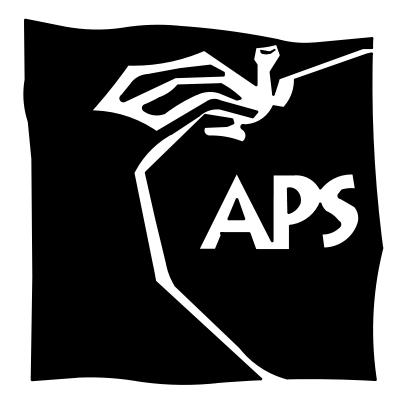
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LINES		
SUBDIVISION BOUNDARY		·
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PROPERTY LINE (SECTION)		
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SECTION CUT LINE		
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SPOT ELEVATION	\oplus	•
PROJECT / PHASE BOUNDARY		
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MISCELLANEOUS UTILITIES		
GAS LINE	— —(G)— —	
UNDERGROUND TELEPHONE		
UNDERGROUND ELECTRICAL		
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STORM DRAIN INLET		
SANITARY SEWER		
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SANITARY SEWER MANHOLE	— — <u> </u>	
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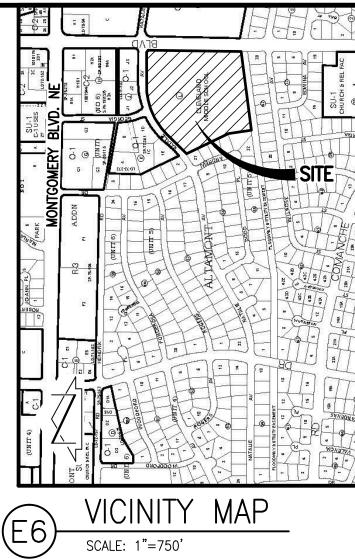
CONSTRUCTION PLANS for TRACK AND FIELD IMPROVEMENTS CLEVELAND MIDDLE SCHOOL 6910 NATALIE AVENUE N.E.

ALBUQUERQUE, NEW MEXICO FEBRUARY, 2017



NDEX OF DRAWINGS

SHEET	DESCRIPTION
1	COVER SHEET, VICINITY MAP, GENERAL NOTES AND INDEX OF DRAWINGS
2	DEMOLITION PLAN
3	SITE PLAN
4	PAVING SECTIONS AND DETAILS
5	GRADING PLAN
6	DRAINAGE SECTIONS AND DETAILS
7	DRAINAGE PLAN AND CALCULATIONS
8	EROSION AND SEDIMENT CONTROL PLAN
9	EROSION AND SEDIMENT CONTROL PLAN SECTIONS AND DETAILS



GENERAL NOTES

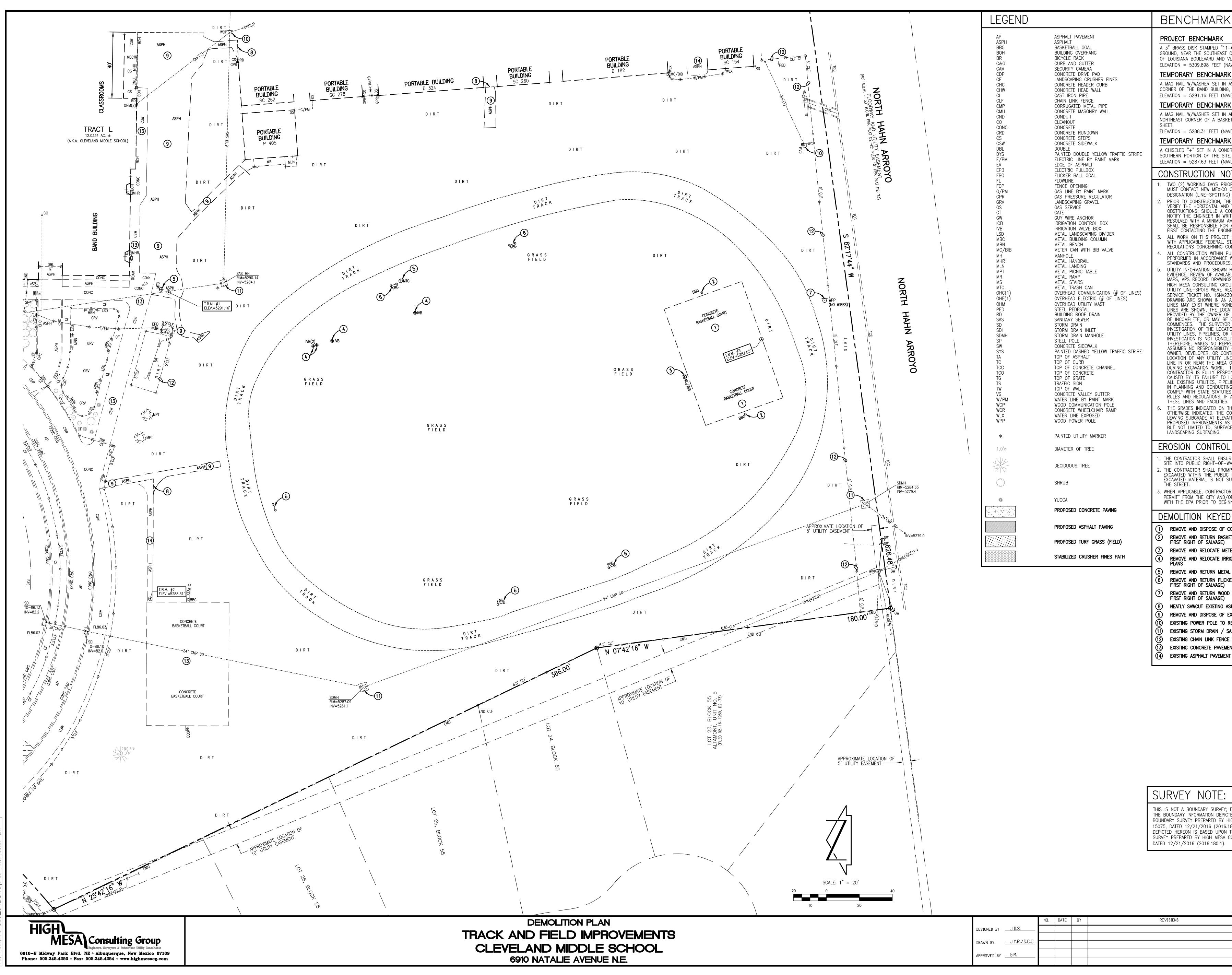
- ALL WORK DETAILED ON THESE PLANS TO BE PERFO STATED OR PROVIDED FOR HEREON, BE CONSTRUCTE SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION -AMERICAN PUBLIC WORKS ASSOCIATION. (REVISED 12, 2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, OVERTICAL PLAN FOR DESIGNATION (UNIT CONTINUE) OF
- SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCH
 UTILITY INFORMATION SHOWN HEREON IS BASED UPON OF ALBUQUERQUE DISTRIBUTION MAPS, APS RECORD MESA CONSULTING GROUP (APS-SUE 2016.0505). IN THE NEW MEXICO ONE CALL SERVICE (TICKET NO. 16 ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION OWNER OF SAID UTILITY, AND THE INFORMATION MAT CONSTRUCTION COMMENCES. THE SURVEYOR HAS CO LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NO REPRESENTATION PERTAINING THERETO, AND ASSUMES PROPERTY OWNER, DEVELOPER, OR CONTRACTOR SHAI
- LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OF DURING EXCAVATION WORK. THE PROPERTY OWNER, I FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE T EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UT EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH S RULES AND REGULATIONS, IF ANY, PERTAINING TO THE 4. SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AN
- PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT AMOUNT OF DELAY FOR ALL PARTIES.
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- ALL WORK ON THIS PROJECT SHALL BE PERFORMED LOCAL LAWS, RULES AND REGULATIONS CONCERNING S
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 THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY M
- THE CONTRACTOR SHALL PROMPTLY CLEAN OP ANY MUSICE SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIB
 CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS ORDER THAT THE ENGINEER MAY TAKE NECESSARY ME MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERM THE ENGINEER AND SHALL NOTIFY THE ENGINEER AND DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS ON NEW GRADE UNLESS OTHERWISE SPECIFIED.
- 10. ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL (CONTROL DEVICES (MUTCD) PUBLISHED BY THE U.S. E ADMINISTRATION, LATEST EDITION.
 11. IF THE REMOVAL OF EXISTING CURB AND GUTTER, SIDI
- SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOI CONTRACTOR SHALL CUT BACK THE EXISTING PAVING ⁻ OR CRACKED PAVEMENT. CURB AND GUTTER AND/OR REMOVED UNDER THIS CONTRACT AND WHICH IS DAMA REMOVED AND REPLACED BY THE CONTRACTOR AT THE 12. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATER
- A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATER CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFOR
 A BORROW SITE FOR IMPORT MATERIAL SHALL BE OBT APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OR
- SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEL' CONTRACTOR SHALL SELECT AND USE METHODS WHICH EXISTING FACILITIES AND STRUCTURES WHICH SUPPOUR
- EXISTING FACILITIES AND STRUCTURES WHICH SURROUN 15. THE CONTRACTOR SHALL CONFINE HIS WORK WITHIN T EXISTING IMPROVEMENTS AND SO AS NOT TO INTERFEF 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELEC AND TRENCH AND/OR INSTALL PIPE SO AS TO NOT EX
- AND TRENCH AND/OR INSTALL PIPE SO AS TO NOT E. AS NOT TO INTERFERE WITH OTHER UTILITIES OR IMPR CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT W 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTE UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
- 18. ALL DIMENSIONS AND RADII OF CURB, CURB RETURNS AND/OR WALL.
- THE CONTRACTOR SHALL NOTIFY THE OWNER 48 HOUR VERIFIED.
 PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXE LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPLET ON THE DATA SECURICIES OF A STRUCTURE OF A S
- ENGINEER AS REQUIRED ABOVE. 21. WHEN APPLICABLE, CONTRACTOR SHALL SECURE, ON DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE / BEGINNING CONSTRUCTION
- BEGINNING CONSTRUCTION. 22. ALL FILL SHALL BE CLEAN, FREE FROM VEGETATION, SHALL NOT BE CONTAMINATED WITH HYDROCARBONS
- 23. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 95 REQUIREMENT IS OTHERWISE SPECIFIED.
 24. OAUTION THESE PRAVINES DO NOT INCLUDE NEOFOS
- 24. CAUTION: THESE DRAWINGS DO NOT INCLUDE NECESS, SHALL REMAIN THE RESPONSIBILITY OF THE CONTRAC ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WIT

JOB NO. 2016.180.3

2-6-2017

	GRAEME S. W. M.	MEANS			JEANOR 1483	Consulti higheers, Surveyors & S • Albuquerque 05.345.4254 • m
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REV.	SHEETS	CITY ENGINEER	DATE		USER	DEPARTMEN

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t date)NS	USER DEPARTMENT DATE
ing Group	APPROVED FOR CONSTRUCTION
Subsurface Utility Consultants e, New Mexico 87109 www.highmesacg.com	C.E.
	SHEET OF 1 9



	ND.	DATE	BY	REVISIONS
DESIGNED BY				
DRAWN BY				
APPROVED BYG.M.				

BENCHMARKS

A 3" BRASS DISK STAMPED "11-G19", SET FLUSH WITH THE GROUND, NEAR THE SOUTHEAST QUADRANT OF THE INTERSECTION OF LOUISIANA BOULEVARD AND VERANDA ROAD N.E. ELEVATION = 5309.898 FEET (NAVD 1988)

TEMPORARY BENCHMARK #1 (T.B.M.) A MAG NAIL W/WASHER SET IN ASPHALT, NEAR THE SOUTHWEST

CORNER OF THE BAND BUILDING, AS SHOWN ON THIS SHEET. ELEVATION = 5291.16 FEET (NAVD 88)

TEMPORARY BENCHMARK #2 (T.B.M.)

A MAG NAIL W/WASHER SET IN AN ASPHALT PATH, NEAR THE NORTHEAST CORNER OF A BASKETBALL COURT, AS SHOWN ON THIS ELEVATION = 5288.31 FEET (NAVD 88)

TEMPORARY BENCHMARK #3 (T.B.M.)

A CHISELED "+" SET IN A CONCRETE BASKETBALL COURT, NEAR THE SOUTHERN PORTION OF THE SITE, AS SHOWN ON THIS SHEET. ELEVATION = 5287.63 FEET (NAVD 88)

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DEMOLITION KEYED NOTES:

REMOVE AND DISPOSE OF CONCRETE BASKETBALL COURT REMOVE AND RETURN BASKETBALL GOALS TO OWNER (OWNER HAS FIRST RIGHT OF SALVAGE) REMOVE AND RELOCATE METER CAN, SEE LANDSCAPE PLANS

REMOVE AND RELOCATE IRRIGATION VALVE BOXES, SEE LANDSCAPE

REMOVE AND RETURN METAL TRASH CAN TO OWNER REMOVE AND RETURN FLICKER BALL GOALS TO OWNER (OWNER HAS FIRST RIGHT OF SALVAGE) REMOVE AND RETURN WOOD POWER POLE TO OWNER (OWNER HAS FIRST RIGHT OF SALVAGE)

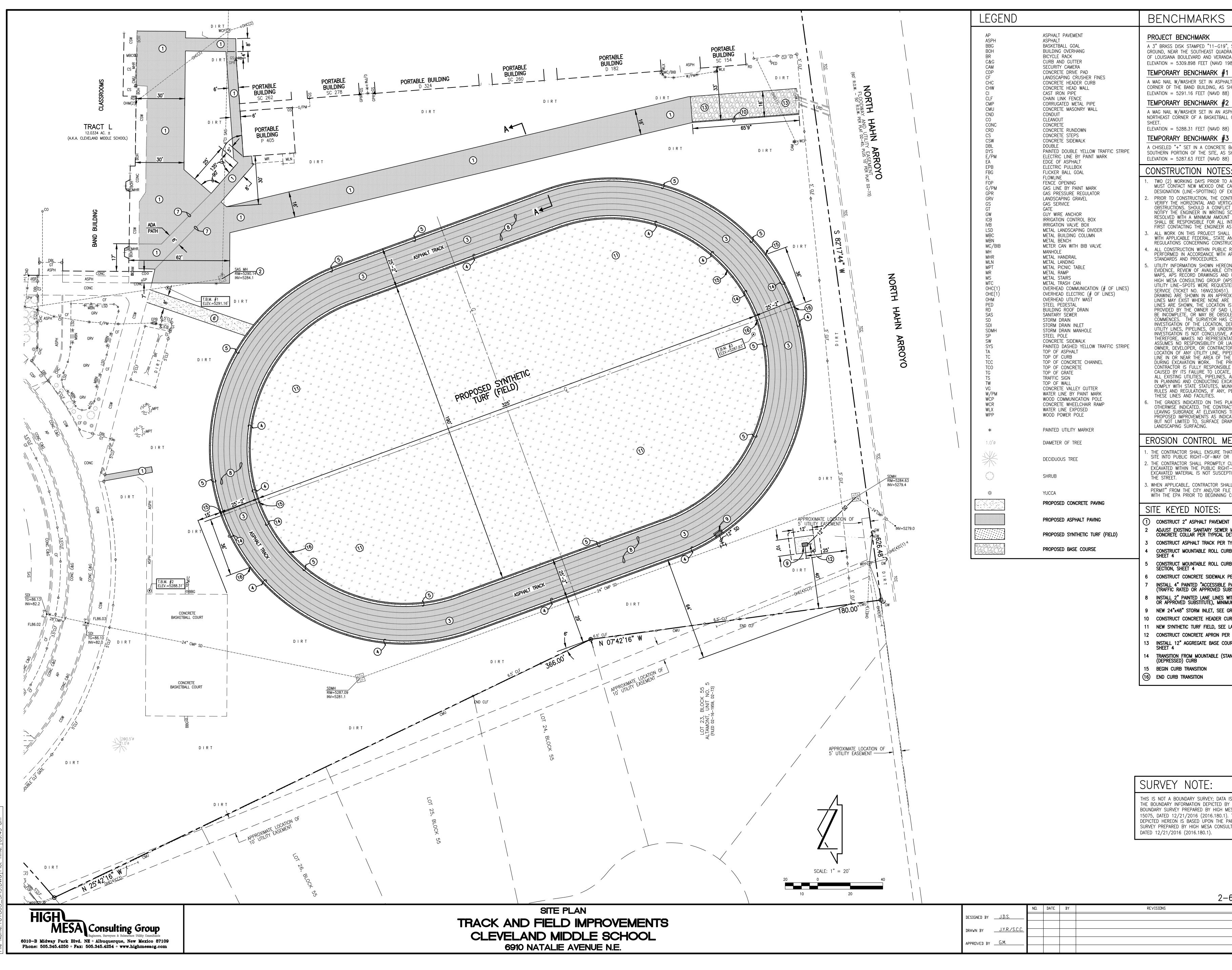
NEATLY SAWCUT EXISTING ASPHALT PAVEMENT REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT

EXISTING POWER POLE TO REMAIN EXISTING STORM DRAIN / SANITARY SEWER MANHOLE TO REMAIN EXISTING CHAIN LINK FENCE TO REMAIN

EXISTING CONCRETE PAVEMENT TO REMAIN EXISTING ASPHALT PAVEMENT TO REMAIN

THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON AN BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 15075, DATED 12/21/2016 (2016.180.1). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 15075, 2 - 6 - 22016.180.3 02-2017

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		ND.	DATE	BY	REVISIONS
DESIGNED BY _	J.D.S.				
DRAWN BY _	J.Y.R./S.C.C.				
APPROVED BY	G.M.				

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SITE KEYED NOTES:

I) CONSTRUCT 2" ASPHALT PAVEMENT PER TYPICAL SECTION, SHEET 4 ADJUST EXISTING SANITARY SEWER MANHOLE TO GRADE AND INSTALL CONCRETE COLLAR PER TYPICAL DETAIL, SHEET 4 CONSTRUCT ASPHALT TRACK PER TYPICAL SECTION, SHEET 4 CONSTRUCT MOUNTABLE ROLL CURB PER TYPICAL SECTION, SHEET 4

CONSTRUCT MOUNTABLE ROLL CURB (DEPRESSED) PER TYPICAL SECTION, SHEET 4

CONSTRUCT CONCRETE SIDEWALK PER TYPICAL SECTION, SHEET INSTALL 4" PAINTED "ACCESSIBLE PATH" LINES WITH WHITE PAINT (TRAFFIC RATED OR APPROVED SUBSTITUTE)

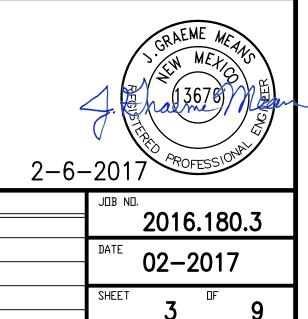
INSTALL 2" PAINTED LANE LINES WITH WHITE PAINT (TRAFFIC RATED OR APPROVED SUBSTITUTE), MINIMUM 2 COATS NEW 24"x48" STORM INLET, SEE GRADING PLAN, SHEET 5

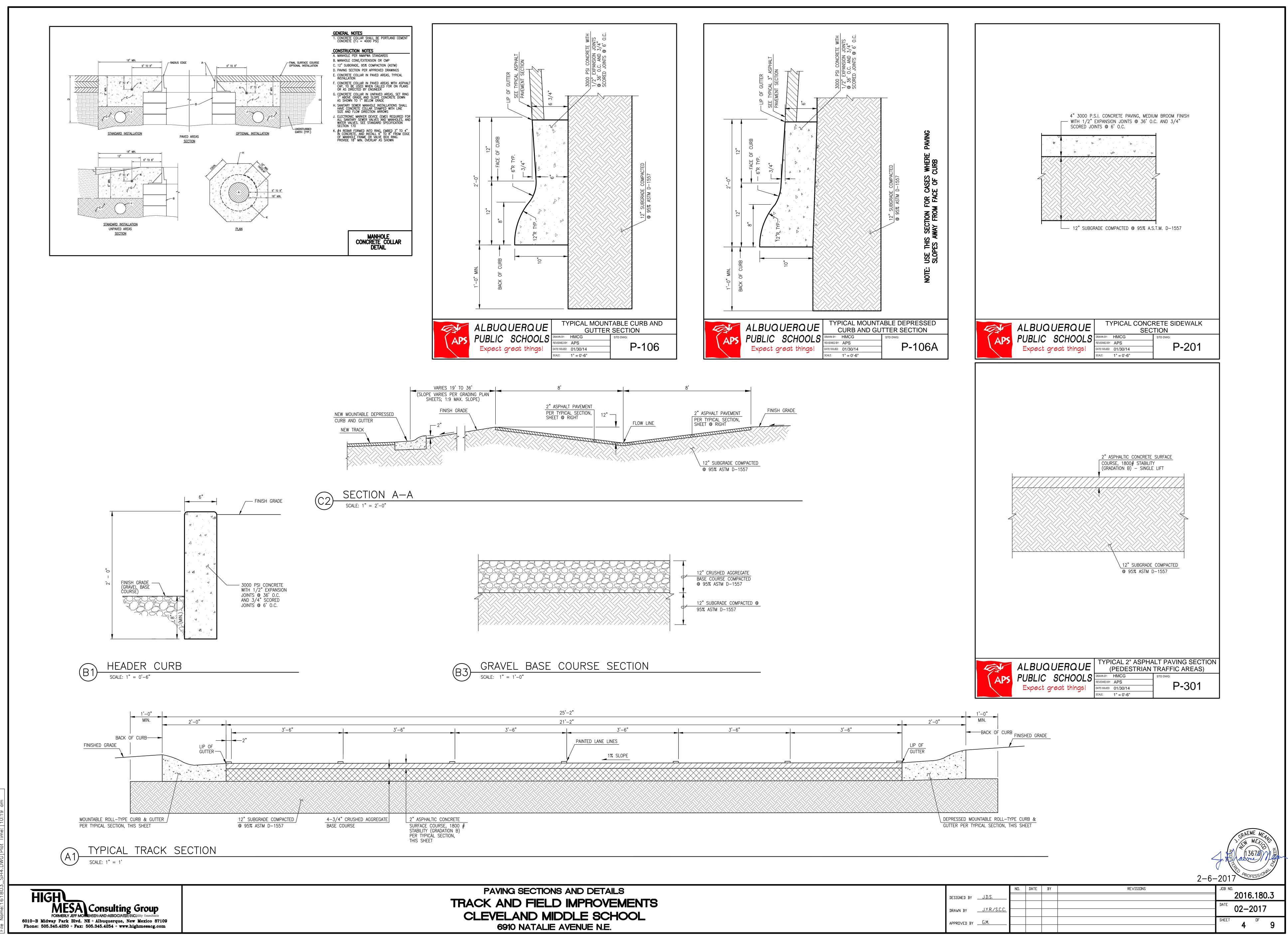
10 CONSTRUCT CONCRETE HEADER CURB PER TYPICAL SECTION, SHEET 4 11 NEW SYNTHETIC TURF FIELD, SEE LANDSCAPE PLANS 12 CONSTRUCT CONCRETE APRON PER SECTION, SHEET 4

13 INSTALL 12" AGGREGATE BASE COURSE PER TYPICAL SECTION, SHEET 4

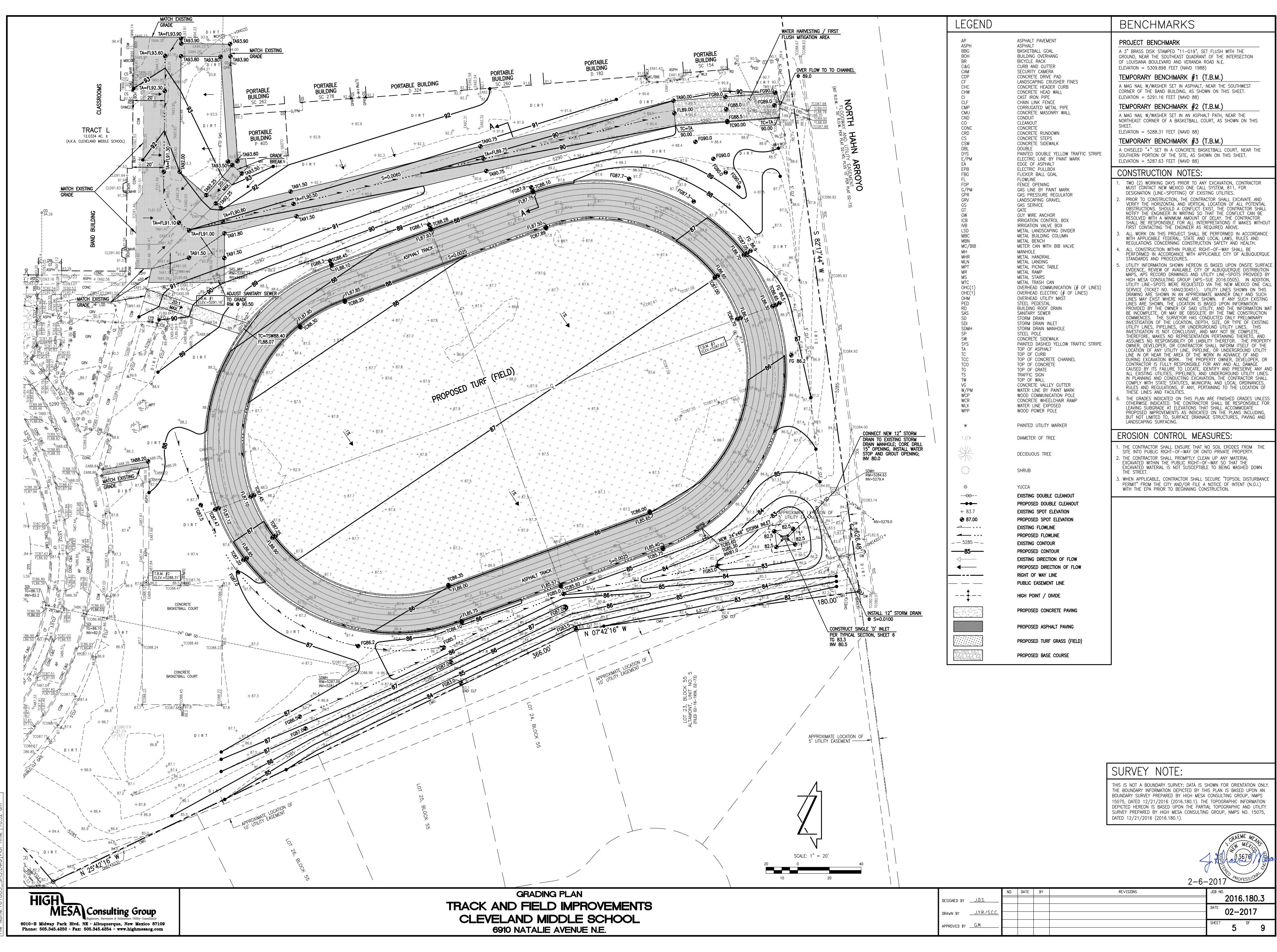
14 TRANSITION FROM MOUNTABLE (STANDARD) CURB TO MOUNTABLE (DEPRESSED) CURB

THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON AN BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 15075, DATED 12/21/2016 (2016.180.1). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 15075,

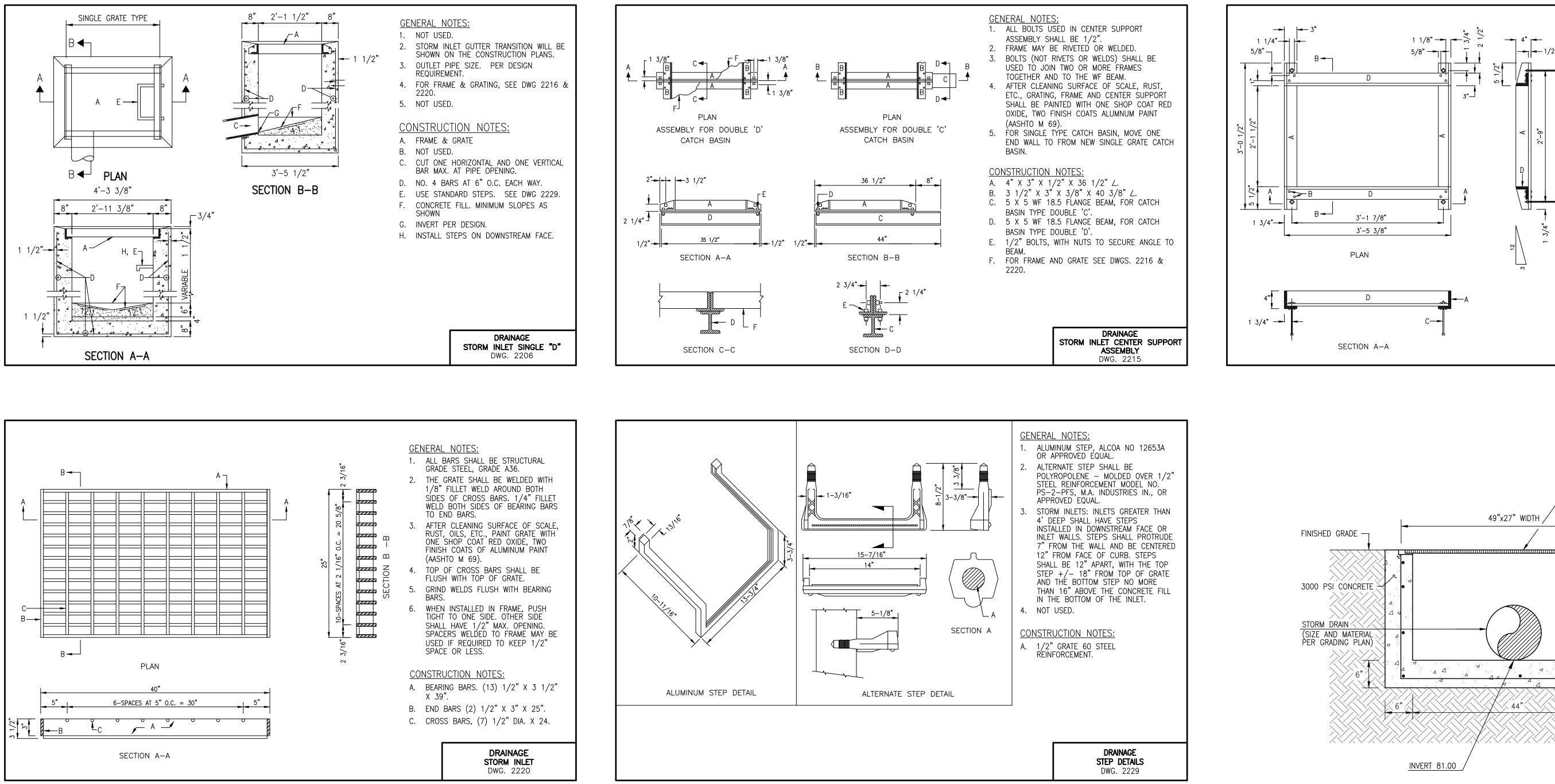


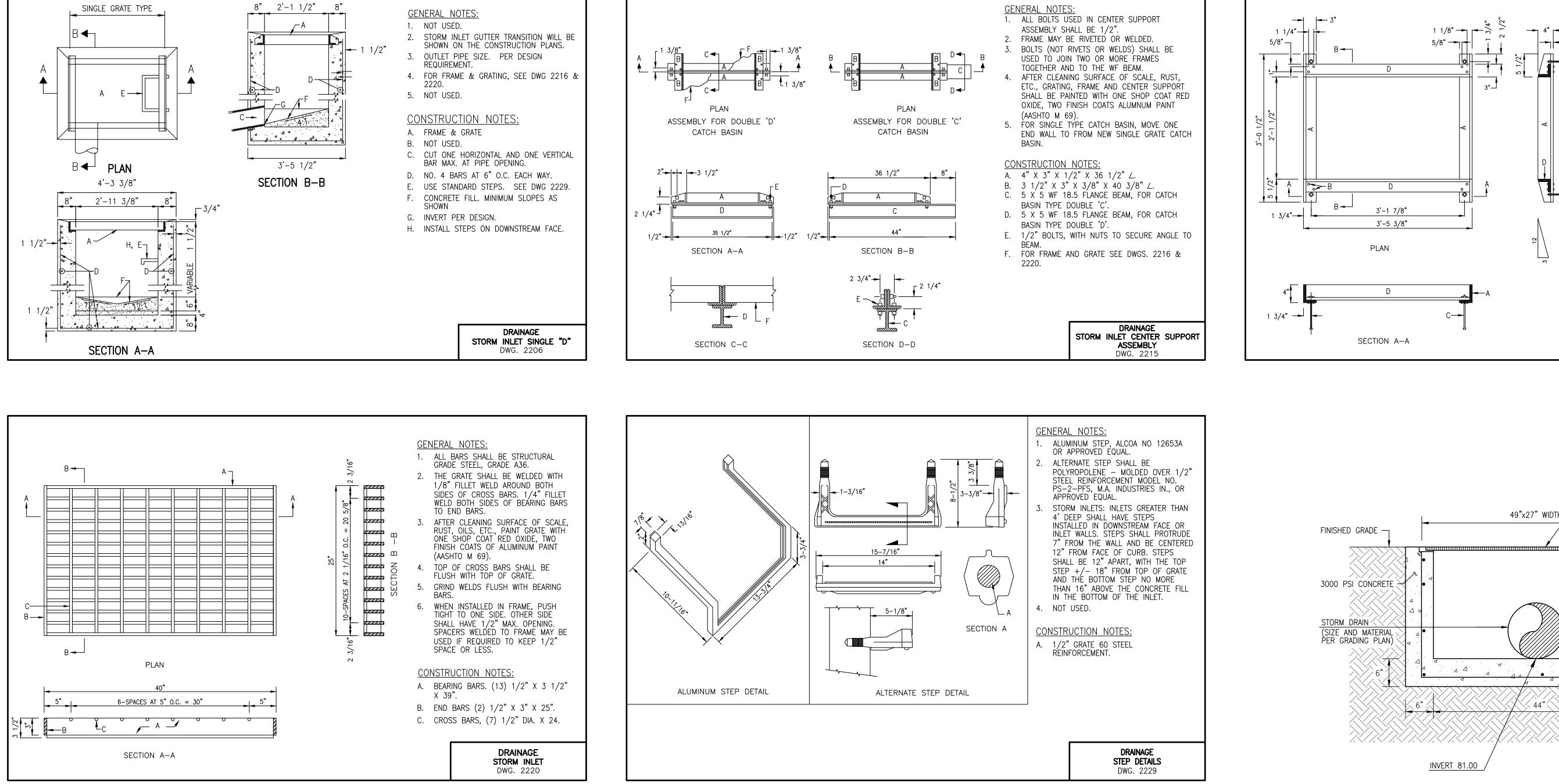


		ND.	DATE	BY	REVISIONS
DESIGNED BY	J.D.S.				
DRAWN BY	<u>J.Y.R./S.C.C.</u>				
APPROVED BY	G.M.				



	ND.	DATE	BY	REVISIONS
DESIGNED BY <u>J.D.S.</u>				
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appr⊡ved byG.M.				

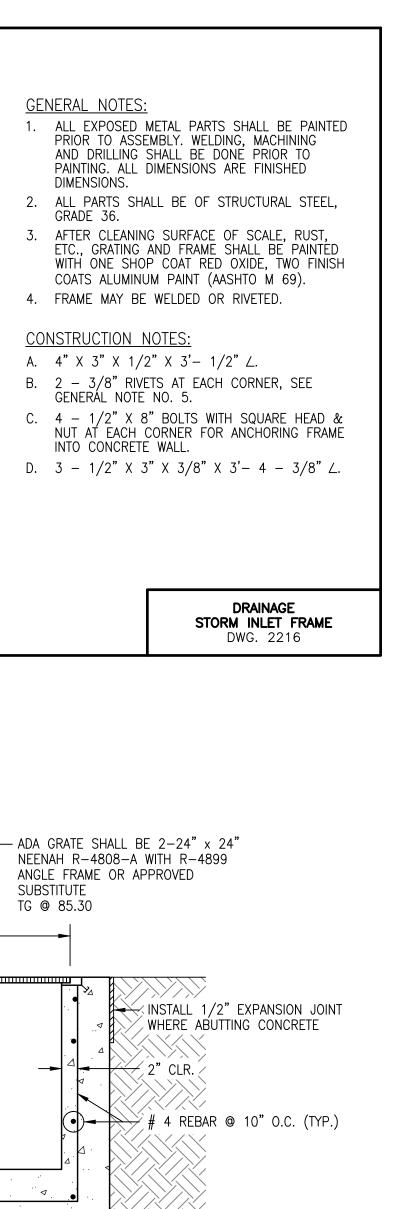






	ND.	DATE	BY	REVISIONS
DESIGNED BY J.D.S.				
DRAWN BY				
APPROVED BY G.M.				

SCALE: 1'' = 1' - 0''



DIMENSIONS.

GRADE 36.

SUBSTITUTE TG @ 85.30

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\ 12" SUBGRADE COMPACTED

@ 95% ASTM D-1557

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24"x48" STORM INLET SECTION

2-6-201 JOB NO. 2016.180.3 02-2017 9

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE NORTHEAST HEIGHTS, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE PROPOSED DEVELOPMENT IS COMPRISED OF REPLACING AN EXISTING DIRT TRACK AND GRASS FIELD WITH A NEW ASPHALT PAVED TRACK AND SYNTHETIC TURF FIELD, ALONG WITH ASSOCIATED GRADED AND PAVED DRAINAGE IMPROVEMENTS TO IMPROVE ONSITE DRAINAGE. THE DRAINAGE CONCEPT FOR THIS PROJECT WILL BE THE CONTINUED FREE DISCHARGE OF DEVELOPED RUNOFF TO THE ADJACENT NORTH HAHN ARROYO.

THIS SUBMITTAL IS MADE IN SUPPORT OF GRADING AND PAVING PERMIT TO BE ISSUED BY THE CITY OF ALBUQUERUQUE.

II. PROJECT DESCRIPTION

AS SHOWN BY PANEL 139 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, REVISED SEPTEMBER 26, 2008, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THIS SITE IS SITUATED IMMEDIATELY UPSTREAM AND ADJACENT TO THE AMAFCA OWNED AND OPERATED NORTH HAHN ARROYO: THE ARROYO IS A DESIGNATED ZONE 'A' FLOOD ZONE WHERE THE 100 YEAR FLOOD IS CONTAINED WITHIN THE CONSTRUCTED CHANNEL.

III. BACKGROUND DOCUMENTS AND RESEARCH

THE PREPARATION OF THIS SUBMITTAL RELIED UPON THE FOLLOWING DOCUMENTS:

- GRADING AND DRAINAGE PLAN PREPARED BY C.L. WEISS ENGINEERING, INC DATED 5/26/1994. THIS 1994 ESTABLISHED THE PRECEDENT FOR FREE DISCHARGE FROM THE DEVELOPED SITE TO THE NORTH HAHN ARROYO VIA BOTH SURFACE DISCHARGE RELEASE AT THE SOUTHWEST CORNER OF THE PORTABLE PARK, AND A PRIVATE 24" STORM DRAIN THAT DISCHARGES DIRECTLY INTO THE ARROYO.
- TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 15075, DATED 12/21/2016. THE SURVEY PROVIDES THE EXISTING CONDITIONS FOR THIS PROJECT.

IV. EXISTING CONDITIONS

THE EXISTING PROJECT SITE CONSISTS OF A GRASS FIELD WITH DIRT TRACK AT THE SOUTHWEST CORNER OF THE SCHOOL SITE. THIS AREA GENERALLY DRAINS FROM NORTHEAST TO SOUTHWEST. WITH AN EXISTING DIRT BERM AT THE WEST EDGE OF THE SIDE REDIRECTING RUNOFF SOUTH TO THE SOUTHWEST CORNER OF THE SITE WHERE IT DISCHARGES FROM THE SITE VIA SHEET FLOW INTO THE NORTH HAHN ARROYO. HOWEVER, SEVERAL PORTIONS OF THE DIRT BERM HAVE ERODED AND BREACHED, ALLOWING RUNOFF TO FLOW AGAINST AND IMPACTING EXISTING RESIDENTIAL WALLS BETWEEN THE SCHOOL AND NEIGHBORING PROPERTIES TO THE WEST. A HISTORICAL PROBLEM.

IN ADDITION, RUNOFF FROM THE PORTABLE PARK TO THE EAST AND PORTIONS OF THE ROOF RUNOFF TO THE NORTHEAST CURRENTLY SHEETFLOW ONTO THE FIELD. PER THE 1994 PLAN, A GRADED FLOWLINE BETWEEN THE PORTABLE PARK AND THE FIELD WAS INTENDED TO DIVERT AND DIRECT RUNOFF FROM THE PORTABLE PARK SOUTH TO A CONCRETE HEADWALL AND CONCRETE RUNDOWN AT THE SOUTHEAST CORNER OF THE TRACK AND FIELD. THE EXISTING CONCRETE RUNDOWN DISCHARGES RUNOFF INTO THE NORTH HAHN ARROYO. HOWEVER, THIS FLOWLINE HAS ERODED OVER TIME AND NO LONGER SERVES AS ORIGINALLY INTENDED.

A PRIVATE 24" STORM DRAIN EXTENDS THROUGH THE PROJECT SITE FROM THE SCHOOL PARKING LOT NORTH OF THE FIELD TO THE HAHN ARROYO TO THE SOUTH. PER THE 1994 GRADING PLAN REFERENCED ABOVE, THIS STORM DRAIN WAS INTENDED NOT ONLY TO CONVEY RUNOFF FROM THE SCHOOL BUILDINGS AND PARKING LOT RUNOFF TO THE NORTH, BUT ALSO THE TRACK AND FIELD RUNOFF VIA A PROPOSED STORM DRAIN INLET AT THE LOW POINT OF THE FIELD. HOWEVER, THIS STORM INLET WAS NEVER CONSTRUCTED.

THERE ARE NO APPARENT OFFSITE FLOWS THAT IMPACT THE PROJECT SITE, AS THE SITE IS TOPOGRAPHICALLY HIGHER THAN THE NEIGHBORING PROPERTY TO THE WEST AND THE PUBLIC STREET (NATALIE ROAD) TO THE NORTH. RUNOFF IN LOUISIANA BLVD TO THE EAST IS FULLY CONTAINED WITHIN THE PUBLIC STREET, AND THE 100 YEAR FLOOD ZONE ASSOCIATED WITH THE NORTH HAHN ARROYO IS CONTAINED THEREIN.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF CONSTRUCTION OF A NEW SYNTHETIC TURF FIELD AND ASPHALT PAVED TRACK, WITH ASSOCIATED PRIVATE STORM DRAIN IMPROVEMENTS TO DISCHARGE RUNOFF FROM THE TRACK AND FIELD INTO THE EXISTING 24" PRIVATE STORM DRAIN. A NEW GRADED BERM ALONG THE WEST EDGE OF THE SITE WILL PROTECT THE EXISTING NEIGHBORING RESIDENTIAL WALLS, DIVERTING ALL REMAINING STORMWATER RUNOFF FROM THIS PORTION OF THE SCHOOL SITE AND DRAINING IT TO A NEW WATER HARVESTING AREA AT THE FAR SOUTHWEST CORNER OF THE SITE. THIS WATER HARVESTING AREA WILL ACT AS A PERMANENT SEDIMENT DETENTION BASIN TO HELP CAPTURE AND MITIGATE FIRST FLUSH RUNOFF TO THE MAXIMUM EXTENT PRACTICABLE, WITH STORMWATER OVERFLOWING INTO A NEW, RAISED STORM INLET THAT WILL CONNECT VIA NEW 12" STORM DRAIN TO THE EXISTING 24" PRIVATE STORM DRAIN. AND ULTIMATELY DISCHARGE DIRECTLY INTO THE NORTH HAHN ARROYO. THE DESIGN INTENT OF THESE IMPROVEMENTS IS TO NO LONGER SHEETFLOW RUNOFF FROM THIS CORNER OF THE SITE INTO THE ARROYO, MINIMIZING POTENTIAL SEDIMENT DISCHARGE FROM THE SITE.

IN ADDITION TO THE TRACK AND FIELD IMPROVEMENTS, AN ASPHALT PAVED FLOWLINE WILL BE CONSTRUCTED BETWEEN THE TRACK AND FIELD AND THE PORTABLE PARK AND CLASSROOM BUILDINGS TO THE EAST AND NORTHEAST. THIS FLOWLINE WILL DIVERT FLOWS FROM THESE AREAS AWAY FROM THE TRACK AND FIELD, DIRECTING THEM FROM NORTH TO SOUTH TO THE EXISTING CONCRETE HEADWALL AT THE SOUTHEAST CORNER OF THE TRACK AND FIELD. A GRAVEL LINED WATER HARVESTING AREA WILL BE CONSTRUCTED IMMEDIATELY UPSTREAM OF THE EXISTING CONCRETE HEADWALL TO CAPTURE AND MITIGATE THE FIRST FLUSH FLOWS TO THE MAXIMUM EXTENT PRACTICABLE, BEFORE ALLOWING CONTINUED FREE DISCHARGE INTO THE ARROYO. THESE IMPROVEMENTS WILL RETURN THE SITE TO THE ORIGINAL DRAINAGE DESIGN INTENT OF THE 1994 GRADING PLAN.

AS IN THE EXISTING CONDITION, THERE WILL CONTINUE TO BE NO OFFSITE FLOWS IMPACTING THE PROJECT SITE.

VI. FIRST FLUSH

THE PROPOSED WATER HARVESTING AREAS AT THE SOUTHWEST CORNER OF THE FIELD AND AT THE SOUTH END OF THE ASPHALT PAVED FLOWLINE WILL CAPTURE AND TREAT THE FIRST FLUSH RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS TO THE MAXIMUM EXTENT PRACTICABLE. FIRST FLUSH CALCULATIONS FOR THE NEW IMPERVIOUS AREAS PROPOSED BY THIS PROJECT INDICATE THAT 990 CF NEEDS TO BE CAPTURED AND TREATED: AVERAGE END AREA METHOD CALCULATIONS FOR THE DEVELOPED SITE DEMONSTRATE THAT THE COMBINED ONSITE WATER HARVESTING AREA CAPACITY IS 1,040 CF.

VII. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-O" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR INCREASE IN PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE SITE. THE PROPOSED IMPROVEMENTS WILL GENERALLY DRAIN INTO WATER HARVESTING AREAS TO TREAT THE FIRST FLUSH RUNOFF BEFORE FREE DISCHARGING INTO THE NORTH HAHAN ARROYO, CAPTURING AND TREATING THE DEVELOPED RUNOFF DISCHARGED TO THE MAXIMUM EXTENT PRACTICABLE.

VIII.EROSION AND SEDIMENT CONTROL

THE PROJECT DISTURBS ONE-ACRE OF LAND, OR GREATER. A SEPARATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED CONCURRENT WITH THIS PLAN. A SITE SPECIFIC EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED HEREIN THAT PROPOSES SILT FENCE BEST MANAGEMENT PRACTICES (TEMPORARY BMPs). SEDIMENT DETENTION BASINS (PERMANENT BMPs) AND GOOD HOUSEKEEPING BMPs TO CAPTURE CONSTRUCTION RELATED SEDIMENT FROM DISCHARGING TO THE ADJACENT AND DOWNSTREAM NORTH HAHN ARROYO.

IX. CALCULATIONS

THE CALCULATIONS CONTAINED HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. IN ADDITION, AVERAGE END AREA METHOD HAS BEEN USED TO CALCULATE THE PROPOSED WATER HARVESTING RETENTION AREA CAPACITY. AS DEMONSTRATED BY THESE CALCULATIONS, THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR INCREASE IN DEVELOPED RUNOFF ATTRIBUTABLE TO THE DEVELOPMENT OF THE EXISTING TRACK AND FIELD, AND THE FIRST FLUSH RUNOFF GENERATED BY THE SITE WILL BE CAPTURED AND TREATED WITHIN THE PROPOSED WATER HARVESTING AREAS.

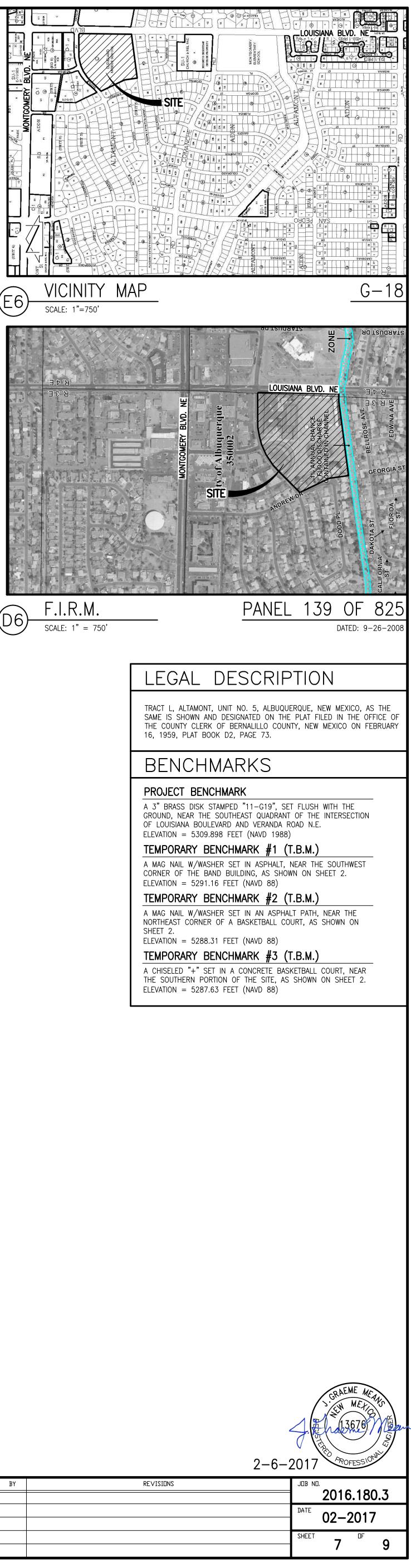
X. CONCLUSIONS

- THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN: 1. THIS PROJECT REPRESENTS A MODIFICATION TO AN EXISTING DEVELOPED SITE.
- 2. THE PROPOSED IMPROVEMENT WILL MAINTAIN AND NOT ALTER THE EXISTING DRAINAGE PATTERNS OF THE SITE.
- 3. THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR INCREASE IN THE DEVELOPED PEAK DISCHARGE AND VOLUME OF RUNOFF
- VOLUME DISCHARGED FROM THE SITE.
- 4. BASED UPON THE PROXIMITY OF THE NORTH HAHN ARROYO AND THE EXISTING ALLOWABLE FREE DISCHARGE CONDITION, THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWSTREAM DRAINAGE CONDITIONS
- 5. EROSION AND SEDIMENT CONTROL MEASURES ARE PROPOSED HEREIN FOR INSTALLATION DURING CONSTRUCTION; BMP INSTALLATION BASED ON THIS PLAN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE CONSTRUCTION RELATED SEDIMENT DOES NOT DISCHARGE FROM THE SITE TO PUBLIC RIGHT-OF-WAY
- 6. PROPOSED WATER HARVESTING AREAS ARE SIZED TO CAPTURE AND TREAT THE FIRST FLUSH RUNOFF GENERATED BY THE SITE TO THE MAXIMUM EXTENT PRACTICABLE.

CALCULATIONS I. SITE CHARACTERISTICS A. PRECIPITATION ZONE = 2.6 IN B. $P_{100, 6 HR} = P_{360} =$ 294,500 SF TOTAL PROJECT AREA $(A_T) =$ 6.76 AC D. LAND TREATMENTS 1. TRACK AND FIELD 3.58 AC EXISTING LAND TREATMENT TREATMENT AREA (SF/AC) % 60,548 SF 1.39 AC 83.728 SF 54 1.92 AC 1,734 SF 8 0.27 AC 2. NORTH PORTABLE PARK 3.18 AC EXISTING LAND TREATMENT TREATMENT AREA (SF/AC) % Δ 103.875 SF 2.38 AC 34,625 SF 0.79 AC 25 3. TRACK AND FIELD 3.58 AC DEVELOPED LAND TREATMENT TREATMENT AREA (SF/AC) % Α 54,150 SF 35 1.24 AC 71.109 SF 46 1.63 AC 30,752 SF 0.71 AC 20 4 NORTH PORTABLE PARK 3.18 AC DEVELOPED LAND TREATMENT AREA (SF/AC) % TREATMENT Α 96,350 SF 2.21 AC 42,150 SF - 30 0.97 AC 1. 100-YR, 6-HR STORM TRACK AND FIELD <u>a. VOLUME 100-YR, 6-HR</u> $E_{W} = (E_{A}A_{A} + E_{B}A_{B} + E_{C}A_{C} + E_{D}A_{D})/A_{T}$ $E_W = (0.66*0.00) + (0.92*1.39) + (1.29*1.92) + (2.36*0.27)/3.58 =$ 1.23 IN $V_{100.6 \text{ HR}} = (E_W/12)A_T = (1.23/12)3.58 = 0.3671 \text{ AC-FT} = 15,990 \text{ CF}$ b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$ $Q_{P} = (1.87 * 0.00) + (2.60 * 1.39) + (3.45 * 1.92) + (5.02 * 0.27) =$ 11.6 CFS 2. <u>100-YR, 6-HR STORM</u> NORTH PORTABLE PARK a. VOLUME 100-YR, 6-HR $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = (0.66*0.00) + (0.92*0.00) + (1.29*2.38) + (2.36*0.79)/3.18 =$ 1.56 IN $V_{100.6 \text{ HP}} = (E_W/12)A_T = (1.56/12)3.18 = 0.4133 \text{ AC-FT} = 18.010 \text{ CF}$ b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$ $Q_{P} = (1.87 * 0.00) + (2.60 * 0.00) + (3.45 * 2.38) + (5.02 * 0.79) =$ 12.2 CFS B. <u>DEVELOPED CONDITION</u> TRACK AND FIELD 1. 100-YR, 6-HR STORM <u>a. VOLUME</u> $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_{W} = (0.66*0.00) + (0.92*1.24) + (1.29*1.63) + (2.36*0.71)/3.58 =$ 1.37 IN $V_{100.6 \text{ HR}} = (E_W/12)A_T = (1.37/12)3.58 = 0.4089 \text{ AC-FT} = 17.810 \text{ CF}$ b. PEAK DISCHARGE $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$ $Q_{P} = (1.87 * 0.00) + (2.60 * 1.24) + (3.45 * 1.63) + (5.02 * 0.71) =$ 12.4 CFS NORTH PORTABLE PARK 2. 100-YR, 6-HR STORM <u>a. VOLUME</u> $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = (0.66*0.0037) + (0.92*0.00) + (1.29*2.21) + (2.36*0.971)/3.185 =$ **1.62 IN** $V_{100.6 \text{ HR}} = (E_W/12)A_T = (1.62/12)3.185 = 0.4292 \text{ AC-FT} = 18,700 \text{ CF}$ <u>b. PEAK DISCHARGE</u> $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$ $Q_{P} = (1.87 * 0.00) + (2.60 * 0.00) + (3.45 * 2.21) + (5.02 * 0.97) =$ 12.5 CFS C. COMPARISON TRACK AND FIELD 1. 100-YR, 6-HR STORM <u>a. VOLUME 100-YR, 6-HR</u> ΔV_{100, 6 HR} = 17810 - 15990 = 1,820 CF (INCREASE <u>c. PEAK DISCHARGE</u> $\Delta Q_{100} = 12.4 - 11.6 =$ 0.8 CFS (INCREASE NORTH PORTABLE PARK 2. 100-YR, 6-HR STORM <u>a. VOLUME 100-YR, 6-HR</u> ΔV_{100, 6 HR} = 18700 - 18010 = 690 CF (INCREASE c. PEAK DIS<u>CHARGE</u> $\Delta Q_{100} = 12.5 - 12.2 = 0.3 \text{ CFS}$ (INCREASE D. FIRST FLUSH CALCULATIONS **OVERALL PROJECT SITE IMPERVIOUS IMPROVEMENTS** 1. RETENTION REQUIREMENT <u>a. VOLUME</u> $V_{RQ} = ((P_{FF}-IA_D)/12)A_D$ V_{RO} = ((0.44-0.10)/12)(35020.00) = 990 CF E. WATER HARVESTING / FIRST FLUSH CAPACITY TRACK AND FIELD AREA (SF) VOLUME (CF) TOTAL VOLUME (CF) ELEV 5283 135 360 360 5283 1310 455 815 5283 1725 PORTABLE PARK AREA (SF) VOLUME (CF) TOTAL VOLUME (CF) ELEV 225

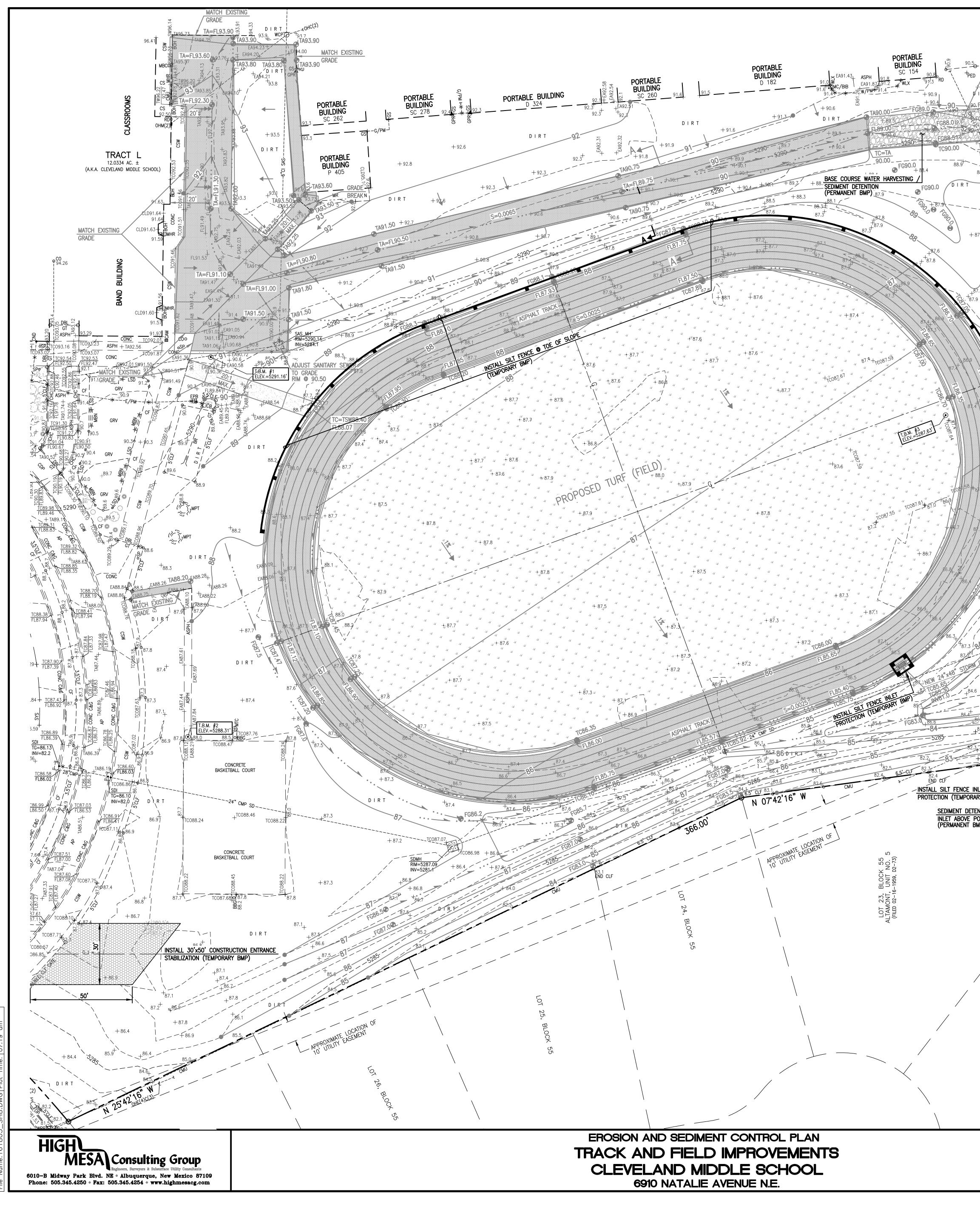
TOTAL CAPACITY = 815 + 225 = 1,040 CF

DRAINAGE PLAN AND CALCULATIONS TRACK AND FIELD IMPROVEMENTS **CLEVELAND MIDDLE SCHOOL** 6910 NATALIE AVENUE N.E.



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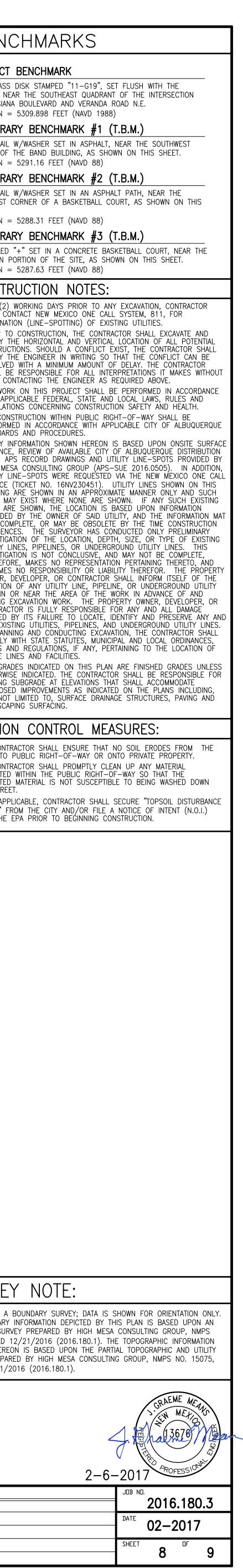
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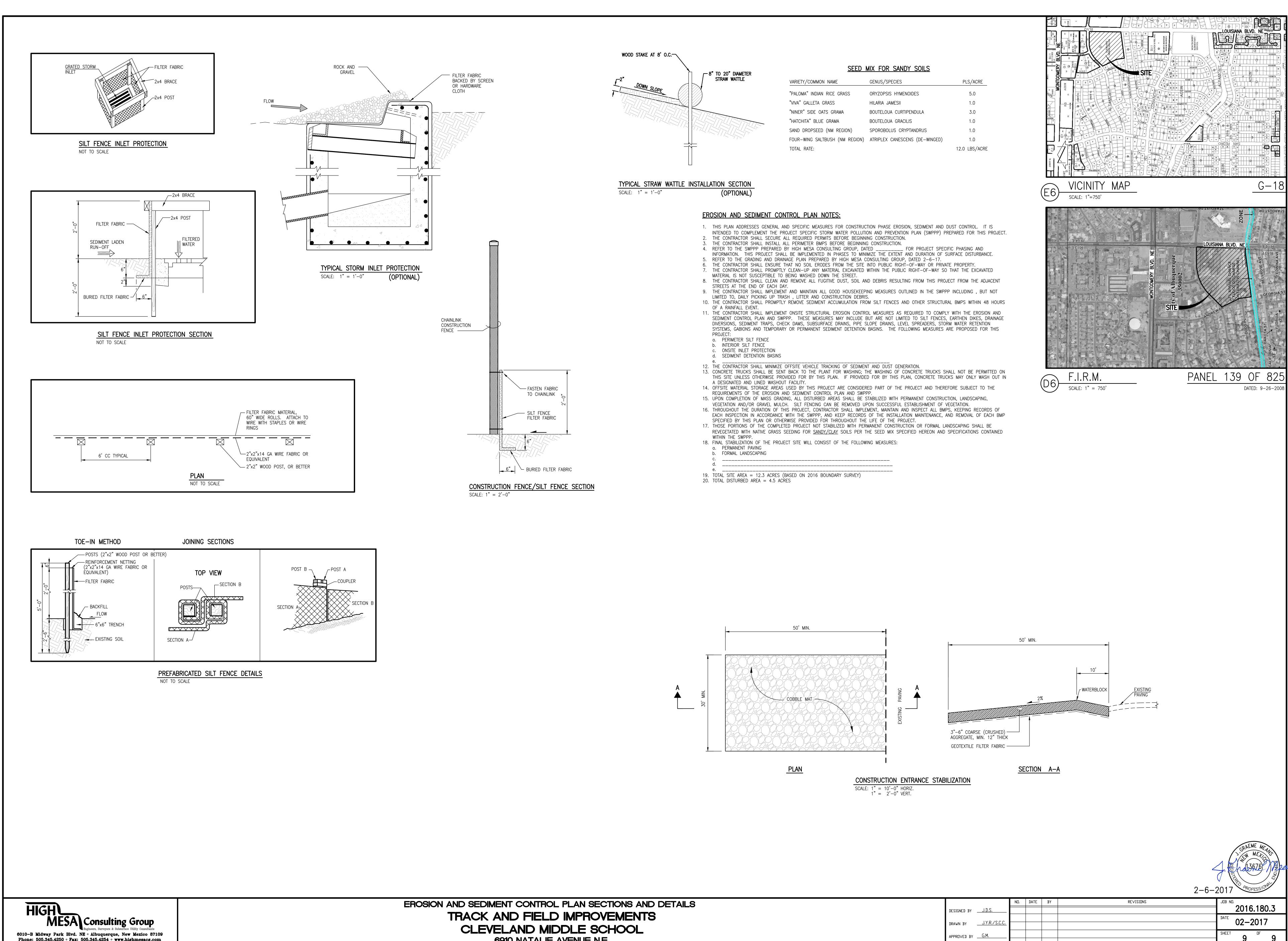


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WATER HARVESTING / FIRST	LEGEND		BENC
FLUSH MITIGATION AREA	AP ASPH	ASPHALT PAVEMENT ASPHALT	PROJECT
$\Theta = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right)$ INSTALL SILT FENCE Θ	BBG BOH BR	BASKETBALL GOAL BUILDING OVERHANG BICYCLE RACK	A 3" BRASS E GROUND, NEAF OF LOUISIANA
e over flow to to channel	C&G CAM CDP	CURB AND GUTTER SECURITY CAMERA CONCRETE DRIVE PAD	ELEVATION = TEMPORAR
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	DBL DYS E/PM	DOUBLE PAINTED DOUBLE YELLOW TRAFFIC STRIPE ELECTRIC LINE BY PAINT MARK	A CHISELED "- SOUTHERN PO ELEVATION =
	EA EPB FBG	EDGE OF ASPHALT ELECTRIC PULLBOX FLICKER BALL GOAL	CONSTRU
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	GPR GRV	GAS PRESSURE REGULATOR LANDSCAPING GRAVEL	DESIGNATIO 2. PRIOR TO VERIFY THE
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+ ^{87.5} EXISTING CHAIN LINK FENCE (TEMPORARY BMP)	ICB IVB LSD	IRRIGATION CONTROL BOX IRRIGATION VALVE BOX METAL LANDSCAPING DIVIDER	SHALL BE FIRST CON
	MBC MBN MC/BIB	METAL BUILDING COLUMN METAL BENCH METER CAN WITH BIB VALVE	3. ALL WORK WITH APPLI REGULATION
	MH MHR	MANHOLE METAL HANDRAIL	4. ALL CONST PERFORMEI STANDARDS
	MLN MPT MR	METAL LANDING METAL PICNIC TABLE METAL RAMP	5. UTILITY INF EVIDENCE,
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	PED RD SAS	STEEL PEDESTAL BUILDING ROOF DRAIN SANITARY SEWER	LINES ARE PROVIDED BE INCOMP
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S I INSTALL SILT FENCE ON	TS TW VG	TRAFFIC SIGN TOP OF WALL CONCRETE VALLEY GUTTER	ALL EXISTII IN PLANNIN COMPLY W
$\frac{1}{87} \frac{1}{17} \frac{1}{86} \frac{1}{86} \frac{1}{86.6} + \frac{1}{87.7} \frac{1}{17} \frac{1}{18} \frac{1}{17} \frac{1}{18} \frac{1}{17} \frac{1}{18} \frac{1}{17} \frac{1}{18} \frac{1}$	W/PM WCP WCR	WATER LINE BY PAINT MARK WOOD COMMUNICATION POLE CONCRETE WHEELCHAIR RAMP	RULES AND THESE LINI 6. THE GRADE
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SDMH	☆ œ	YUCCA Existing Double Cleanout	EXCAVATED V EXCAVATED V EXCAVATED N THE STREET.
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APPROXIMATE LOCATION OF	• • • •	EXISTING FLOWLINE PROPOSED FLOWLINE	
		EXISTING CONTOUR PROPOSED CONTOUR	
82.5 $FL83.4$ FL83.4 FL83.		EXISTING DIRECTION OF FLOW	
6 82.5 +86.5 86.5 (1) +86.5 (2) +86.		PROPOSED DIRECTION OF FLOW RIGHT OF WAY LINE	
	<u>▲</u>	PUBLIC EASEMENT LINE	
+85.3 -182.1 -182.1		HIGH POINT / DIVIDE	
$\begin{array}{c} 844 \\ 3 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$		PROPOSED CONCRETE PAVING	
180.00 デー版 88 80 2 1 80.00 F 180.00 F		PROPOSED ASPHALT PAVING	
NLET © S=0.0100	10000000000000000000000000000000000000	PROPOSED TURF GRASS (FIELD)	
ARY BMP) CONSTRUCT SINGLE 'D' INLET PER TYPICAL SECTION, SHEET 6 TG 83.3		STABILIZED CRUSHER FINES PATH EXISTING FENCE	
POND BOTTOM BMP)	s	CHAIN LINK FENCE WITH SILT FENCE ATTACHED	
	w	WADDLES	
		SILT FENCE	
		PROPOSED DIRECTION OF FLOW EXISTING DIRECTION OF	
		FLOW PROPOSED CONSTRUCTION	
		ENTRANCE PROPOSED SILT FENCE	
APPROXIMATE LOCATION OF 5' UTILITY EASEMENT		INLET PROTECTION	
	L		-
]	
			SURVEY
			THE BOUNDARY II BOUNDARY SURVE
			15075, DATED 12 DEPICTED HEREON SURVEY PREPAREI
		l	DATED 12/21/20
SCALE: 1" = 20'			
$\begin{array}{c} \text{SCALE:} 1 = 20 \\ 20 & 0 \\ \hline \end{array} \\ \\ \hline \end{array} \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \\ \end{array} \\ \\ \hline \end{array} \\ \\ \\ \\$			
10 20			
		ID. DATE BY	REVISIONS
	DESIGNED BY <u>J.D.S.</u>		

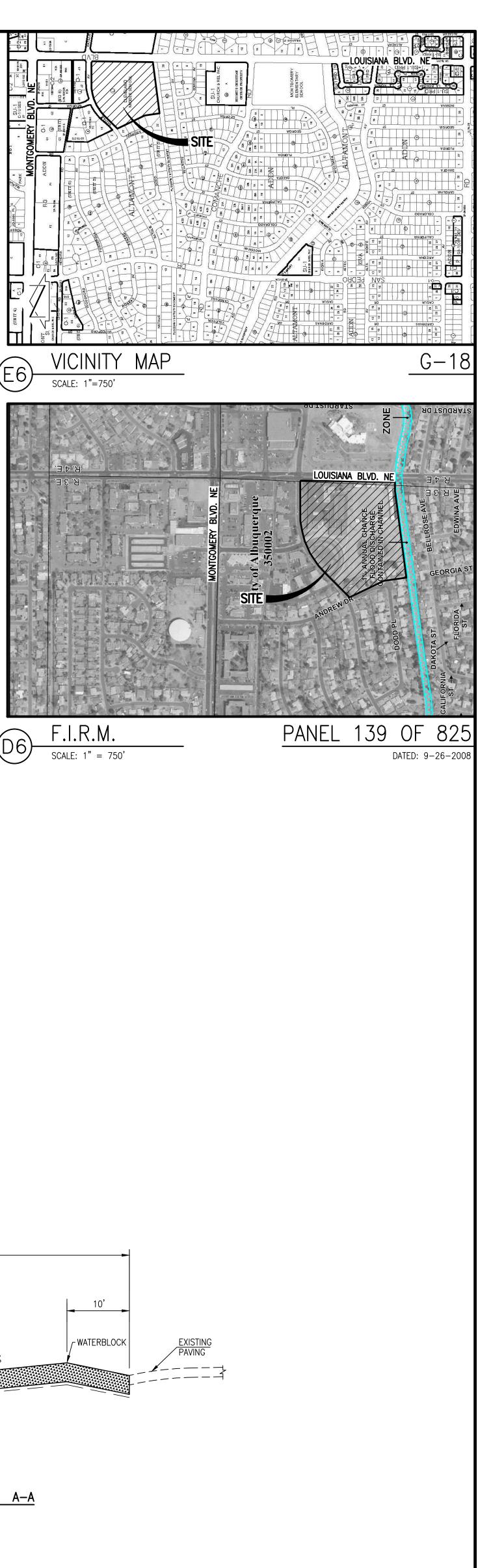
	N□.	DATE	BY	REVISIONS
DESIGNED BY J.D.S.				
DRAWN BYJ.Y.R./S.C.C.	-			
APPROVED BYG.M.				
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VARIETY/COMMON NAME	GENUS/SPECIES				
'PALOMA" INDIAN RICE GRASS	ORYZOPSIS HYMENOIDES				
'VIVA" GALLETA GRASS	HILARIA JAMESII				
'NINER" SIDE OATS GRAMA	BOUTELOUA CURTIPENDULA				
'HATCHITA" BLUE GRAMA	BOUTELOUA GRACILIS				
SAND DROPSEED (NM REGION)	SPOROBOLUS CRYPTANDRUS				
OUR-WING SALTBUSH (NM REGION)	ATRIPLEX CANESCENS (DE-WINGED)				
TOTAL RATE:		12.			



	ND.	DATE	BY	REVISIONS
DESIGNED BY				
DRAWN BY				
APPROVED BY				