

# CIVIL SITE CONSTRUCTION PLANS

100 NE LOOP 410, SUITE 1155



SCALE: N.T.S.

TBM #50	TBM #52	TBM #54	TBM #56
MAG SPIKE W/ WASHER IN ASPH	12 HMT CNTRL N: 13812927.9148	MAG IN ASPH N: 138109.31.9789	MAG SPIKE W/ WASHER IN ASPH
N: 13813912.2845	E: 2273470.6417	E: 2273354.5748	N: 13808795.9930
E: 2272454.9930	ELEV: 670.23	ELEV: 667.76	E: 227180.2390
ELEV: 650.79		ELEV: 647.71	

TBM #51	TBM #53	TBM #55
15 IN CDS SE	MAG SPIKE W/ WASHER IN ASPH	MAG SPIKE W/ WASHER IN ASPH
N: 13813429.6043	N: 13811975.1138	N: 13809739.0983
E: 2272926.8699	E: 2273474.2106	E: 2272157.2068
ELEV: 661.19	ELEV: 700.78	ELEV: 638.31

22.51 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY NO. 1, ABSTRACT NO. 98, COMAL COUNTY, TEXAS, AND THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO. 20, GUADALUPE COUNTY, TEXAS, BEING OUT OF A CALLED 107.66 ACRE TRACT, RECORDED IN DOCUMENT NO. 202106064468, OFFICIAL PUBLIC RECORDS, COMAL COUNTY, TEXAS.

GPS POINTS SHALL BE REQUIRED FROM THE DEVELOPER'S CONTRACTOR OR ENGINEER. A MINIMUM OF THREE COORDINATE POINTS FOR GEOREFERENCING SHALL BE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE. THE ELECTRIC GPS POINTS SHALL BE TO MAP GRADE.

WATER  
VERTICAL BENDS AND EDGE OF STEEL CASING (IF APPLICABLE)  
HORIZONTAL BENDS PRIOR TO BACKFILL  
TEES PRIOR TO BACKFILL  
FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL  
FIRE HYDRANTS (TOP OF FLANGE)  
VALVES  
METERS (TOP CENTER OF BOX)  
BLOW OFF ASSEMBLY  
CORNER SLAB OF WATER TANK & GATE VALVE ON WATER TANK

WASTEWATER  
MANHOLES  
CLEANOUTS  
CORNER SLAB OF LIFT STATION

ELECTRIC  
POLES  
TRANSFORMERS, BOTH ABOVE AND UNDERGROUND (FRONT LOCK)  
PULL BOXES  
STREET LIGHTS

COORDINATE GPS REQUIREMENTS WITH NBU INSPECTOR

GENERAL NOTES:

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER IN RECORD.
4. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION AND MEETING REQUESTS.
  - 4.1 ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
  - 4.2 FAXED IN AT 830-608-2117 OR,
  - 4.3 E-MAILED AT INSPECTIONS@NBTEXAS.ORG.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
7. THIS DEVELOPMENT IS A TYPE III DEVELOPMENT.
8. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE COMAL COUNTY, TEXAS, FIRM # 4808-0101E EFFECTIVE DATE NOVEMBER, 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
9. THIS PROJECT **IS NOT** ASSOCIATED WITH THE EDWARDS AQUIFER RECHARGE ZONE.
10. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY, IF APPLICABLE.
11. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER AND WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, CITY OF NEW BRAUNFELS, NBW WATER CONNECTION POLICY, SOUND ENGINEERING JUDGEMENT AND ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES.

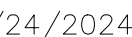
## NUMBER

1. CITY OF NEW BRAUNFELS
2. NEW BRAUNFELS UTILITIES

# JANUARY 2024

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

Christopher J. Crim  
P.E. Registration No. 111347



PREPARED BY:



290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
HMTNB.COM  
P(830)625-8555\*F(830)625-8556  
TBPE FIRM F-10961  
TBPLS FIRM 1053600

WATER IS A PRIOUS COMMODITY IN THE STATE OF TEXAS AND NEW BRAUNFELS UTILITIES (NBU) IS PASSIONATE ABOUT PROTECTING THE LOCAL RESOURCE. NBU'S CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES ARE PROPERLY ACCOUNTED FOR. NBU WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED NBU'S CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES AND STOPPAGE OF ALL CONSTRUCTION AND REPAIRS. THE PREVENTED COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.

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<del>C2.02</del>	<del>LIFT STATION WETWELL</del>
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C3.01	OVERALL WASTEWATER PLAN
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<del>E-18</del>	<del>ELECTRICAL DETAILS 4</del>
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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 OF THE INDIVIDUAL UTILITIES 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.

ANY QUANTITIES PROVIDED BY HMT OR OWNER ON THE PLANS, OPINION OF PROBABLE COST, BID SUMMARIES, ETC. ARE FOR CURSORY USE ONLY. CONTRACTOR IS RESPONSIBLE FOR BIDDING SIGNED AND SEALED CONSTRUCTION PLANS. IF A DISCREPANCY EXISTS, CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY.

CONTRACTOR SHALL INSTALL ALL GRAVITY SEWER, GRAVITY STORM SEWER, CURBS AND PAVEMENT FROM THE MOST DOWNSTREAM POINT OF CONNECTION. IF IMPROVEMENTS ARE CONSTRUCTED FROM UPSTREAM TO DOWNSTREAM, THEN THE CONTRACTOR WILL TAKE FULL RISK AND LIABILITY OF ANY ISSUES THAT MIGHT ARISE FROM FLOWLINE ELEVATION DISCREPANCIES, UTILITY CONFLICTS, ETC.

CONTRACTOR IS RESPONSIBLE FOR THE STOCKPIILING OF ANY EXCESS DIRT. ALL BIDS FROM CONTRACTOR SHOULD ACCOUNT FOR THE REMOVAL AND PLACEMENT OF ALL EARTHWORK TO INCLUDE STOCKPIILING, EXPORT, IMPORT, ETC. IF A LOCATION OF PLACEMENT OF EXCESS DIRT IS NOT SHOWN ON THE PLANS, THEN CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY TO DETERMINE THE MOST SUITABLE STOCKPILE LOCATION.





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CITY OF NEW BRAUNFELS CONSTRUCTION NOTES

REVISED 03/2020

UTILITY TRENCH COMPACTION (ADDED TO THE CONSTRUCTION PLANS ON ALL UTILITY PLAN SHEETS).  
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION

(INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS).

1.SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.

2.SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE.

STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3'X5'ROCK TO BE PLACED A MINIMUM LENGTH OF 25-FT. AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHTOF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

(NOTES TO BE PLACED ON ALL WW PLAN & DETAIL SHEETS)

ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24 HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SEEDING AND ESTABLISHMENT OF VEGETATION WITHIN EARTHEN CHANNELS, STORMWATER BASINS AND DISTURBED AREAS

SEEDING FOR THE PURPOSE OF ESTABLISHING VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED IN ACCORDANCE WITH ITEM 164 (SEEDING FOR EROSION CONTROL OF TXDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES MANUAL. ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15 IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1-NOV 30, CEREAL RYE AND SEED SPECIES SPECIFIED FOR THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED. FOR COOL SEASON SEEDING APPLICATIONS, COOL SEASON SEED MIXES SHALL BE USED IN CONJUNCTION WITH SEED MIXES FOR THE SAN ANTONIO DISTRICT AS SPECIFIED IN TABLE 1 AND 2 UNDER ITEM 164.

IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E. COMPOST/ FERTILIZER INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL, COMPOST AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL, RESPECTIVELY.

AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET TXDOT SPECIFICATIONS FOR ITEM 160 TOPSOIL. TESTING PER TEX-128-E WILL BE REQUIRED AT THE CITY'S REQUEST.

WATERING MAY ALSO BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL SHALL BE ADHERED TO FOR VEGETATIVE WATERING.

IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR/ DEVELOPER SHALL PROVIDE A PLAN TO THE CITY OF NEW BRAUNFELS DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



01/24/2024

GENERAL NOTES  
(2 OF 2)

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC
HMT PROJECT NO.:	337.050

SHEET  
C0.03

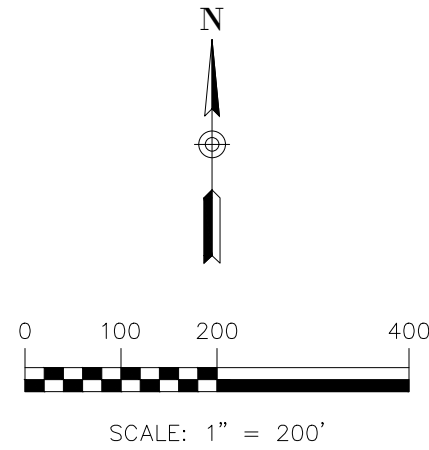


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**LEGEND**

- 700 EXISTING CONTOURS
- 700 PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- DRAINAGE FLOW DIRECTION
- SF SF SILT FENCE
- LOC LOC LIMIT OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE



**NOTE:**

PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

SILT FENCE AT PROPERTY LINE MAY BE SHOWN GRAPHICALLY OFFSET FROM PROPERTY LINE TO AVOID OVERLAP OF LINEWORK. CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES BEYOND LIMITS OF CONSTRUCTION REGARDLESS OF GRAPHIC REPRESENTATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600

**HMT**  
ENGINEERING & SURVEYING

01/24/2024

**EROSION CONTROL PLAN**

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2024**

DRAWN BY: **KP**

DESIGNED BY: **JK**

REVIEWED BY: **CC**

HMT PROJECT NO.: **337.050**

**SHEET**

**C1.01**



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CONCRETE WASHOUT AREAS

THE PURPOSE OF CONCRETE WASHOUT AREAS IS TO PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORMWATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:

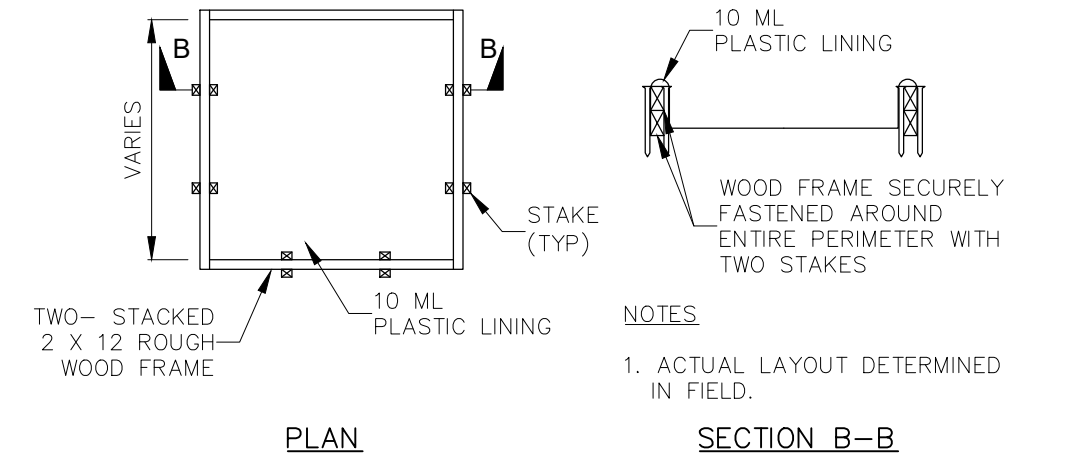
- INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO MATERIAL SUPPLIER AND SUBCONTRACTOR AGREEMENTS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE.
- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

FOR ONSITE WASHOUT:

- LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
- WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

BELOW GRADE CONCRETE WASHOUT FACILITIES ARE TYPICAL. THESE CONSIST OF A LINED EXCAVATION SUFFICIENTLY LARGE TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL. ABOVE GRADE FACILITIES ARE USED IF EXCAVATION IS NOT PRACTICAL. TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS SECTION, WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 ML IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.



CONCRETE WASHOUT PIT DETAIL  
TYPE "ABOVE GRADE"  
NOT TO SCALE

SILT FENCE

MATERIALS:

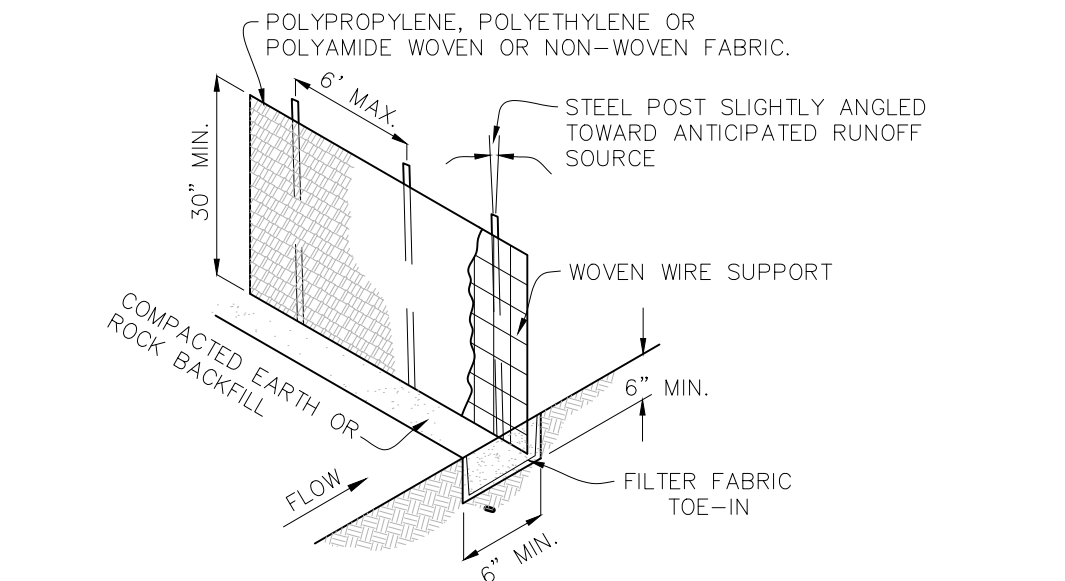
1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN<sup>2</sup>, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT<sup>2</sup>, AND BRINELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION:

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1- FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.
3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES:

1. INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
3. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
4. 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.
5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.



PERSPECTIVE VIEW

SILT FENCE DETAIL  
NOT TO SCALE

STABILIZED CONSTRUCTION ENTRANCE / EXIT

MATERIALS:

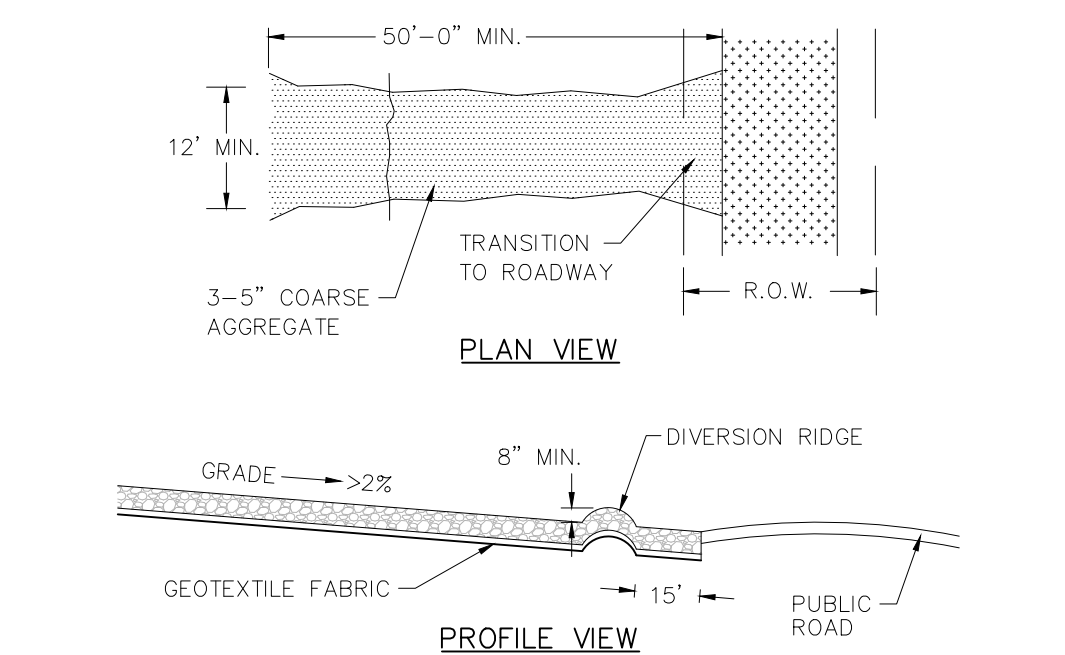
1. THE AGGREGATE SHOULD CONSIST OF 3 TO 5 INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD<sup>2</sup>, A MULLEN BURST RATING OF 140 LB/IN<sup>2</sup>, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION:

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

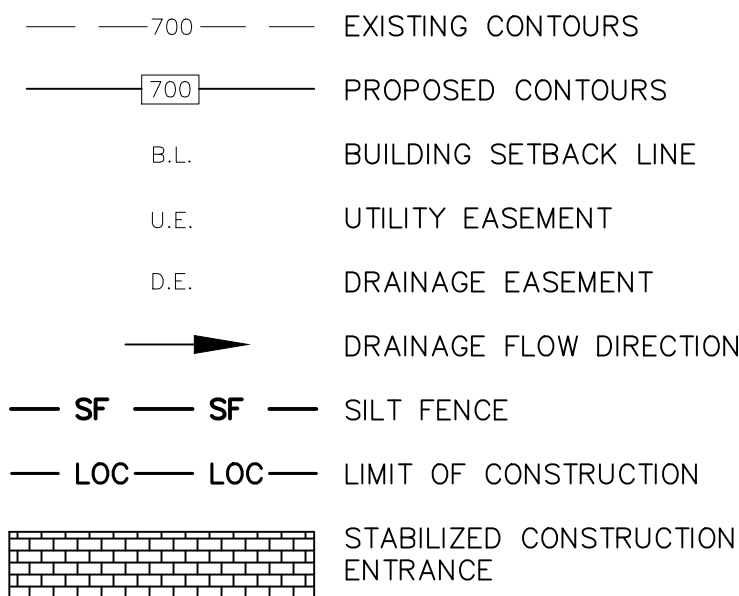
INSPECTION AND MAINTENANCE GUIDELINES:

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR LOWING 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.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. 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.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



CONSTRUCTION ENTRANCE DETAIL  
NOT TO SCALE

LEGEND



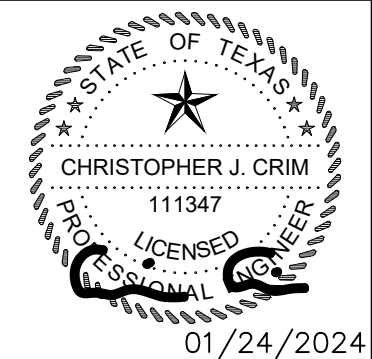
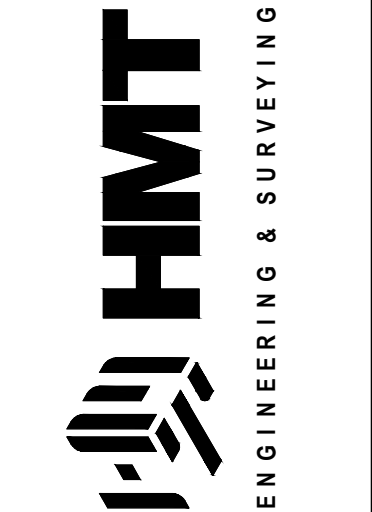
SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED, CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETScape AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) AND SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES IN 21 DAYS, PER TPDES REQUIREMENTS.

290 S. CASTELL AVE., STE. 100  
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TBPLS FIRM 1053600



EROSION CONTROL  
DETAILS

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	DATE

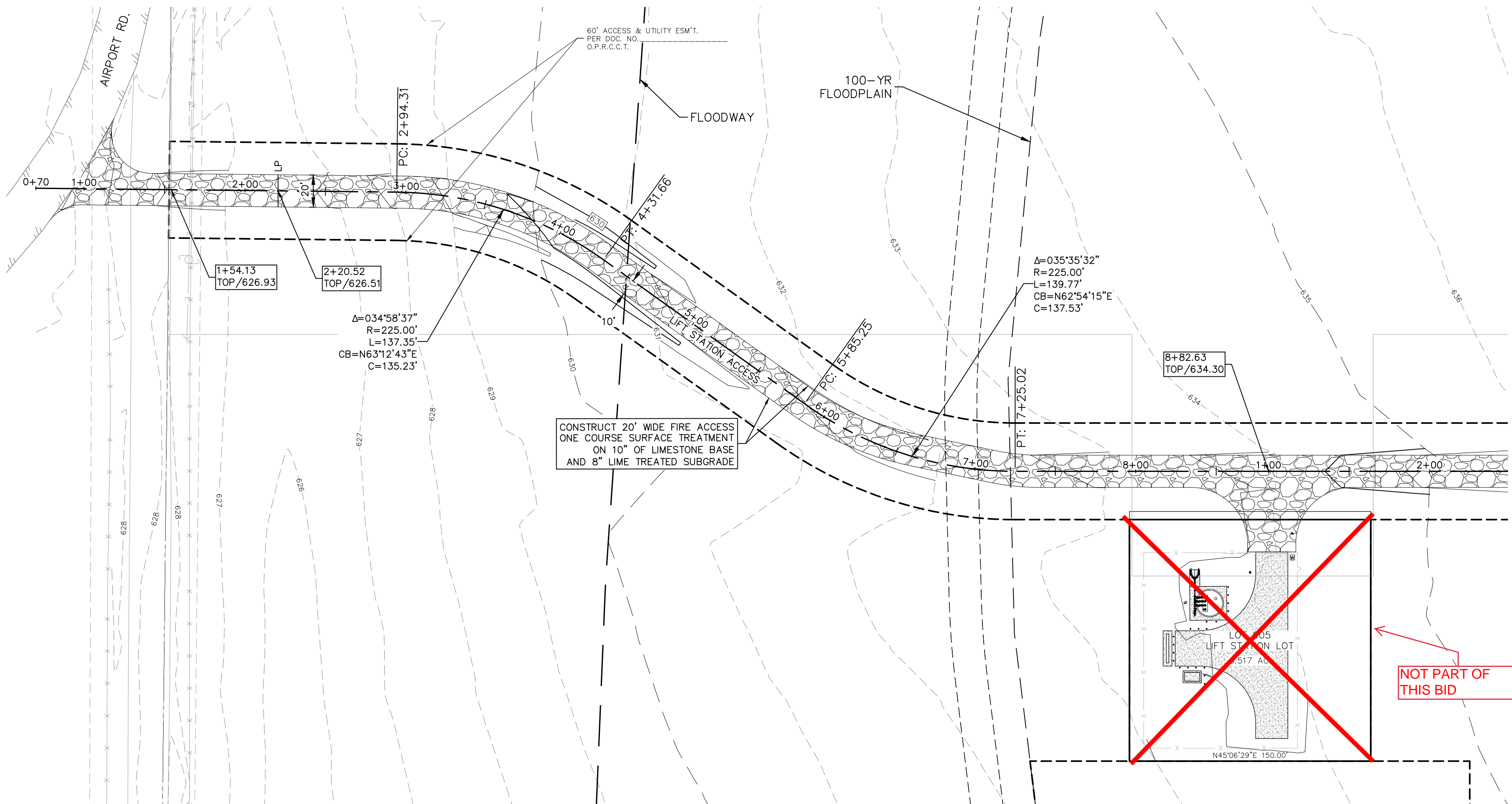
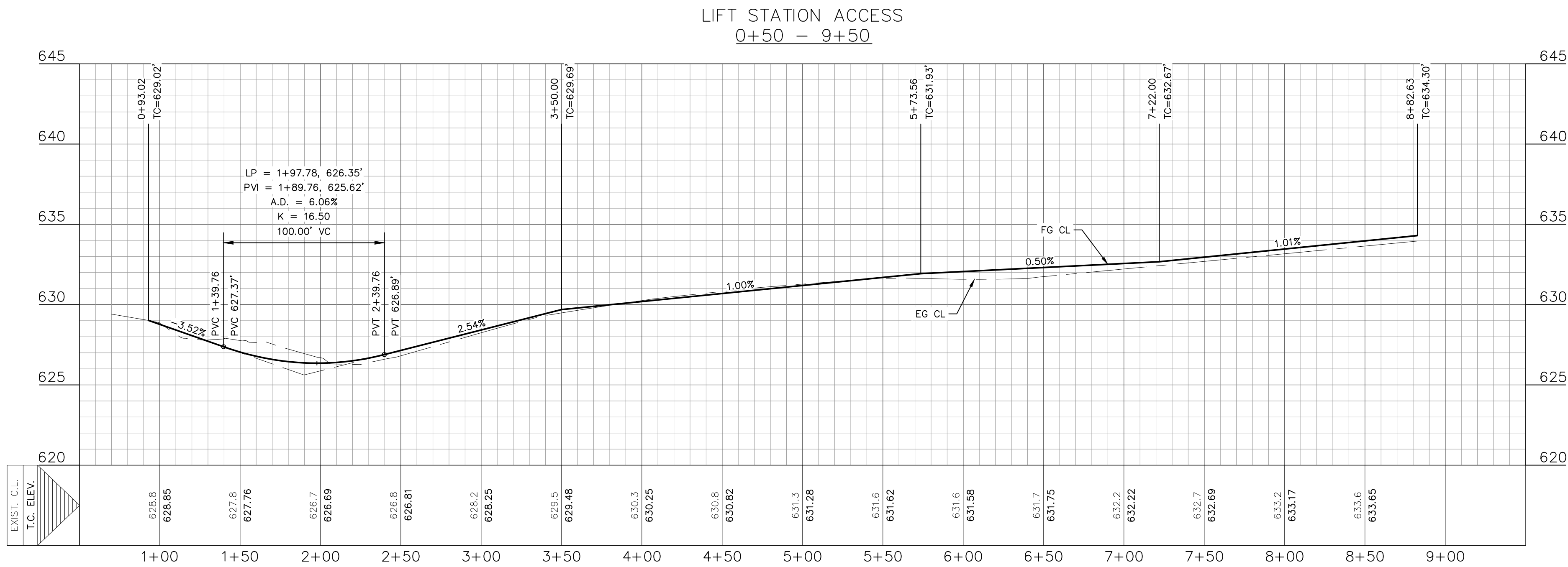
DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC
HMT PROJECT NO.:	337.050

SHEET

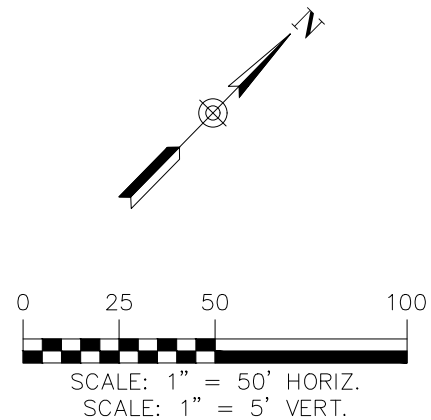
C1.02

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

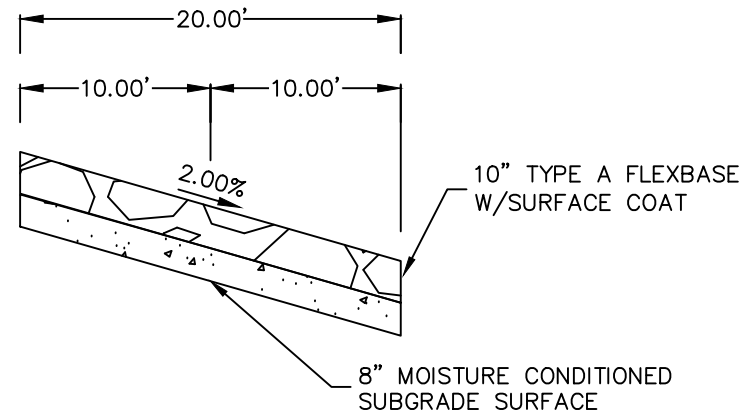




- LEGEND**
- EXISTING CONTOURS
  - PROPOSED CONTOURS
  - B.L. BUILDING SETBACK LINE
  - U.E. UTILITY EASEMENT
  - D.E. DRAINAGE EASEMENT
  - A.D.A. RAMP
  - FLOW ARROW
  - WASHOUT CROWN AREAS
  - SPILL CURB
  - EXISTING GROUND LEFT (EG LT)
  - EXISTING GROUND RIGHT (EG RT)
  - EXISTING GROUND CENTER (EG CTR)
  - PROPOSED TOP OF CURB (PR TC)
  - ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
  - SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET C4.12)
  - SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR



- NOTES**
- LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF 25 MPH.
  - IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
  - CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
  - CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
  - PER NEW BRAUNFELS ORDINANCE SEC. 114-98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'



LIFT STATION ACCESS ROAD DETAIL  
WASHOUT

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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600

**HMT**  
ENGINEERING & SURVEYING

01/24/2024

**LIFT STATION ACCESS  
PLAN & PROFILE**

SKY RANCH UNIT 1A

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2024**

DRAWN BY: **RR**

DESIGNED BY: **MTA**

REVIEWED BY: **CC**

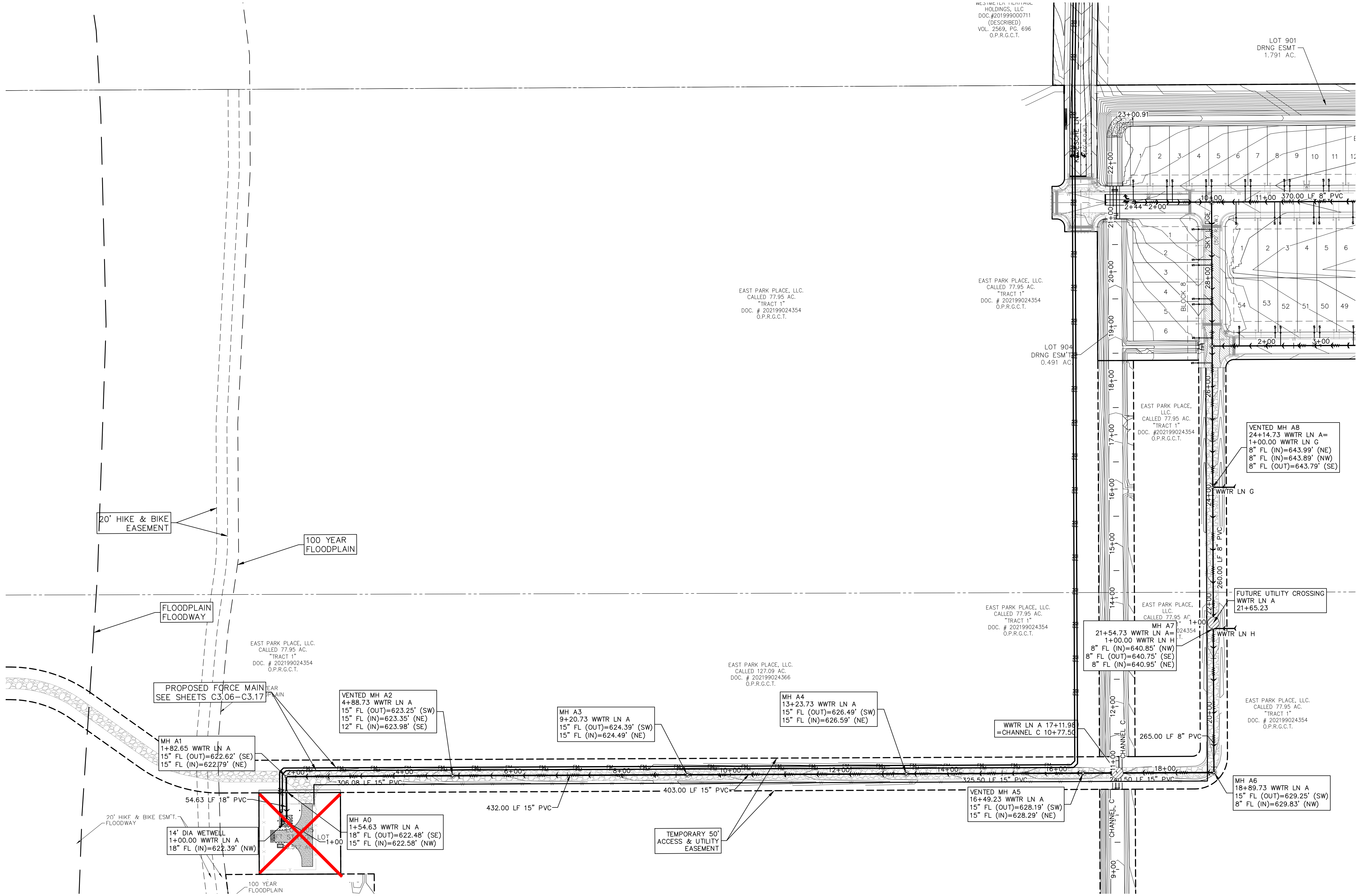
HMT PROJECT NO.: **337.050**

**SHEET**

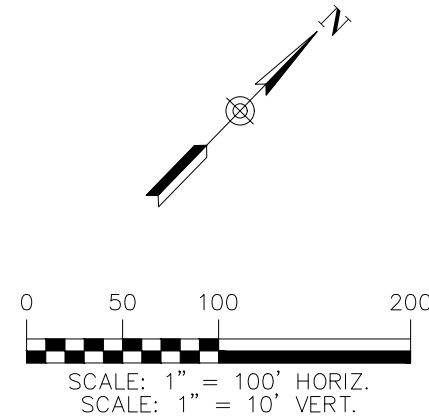
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- LEGEND**
- 700 — EXISTING CONTOURS
  - 700 — EXISTING CONTOURS
  - B.L. BUILDING SETBACK LINE
  - U.E. UTILITY EASEMENT
  - D.E. DRAINAGE EASEMENT
  - EX WW — EX WW — EXISTING WASTEWATER LINE
  - WW — WW — PROPOSED WASTEWATER LINE
  - — — PROPOSED WASTEWATER SERVICE
  - UTILITY CROSSING



**DEEP UTILITY TRENCH NOTE**

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

**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 EXCAVATIONS.

**UTILITY TRENCH COMPACTION**

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

**UTILITY NOTES:**

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
4. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
5. POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
6. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
7. CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
8. ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
9. THE MINIMUM DEPTH OF COVER OVER THE UPPER-MOST PROJECTION OF THE MAIN SHALL BE 36 INCHES. A CONCRETE CAP OR ENCASEMENT IS REQUIRED IF THE COVER IS LESS THAN 36 INCHES.
10. CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
11. NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL, THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
12. CHECK VALVES SHALL BE FULL-BODY FLANGED CHECK VALVES SUITABLE FOR USE IN WASTEWATER APPLICATIONS. BALL-TYPE CHECK VALVES ARE NOT PERMITTED.
13. ISOLATION VALVES - ISOLATION VALVES SHALL BE PLUG OR RESILIENT SEAT, SOLID WEDGE GATE VALVES. ACCEPTABLE MANUFACTURERS INCLUDE CLOW, MUELLER, AND KENNEDY.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600

**HMT**  
ENGINEERING & SURVEYING

CHRISTOPHER J. CRIM  
111347  
LICENSED PROFESSIONAL ENGINEER  
01/24/2024

**OVERALL WASTEWATER  
PLAN**

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

DATE: **JANUARY 2024**

DRAWN BY: **KP**

DESIGNED BY: **JK**

REVIEWED BY: **CC**

HMT PROJECT NO.: **337.050**

**SHEET**  
**C3.01**



UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

DEEP UTILITY TRENCH NOTE

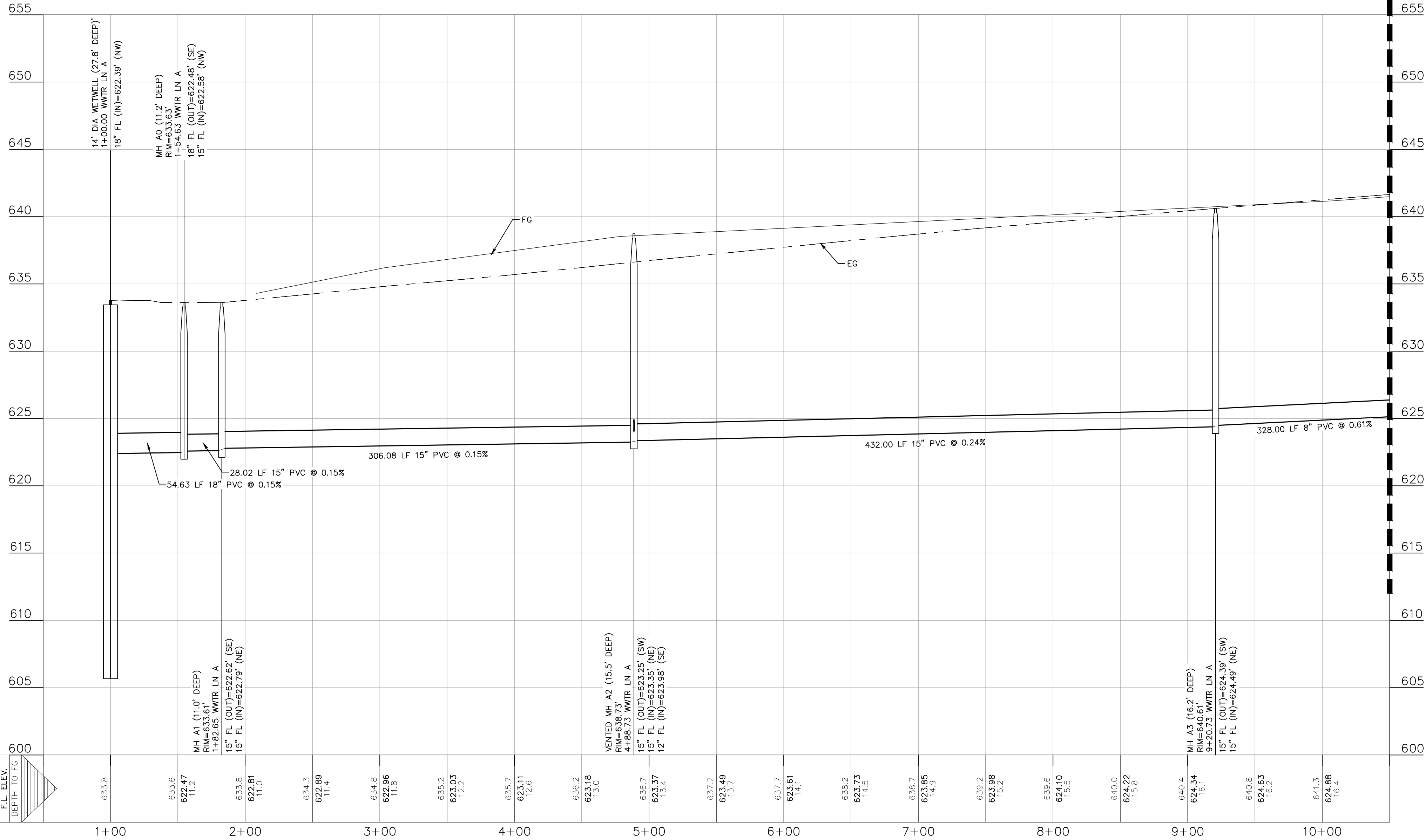
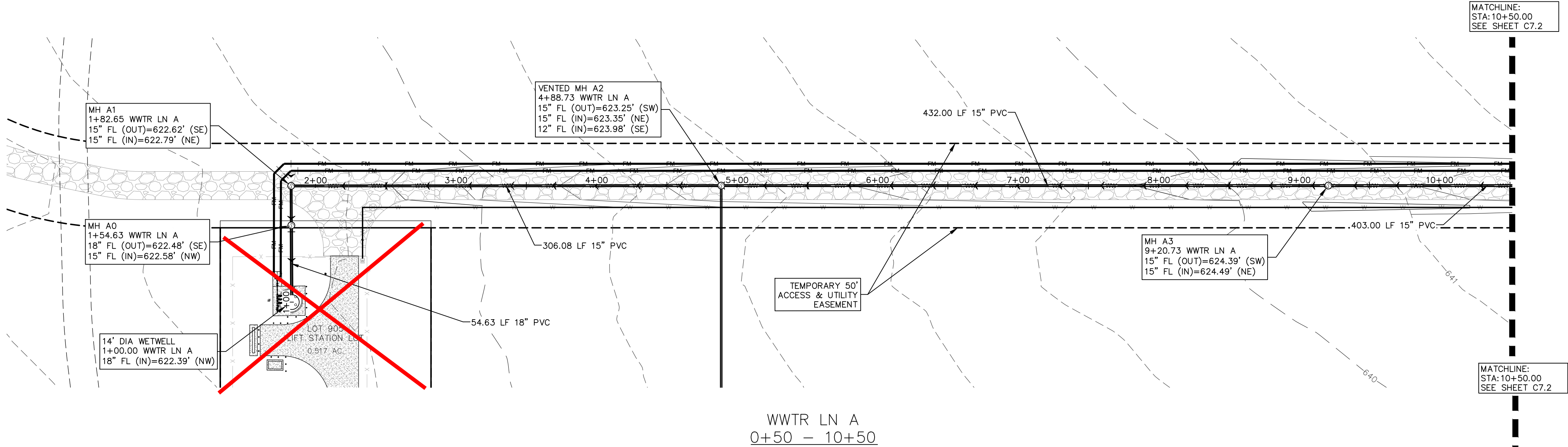
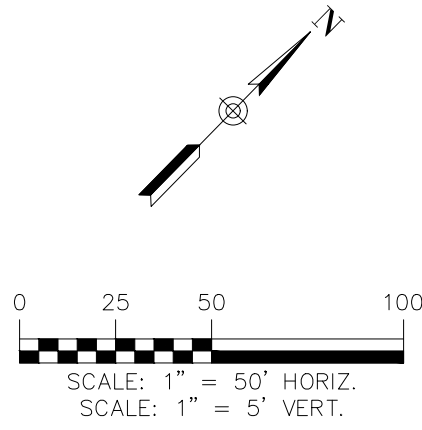
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UTILITY NOTES:

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- THIS SITE IS IN THE KOEHLERBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
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LEGEND

- EXISTING CONTOURS
- EXISTING CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING



**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 CONTRACTORS 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 EXCAVATIONS.

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FOR BENCHMARK INFORMATION.

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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBP FIRM F-10961  
TBP FIRM 1053600



OFFSITE WASTEWATER  
PLAN & PROFILE (1 OF 3)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC
HMT PROJECT NO.:	337.050

**SHEET**  
**C3.02**



UTILITY TRENCH COMPACTION

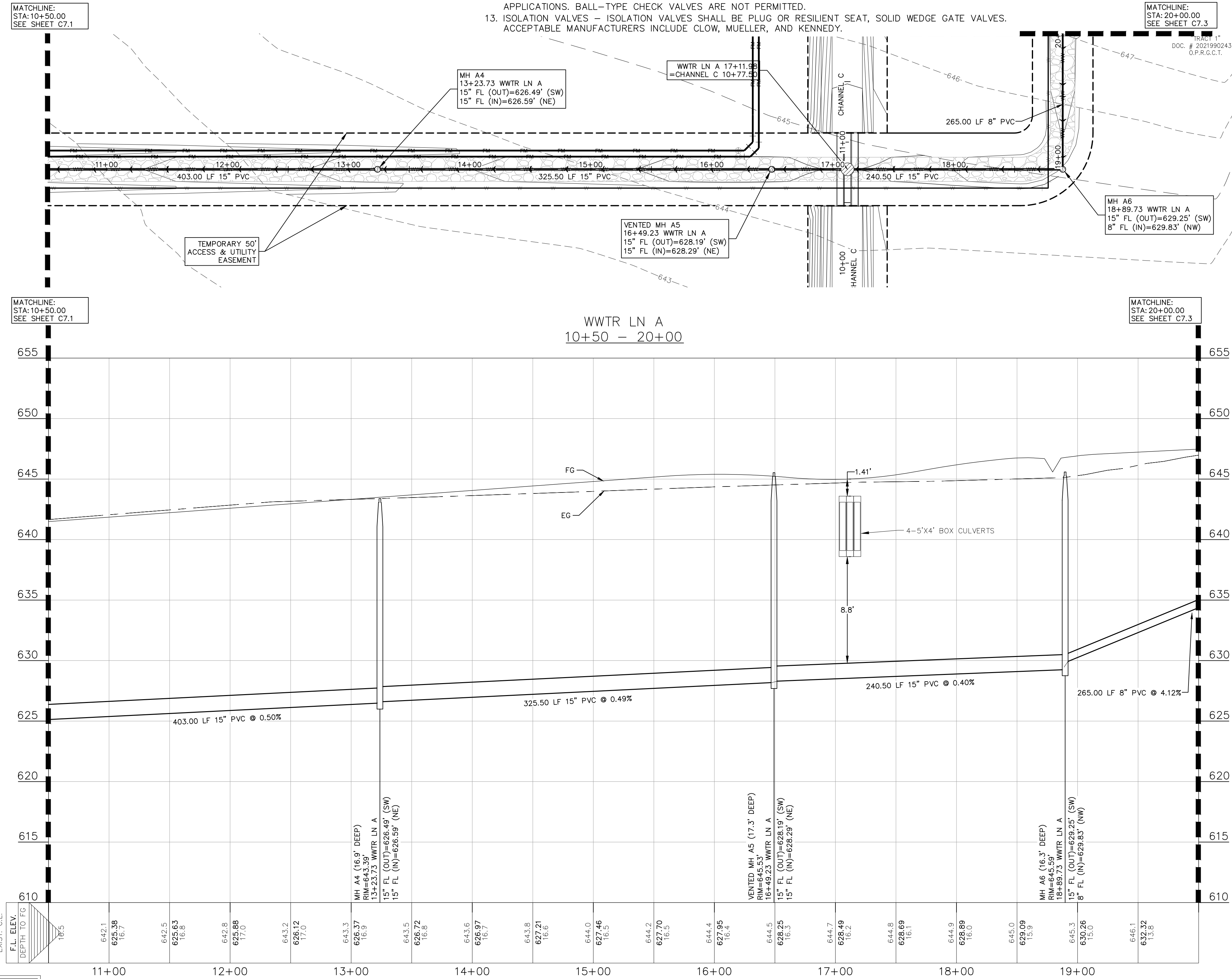
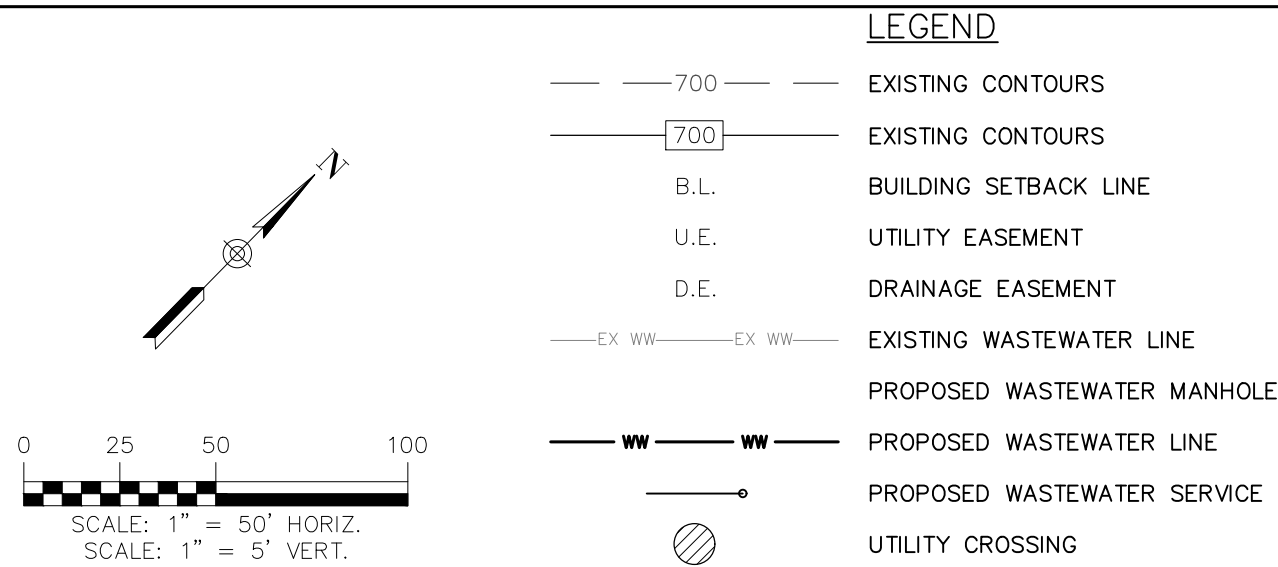
ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

DEEP UTILITY TRENCH NOTE

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UTILITY NOTES:

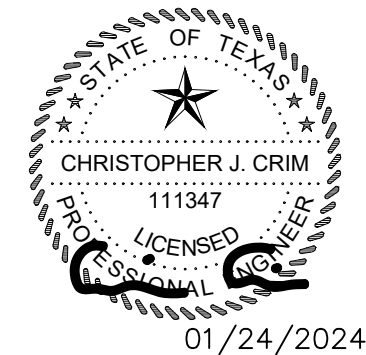
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
- CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



OFFSITE WASTEWATER  
PLAN & PROFILE (2 OF 3)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	DATE

DATE: JANUARY 2024  
DRAWN BY: KP  
DESIGNED BY: JK  
REVIEWED BY: CC  
HMT PROJECT NO.: 337.050

SHEET  
C3.03



UTILITY TRENCH COMPACTION

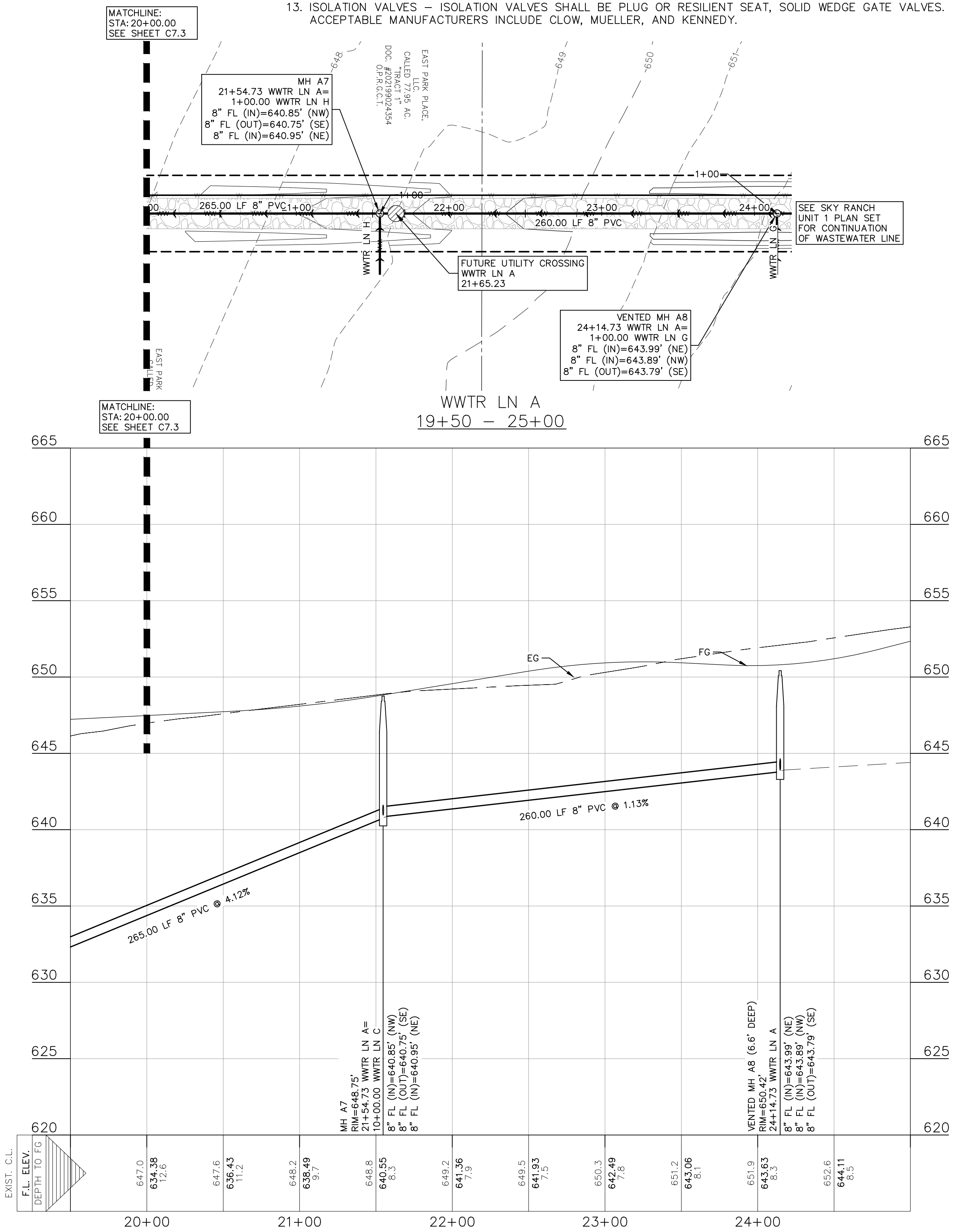
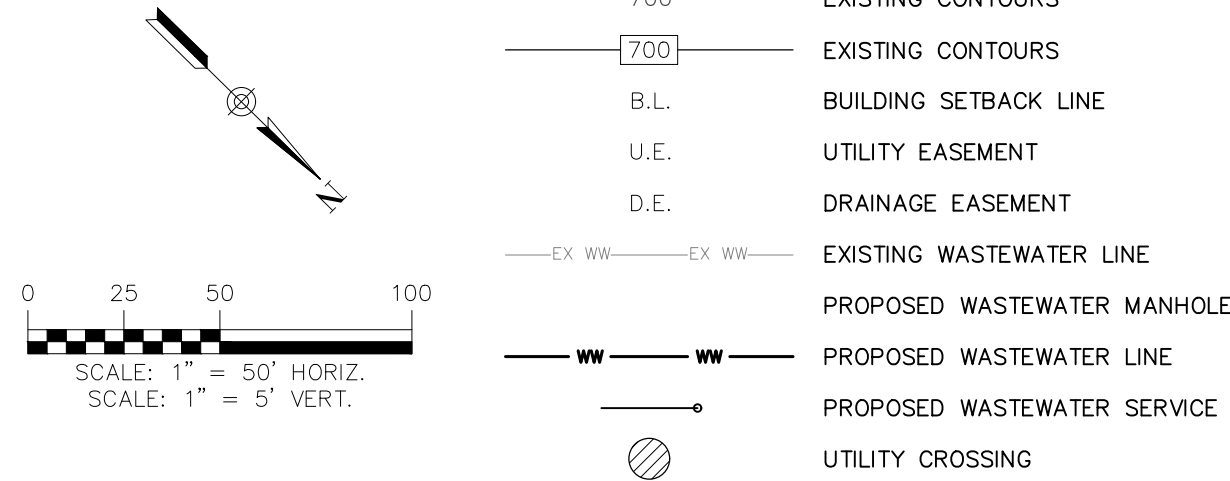
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OFFSITE WASTEWATER  
PLAN & PROFILE (3 OF 3)

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JANUARY 2024

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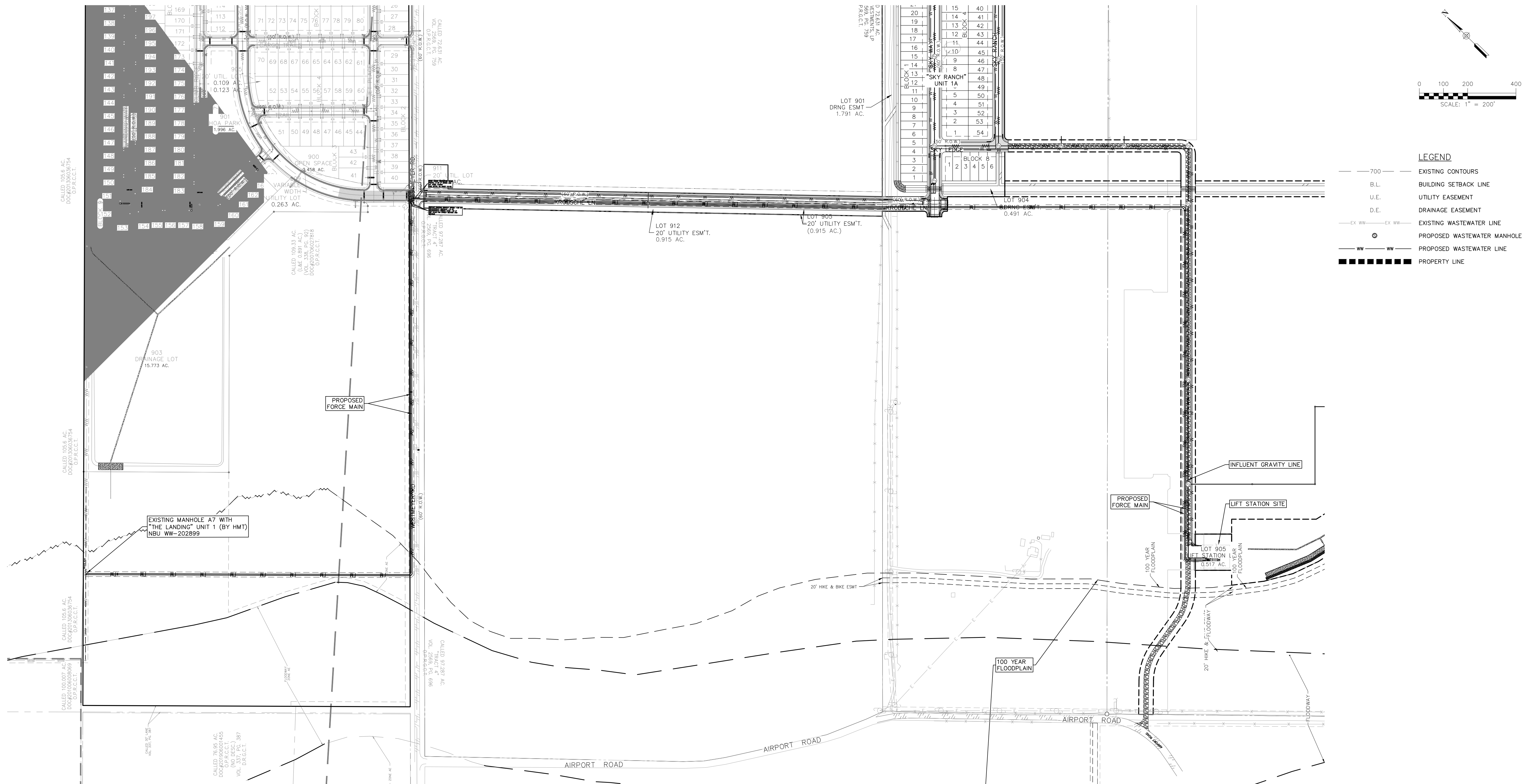
HMT PROJECT NO.:

337.050

SHEET

C3.04





# DEEP UTILITY TRENCH NOTE

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## 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 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 EXCAVATIONS.

## UTILITY TRENCH COMPACTION

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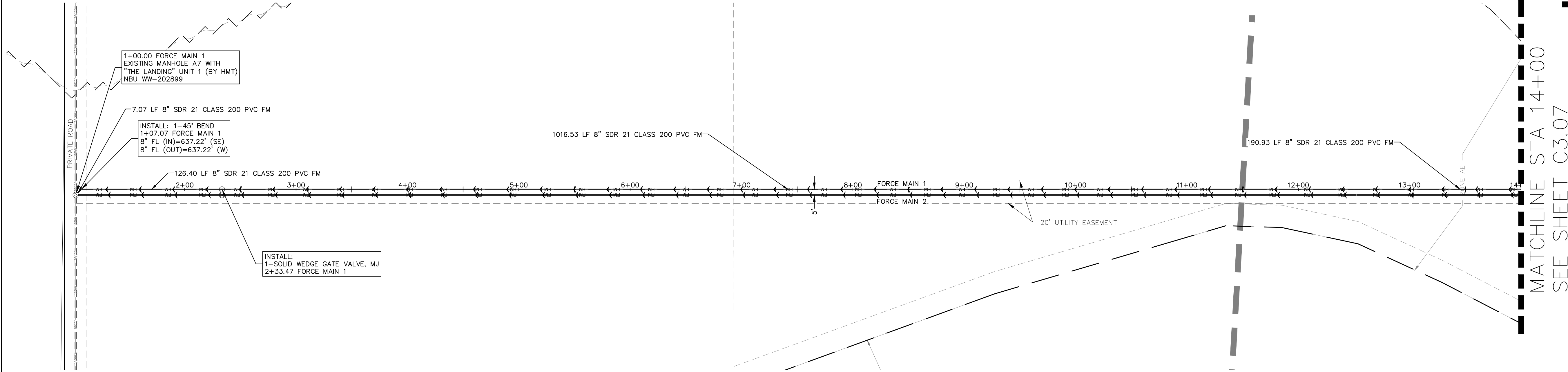
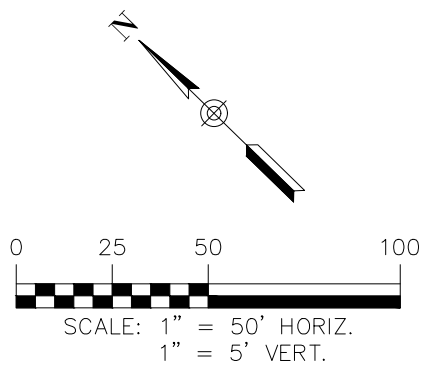
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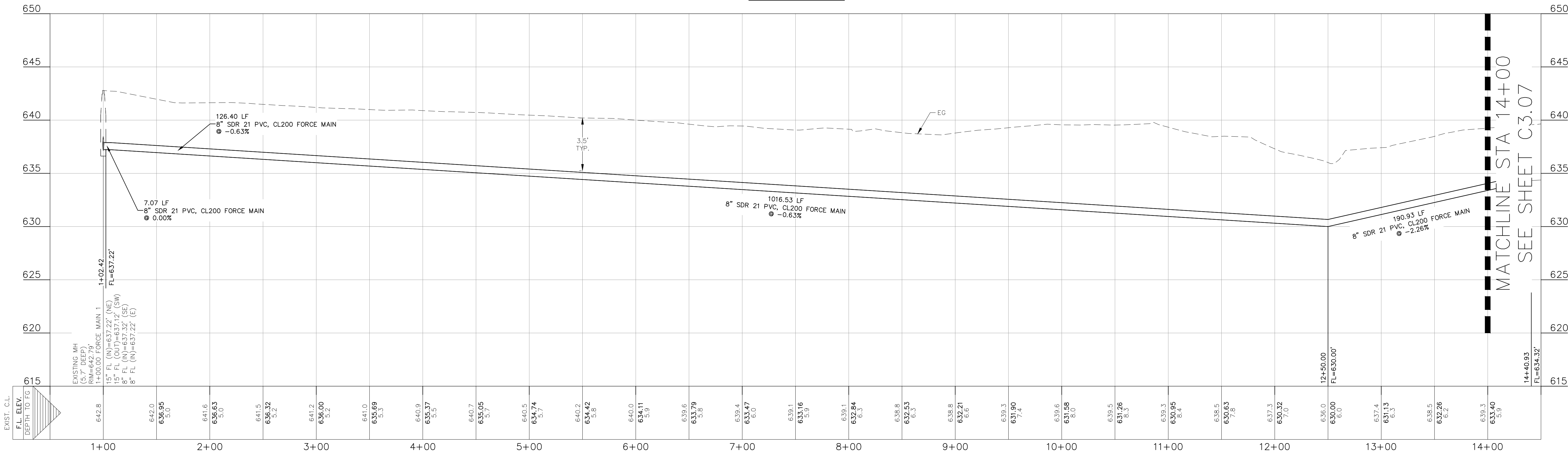
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LEGEND

- EXISTING CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EX WW EX WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPERTY LINE



FORCE MAIN 1  
0+50 - 14+50



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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 EXCAVATIONS.

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FORCE MAIN 1 PLAN & PROFILE  
(1 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC

HMT PROJECT NO.: 337.050

SHEET  
C3.06



290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



Drawing Name: M:\Projects\337 - Sky Ranch Unit 1\CDs\Util Station\337.050\_FORCE MAIN.dwg User: jashuak Jan 30, 2024 - 3:05pm

## DEEP UTILITY TRENCH NOTE

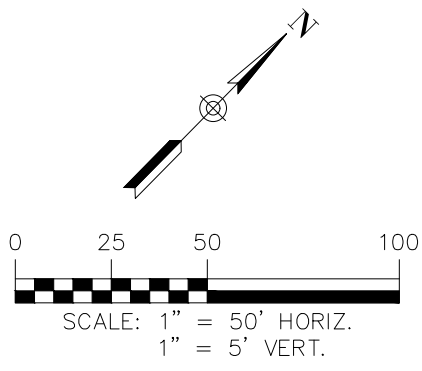
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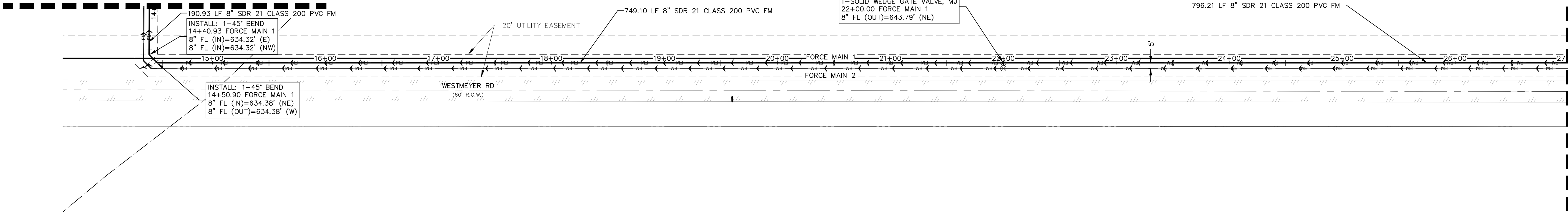
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## LEGEND

- EXISTING CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EX WW EX WW EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPERTY LINE

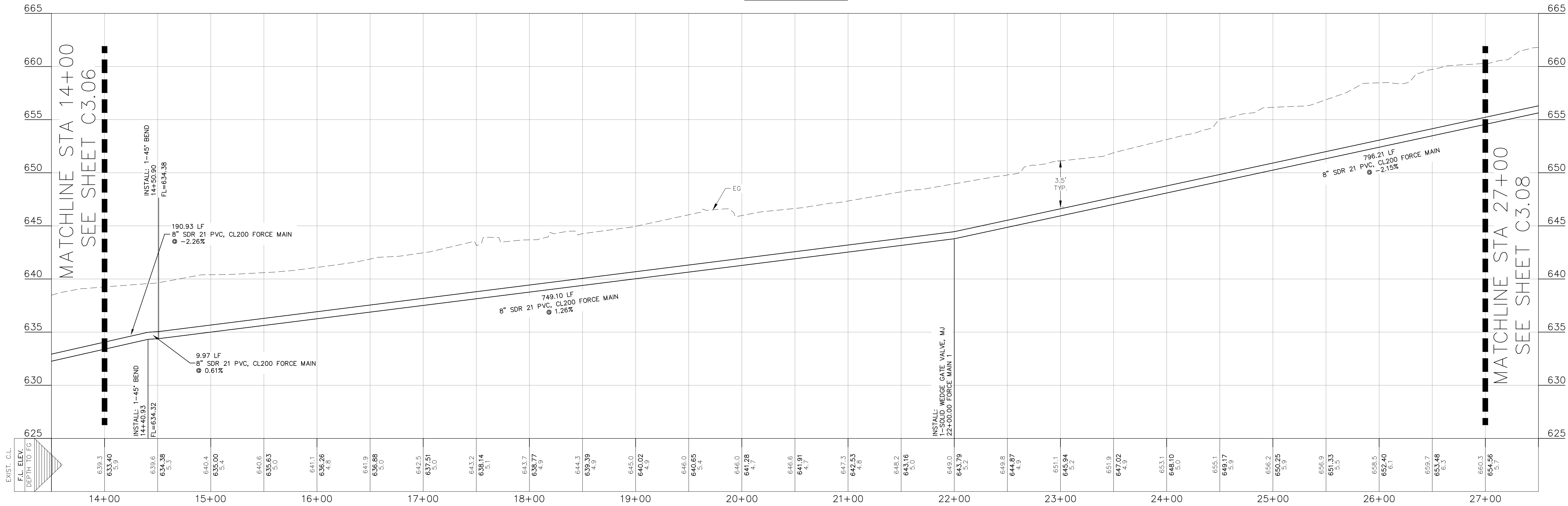


MATCHLINE STA 14+00  
SEE SHEET C3.06



MATCHLINE STA 27+00  
SEE SHEET C3.08

FORCE MAIN 1  
13+50 - 27+50



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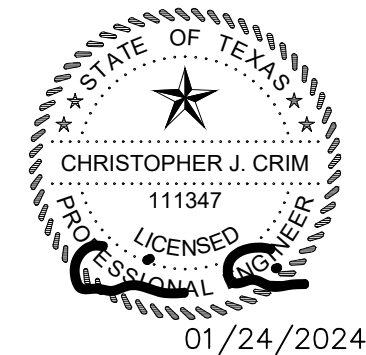
## FORCE MAIN 1 PLAN & PROFILE (2 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JANUARY 2024  
DRAWN BY: KP  
DESIGNED BY: JK  
REVIEWED BY: CC  
HMT PROJECT NO.: 337.050

SHEET  
C3.07



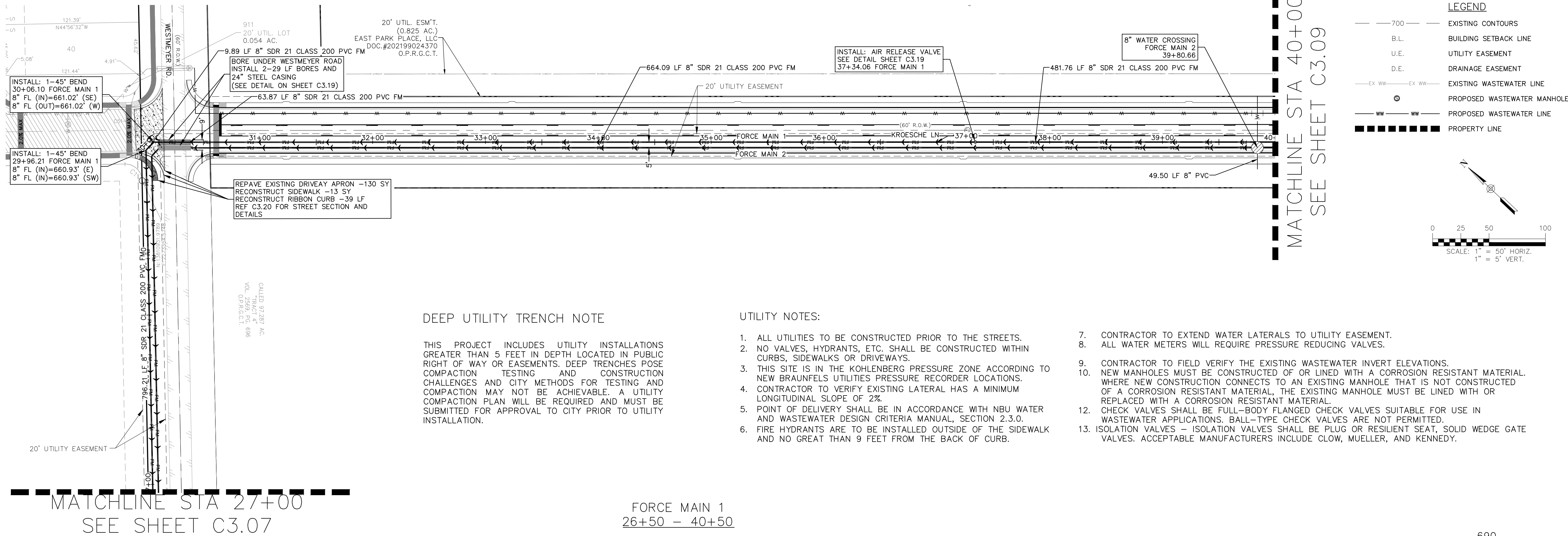
HMT  
ENGINEERING & SURVEYING

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



Drawing Name: W:\\_Projects\337 - Sky Ranch Unit 1\CDs\Util Station\337\_050\_FORCE MAIN.dwg User: jashuck Jan 30, 2024 - 3:05pm

DRIVEWAY



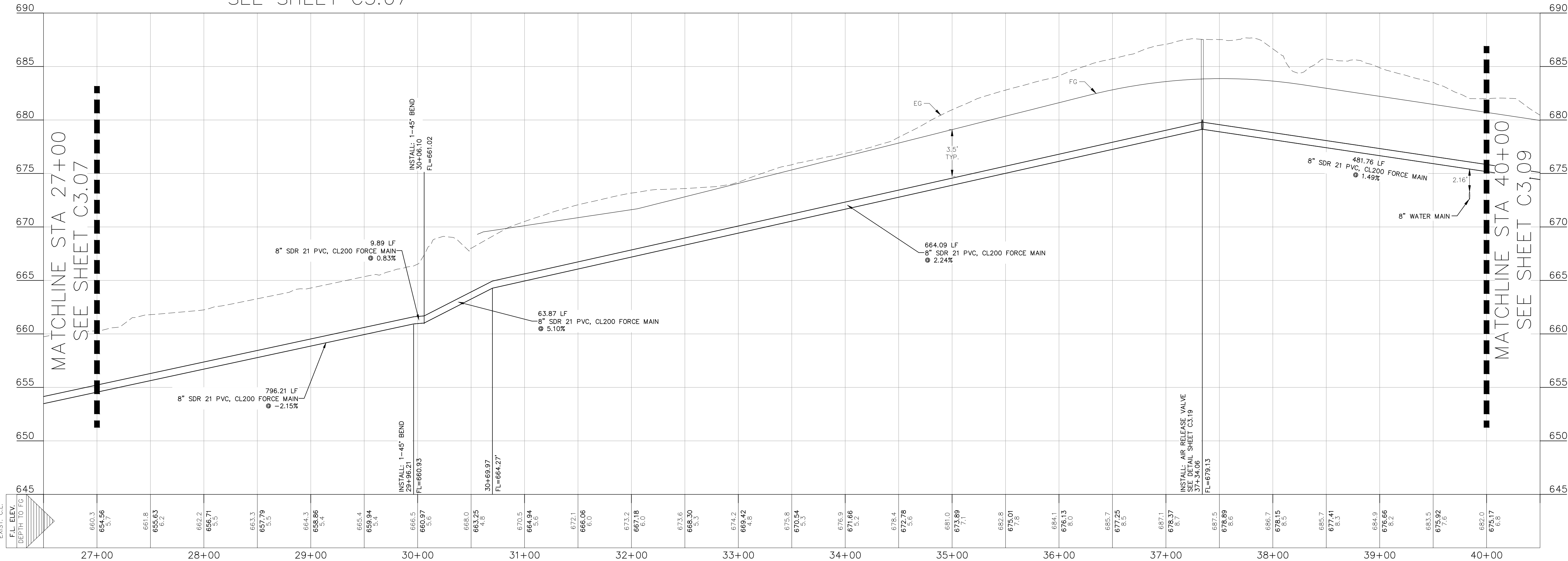
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FORCE MAIN 1  
26+50 - 40+50



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### FORCE MAIN 1 PLAN & PROFILE (3 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

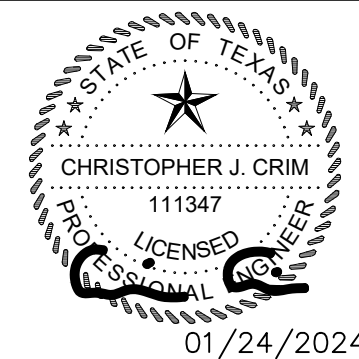
DATE: JANUARY 2024  
DRAWN BY: KP  
DESIGNED BY: JK  
REVIEWED BY: CC

HMT PROJECT NO.: 337.050

SHEET  
C3.08

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600

HMT  
ENGINEERING & SURVEYING





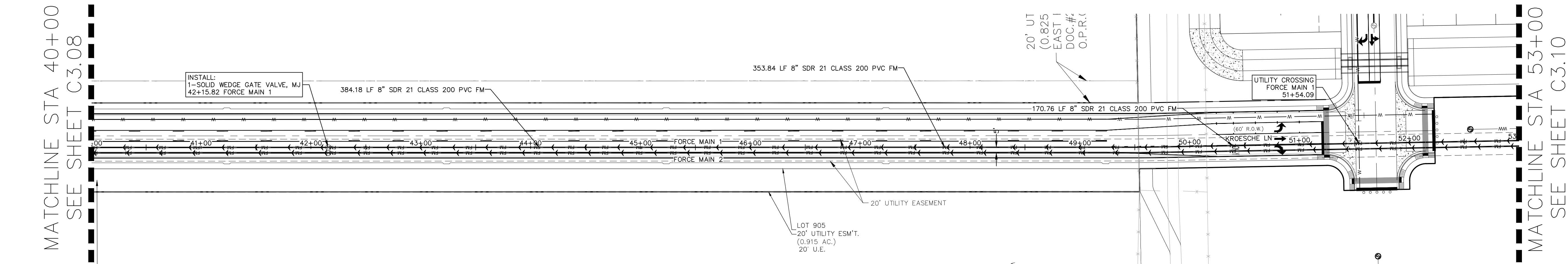
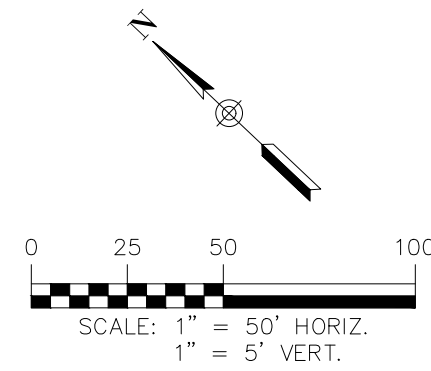
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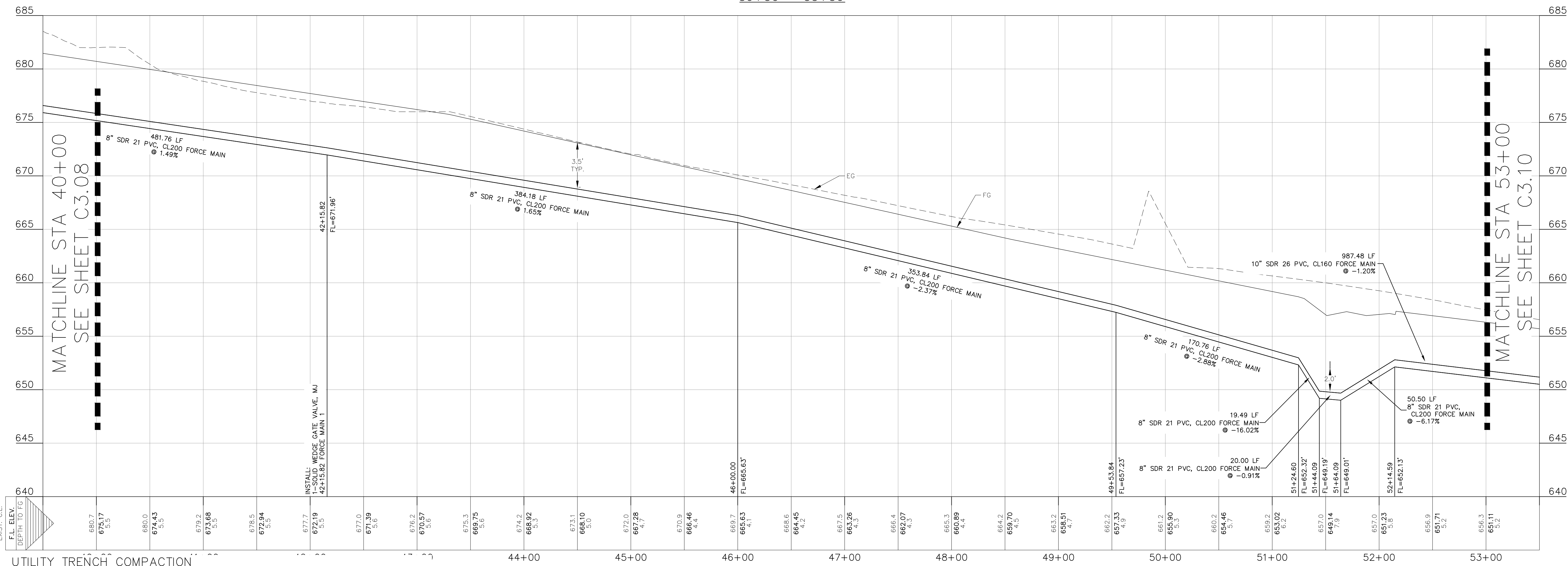
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- |    |   |     |   |
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LEGEND

[illegible]

FORCE MAIN 1  
39+50 - 53+50

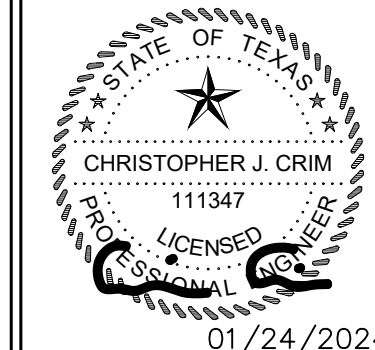


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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



**FORCE MAIN 1 PLAN & PROFILE**  
**(4 OF 12)**

# SKY RANCH LIFT STATION

[illegible]

DATE: JANUARY 2024

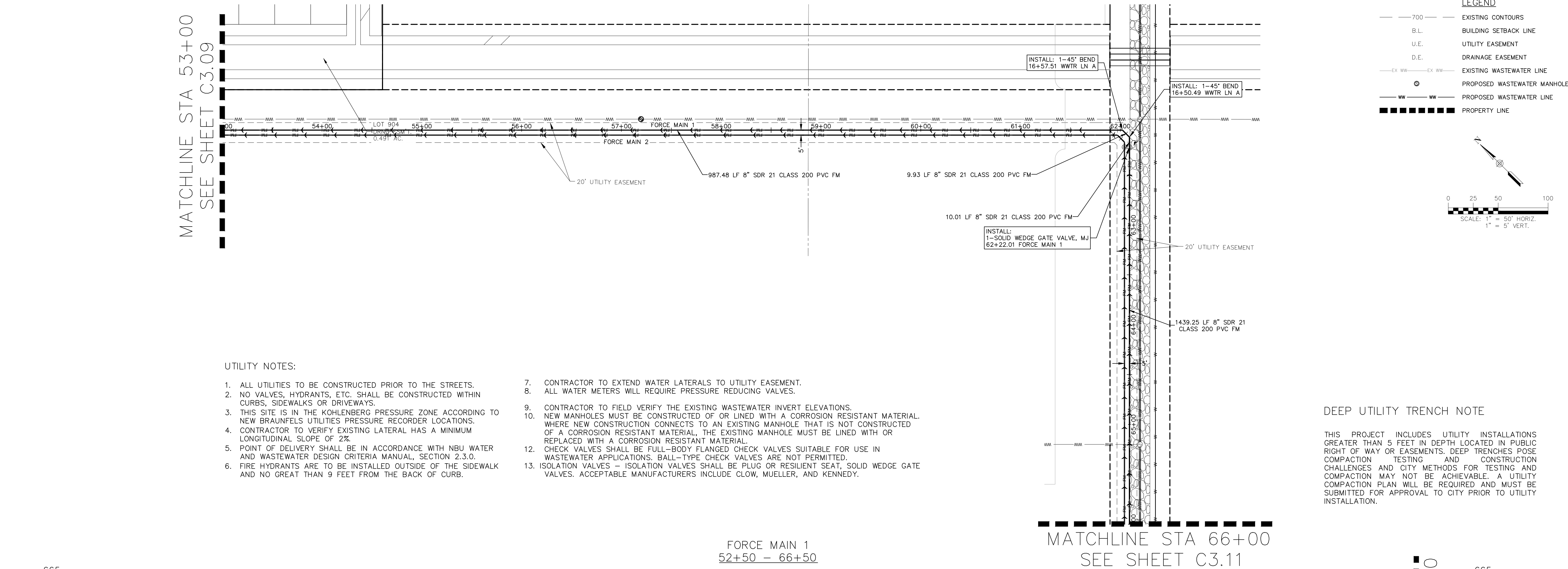
DRAWN BY: KP

DESIGNED BY: JK

REVIEWED BY: CC

HMT PROJECT NO.:  
**337.050**

**SHEET**  
**C3.09**

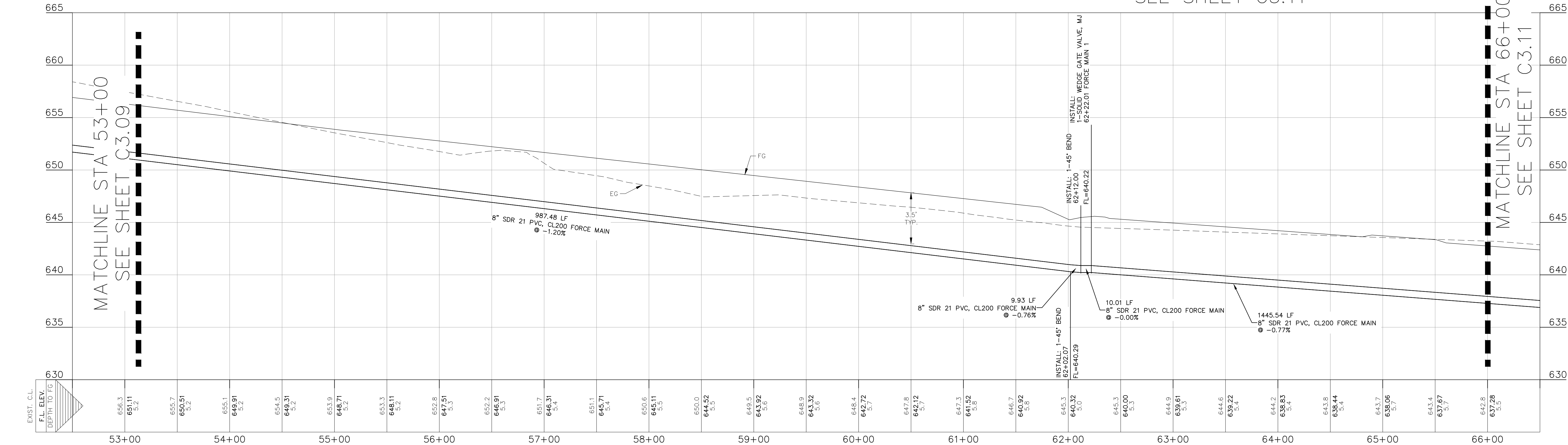


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FORCE MAIN 1 PLAN & PROFILE  
(5 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC
HMT PROJECT NO.:	337-050

SHEET  
C3.10



290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



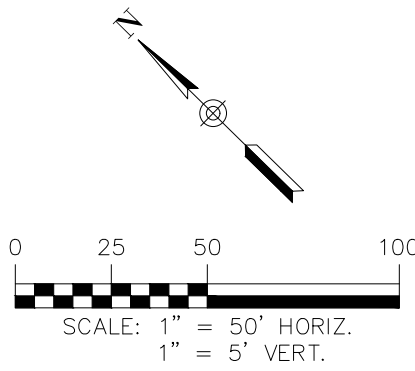
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**LEGEND**

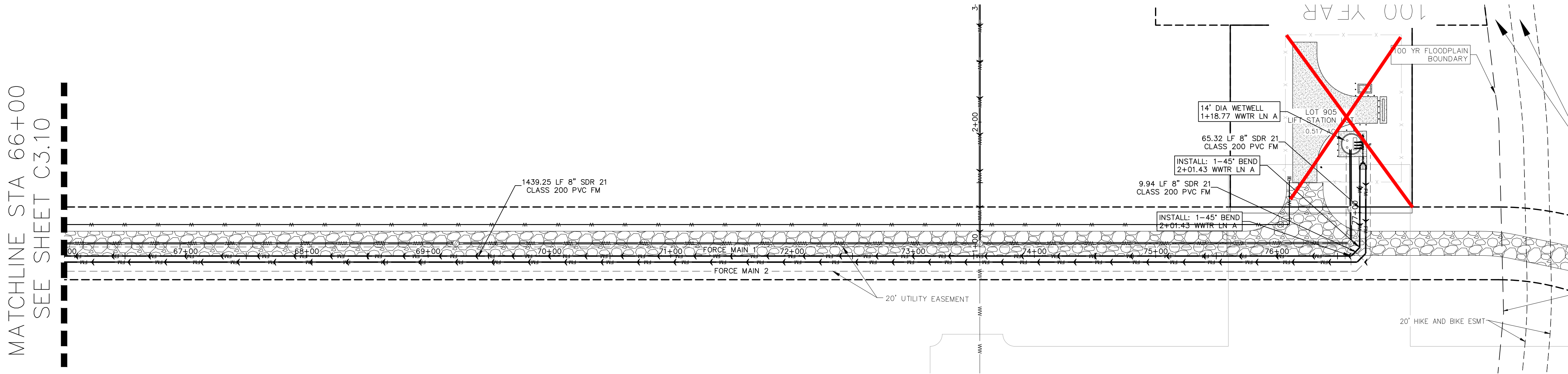
- 700 — EXISTING CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
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- ⊙ PROPOSED WASTEWATER MANHOLE
- WW — WW PROPOSED WASTEWATER LINE
- PROPERTY LINE



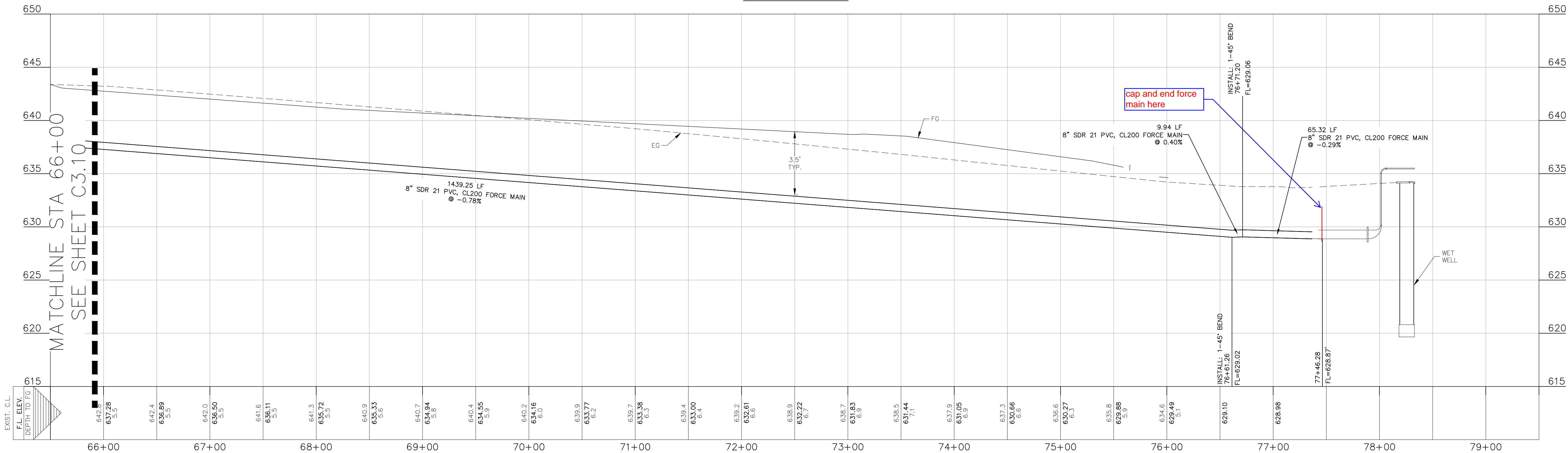
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MATCHLINE STA 66+00  
SEE SHEET C3.10



FORCE MAIN 1  
65+50 - 79+50



UTILITY TRENCH COMPACTION

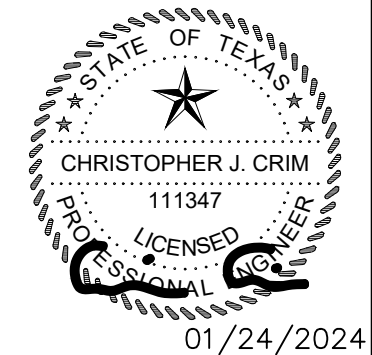
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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



FORCE MAIN 1 PLAN & PROFILE  
(6 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC
HMT PROJECT NO.:	337.050

**SHEET**  
**C3.11**

Drawing Name: W:\\_Projects\337 - Sky Ranch Unit 1\CDS\Util Station\337.050\_FORCE MAIN.dwg User: jashuak Jan 30, 2024 - 3:06pm

## DEEP UTILITY TRENCH NOTE

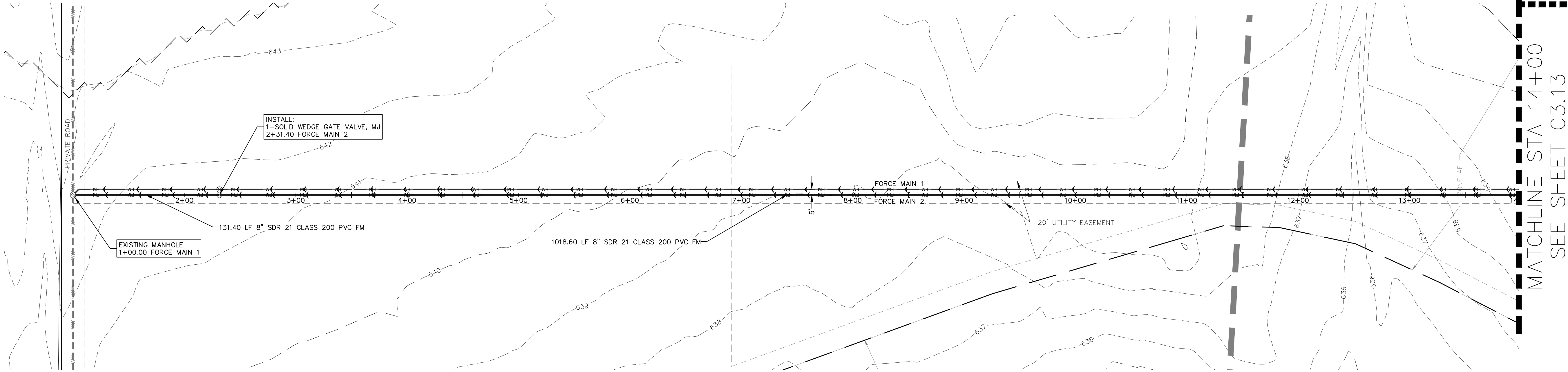
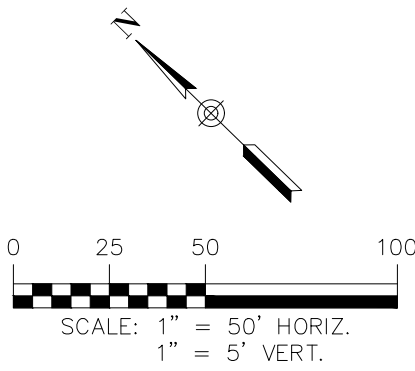
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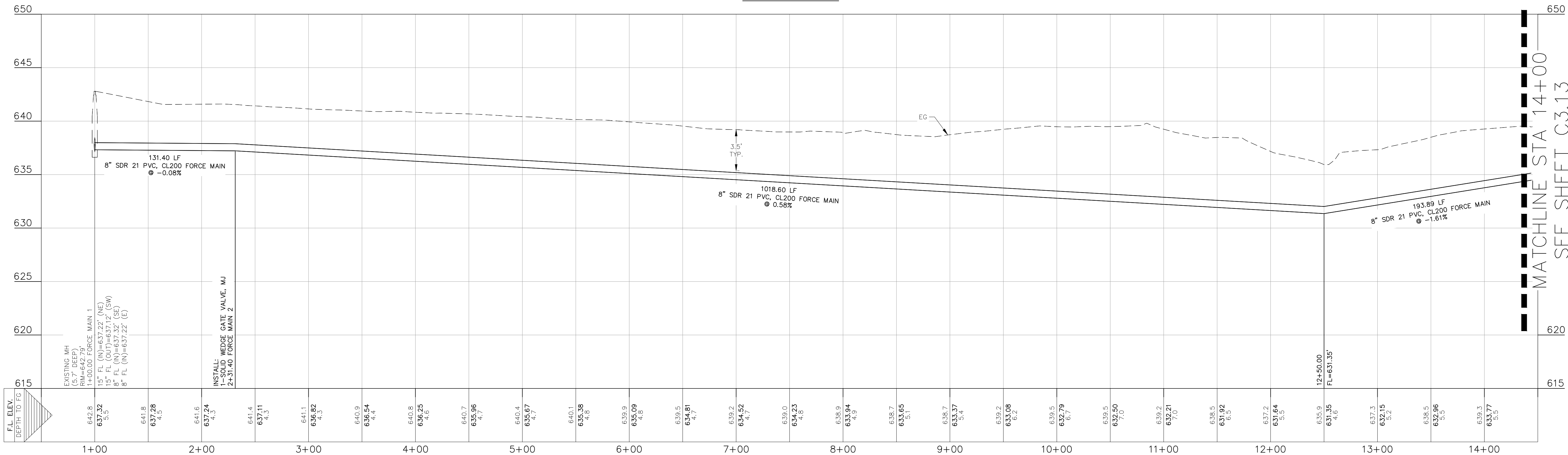
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## LEGEND

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FORCE MAIN 2  
0+50 - 14+50



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## FORCE MAIN 2 PLAN & PROFILE (7 OF 12)

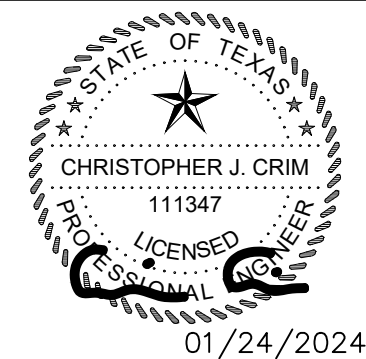
SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	JANUARY 2024
DRAWN BY:	KP
DESIGNED BY:	JK
REVIEWED BY:	CC
HMT PROJECT NO.:	337.050

SHEET  
C3.12

290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600





Drawing Name: M:\Projects\337 - Sky Ranch Unit 1\CDs\1st Station\337.050\_FORCE MAIN.dwg User: joshuak Jan 30, 2024 - 3:06pm

DEEP UTILITY TRENCH NOTE

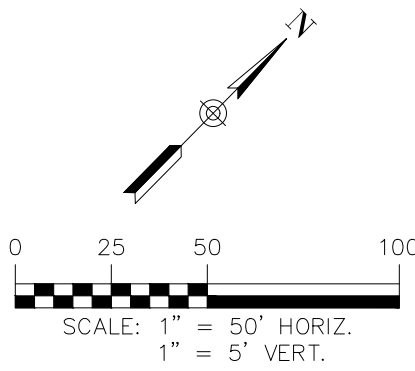
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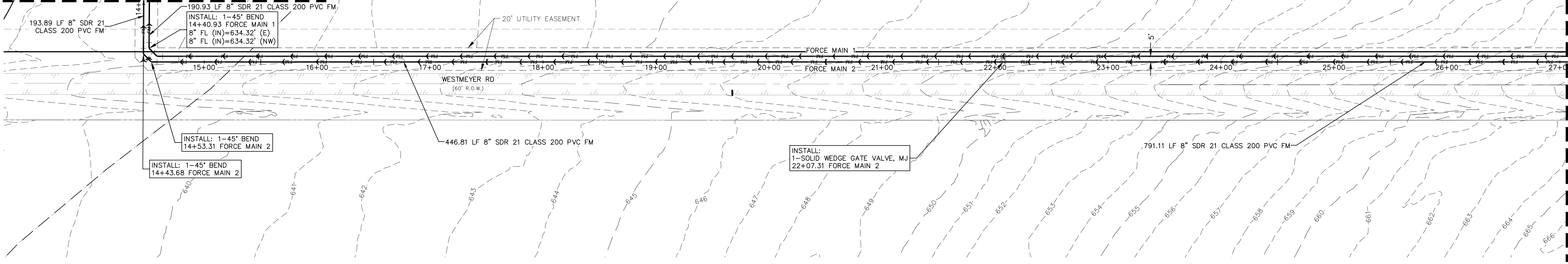
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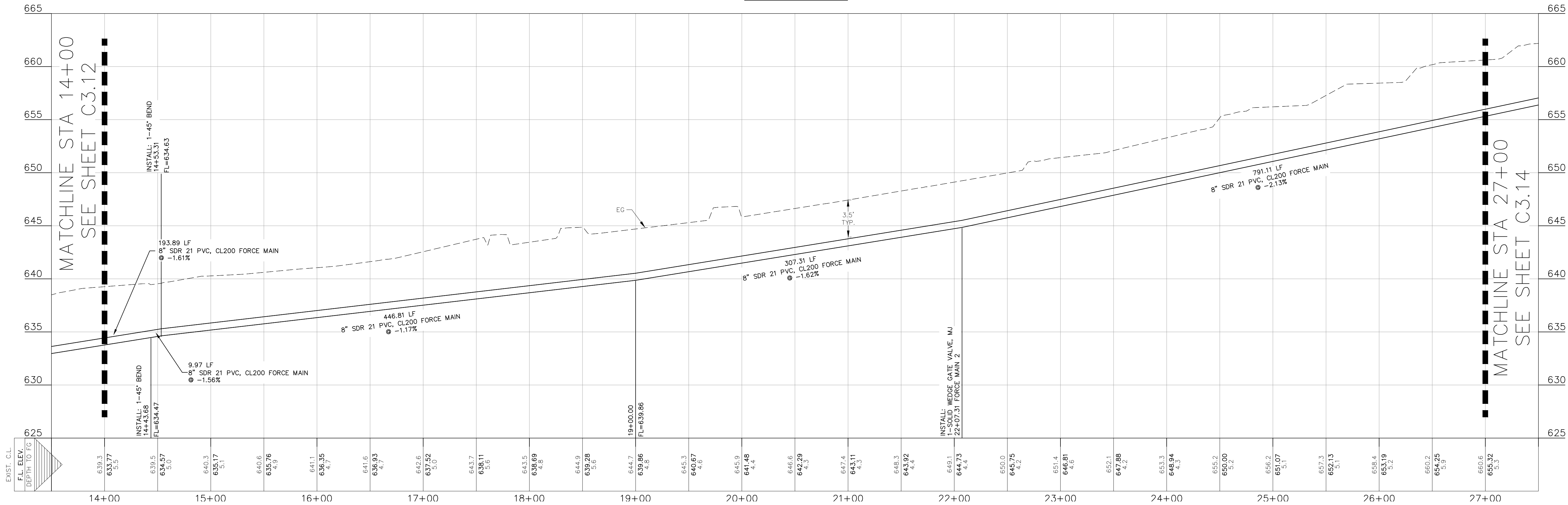
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MATCHLINE STA 14+00  
SEE SHEET C3.12



FORCE MAIN 2  
13+50 - 27+50



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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



FORCE MAIN 2 PLAN & PROFILE

(8 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

DATE: JANUARY 2024

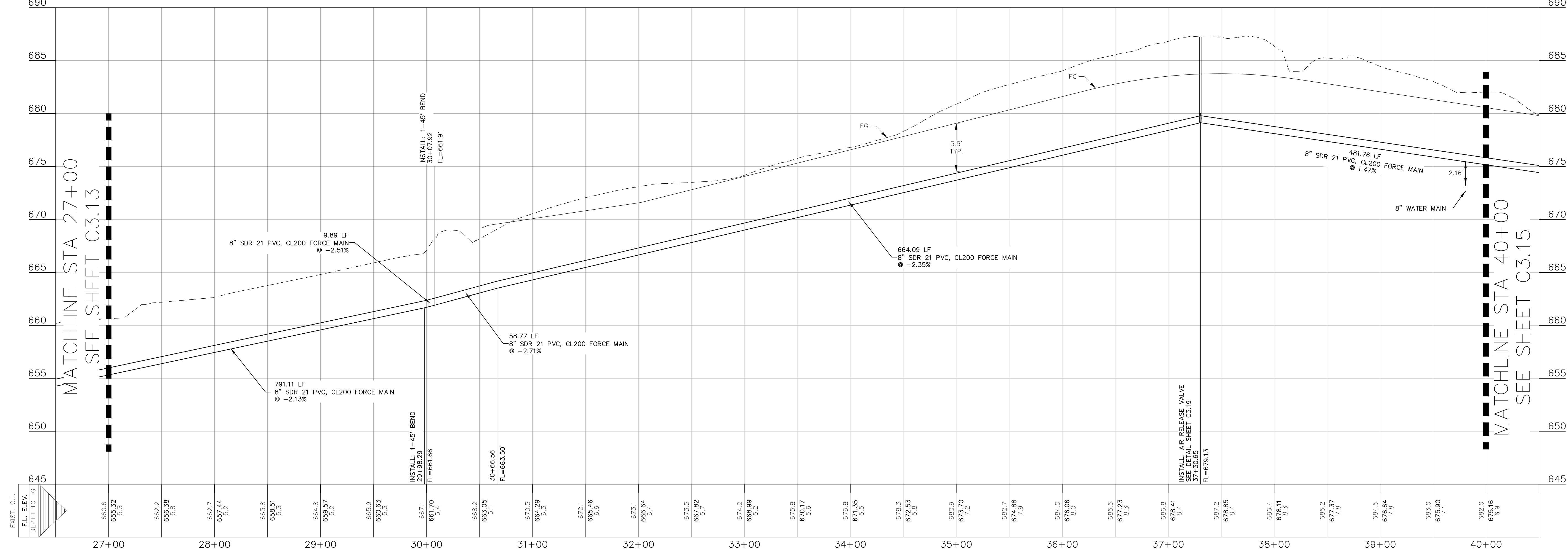
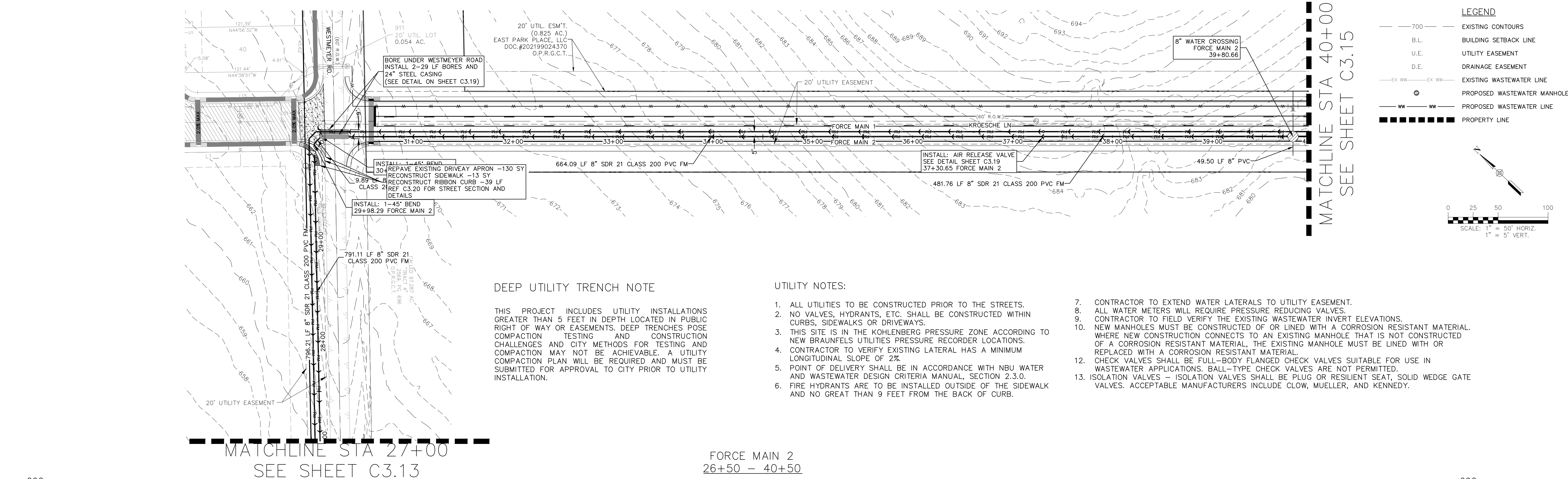
DRAWN BY: KP

DESIGNED BY: JK

REVIEWED BY: CC

HMT PROJECT NO.: 337.050

SHEET  
C3.13



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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600

**HMT**  
ENGINEERING & SURVEYING

01/24/2024

**FORCE MAIN 2 PLAN & PROFILE**  
(9 OF 12)

**SKY RANCH LIFT STATION**

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **JANUARY 2024**

DRAWN BY: **KP**

DESIGNED BY: **JK**

REVIEWED BY: **CC**

HMT PROJECT NO.: **337.050**

**SHEET**

**C3.14**



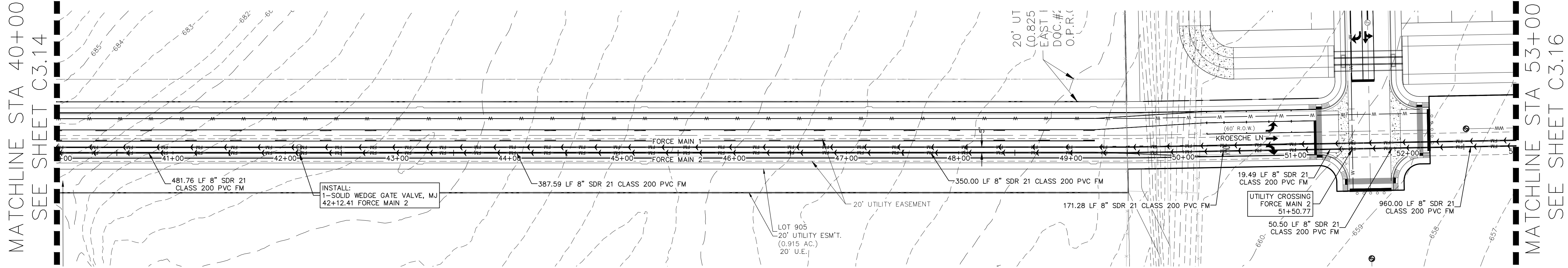
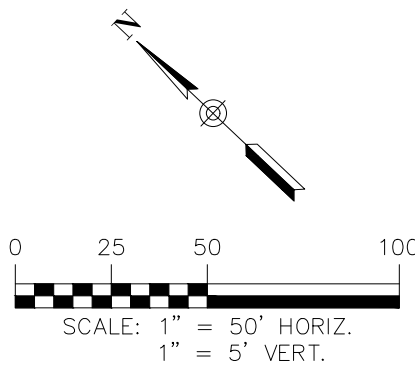
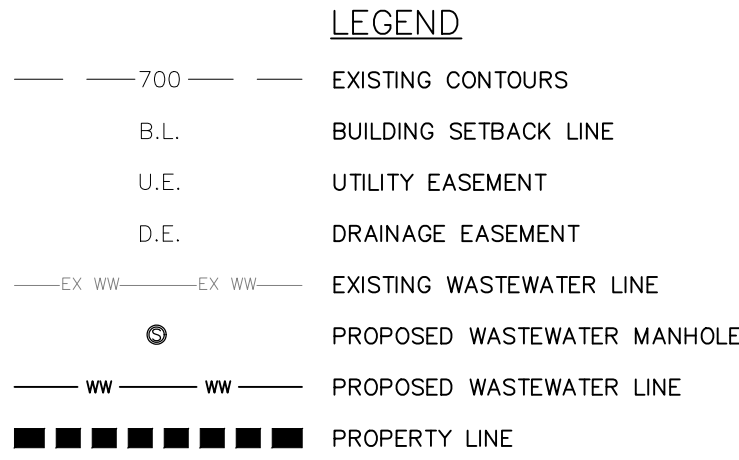
Drawing Name: M:\\_Projects\337 - Lessor Homes\050 - Sky Ranch Unit 1\CADD\1st Station\337\_050\_FORCE MAIN.dwg User: jashuck Jan 30, 2024 - 3:07pm

DEEP UTILITY TRENCH NOTE

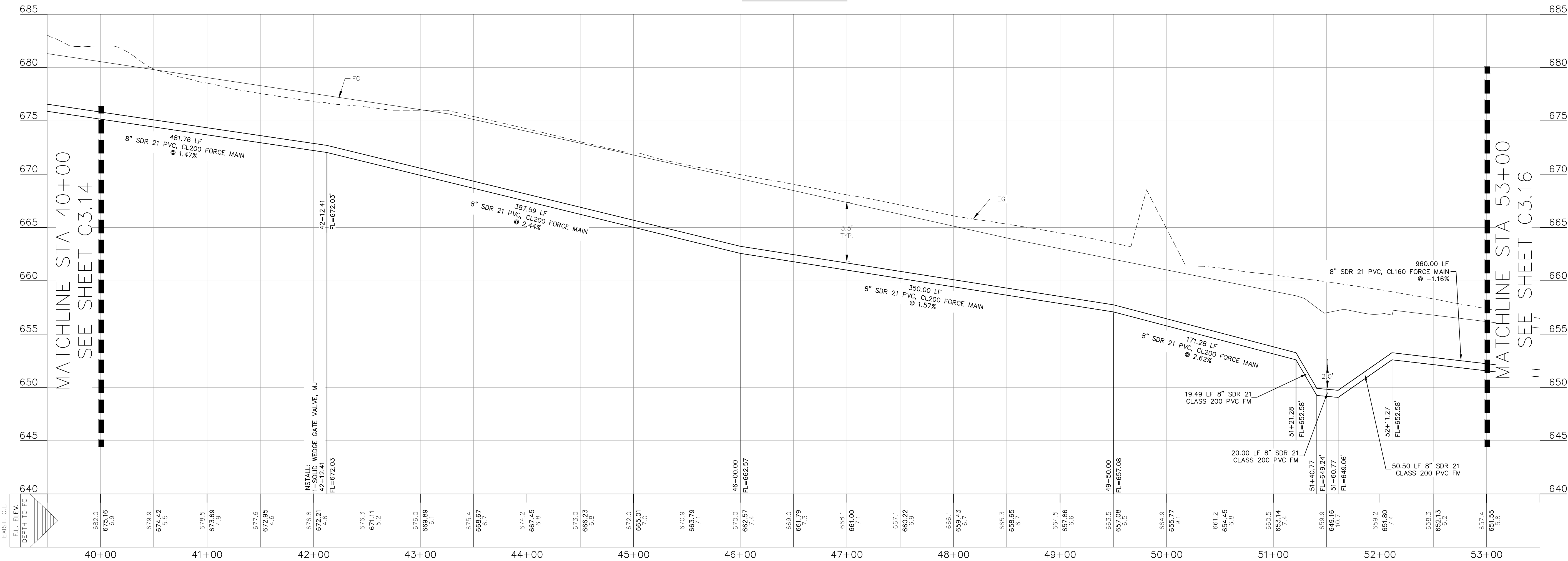
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UTILITY NOTES:

- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
- CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
- POINT OF DELIVERY SHALL BE IN ACCORDANCE WITH NBU WATER AND WASTEWATER DESIGN CRITERIA MANUAL, SECTION 2.3.0.
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- ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
- CONTRACTOR TO FIELD VERIFY THE EXISTING WASTEWATER INVERT ELEVATIONS.
- NEW MANHOLES MUST BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION CONNECTS TO AN EXISTING MANHOLE THAT IS NOT CONSTRUCTED OF A CORROSION RESISTANT MATERIAL, THE EXISTING MANHOLE MUST BE LINED WITH OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
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- ISOLATION VALVES - ISOLATION VALVES SHALL BE PLUG OR RESILIENT SEAT, SOLID WEDGE GATE VALVES. ACCEPTABLE MANUFACTURERS INCLUDE CLOW, MUELLER, AND KENNEDY.



FORCE MAIN 2  
39+50 - 53+50



UTILITY TRENCH COMPACTION

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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



FORCE MAIN 2 PLAN & PROFILE  
(10 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JANUARY 2024

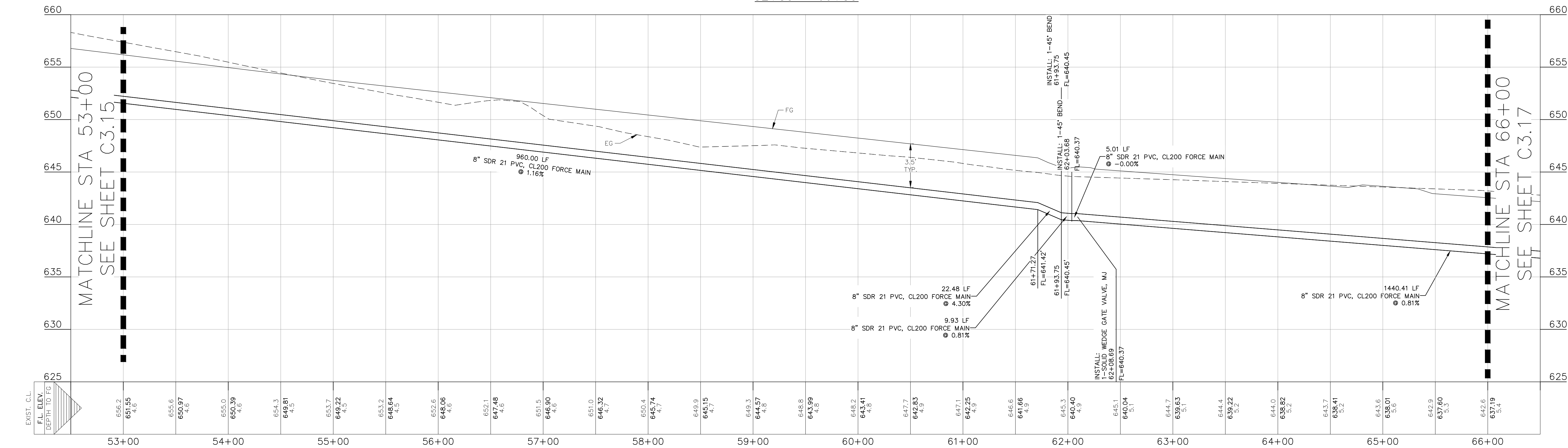
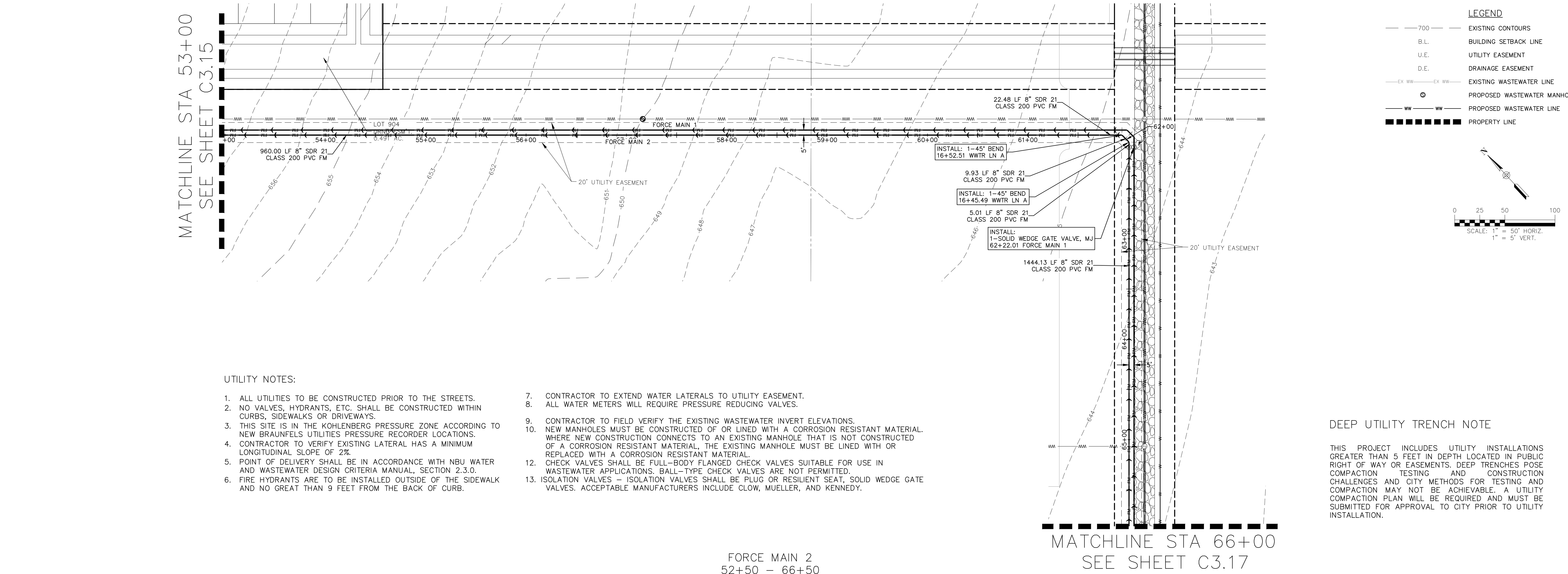
DRAWN BY: KP

DESIGNED BY: JK

REVIEWED BY: CC

HMT PROJECT NO.:  
337.050

**SHEET**  
**C3.15**

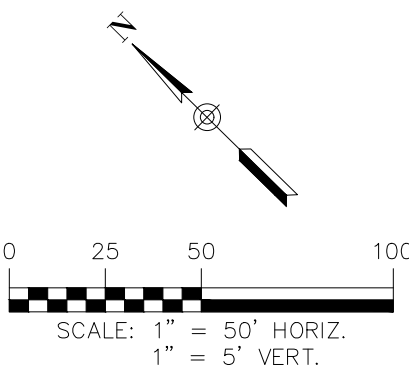




UTILITY NOTES:

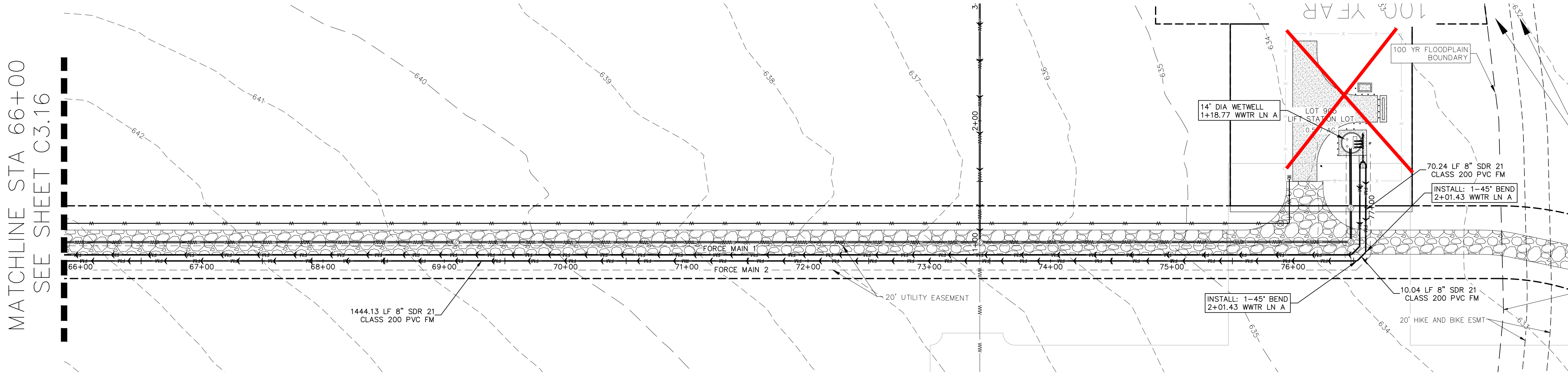
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- LEGEND**
- EXISTING CONTOURS
  - B.L. BUILDING SETBACK LINE
  - U.E. UTILITY EASEMENT
  - D.E. DRAINAGE EASEMENT
  - EX WW EX WW EXISTING WASTEWATER LINE
  - PROPOSED WASTEWATER MANHOLE
  - PROPOSED WASTEWATER LINE
  - PROPERTY LINE

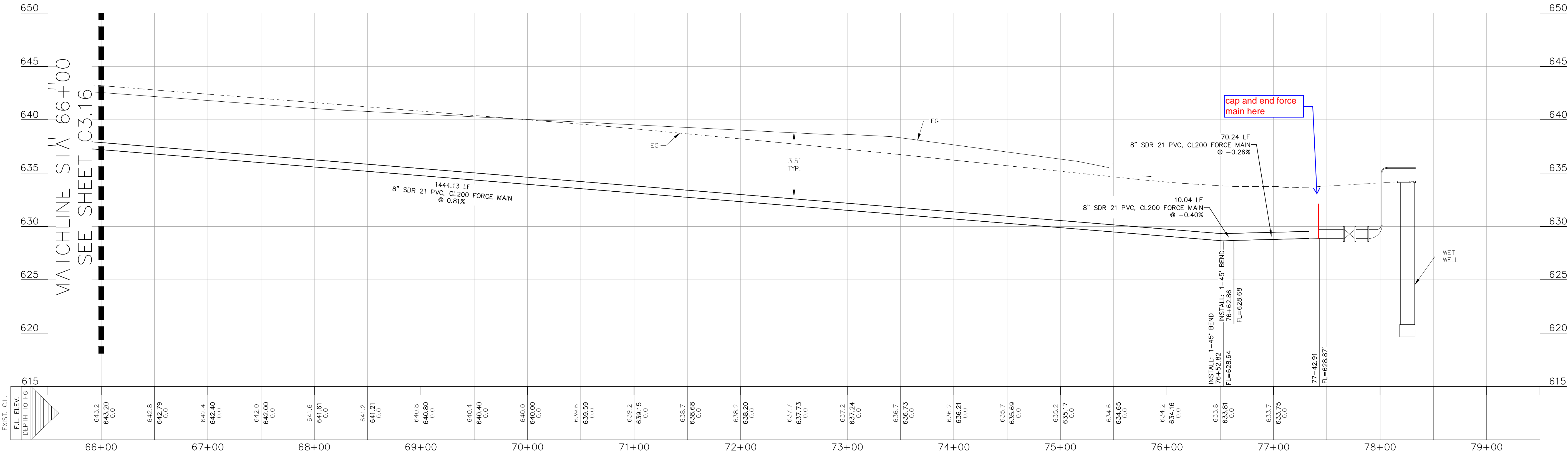


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FORCE MAIN 2  
65+50 - 79+50



UTILITY TRENCH COMPACTION

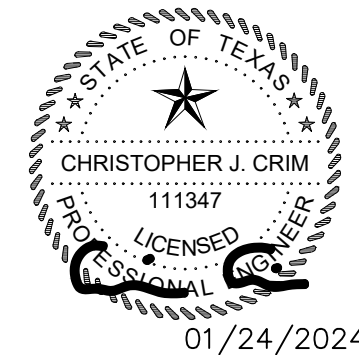
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290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



FORCE MAIN 2 PLAN & PROFILE  
(12 OF 12)

SKY RANCH LIFT STATION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: JANUARY 2024

DRAWN BY: KP

DESIGNED BY: JK

REVIEWED BY: CC

HMT PROJECT NO.: 337.050

**SHEET**  
**C3.17**

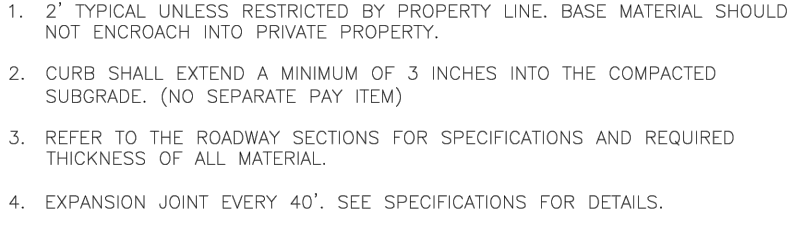












**Lime Treatment** - The subgrade shall be treated with hydrated lime in accordance with TxDOT Item 260. We anticipate that approximately six (6) percent hydrated lime will be required (approximately 35 pounds per square yard). The optimum hydrated lime content should result in a soil-lime mixture with a pH of at least 12.4 when tested in accordance with ASTM C 977, Appendix XI. **Please note that our Lime Series testing achieved maximum pH values of 12.3.**

The hydrated lime should initially be blended with a mixing device such as a pulvermixer. After sufficient moisture conditioning, the treated soil mixture shall be compacted to at least 95 percent of the maximum dry density as determined in accordance with the Standard effort (ASTM D 698) at moisture contents from optimum to +4 percentage points of the optimum moisture content. If the in-place gradation requirements can be achieved during initial mixing, the remixing after the curing period can be eliminated.



CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830-629-8400
Time Warner Cable	830-625-3408
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
Eric White PM	210-283-1708
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.101, CENTER POINT ENERGY 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.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005., CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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RESTRAINED LENGTH NOTES:

- CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
- ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
- RL=RESTRAINT LENGTH
- CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PIPE												
PIPE INSIDE DIAMETER	MATERIAL	HORIZONTAL BENDS				VERTICAL BENDS						DEAD END / INCLINE VALVES
						UPPER			LOWER			
		90°	45°	22.5°	11.25°	45°	22.5°	11.25°	45°	22.5°	11.25°	
8"	PVC	29	13	6	3	34	16	8	8	4	2	80
8"	DUCTILE IRON	25	10	5	3	22	11	6	8	4	2	52
12"	PVC	41	17	9	4	47	23	12	13	6	3	114

TEE			
PIPE INSIDE DIAMETER OF RUN	PIPE INSIDE DIAMETER OF BRANCH	MATERIAL	FT.
8"	8"	PVC	70
8"	8"	DUCTILE IRON	45
12"	8"	PVC	64

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

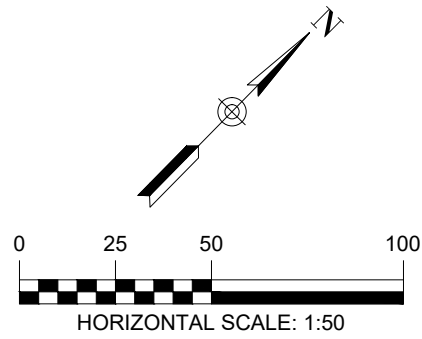
- SAFETY FACTOR = 1.5 TO 1
- TEST PRESSURE = 200psi
- SOIL DESIGNATION = MANUFACTURED SAND
- DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
- DEPTH OF COVER = 5 FEET (LOWER BEND)
- LENGTH ALONG RUN = 2 FEET

UTILITY NOTES:

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- CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
- POINT OF DELIVERY SHALL BE THE WATER METER. NBU IS RESPONSIBLE FROM WATER MAIN TO WATER METER. CUSTOMER IS RESPONSIBLE FOR LINE FROM THE METER TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
- FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
- CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
- ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
- NBU METERS ARE ONLY TO BE RELEASED OUTSIDE OF CCSUD CCN.

UTILITY TRENCH COMPACTION

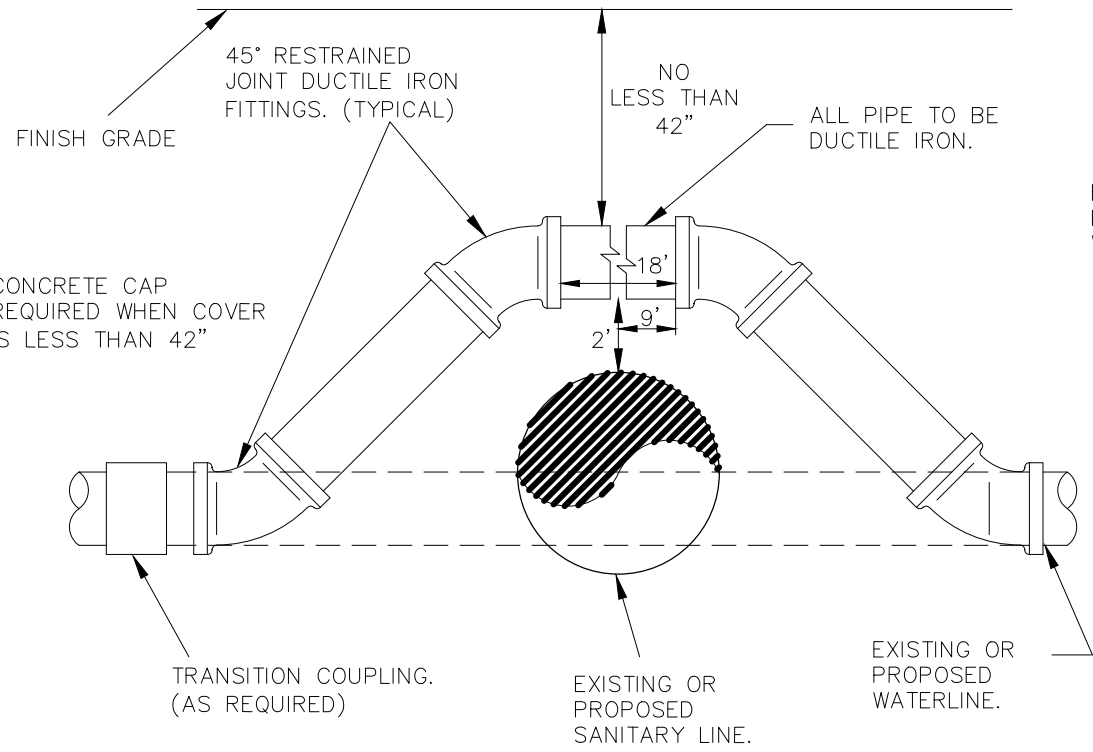
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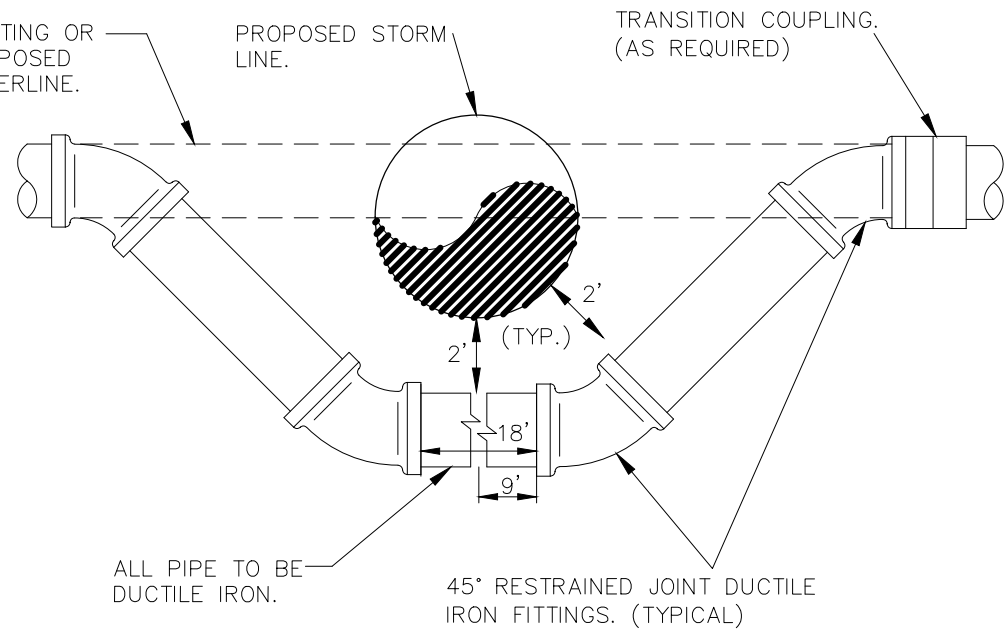
LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- W — EXISTING WATER LINE
- W — PROPOSED WATER LINE
- W-W PROPOSED WATER SERVICE
- ⊗ UTILITY CROSSING

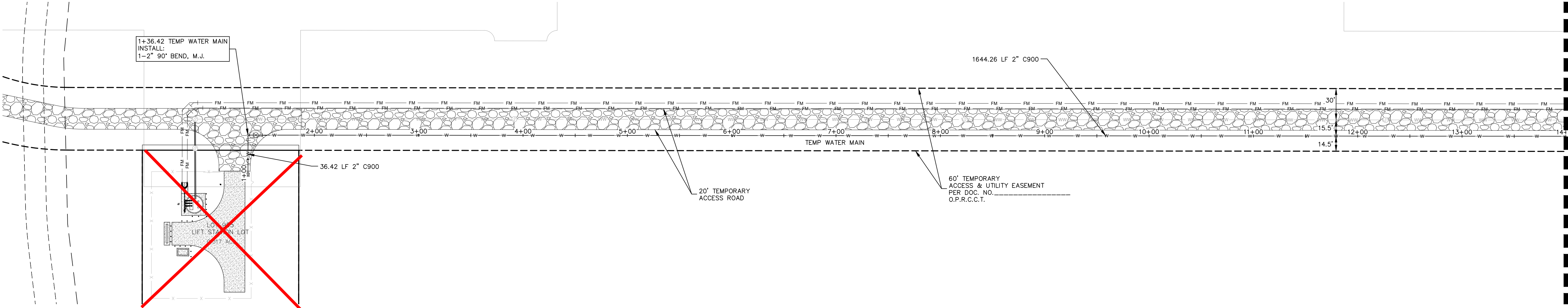
WATER STRUCTURE TOTALS						
PIPE SIZE	PIPE LENGTH	DOMESTIC METER SIZE	DOMESTIC METERS	FIRE HYDRANTS	FIRE LINES	IRRIGATION METER 2"
2	2442	N/A	0	0	0	1



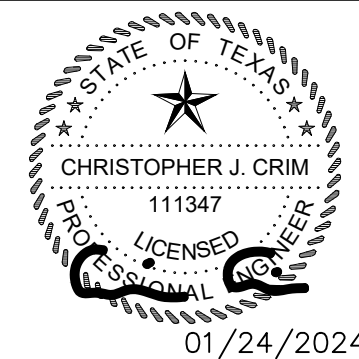
A WATERLINE ADJUSTMENT DETAIL  
N.T.S



B WATERLINE ADJUSTMENT DETAIL  
N.T.S



290 S. CASTELL AVE., STE. 100  
NEW BRAUNFELS, TX 78130  
TBPE FIRM F-10961  
TBPLS FIRM 1053600



TEMPORARY WATER TO  
LIFT STATION (1 OF 2)

SKY RANCH LIFT STATION

NO.	REVISION	DESCRIPTION	REVISION DATE

DATE: JANUARY 2024  
DRAWN BY: KP  
DESIGNED BY: JK  
REVIEWED BY: CC  
HMT PROJECT NO.: 337.050

SHEET  
C4.0

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830-629-8400
Time Warner Cable	830-625-3408
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Lines	888-876-5786
AT&T Telephone	830-303-1333
Eric White PM	210-283-1708
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY 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.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005., CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING 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 CONTRACTORS 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 EXCAVATIONS.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

RESTRAINED LENGTH NOTES:

- CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
- ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
- RL=RESTRAINT LENGTH
- CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PIPE											
PIPE INSIDE DIAMETER	MATERIAL	HORIZONTAL BENDS				VERTICAL BENDS				DEAD END/ INCLINE VALVES	
		90°	45°	22.5°	11.25°	UPPER	11.25°	LOWER	22.5°		
8"	PVC	29	13	6	3	34	16	8	4	2	80
8"	DUCTILE IRON	25	10	5	3	22	11	6	4	2	52
12"	PVC	41	17	9	4	47	23	12	6	3	114

TEE			
PIPE INSIDE DIAMETER OF RUN	PIPE INSIDE DIAMETER OF BRANCH	MATERIAL	FT.
8"	8"	PVC	70
8"	8"	DUCTILE IRON	45
12"	8"	PVC	64

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

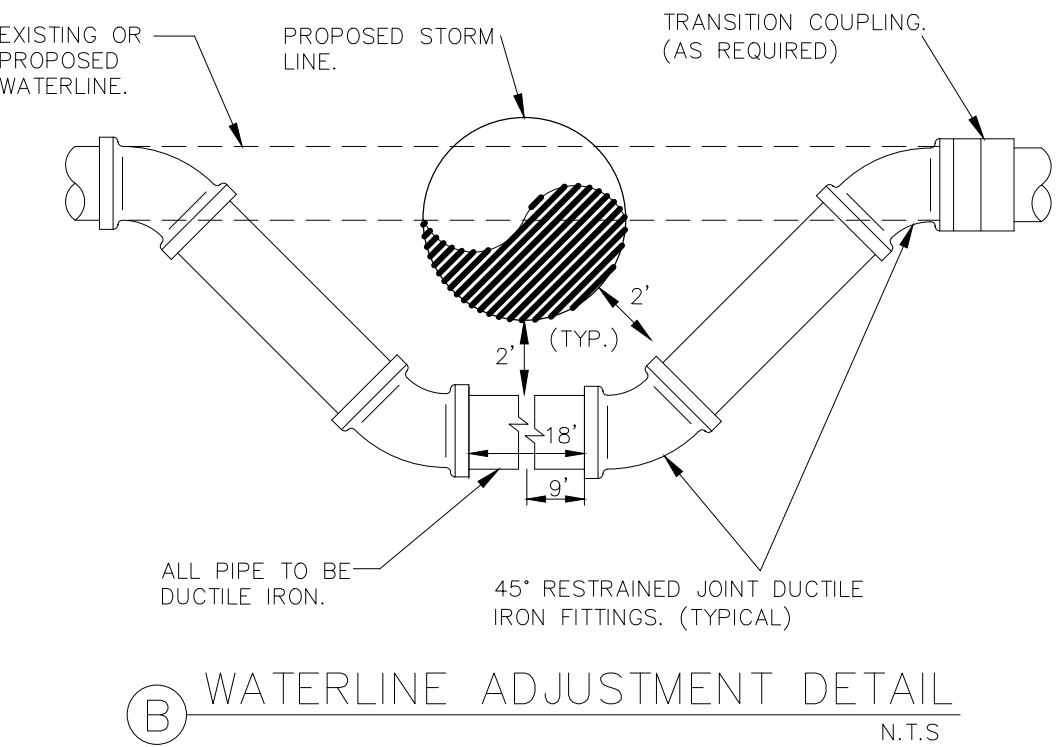
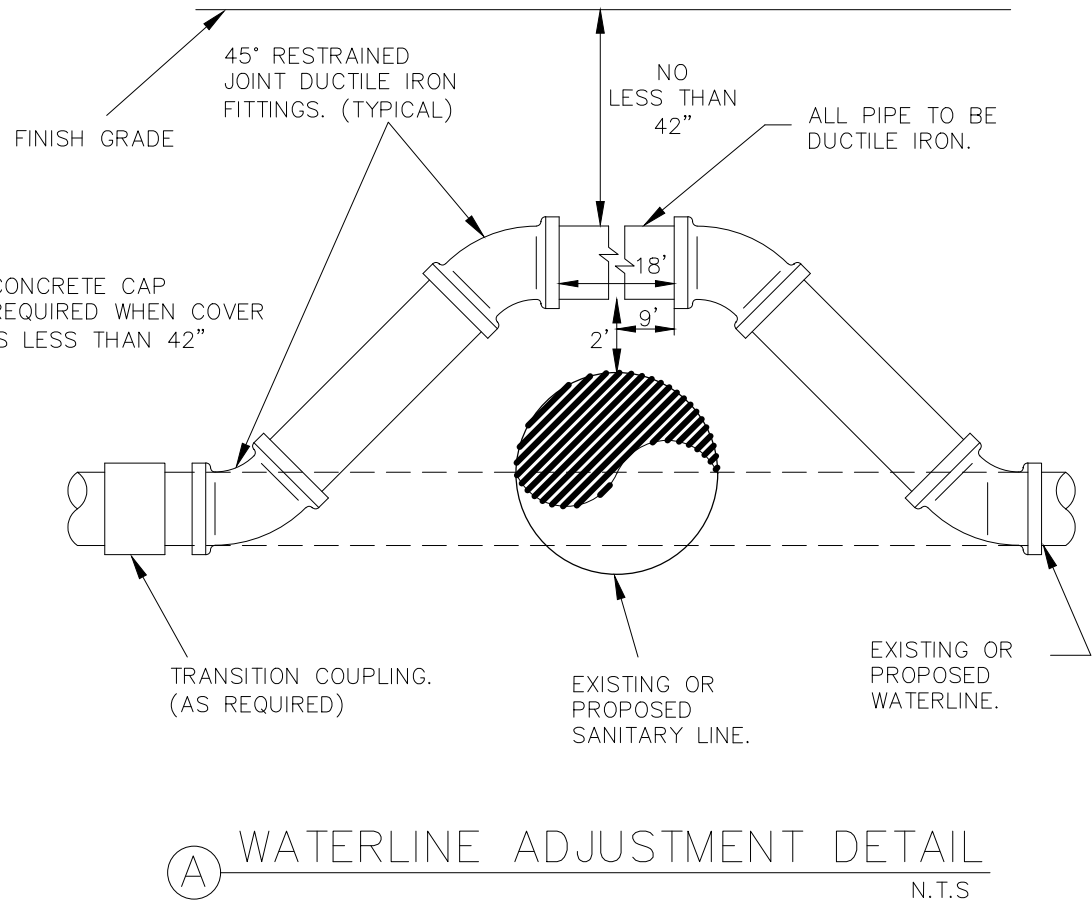
- SAFETY FACTOR = 1.5 TO 1
- TEST PRESSURE = 200psi
- SOIL DESIGNATION = MANUFACTURED SAND
- DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
- DEPTH OF COVER = 5 FEET (LOWER BEND)
- LENGTH ALONG RUN = 2 FEET

UTILITY NOTES:

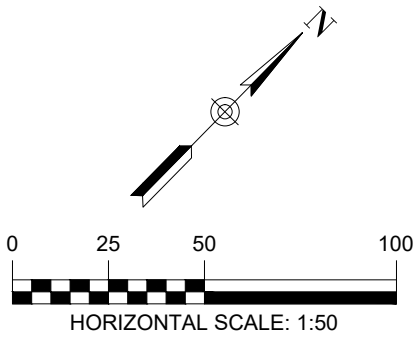
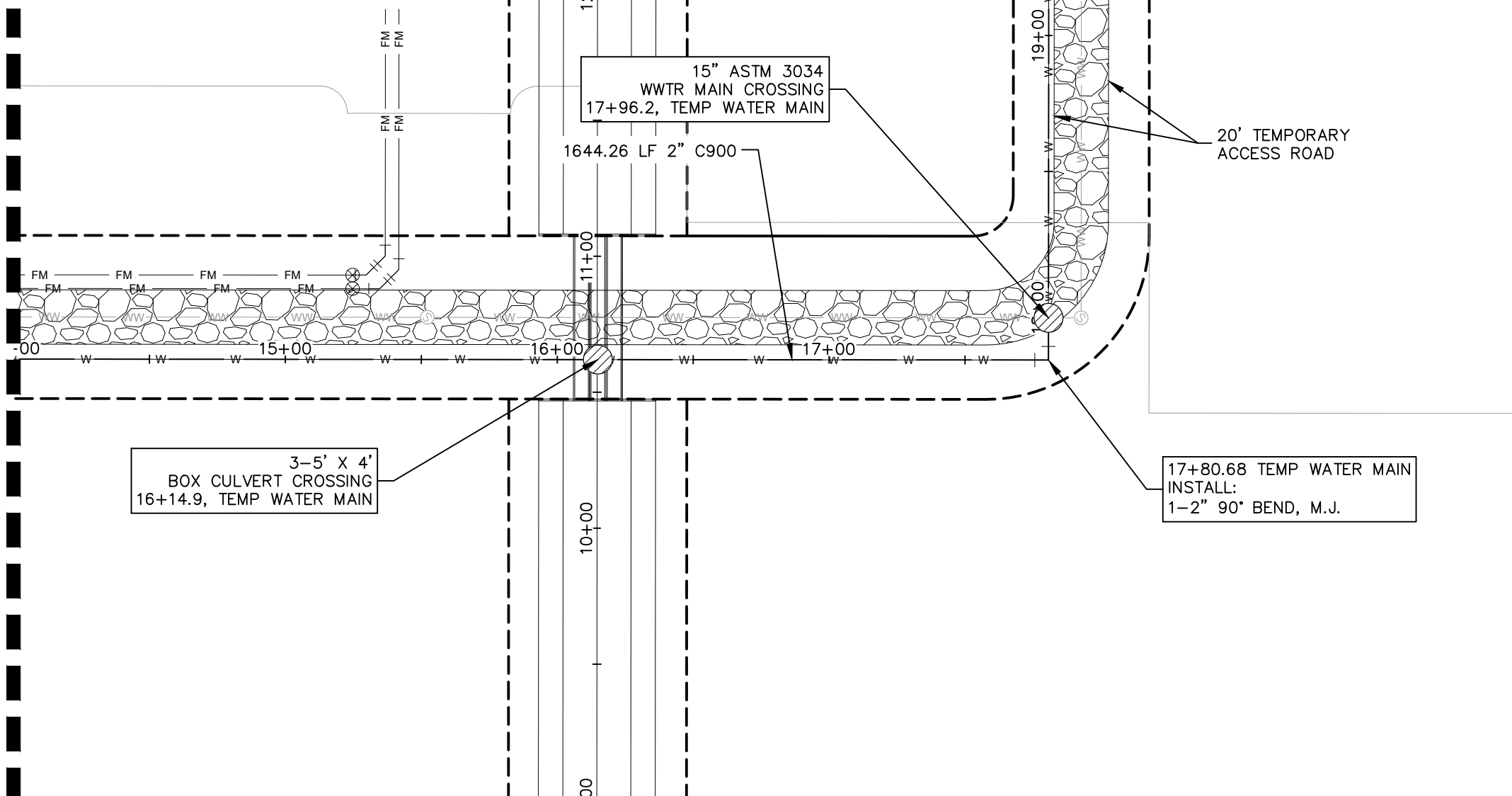
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
- THIS SITE IS IN THE KOHLENBERG PRESSURE ZONE ACCORDING TO NEW BRAUNFELS UTILITIES PRESSURE RECORDER LOCATIONS.
- CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
- POINT OF DELIVERY SHALL BE THE WATER METER. NBU IS RESPONSIBLE FROM WATER MAIN TO WATER METER. CUSTOMER IS RESPONSIBLE FOR LINE FROM THE METER TO PRIVATE PLUMBING, INCLUDING DESIGN, CONSTRUCTION, OPERATION, AND COMPLIANCE WITH CITY CODES.
- FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREAT THAN 9 FEET FROM THE BACK OF CURB.
- CONTRACTOR TO EXTEND WATER LATERALS TO UTILITY EASEMENT.
- ALL WATER METERS WILL REQUIRE PRESSURE REDUCING VALVES.
- NBU METERS ARE ONLY TO BE RELEASED OUTSIDE OF CCSUD CCN.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 90% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.



MATCH LINE STA 14+00 SHEET C4.1



LEGEND	
---	EXISTING CONTOURS
---	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
---	EXISTING WATER LINE
---	PROPOSED WATER LINE
---	PROPOSED WATER SERVICE
---	UTILITY CROSSING

WATER STRUCTURE TOTALS						
PIPE SIZE	PIPE LENGTH	DOMESTIC METER SIZE	DOMESTIC METERS	FIRE HYDRANTS	FIRE LINES	IRRIGATION METER 2"
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TEMPORARY WATER TO LIFT STATION (2 OF 2)

SKY RANCH LIFT STATION

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