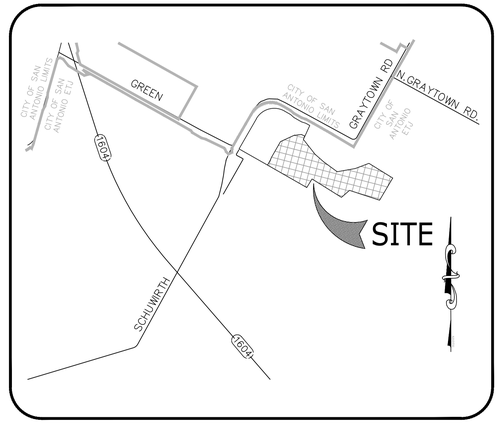
TYPICAL STREET CROSS-SECTION (30' PAVEMENT)

N.T.S.



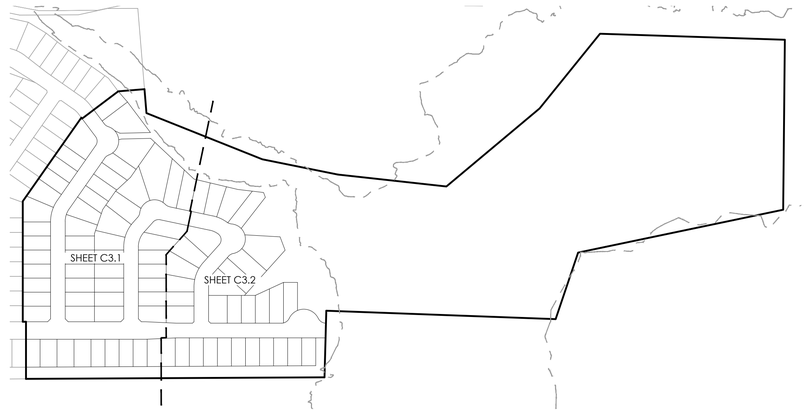
TYPICAL STREET CROSS-SECTION (34' PAVEMENT)

N.T.S.



VICINITY MAP

N.T.S.



INDEX MAP

NOT TO SCALE

SHEET INDEX

Sheet No.	Sheet Title
WATER PLANS	
C3.0	WATER COVER
C3.1	WATER OVERALL
C3.2	WATER OVERALL
C3.3	OFF-SITE WATER OVERALL
C3.4	WATER DETAILS

SUBMITTED BY:

MOY TARIN RAMIREZ ENGINEERS, LLC.
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

OWNER/DEVELOPER

FOUR BROTHERS CAPITAL, LLC
85 N.E. LOOP 410, SUITE 203
FAYETTEVILLE, AR 72703

SUBMITTAL DATE:

LEGAL DESCRIPTION:

BEING A TOTAL OF 40.793 ACRE TRACT OF LAND PARTIALLY SITUATED IN THE ANDREW JF PHELAN SURVEY NO. 45, ABSTRACT NO. 580, COUNTY BLOCK 5107, AND PARTIALLY IN THE PI CO SURVEY NO. 4, ABSTRACT NO. 909, COUNTY BLOCK 5107, BOTH OF BEXAR COUNTY, TEXAS, BEING A PORTION OF A 125.588 ACRE TRACT AS CONVEYED TO HELEN RAKOWITZ BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN VOLUME 1741, PAGE 299, OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

NOTE TO CONTRACTOR:

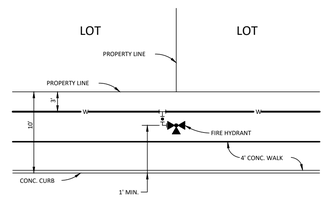
BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

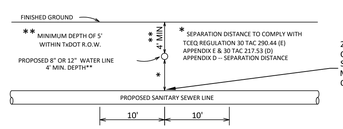
Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures for the project described in the contract 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.

CAUTION: EXISTING UNDERGROUND UTILITIES, CONTRACTOR TO VERIFY PRIOR TO START OF ANY CONSTRUCTION.



TYPICAL FIRE HYDRANT DETAIL (4' CONC. WALK)

N.T.S.



20 LF. OF 160 P.S.I. PRESSURE RATED PVC PIPE CENTERED ACROSS WATER CROSSING (SDR 26). SEWER PIPE AT WATER LINE CROSSINGS SHALL MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE JOINT CENTERED AT WATER MAIN.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

N.T.S.

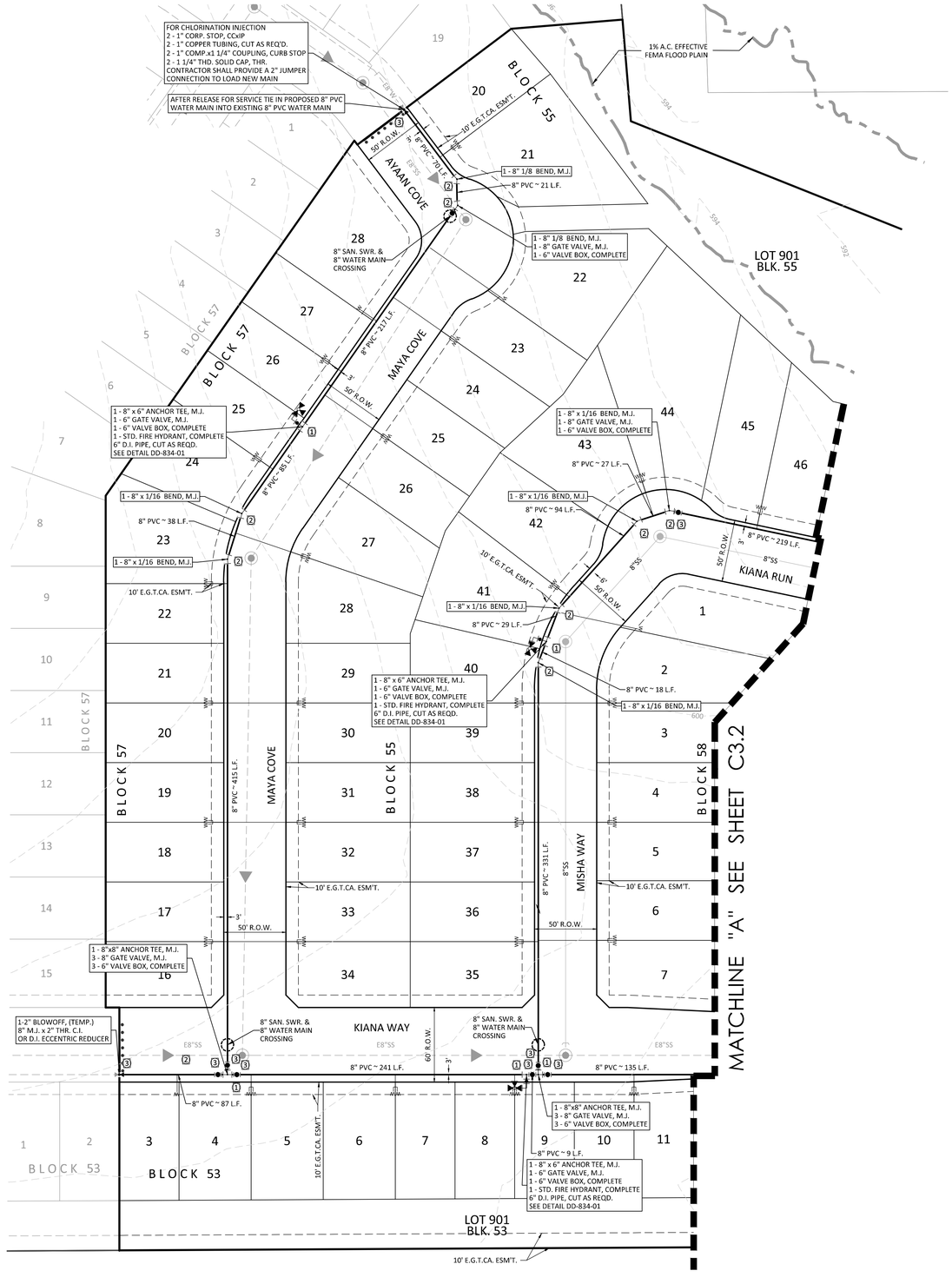
• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

BEXAR COUNTY TEXAS

SUBMITTAL SET C3.0

PLAT NO. 23-11800480



LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
ELEC, GAS, TELE, CABLE TV ESM'T.	E.G.T.TV.E.
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	
DEED & PLAT RECORDS OF BEXAR COUNTY, TEXAS	D.P.R.B.C.T.

CAUTION!
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TRENCH EXCAVATION SAFETY PROTECTION

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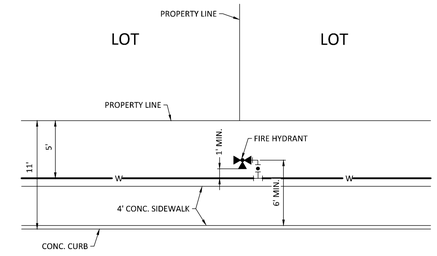
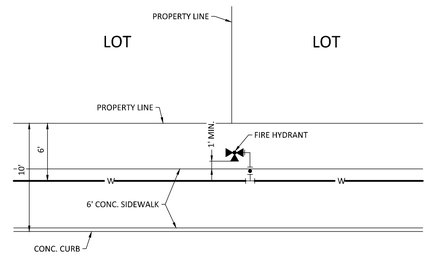


TYPICAL FIRE HYDRANT DETAIL FOR LOCAL A
N.T.S.



TYPICAL FIRE HYDRANT DETAIL FOR LOCAL B
N.T.S.

SCALE: 1"=50'
0 50 100

SUBMITTAL SET

NO.	DATE	DESCRIPTION	BY:

REVISIONS

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 / SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

8/20/21
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

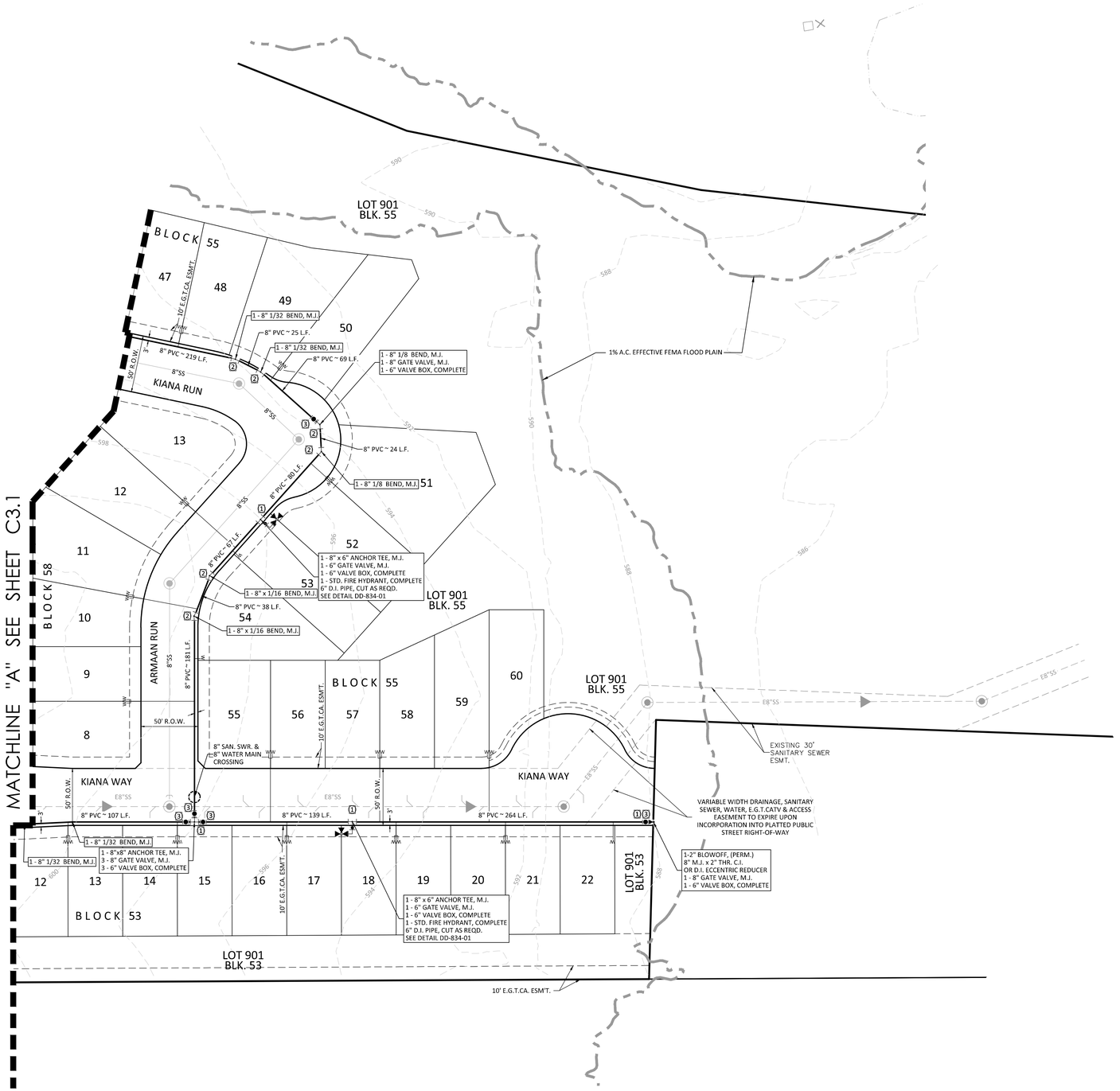
LEGACY AT GREEN ENCLAVE, UNIT 2

WATER OVERALL DISTRIBUTION PLAN

SHEET
C3.1

Plot Date: April 9, 2021 User ID: Samuel Garza
P:\Projects\Work 2\Drawings\23118 C3.1 Water Overall.dwg

PLAT NO. 23-11800480



LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
ELEC, GAS, TELE, CABLE TV ESMT.	E.G.T.TV.E.
EXISTING IRRIGATION CONTROL VALVE	
EXISTING WATER METER	
DEED & PLAT RECORDS OF BEXAR COUNTY, TEXAS	D.P.R.B.C.T.

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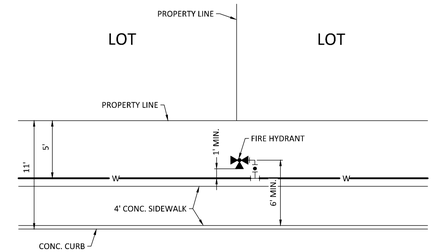
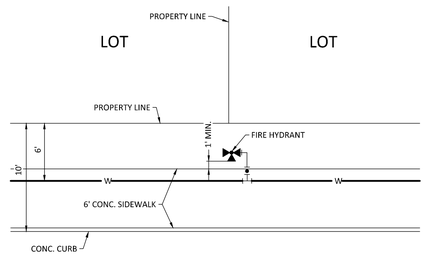


TYPICAL FIRE HYDRANT DETAIL FOR LOCAL A
N.T.S.



TYPICAL FIRE HYDRANT DETAIL FOR LOCAL B
N.T.S.

SCALE: 1"=50'
0 50 100

SUBMITTAL SET

NO.	DATE	REVISIONS DESCRIPTION	BY:

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE, UNIT 2

WATER OVERALL DISTRIBUTION PLAN

SHEET
C3.2

Plot Date: April 9, 2021 User ID: Samuel Garcia
P:\Projects\Active Projects\2019\2019-41-03-2-Arbor Grove\Dwg\

PLAT NO. 23-11800480

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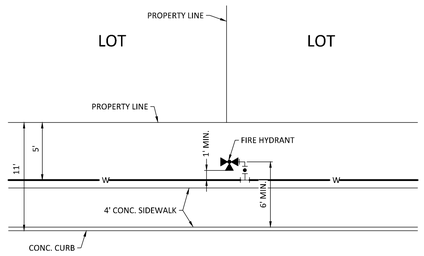
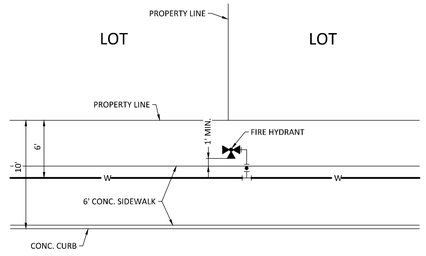
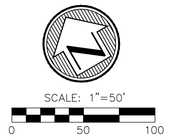


TYPICAL FIRE HYDRANT DETAIL FOR LOCAL A
N.T.S.



TYPICAL FIRE HYDRANT DETAIL FOR LOCAL B
N.T.S.



LEGEND

EXISTING WATER MAIN	E8"W
PROPOSED WATER MAIN	8" PVC
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING GATE VALVE	
PROPOSED GATE VALVE	
3/4" SINGLE SERVICE	
ELEC, GAS, TELE, CABLE TV ESM'T.	E.G.T.TV.E.
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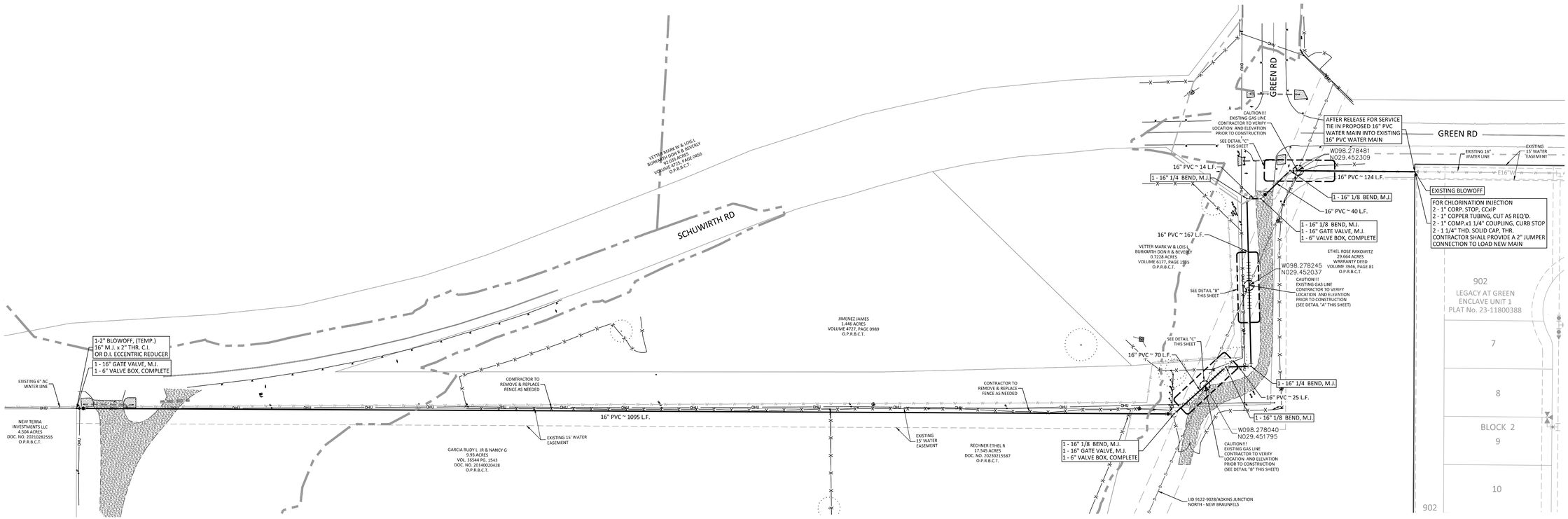
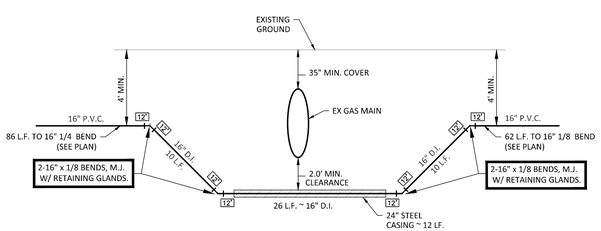
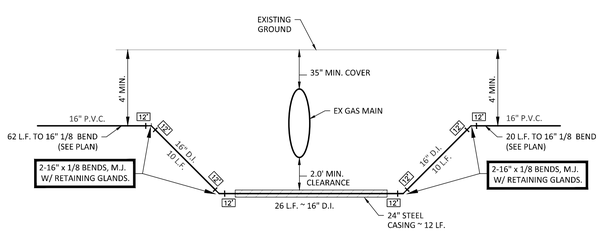
EXISTING WATER METER	
DEED & PLAT RECORDS OF BEXAR COUNTY, TEXAS	D.P.R.B.C.T.

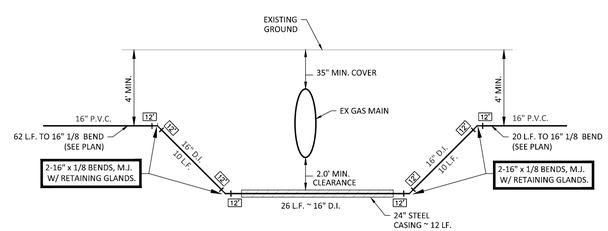




DETAIL "A" - GAS AND WATER CROSSING
N.T.S.



DETAIL "B" - GAS AND WATER CROSSING
N.T.S.



DETAIL "B" - GAS AND WATER CROSSING
N.T.S.

SUBMITTAL SET

NO.	DATE	REVISIONS DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE, UNIT 2

OFF-SITE WATER DISTRIBUTION PLAN

SHEET
C3.3

Plot Date: April 9, 2021 User ID: Samuel Garcia
G:\Shared Drives\2Drawings\2021\21-023-Water Overall.dwg

PLAT NO. 23-11800480

TESTING OF PRESSURE PIPELINES

1.0 DESCRIPTION

This item shall govern the furnishing of all labor, materials, tools, equipment and related items required to perform hydrostatic testing of Ductile Iron and Polyvinyl Chloride (PVC) pressure pipelines for integrity and leakage.

2.0 MATERIALS

Not applicable.

3.0 CONSTRUCTION METHODS

A. For Ductile Iron Pipe, make hydrostatic pressure and leakage tests on entire pipeline in accordance with AWWA Standard C600-99, Section 5.2.

B. For PVC Pipe, make hydrostatic pressure and leakage tests on entire pipeline in accordance with AWWA Standard C605-94, Section 7.3.

C. Furnish all labor equipment, including test pump with regulated by-pass meters and gauges required for conducting pipeline tests. Furnish equipment and necessary piping as required to transport water used in testing from source to test location.

D. Schedule time and sequence of testing, subject to observation and approval by the Owner or Owner's Representative. Provide adequate labor, tools and equipment to operate valves and to locate and repair leaks discovered during the initial filling of the pipeline prior to actual testing or during the course of the tests.

E. After the pipe has been laid and backfilled and the hole[S] has been [etm] or otherwise consolidated, subject all newly laid pipe or valved section thereof to the hydrostatic pressure and leakage tests specified herein. During the tests, each valved section shall be slowly filled with water and the specified test pressure shall be applied to the plug. Disconnect all meters, fixtures, devices or appliances which are connected to the pipeline system and which might be damaged if subjected to the specified test pressure. Cap or plug the ends of the branch lines during the testing procedures.

F. Fill each valved (capped or plugged) section of pipe slowly with water and expel all air. If permanent air vents are not located at all high points, install corporation or blow-off cocks at such points so that the air can be expelled as filling takes place. After verification that all air has been expelled, close the cocks and apply the test pressure. Furnish all corporation cocks, pipe taps, nipples, valves and any other materials required for the air tests. Remove and replace cracked or defective pipe, fittings, valves or hydrants discovered during tests. Replacement shall be with sound material. Repeat the test until specified requirements are achieved.

G. Where any section of a pipeline is proved with concrete thrust blocking, do not make hydrostatic pressure test until at least five days have elapsed after installation of the blocking.

H. Pressure/Leakage Tests

1. The duration of the hydrostatic test shall be a minimum of four (4) hours.

2. The pipeline shall be tested so that the pressure at the highest point in the test section is not less than 200 psi.

3. The maximum allowable leakage is the number of gallons per hour as determined by the following formulae.

a. For Ductile Iron Pipe:

$$L = \frac{SDP}{133,200}$$

Where:
L = allowable leakage, in gallons per hour
S = length of pipe tested, in feet
D= nominal diameter of the pipe, in inches
P = 200, in psig

b. For PVC Pipe:

$$L = \frac{NDP}{7,400}$$

Where:
L = allowable leakage, in gallons per hour
N = number of joints in the length of pipeline tested
D= nominal diameter of the pipe, in inches
P = 200, in psig

I. Final Acceptance

1. No pipe installation will be accepted until known leaks have been repaired, whether or not leakage is within allowable limits. Locate and repair leaks at no additional cost to the Owner.

2. The Contractor will certify that all required pressure and leakage tests have been successfully completed before the pipeline is accepted.

J. Special Project Requirements

Water Source. Obtaining water for testing purposes shall be the responsibility of the Contractor. The Contractor shall provide all equipment and labor required to transport water from the source to the test point.

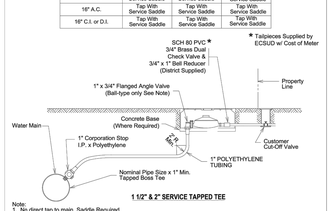
4.0 MEASUREMENT AND PAYMENT

No direct measurement or payment will be made for the work to be done or the equipment to be furnished under this item, but shall be considered subsidiary to the particular items of work for which unit prices are required in the proposal.

East Central	TESTING FOR PRESSURE PIPELINES	APPROVED JANUARY 2020	REVISED
		DET-100-Ø1	SHEET 1 of 1

PIPE TAPPING SCHEDULE

PIPE DIAMETER	SERVICE SIZE 1"	1 1/2"	2"
6" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
6" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
8" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
10" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
12" PVC	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
16" A.C.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle
16" C.I. or D.I.	Tap With Service Saddle	Tap With Service Saddle	Tap With Service Saddle

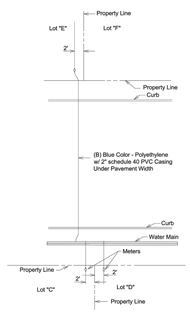


1 1/2" & 2" SERVICE TAPPED TEE

Note:
1. No direct tap to main, Saddle Required
2. Anything Under 1 1/2" will use a angle valve with meter
3. Anything Greater Than 1 1/2" Will Use a Angle x Flange

FOR PERFERED MANUFACTURERS SEE STANDARD SPECIFICATIONS

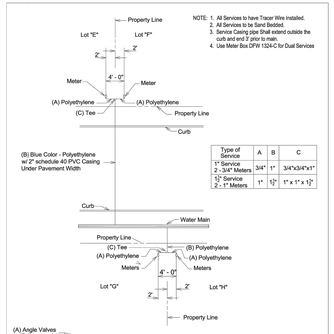
East Central	SERVICE INSTALLATION TAPPING SCHEDULE	APPROVED JANUARY 2020	REVISED
		DET-824-Ø1	SHEET 1 of 1



NOTE: 1. All Services to have Tracer Wire Installed.
2. All Services to be Sand Bedded.
3. Service Casing pipe Shall extend outside the curb and end 3' prior to main.

SINGLE SERVICE LINE - SINGLE METER

East Central	TYPICAL SERVICE ARRANGEMENT	APPROVED JANUARY 2020	REVISED
		DET-824-Ø5	SHEET 1 of 4

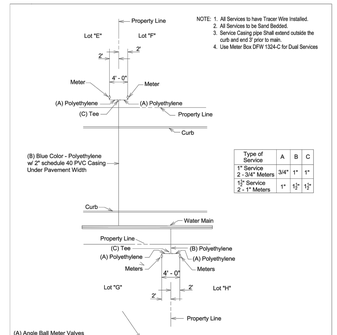


Type of Service	A	B	C
1" Service 2 - 3/4" Meters	3/4"	1"	3/4"x3/4"x1"
1" Service 2 - 1" Meters	1"	1"	1" x 1" x 1"

NOTE: 1. All Services to have Tracer Wire Installed.
2. All Services to be Sand Bedded.
3. Service Casing pipe Shall extend outside the curb and end 3' prior to main.
4. Use Meter Box DFW 1324-C for Dual Services

SINGLE SERVICE LINE - DUAL METER

East Central	TYPICAL RURAL SERVICE ARRANGEMENT	APPROVED JANUARY 2020	REVISED
		DET-824-Ø5	SHEET 2 of 4

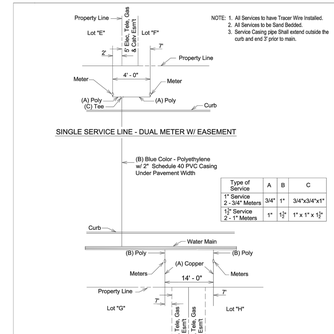


Type of Service	A	B	C
1" Service 2 - 3/4" Meters	3/4"	1"	1"
1" Service 2 - 1" Meters	1"	1"	1"

NOTE: 1. All Services to have Tracer Wire Installed.
2. All Services to be Sand Bedded.
3. Service Casing pipe Shall extend outside the curb and end 3' prior to main.
4. Use Meter Box DFW 1324-C for Dual Services

SINGLE SERVICE LINE - DUAL METER

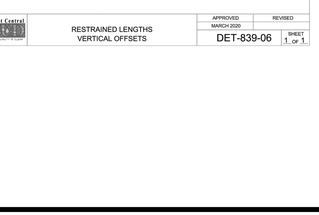
East Central	TYPICAL HIGH DENSITY RESIDENTIAL SERVICE ARRANGEMENT	APPROVED JANUARY 2020	REVISED
		DET-824-Ø5	SHEET 3 of 4



Type of Service	A	B	C
1" Service 2 - 3/4" Meters	3/4"	1"	3/4"x3/4"x1"
1" Service 2 - 1" Meters	1"	1"	1" x 1" x 1"

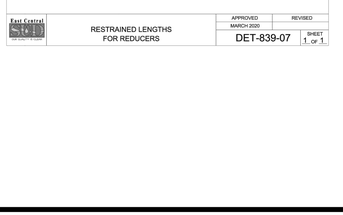
SINGLE SERVICE LINE W/ EASEMENT

East Central	TYPICAL SERVICE ARRANGEMENT	APPROVED JANUARY 2020	REVISED
		DET-824-Ø5	SHEET 4 of 4



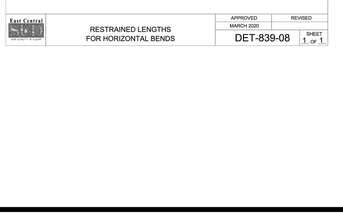
NOTE: 1. Polywrap C-900 or D.I. pipe to boot 8" on either side.
2. Tracer Wire to be outside the pipe till valve box top section.

East Central	INSTALLATION OF NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION	APPROVED JANUARY 2020	REVISED
		DET-828-Ø1	SHEET 1 of 1

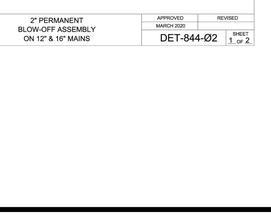


* Resilient Seat

East Central	FIRE HYDRANT INSTALLATION	APPROVED JANUARY 2020	REVISED
		DET-834-Ø1	SHEET 1 of 1



East Central	THRUST BLOCKS FOR FITTINGS (WATER ONLY)	APPROVED JANUARY 2020	REVISED
		DET-839-Ø1	SHEET 1 of 1



RESTRAINED LENGTH FOR TEES

PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
6	4	0	42	31
6	4	5	42	31
6	4	10	1	1
6	6	0	59	44
6	6	5	35	20
6	6	10	11	1
8	4	0	42	31
8	4	5	1	1
8	6	0	59	44
8	6	5	28	13
8	6	10	1	1
8	8	0	77	58
8	8	5	53	34
8	8	10	30	11
8	8	15	6	1

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

East Central	RESTRAINED LENGTHS FOR TEES	APPROVED MARCH 2020	REVISED
		DET-839-04	SHEET 1. or 2.

RESTRAINED LENGTH FOR TEES (Cont'd)

PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
10	4	0	42	31
10	4	5	1	1
10	6	0	59	44
10	6	5	13	1
10	6	10	1	1
10	8	0	77	58
10	8	5	42	23
10	8	10	7	1
10	8	15	1	1
10	10	0	109	82
10	10	5	66	99
10	10	10	63	35
10	10	15	39	13
12	4	0	42	31
12	4	5	1	1
12	6	0	59	44
12	6	5	35	20
12	6	10	11	1
12	8	0	77	58
12	8	5	42	23
12	8	10	7	1
12	8	15	1	1
12	10	0	109	82
12	10	5	66	99
12	10	10	63	35
12	10	15	39	13

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

East Central	RESTRAINED LENGTHS FOR TEES	APPROVED MARCH 2020	REVISED
		DET-839-04	SHEET 2. or 2.

PIPE SIZE (inch)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
6	56	44
8	77	58
10	93	69
12	109	82

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provide for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

East Central	RESTRAINED LENGTHS FOR DEAD ENDS / INLINE VALVES	APPROVED MARCH 2020	REVISED
		DET-839-05	SHEET 1. or 1.

PIPE SIZE (inch)	BEND ANGLE (deg.)	LOW SIDE DEPTH	UPPER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 200 psi	LOWER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 200psi	UPPER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 150 psi	LOWER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 150 psi
6	45	5	24	8	18	6
6	22.5	5	12	4	9	3
6	11.25	5	6	2	4	1
8	45	10	34	12	18	4
8	22.5	10	17	5	9	2
8	11.25	10	9	3	4	1
8	45	5	32	11	24	8
8	22.5	5	16	5	11	4
8	11.25	5	8	3	6	2
8	45	10	32	7	24	5
8	22.5	10	15	3	11	2
8	11.25	10	8	2	6	1
12	45	5	45	16	34	12
12	22.5	5	22	7	16	6
12	11.25	5	11	4	8	3
12	45	10	45	10	34	7
12	22.5	10	22	5	16	3
12	11.25	10	11	2	8	2

RESTRAINED LENGTH DESIGN
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

East Central	RESTRAINED LENGTHS VERTICAL OFFSETS	APPROVED MARCH 2020	REVISED
		DET-839-06	SHEET 1. or 1.

PIPE SIZE (inch)	SMALL PIPE SIZE (inch)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
6	4	56	44
8	4	56	42
8	6	32	24
12	4	95	71
12	6	80	60
12	8	58	43

RESTRAINED LENGTH DESIGN
Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

East Central	RESTRAINED LENGTHS FOR REDUCERS	APPROVED MARCH 2020	REVISED
		DET-839-07	SHEET 1. or 1.

PIPE SIZE (inch)	BEND ANGLE (deg)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
6	90	23	17
6	45	9	7
6	22.5	5	3
6	11.25	2	1
8	90	30	22
8	45	12	9
8	22.5	6	4
8	11.25	3	2
12	90	43	32
12	45	18	13
12	22.5	8	6
12	11.25	4	3

RESTRAINED LENGTH DESIGN
Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

East Central	RESTRAINED LENGTHS FOR HORIZONTAL BENDS	APPROVED MARCH 2020	REVISED
		DET-839-08	SHEET 1. or 1.

* Cut to fit in meter box.

East Central	2" PERMANENT BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED MARCH 2020	REVISED
		DET-844-Ø2	SHEET 1. or 2.

* Cut to fit in meter box.

East Central	2" PERMANENT BLOW-OFF ASSEMBLY ON 6" & 8" MAINS	APPROVED MARCH 2020	REVISED
		DET-844-Ø2	SHEET 2. or 2.

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

REVISIONS

NO.	DATE	DESCRIPTION	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

PROJ. #

LEGACY AT GREEN ENCLAVE, UNIT 2

WATER DETAILS

SHEET
C3.4

SUBMITTAL SET

Plot Date: August 20, 2024 User ID: Samuel Gonzalez
S:\Autocad Stuff_2 Standard\23148_C3.3-Water Details.dwg

PLAT NO. 23-11800480

CONSTRUCTION PLANS FOR

LEGACY AT GREEN ENCLAVE, UNIT 2

STREET AND DRAINAGE IMPROVEMENTS

SUBMITTED BY:
MOY TARIN RAMIREZ ENGINEERS, LLC.
12770 CIMARRON PATH, SUITE 100
SAN ANTONIO, TEXAS 78249
TEL: (210) 698-5051
FAX: (210) 698-5085

OWNER/DEVELOPER
FOUR BROTHERS CAPITAL, LLC
85 N.E. LOOP 410, SUITE 203
SAN ANTONIO, TX 78216

NOTES:

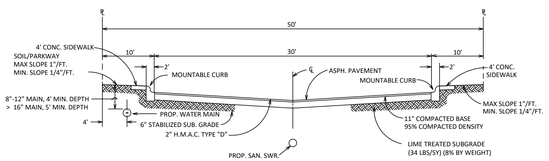
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF SAN ANTONIO SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF SAN ANTONIO.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES DURING CONSTRUCTION. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION:

SAN ANTONIO WATER SYSTEM	TELE. NO.: 210-704-7109
TEXAS STATE WIDE ONE CALL LOCATOR	TELE. NO.: 800-545-6005
CITY PUBLIC SERVICE	
AT&T	
TIME WARNER CABLE	

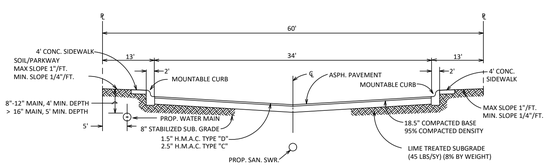
4. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
5. THE CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT THE TELEPHONE COMPANY DURING CONSTRUCTION.
6. THE CONTRACTOR HAS THE RESPONSIBILITY OF RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGE DONE TO THE EXISTING PAVEMENT, STRUCTURES OR FENCES (NO SEPARATE PAY ITEM).
7. MATERIAL SPECIFICATIONS:
   - CONCRETE/CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED ON PLANS
   - REINFORCING STEEL: CONFORM TO A.S.T.M. A-615, GRADE 60 (2" COVER UNLESS OTHERWISE NOTED ON PLANS)
   - PIPE RAILING: CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501
   - STRUCTURAL STEEL: CONFORM TO A.S.T.M. A-36
8. CONTRACTOR TO COORDINATE CONCRETE CURB DEPRESSIONS WITH THE DEVELOPER (NO SEPARATE PAY ITEM).
9. TRANSITION TO/FROM WASHOUT CROWNS IN TWENTY-FIVE FEET (25').
10. IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SUBGRADE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CHANNEL IS ACCEPTED FOR MAINTENANCE. REFER TO APPENDIX H, CHAPTER 16, SECTION C2.1 - GRASSES OF THE CITY OF SAN ANTONIO. NO EXTRA PAY ITEM.

LEGEND

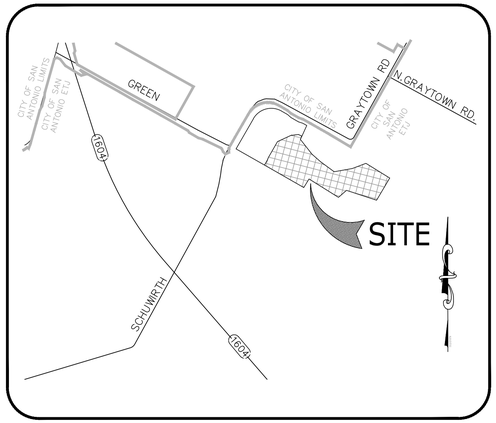
CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II	C
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED 4' SIDEWALK	
DEVELOPER INSTALLED 4' SIDEWALK	
EXISTING SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP	
WASH-OUT CROWN	
FILL @ 95% COMPACTION	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	



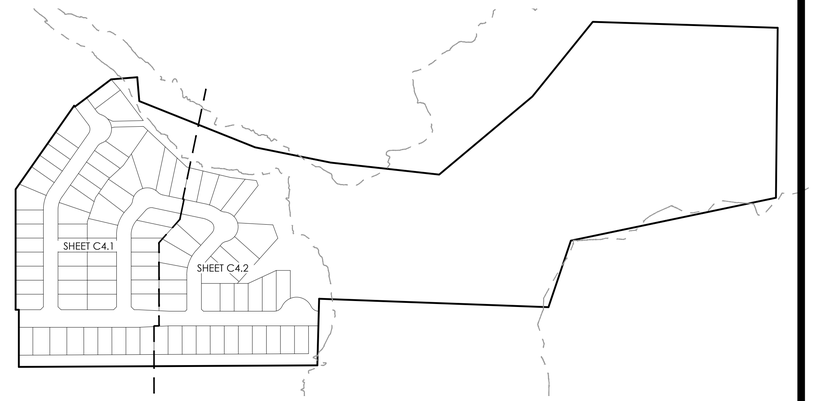
TYPICAL STREET CROSS-SECTION (30' PAVEMENT)
N.T.S.



TYPICAL STREET CROSS-SECTION (34' PAVEMENT)
N.T.S.



VICINITY MAP
N.T.S.



INDEX MAP
NOT TO SCALE

SUBMITTAL DATE:

LEGAL DESCRIPTION:

BEING A TOTAL OF 40.793 ACRE TRACT OF LAND PARTIALLY SITUATED IN THE ANDREW JF PHELAN SURVEY NO. 45, ABSTRACT NO. 580, COUNTY BLOCK 5107, AND PARTIALLY IN THE PI CO SURVEY NO. 4, ABSTRACT NO. 909, COUNTY BLOCK 5107, BOTH OF BEXAR COUNTY, TEXAS, BEING A PORTION OF A 125.588 ACRE TRACT AS CONVEYED TO HELEN RAKOWITZ BY WARRANTY DEED WITH VENDOR'S LIEN AS RECORDED IN VOLUME 1741, PAGE 299, OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
FIRM TBPELS ENG F-5297 SVY F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

Sheet List Table

Sheet Number	Sheet Title
STREET & DRAIN PLANS	
C4.0	STREET COVER
C4.1	TRAFFIC PLAN
C4.2	TRAFFIC PLAN
C4.3	TRAFFIC DETAILS
C4.4	TRAFFIC DETAILS
C4.5	KIANA WAY PLAN AND PROFILE
C4.6	AYAAN COVE & ARMAAN RUN PLAN AND PROFILE
C4.7	MAYA COVE PLAN AND PROFILE
C4.8	MISHA WAY PLAN AND PROFILE
C4.9	KIANA RUN PLAN AND PROFILE
C4.10	STANDARD DETAILS
C4.11	STANDARD DETAILS
C4.12	TYPICAL STREET SECTIONS
C4.13	DRAIN ''C'' PLAN AND PROFILE
C4.14	DRAIN ''D'' PLAN AND PROFILE
GRADING PLANS	
C5.0	GRADING PLAN
C5.1	GRADING PLAN
SW3P PLANS	
C6.0	SW3P PLAN
C6.1	SW3P DETAILS

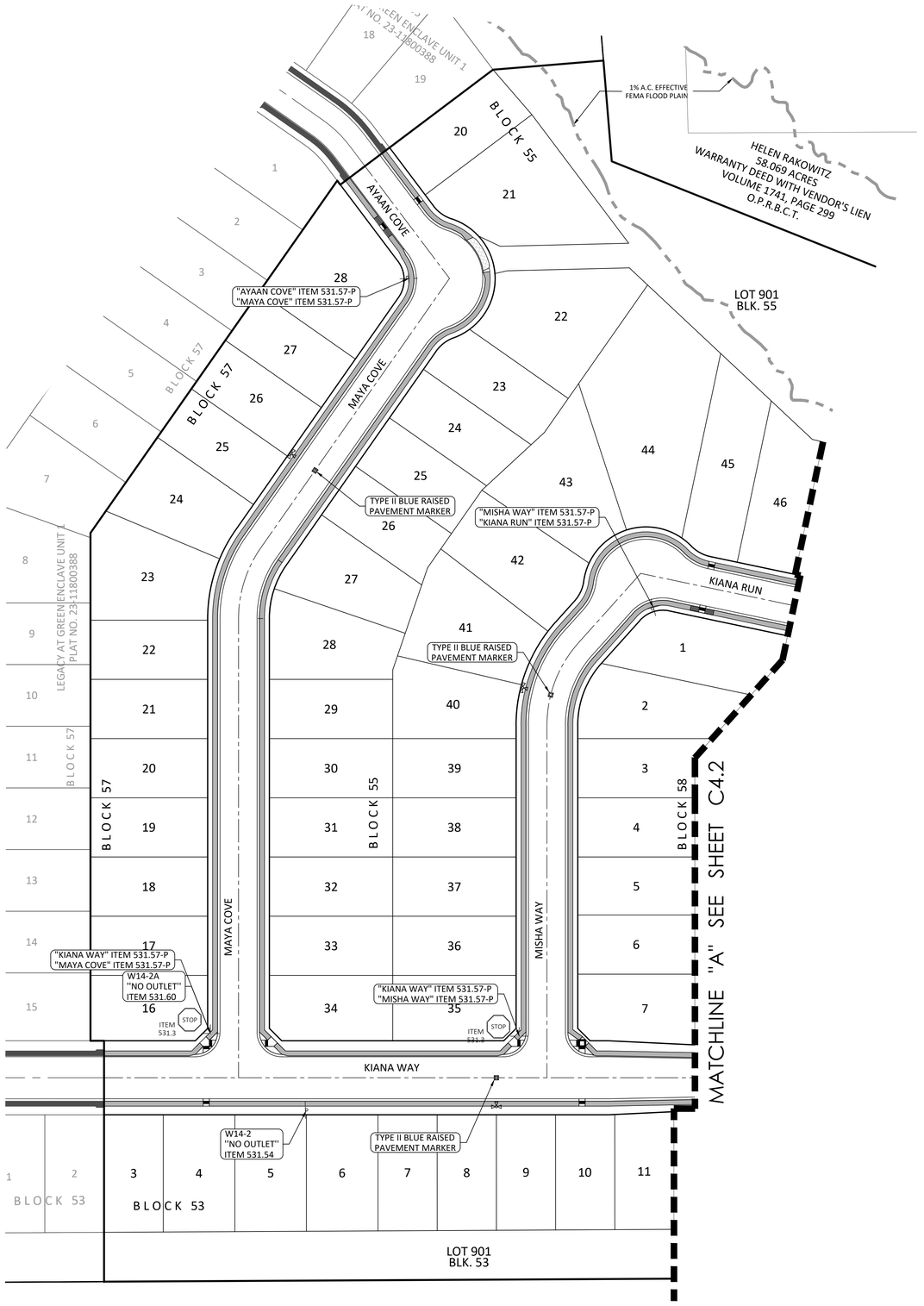
BEXAR COUNTY

TEXAS

SUBMITTAL SET C4.0

R:\Rakowitz D\Unit 2\Drawings\23149_C4.0-Street Cover.dwg

PLAT NO. 23-11800480



SCALE: 1"=50'

0 50 100

LEGEND

STOP R1-1	R1-1 STOP SIGN (30" X 30")
STREET NAME	D-3 STREET NAME
SPEED LIMIT XX R2-1	R2-1 SPEED LIMIT SIGN
	DOUBLE LINE
	PROPOSED SIGN LOCATION
SL	PROPOSED STREET LIGHT LOCATION
	PROPERTY LINE
	TYPE II BLUE RAISED PAVEMENT MARKERS
	EXISTING SIGN LOCATION
Street Name	EXISTING STREET NAME SIGN
STOP	EXISTING STOP SIGN
	HOME BUILDER INSTALLED SIDEWALK
	DEVELOPER INSTALLED SIDEWALK
	ADA RAMP- DEVELOPER INSTALLED
	POSSIBLE DRIVEWAY LOCATION

NOTE:

ALL PERMANENT REGULATORY, WARNING, AND STREET NAME SIGNS ARE TO BE PROVIDED AND INSTALLED BY THE DEVELOPER TO COUNTY SPECIFICATIONS.

GENERAL NOTES:

1. ALL TRAFFIC SIGNS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE (T.M.U.T.C.D.).
2. INSTALL SIGNS SUCH THAT THEIR VIEW IS NOT BLOCKED BY LOW HANGING VEGETATION, UTILITY POLES, OTHER TRAFFIC SIGNS, ETC... REFER TO CITY OF SAN ANTONIO TRAFFIC SIGNAL DETAILS.
3. ALL PAVEMENT MARKINGS SHALL COMPLY WITH THE T.M.U.T.C.D. REFER TO CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. "DEAD END" WITH ARROW AND "NO OUTLET" WITH ARROW SHALL BE ON BOTH SIDES OF SIGN WHICH IS MOUNTED ABOVE STREET NAMES.
5. FINAL SIGN INSTALLATION LOCATIONS TO BE DETERMINED BY CITY OF SAN ANTONIO (INSIDE CITY LIMITS) AND/OR BEXAR COUNTY. CONTRACTOR TO COORDINATE WITH SAME. PROPOSED SIGN LOCATIONS ARE FOR REFERENCE ONLY.

SUBMITTAL SET

REVISIONS

NO.	DESCRIPTION	DATE	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
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STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE, UNIT 2

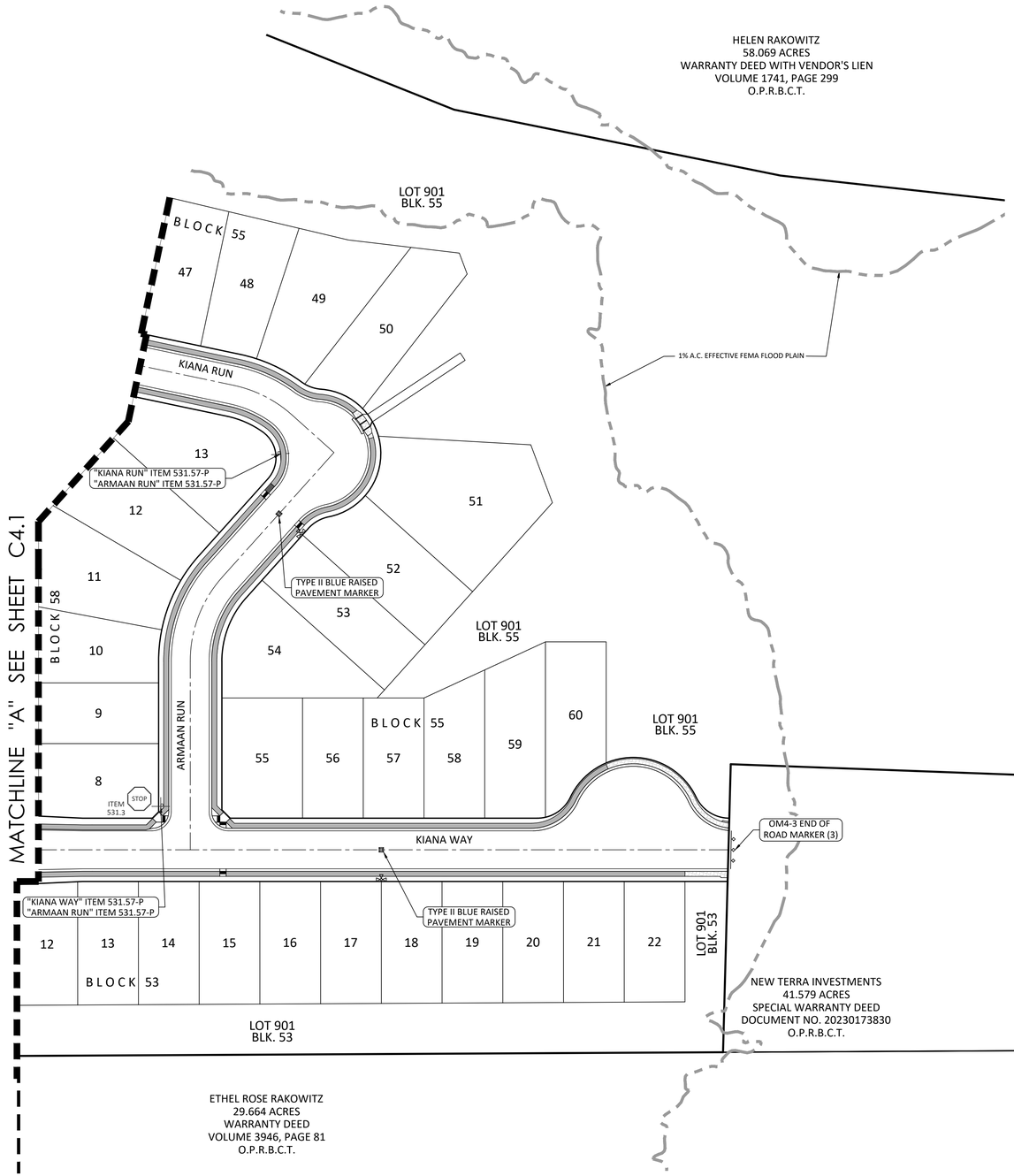
OVERALL TRAFFIC PLAN

SHEET

C4.1

Plot Date: August 20, 2024 User ID: Samuel Garcia
P:\Projects\23MTR_01_C4.2 - Traffic Plan.dwg

PLAT NO. 23-11800480



SCALE: 1"=50'

0 50 100

LEGEND

- R1-1 STOP SIGN (30" X 30")
- D-3 STREET NAME
- R2-1 SPEED LIMIT SIGN
- DOUBLE LINE
- PROPOSED SIGN LOCATION
- PROPOSED STREET LIGHT LOCATION
- PROPERTY LINE
- TYPE II BLUE RAISED PAVEMENT MARKERS
- EXISTING SIGN LOCATION
- EXISTING STREET NAME SIGN
- EXISTING STOP SIGN
- HOME BUILDER INSTALLED SIDEWALK
- DEVELOPER INSTALLED SIDEWALK
- ADA RAMP- DEVELOPER INSTALLED
- POSSIBLE DRIVEWAY LOCATION

NOTE:

ALL PERMANENT REGULATORY, WARNING, AND STREET NAME SIGNS ARE TO BE PROVIDED AND INSTALLED BY THE DEVELOPER TO COUNTY SPECIFICATIONS.

GENERAL NOTES:

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SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:

PROJ. # | DGN. BY: | DWN. BY: | CHKD. BY: | DATE:

• Engineers
• Surveyors
• Planners

MTR

Moy Tarin Ramirez Engineers, LLC

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STATE OF TEXAS
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PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE, UNIT 2

OVERALL TRAFFIC PLAN

SHEET

C4.2

Plot Date: August 20, 2024 User ID: Samuel Garcia
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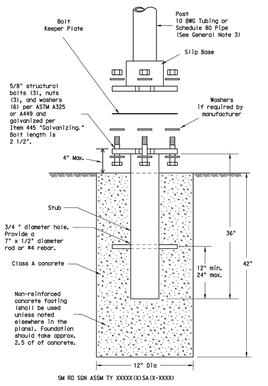
PLAT NO. 23-11800480

DATE/FILE:

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

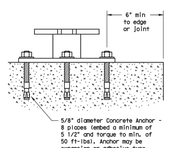
1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the followings
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.861" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the followings
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, mortar-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the plow end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

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Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

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9-08 REVISIONS	Cnst	SLIP	JUN	HIGHWAY
	"CST"		Date/Pl	SHEET No.

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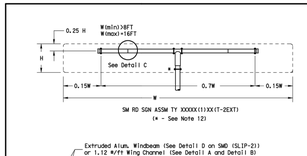
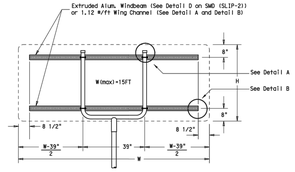


SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* = See Note 12)



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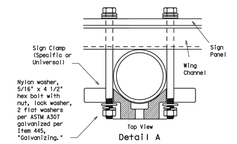
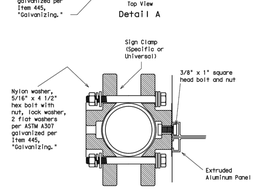
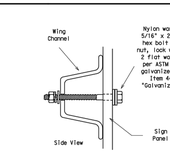


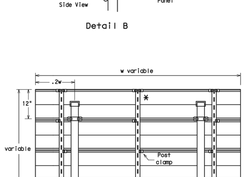
Top View
Detail A



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET

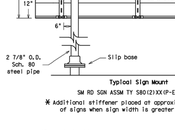


Detail B

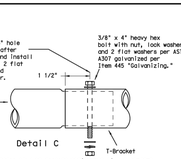


Typical Sign Mount
SM RD SGN ASSM TY S80(2)XX(P-EXAL)
* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

See Detail E
for clamp installation

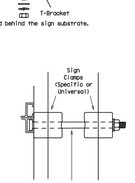


Extruded Aluminum Sign
With T Bracket



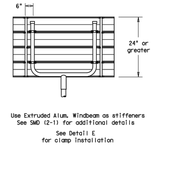
Detail C

Splices shall only be allowed behind the sign substrate.



Detail E

Use Extruded Alum. Windbeam as stiffeners
See SMD (2-1) for additional details
See Detail E
for clamp installation



GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating on cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamps required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above the bottom of sign when possible.
12. Post open ends shall be fitted with friction Caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-Inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 100HG(1)XX(P-2WG)
	60-Inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 100HG(1)XX(P-2WG)
	48x16-Inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 100HG(1)XX(P-2WG)
	36x48, 48x36, and 48x48-Inch signs	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY S80(1)XX(T)
	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
Warning	48x60-Inch signs	TY S80(1)XX(T)
	48-Inch Advance School X-Ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-Ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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9-08 REVISIONS	Cnst	SLIP	JUN	HIGHWAY
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SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

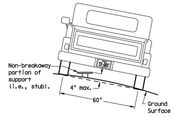
Post Type
FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
SBD = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

Anchor Type
UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WA = Wedge Anchor Direct (see SMD(TWT))
WB = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concrete (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation
P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
IEXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 #/Ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

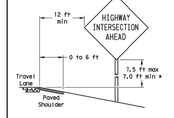
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel pathsl.

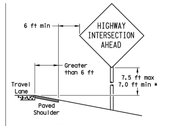
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

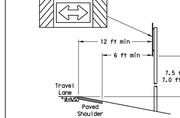
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



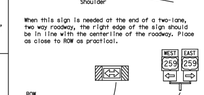
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

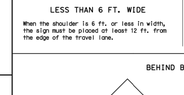
T-INTERSECTION



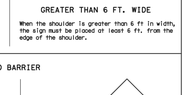
When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER



BEHIND GUARDRAIL



BEHIND CONCRETE BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

* Signs shall be mounted using the following condition that results in the greatest sign elevations
(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

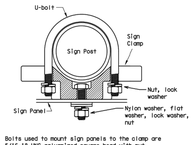
The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

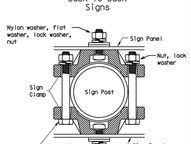
The website address is: https://www.txdot.gov/publications/traffic.htm

TYPICAL SIGN ATTACHMENT DETAIL

Single Signs



Back-to-Back Signs



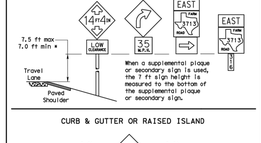
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

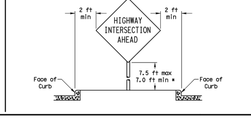
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



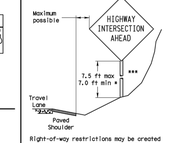
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
GENERAL NOTES & DETAILS

SMD(GEN)-08

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9-08 REVISIONS	Cnst	SLIP	JUN	HIGHWAY
	"CST"		Date/Pl	SHEET No.

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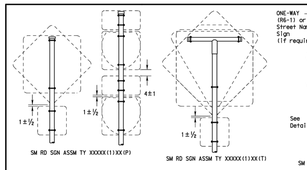
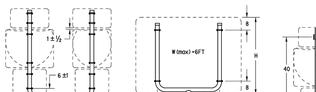
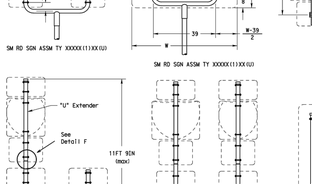
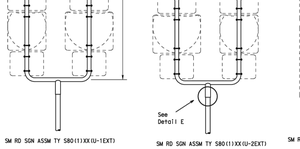


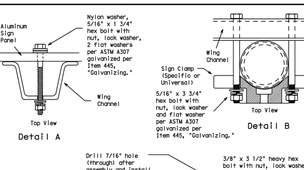


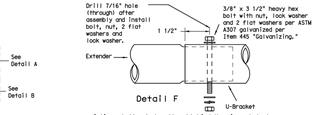




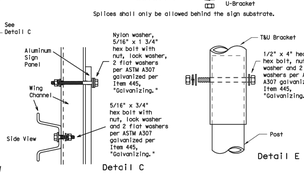
All dimensions are in english unless detailed otherwise.

SM RD SGN ASSM TY XXXXX(1)XX(T)
(* = See Note 12)

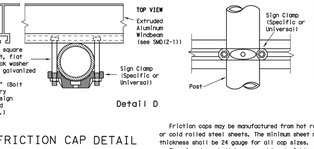




Splices shall only be allowed behind the sign substrate.



SIDE VIEW



TOP VIEW

Detail D

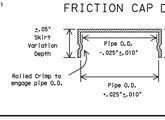
GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating on cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above the bottom of sign when possible.
12. Post open ends shall be fitted with friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-Inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 100HG(1)XX(P-2WG)
	60-Inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 100HG(1)XX(P-2WG)
	48x16-Inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 100HG(1)XX(P-2WG)
	36x48, 48x36, and 48x48-Inch signs	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY S80(1)XX(T)
	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
Warning	48x60-Inch signs	TY S80(1)XX(T)
	48-Inch Advance School X-Ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-Ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMD TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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9-08 REVISIONS	Cnst	SLIP	JUN	HIGHWAY
	"CST"		Date/Pl	SHEET No.

26C

REVISIONS

NO.	DATE	DESCRIPTION	BY:	DATE:

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Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297/SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE, UNIT 2

TRAFFIC PLAN DETAILS

SHEET
C4.3

SUBMITTAL SET

Plot Date: August 20, 2024 User ID: Samuel Garcia
N:\Sidwell\Projects\Drawings\Plat\C4\C4.3-Traffic Plan Details.dgn

PLAT NO. 23-11800480

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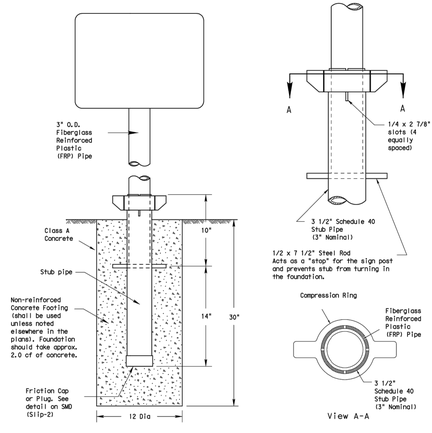
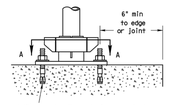
Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post

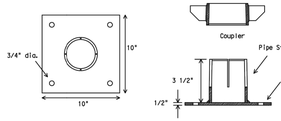




5/8" diameter Concrete Anchor - 4 places (embed a min. of 3 3/8" and torque to min. of 50 ft-lbs). Anchor may be expansion or adhesive type.

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.

BOLT-DOWN DETAILS



SM RD SGN ASSM TY FRP(X)UA(P)

SM RD SGN ASSM TY FRP(X)UB(P)

GENERAL NOTES:

1. FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.
2. All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
3. See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is: http://www.txdot.gov/publications/traffic.htm

FRP POST REQUIREMENTS

1. Materials shall conform to the requirements of Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.
2. Thickness of FRP sign support is 0.125" + 0.031", - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:
   Texas Department of Transportation
   Traffic Operations Division
   125 East 11th Street
   Austin, Texas 78701-2483

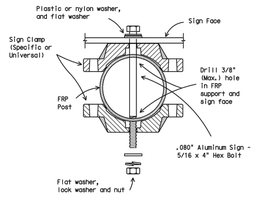
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Insert base post in foundation hole to depths shown and fill hole with concrete. Cut base post from bottom and ensure a minimum of 18" embedment if installed in solid rock.
4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.
5. Attach sign to FRP post.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
8. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

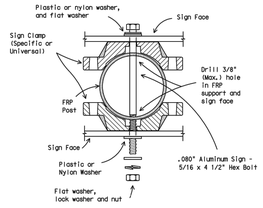
BOLT DOWN SIGN SUPPORT

1. Position base plate with coupler on existing concrete.
2. Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
3. Attach sign to FRP post.
4. Insert bottom of sign post into pipe stub.
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
6. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

Typical Sign Mounting Detail for FRP Support with Single Sign



Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS UNIVERSAL ANCHOR SYSTEM WITH FRP POST

SMD(FRP)-08

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9-08 REVISIONS	DATE	JOB	HIGHWAY	
	DIST	COUNTY	SHEET No.	

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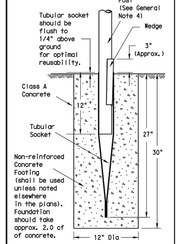
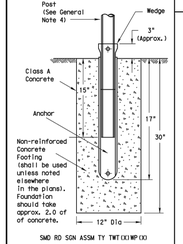
Wedge Anchor Steel System



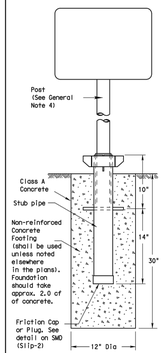
SM RD SGN ASSM TY TWT(X)WS(X)

Wedge Anchor High Density Polyethylene (HDPE) System

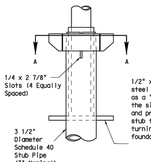


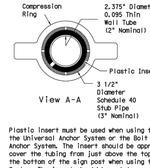
SMD RD SGN ASSM TY TWT(X)MP(X)

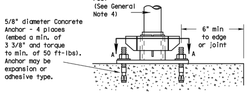
Universal Anchor System with Thin-Walled Tubing Post



SM RD SGN ASSM TY TWT(X)UA(P)



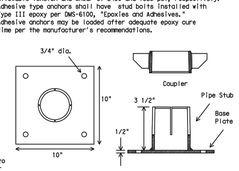




5/8" diameter Concrete Anchor - 4 places (embed a min. of 3 3/8" and torque to min. of 50 ft-lbs). Anchor may be expansion or adhesive type.

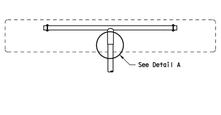
Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.

Plastic Insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.

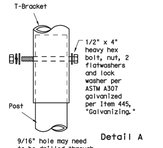


SM RD SGN ASSM TY TWT(X)UB(P)

Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post



SM RD SGN ASSM TY TWT(X)XX(T)
(* - See General Note 6)



Detail A

9/16" hole may need to be drilled through post to accommodate bolt.

GENERAL NOTES:

1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is: http://www.txdot.gov/business/producer list.htm
4. Material used as post with this system shall conform to the following specifications:
   13 BWG Tubing (2.375" outside diameter) (TWT)
   0.095" nominal wall thickness
   Seamless or electric-resistance welded steel tubing
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   18% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of .083" to .099"
   Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
   Galvanization per ASTM 123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Sign blanks shall be the sizes and shapes shown on the plans.
6. Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
7. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is: http://www.txdot.gov/publications/traffic.htm

WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximately 1/4 " above the concrete footing.
4. Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer.
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign face with roadway.
7. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post in hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
4. Attach the sign to the sign post.
5. Install plastic insert around bottom of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
8. Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

NOTE

The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST

SMD(TWT)-08

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9-08 REVISIONS	DATE	JOB	HIGHWAY	
	DIST	COUNTY	SHEET No.	

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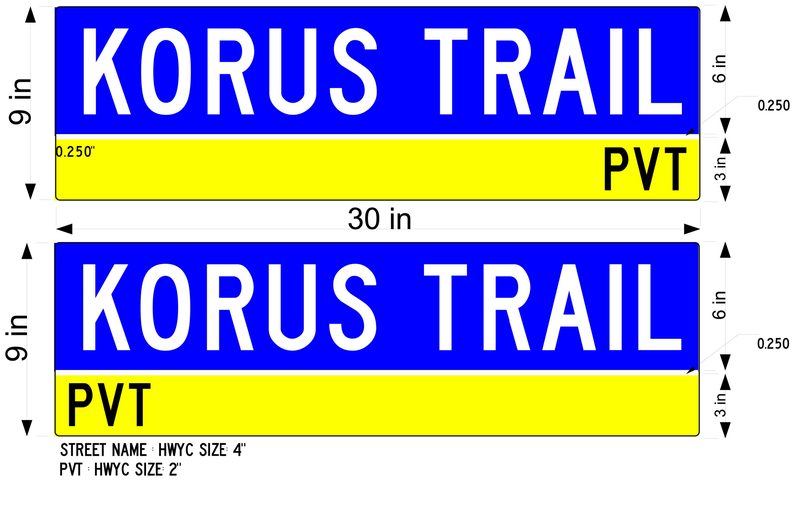

STREET NAME - HWYC SIZE 4"
PVT - HWYC SIZE 2"

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:

PROJ. #: | DSN. BY: | DWN. BY: | CHKD. BY: | DATE:

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• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
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12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

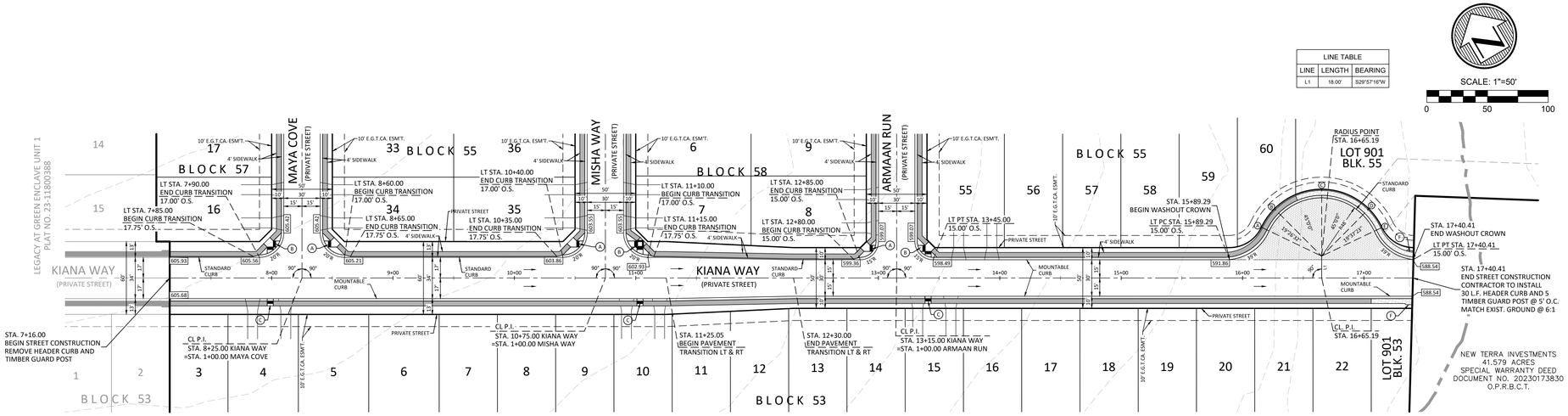
LEGACY AT GREEN ENCLAVE, UNIT 2

TRAFFIC PLAN DETAILS

SHEET
C4.4

Plot Date: August 20, 2024 User ID: Samuel Garcia
S:\Shared\Projects\Drawings\24142-LEGACY-Phase Two.dwg

PLAT NO. 23-11800480



LINE TABLE		
LINE	LENGTH	BEARING
L1	18.00'	S29°57'16"W

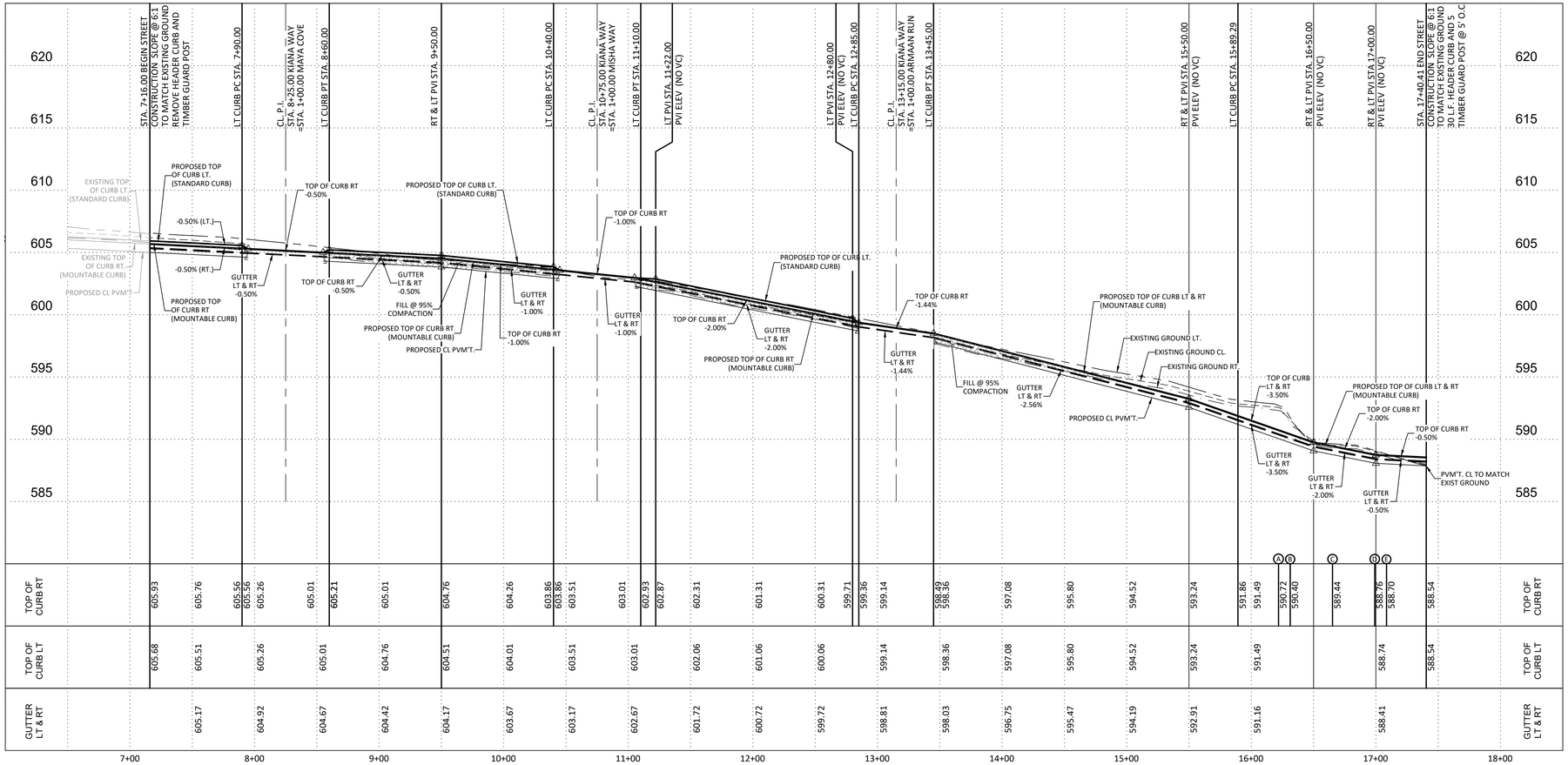
LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	E
SIDEWALK PASSING SPACE	F
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED SIDEWALK	
DEVELOPER INSTALLED SIDEWALK	
EXISTING HOME BUILDER INSTALLED SIDEWALK	
EXISTING DEVELOPER INSTALLED SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP (DEVELOPER INSTALLED)	
WASH-OUT CROWN	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

KIANA WAY (PRIVATE STREET)

STA. 7+16.00 TO STA. 17+40.41

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
LT PC STA. 15+89.29	591.86	591.52
A	591.09	590.75
B	590.81	590.47
C	590.17	589.83
D	589.53	589.19
E	589.25	588.91
LT PT STA. 17+40.41	588.54	588.20

CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL.: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE UNIT 2
STREET PLAN & PROFILE
KIANA WAY (PRIVATE STREETS)
STA. 7+16.00 TO STA. 17+40.41

SHEET
C4.5

Plot Date: August 20, 2024 User ID: Samuel Garcia
N:\Shared Folders\Projects\2023\May\23-5-1 Green Way_PAP.dwg

CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

PLAT NO. 23-11800480

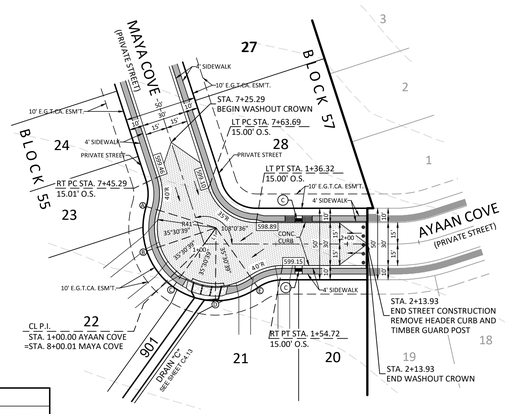
CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	73.11'	100.00'	41°53'15"	38.27'	71.49'

LINE TABLE		
LINE	LENGTH	BEARING
L1	14.00'	S61°02'16"E
L2	14.00'	S63°19'39"E

SCALE: 1"=50'
0 50 100

LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	E
SIDEWALK PASSING SPACE	F
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED SIDEWALK	
DEVELOPER INSTALLED SIDEWALK	
EXISTING HOME BUILDER INSTALLED SIDEWALK	
EXISTING DEVELOPER INSTALLED SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP (DEVELOPER INSTALLED)	
WASH-OUT CROWN	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

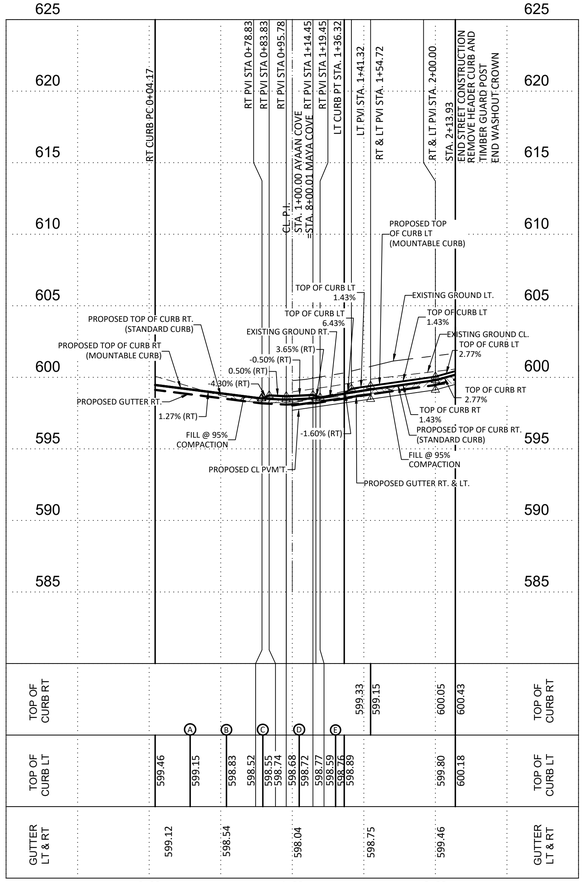


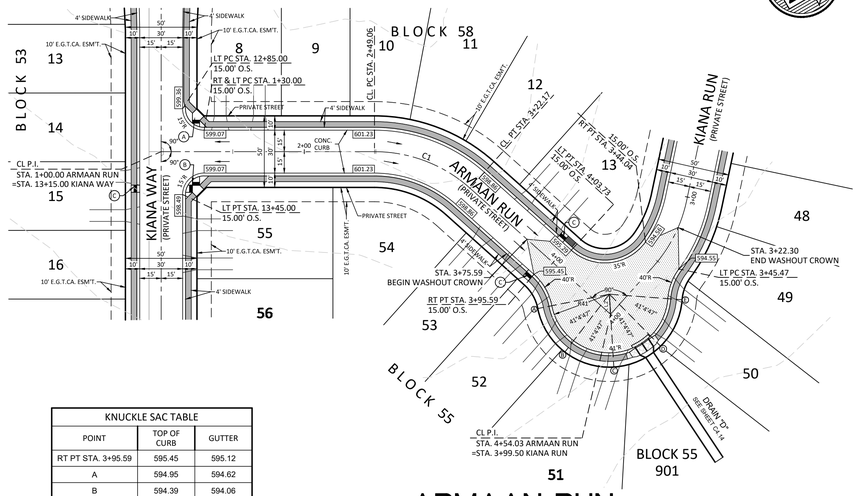
KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
RT PC STA. 7+45.29	599.46	599.13
A	599.15	598.82
B	598.83	598.50
C	598.55	598.22
D	598.72	598.39
E	598.76	598.43
RT PT STA. 1+54.72	599.15	598.82

AYAAN COVE (PRIVATE STREET)

STA. 0+04+17 TO STA. 2+13.93

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



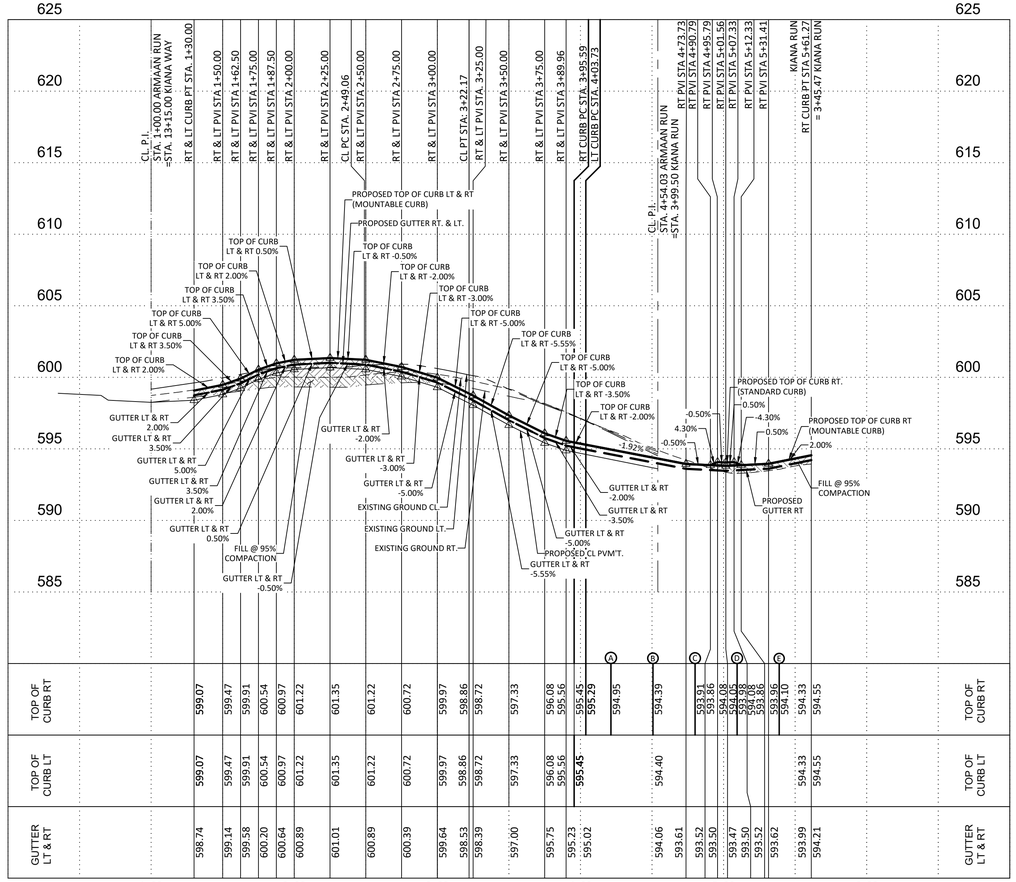


KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
RT PT STA. 3+95.59	595.45	595.12
A	594.95	594.62
B	594.39	594.06
C	593.91	593.58
D	593.98	593.65
E	594.10	593.77
LT PC STA. 3+45.47	594.55	594.22

ARMAAN RUN (PRIVATE STREET)

STA. 1+00.00 TO STA. 4+54.03

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



MTR
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• Planners
Moy Tarin Ramirez Engineers, LLC
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PAUL LANDA, JR. 100182 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

LEGACY AT GREEN ENCLAVE UNIT 2

STREET PLAN & PROFILE
AYAAN COVE & ARMAAN RUN (PRIVATE STREETS)

STA. 0+04+17 TO STA. 2+13.93
& STA. 1+00.00 TO STA. 4+54.03

SUBMITTAL SET

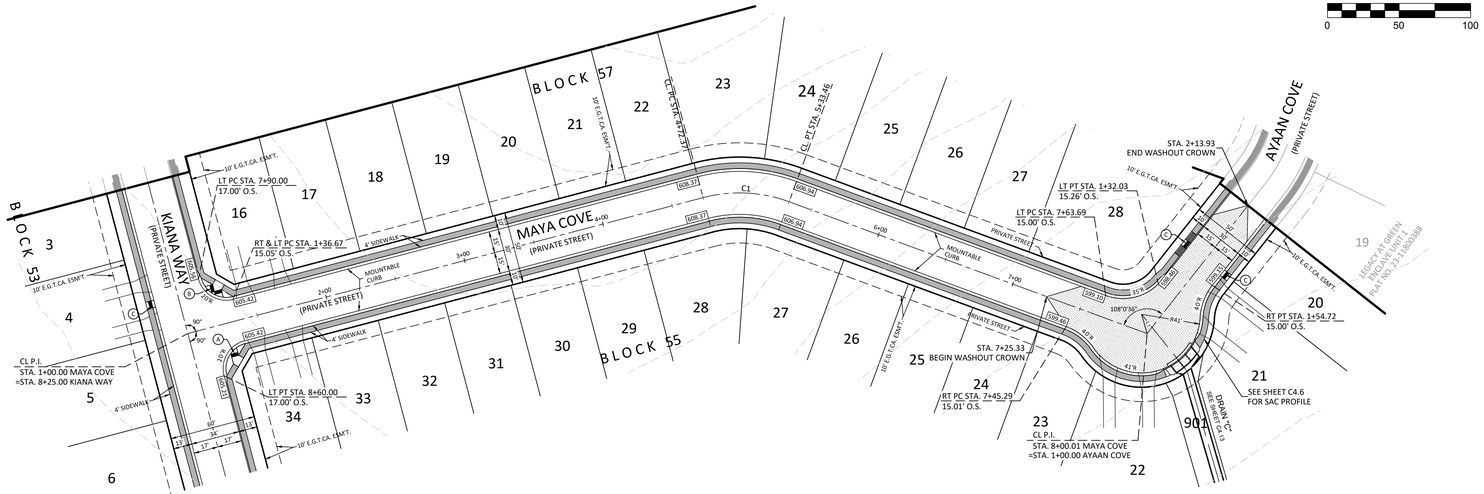
SHEET
C4.6

REVISIONS							
NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DGN. BY:	DWN. BY:	CHKD. BY:	DATE:

Plot Date: August 20, 2024 User ID: Samuel Garcia
P:\Projects\23Land Dev\23-047 Aspen Cove & Armaan Run PMP.dwg

CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

PLAT NO. 23-11800480



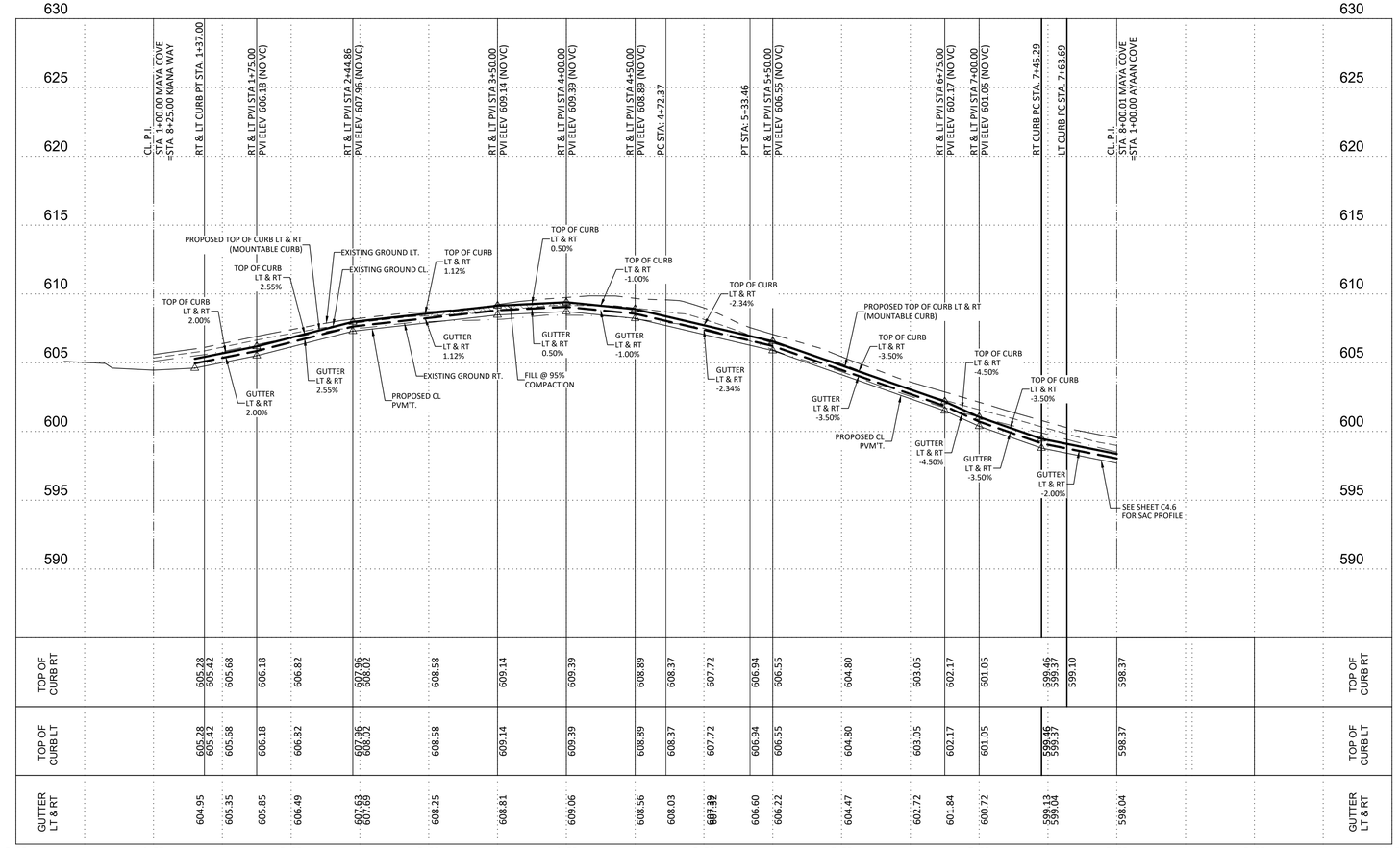
LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (DUAL)	B
SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
SIDEWALK WHEELCHAIR RAMP - TYPE I (DEVELOPER INSTALLED)	D
SIDEWALK WHEELCHAIR RAMP - TYPE 11 (DEVELOPER INSTALLED) OFFSET PARALLEL RAMP	E
SIDEWALK PASSING SPACE	F
EXISTING TOP OF CURB ELEVATION	805.81TC
PROPOSED TOP OF CURB ELEVATION	805.81
HOME BUILDER INSTALLED SIDEWALK	
DEVELOPER INSTALLED SIDEWALK	
EXISTING HOME BUILDER INSTALLED SIDEWALK	
EXISTING DEVELOPER INSTALLED SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP (DEVELOPER INSTALLED)	
WASH-OUT CROWN	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

MAYA COVE
(PRIVATE STREET)

STA. 1+00.00 TO STA. 8+00.01

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	61.04'	100.00'	34°58'29"	31.51'	60.10'

LINE TABLE		
LINE	LENGTH	BEARING
L1	14.00'	S61°02'16"E

REVISIONS

NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
							BY:

MTR
• Engineers
• Surveyors
• Planners
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STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE UNIT 2

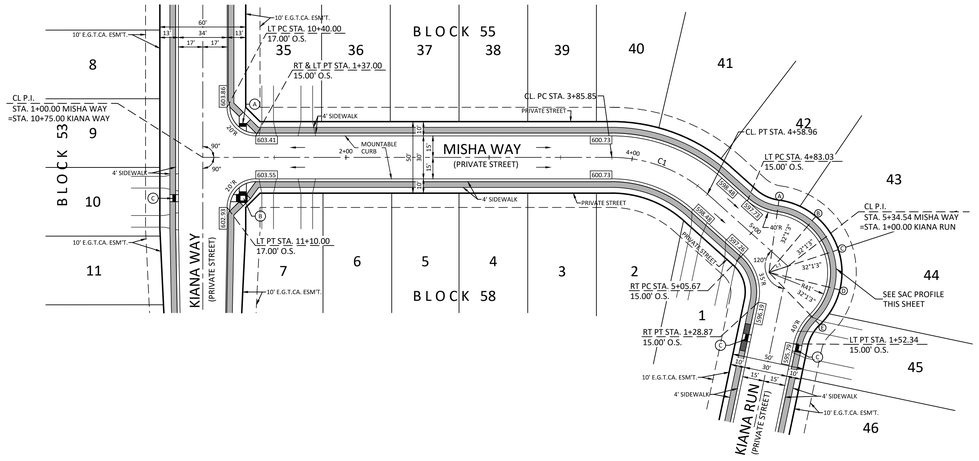
STREET PLAN & PROFILE
MAYA COVE (PRIVATE STREETS)
STA. 1+00.00 TO STA. 8+00.01

SHEET
C4.7

SUBMITTAL SET

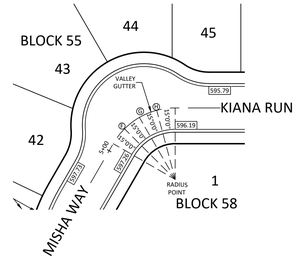
Plot Date: August 20, 2024 User ID: Samuel Garcia
N:\Drawings\21Client\22Proj\224 Maya Cove PSP.dwg

PLAT NO. 23-11800480



LINE TABLE		
LINE	LENGTH	BEARING
L1	14.00'	N11°50'31"E

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	73.11'	100.00'	41°53'15"	38.27'	71.49'



KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
LT PC STA. 4+83.03	597.73	597.40
A	597.47	597.13
B	597.33	597.00
C	597.10	596.77
D	596.78	596.45
E	596.36	596.02
LT PT STA. 1+51.87	595.79	595.45
VALLEY GUTTER		
F	-	596.44
G	-	596.18
H	-	595.91

SCALE: 1"=50'

0 50 100

LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
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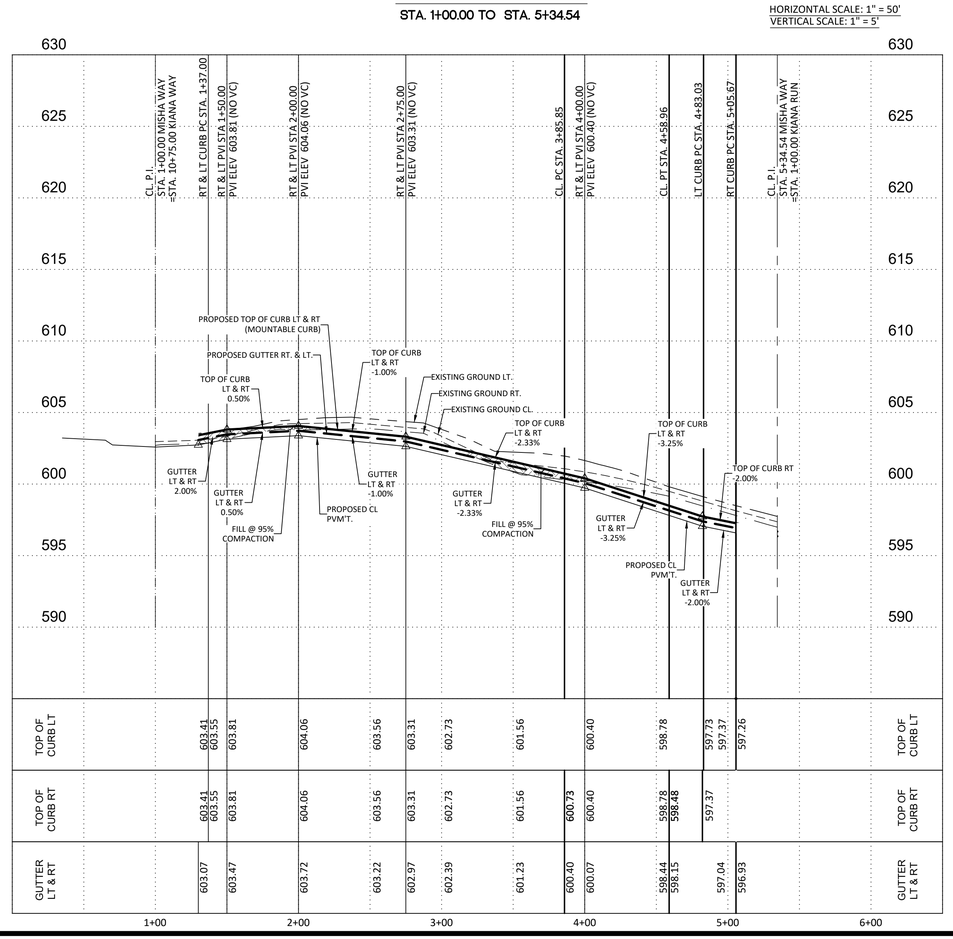
DEVELOPER INSTALLED SIDEWALK	
EXISTING HOME BUILDER INSTALLED SIDEWALK	
EXISTING DEVELOPER INSTALLED SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP (DEVELOPER INSTALLED)	
WASH-OUT CROWN	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

MISHA WAY
(PRIVATE STREET)

STA. 1+00.00 TO STA. 5+34.54

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



SUBMITTAL SET

REVISIONS						
NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

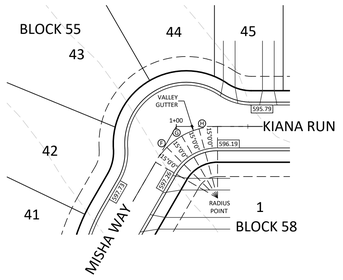
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE UNIT 2
STREET PLAN & PROFILE
MISHA WAY (PRIVATE STREETS)
STA. 1+00.00 TO STA. 5+34.54

SHEET
C4.8

Plot Date: August 20, 2024 User ID: Samuel Garcia
P:\Projects\2023\23-042 Legacy at Green Enclave - Plat\Plat Dwg

PLAT NO. 23-11800480



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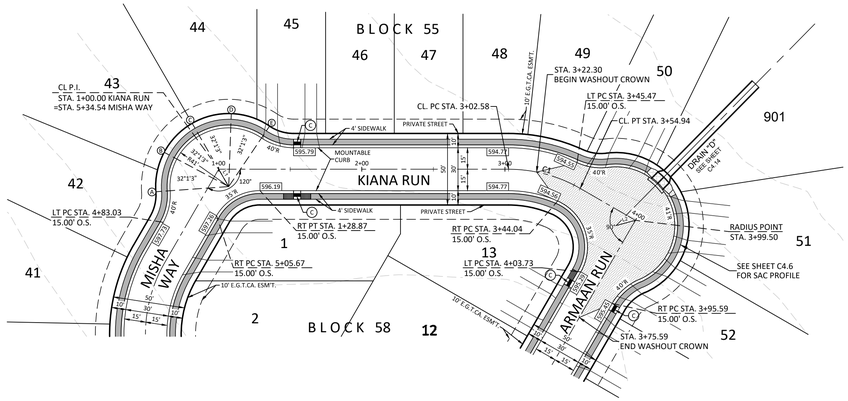

LINE TABLE		
LINE	LENGTH	BEARING
L1	14.00'	N11°50'31"E
L2	14.00'	S63°19'39"E

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD
C1	52.36'	100.00'	30°00'00"	26.79'	51.76'

SCALE: 1"=50'

0 50 100

LEGEND

CONTRACTOR TO TIE EXISTING AND PROPOSED CURB/SIDEWALK. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY ELEVATIONS.	1
SIDEWALK WHEELCHAIR RAMP - TYPE 10 DIRECTIONAL RAMPS (SINGLE)	A
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SIDEWALK WHEELCHAIR RAMP - TYPE II (DEVELOPER INSTALLED)	C
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EXISTING TOP OF CURB ELEVATION	805.81TC
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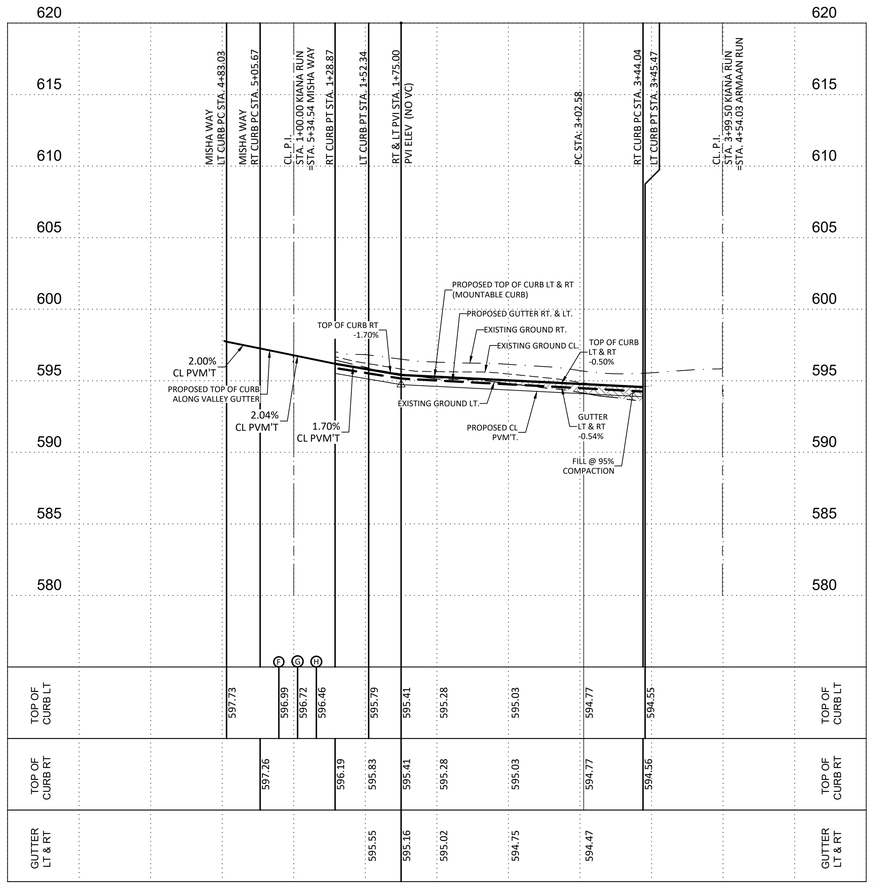
HOME BUILDER INSTALLED SIDEWALK	
DEVELOPER INSTALLED SIDEWALK	
EXISTING HOME BUILDER INSTALLED SIDEWALK	
EXISTING DEVELOPER INSTALLED SIDEWALK	
SIDEWALK WHEEL CHAIR RAMP (DEVELOPER INSTALLED)	
WASH-OUT CROWN	
POSSIBLE DRIVEWAY LOCATION	
PROPERTY LINE	
EXISTING CONTOUR	1120
PROPOSED CONTOUR	1120
PROPOSED CONCRETE CURB	
FLOW ARROW	

KIANA RUN
(PRIVATE STREET)

STA. 1+00.00 TO STA. 3+45.47

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



CAUTION!!!
CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE CONSTRUCTION. IF ANY DISCREPANCIES NOTIFY ENGINEER

SUBMITTAL SET

REVISIONS						
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:	BY:

• Engineers
• Surveyors
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MTR
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STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER
8/29/24

LEGACY AT GREEN ENCLAVE UNIT 2

STREET PLAN & PROFILE
KIANA RUN (PRIVATE STREETS)
STA. 1+00.00 TO STA. 3+45.47

SHEET
C4.9

Plot Date: August 29, 2024 User ID: Samuel Garcia
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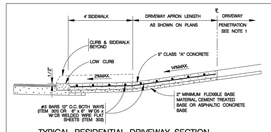
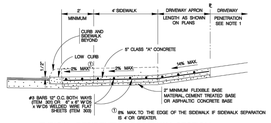
PLAT NO. 23-11800480



TYPICAL RESIDENTIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB

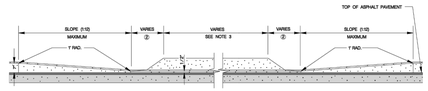
ITEM 503.1



TYPICAL RESIDENTIAL DRIVEWAY SECTION

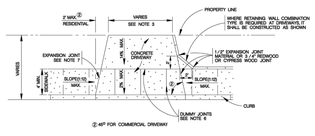
WITH SIDEWALK SEPARATED FROM CURB

ITEM 503.1



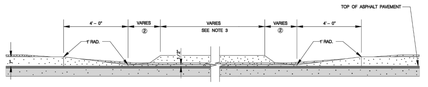
CURB PROFILE AT DRIVEWAY

WITH SIDEWALK ABUTTING CURB



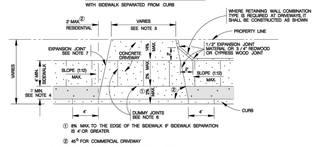
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB



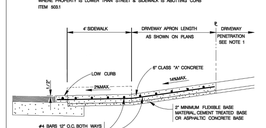
CURB PROFILE AT DRIVEWAY

WITH SIDEWALK SEPARATED FROM CURB



TYPICAL DRIVEWAY PLAN VIEW

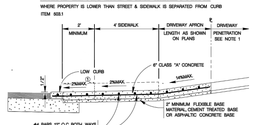
WITH SIDEWALK SEPARATED FROM CURB



TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB

ITEM 503.2



TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB

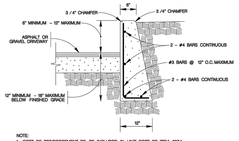
ITEM 503.2

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. 503.4
   A1.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO.502.4 AND SHALL INCLUDE A MINIMUM OF 7" 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 7' FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT 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 ⁄4" 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.



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

MAY 2009

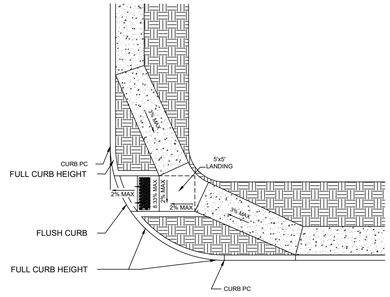
CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

No.	SUBMITTAL	PROJECT NO.:	DATE:

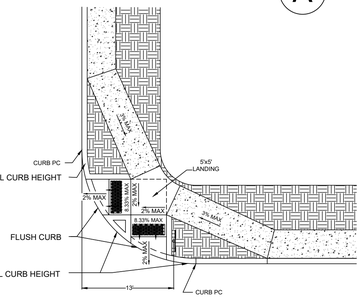
DRWN. BY: V. VASQUEZ DSGN. BY: CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: OF



SINGLE ADA RAMP INTERSECTION LAYOUT DETAIL

(TYPE 10 DIRECTIONAL RAMPS)

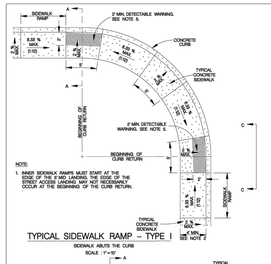
A



B

DUAL ADA RAMP INTERSECTION LAYOUT DETAIL

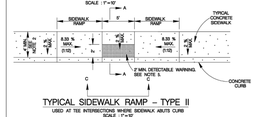
(TYPE 10 DIRECTIONAL RAMPS)



TYPICAL SIDEWALK RAMP – TYPE I

SIDEWALK ABUTS THE CURB

SCALE : 1" = 10'



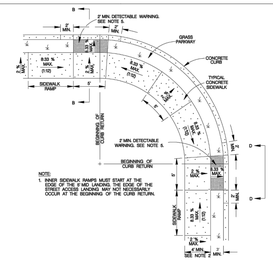
TYPICAL SIDEWALK RAMP – TYPE II

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 MINIMUM 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 7' 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 7' 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 WIDE MINIMUM AND EXTENDING THE FULL WIDTH OF THE RAMP, EXCLUDING FLARES. WHERE TO 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 FINISH CONFORMING TO TXDOT STANDARD PEDVAL 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 RIGHTWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "506 – CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER" AND / OR "508 – 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 3" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 12" O.C.E.W. OR 4" x 4" – W2.9 x W2.9 WIRE MESH.
13. CONSTRUCTION OF CURB RAMPS AND SPECIFICATIONS FOR THE ADJACENT ROADWAY ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEPPED 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 BETWEEN THE ADJACENT PAVEMENT CROSS SLOPE AND THE SIDEWALK RAMP SHALL BE LESS THAN 11%. FOR 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=11.1% 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.



TYPICAL SIDEWALK RAMP – TYPE III

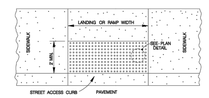
SIDEWALK SEPARATED FROM CURB

SCALE : 1" = 10'

TYPICAL SIDEWALK RAMP – TYPE IV

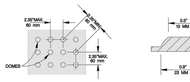
USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE : 1" = 10'



DETECTABLE WARNING SURFACE

SCALE : 1" = 4'



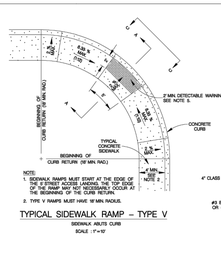
PLAN DETAIL

NO SCALE

DOME SECTION

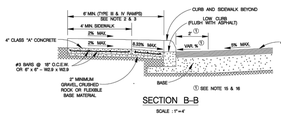
NO SCALE

NOTE:
1. CAST-IN-PLACE CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED.
2. 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.



SECTION A–A

SCALE : 1" = 4'



SECTION B–B

SCALE : 1" = 4'

SECTION C–C

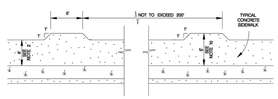
CURB PROFILE WHERE SIDEWALK ABUTS CURB

SCALE : 1" = 4'

SECTION D–D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

SCALE : 1" = 4'



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'-0"
2%	5'-0"	5'-4"
3%	4'-8"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

MAY 2009

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

No.	SUBMITTAL	PROJECT NO.:	DATE:

DRWN. BY: V. VASQUEZ DSGN. BY: CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: OF

REVISIONS							
NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING: F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

LEGACY AT GREEN ENCLAVE UNIT 2

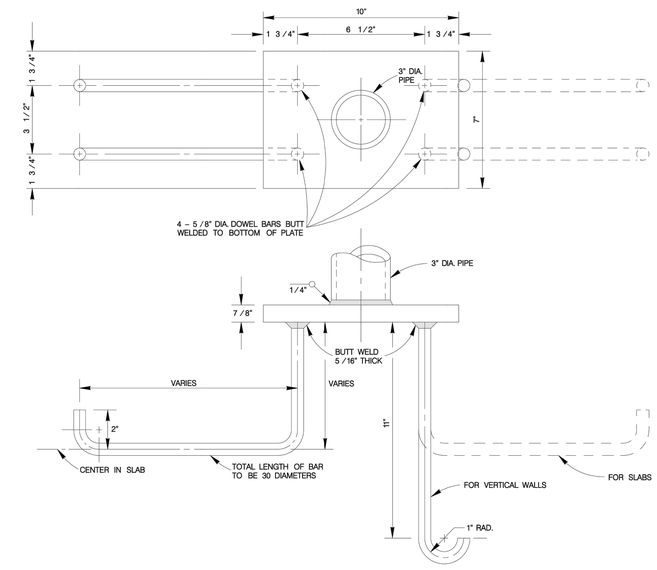
STANDARD DETAILS

SHEET

C4.10

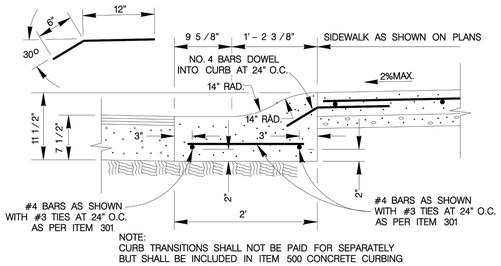
SUBMITTAL SET

PLAT NO. 23-11800480



PIPE ANCHORAGE DETAILS

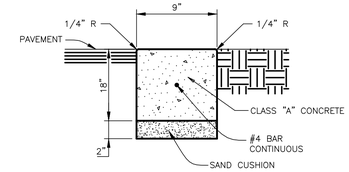
SCALE : 1" = 6"



NOTE:
CURB TRANSITIONS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN ITEM 500 CONCRETE CURBING

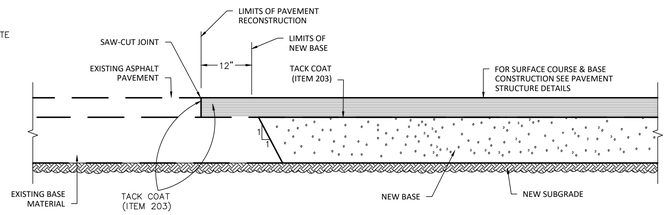
MOUNTABLE CURB

ITEM 500 ON COMPACTED SUBGRADE
SCALE : 1"=2'



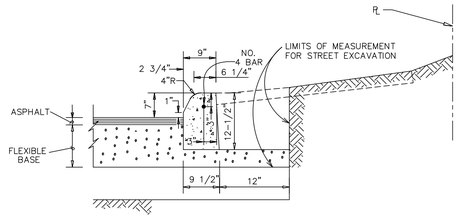
HEADER CURB

N.T.S.



PAVEMENT JUNCTION DETAILS

N.T.S.

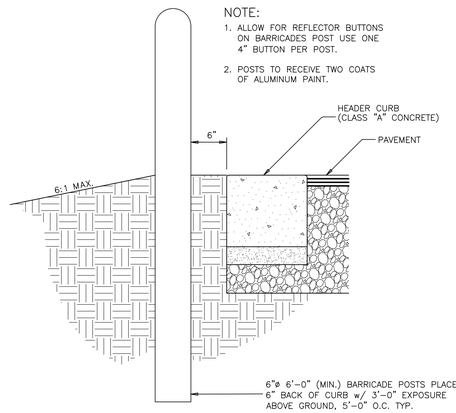


CURB NOTE: THE COST OF BASE MATERIAL UNDER & BEHIND THE CURB SHALL BE INCLUDED IN THE COST OF THE CURB.

MACHINE LAID CURB

N.T.S. ITEM 500

NOTE:
1. ALLOW FOR REFLECTOR BUTTONS ON BARRICADES POST USE ONE 4" BUTTON PER POST.
2. POSTS TO RECEIVE TWO COATS OF ALUMINUM PAINT.



GUARD POST

N.T.S.

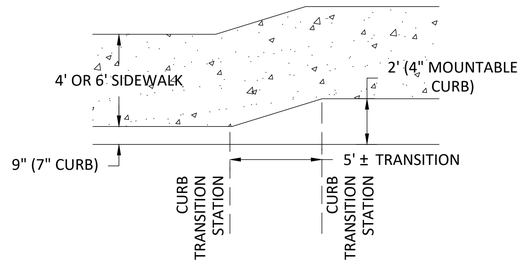
NOTES:

1) THE CONTRACTOR WILL CONSTRUCT CONCRETE SLABS FOR "TEMPORARY MAIL BOX COLLECTION PAD" FOR THE UNITED STATES POSTAL SERVICE AT THE LOCATIONS AND SIZES SPECIFIED BY THE CITY ENGINEER DURING CONSTRUCTION.
2) THE CONSTRUCTION OF SLABS SHALL CONFORM TO ITEM NO. 502 "CONCRETE SIDEWALKS AND DRIVEWAYS"
3) PAYMENT WILL BE MADE UNDER ITEM NO. 502–2 DRIVEWAYS – PER SQUARE YARD.
4) UNIT PRICE WILL INCLUDE REMOVAL OF "TEMPORARY MAIL BOX COLLECTION PAD" SLABS AT THE END OF THE PROJECT. NO SEPARATE PAY ITEM.

TEMPORARY MAIL BOX COLLECTION PAD

CONCRETE SIDEWALK DETAIL

N.T.S.



CURB TRANSITION

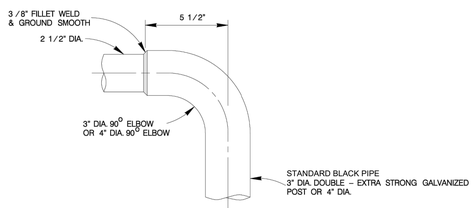
N.T.S.

CONCRETE DRIVEWAY NOTES:

1. 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'

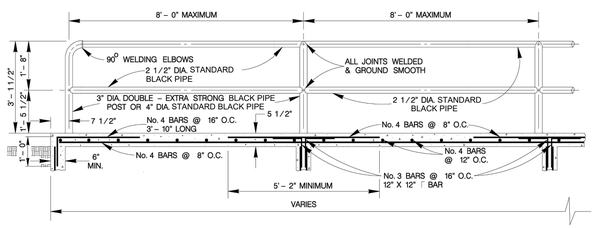
2. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
4. 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.
5. 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.
6. 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%..
7. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



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.

SCALE : 1" = 8"



TYPICAL SIDEWALK BRIDGE & SIDEWALK PIPE RAILING SECTION

SCALE : 1" = 4"

SUBMITTAL SET

NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:
		BY:					

REVISIONS

• Engineers
• Surveyors
• Planners
MTR
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F–5297 /SURVEYING: F–10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698–5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698–5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

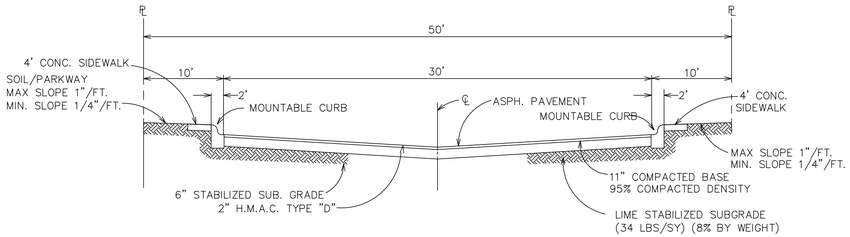
LEGACY AT GREEN ENCLAVE UNIT 2

STANDARD DETAILS

SHEET

C4.11

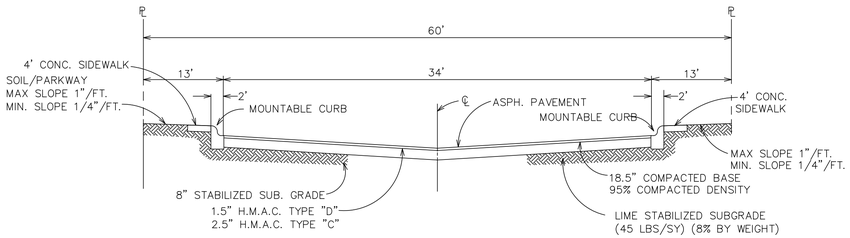
Plot Date: August 20, 2024 User ID: Samuel Garcia
N:\Shared Folders\Projects\2024\July\24-11 Street Details.dwg



LOCAL A – INVERTED CROWN
TYPICAL STREET CROSS–SECTION (30' PAVEMENT)

N.T.S.

KIANA WAY	~	STA. 12+30.00 TO STA. 17+40.41
AYAAN COVE	~	STA. 1+00.00 TO STA. 2+13.93
ARMAAN RUN	~	STA. 1+00.00 TO STA. 4+54.03
MAYA COVE	~	STA. 1+00.00 TO STA. 8+00.00
MISHA WAY	~	STA. 1+00.00 TO STA. 5+34.54
KIANA RUN	~	STA. 1+00.00 TO STA. 3+45.47



LOCAL B – INVERTED CROWN
TYPICAL STREET CROSS–SECTION (34' PAVEMENT)

N.T.S.

KIANA WAY	~	STA. 7+16.00 TO STA. 12+30.00

Subgrade Notes:

- Based on the thickness of the clays encountered in the borings, we anticipate the final pavement subgrade Plasticity Index value to be greater than 20. Subgrade stabilization is recommended.
- The subgrade soils should be tested for soil sulfate content prior to stabilization. If the soil sulfate content is higher than 3000 ppm an alternate / modified procedure will be needed.
- Lime or cement may be used to stabilize the subgrade.
  - An application rate of 8 percent lime content. Application rate for cement, if needed, should be determined at the time construction.
  - Lime application rate of **34.0 lbs per sq yard for 6-inch depth** of stabilization is recommended.
  - Lime application rate of **45.0 lbs per sq yard for 8-inch depth** of stabilization is recommended.
- Fill used to raise the grade:
  - approved fill material free should have a minimum CBR value of 2.0 and a maximum Plasticity Index value of 60. Lime application rates should be re-evaluated and tested for sulfate content prior to use of the fill material.
  - The fill material should be approved by the geotechnical engineer, free of deleterious material, and the gravel size should not exceed 3 inches in size. The material should be placed and compacted as per applicable city / county guidelines.
  - The subgrade, prior to placement of fill, should be proof rolled to identify weak areas. Any identified weak areas should be recompacted.
- The results of our laboratory testing and engineering evaluation indicate that the underlying shallow clays are **highly plastic in character.** Potential vertical movement on the order of **4 ½ to 5 ½ inches** is estimated at existing grade elevation.
- Potential vertical movement on the order of **4 ½ inches** is anticipated at the subgrade elevation. If the soils underlying the stabilized subgrade is moisture conditioned to a depth of 18 inches potential vertical movement on the order of 3 inches is anticipated.

General Notes:

- Significant pavement distress has been observed during construction phase with the combination of construction traffic and irrigation water / rain water getting underneath the asphalt.
- If water is allowed to get underneath the asphalt or if moisture content of the base or subgrade soil changes significantly, then pavement distress will occur.
  - Minimizing moisture penetration underneath the asphalt will lower the chances of pavement distress.
  - Significant pavement distress, more often caused by water getting underneath the asphalt, is noted during home construction.
  - Aggregate base extending beyond the back of the curb increases the likelihood of water getting underneath the asphalt. Moisture penetration may be reduced by using a deeper curb, such as curb extending a minimum of 6 inches into subgrade or compacted clays backfilled against the curbs.
  - In addition, water should not be allowed to get underneath the pavement section at the time of home construction.
- Cut and fill information (street profile) is not available at this time. In addition, information on any structures crossing the street (such as a culvert), is not available at this time. Please contact InTEC to review the proposed street profiles and recommend details for such crossings.

FOR CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED IN THE FIELD:

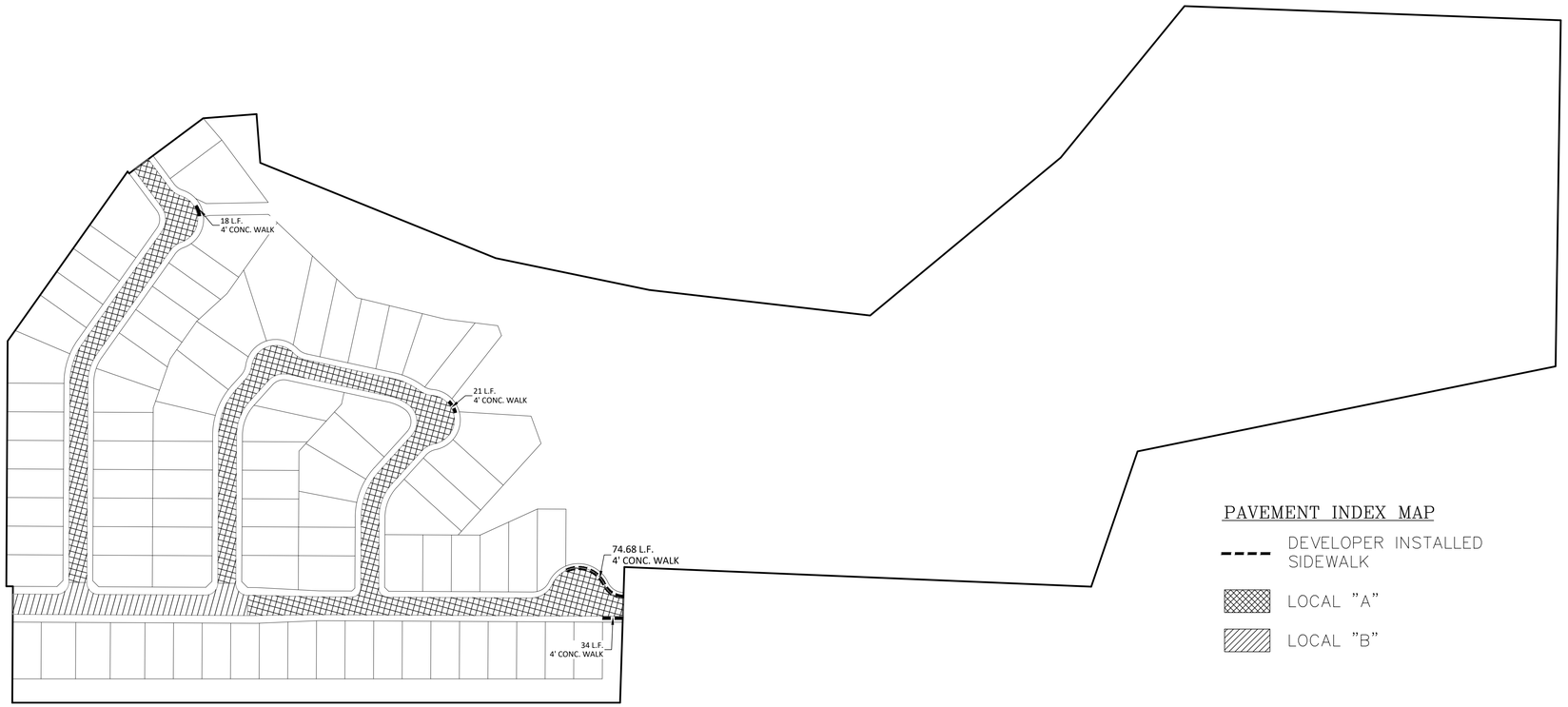
- AFTER INITIAL MIXING THE SOIL–LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2–3) DAYS. MAINTAIN MOISTURE DURING MELLOWING;
- AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON–SLAKING AGGREGATES RETAINED ON THE ¾ INCH SIEVE FROM THE SAMPLE):
  - MINIMUM PASSING 1¾ SIEVE 100
  - MINIMUM PASSING ¾ SIEVE 85
  - MINIMUM PASSING NO. 4 SIEVE 60
- SAMPLE SOIL–LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD). IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
- COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED);
- CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN ±1.0 INCH.

NOTES:

1. APPLICABLE SPECIFICATIONS FROM "CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION"– JUNE 2008
   200 – FLEXIBLE BASE
   202 – PRIME COAT
   203 – TACK COAT
   205 – HOT MIX ASPHALT CONCRETE PAVEMENT
2. REFER TO INTEC GEOTECHINAL REPORTS FOR ADDITIONAL PAVEMENT CONSTRUCTION INFORMATION "A" SUBSURFACE EXPLORATION AND PAVEMENT ANALYSIS PROPOSED NEW STREETS D. RAKOWITZ SUBDIVISION, UNITS 1 & 2 SAN ANTONIO, TEXAS INTEC PROJECT NO. S231217 DATED SEPT. 12, 2023.
3. CONTRACTOR TO COORDINATE ALL MATERIAL TESTING

* PAVEMENT SECTIONS

PAVEMENT MATERIAL	CLAY SUBGRADE (CBR 2.0) LOCAL A	LOCAL B
TYPE D ASPHALTIC CONCRETE	2.0 IN.	1.5 IN.
TYPE C ASPHALTIC CONCRETE	---	2.5 IN.
FLEXIBLE BASE (TxDOT ITEM 247 TYPE A GRADE 2)	11.0 IN.	18.5 IN.
LIME STABILIZED SUBGRADE (34.0 LBS/SY)	6.0 IN.	---
LIME STABILIZED SUBGRADE (45.0 LBS/SY) (8% BY WEIGHT)	---	8.0 IN.



PAVEMENT INDEX MAP

- DEVELOPER INSTALLED SIDEWALK
- LOCAL "A"
- LOCAL "B"

NOTE:
SELECT FILL MATERIAL SHALL HAVE A MAXIMUM PLASTICITY INDEX OF 60 AND A CALIFORNIA BEARING RATIO (CBR) OF AT LEAST 2.0

NOTE:
THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF LIME OR CEMENT

GEOTECHNICAL REPORT::
INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P.

SUBSURFACE EXPLORATION AND PAVEMENT ANALYSIS
PROPOSED NEW STREETS D. RAKOWITZ SUBDIVISION, UNITS 1 & 2

INTEC PROJECT NO. S231217 (SEPTEMBER 12, 2023)

SUBMITTAL SET

REVISIONS

NO.	DESCRIPTION	DATE	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F–5297 /SURVEYING: F–10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698–5051
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STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

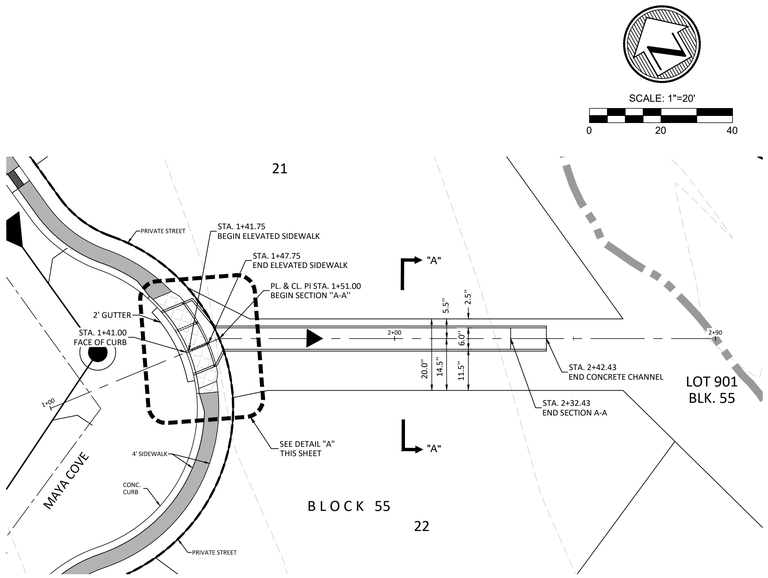
LEGACY AT GREEN ENCLAVE UNIT 2

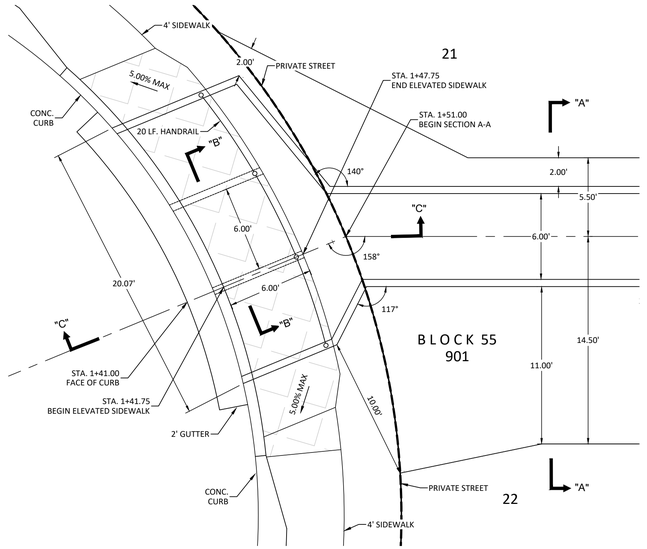
TYPICAL STREET SECTIONS

SHEET
C4.12

Plot Date: April 9, 2021 User ID: Samuel Garcia
N:\Active\ 81\Civil\ 2\Sheets\23-11800480_C4.12-TYP Street Sections.dwg

PLAT NO. 23-11800480





DETAIL A
SCALE: 1" = 5'

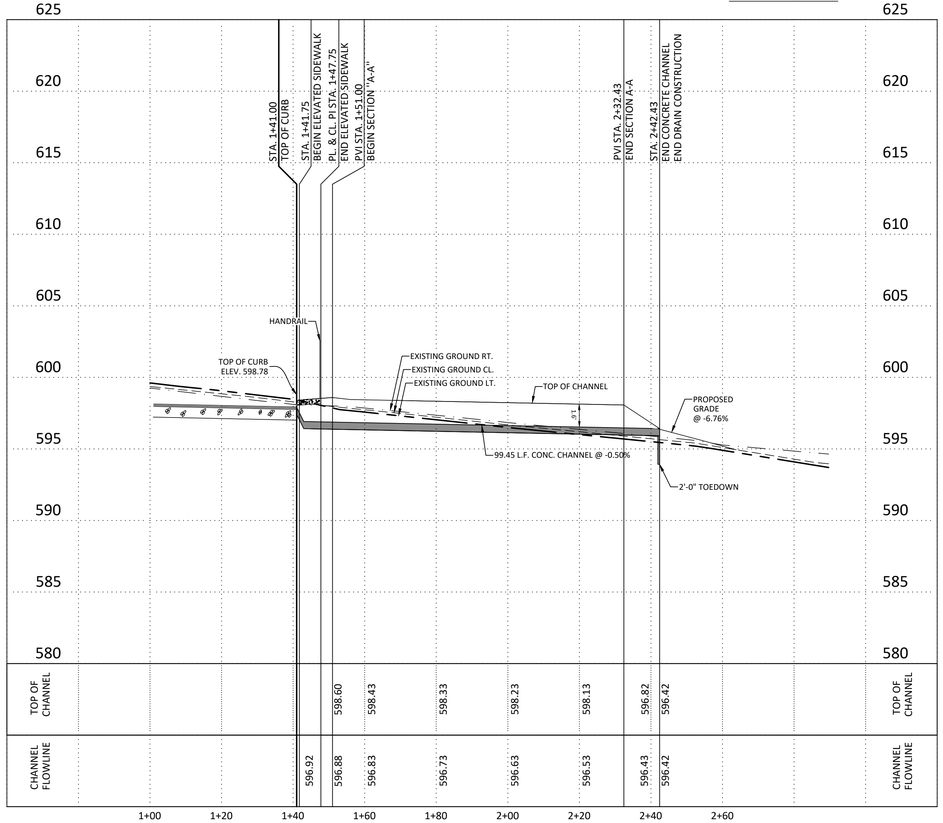
NOTES:

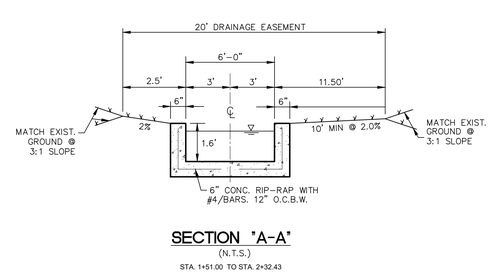
1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
4. ALL CONCRETE SHALL RESIST A MINIMUM 3000 PSI 28 DAY BREAK, UNLESS OTHERWISE NOTED.
5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR CONSTRUCTION REQUIREMENTS.
6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.

DRAIN "C"

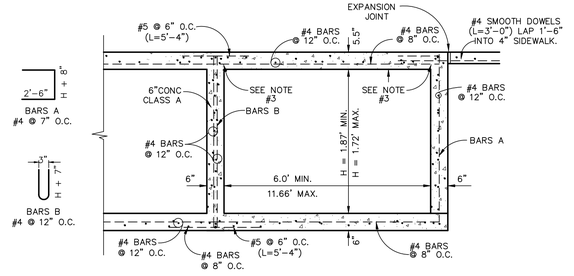
STA. 1+41.00 TO STA. 2+42.43

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'





SECTION "A-A"
(N.T.S.)
STA. 1+51.00 TO STA. 2+32.43



SECTION "B-B"
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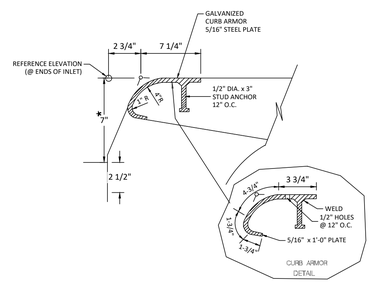
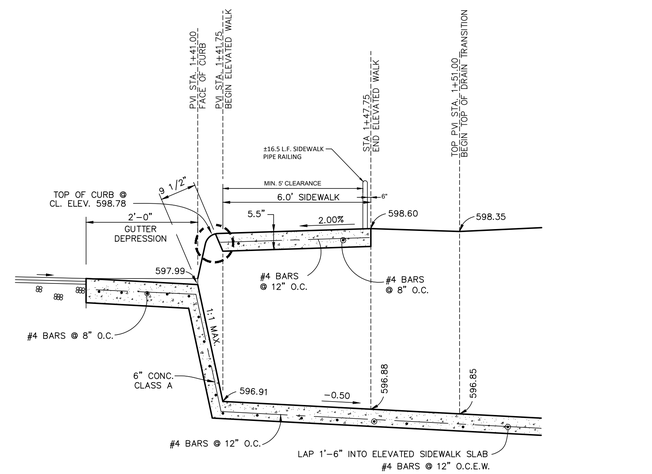


CURB ARMOR DETAIL
(N.T.S.)



SECTION "C-C"
(N.T.S.)

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698-5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698-5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED
PROFESSIONAL ENGINEER

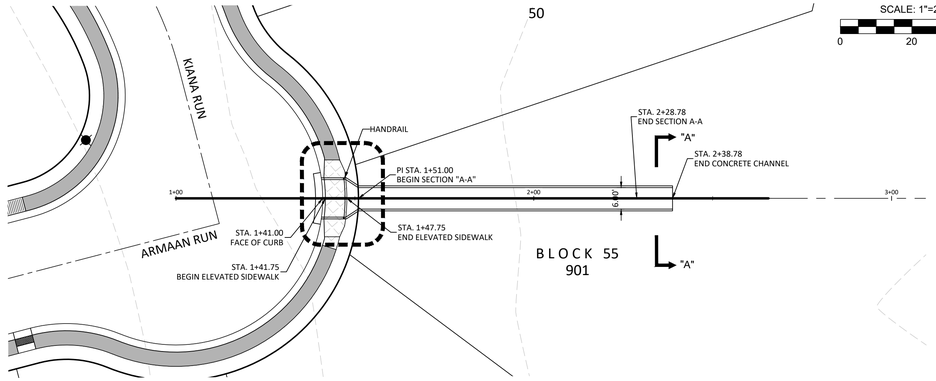
LEGACY AT GREEN ENCLAVE UNIT 2

DRAIN PLAN & PROFILE
DRAIN "C"
STA. 1+41.00 TO STA. 2+42.43

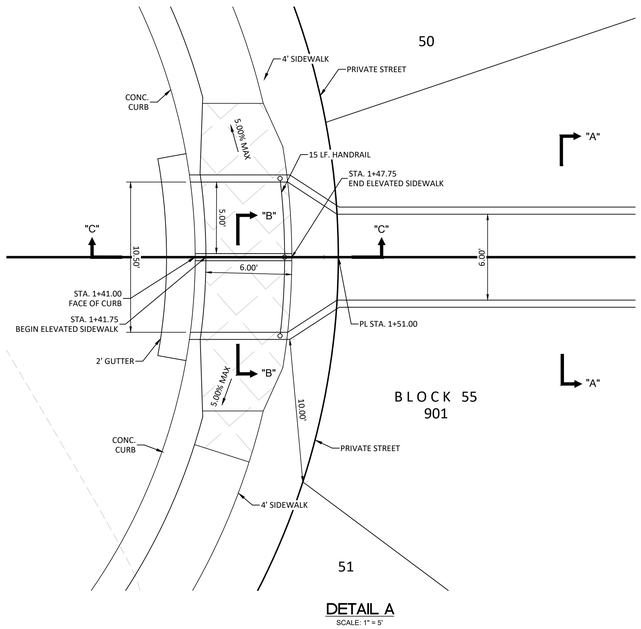
SHEET
C4.13

Plot Date: August 20, 2024 User ID: Samuel Garcia
P:\Shared Folders\Legacy at Green Enclave\Civil\Sheets\C4.13 Drain "C".dwg

PLAT NO. 23-11800480



SCALE: 1"=20'
0 20 40



DETAIL A
SCALE: 1" = 5'

NOTES:

1. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.
2. SEE GENERAL NOTES ON SHEET C4.0 FOR MATERIAL SPECIFICATIONS.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 30 INCHES.
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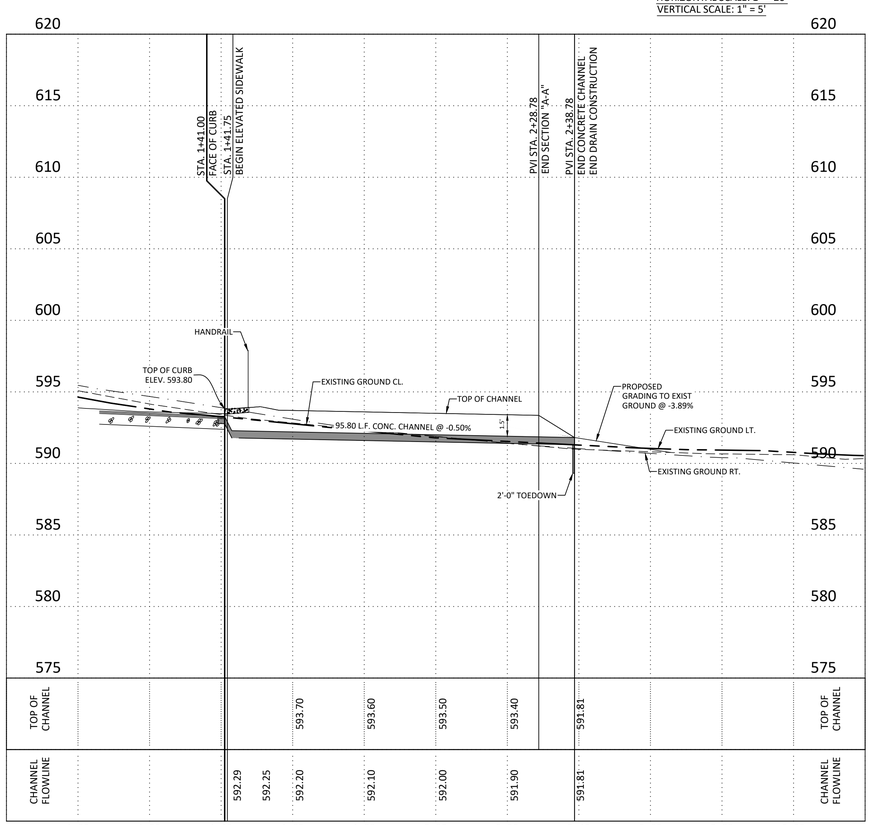
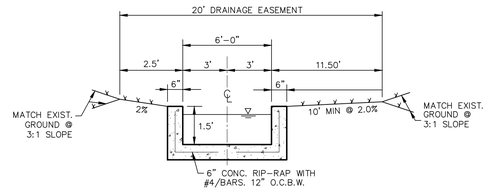
5. PROVIDE CONCRETE APRONS ON ALL INLETS, REFERENCE DETAILS FOR CONSTRUCTION REQUIREMENTS.
6. 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES.
7. ALL STORM PIPE MATERIAL IS CONCRETE REINFORCEMENT PIPE, UNLESS NOTED OTHERWISE.
8. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA WILL HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO SECTION 16.2.1 OF THE STORM WATER DESIGN CRITERIA MANUAL.

DRAIN "D"

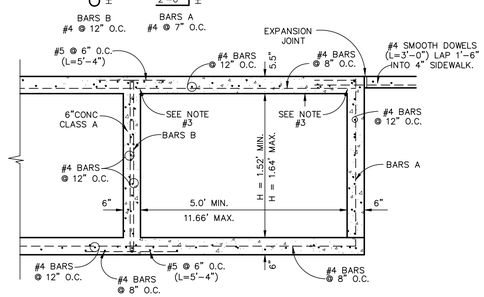
STA. 1+41.00 TO STA. 2+38.78

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'





SECTION "A-A"
(N.T.S.)
STA. 1+51.00 TO STA. 2+28.78



SECTION "B-B"
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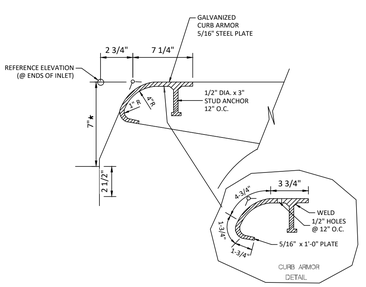
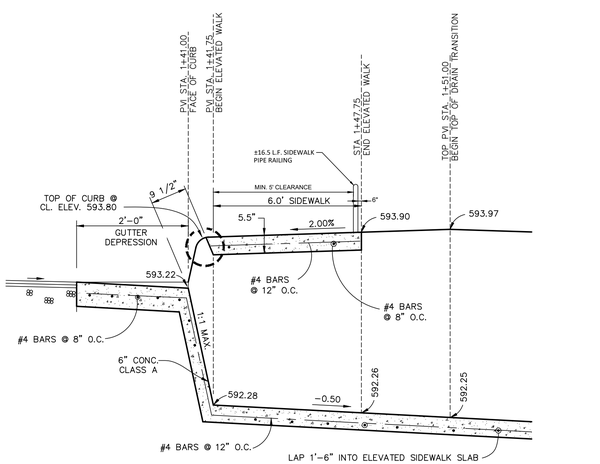


CURB ARMOR DETAIL
(N.T.S.)



SECTION "C-C"
(N.T.S.)

SUBMITTAL SET

REVISIONS							
NO.	DATE	DESCRIPTION	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

MTR
• Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F-10131500
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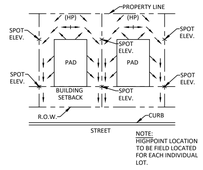
STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

LEGACY AT GREEN ENCLAVE UNIT 2

DRAIN PLAN & PROFILE
DRAIN "D"
STA. 1+41.00 TO STA. 2+38.78

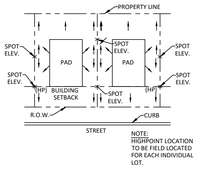
SHEET
C4.14

Plot Date: August 20, 2024 User ID: Samuel Garcia
P:\Projects\2023\23142.04-01 Green Enclave Unit 2\Drawings\23142.04-01 Green Enclave Unit 2.dwg



NOTE: HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "A" LOT GRADING
N.T.S.

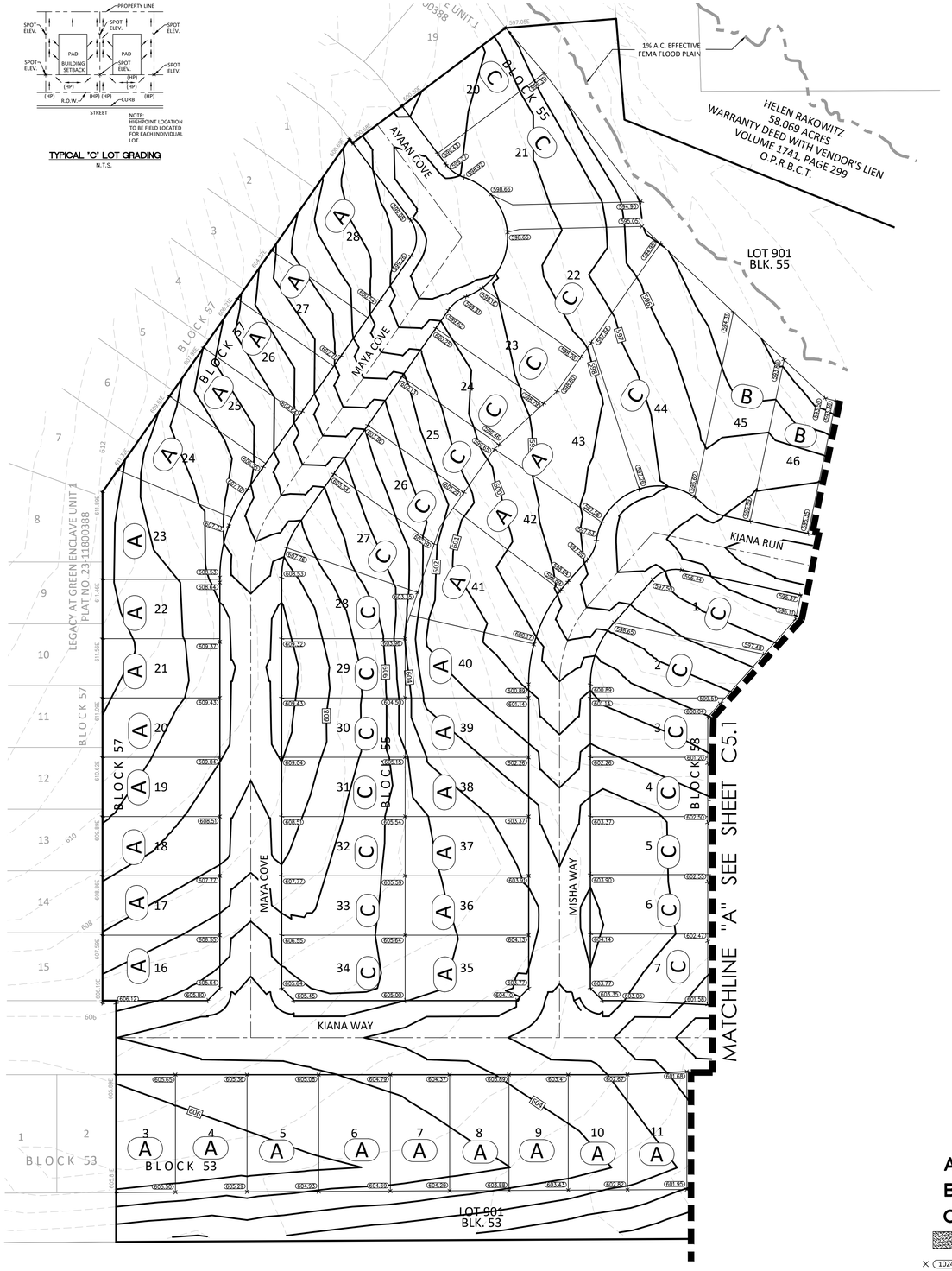


NOTE: HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "B" LOT GRADING
N.T.S.

NOTE: HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "C" LOT GRADING
N.T.S.



LEGEND

A	= DRAINAGE TO FRONT OF LOT
B	= DRAINAGE TO BOTH FRONT AND REAR LOT
C	= DRAINAGE TO REAR OF LOT
	= CLEARING AND/OR GRADING OF UTILITY EASEMENTS
× 1024.00	= PROPOSED ELEVATION
⊠ 1024.00E	= EXISTING ELEVATION
1024	= EXISTING CONTOUR
1024	= PROPOSED CONTOUR
	= PROPERTY LINE

PLAT NO. 23-11800480

GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

ALL LOT GRADING MUST MEET REQUIREMENTS OF FHA/HUD HANDBOOK 4140.3, SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79g. HUD 79g REQUIREMENTS FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79g COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDED VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79g.

2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM THE SITE.

3. SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.
WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL ENGINEER.

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD--TEX--113--E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6").

6. 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 THAT STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.

7. ROCK

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

8. COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

9. COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

10. MOISTURE CONTENT

THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

11. DENSITY TESTS

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER. ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR FOR GEOTECHNICAL ENGINEER TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8 TO 12-IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
3. FILLS SHALL BE TESTED A MAXIMUM OF EACH TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER, OF FILL.
4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

12. CUT/FILL LOTS

AREAS INVOLVING CUT ON ONE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6--IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. A MINIMUM OF TWO (2) FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

NOTES:

MINIMUM SLAB EXPOSURE IS 1.0'.

ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 0.18' ABOVE CURB ELEVATION.

CONTRACTOR TO VERIFY 1.5% MINIMUM SLOPE ON LOTS AND REGRADE TO MEET MINIMUM PROPOSED ELEVATIONS IF NECESSARY.

CONTRACTOR TO CLEAR ALL RIGHT OF WAY, EASEMENTS AND PRESERVE ANY TREE 10" AND LARGER OUTSIDE OF THESE AREAS.

SCALE: 1"=50'
0 50 100

SUBMITTAL SET

REVISIONS						
NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers • Surveyors • Planners
Moy Tarin Ramirez Engineers, LLC
TBPELS: ENGINEERING F-5297 /SURVEYING: F--10131500
12770 CIMARRON PATH, SUITE 100 TEL: (210) 698--5051
SAN ANTONIO, TEXAS 78249 FAX: (210) 698--5085

STATE OF TEXAS
PAUL LANDA, JR.
100182
LICENSED PROFESSIONAL ENGINEER

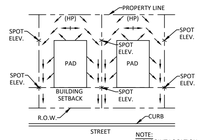
LEGACY AT GREEN ENCLAVE, UNIT 2

GRADING PLAN

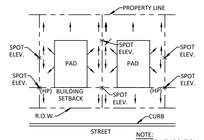
SHEET
C5.0

Plot Date: August 26, 2024 User ID: Samuel Garcia
P:\Projects\23\047 - LEGACY AT GREEN ENCLAVE UNIT 2\Drawings\23047-C5.0-Grading Plan.dwg

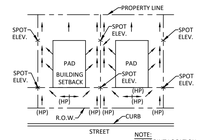
PLAT NO. 23-11800480



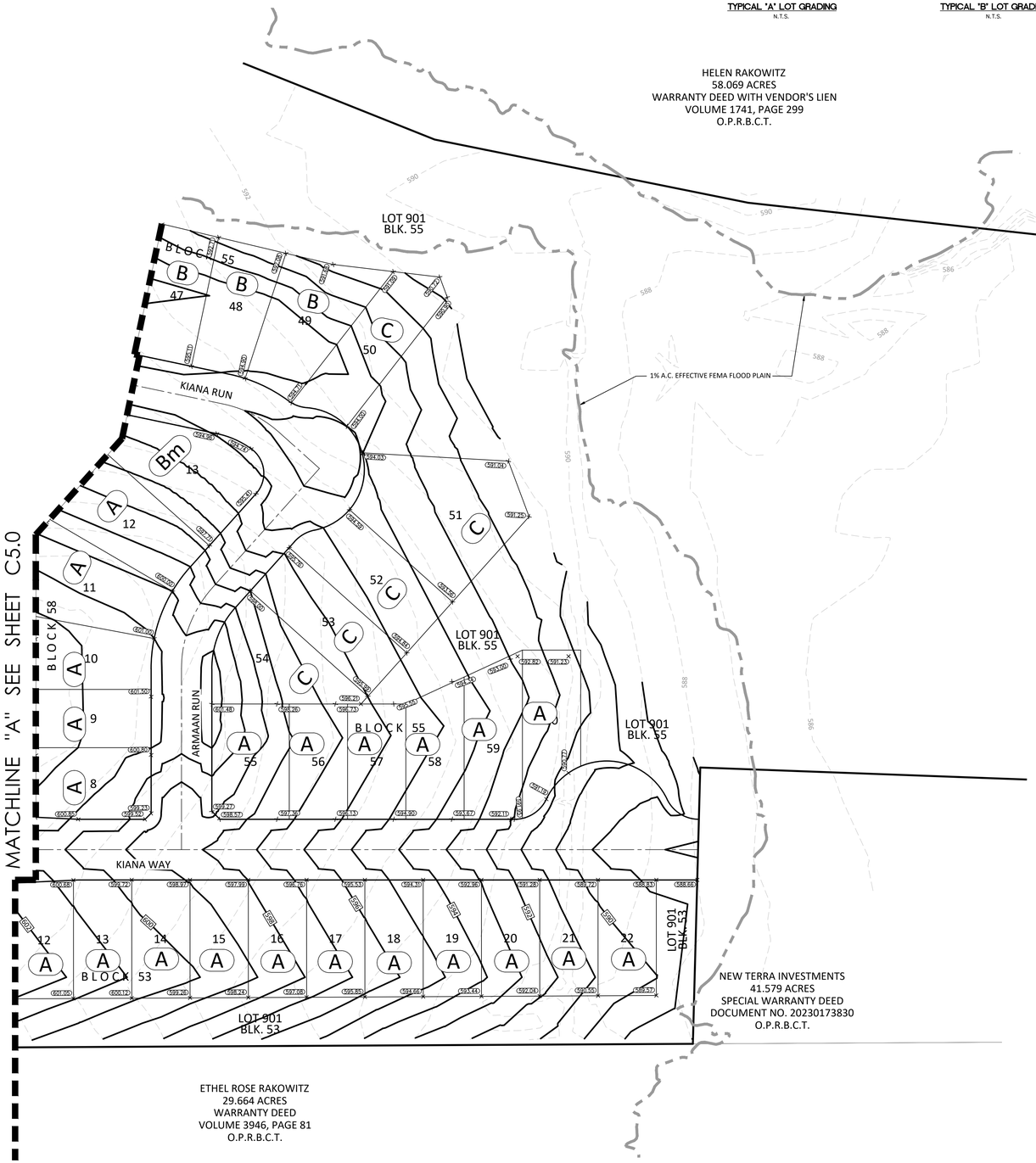
TYPICAL 'A' LOT GRADING
N.T.S.



TYPICAL 'B' LOT GRADING
N.T.S.



TYPICAL 'C' LOT GRADING
N.T.S.



GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

ALL LOT GRADING MUST MEET REQUIREMENTS OF FHA/HUD HANDBOOK 4140.3, SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79g. HUD 79g REQUIREMENTS FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79g COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDED VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79g.

2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM THE SITE.

3. SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.
WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL ENGINEER.

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD--TEX--113--E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6").

6. 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 THAT STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.

7. ROCK

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

8. COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

9. COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

10. MOISTURE CONTENT

THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

11. DENSITY TESTS

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER. ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR FOR GEOTECHNICAL ENGINEER TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8 TO 12-IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
3. FILLS SHALL BE TESTED A MAXIMUM OF EACH TWELVE INCHES (12") AND AS SPECIFIED BY GEOTECHNICAL ENGINEER, OF FILL.
4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

12. CUT/FILL LOTS

AREAS INVOLVING CUT ON ONE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6-IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. A MINIMUM OF TWO (2) FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

NOTES:

MINIMUM SLAB EXPOSURE IS 1.0'.

ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 0.18' ABOVE CURB ELEVATION.

CONTRACTOR TO VERIFY 1.5% MINIMUM SLOPE ON LOTS AND REGRADE TO MEET MINIMUM PROPOSED ELEVATIONS IF NECESSARY.

CONTRACTOR TO CLEAR ALL RIGHT OF WAY, EASEMENTS AND PRESERVE ANY TREE 10" AND LARGER OUTSIDE OF THESE AREAS.

LEGEND

A	= DRAINAGE TO FRONT OF LOT
B	= DRAINAGE TO BOTH FRONT AND REAR LOT
C	= DRAINAGE TO REAR OF LOT
	= CLEARING AND/OR GRADING OF UTILITY EASEMENTS
× 1024.00	= PROPOSED ELEVATION
⊠ 1024.00E	= EXISTING ELEVATION
1024	= EXISTING CONTOUR
1024	= PROPOSED CONTOUR
	= PROPERTY LINE

SCALE: 1"=50'
0 50 100

SUBMITTAL SET

REVISIONS

NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

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LEGACY AT GREEN ENCLAVE, UNIT 2

GRADING PLAN

SHEET
C5.1

Plot Date: August 20, 2024 User ID: Samuel Garcia
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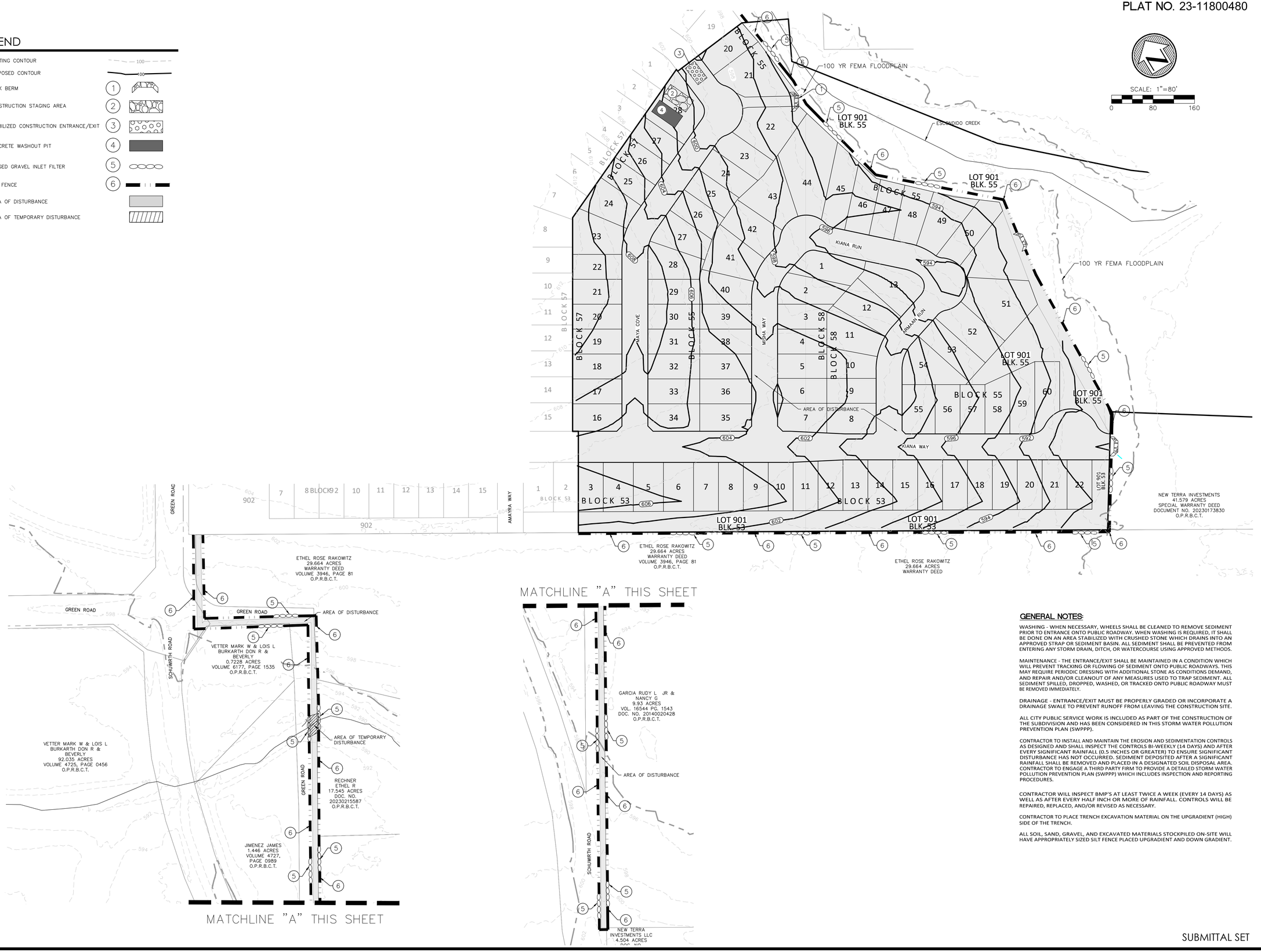
PLAT NO. 23-11800480

LEGEND

- EXISTING CONTOUR — 100
- PROPOSED CONTOUR — 00
- ROCK BERM (1)
- CONSTRUCTION STAGING AREA (2)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (3)
- CONCRETE WASHOUT PIT (4)
- BAGGED GRAVEL INLET FILTER (5)
- SILT FENCE (6)
- AREA OF DISTURBANCE
- AREA OF TEMPORARY DISTURBANCE



GENERAL NOTES:

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 WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED STRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.

MAINTENANCE - THE ENTRANCE/EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC 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.

DRAINAGE - ENTRANCE/EXIT MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

ALL CITY PUBLIC SERVICE WORK IS INCLUDED AS PART OF THE CONSTRUCTION OF THE SUBDIVISION AND HAS BEEN CONSIDERED IN THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

CONTRACTOR TO INSTALL AND MAINTAIN THE EROSION AND SEDIMENTATION CONTROLS AS DESIGNED AND SHALL INSPECT THE CONTROLS BI-WEEKLY (14 DAYS) AND AFTER EVERY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO ENSURE SIGNIFICANT DISTURBANCE HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A SIGNIFICANT RAINFALL SHALL BE REMOVED AND PLACED IN A DESIGNATED SOIL DISPOSAL AREA. CONTRACTOR TO ENGAGE A THIRD PARTY FIRM TO PROVIDE A DETAILED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WHICH INCLUDES INSPECTION AND REPORTING PROCEDURES.

CONTRACTOR WILL INSPECT BMP'S AT LEAST TWICE A WEEK (EVERY 14 DAYS) AS WELL AS AFTER EVERY HALF INCH OR MORE OF RAINFALL. CONTROLS WILL BE REPAIRED, REPLACED, AND/OR REVISED AS NECESSARY.

CONTRACTOR TO PLACE TRENCH EXCAVATION MATERIAL ON THE UPGRADIENT (HIGH) SIDE OF THE TRENCH.

ALL SOIL, SAND, GRAVEL, AND EXCAVATED MATERIALS STOCKPILED ON-SITE WILL HAVE APPROPRIATELY SIZED SILT FENCE PLACED UPGRADIENT AND DOWN GRADIENT.

SUBMITTAL SET

REVISIONS							
NO.	DATE	DESCRIPTION	BY:	PROJ. #	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

• Engineers
• Surveyors
• Planners

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4/30/24

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LEGACY AT GREEN ENCLAVE, UNIT 2

OVERALL STORM WATER POLLUTION PREVENTION PLAN

SHEET

C6.0

Plot Date: April 9, 2024 User ID: Samuel Garcia
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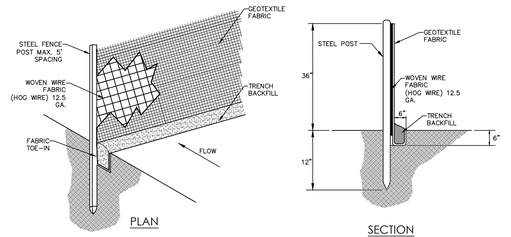
PLAT NO. 23-11800480

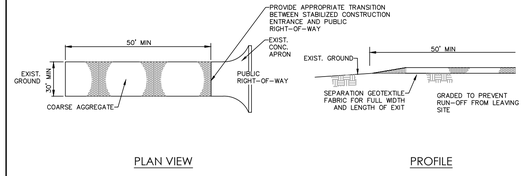


PLAN SECTION

SILT FENCE 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/IN 2 , 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 Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT 2 , AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
4. 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 5 FEET ON CENTER.
5. 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.
6. 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.
7. 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.
8. 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.
9. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
10. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE.
11. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
12. REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

1 **SILT FENCE DETAIL**
SCALE: NONE

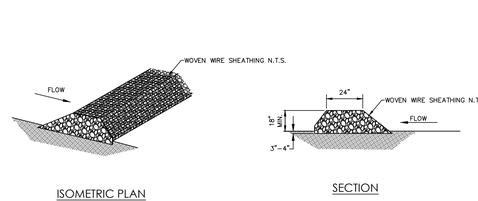


PLAN VIEW PROFILE

TEMPORARY CONSTRUCTION ENTRANCE/EXIT NOTES

1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
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/YD 2 , A MULLEN BURST RATING OF 140 LB/IN 2 , AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
5. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
6. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
7. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
8. PLACE STONE TO DIMENSIONS AND GRADE SHOWN. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
9. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
10. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
11. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
12. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.

2 **STABILIZED CONSTRUCTION ENTRANCE / EXIT**
SCALE: NONE

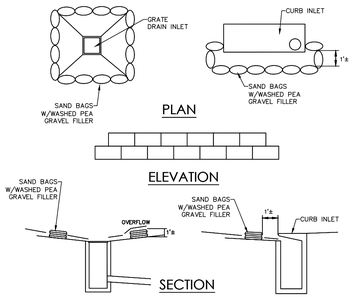


ISOMETRIC PLAN SECTION

ROCK BERM NOTES

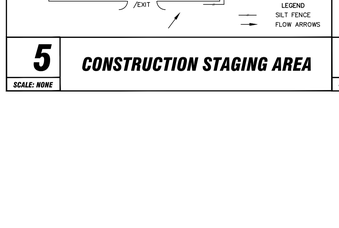
1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3-TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-TO 8-INCH DIAMETER ROCKS MAY BE USED.
3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
5. PLACE THE ROCK ALONG THE SHEATHING TO A HEIGHT NOT LESS THAN 18".
6. 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.
7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
8. 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.
9. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER AND REPAIR ANY LOOSE WIRE SHEATHING.
11. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
12. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

3 **ROCK BERM**
SCALE: NONE

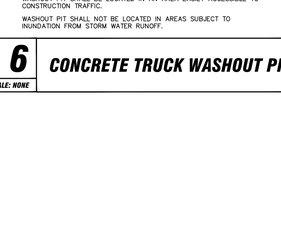


1. THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2 , MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6 INCHES.
3. THE GRAVEL BAGS SHOULD BE FILLED WITH ¾" GRAVEL .
4. WHEN A GRAVEL BAG IS FILLED WITH GRAVEL, THE OPEN END OF THE GRAVEL BAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CORD.
5. THE GRAVEL BAGS SHOULD BE PLACED AS SHOWN ON THE DETAIL. THE GRAVEL BAGS SHALL BE STACKED TO FORM A CONTINUOUS BARRIER AROUND THE INLETS. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
7. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
8. 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.
9. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

4 **BAGGED GRAVEL INLET FILTER**
SCALE: NONE



5 **CONSTRUCTION STAGING AREA**
SCALE: NONE



GENERAL NOTES:

DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.

WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

6 **CONCRETE TRUCK WASHOUT PIT**
SCALE: NONE

REVISIONS

NO.	DATE	DESCRIPTION	BY:	PROJ. #:	DSN. BY:	DWN. BY:	CHKD. BY:	DATE:

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LEGACY AT GREEN ENCLAVE, UNIT 2

STORM WATER POLLUTION PREVENTION PLAN DETAILS

SHEET
C6.1

SUBMITTAL SET

Plot Date: April 9, 2021 User ID: Samuel Garza
X:\Shared Drives\2019\19-2304\Civil\Drawings\19-2304_C6.1.dwg Plot Style