

MARKSHEFFEL CONNECTOR

16IN HIGH PRESSURE GAS MAIN

CONSTRUCTION DRAWINGS AND GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN

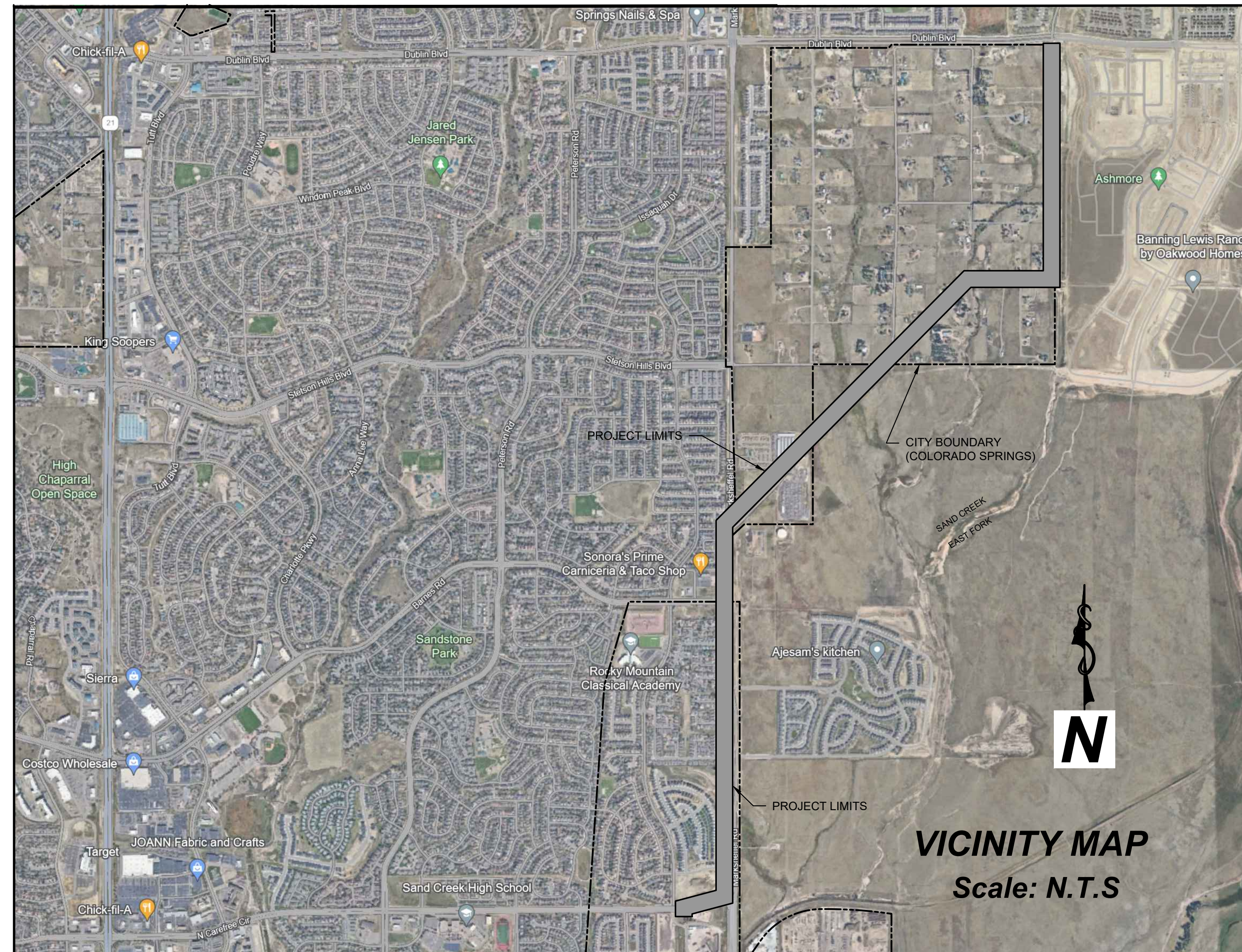


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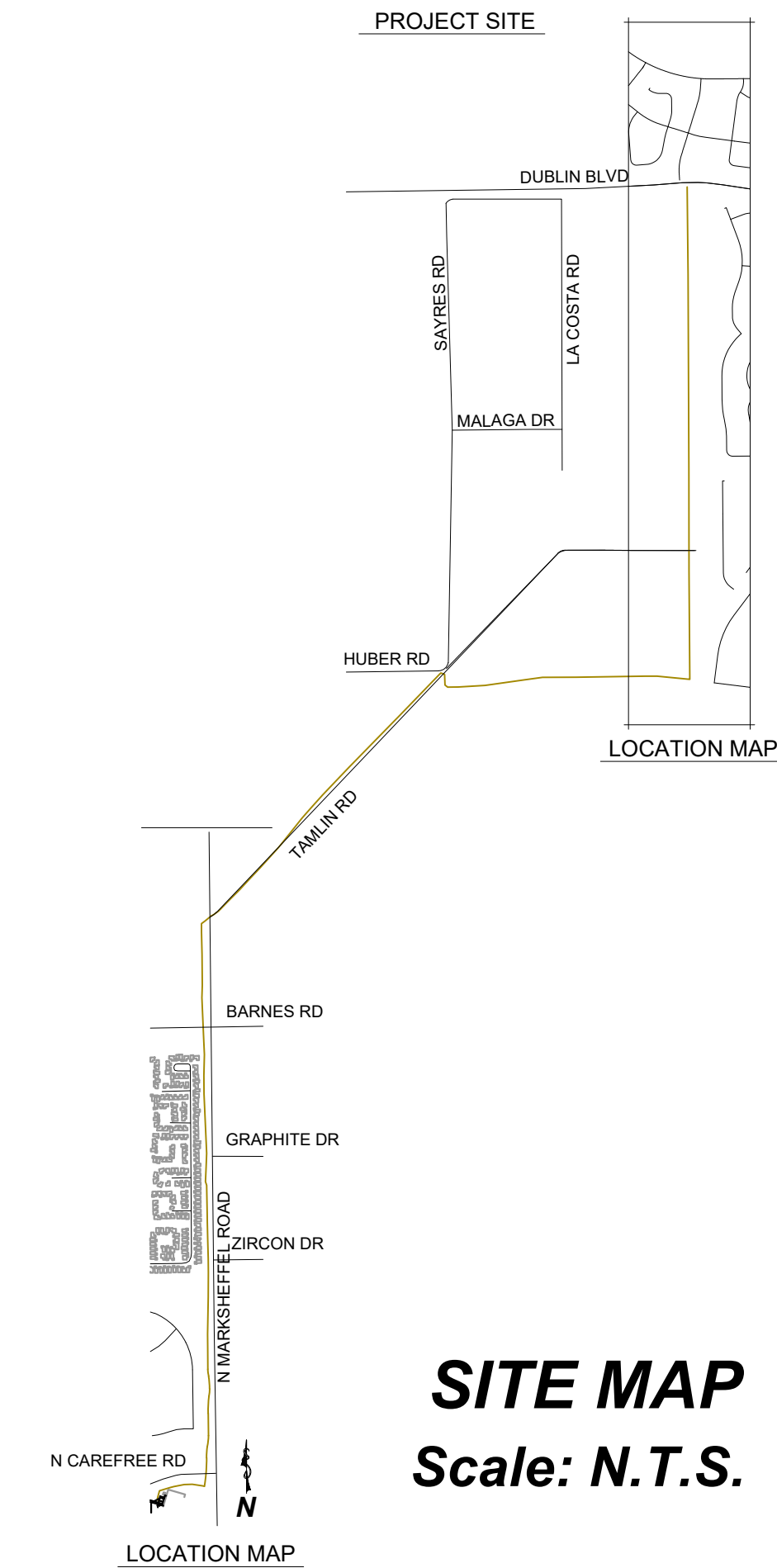


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(719) 291-2744

SHEET INDEX	
TS1	COVERSHEET
GN1	GENERAL NOTES
EC1-EC15	EROSION CONTROL PLANS
DT1-DT3	EROSION CONTROL DETAILS



MARKSHEFFEL CONNECTOR



G E S C P L A N
M A R K S H E F F E L C O N N E C T O R
16-IN HIGH PRESSURE GAS MAIN
E L P A S O C O U N T Y, C O L O R A D O

OWNER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

OWNER SIGNATURE: Mark Muñoz DATE: 07/30/2024
 NAME OF OWNER: Mark Muñoz - Colorado Springs Utilities PHONE: 719-668-2862
 EMAIL: mmunoz@csu.org

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

PRINTED NAME: RAYMOND E. PEREZ III, P.E. DATE: AUGUST 14, 2024
 PHONE NUMBER: (719) 291-2744

CONTRACTOR'S STATEMENT:

I WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN INCLUDING TEMPORARY CONTROL MEASURE INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

NAME OF CONTRACTOR: Miller Pipeline, LLC
 AUTHORIZED SIGNATURE: Randy Hiatt DATE: 07/30/2024
 TITLE: Randy Hiatt - General Manager
 PHONE NUMBER: 719-325-9984
 ADDRESS: 3170 Capital Drive - Colorado Springs, CO 80939
 EMAIL ADDRESS: Randy.Hiatt@millerpipeline.com

OWNER/APPLICANT:
 COLORADO SPRINGS CITY OF
 PO BOX 1575 MAIL CODE 455
 COLORADO SPRINGS, COLORADO

PROPERTY ADDRESS:
 7713 NORTH CAREFREE CIRCLE
 COLORADO SPRINGS, CO

TOTAL AREA TO BE DISTURBED:
 20 ACRES

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

FOR THE COUNTY ENGINEER 8/26/2024
 DATE

NOTES:

◆ TITLE SHEET

ISSUED: 08/14/24

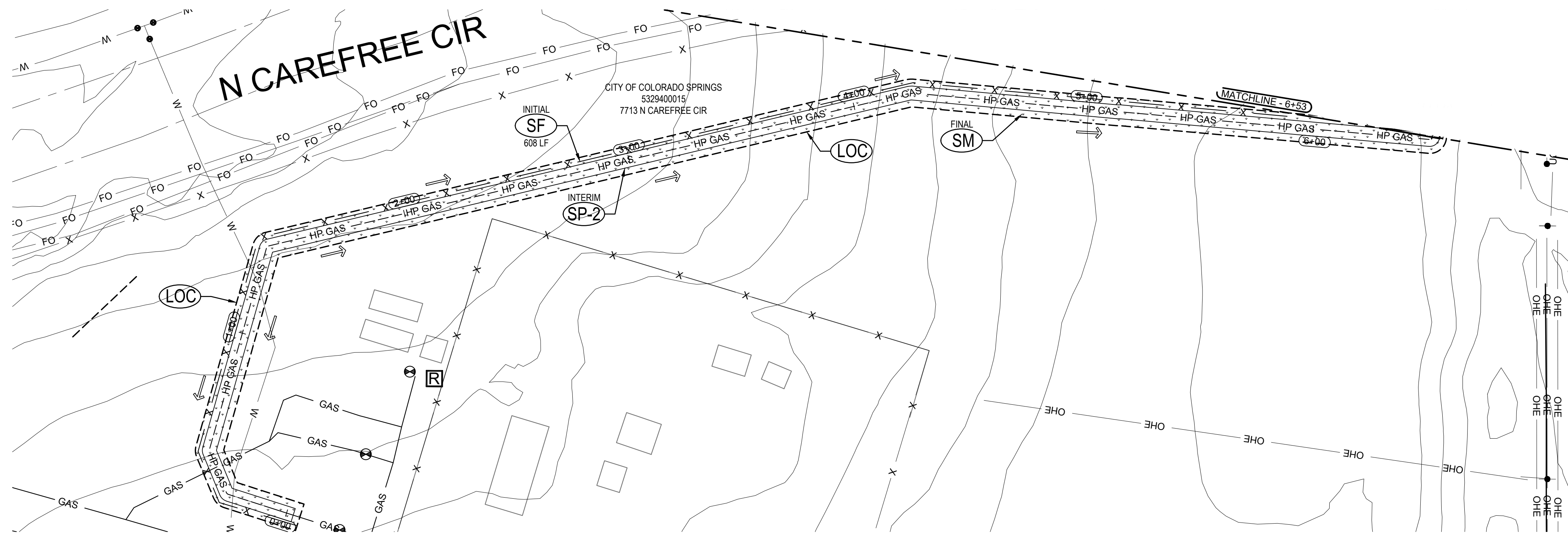
TS1
sheet number



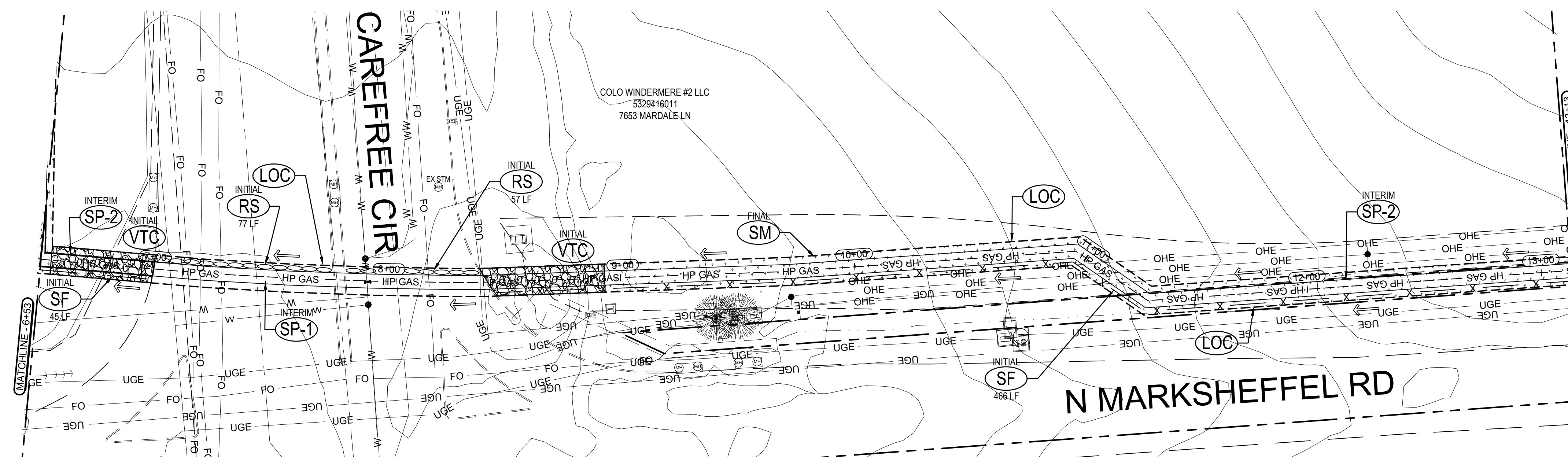
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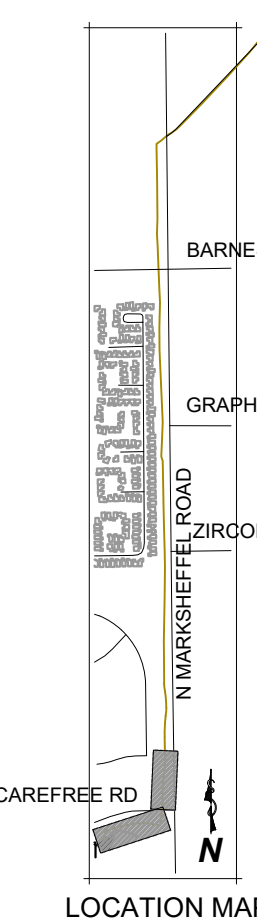
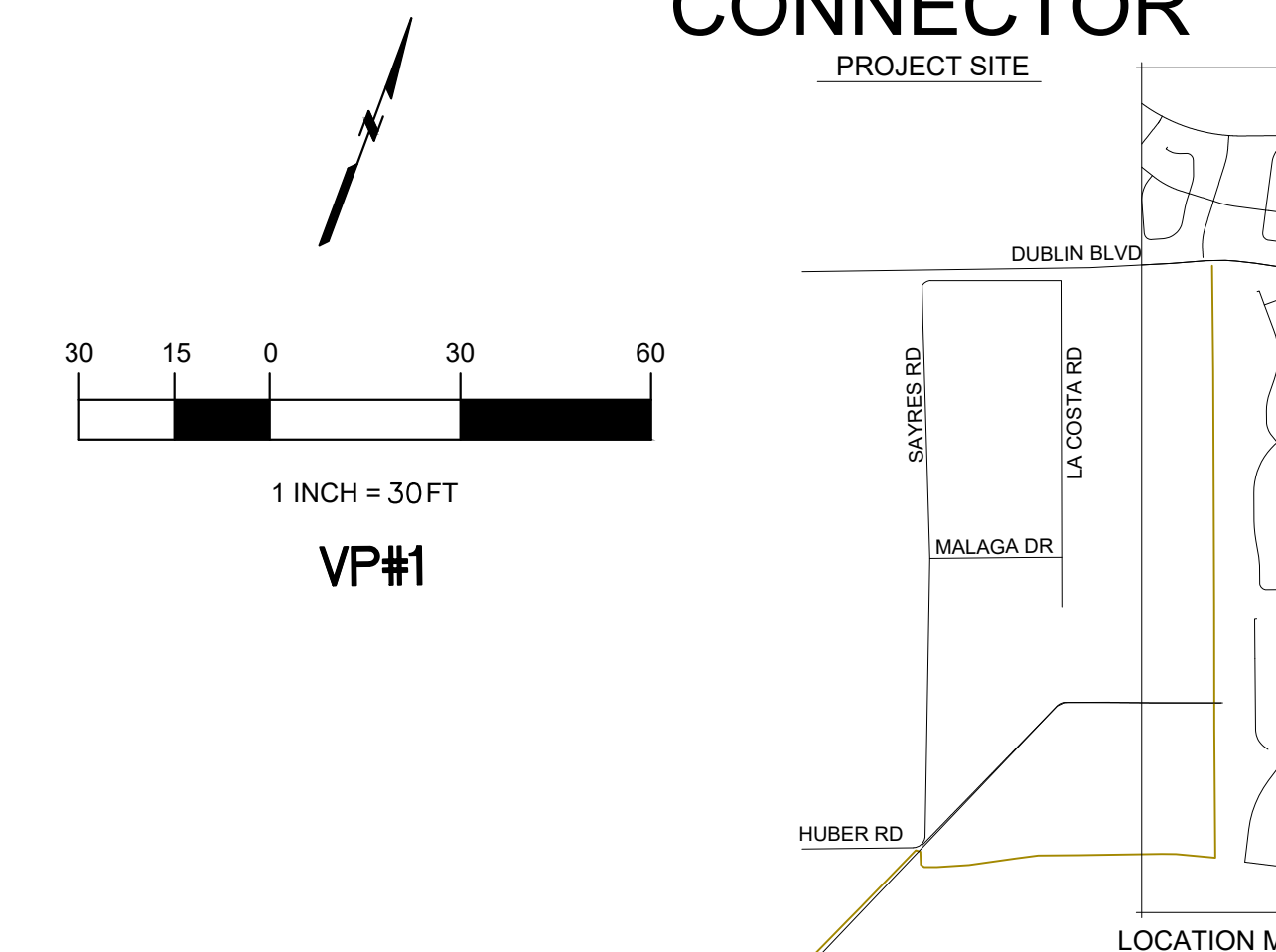
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NOTE: THE CONTRACTOR SHALL ENSURE DISTURBED AREAS ARE LIMITED TO THE GAS LINE EASEMENT EXTENTS.



MARKSHEFFEL CONNECTOR



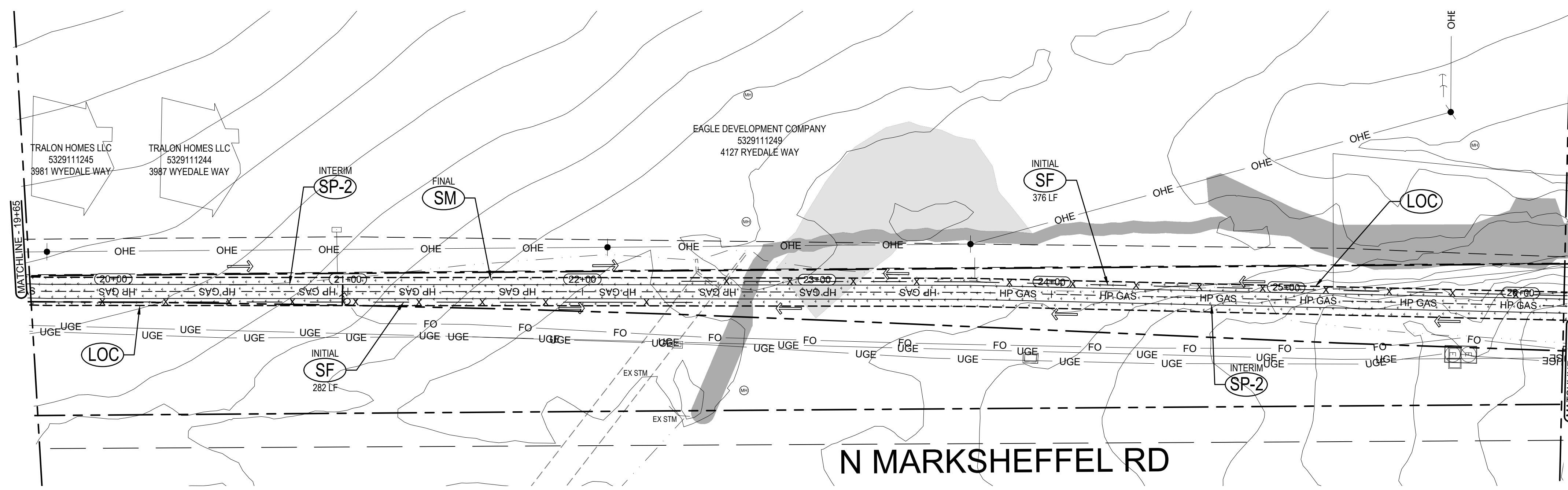
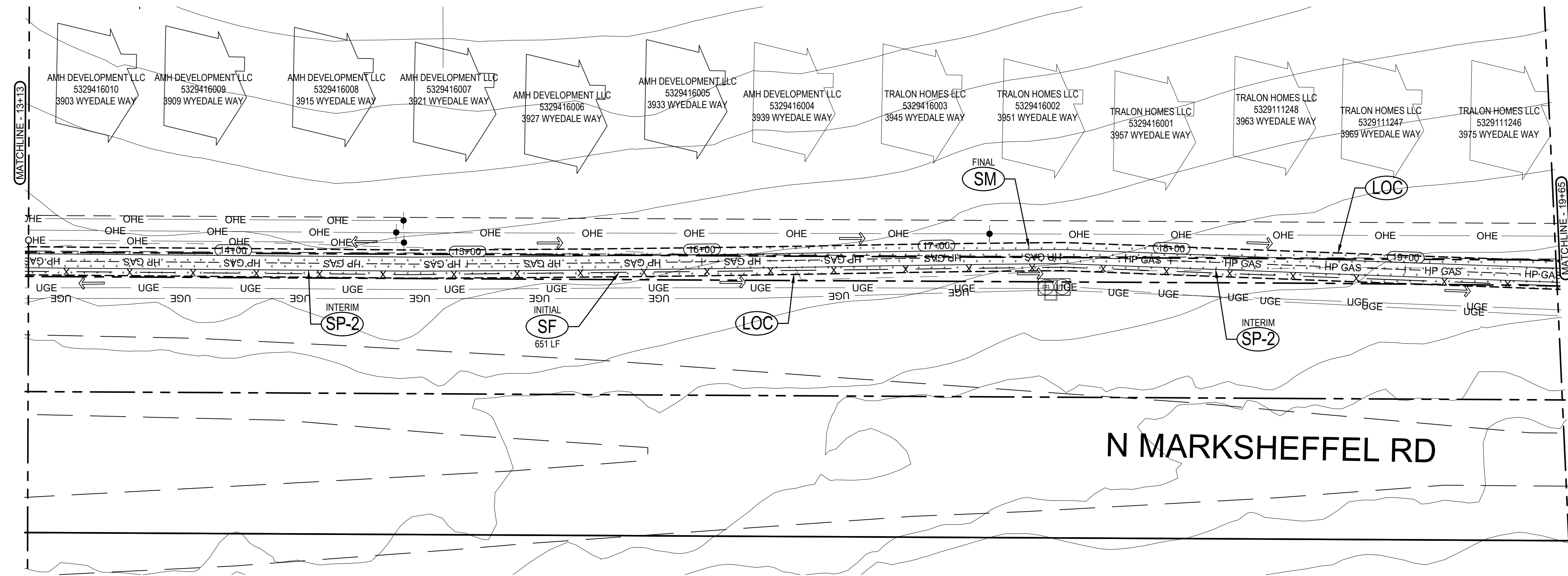
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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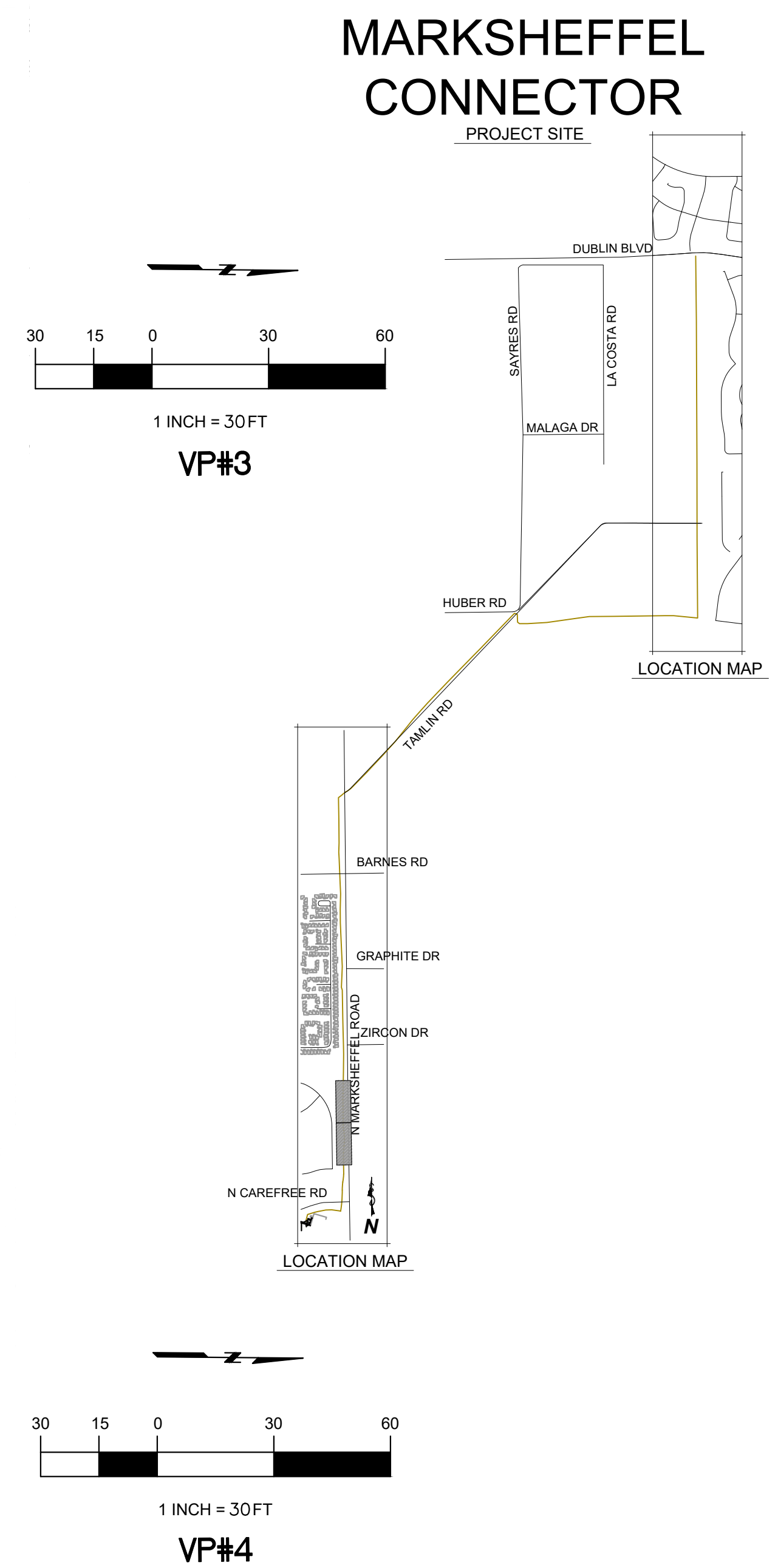
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LEGEND	
	EXISTING ROW/PROPERTY LINE
	EXISTING CURB LINE
	SEEDING AND MULCHING
	MATERIALS STAGING
	MATERIALS STAGING
	ROCK SOCK
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE
	LIMITS OF DISTURBANCE EASEMENT
	INLET PROTECTION
	EXISTING SANITARY SEWER
	EXISTING WATER
	LIMITS OF TRENCH
	EXISTING FLOW DIRECTION
	SILT FENCE
	VEHICLE TRACKING CONTROL



LEGEND

---	EXISTING ROW/PROPERTY LINE	---	SS	EXISTING SANITARY SEWER
- - -	EXISTING CURB LINE	---	W	EXISTING WATER
[Stippled Box]	SM SEEDING AND MULCHING	[Dashed Box]		LIMITS OF TRENCH
[Circle with SP-1]	SP-1 MATERIALS STAGING	[Arrow]		EXISTING FLOW DIRECTION
[Circle with SP-2]	SP-2 MATERIALS STAGING	[Line with X]	SF	SILT FENCE
[Circle with RS]	RS ROCK SOCK	[Stippled Box]	VTC	VEHICLE TRACKING CONTROL
[Dashed Line]	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE			
[Dashed Line]	LIMITS OF DISTURBANCE EASEMENT			
[Circle with IP]	IP INLET PROTECTION			



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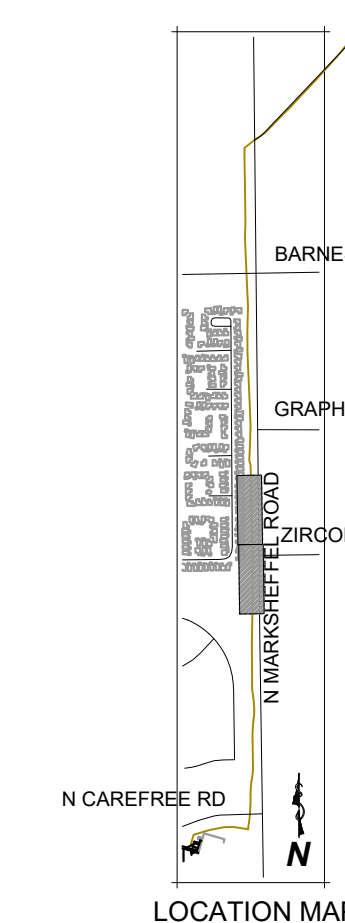
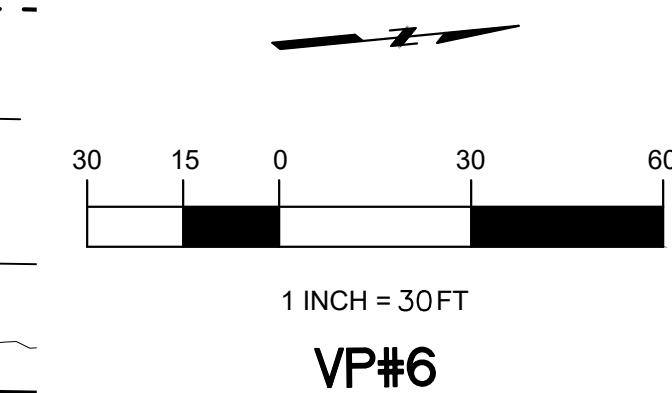
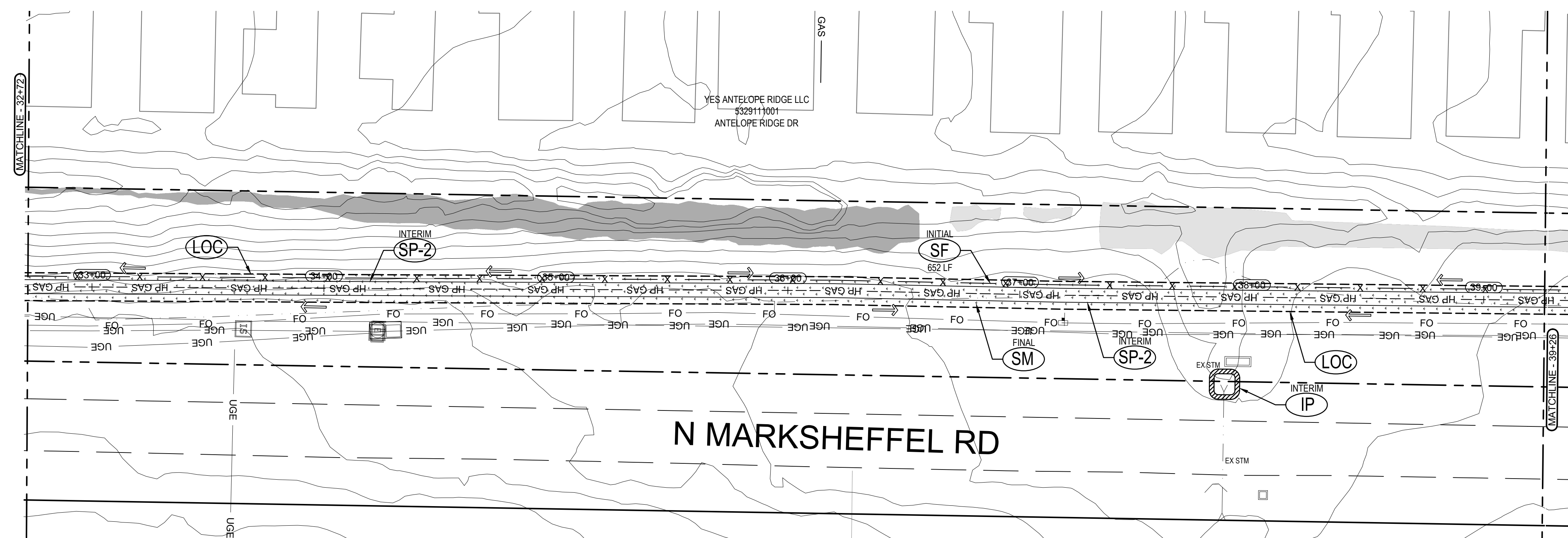
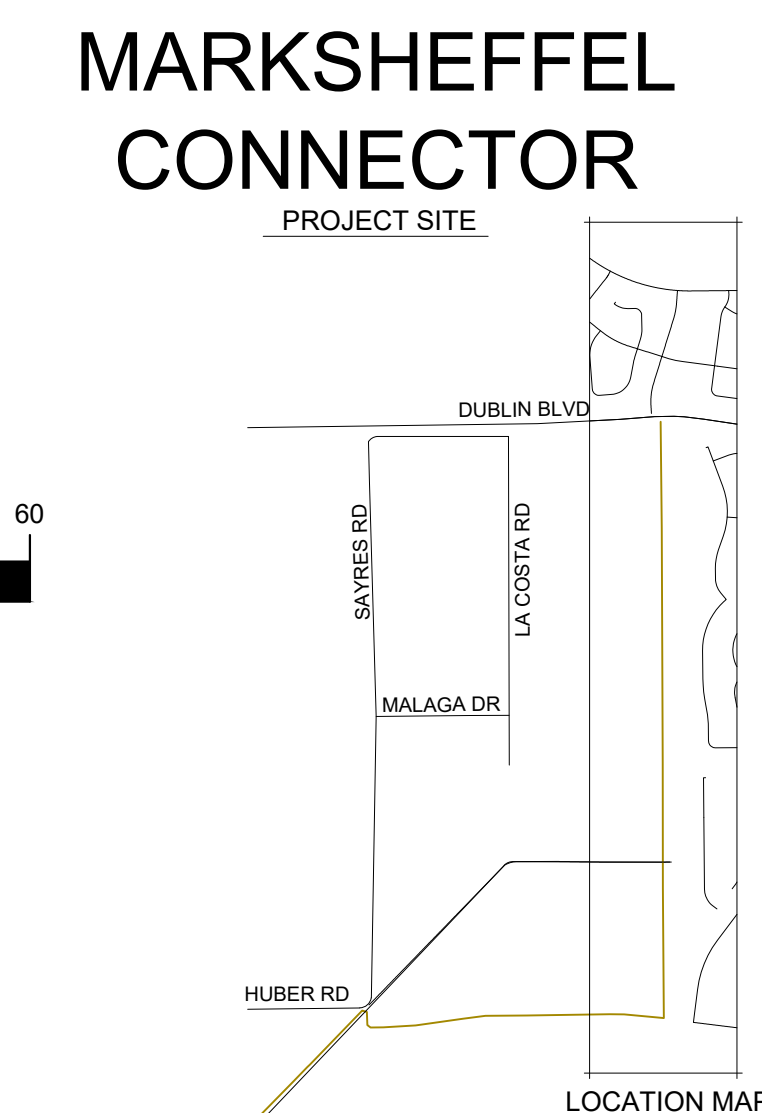
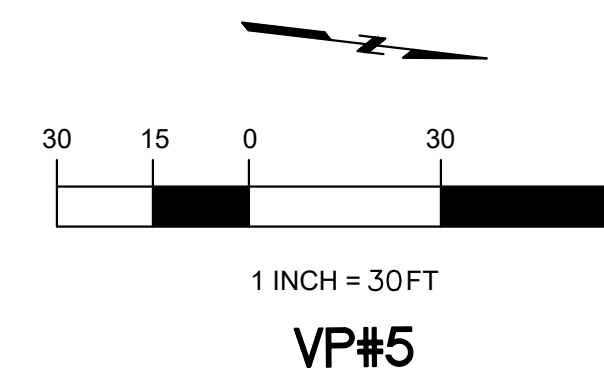
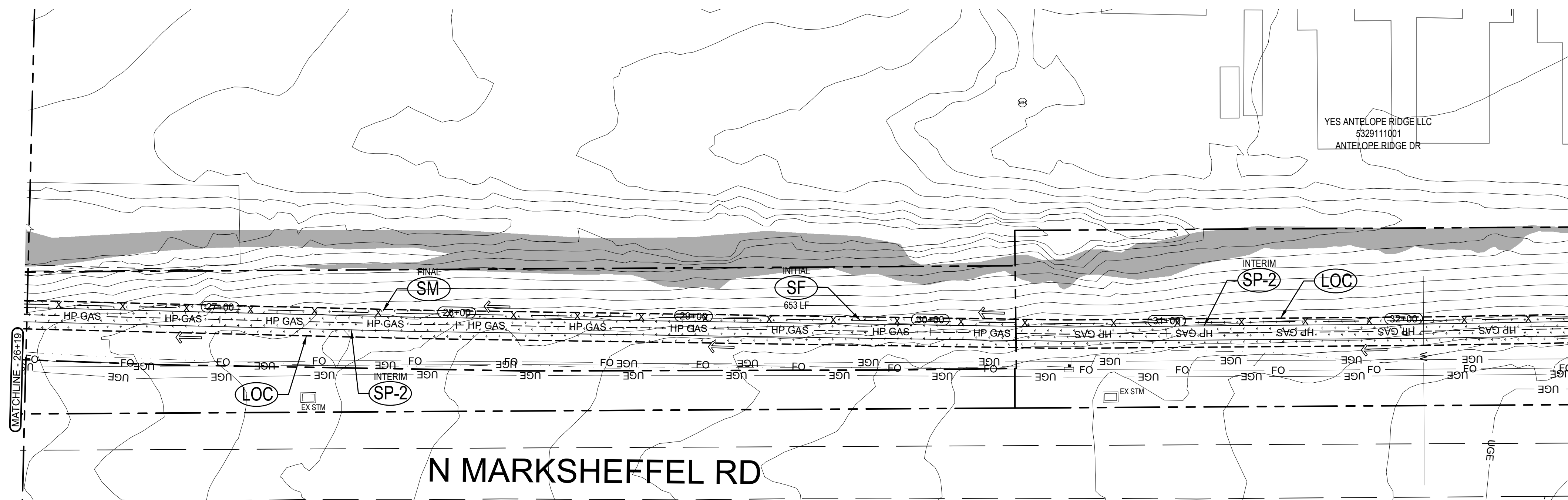


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MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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LEGEND			
---	EXISTING ROW/PROPERTY LINE	SS	EXISTING SANITARY SEWER
- - -	EXISTING CURB LINE	W	EXISTING WATER
[SM]	SEEDING AND MULCHING	[]	LIMITS OF TRENCH
[SP-1] [SP-2]	MATERIALS STAGING	[>]	EXISTING FLOW DIRECTION
[RS]	ROCK SOCK	- x -	[SF] SILT FENCE
[LOC]	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE	[VTC]	VEHICLE TRACKING CONTROL
[LOC]	LIMITS OF DISTURBANCE EASEMENT		
[IP]	INLET PROTECTION		



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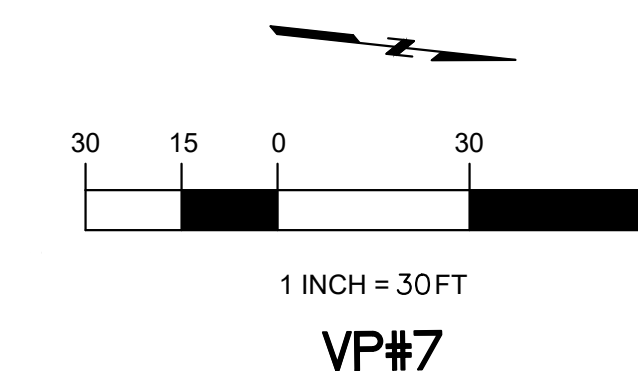
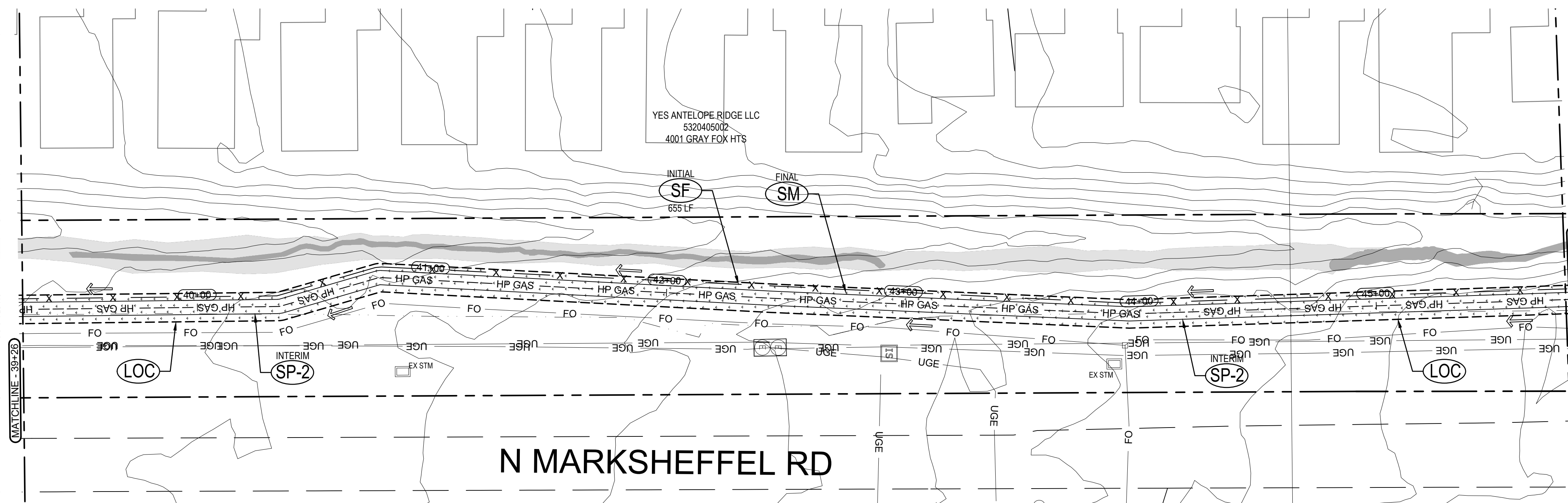


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MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

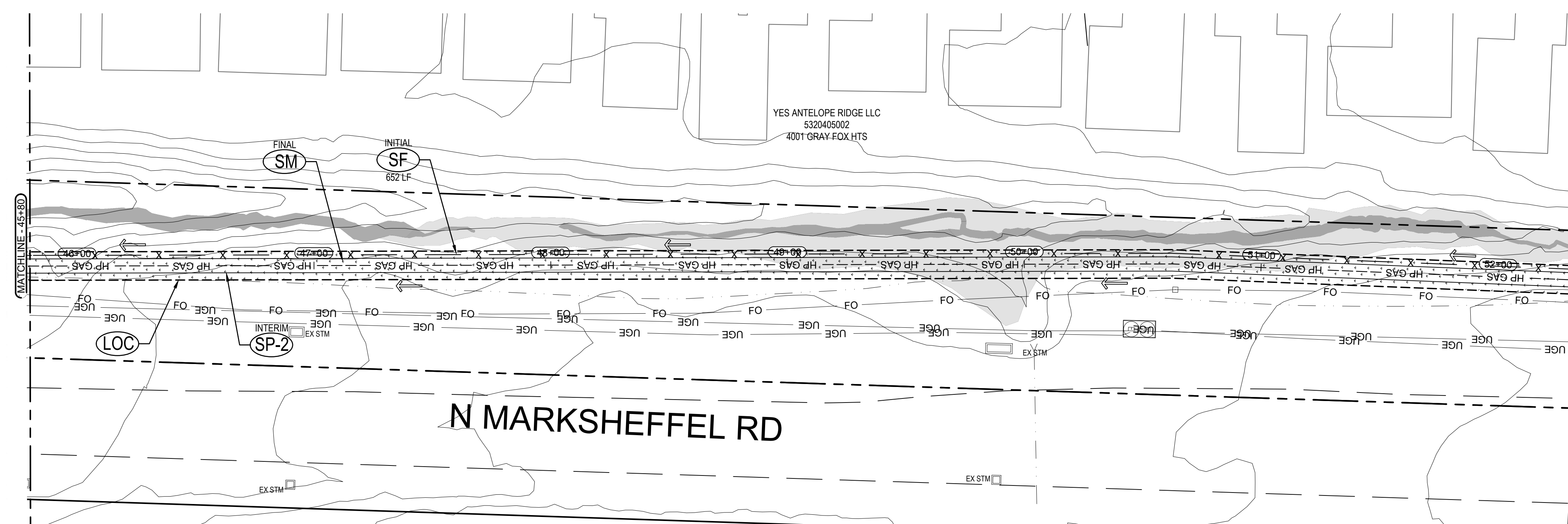
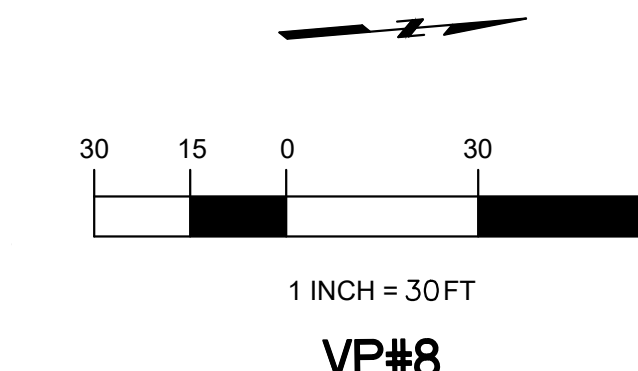
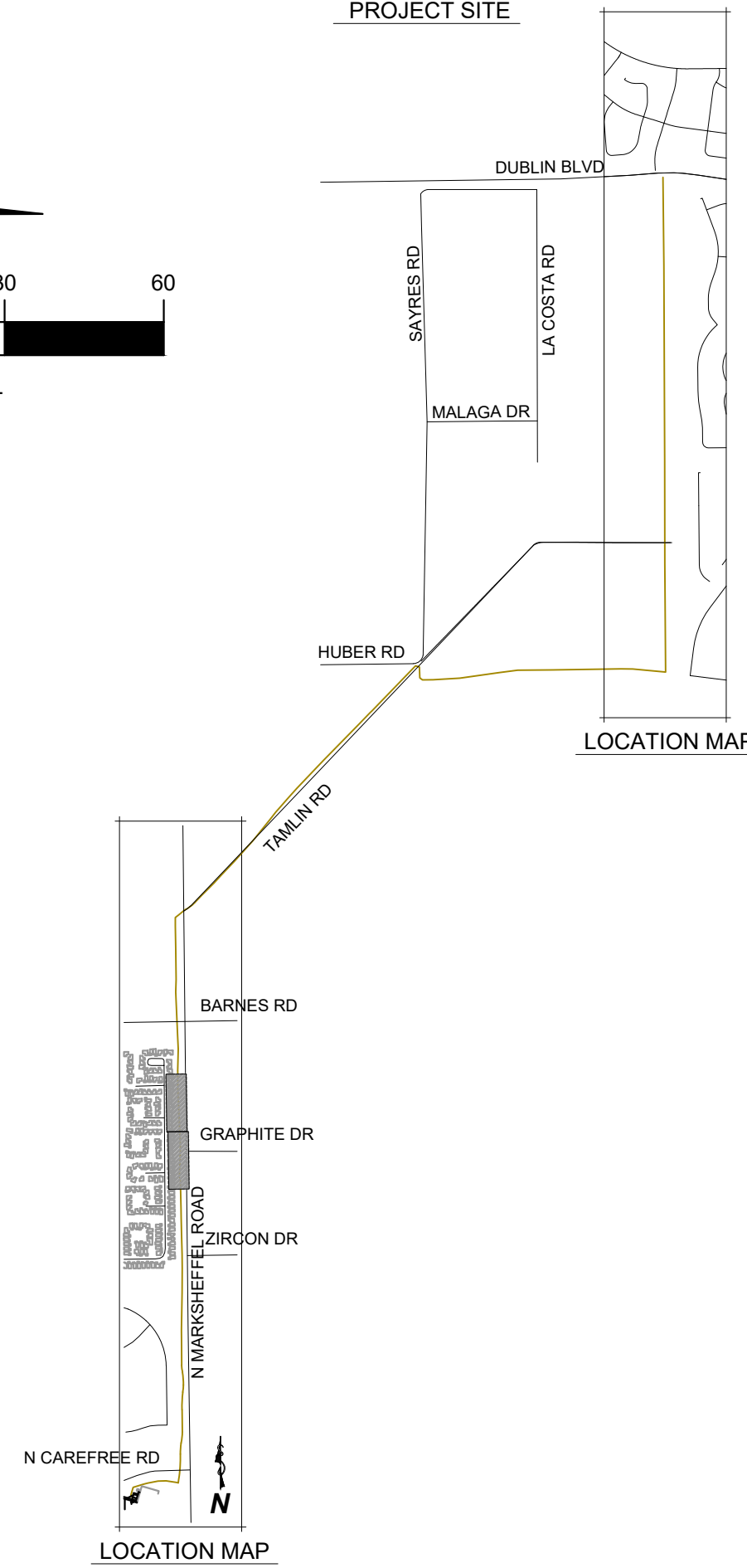
EROSION CONTROL PLAN

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MARKSHEFFEL CONNECTOR



LEGEND

EXISTING ROW/PROPERTY LINE	SEEDING AND MULCHING	EXISTING SANITARY SEWER
EXISTING CURB LINE	MATERIALS STAGING	EXISTING WATER
SEEDING AND MULCHING	ROCK SOCK	LIMITS OF TRENCH
MATERIALS STAGING	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE	EXISTING FLOW DIRECTION
ROCK SOCK	LIMITS OF DISTURBANCE EASEMENT	SILT FENCE
LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE	INLET PROTECTION	VEHICLE TRACKING CONTROL
INLET PROTECTION		



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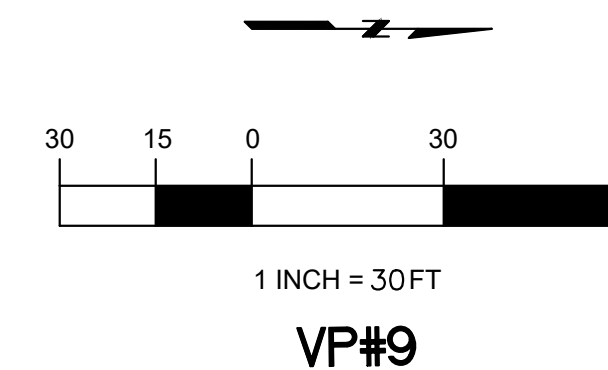


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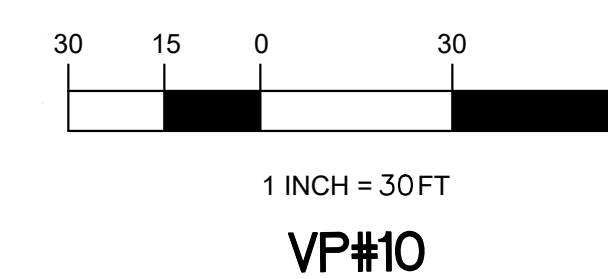
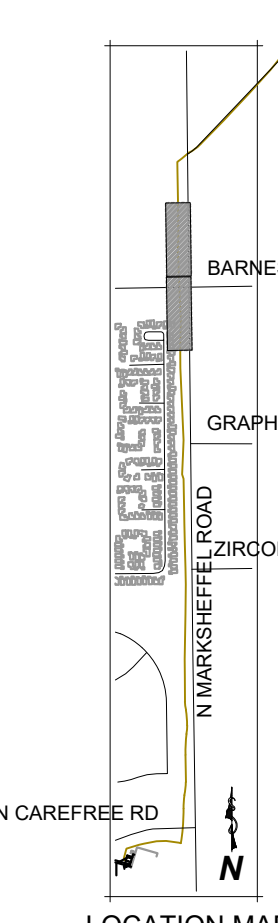
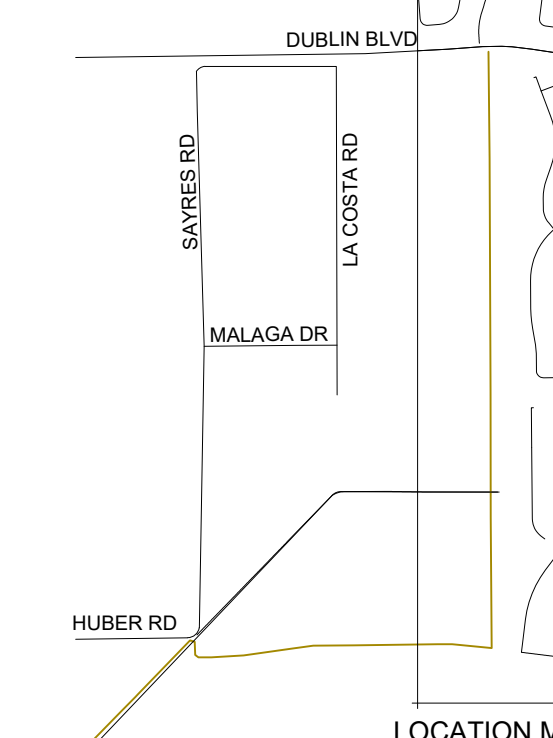


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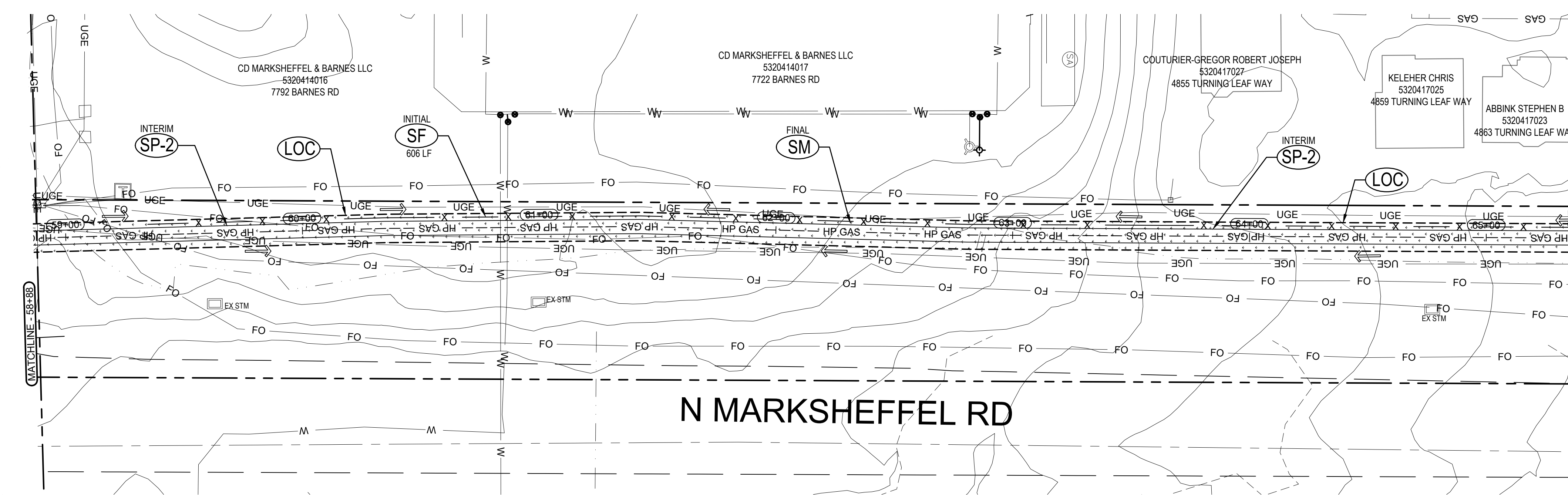
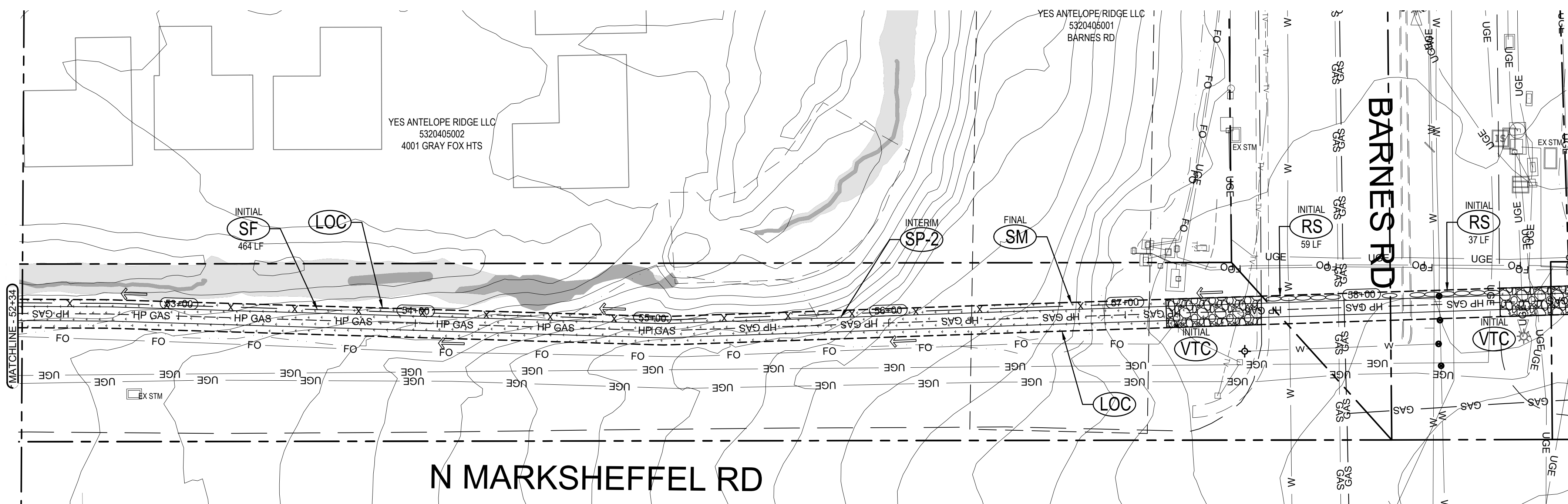
PROJECT SITE



VP#9



VP#10



LEGEND	
	EXISTING ROW/PROPERTY LINE
	EXISTING CURB LINE
	SEEDING AND MULCHING
	MATERIALS STAGING
	MATERIALS STAGING
	ROCK SOCK
	LIMITS OF CONSTRUCTION/EXTENS OF GAS LINE
	LIMITS OF DISTURBANCE EASEMENT
	INLET PROTECTION
	EXISTING SANITARY SEWER
	EXISTING WATER
	LIMITS OF TRENCH
	EXISTING FLOW DIRECTION
	SILT FENCE
	VEHICLE TRACKING CONTROL

GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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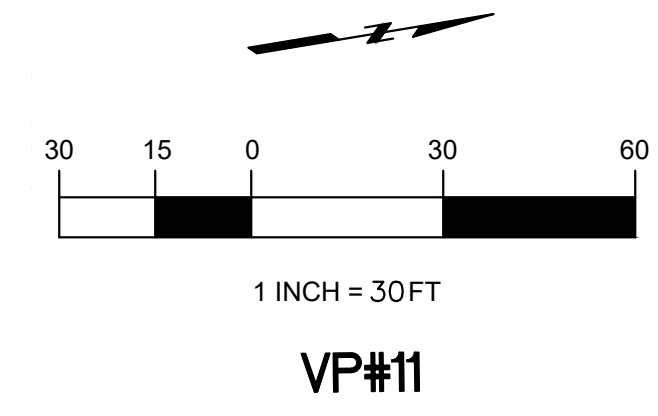
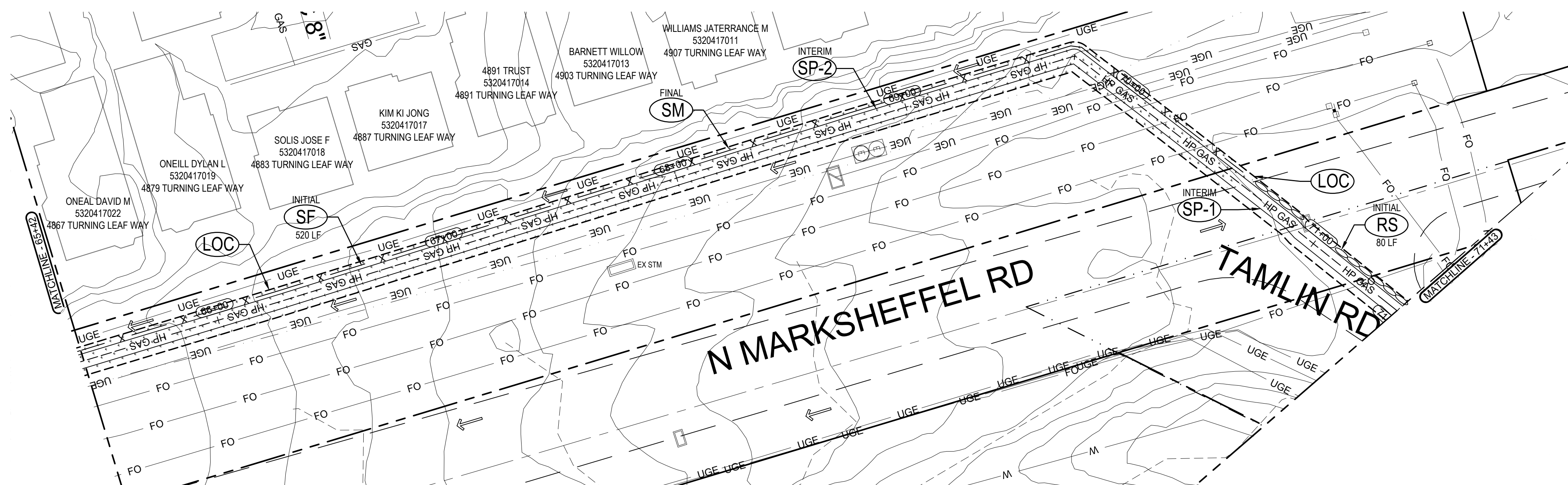
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GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

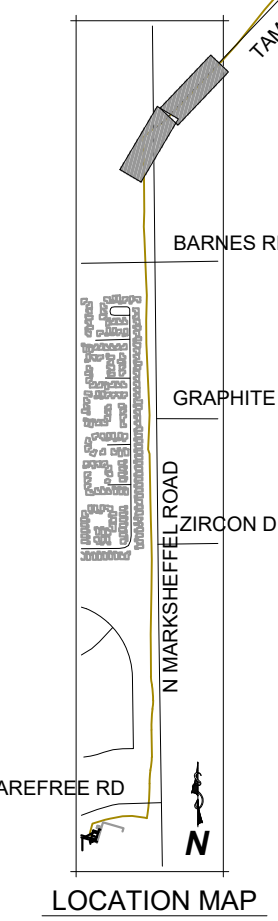
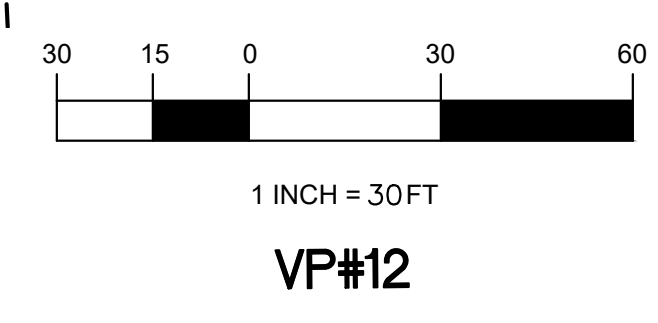
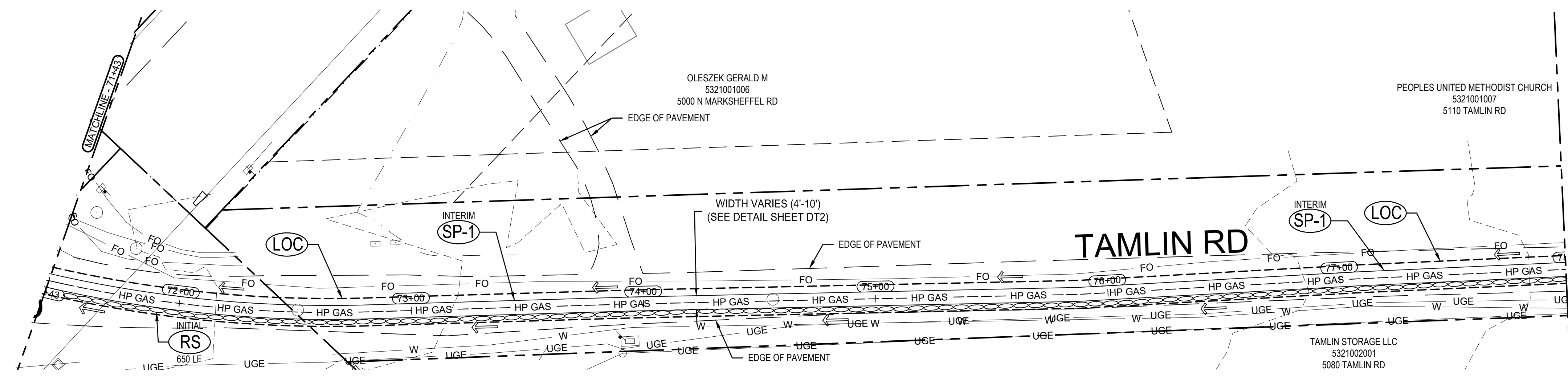
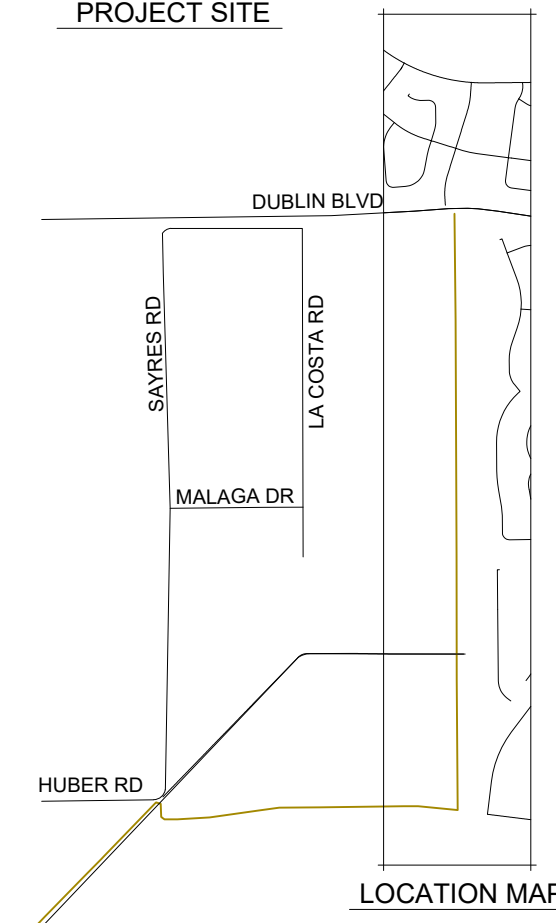
EROSION CONTROL PLAN

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PROJECT SITE



LEGEND	
	EXISTING ROW/PROPERTY LINE
	EXISTING CURB LINE
	SEEDING AND MULCHING
	MATERIALS STAGING
	ROCK SOCK
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE
	LIMITS OF DISTURBANCE EASEMENT
	EXISTING SANITARY SEWER
	EXISTING WATER
	LIMITS OF TRENCH
	EXISTING FLOW DIRECTION
	SILT FENCE
	VEHICLE TRACKING CONTROL



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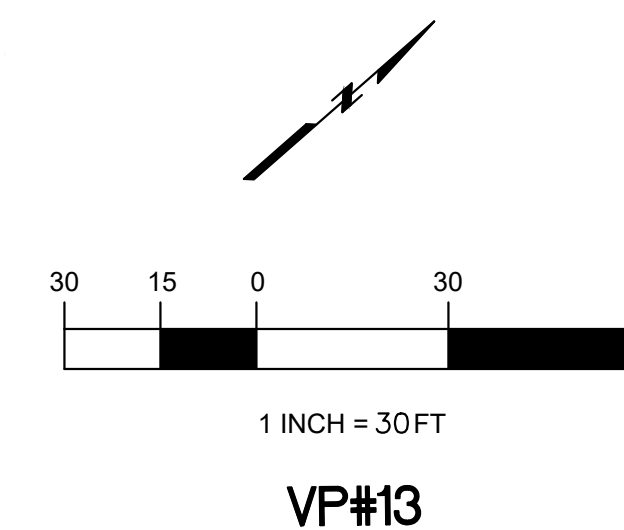


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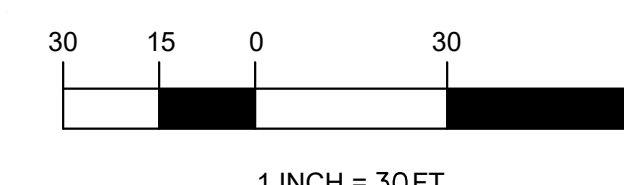
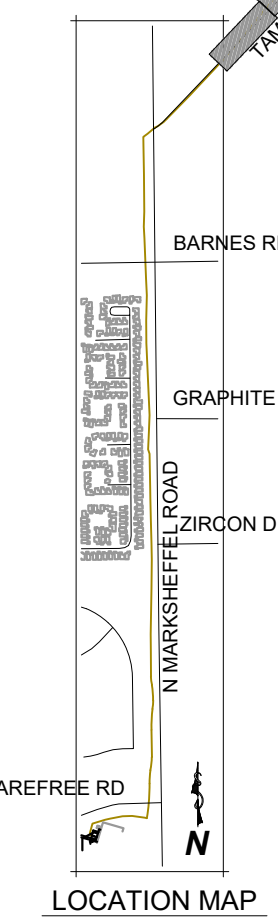
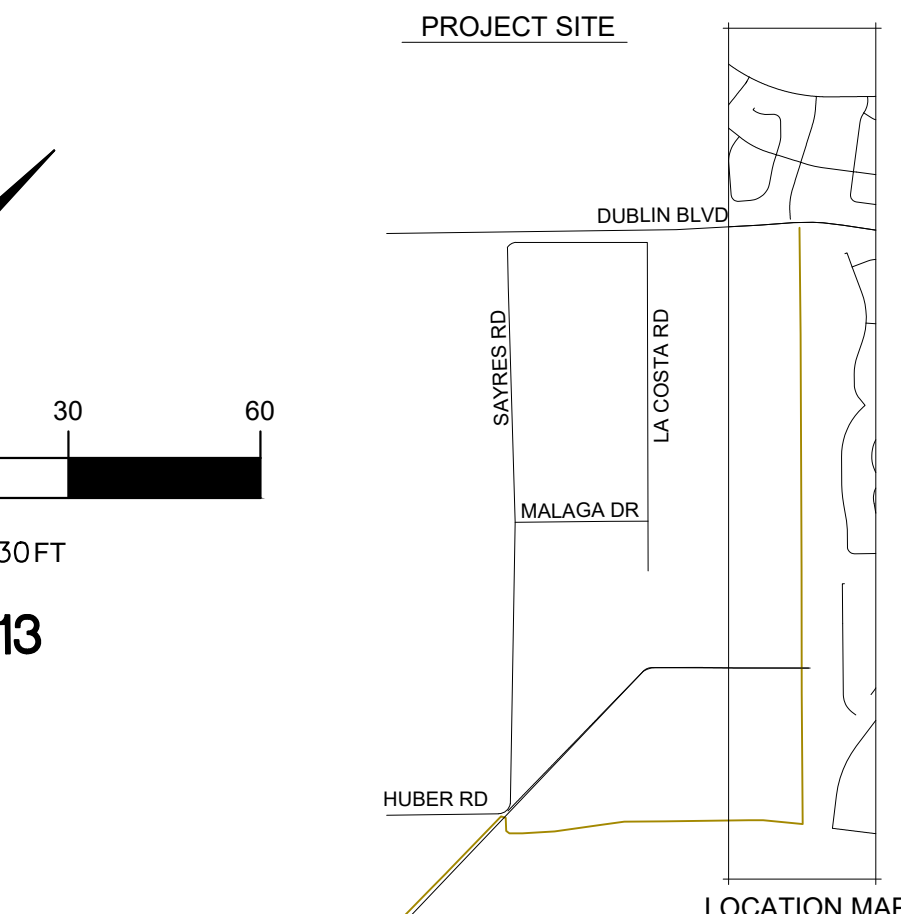


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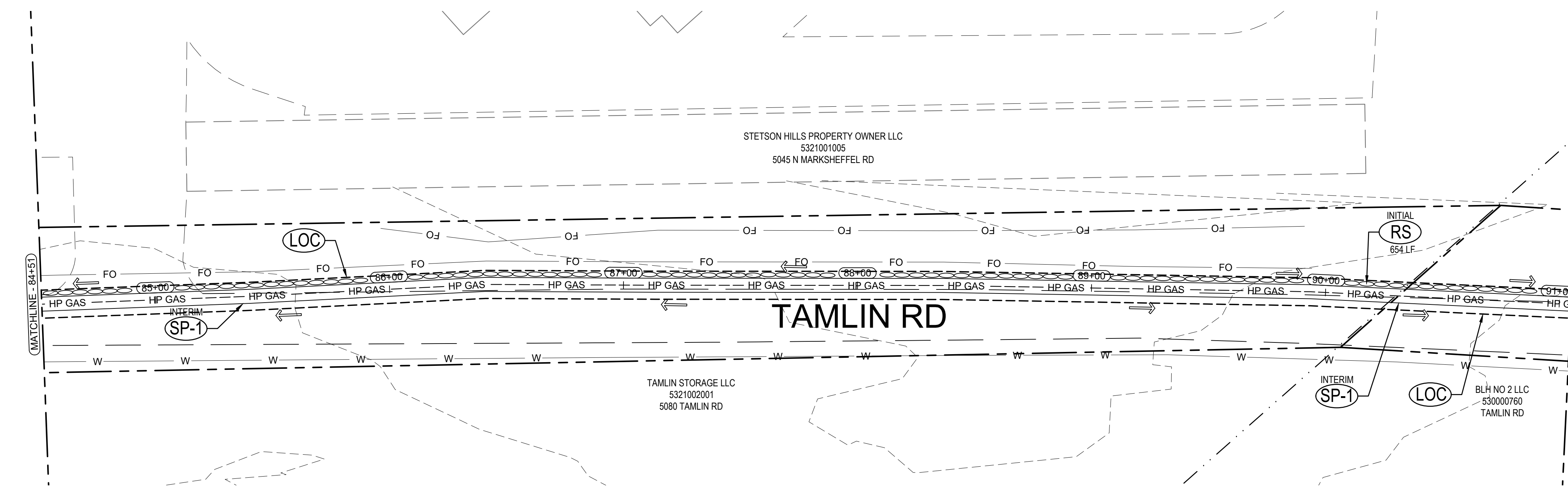
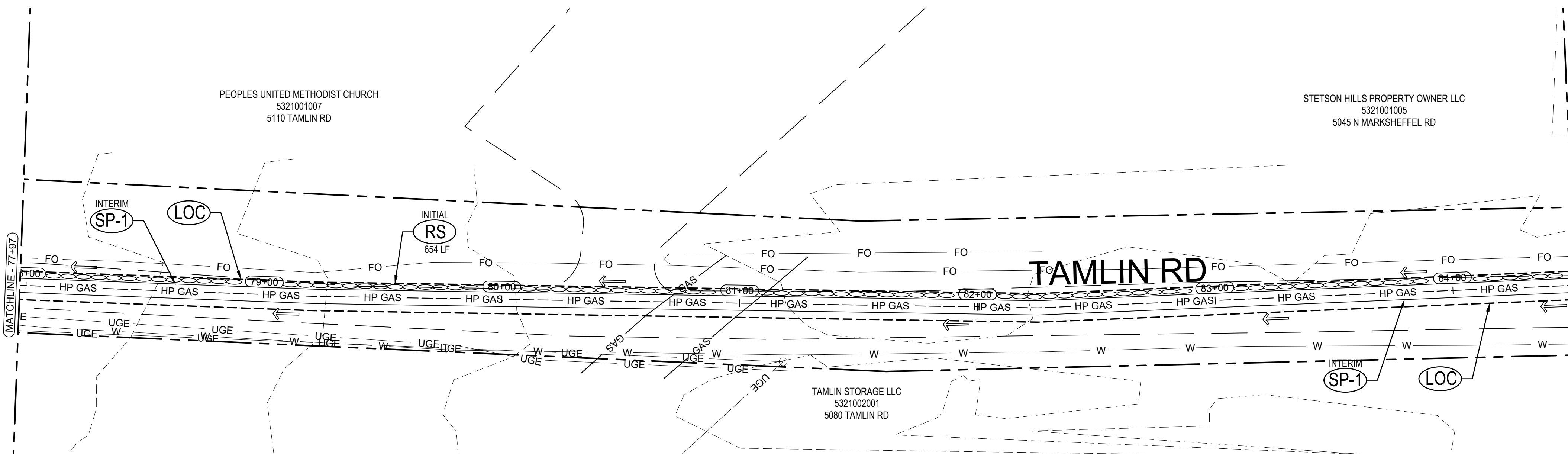
PROJECT SITE



VP#13



VP#14



LEGEND

- EXISTING ROW/PROPERTY LINE
- - - EXISTING CURB LINE
- SM SEEDING AND MULCHING
- SP-1 SP-2 MATERIALS STAGING
- RS ROCK SOCK
- LOC LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE
- LOC LIMITS OF DISTURBANCE EASEMENT
- IP INLET PROTECTION
- SS EXISTING SANITARY SEWER
- W EXISTING WATER
- LIMITS OF TRENCH
- EXISTING FLOW DIRECTION
- x SF SILT FENCE
- VTC VEHICLE TRACKING CONTROL

GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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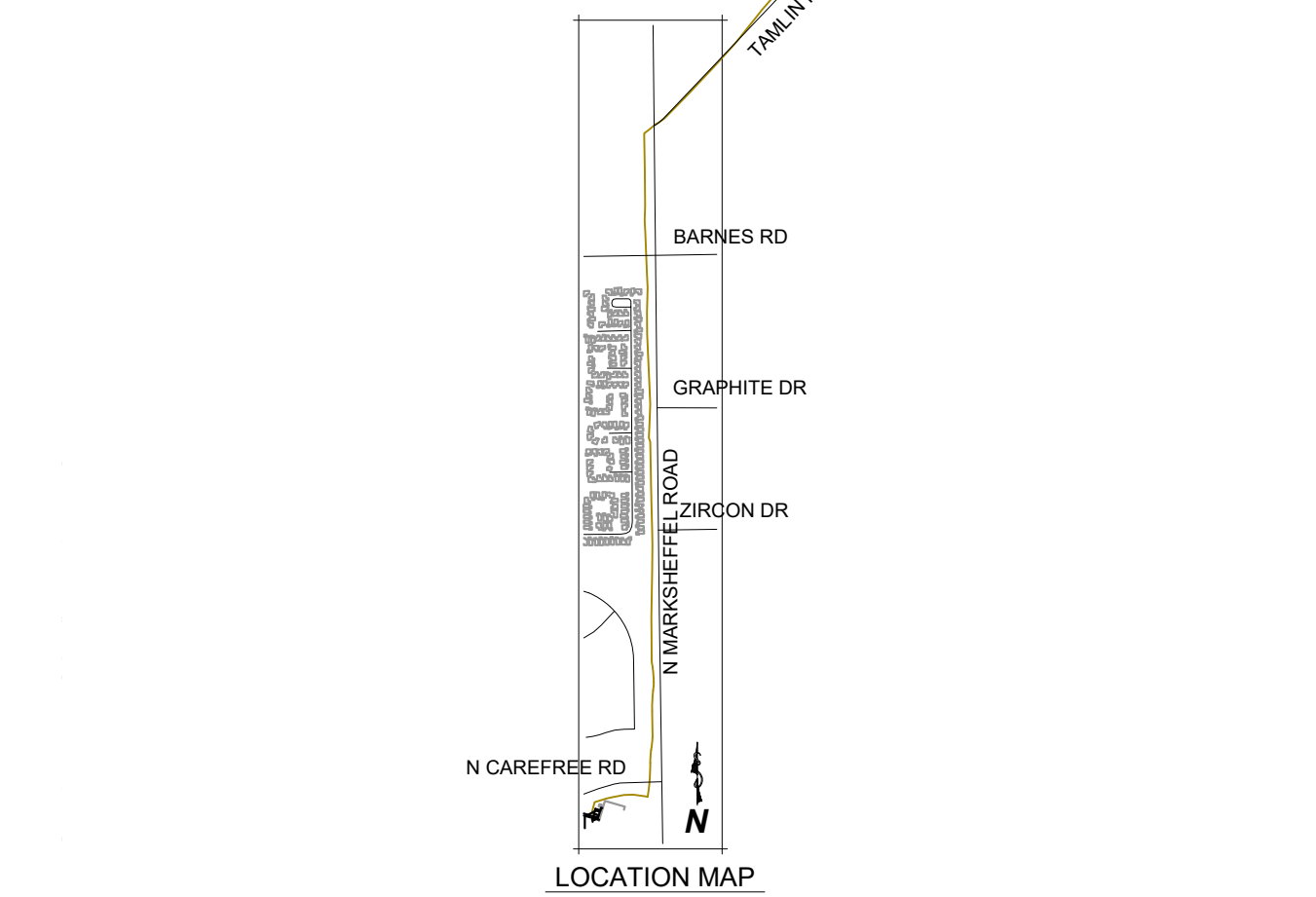
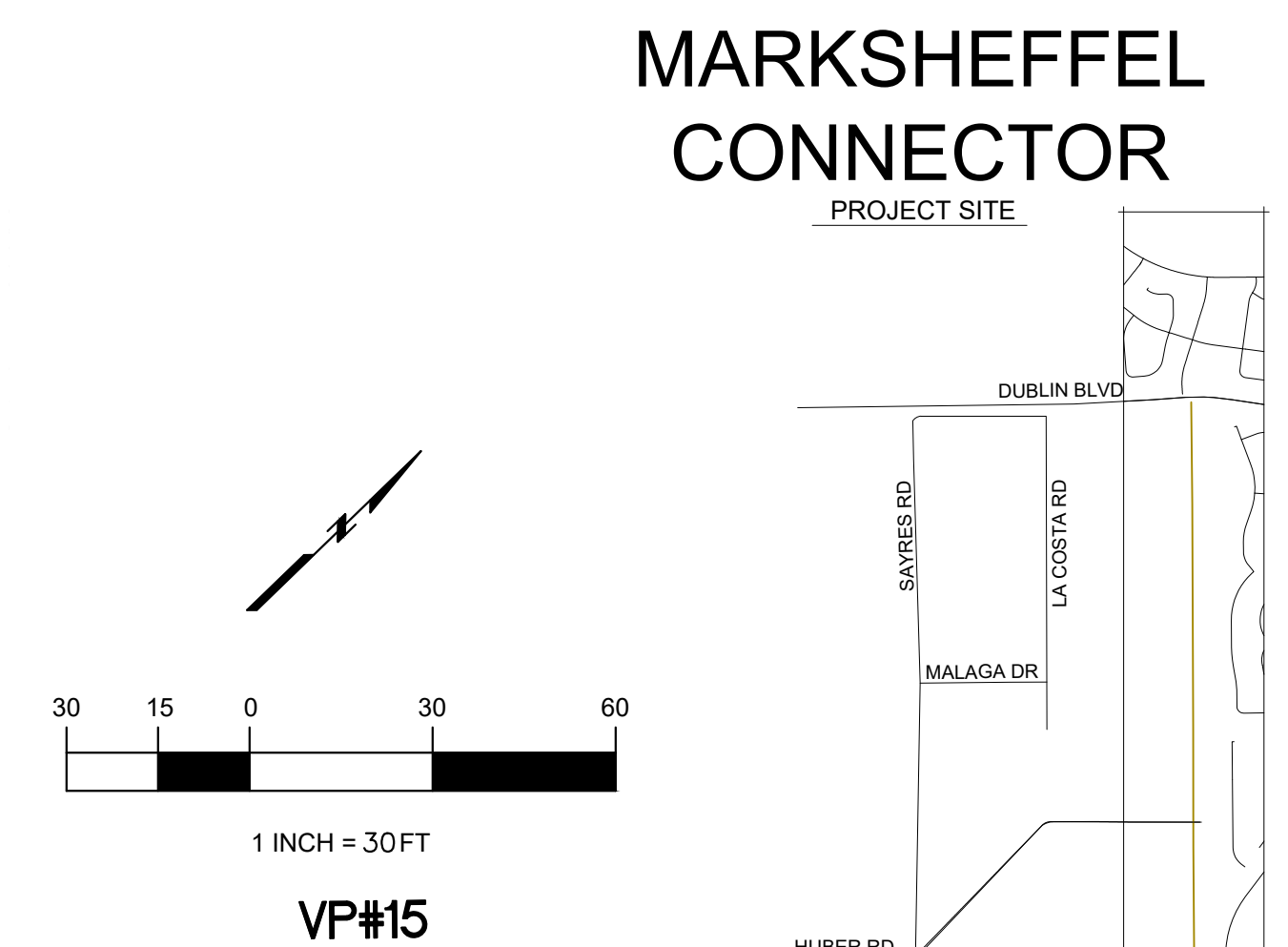
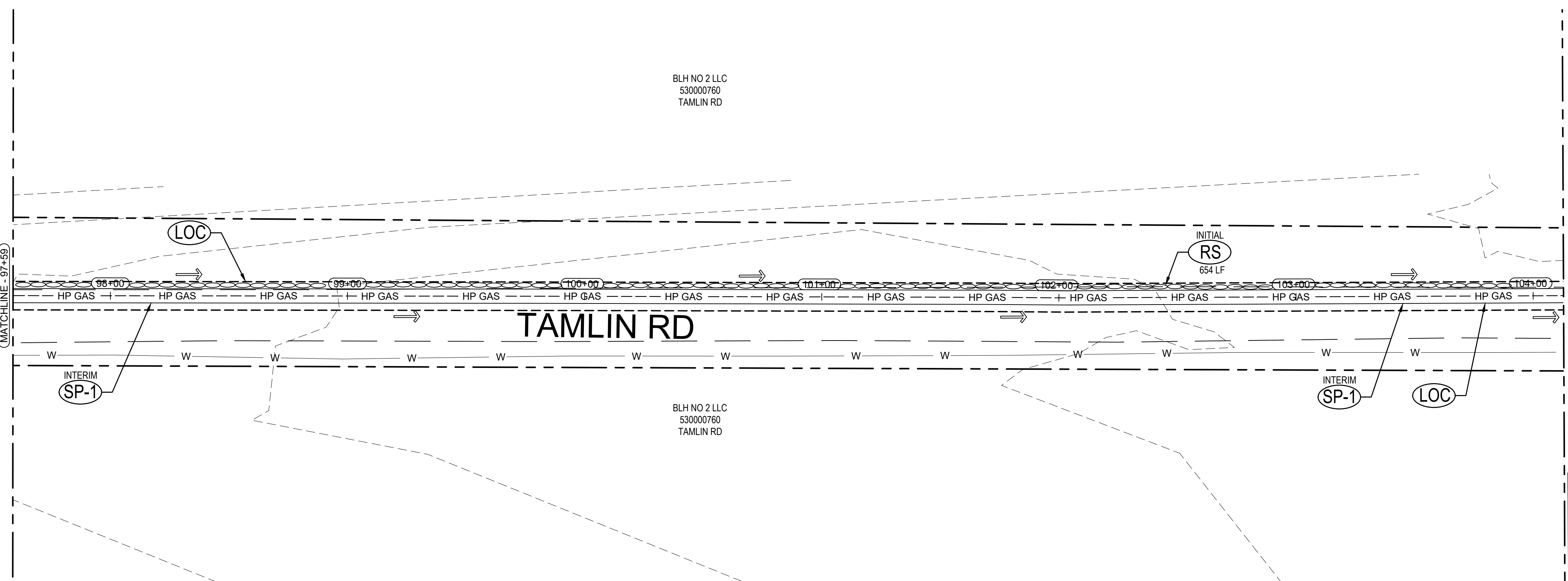
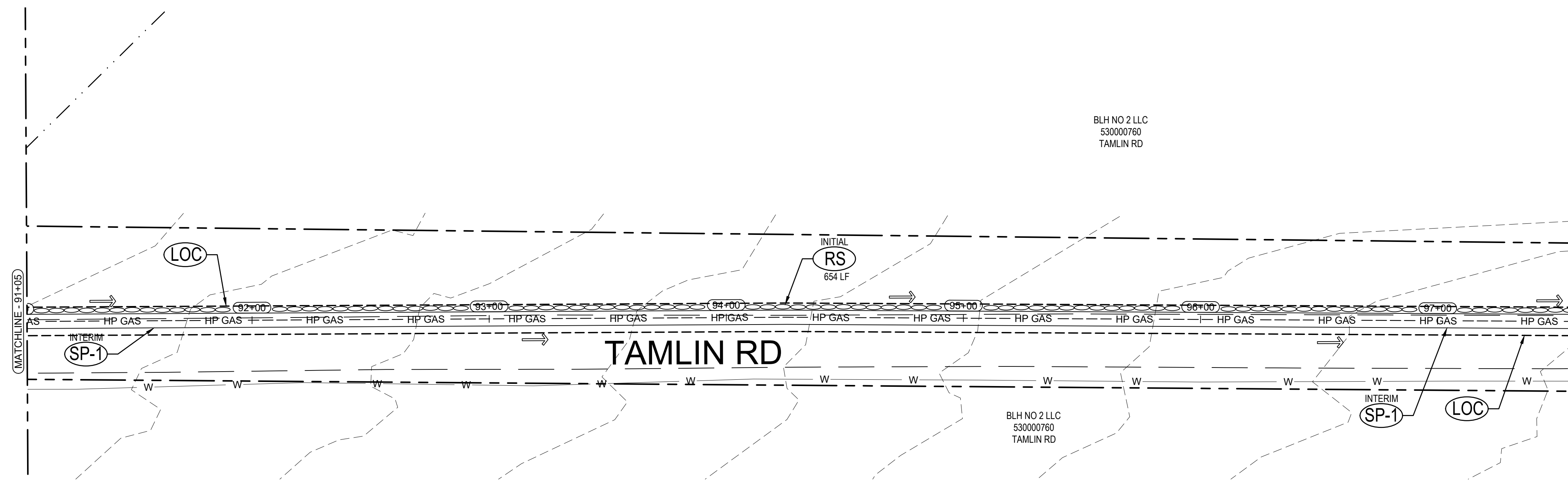


GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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EC8
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LEGEND			
	EXISTING ROW/PROPERTY LINE		EXISTING SANITARY SEWER
	EXISTING CURB LINE		EXISTING WATER
	SEEDING AND MULCHING		LIMITS OF TRENCH
	MATERIALS STAGING		EXISTING FLOW DIRECTION
	ROCK SOCK		SILT FENCE
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE		VEHICLE TRACKING CONTROL
	LIMITS OF DISTURBANCE EASEMENT		
	INLET PROTECTION		



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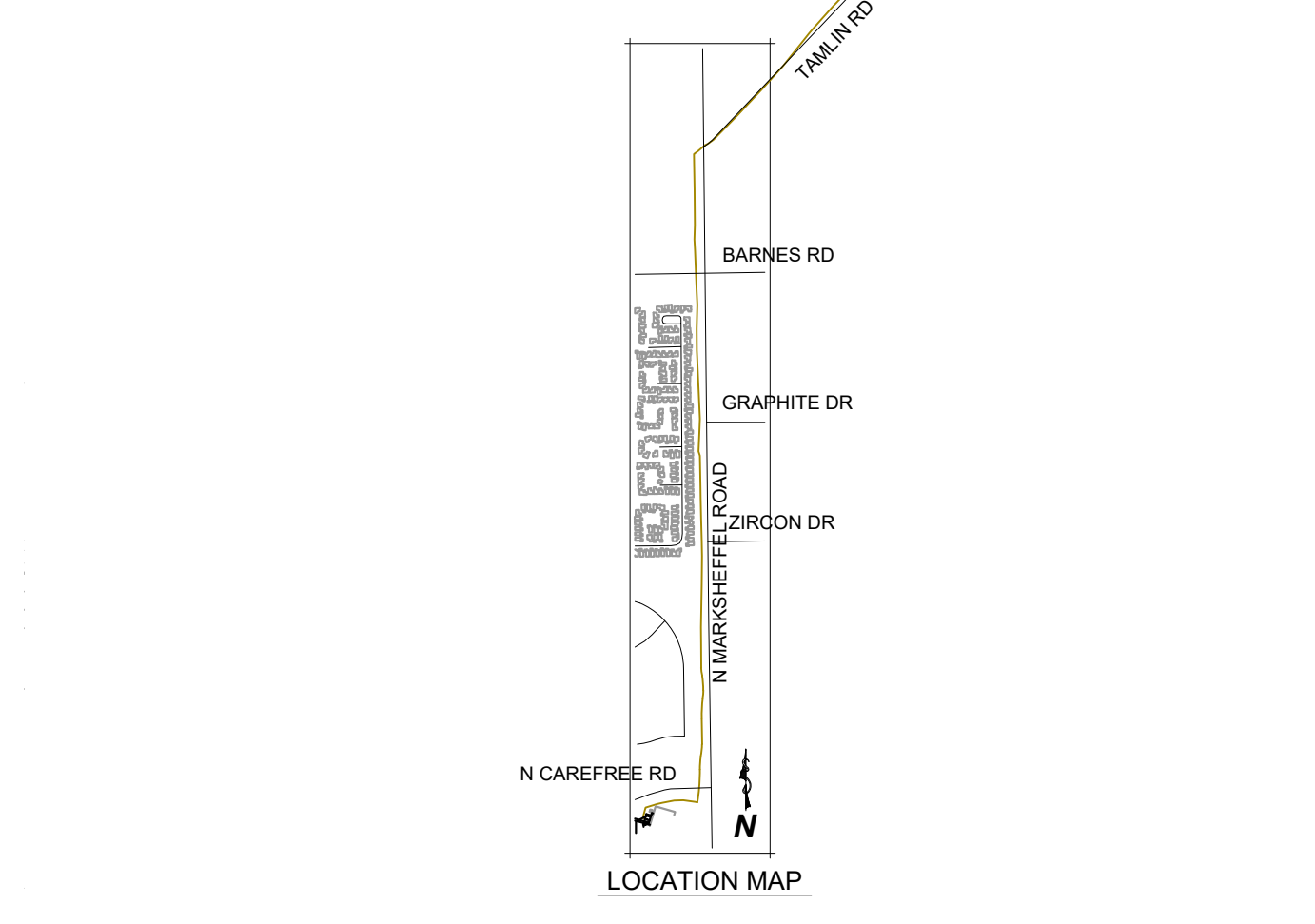
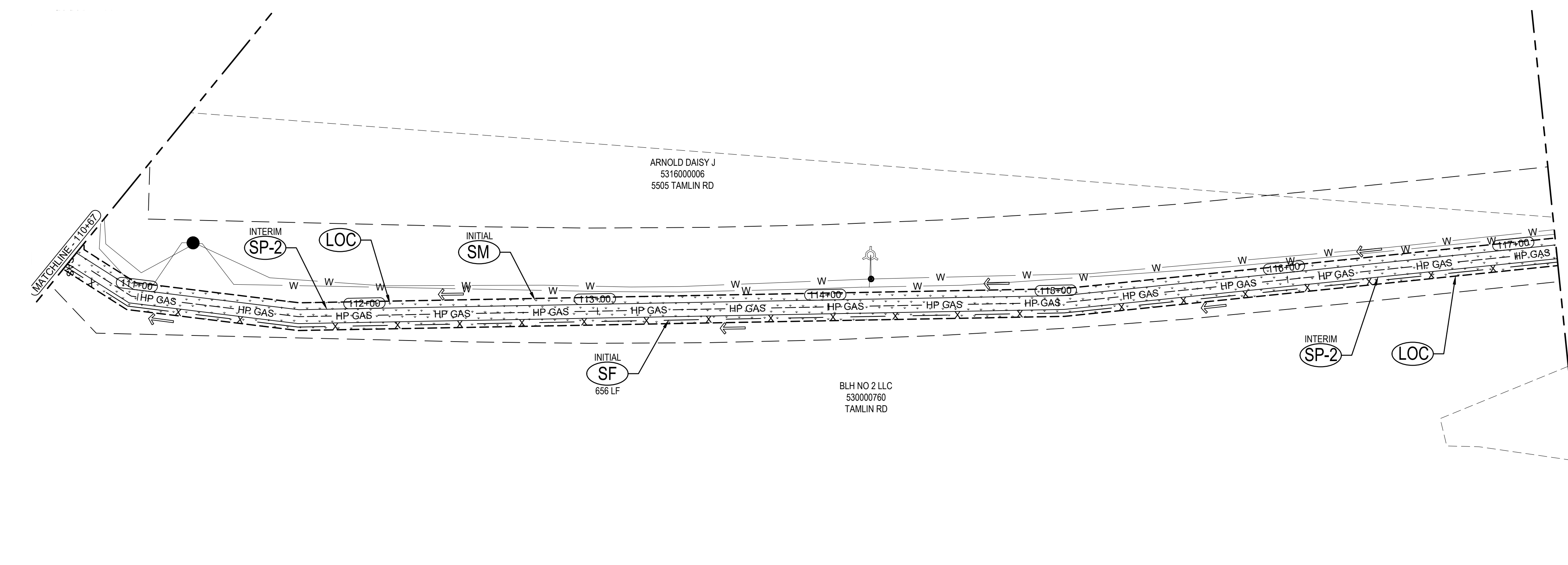
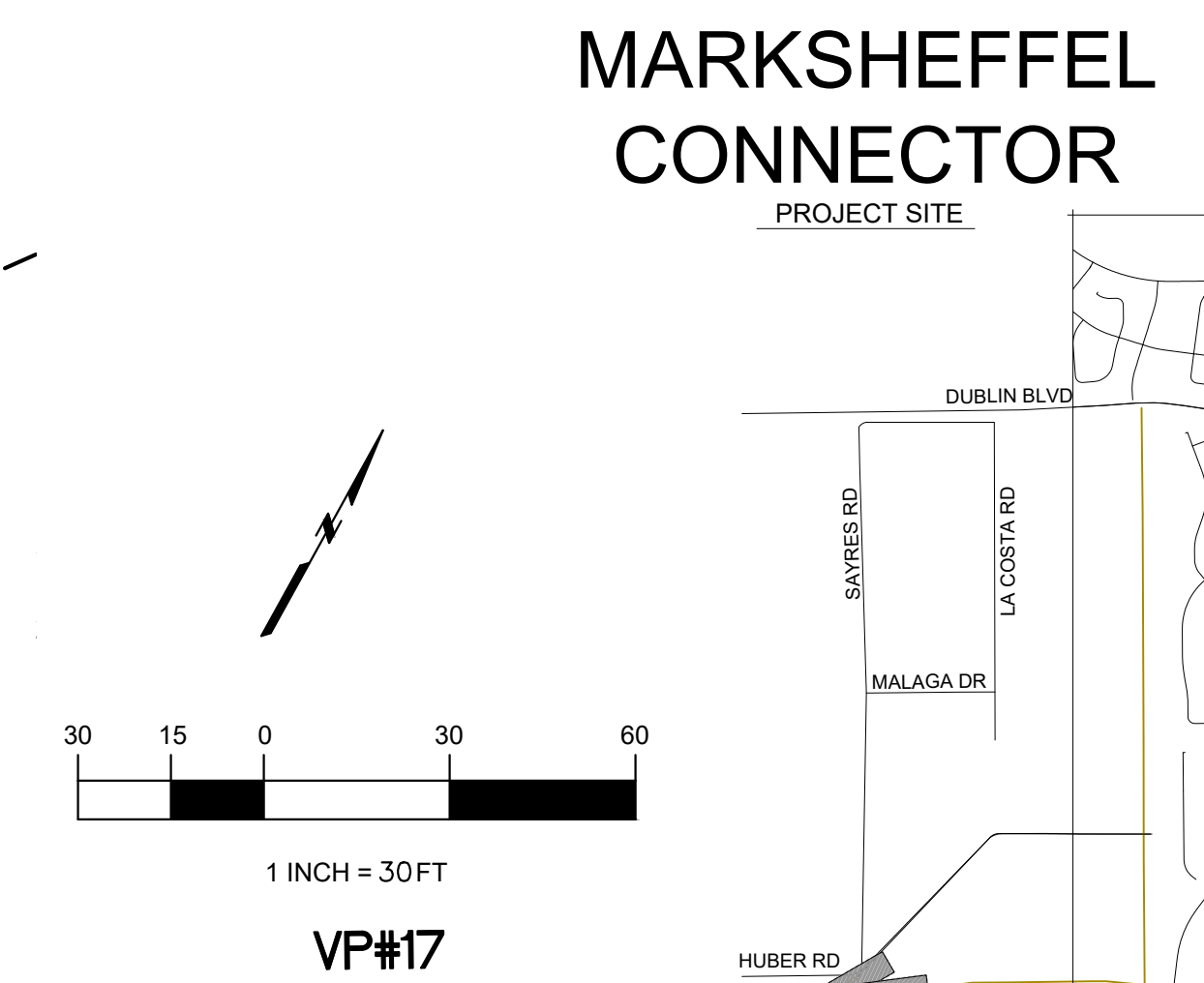
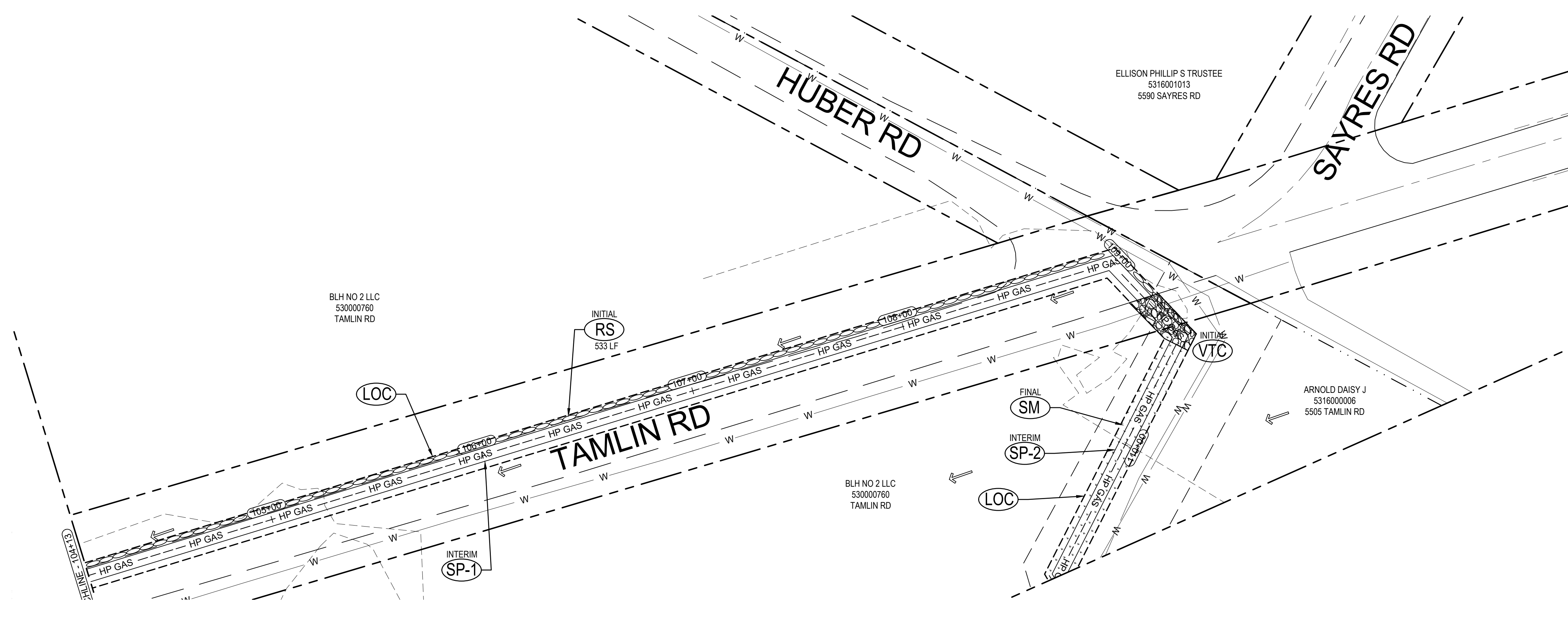
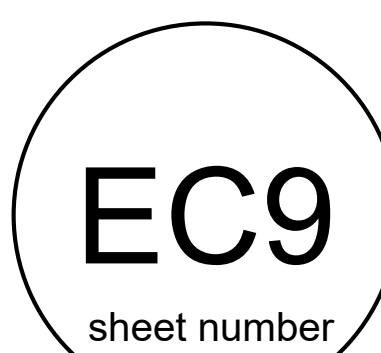
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16-IN HIGH PRESSURE GAS MAIN
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LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SEEDING AND MULCHING	LIMITS OF TRENCH
MATERIALS STAGING	EXISTING FLOW DIRECTION
ROCK SOCK	SILT FENCE
LIMITS OF CONSTRUCTION=EXTENTS OF GAS LINE	VEHICLE TRACKING CONTROL
LIMITS OF DISTURBANCE EASEMENT	
INLET PROTECTION	



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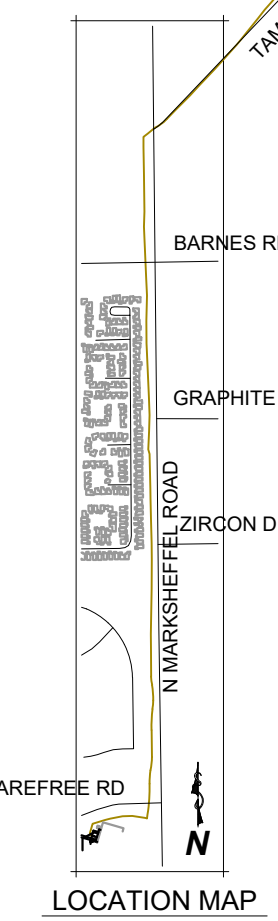
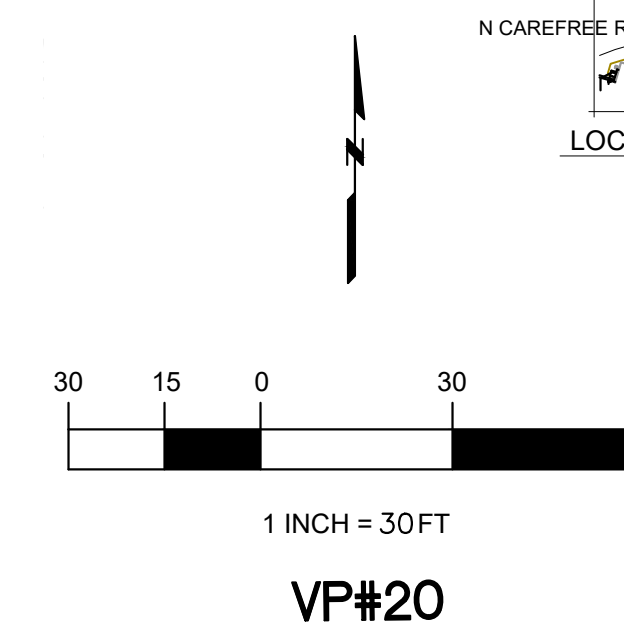
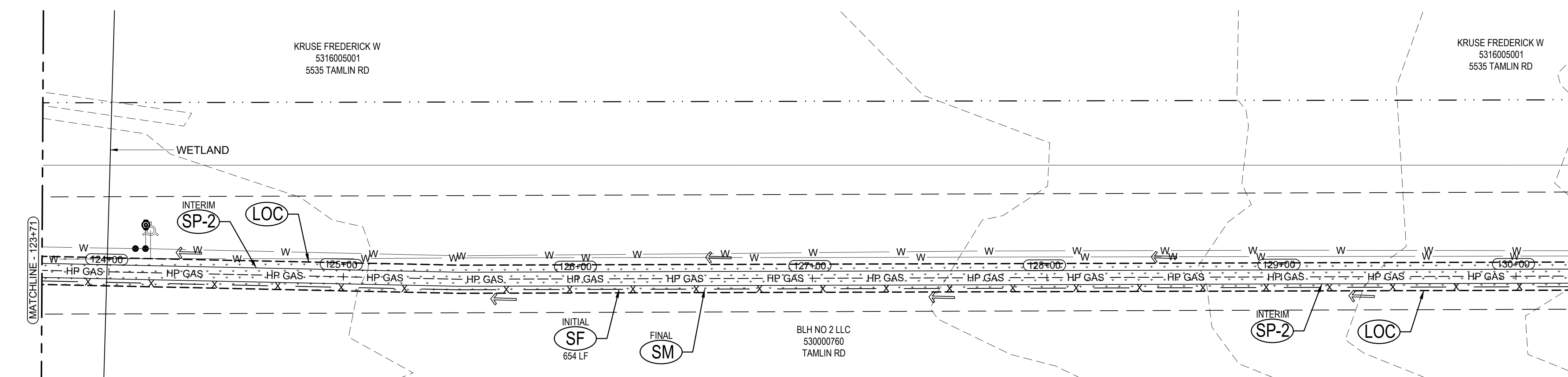
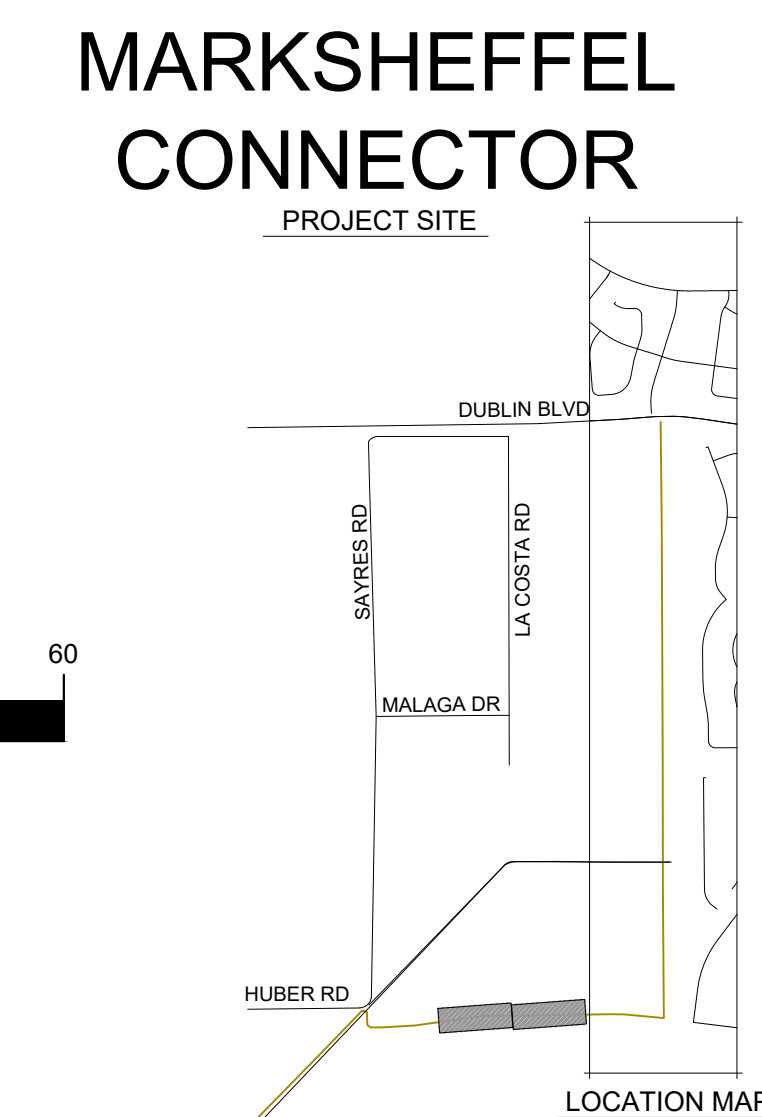
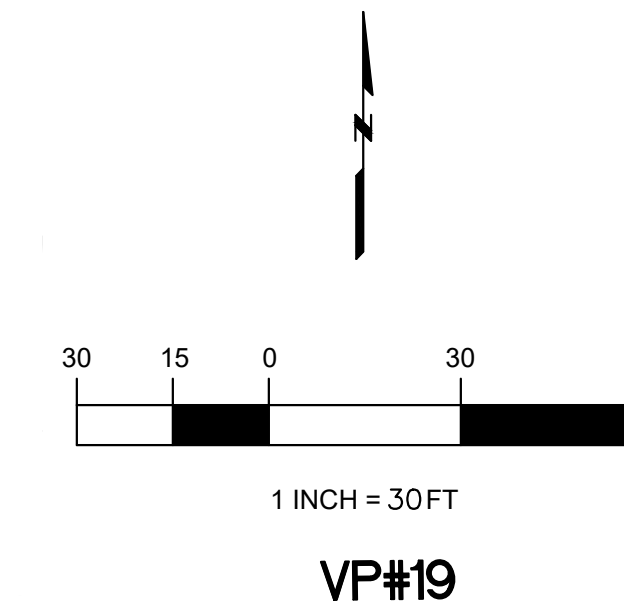
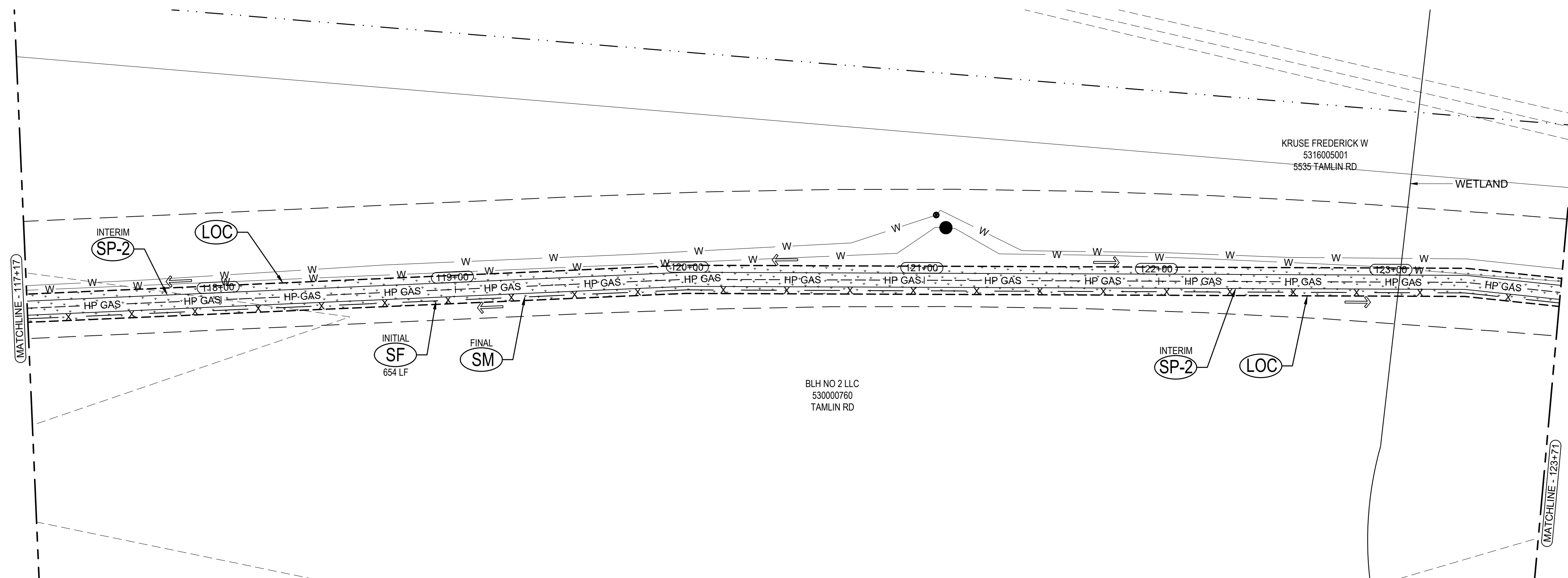


GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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EC10
sheet number



- LEGEND**
- EXISTING ROW/PROPERTY LINE
 - - - EXISTING CURB LINE
 - [SM] SEEDING AND MULCHING
 - [SP-1] [SP-2] MATERIALS STAGING
 - [RS] ROCK SOCK
 - [LOC] LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE
 - [IP] INLET PROTECTION
 - ss --- EXISTING SANITARY SEWER
 - w --- EXISTING WATER
 - [] LIMITS OF TRENCH
 - [>] EXISTING FLOW DIRECTION
 - [x] [SF] SILT FENCE
 - [VTC] VEHICLE TRACKING CONTROL



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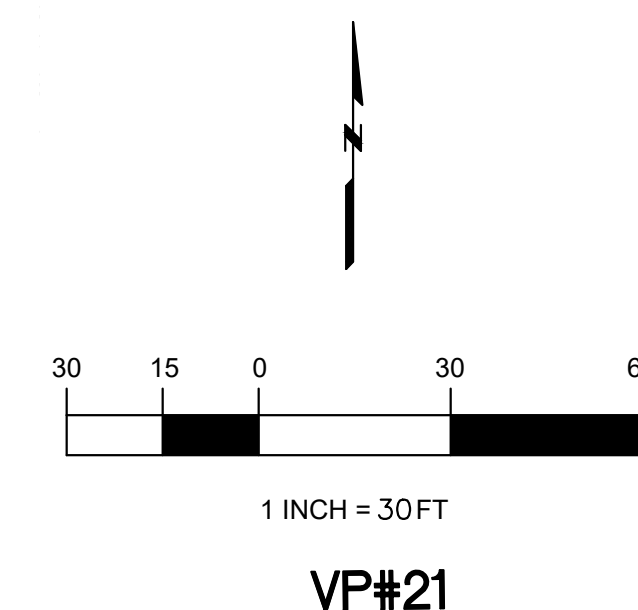
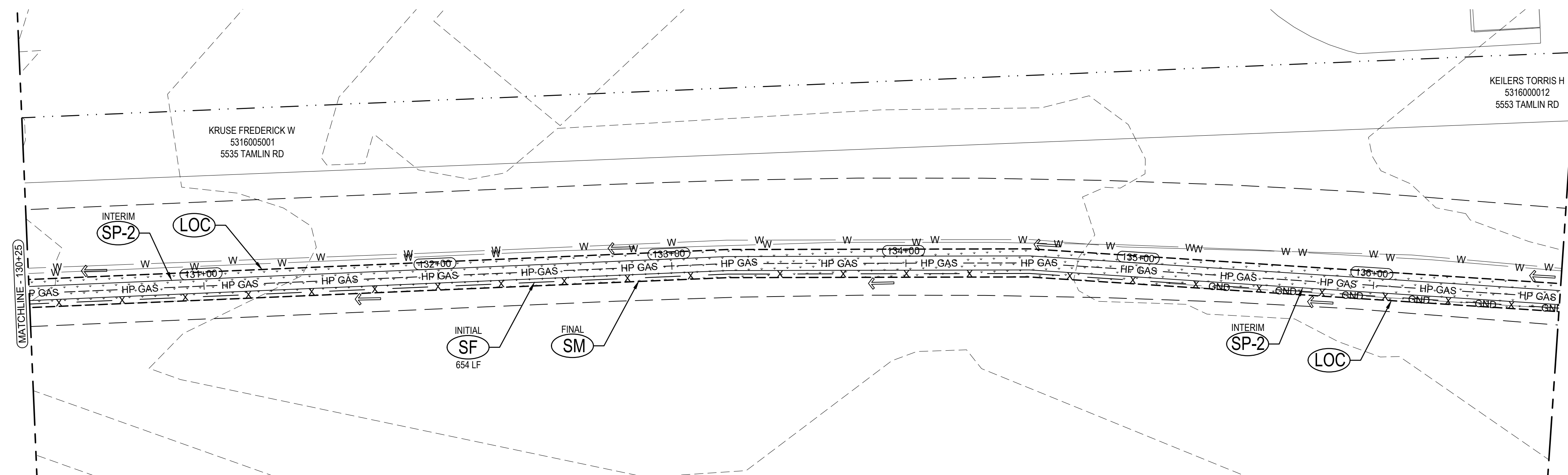


GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

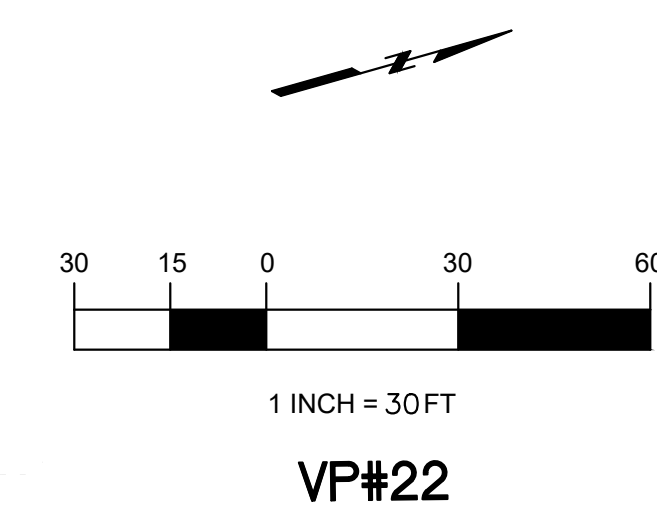
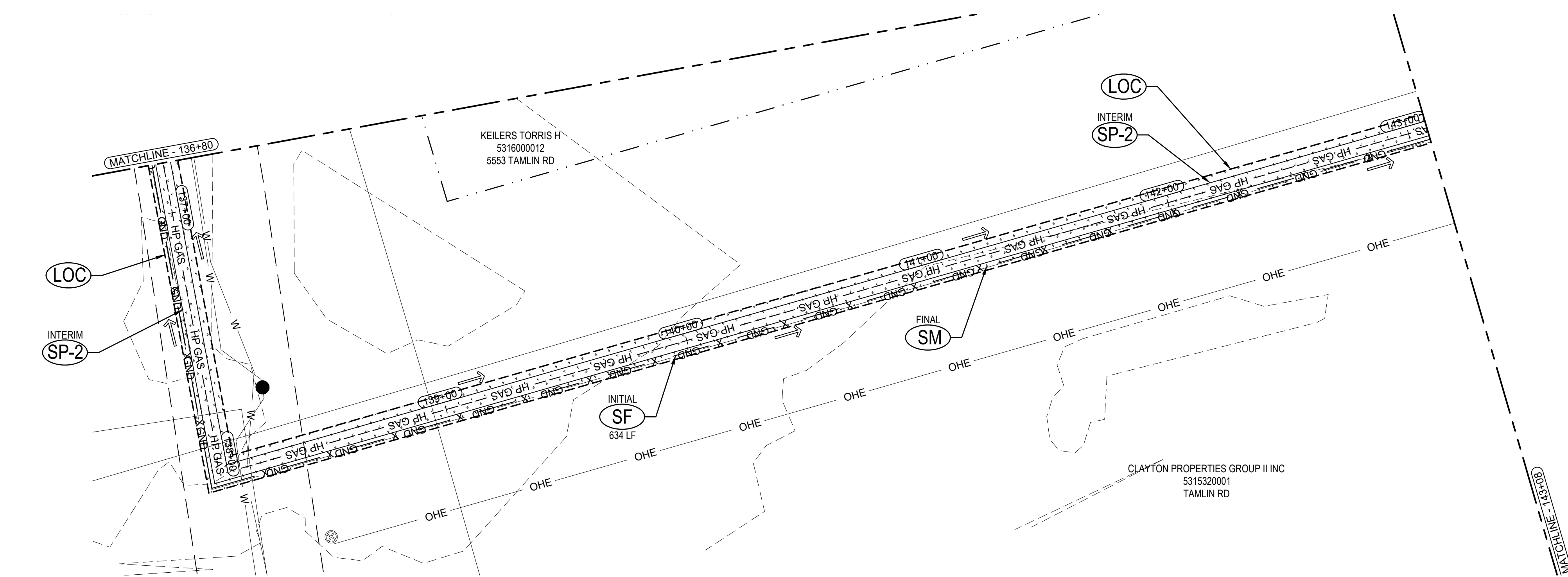
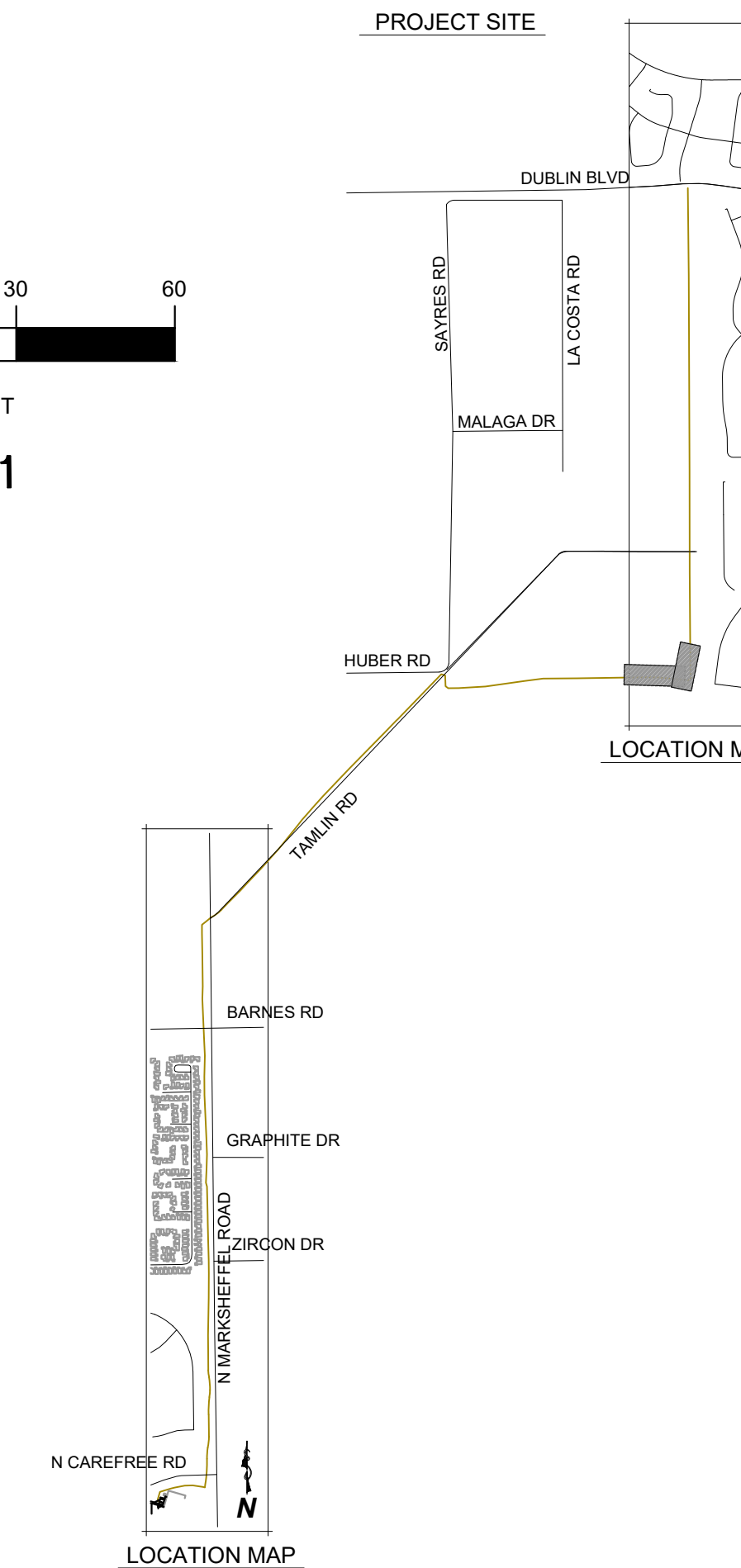
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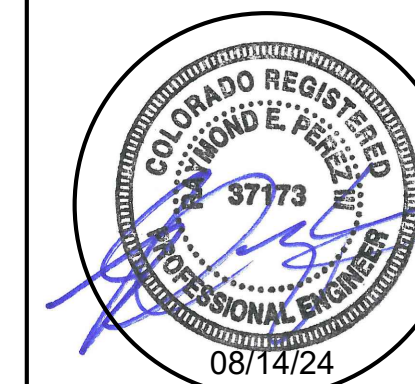
PROJECT SITE



LEGEND	
	EXISTING ROW/PROPERTY LINE
	EXISTING CURB LINE
	SEEDING AND MULCHING
	MATERIALS STAGING
	ROCK SOCK
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE
	LIMITS OF DISTURBANCE EASEMENT
	INLET PROTECTION
	EXISTING SANITARY SEWER
	EXISTING WATER
	LIMITS OF TRENCH
	EXISTING FLOW DIRECTION
	SILT FENCE
	VEHICLE TRACKING CONTROL



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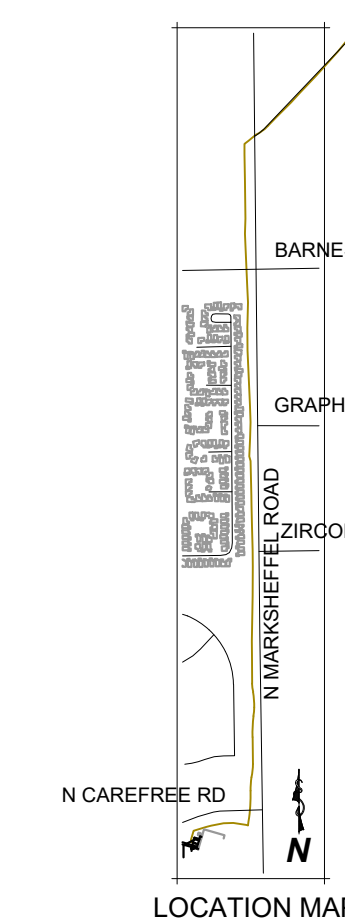
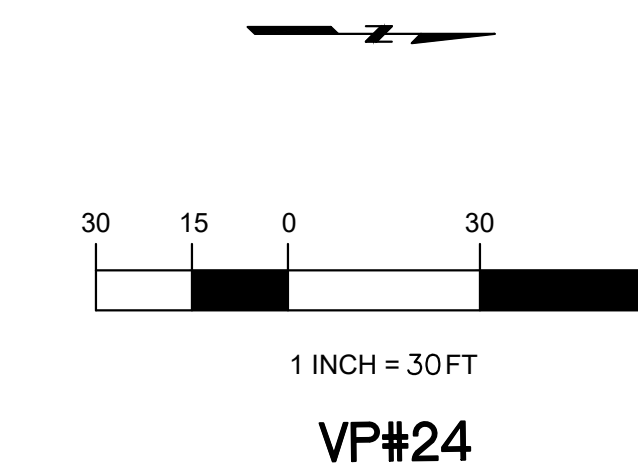
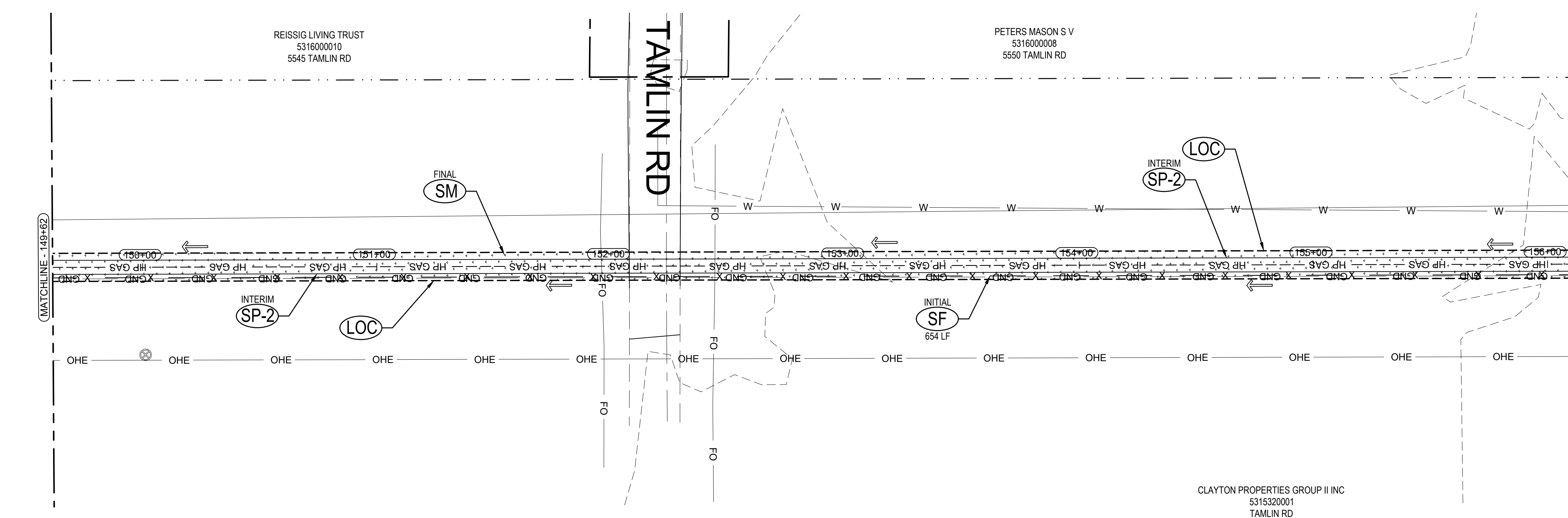
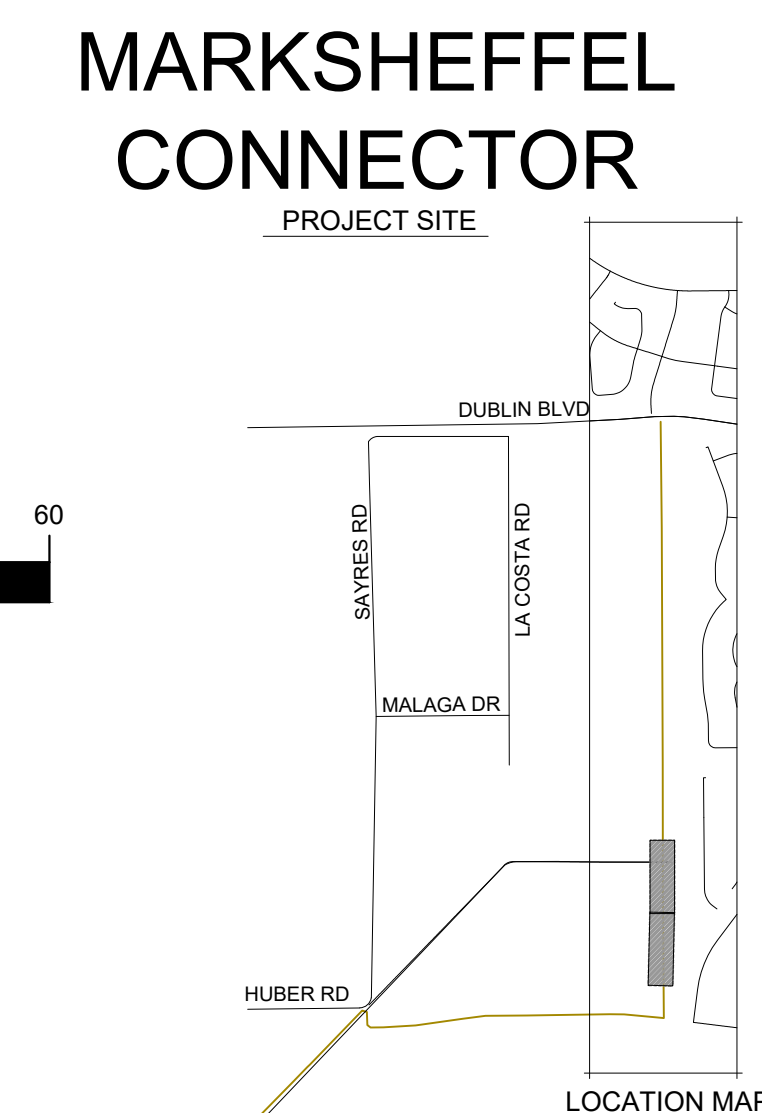
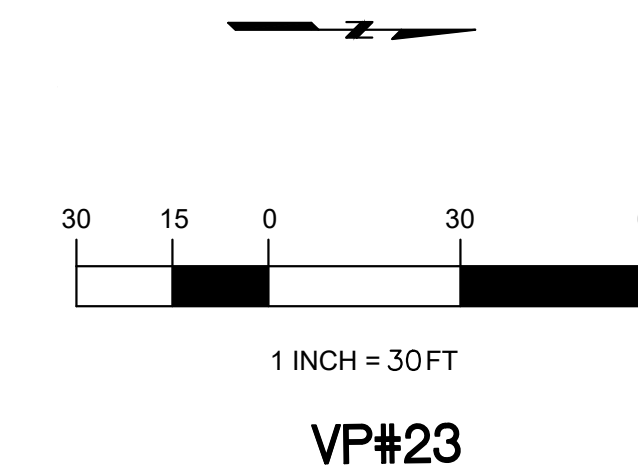
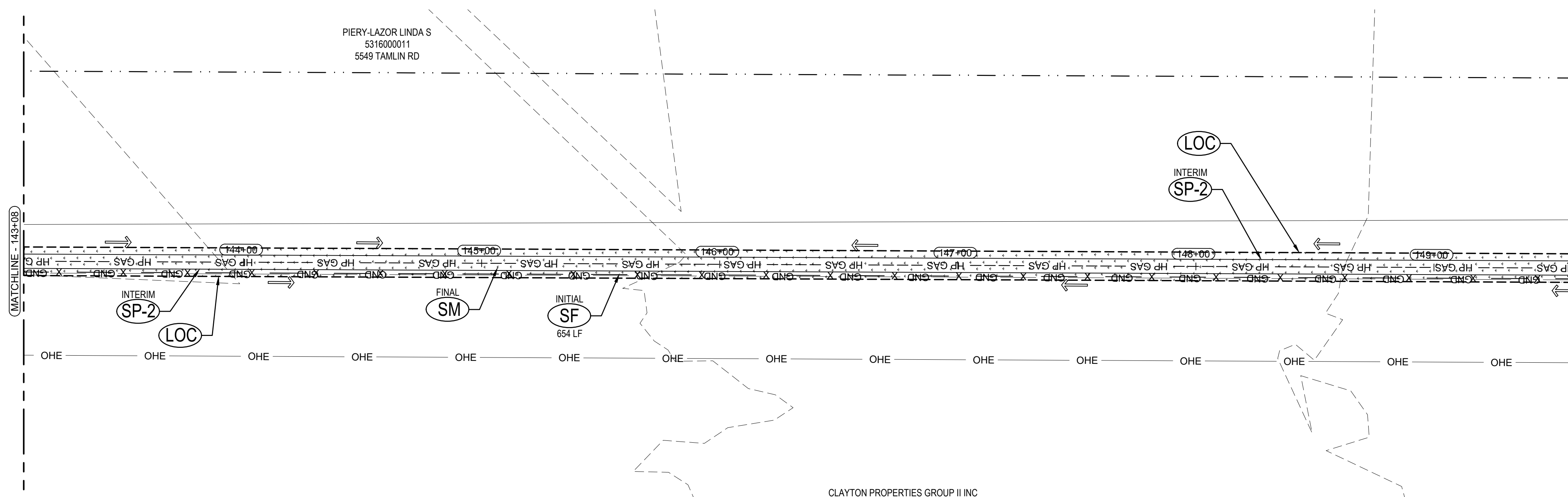
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MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

E R O S I O N C O N T R O L P L A N

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sheet number



LEGEND

	EXISTING ROW/PROPERTY LINE		EXISTING SANITARY SEWER
	EXISTING CURB LINE		EXISTING WATER
	SEEDING AND MULCHING		LIMITS OF TRENCH
	MATERIALS STAGING		EXISTING FLOW DIRECTION
	ROCK SOCK		SILT FENCE
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE		VEHICLE TRACKING CONTROL
	LIMITS OF DISTURBANCE EASEMENT		



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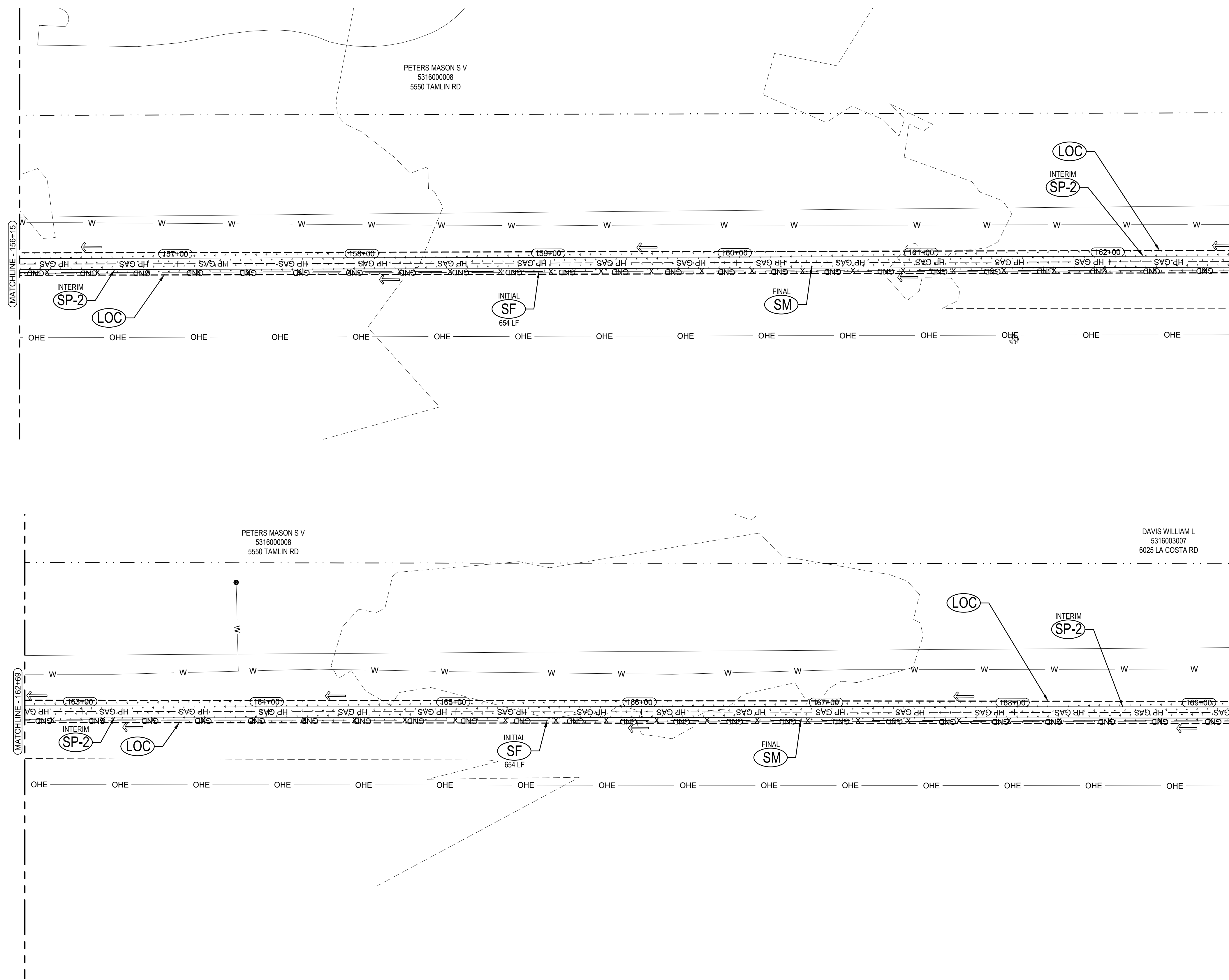


GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

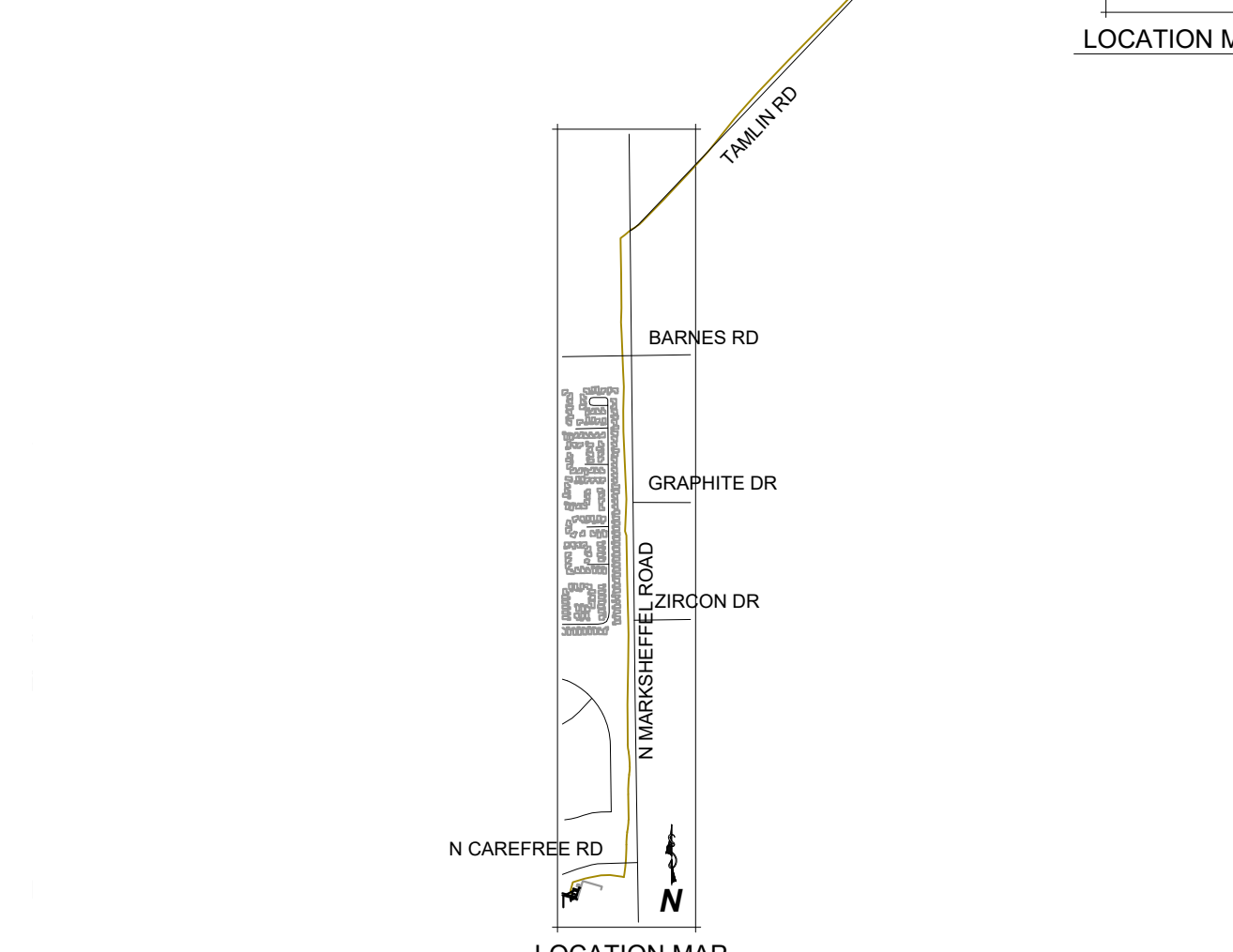
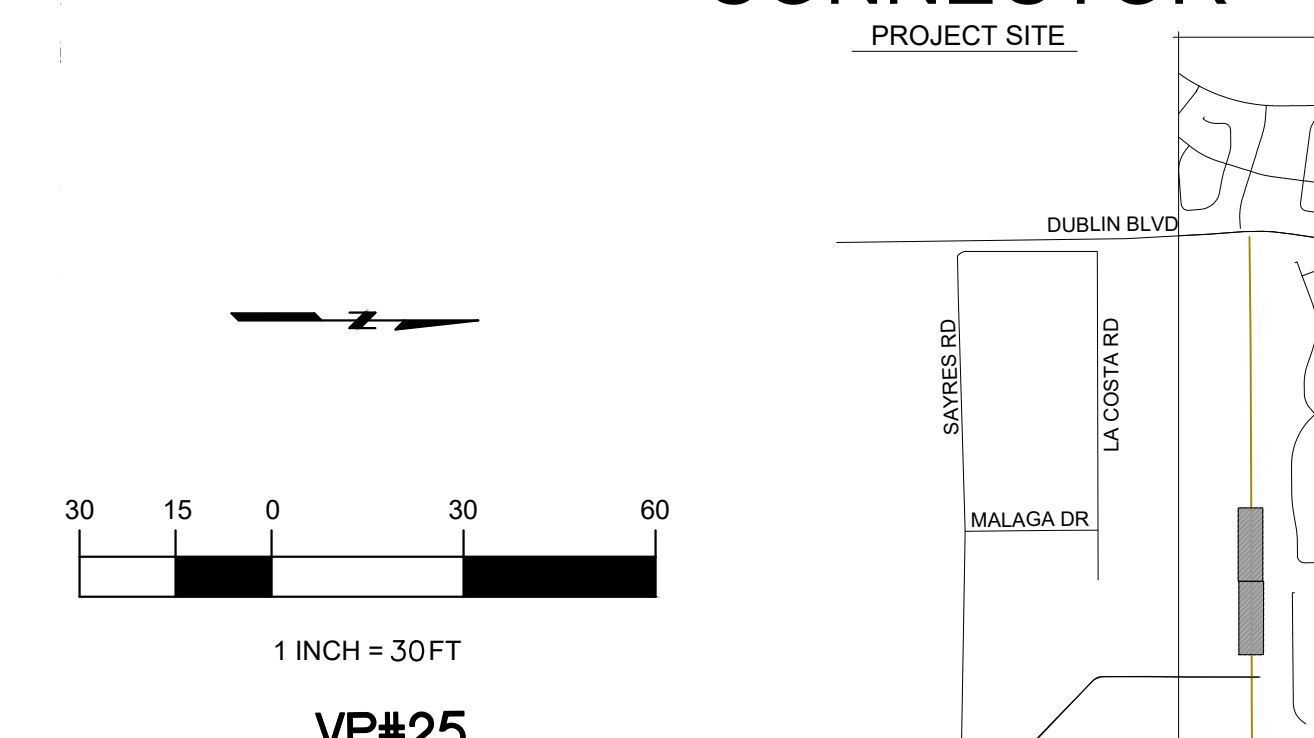
EROSION CONTROL PLAN

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MARKSHEFFEL CONNECTOR



LEGEND			
	EXISTING ROW/PROPERTY LINE		EXISTING SANITARY SEWER
	EXISTING CURB LINE		EXISTING WATER
	SEEDING AND MULCHING		LIMITS OF TRENCH
	MATERIALS STAGING		EXISTING FLOW DIRECTION
	ROCK SOCK		SILT FENCE
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE		VEHICLE TRACKING CONTROL
	LIMITS OF DISTURBANCE EASEMENT		
	INLET PROTECTION		



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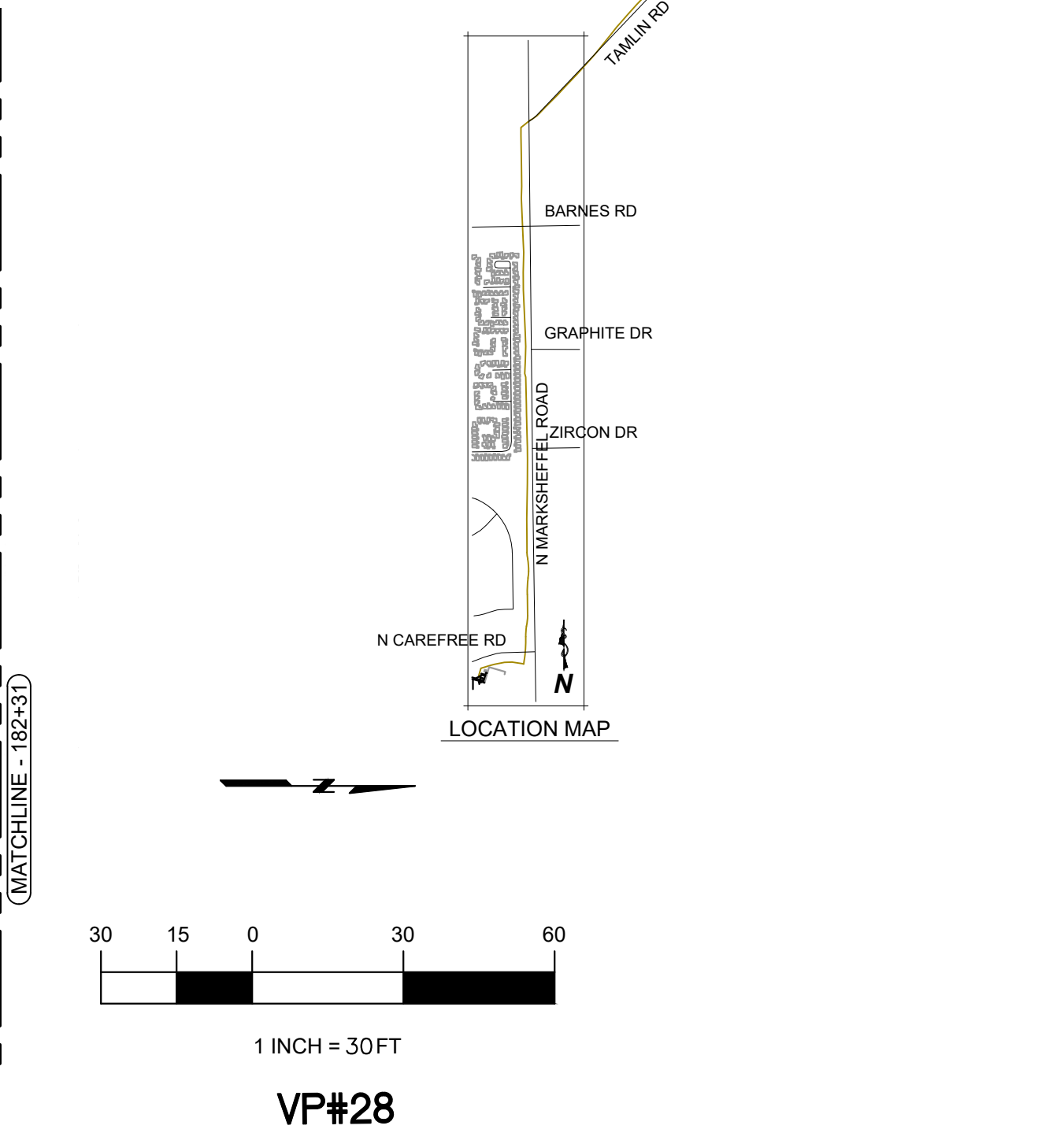
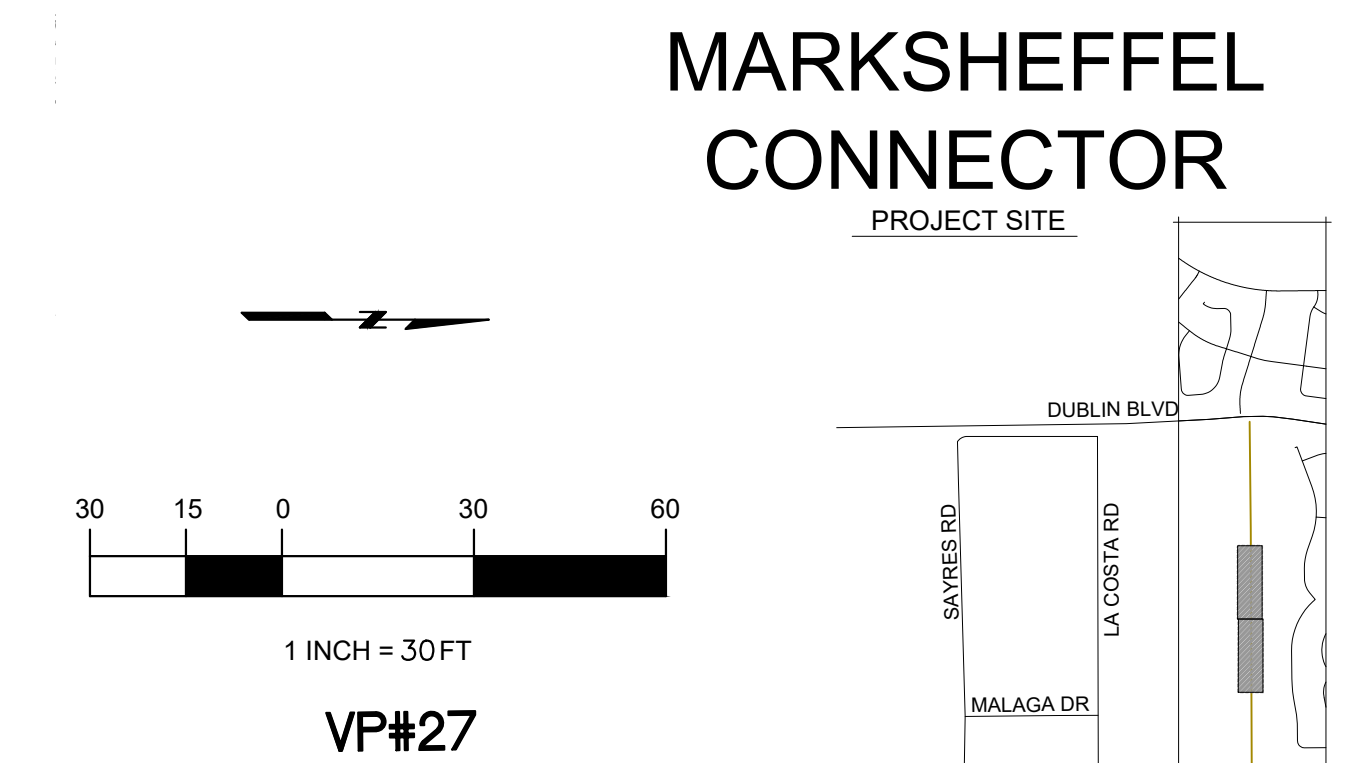
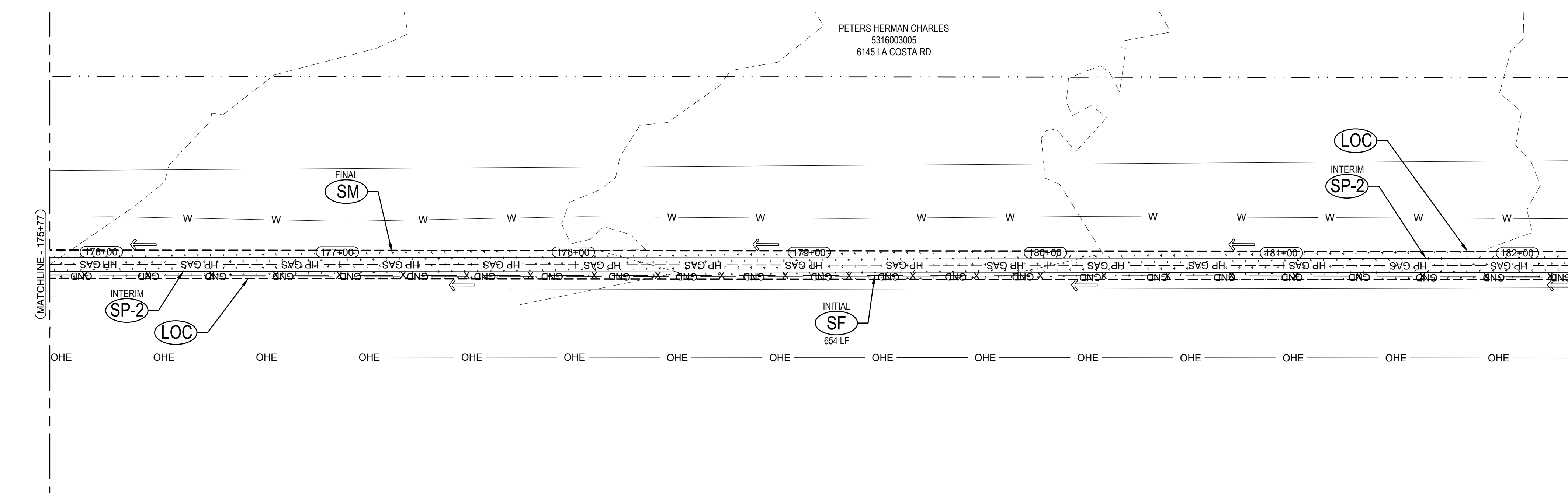
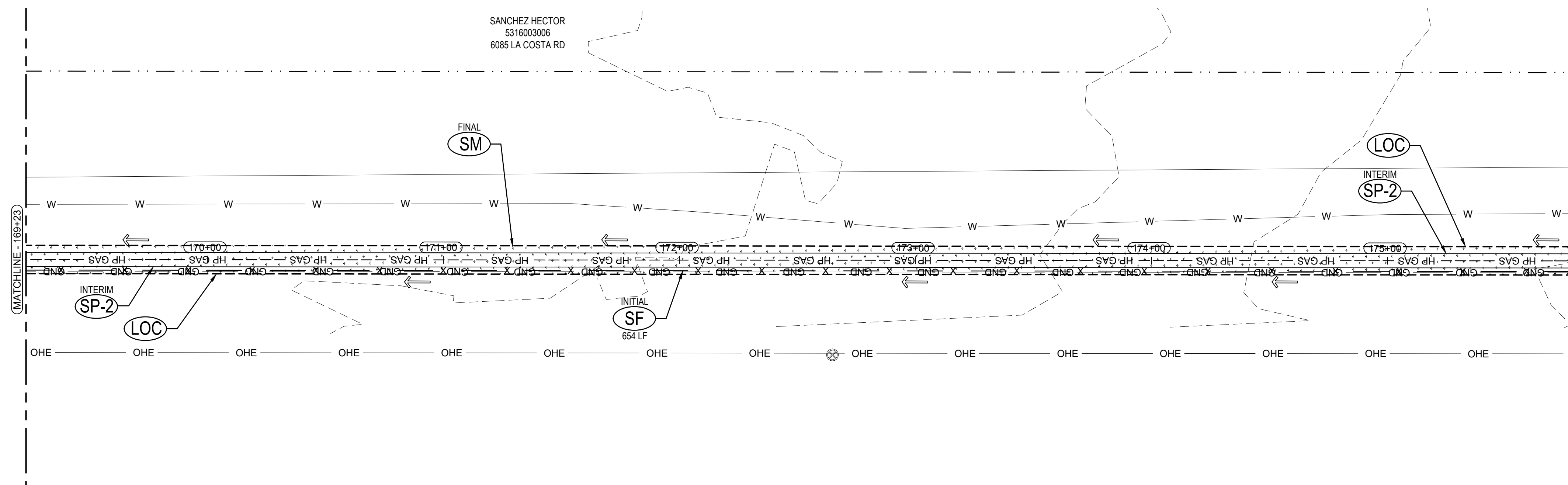


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16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

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LEGEND			
	EXISTING ROW/PROPERTY LINE		EXISTING SANITARY SEWER
	EXISTING CURB LINE		EXISTING WATER
	SEEDING AND MULCHING		LIMITS OF TRENCH
	MATERIALS STAGING		EXISTING FLOW DIRECTION
	ROCK SOCK		SILT FENCE
	LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE LIMITS OF DISTURBANCE EASEMENT		VEHICLE TRACKING CONTROL
	INLET PROTECTION		



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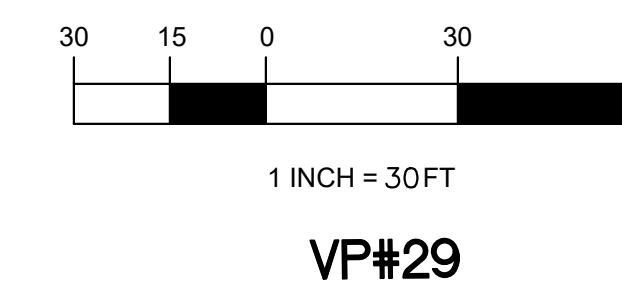
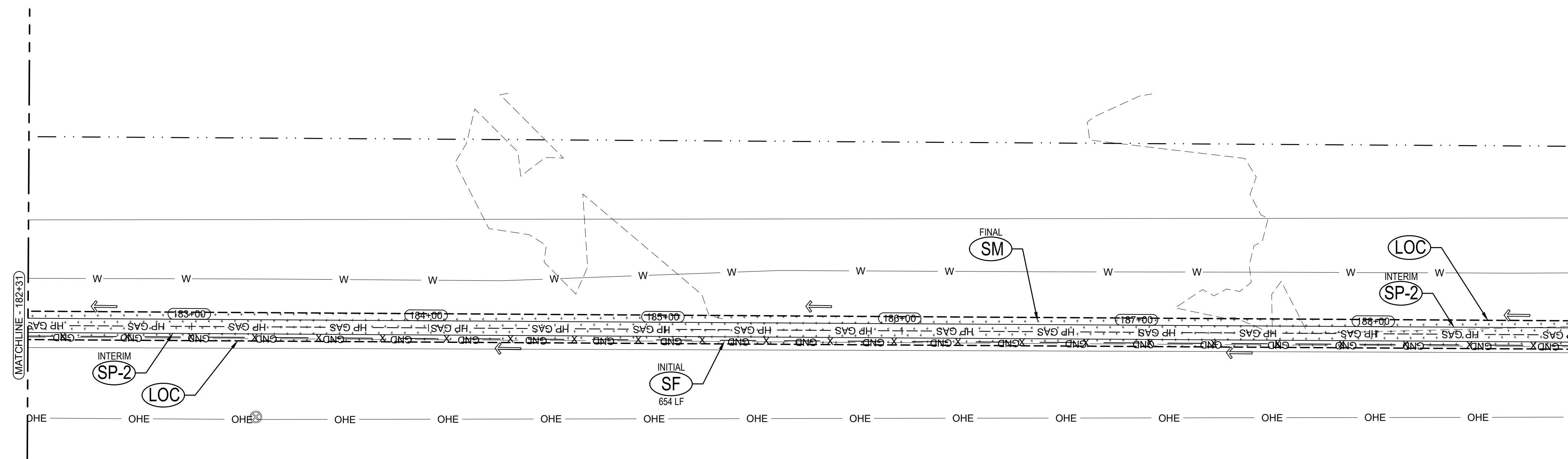


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EL PASO COUNTY, COLORADO

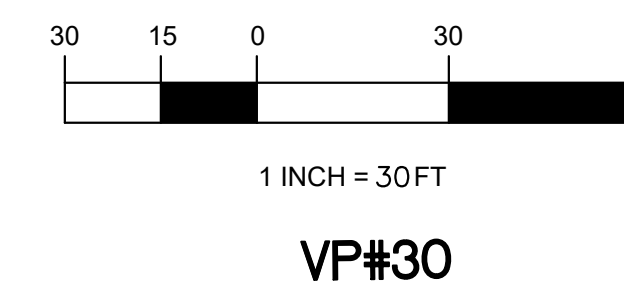
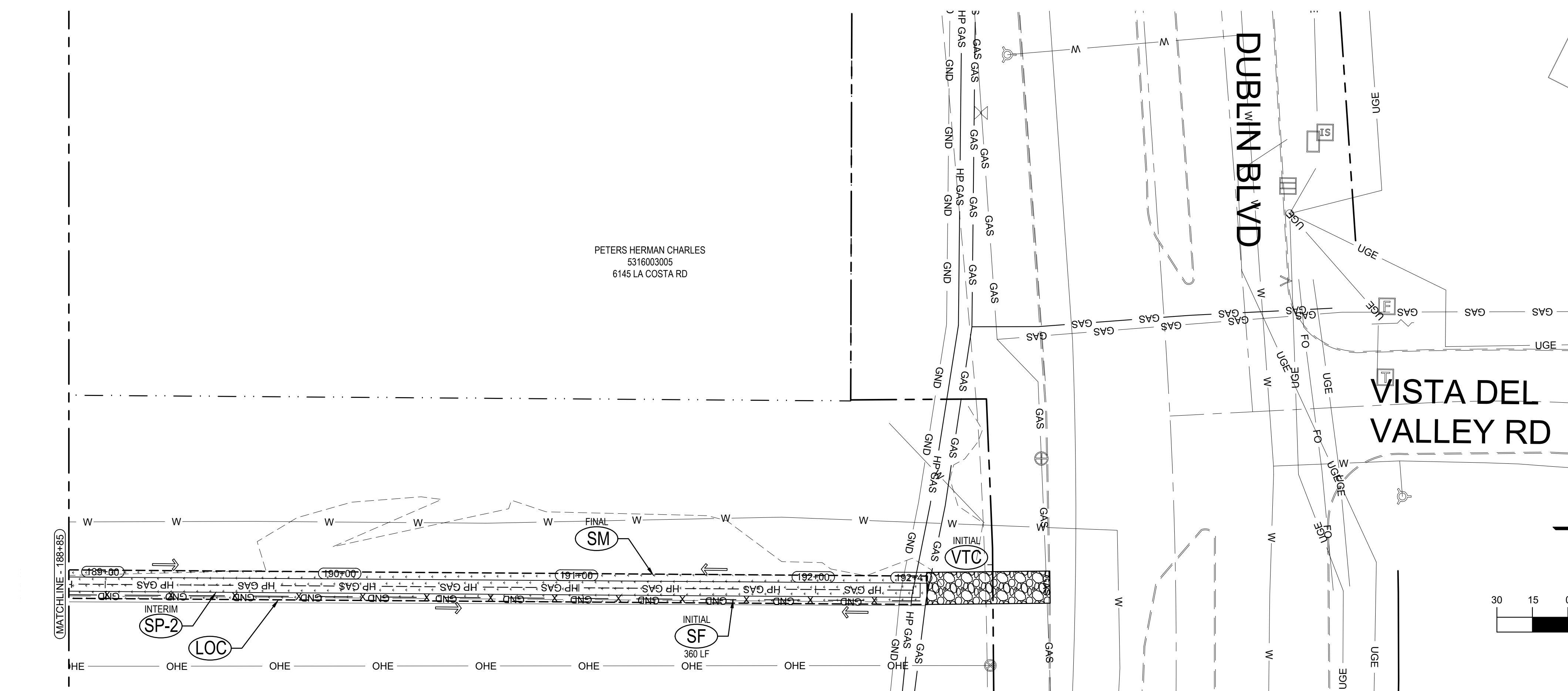
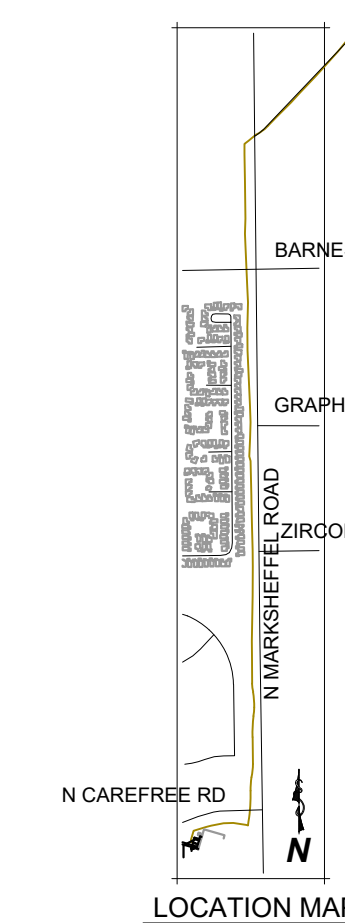
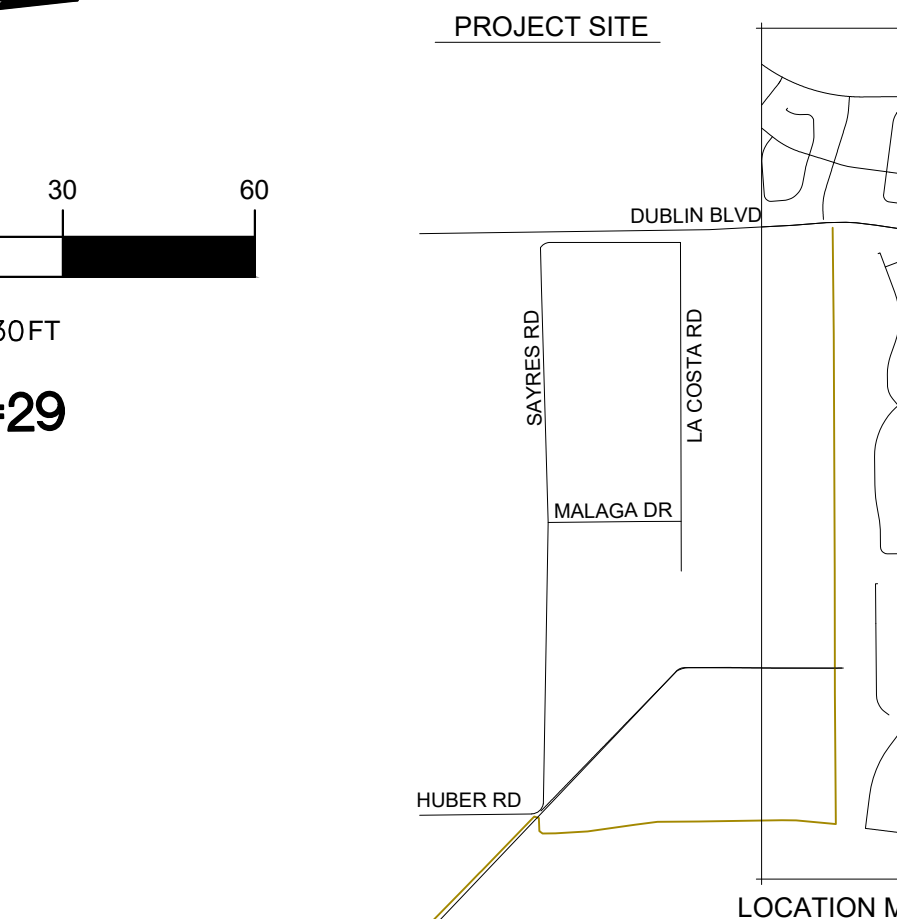
EROSION CONTROL PLAN

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MARKSHEFFEL CONNECTOR



LEGEND

- | | | | |
|---------------|--------------------------------------------|-------|--------------------------|
| --- | EXISTING ROW/PROPERTY LINE | SS | EXISTING SANITARY SEWER |
| - - - | EXISTING CURB LINE | W | EXISTING WATER |
| [SM] | SEEDING AND MULCHING | [] | LIMITS OF TRENCH |
| [SP-1] [SP-2] | MATERIALS STAGING | → | EXISTING FLOW DIRECTION |
| [RS] | ROCK SOCK | - x - | [SF] SILT FENCE |
| - - - | LIMITS OF CONSTRUCTION/EXTENTS OF GAS LINE | [VTC] | VEHICLE TRACKING CONTROL |
| - - - | LIMITS OF DISTURBANCE EASEMENT | | |
| [IP] | INLET PROTECTION | | |



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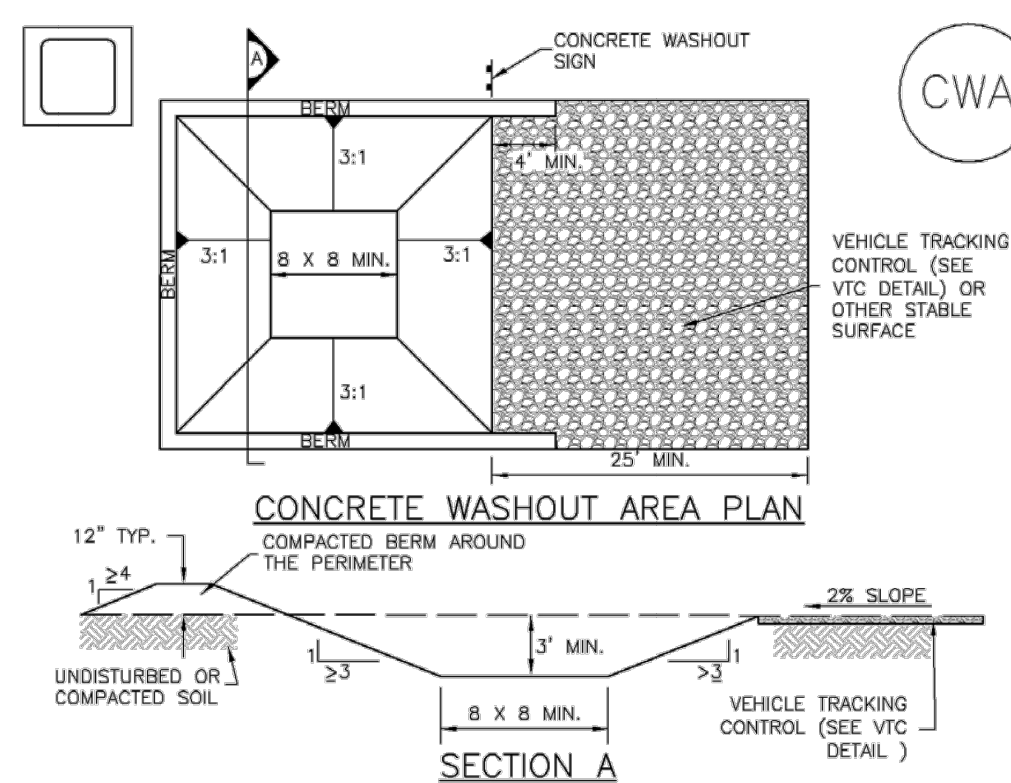
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EL PASO COUNTY, COLORADO

EROSION CONTROL DETAILS

Issued 08/14/24

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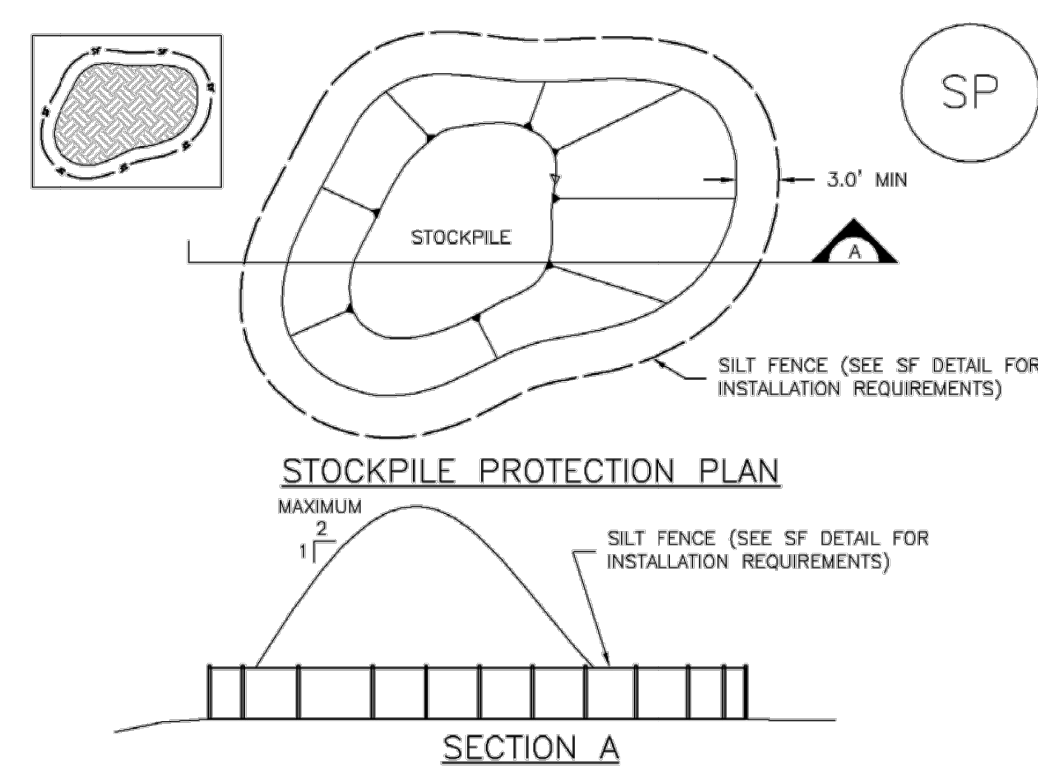
Concrete Washout Area (CWA) MM-1



- CWA-1. CONCRETE WASHOUT AREA**
- CWA INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
 - CWA INSTALLATION LOCATION.
 - DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL. MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
 - THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
 - CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER THE PIT SHALL BE AT LEAST 3' DEEP.
 - BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
 - VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
 - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
 - USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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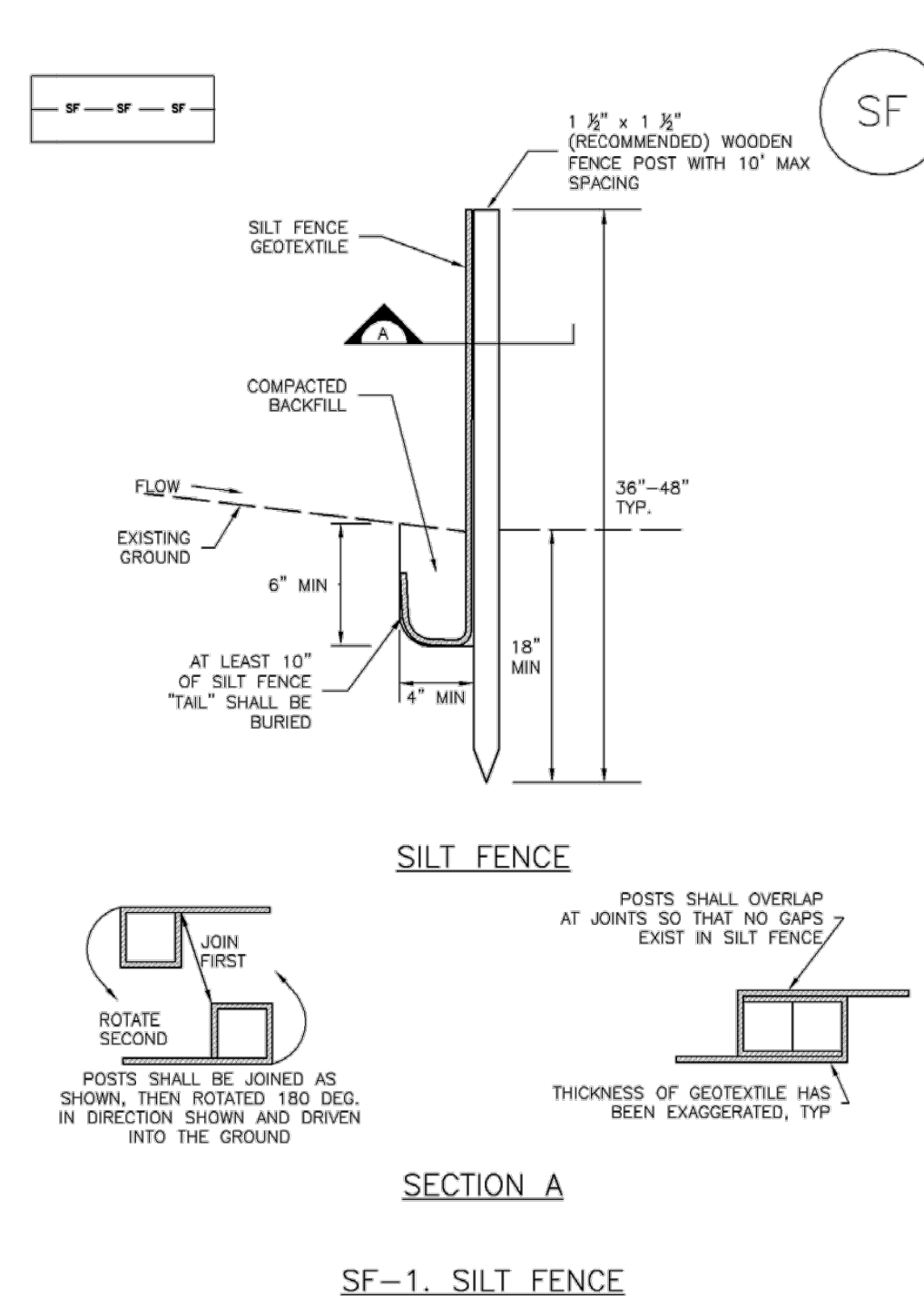
Stockpile Management (SP) MM-2



- SP-1. STOCKPILE PROTECTION**
- STOCKPILE PROTECTION INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
 - LOCATION OF STOCKPILES.
 - TYPE OF STOCKPILE PROTECTION.
 - INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
 - STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDING AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
 - FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNDRIFT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

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Silt Fence (SF) SC-1



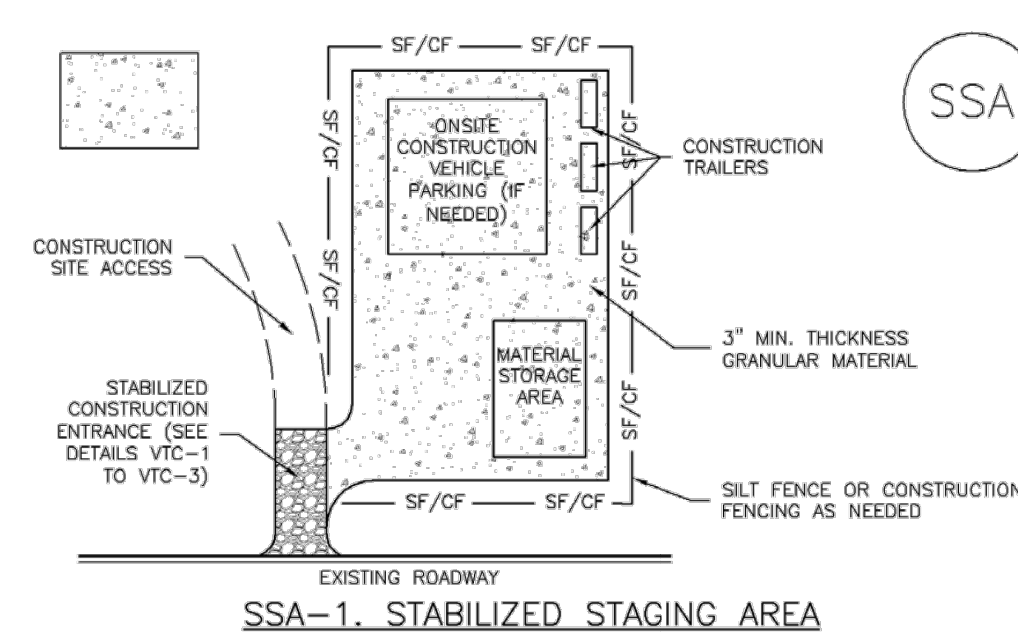
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Silt Fence (SF) SC-1

- SILT FENCE INSTALLATION NOTES**
- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER FLOWING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR FLOWING AND DEPOSITION.
 - A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
 - COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
 - SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
 - SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
 - AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
 - SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- SILT FENCE MAINTENANCE NOTES**
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
 - REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
 - SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
 - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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Stabilized Staging Area (SSA) SM-6



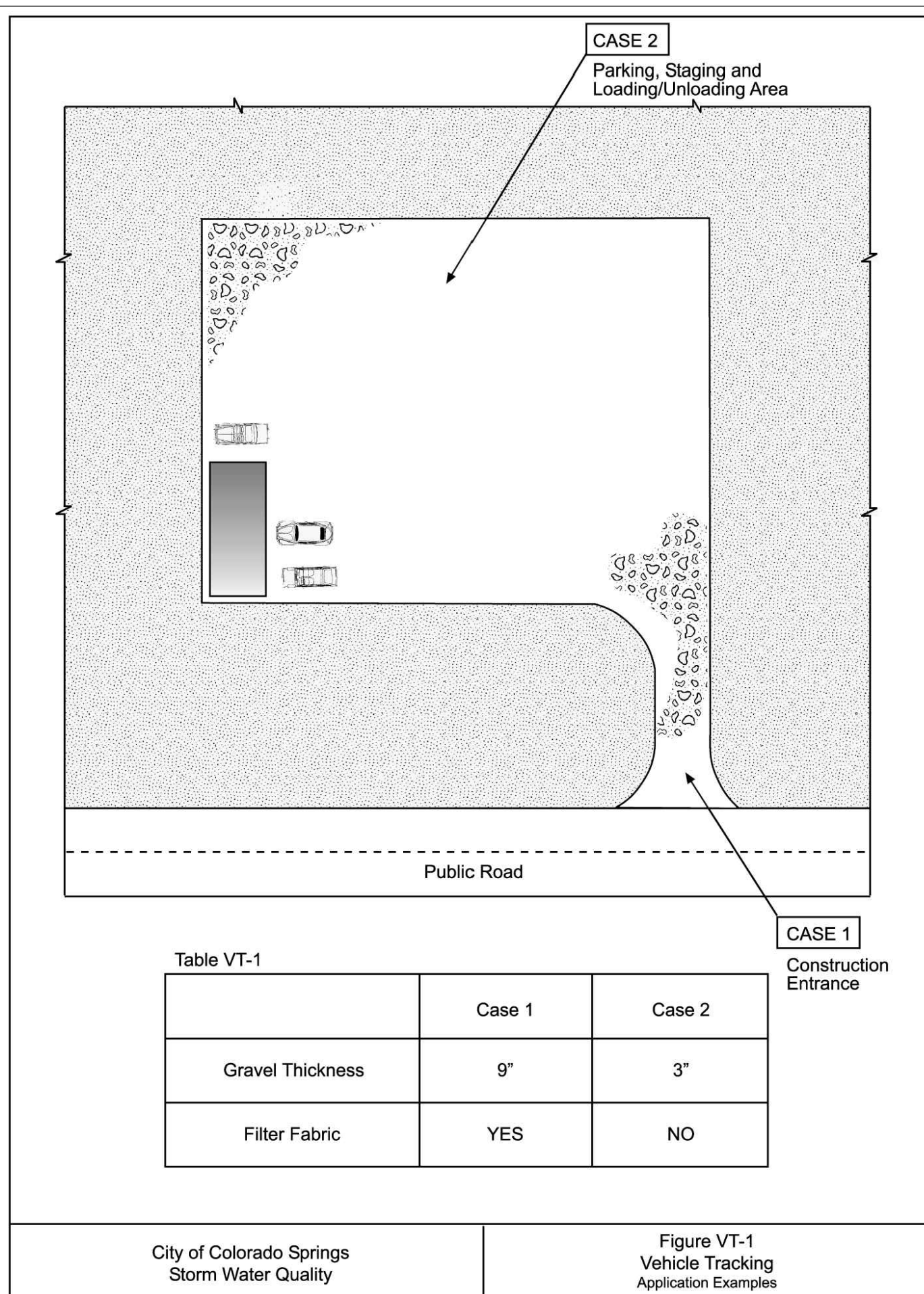
- SSA-1. STABILIZED STAGING AREA**
- STABILIZED STAGING AREA INSTALLATION NOTES**
- SEE PLAN VIEW FOR:
 - LOCATION OF STAGING AREA(S).
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
 - STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
 - STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
 - THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
 - UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR #6 (MINUS) ROCK.
 - ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA MAINTENANCE NOTES**
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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Stabilized Staging Area (SSA) SM-6

- STABILIZED STAGING AREA MAINTENANCE NOTES**
- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
 - THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
- (DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

November 2010 Urban Drainage and Flood Control District SSA-4
Urban Storm Drainage Criteria Manual Volume 3



- VEHICLE TRACKING NOTES**
- INSTALLATION REQUIREMENTS**
- ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
 - CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
 - AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
 - CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
 - CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.
- MAINTENANCE REQUIREMENTS**
- REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
 - STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
 - SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
 - STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
 - OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs Figure VT-2
Stormwater Quality Vehicle Tracking Application Examples

Table VT-1	Case 1	Case 2
Gravel Thickness	9"	3"
Filter Fabric	YES	NO

City of Colorado Springs Figure VT-1
Storm Water Quality Vehicle Tracking Application Examples



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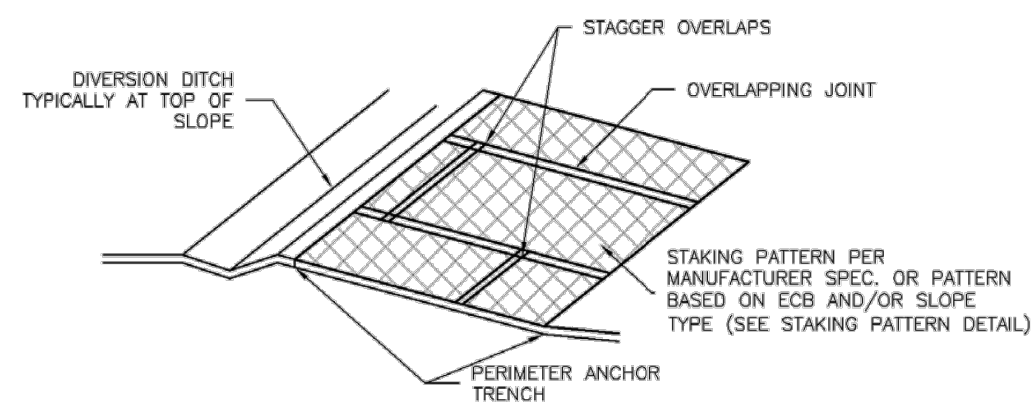
G E S C P L A N
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL DETAILS

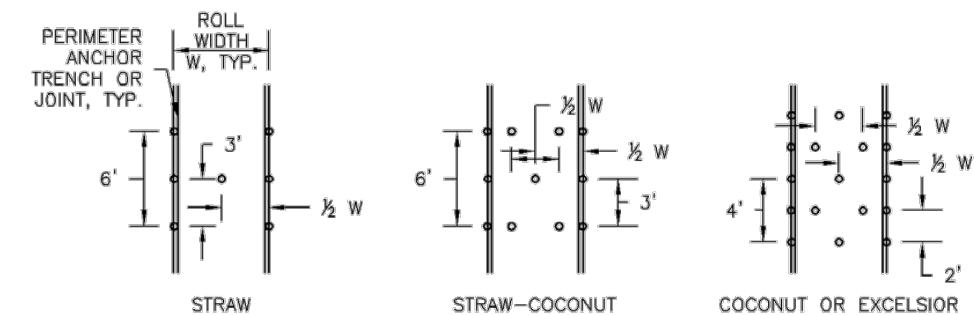
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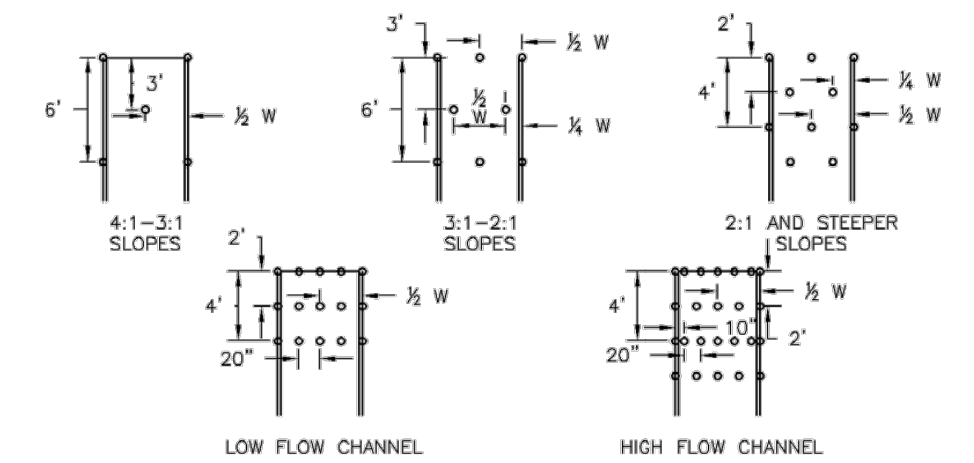
Rolled Erosion Control Products (RECP) EC-6



ECB-3. OUTSIDE OF DRAINAGEWAY



STAKING PATTERNS BY ECB TYPE



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

November 2010 Urban Drainage and Flood Control District
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Temporary and Permanent Seeding (TS/PS) EC-2

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season ^a	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	<i>Bouteloua gracilis</i>	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	<i>Schizachyrium scoparium 'Camper'</i>	Warm	Bunch	240,000	1.0
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm	Open sod	274,000	1.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed Mix					
Ephraim crested wheatgrass ^b	<i>Agropyron cristatum 'Ephraim'</i>	Cool	Sod	175,000	1.5
Oahe intermediate wheatgrass	<i>Agropyron intermedium 'Oahe'</i>	Cool	Sod	115,000	5.5
Vaughn sideoats grama ^c	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Lincoln smooth brome	<i>Bromus inermis leysii 'Lincoln'</i>	Cool	Sod	130,000	3.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.5

^a All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.
^b See Table TS/PS-3 for seeding dates.
^c If site is to be irrigated, the transition turf seed rates should be doubled.
^d Crested wheatgrass should not be used on slopes steeper than 6H to 1V.
^e Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

June 2012 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 TS/PS-5

EC-6 Rolled Erosion Control Products (RECP)

EROSION CONTROL BLANKET INSTALLATION NOTES

- SEE PLAN VIEW FOR:
-LOCATION OF ECB.
-TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
-AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
- IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
- MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.
- DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN	70% MAX	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREETS AND DRAINAGE CHANNELS.
**NATURAL NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

RECP-8 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 November 2010

EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

Seeding Dates	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
	Warm	Cool	Warm	Cool
January 1-March 15			✓	✓
March 16-April 30	4	1,2,3	✓	✓
May 1-May 15	4		✓	
May 16-June 30	4,5,6,7			
July 1-July 15	5,6,7			
July 16-August 31				
September 1-September 30		8,9,10,11		
October 1-December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

TS/PS-6 Urban Drainage and Flood Control District
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Mulching (MU) EC-4

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.



Photograph MU-1. An area that was recently seeded, mulched, and crimped.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeded. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

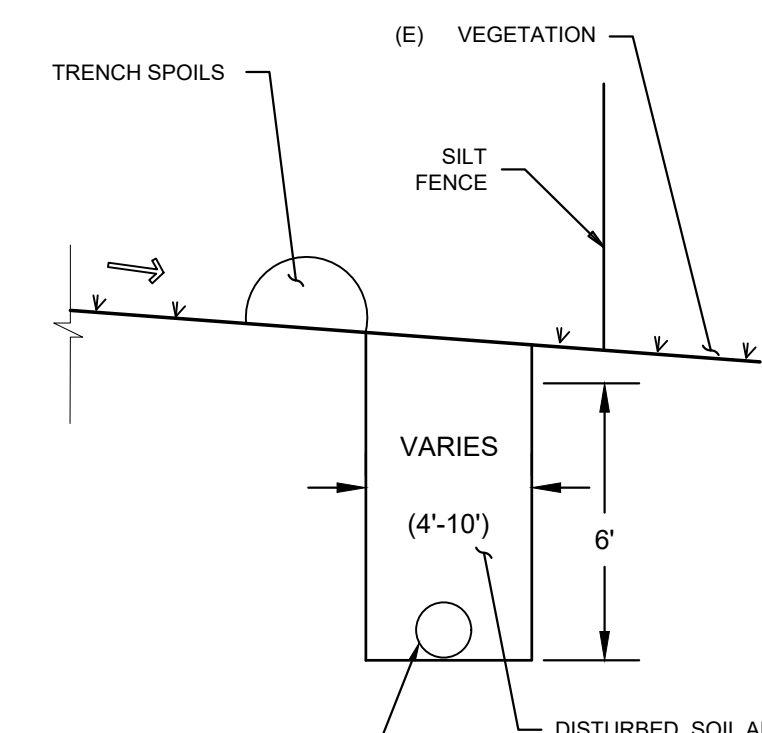
Design and Installation

Prior to mulching, surface-roughen areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

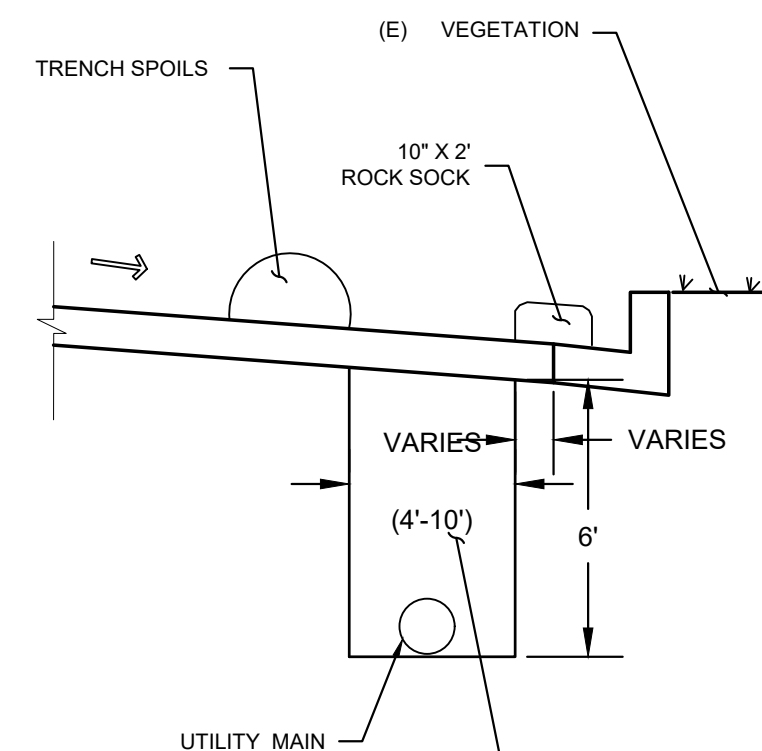
A variety of mulches can be used effectively at construction sites. Consider the following:

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

MU-1 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 June 2012



TYPICAL TRENCH SECTION SP-2 NOT TO SCALE



TYPICAL TRENCH SECTION SP-1 NOT TO SCALE

MATERIALS STAGING IN ROADWAY MAINTENANCE NOTES:

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.
- CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

Mulching (MU) EC-4

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tacking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.

- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.

- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.

- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)

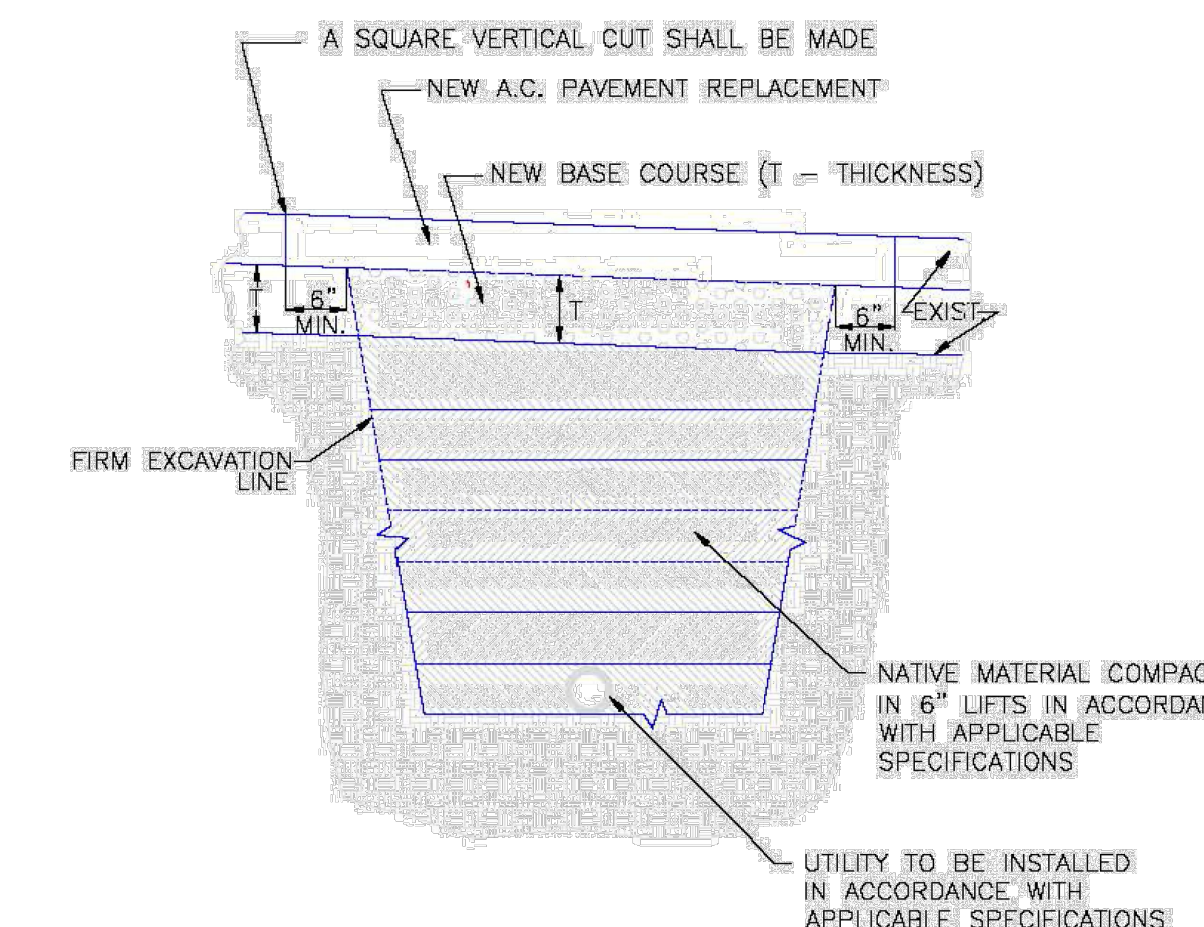
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)

- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

MU-2 Urban Drainage and Flood Control District
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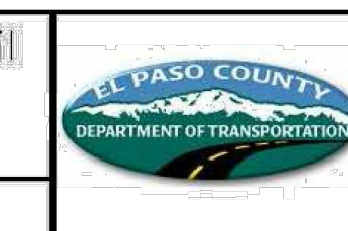
NOTES:

- THIS DETAIL MAY BE USED FOR PAVEMENT CUTS LESS THAN 200 SQ. FT.
- EXISTING PAVEMENT MAY BE ROUGH CUT INITIALLY IN CONJUNCTION WITH TRENCHING.
- A SQUARE VERTICAL CUT SHALL BE MADE IN THE EXISTING A.C. PAVEMENT AFTER PLACEMENT OF BACKFILL PRIOR TO PAVEMENT REPLACEMENT.
- THICKNESS OF NEW A.C. PAVEMENT REPLACEMENT SHALL MATCH EXISTING (4" MIN.).
- THICKNESS OF NEW BASE COURSE SHALL BE MINIMUM OF 6" OR EQUAL TO EXISTING, WHICHEVER IS GREATER.

SCALE: NOT TO SCALE

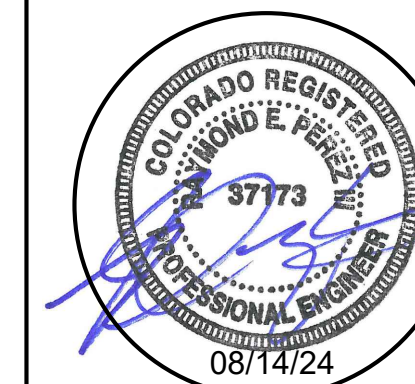
8/11/11
DATE APPROVED
André P. Brackin
DEPARTMENT OF TRANSPORTATION

Utility Trench Repair Detail
Asphalt Pavement
Standard Drawing
REVISION DATE: 11/10/04
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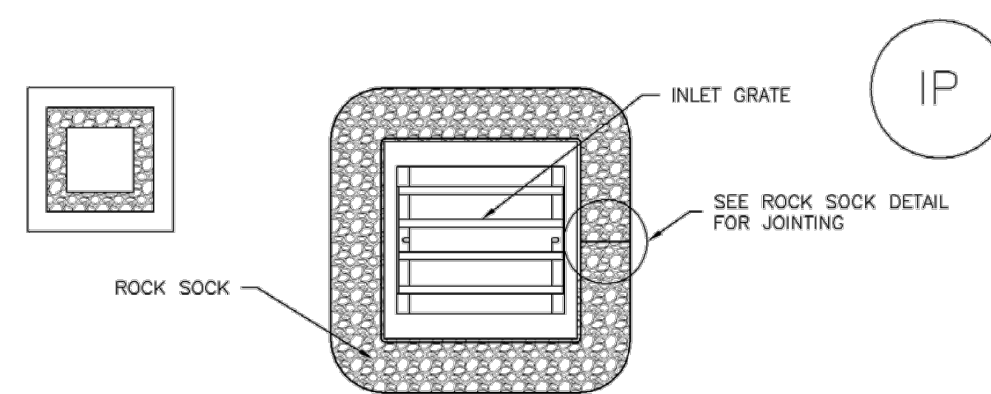
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◆ **EROSION CONTROL DETAILS**

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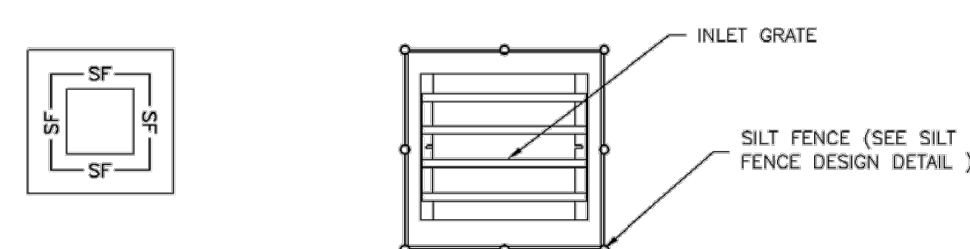
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Inlet Protection (IP) SC-6



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

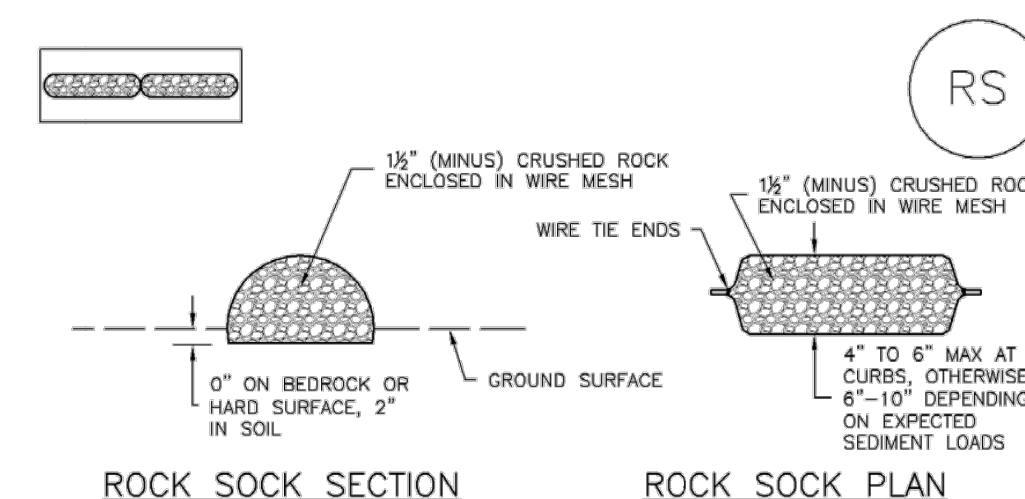


IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

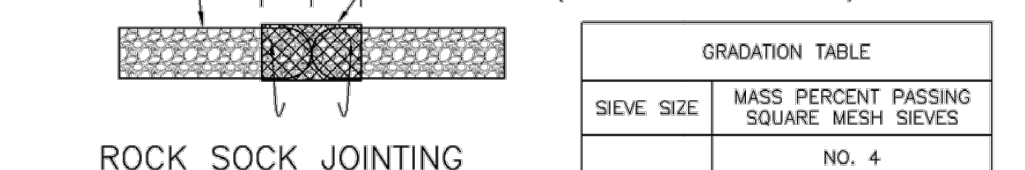
August 2013 Urban Drainage and Flood Control District IP-5
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SC-5 Rock Sock (RS)



ROCK SOCK SECTION **ROCK SOCK PLAN**

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1/2" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.



ROCK SOCK JOINTING

ROCK SOCK INSTALLATION NOTES
1. SEE PLAN VIEW FOR: LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
NO. 4	
2"	100
1 1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

RS-1. ROCK SOCK PERIMETER CONTROL

RS-2 Urban Drainage and Flood Control District November 2010
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