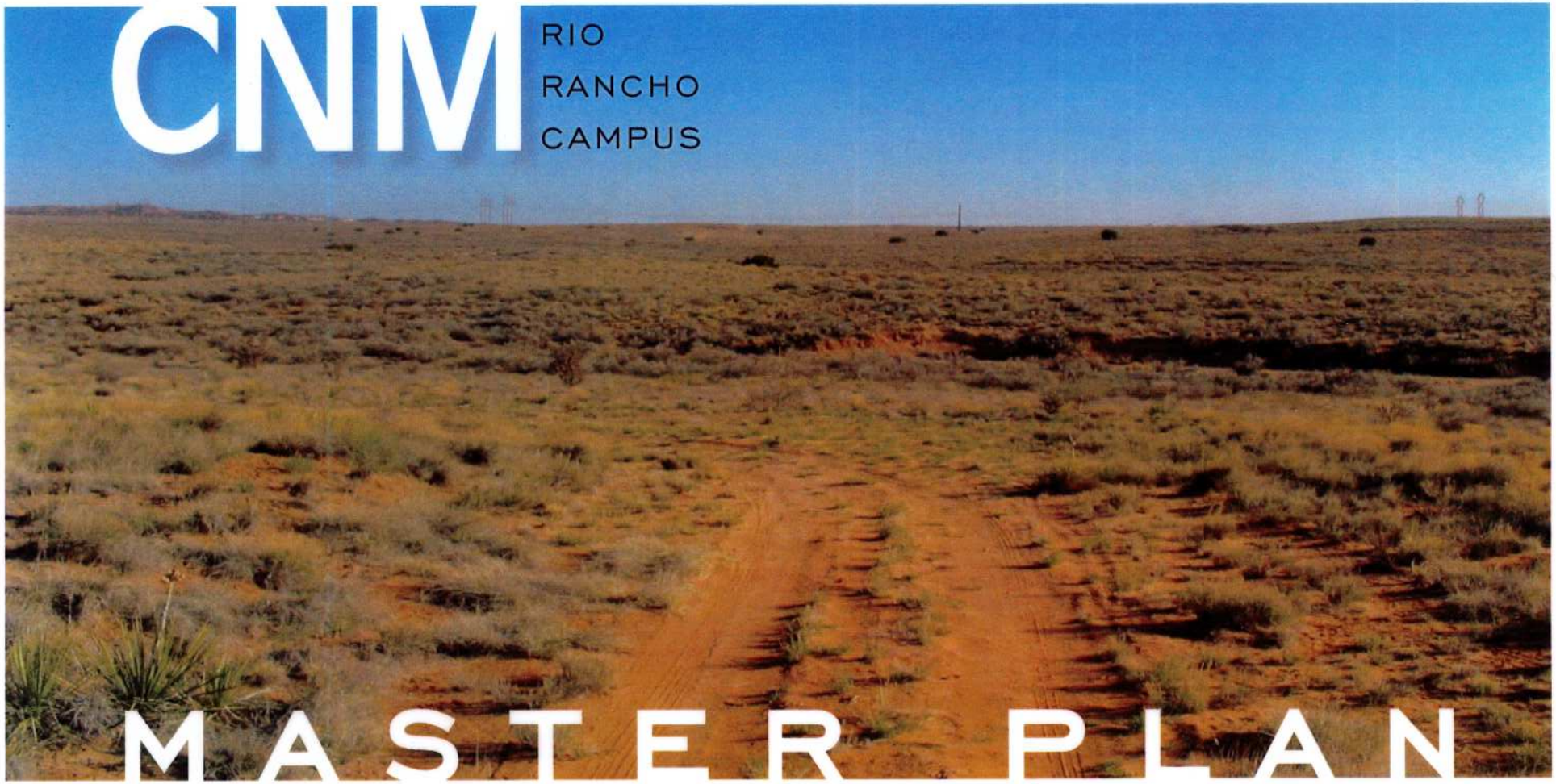
JUNE 2009

CNM RIO RANCHO CAMPUS



MASTER PLAN

CONSENSUS PLANNING

Bohannan ▲ Huston INC

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335

ENGINEERING • SPATIAL DATA • ADVANCED TECHNOLOGIES

SMPC ARCHITECTS

ACKNOWLEDGEMENTS

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- Dr. Katharine Winograd, President

Planning Committee

- Luis Campos, Executive Director, Physical Plant
- Richard Mazon, Information Technology Governing Board

RioRancho
City of Vision

BEFORE THE GOVERNING BODY
OF THE
CITY OF RIO RANCHO, NEW MEXICO
FINDINGS OF FACT
In the Matter of:
Master Plan # 09-400-00002

The applicant requests approval of a master plan for Central New Mexico Community College (CNM) – Rio Rancho Campus on property legally described as Campus Centre, Tract 1B and City Center Tract 7, 40 acres more or less, generally located east of Center Boulevard near the intersection with 34th Avenue NE with the Campus Centre Master Plan area.

APPLICANT: Central New Mexico Community College (CNM)

THIS MATTER, having come before the Governing Body on this 14th day of April 2009, the Governing Body having taken evidence and considered the merits;

THE GOVERNING BODY HEREBY FINDS:
GENERAL FINDINGS:

1. The Governing Body has jurisdiction over the applicant's request for specific area plan approval.
2. The property owner has authority to apply for a specific area plan.
3. The applicant and adjacent property owners received due process, as proper notice and a full opportunity to present views were given.

SPECIFIC FINDINGS IN ADDITION TO THE GENERAL FINDINGS INCLUDE:

1. The application for specific area plan approval before the Governing Body satisfies the requirement of *Code of Ordinances*, Chapter 154.14(3): Special Use District.
2. The site plan includes necessary information as required by *Code of Ordinances*, Chapter 154.14(3): Special Use District.
3. The specific area plan conforms to the use in the Campus Centre Master Plan.
4. The specific area plan conforms to the applicable guidelines for civic structures in the Regulating Design Standards for City Centre Master Plan.
5. The specific area plan is consistent with the Vision 2020 Integrated Comprehensive Plan.

THEREFORE, the specific area plan (called the CNM Rio Rancho Campus Master Plan) was approved as generally being in conformance with the City of Rio Rancho *Code of Ordinances* and as an amendment to the *VISION 2020 Integrated Comprehensive Plan, Preferred Growth Scenario Map* as evidenced by Resolution No. 39, Enactment No. 09-040 with the following condition:

1. The plan shall be edited to address comments by the Development Services Department, the Department of Public Works, and the Parks, Recreation and Community Services Department.

Thomas E. Swisstack

Thomas E. Swisstack, Mayor

6/10/09
Date

CITY OF RIO RANCHO
RESOLUTION

RESOLUTION NO. 39 **ENACTMENT NO. 09-040**

A RESOLUTION APPROVING THE CENTRAL NEW MEXICO SPECIFIC AREA PLAN (CALLED THE CNM RIO RANCHO CAMPUS MASTER PLAN) AND AMENDING THE CITY OF RIO RANCHO'S VISION 2020 INTEGRATED COMPREHENSIVE PLAN, PREFERRED GROWTH SCENARIO MAP.

WHEREAS: the State of New Mexico has granted the City of Rio Rancho the power, authority, jurisdiction and duty to enforce and carry out the provisions of law relating to planning, platting, and zoning pursuant to 3-19-1, et. seq. NMSA, 1978, as amended; and

WHEREAS: the Governing Body of the City of Rio Rancho has adopted a Comprehensive Plan that determines the hierarchy of plan development. Specific Area Plans (Level 5) generally detail principles, policies, and actions identified within the Vision 2020 Integrated Comprehensive Plan and applies to a specific area within the City; and

WHEREAS: the Governing Body of the City of Rio Rancho has determined that the CNM Rio Rancho Campus Master Plan is in conformance with the Vision 2020 Integrated Comprehensive Plan.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF RIO RANCHO:

That the Governing Body hereby approves the CNM Rio Rancho Campus Master Plan, as attached hereto as Exhibit "A" and incorporated herein by this reference, and an amendment to the Vision 2020 Integrated Comprehensive Plan, Preferred Growth Scenario Map.

ADOPTED THIS 22ND DAY OF APRIL, 2009.

Thomas E. Swisstack, Mayor

4/23/09
Date

ATTEST:

Roman Montoya, City Clerk
(SEAL)

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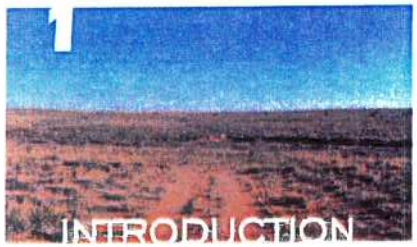
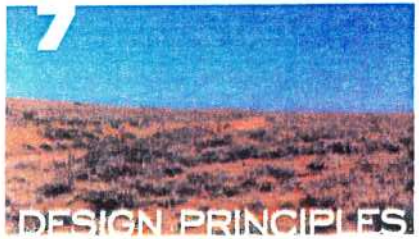


- The Project



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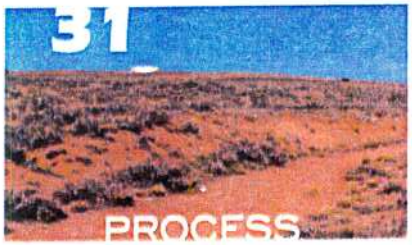

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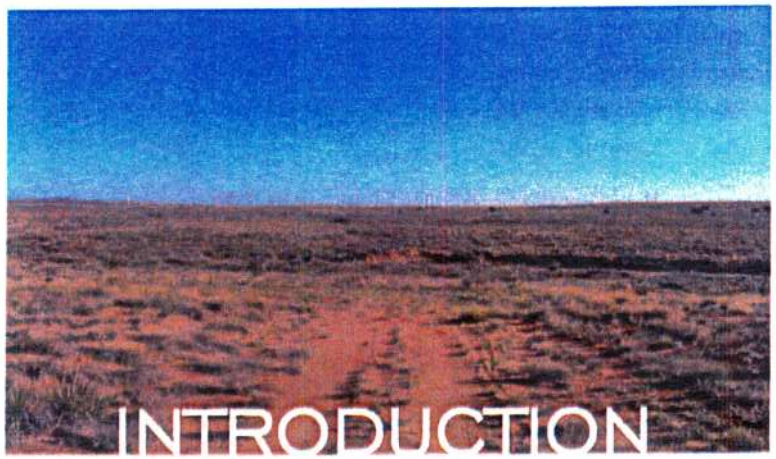
- Parking
- Lighting
- Signage
- Architecture Guidelines

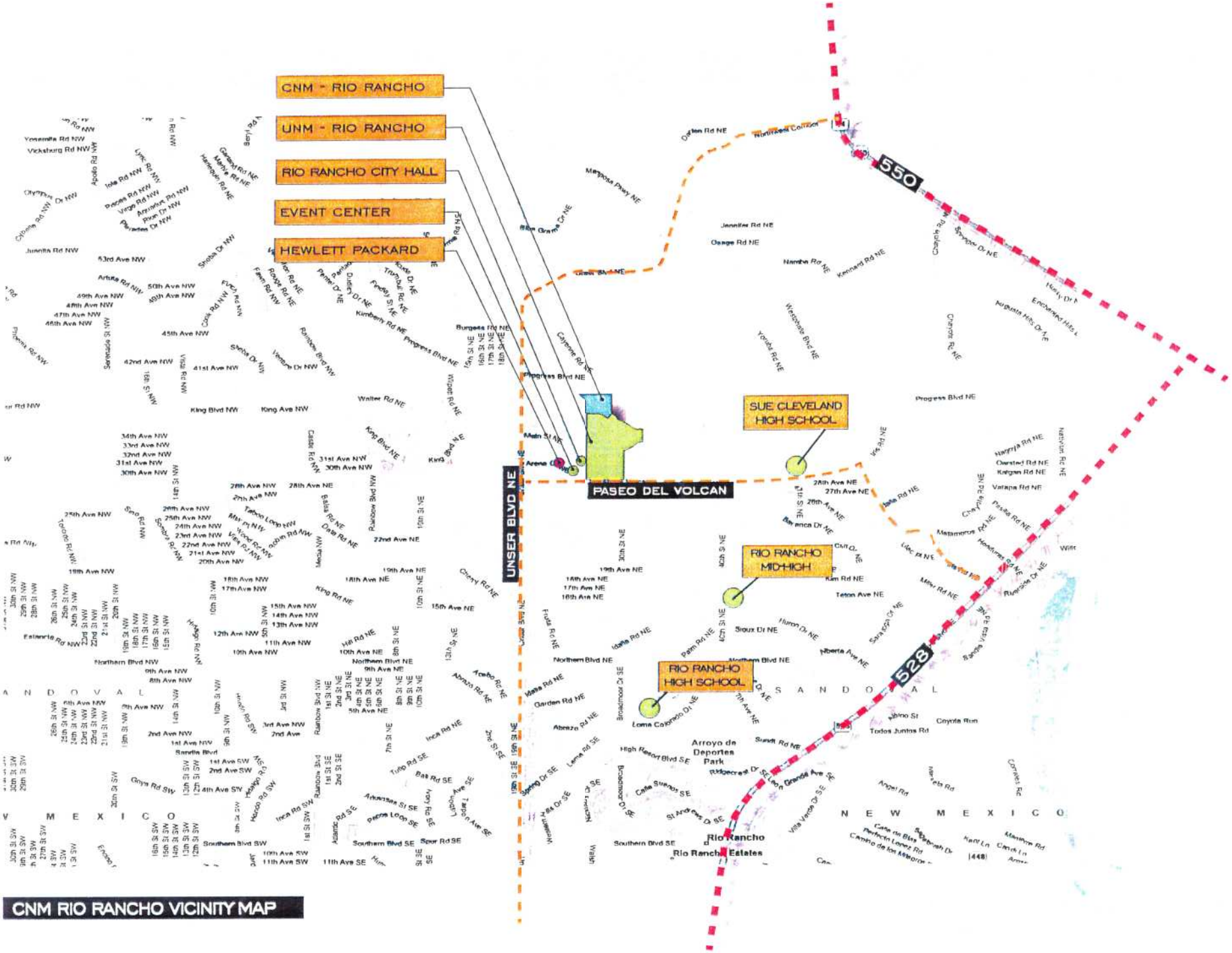
- Supplemental Graphics


INTRODUCTION

THE PROJECT

The Central New Mexico (CNM) Community College Master Plan provides an overall framework for the future development of this 40 acre campus within the approved Campus Center Master Plan, just northeast of the City Center and north of the proposed University of New Mexico (UNM) Rio Rancho Campus. The CNM property was acquired through the State Land Office and the University of New Mexico to provide higher educational opportunities for this growing portion of the metropolitan area. Through this planning process, CNM and UNM have collaborated on how to maximize the opportunities presented by these campuses located adjacent to one another. The property is located in close proximity to Rio Rancho's City Center which is planned to become a dynamic urban downtown.

CNM RIO RANCHO EXISTING SURROUNDING DEVELOPMENT



CNM RIO RANCHO VICINITY MAP

CNM MISSION & VALUES - STRATEGIC DIRECTION

CNM created a Strategic Direction to guide the college's future growth and success. The Strategic Direction was the result of input from 15 forums over several months with nearly 300 members of the CNM community participating including CNM faculty, staff, students, community and business leaders, and higher education partners. CNM outlined the following five primary goals in the Strategic Direction:

- Expand CNM's caring approach to student success;
- Create and enhance a systemic approach to partnerships and community building;
- Build on CNM's multi-faceted diversity;
- Strengthen CNM's comprehensive identity; and
- Innovate in order to sustain CNM's success for future generations.

Within the Strategic Direction, CNM outlines objectives to achieve each goal. One strategic action to achieve CNM's goals and objectives is to create a Master Plan for a new CNM campus in Rio Rancho.

PROJECT BACKGROUND

CNM's administration began examining areas where they could expand their educational service in Rio Rancho to better serve the residents of this fast growing city. CNM requested a vote from the citizens of Rio Rancho to expand the taxing district to north of Northern Boulevard. CNM made a commitment to the community that if the vote was approved, CNM would have the first building of the new Rio Rancho Campus open by 2010. In 2007, the citizens of Rio Rancho approved the expansion. This critical vote allows CNM to better serve Rio Rancho residents by beginning construction of this 40 acre site and provision of new educational facilities that will

IMAGES FROM CNM WEBSITE: WWW.CNM.EDU

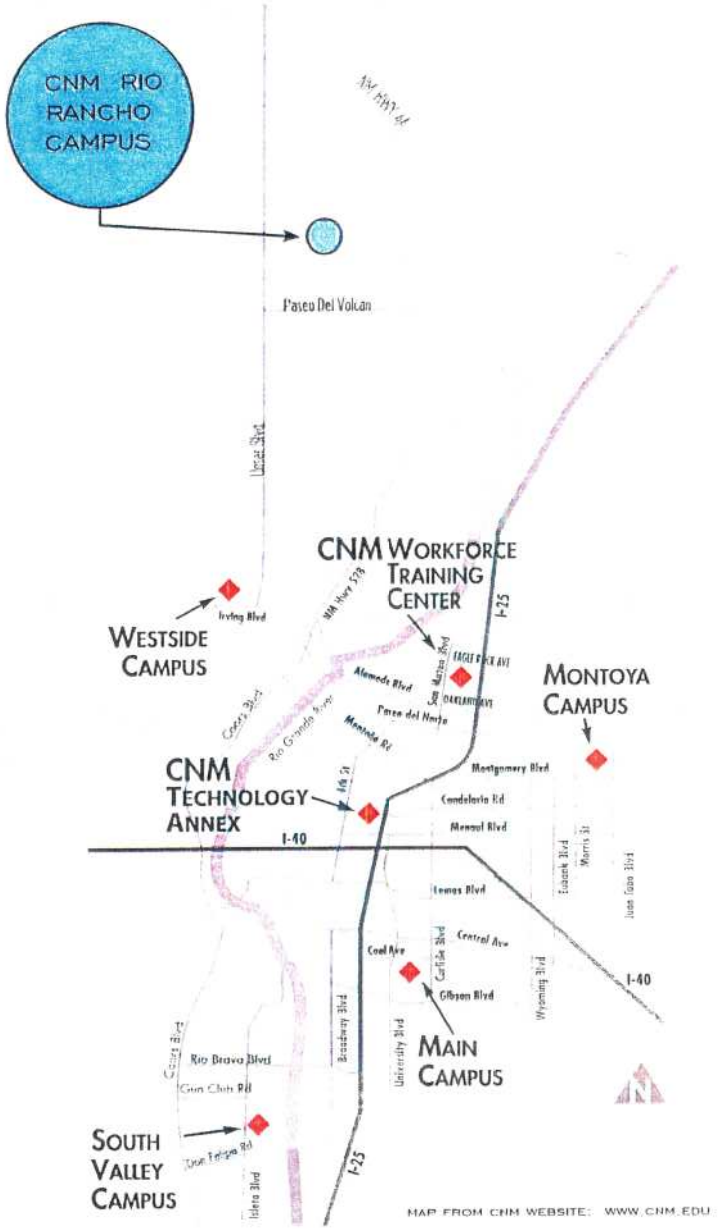
offer associate degrees, occupational courses, workforce training, and a coordinated effort with the University of New Mexico to establish the 2+2 Program, a two-year program for students who want to complete their Bachelors degree at UNM.

The CNM Master Plan has been created as a result of CNM's Strategic Direction and collaboration with UNM and the City of Rio Rancho. CNM established design principles to help guide the design charrettes with UNM and the City of Rio Rancho. These design principles are a reflection of CNM's Strategic Direction and vision for the Rio Rancho campus. The ideas generated out of these design charrettes have been incorporated into the Master Plan. CNM has committed to creating a sustainable campus, which will include LEED Silver Certification on all buildings.

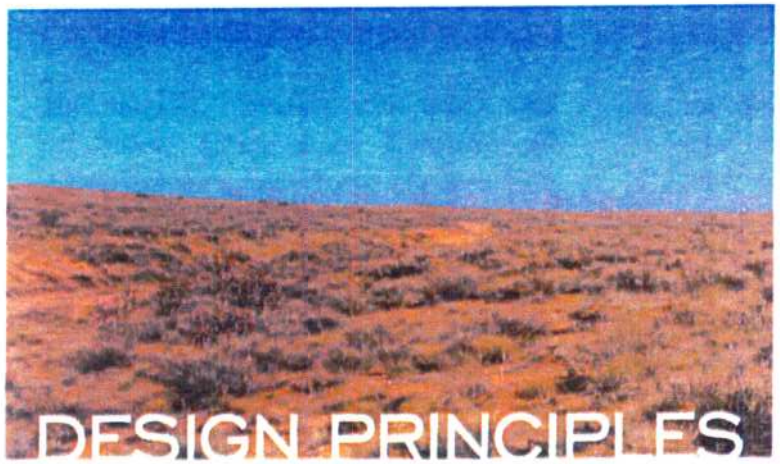
The plan reflects many of CNM's Strategic Direction goals by providing opportunities to partner with businesses and local government located within Rio Rancho's new downtown. Facilitating easy access for students is a high priority to CNM. By locating near the City Center, UNM, etc., the roadway network and future transit will accommodate easy access for students.

The new Sue Cleveland High School is currently under construction approximately 1 ½ miles to the east. One of CNM's goals is to enhance partnerships and community building in part, by becoming an integral partner in a well-defined P-20 education system. The close proximity to the new high school allows an opportunity for these community and educational partnerships.

The CNM Master Plan identifies where buildings, parking, and open space/plazas should occur and establishes guidelines for the overall development. The Master Plan also identifies the general phasing for the property so the Plan can be used as a guide when CNM is ready to construct additional buildings, expand programs, or when seeking additional funding.



CNM CAMPUS LOCATIONS



DESIGN PRINCIPLES

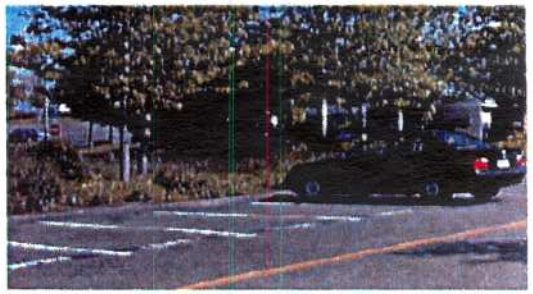
SITE PLANNING

The CNM Rio Rancho Campus will be designed to utilize the natural terrain and land forms to create a campus master plan that utilizes sustainable design principles, provides pleasant common and civic spaces, clusters the architecture to create a unified "village," establishes a sense of place, and integrates environmental signage and wayfinding on and off campus. Buildings will be sited to optimize views and natural daylighting, create opportunities for solar access to all buildings, reduce the potential heat island effect (maintains natural landscape areas, shade trees in parking areas, reflective roofs, etc.), mitigate dust during construction and occupancy, and provide for efficient parking and accessibility. During each phase of the project, security for its employees and students will be considered throughout the design and development process.

WATER

The CNM Rio Rancho Campus will be designed to conserve water by implementing stormwater management/ water harvesting, using non-potable water for irrigation and dust mitigation during construction, developing a xeric landscape plan, and utilizing the natural topography/ drainage patterns to drive design decisions. The existing arroyo that runs through the site will be engineered to function as a storm drain, while preserving the concept of an arroyo that also functions as an open space corridor.

CONNECTIVITY



The CNM Rio Rancho Campus will be designed to have easily accessible parking for all students, staff, and community members, provide for convenient handicap access to all buildings, have strong pedestrian and bicycle connections between buildings and throughout the campus, as well as provide for future transit access (including the potential Railrunner station), loading, and unloading. Pedestrian and auto traffic will be separated to create a safe pedestrian-friendly environment. Creation of focal entry points will be a critical component for site planning and building placement during the design process. CNM will work cooperatively with the City of Rio Rancho and UNM to develop incentives to encourage students to use alternative modes of transportation.

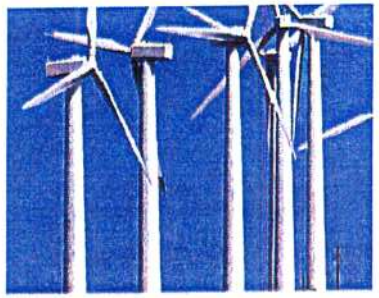
BUILDING MATERIALS

The CNM Rio Rancho Campus will be designed to encourage and facilitate the purchase of as many local building materials, supplies, and daily goods as possible. The campus will evoke a sense of permanence and serve as a long term resource to the community.

RECYCLING

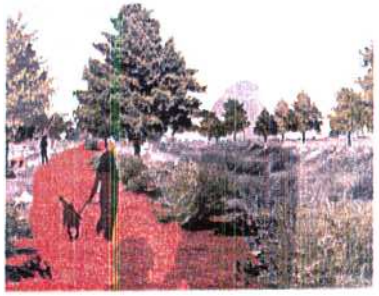
The CNM Rio Rancho Campus will be designed to implement recycling strategies, maximize opportunities to reuse materials in the construction, utilize and specify recycled building materials, include a recycling center, and encourage the development of a wastewater treatment center in collaboration with the City of Rio Rancho and UNM.

INFRASTRUCTURE

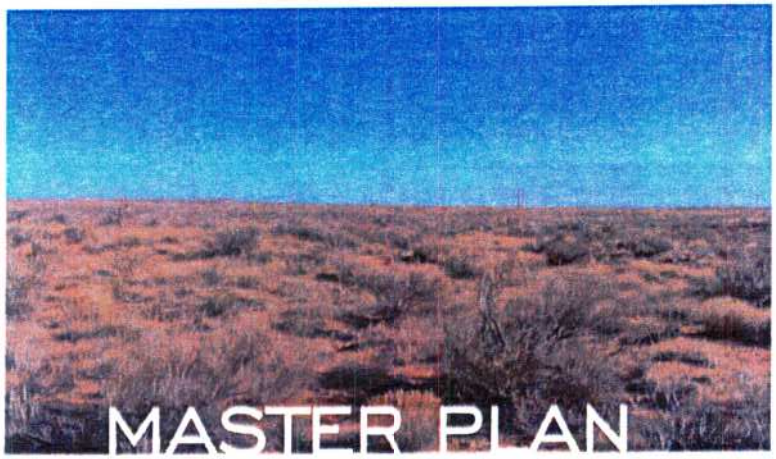


The CNM Rio Rancho Campus will be designed to incorporate the concept of "ecological infrastructure" which includes water management, energy efficiency, renewable energy, etc.

OPEN SPACE



The CNM Rio Rancho Campus will be designed to preserve areas that are not suitable for buildings as open space and natural corridors, identify open space/pedestrian corridors as a defining element, and use open space areas for natural water harvesting systems. CNM's open space network should provide connection to adjacent open space corridors (City of Rio Rancho, UNM, etc.).

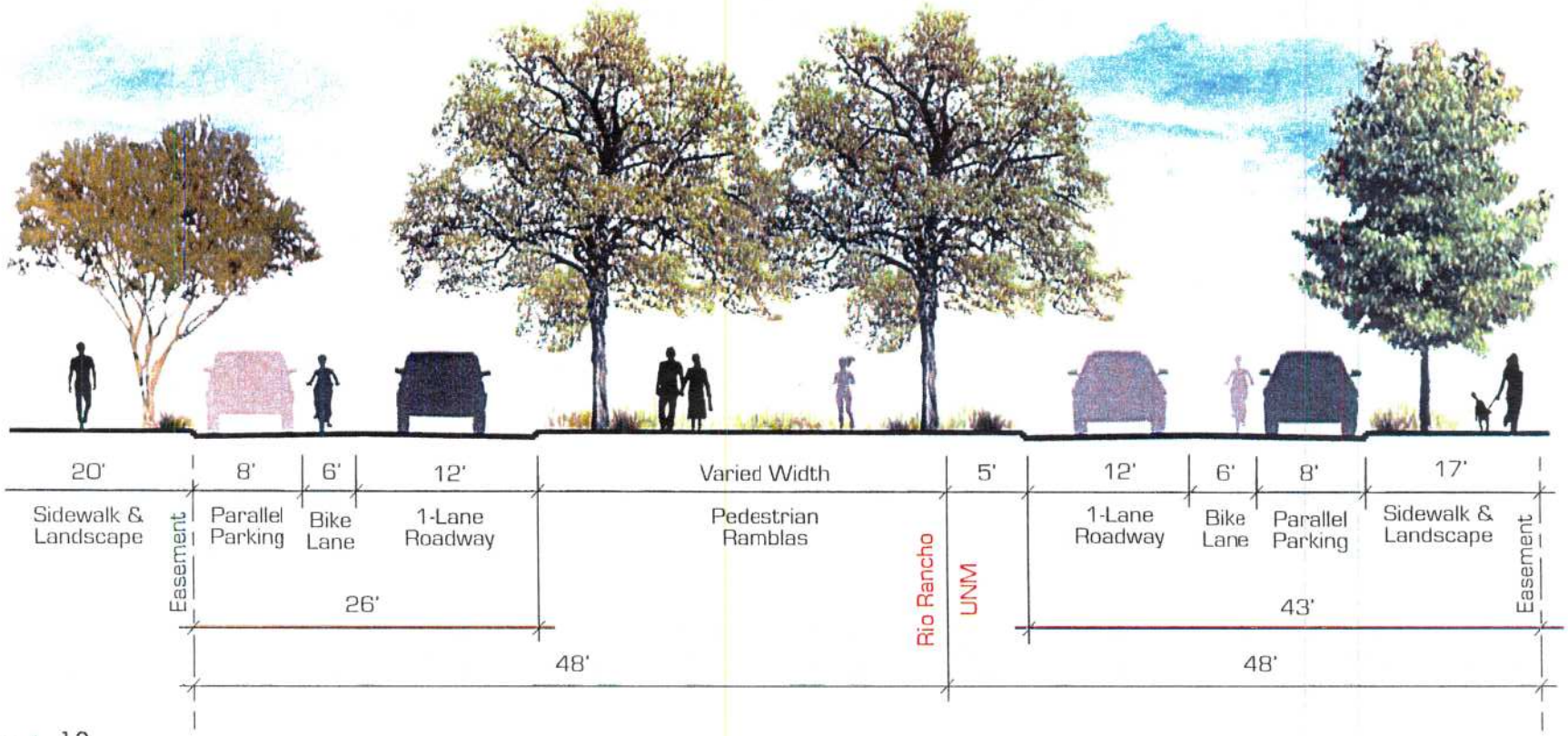

MASTER PLAN

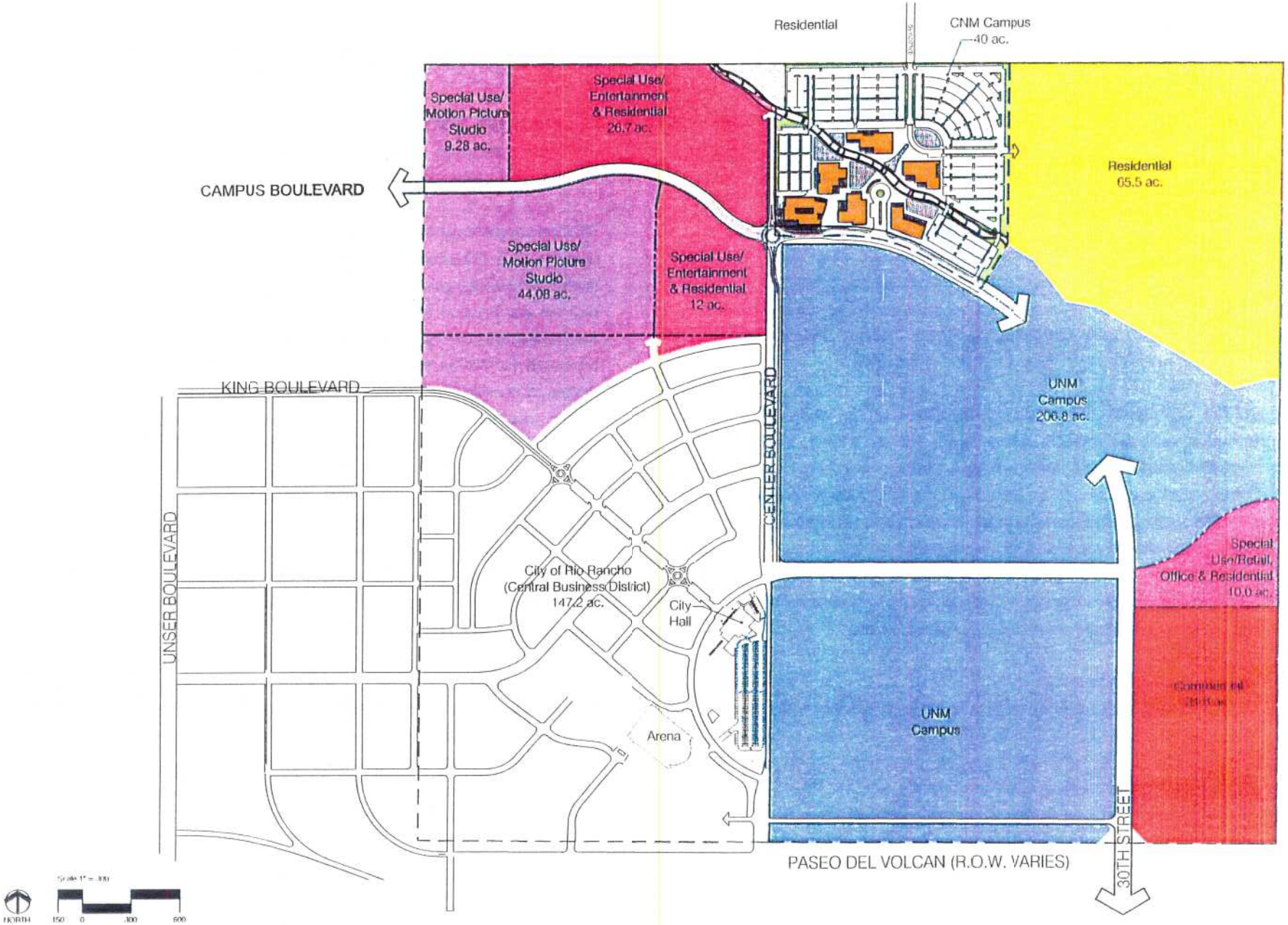
CONTEXT

This 40 acre site is located within the approved Campus Center Master Plan, just northeast of the City Center and north of the proposed University of New Mexico (UNM) Rio Rancho Campus.

The City Center project is anchored by the Santa Ana Star Center and Rio Rancho's City Hall. The City Center Master Plan, as well as UNM's Rio Rancho Campus Master Plan help to ensure that open space, transportation, and infrastructure are well planned. UNM, Rio Rancho and CNM have collaborated on how to create a cohesive area that facilitates a sense of place in a growing urban center. These three entities reached areas of agreement for future development within the City Center that includes common design principles for the area, coordinating academic programming efforts, and coordinating larger issues such as transportation and sustainability.

CENTER BOULEVARD CROSS SECTION





CNM RIO RANCHO VICINITY LAND USE MAP

MASTER PLAN

CNM's Rio Rancho Campus Master Plan has been prepared based on the design principles developed as part of this master planning process. At full build out, CNM Rio Rancho will consist of approximately 300,000 square feet of building space. It is anticipated that there will be six two story buildings making up the campus. The Master Plan process began with the CNM Design Team establishing design principles. Based on these design principles, the Project Team achieved a balance between maximizing sustainability, accommodating future academic program needs, and creating a pedestrian friendly "village" campus environment.

In addition, the Master Plan is strongly influenced by site conditions, in particular, a small branch of the La Barranca Arroyo. The arroyo through the middle of the site has presented many design challenges and opportunities. The arroyo has been designed as a central open space spine and pedestrian corridor that creates a dynamic public space that joins the two sides of the campus.

The entire site has been designed to conform to the natural terrain and includes sustainable design features such as:

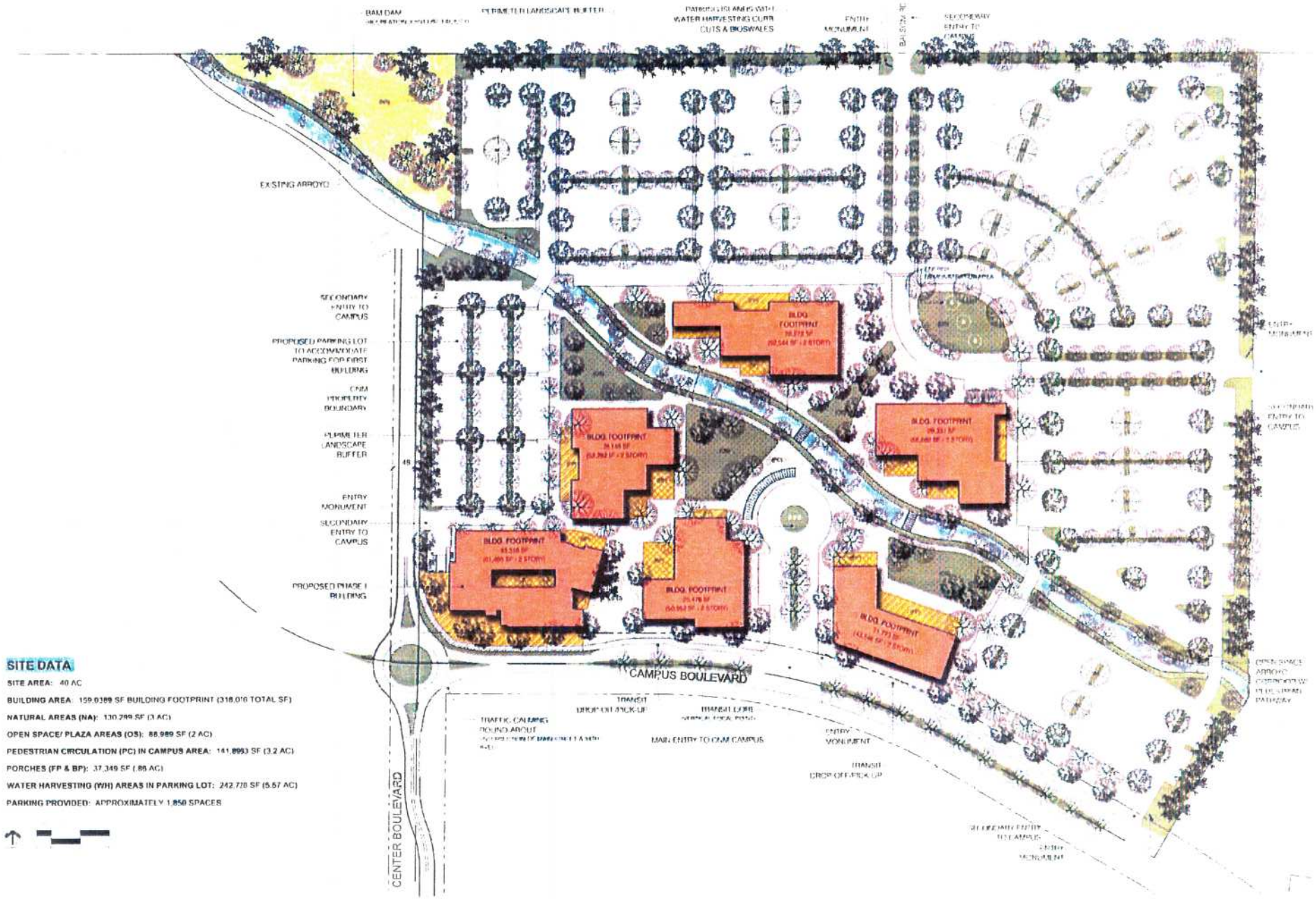
- Water harvesting
- Shared courtyards that take advantage of grade changes that step across the property
- Orientation of buildings to maximize solar access, daylighting, views, and wind protection
- A central open space & pedestrian corridor
- Pedestrian and bicycle access and circulation throughout the campus.
- A transit core and drop-off
- A potential ecological energy demonstration area (energy efficiency, renewable energy, water management, etc.)

Each of these elements contributes to development of a campus that uses natural resources more efficiently while creating an inviting and safe campus environment.

Water conservation is a priority to CNM in the Rio Rancho campus design. The Master Plan has been designed to retain as much water on-site as possible. Any storm water from the parking areas will be harvested to supplement irrigation of the landscaping in and adjacent to the parking areas. Any additional water will be directed to the arroyo where a system will be in place to slow the water in an effort to harvest as much of it on-site as possible. This water harvesting system allows water conservation to become an educational element for CNM students, staff, and community members.

Circulation and connectivity are important elements to create a campus environment where access and wayfinding are for the success of the campus. There are six vehicular access points from each side of the property. Internal circulation separately accommodates vehicles and pedestrians / bicycles; vehicular traffic is limited to the perimeter of the site while pedestrians and bicycles can use the arroyo corridor and plaza areas to travel safely throughout campus. In addition, the master plan illustrates a transit core that facilitates shuttle use as well as creating a drop-off, pick-up location that is central to the campus. The transit core creates a connection to UNM and provides a transitional corridor between the two academic institutions.

The overall campus plan has been designed to create a unified sense of place which includes plazas and common areas which will beautify the campus while providing social spaces and a safe



SITE DATA

SITE AREA: 40 AC

BUILDING AREA: 159,0389 SF BUILDING FOOTPRINT (318,076 TOTAL SF)

NATURAL AREAS (NA): 130,299 SF (3 AC)

OPEN SPACE/ PLAZA AREAS (OS): 88,989 SF (2 AC)

PEDESTRIAN CIRCULATION (PC) IN CAMPUS AREA: 141,8993 SF (3.2 AC)

PORCHES (FP & BP): 37,349 SF (.86 AC)

WATER HARVESTING (WH) AREAS IN PARKING LOT: 242,778 SF (5.57 AC)

PARKING PROVIDED: APPROXIMATELY 1,850 SPACES

CNM RIO RANCHO MASTER PLAN CONCEPT - ULTIMATE BUILD-OUT

SITE PROGRAM

The following report summarizes the initial space requirements for the CNM Rio Rancho Campus. This section summarizes project goals, key facts, key concepts, and space listings; presents key relationship diagrams; and describes key components of the facility that form a basis for the planning and design of the new community college campus.

This section builds on the recent work completed for CNM's Albuquerque West Side Campus, and approved by the CNM Planning Committee. It is intended as the overview summary of the project. The purpose of this section is to communicate to the owner, user and architect essential facility requirements that provide a common basis for facility design, while encouraging the contribution of insights by the building designer. The detailed space program includes room-by-room space requirement sheets; this program is located on page 19.

This facility program contains information obtained through:

- Review of existing guidelines;
- Analysis of recent work at the new West Side campus;
- Interviews with CNM planning and administrative staff;
- Discussion of experience with similar elements from other projects; and
- Planning charrette with staff and planning consultants from adjacent City of Rio Rancho City Center and University of New Mexico Rio Rancho Campus.

PROJECT OBJECTIVES

1. Be flexible – the design should readily accommodate instructional, community, and technological change.
2. Be expandable – the design of both site and buildings should be planned for logical expansion to accommodate future growth.
3. Be coordinated with the community – the design should be planned in cooperation with the neighboring Rio Rancho City Center and with the future University of New Mexico Campus.
4. Be committed – the design should make a strong statement of the long term commitment of CNM to Rio Rancho.
5. Be sustainable – the design should support the principles of "green" sustainable design, specifically LEED certification by USGBC.

ACADEMIC MODEL

The key characteristics of the academic model include:

1. The new community college facilities will be planned for lower division classes, to provide class credits that will transfer to UNM as a 2+2 program.
2. Instructional spaces will be multi-purpose, allowing for maximum utilization of the facilities.
3. Facilities belong to CNM programs, not to specialty departments or schools.

PROGRAM STRUCTURE

To account for differing types of program functions with differing needs and hours of operation, it is proposed to organize the building program components into zones of compatible use/functions.
Three primary building zones are proposed for the Phase One building. The zones are:

1. Instructional (Classrooms and Laboratories) and Instructional Support Spaces
2. Administrative Spaces (Student Services)
3. Building Support Spaces (Communications, Mechanical and Electrical Rooms)

The three functional zones are identified based on their need for hours of use/access, compatibility for traffic and noise, security and type of access, i.e. deliveries and service requirements.

INSTRUCTIONAL SPACE AND CALCULATIONS

The community college will provide sufficient capacity in instructional spaces to allow the entire student body to exceed the requirements to transfer into the upper division classes at the University of New Mexico. Calculations indicating the minimum spaces required to support the graduation requirements are contained in the Conceptual Space Program.

The curriculum profile for the calculations of required instruction spaces for CNM Rio Rancho is based on a similar profile used at the Montoya and West Side campuses. This is based on the demographic profile provided by CNM. It has been suggested, based on the experience at the West Side campus, that it can be anticipated that there could be 3,000 students enrolled within the first year of opening the Rio Rancho Campus. It has also been suggested that 3,000 students would equate to a need for instructional space for 1,000 students at any one time. The class sizes are based on typical class sizes at the other CNM campuses.

FUNCTIONAL REQUIREMENTS

SPECIAL SERVICES

Student Health will be offered to students at the West Side CNM campus.

Student Services will be administered at the Rio Rancho CNM campus, coordinating with the other CNM campuses.

Food Service will be provided on a limited basis through kiosks and vending machines within the first building.

TRANSPORTATION, PARKING AND ACCESS

The students and faculty will primarily be driving personal vehicles to this campus. The CNM policy is to provide convenient parking at the campus that is free. In support of a "sustainable campus", it is the long term goal of CNM to encourage alternate modes of transportation to the campus. It is also the goal to encourage ease of circulation within the CNM campus and between the CNM and UNM campuses. Provision will be made to accommodate vans between the Rio Rancho Campus and the West Side Campus, as well as future public transportation. The campus is to be designed for convenient pedestrian circulation through the campus.

SECURITY

The new Rio Rancho Campus must be safe and secure. The campus will be secured with decorative fencing. Security cameras as well as security personnel should be incorporated into the school environment in ways that are not threatening or offensive, but leave the campus environment with a sense of freedom and relaxed openness.

All buildings should have alarm systems for security in corridors, entries, and academic zones. This will allow security personnel to follow the alarm sequence from the central monitor.

BUILDINGS

Buildings should be designed to allow for crime prevention as follows:

1. Natural Surveillance. This concept is directed at keeping intruders easily observable. This is promoted by features that maximize visibility of people, parking areas, and building entrances. Features include pedestrian-friendly walkways, doors, and windows overlooking streets and parking areas, and adequate lighting.

2. Territorial Reinforcement. Physical design can create or extend a sphere of influence. Users develop a sense of territorial control while potential offenders, perceiving the control are discouraged. Territorial reinforcement is promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs, gateway treatments, and fences.

3. Natural Access Control. This concept is directed at decreasing crime opportunity by denying access to crime targets and creating a perception of risk to offenders. Control is gained by designing streets, sidewalks, building entrances, and neighborhood gateways to clearly indicate public routes and discourage access to private areas with structural elements.

4. Targeting Hardening. This concept is accomplished by features that prohibit entry or access, by window locks, door deadbolts, and interior hardware.

DEVELOPMENT DEFINITIONS & SPACE CALCULATIONS

The space program is presented in tabular form, located within the Appendix, with each column providing different information. Column one identifies the space title, column two the number of spaces of that title, then the number of occupants in one such space, and the total number of occupants of that space type. The fourth column identifies the net area in square feet of each space, and then follows the total net area of that type of space.

Subtotals are provided for each of three groupings of spaces – Instructional, Administrative, and Building Support Spaces. The following Conceptual Space Program shows a total for Building net area and for building gross area.

At the bottom of the Space Program is a Conceptual Construction Budget, based on the programmed size of the building.

The total gross area of the building is based on corridor widths of ten feet, serving instructional spaces.

CONSTRUCTION BUDGET

The Building One cost is based on the gross area multiplied by a unit cost of $225 per square foot.

The Building One site cost is based on a developed area of five acres of the total 40 acre site. Included developments are parking for 400 cars; landscaping adjacent to the building, parking and main road; utility work from the property lines to within five feet of the building. The budget is based on a unit price of about $7 per square foot of developed site.

The Off-Site cost is based on preliminary estimates of costs to provide water, sanitary sewer, power, natural gas, telecommunications and a two-lane road to the site.

CNM RR CAMPUS BUILDING I : CONCEPTUAL SPACE PROGRAM

	Function	Spaces	Occupants	Students	Area	Total
	Building One					
A	**Instructional Spaces**					
	Classroom 1 (Large)	1	50	50	1,500	1,500
	Classroom 2	17	30	510	1,000	17,000
	Classroom 3 (Computer)	3	30	90	1,200	3,600
	Biology Laboratory	1	30	30	2,000	2,000
	Chemistry Laboratory	1	30	30	2,000	2,000
	Preparation Area	1	1		2,000	2,000
	Media Resource Storage/ Office	1	1		200	200
	Library (Future)					
	Tutorial Classroom (Future)					
	Nursing Lab (Mach Med/Surg)	1	30	30	3,000	3,000
	Multipurpose/ Simulation Lab (Mach ER)	1	30	30	2,000	2,000
	Physics/ Engineering Laboratory (Future)					
	Male Student Rest Room	2			525	1,050
	Female Student Rest Room	2			525	1,050
	Subtotal			770		35,400
B	**Student Services Spaces**					
	Enrollment Work Stations	4	4		100	400
	Admissions Registration Work Area	1	4		400	400
	Manager Office	2	1		100	200
	Public Lobby/ Vending/ Waiting	1	20		2400	2,400
	Conference Room	1	6		150	150
	Student Admission/ Registration	1	20		600	600
	Copy Room	1	1		120	120
	Advisor Waiting	1	15		228	228
	Advisor Office	4	1		100	400
	Assessment Lab/ Testing	1	30		1000	1,000
	Assessment Office	1	1		100	100
	Subtotal					5,998
C	**Building Support Spaces**					
	Faculty Offices	20	1		70	1,400
	Faculty Lounge/ Copy Room	1	5		300	300
	Student-Faculty Conference Room	2	4		100	200
	Faculty Rest Rooms	2			55	110
	Information Technology Services	1	1		600	600
	Security Office/ Storage	1	1		250	250
	Housekeeping	4			100	400
	Maintenance Office/ Receiving	1			400	400
	Storage Room (outside access)	1			100	100
	Mechanical Room	1			1000	1,000
	Electrical Room	2			100	200
	Telecommunications	2			100	200
	Elevator	1			100	100
	Elevator Machine Room				150	150
	Subtotal					5,410
	Total Net Area					46,808
	Total Gross Area (Net x 1.3)					60,850

Conceptual Construction Budget	
Estimated Building Construction Cost	$13,691,340
Estimated Sitework Construction Cost	$1,500,000
Estimated Off-site Construction Cost	$1,500,000
Total Construction Budget	$16,691,340

PHASE 1

In Phase 1, CNM will construct a 2-story, 60,000 square foot building designed to house the initial classroom, lab, and administration needs. The initial building may be shared with UNM as they begin to offer classes at the Rio Rancho location. This first building will be iconic and establish an urban form at the corner of Center and Campus Boulevard. CNM's first building will be instrumental in setting the architectural tone and scale for future campus development.

Initial pedestrian and vehicular access will be provided through the northern extension of Center Boulevard. These improvements shall include the eastern half of the portion from Center Boulevard to Campus Boulevard, a single lane round-a-bout, and the entire roadway section north of the round-a-bout.

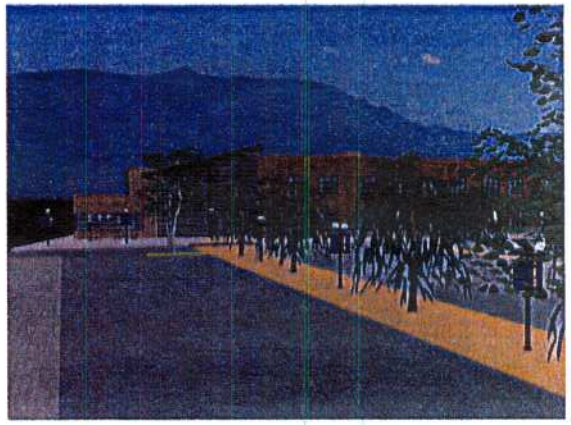
Initially, the parking area will provide approximately 400 parking spaces. Approximately 250 of these spaces will be constructed in a permanent paved condition and the others will be in a temporary lot to the south. The portion of the parking area that is temporary will be constructed of gravel to allow for future building and plaza areas.

The drainage concept for Phase 1 will divert site discharge to two detention ponds between the eastern edge of the Phase 1 development and the arroyo.

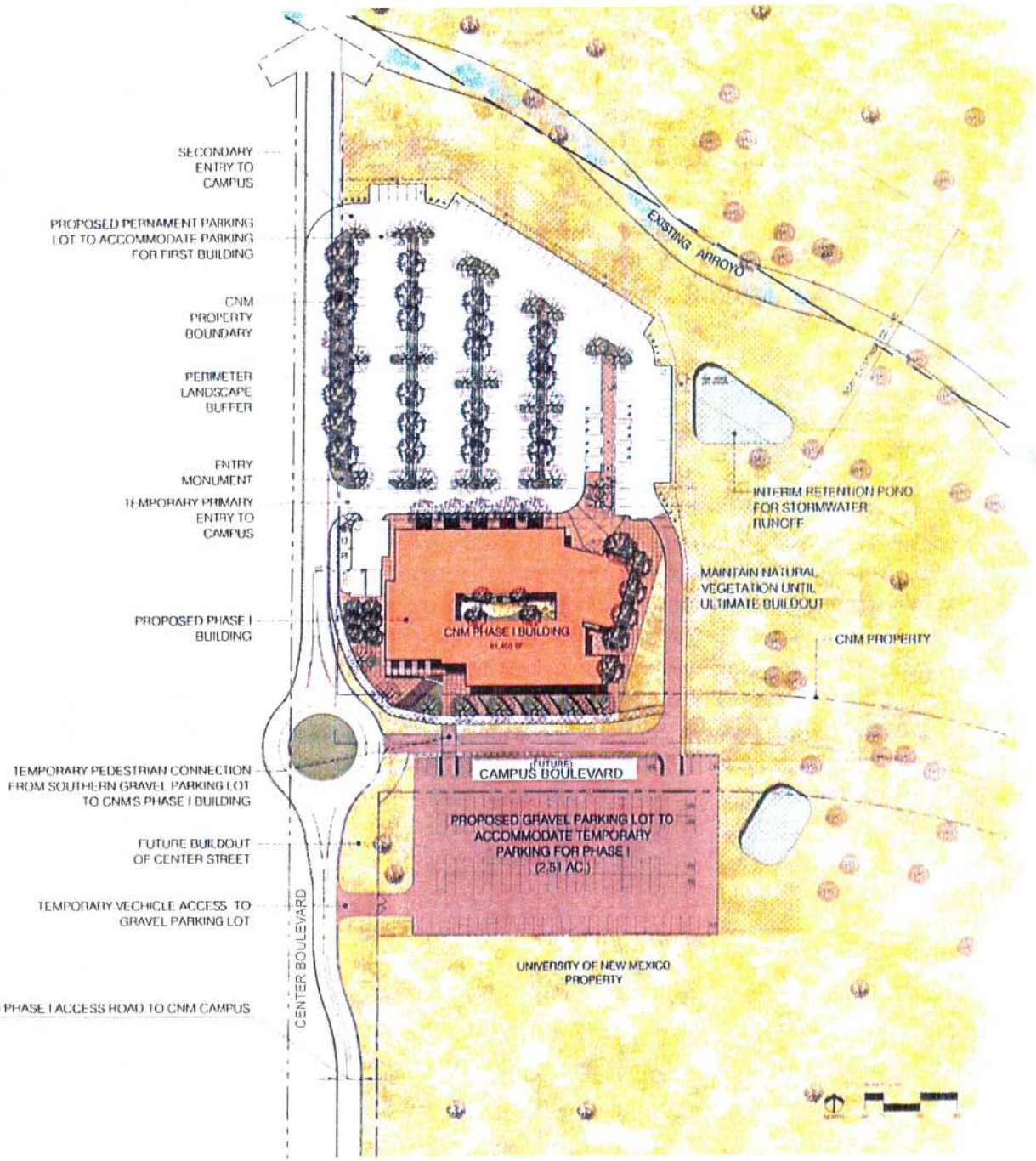
CNM's goal is to have Phase 1 completed and open to students by mid 2010.

Phase I Building - SW Corner

Phase I Building - South Entry



Phase I Building - North Entry Long Shot

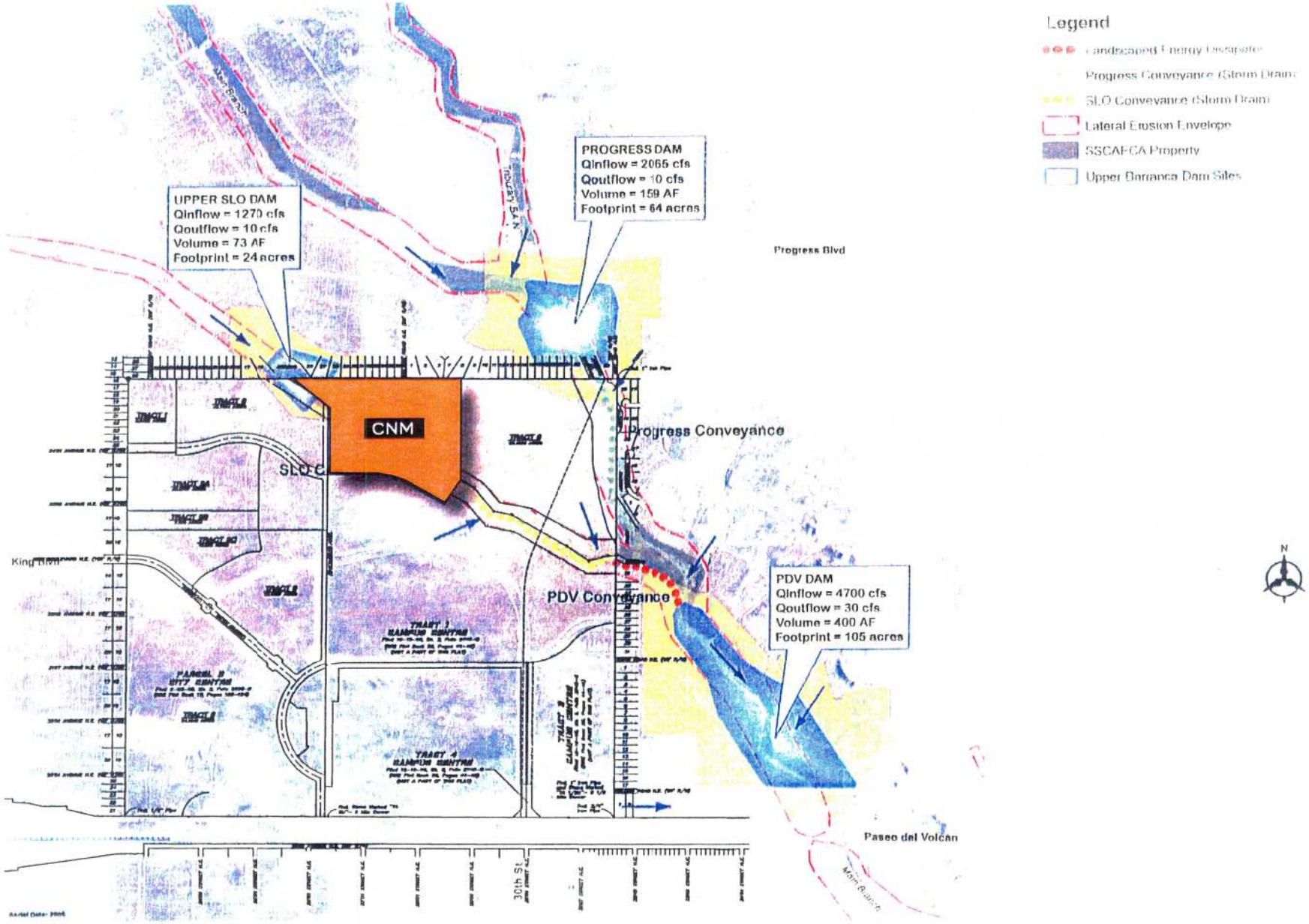


SITE DATA

CNM RIO RANCHO MASTER PLAN CONCEPT - PHASE I

ENGINEERING

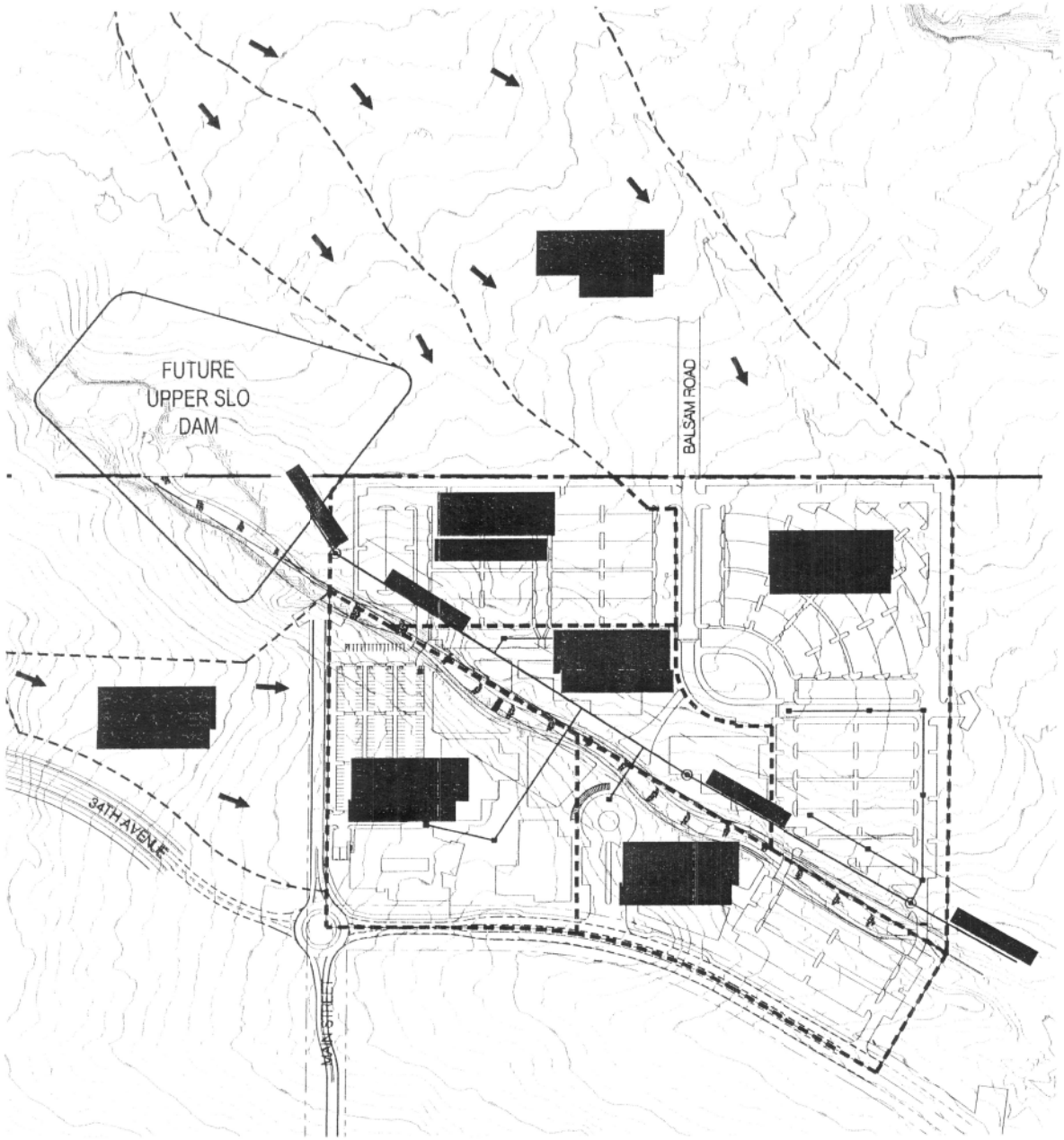
The proposed CNM site historically receives a substantial amount of run-off due to its location within the BAM Tributary of the La Barranca watershed. An arroyo that carries run-off from a portion of the watershed runs across the site from northwest to the southeast. The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) has proposed a dam to be constructed across this arroyo in order to mitigate flows across land to the east. Within SSCAFCA's La Barranca Watershed Management Plan, construction of the dam is prioritized to coincide with development of State Land Office (SLO) property south of its outfall. Since the CNM campus site is directly south of the dam's outfall, it benefits from reduced offsite flows, mitigated by the dam. A recent and more detailed SCCAFCA report suggests that historic flows would be reduced from 1270 cubic feet per second (cfs) to +/- 10 cfs. once all phases of construction are complete. This discharge will be by way of a 36" storm drain that is to be continuously enlarged along its reach to accept storm water accumulation from downstream developments. Because of the upstream dam, the CNM site will benefit from a free allowable discharge of developed flow. At the same time, the site will benefit from its proximity to the public storm drain line that bisects the site from northwest to southeast.



SSCAFCA - UPPER LA BARRANCA DAM FOOTPRINT LOCATION MAP

SITE DRAINAGE

Complete project development will include a storm water management scheme that collects run-off from a series of inlets placed as needed around the site. Storm water from this system will be conveyed to the public storm drain system mentioned above. Because full build out of the project will include a portion of development north of the arroyo, offsite flows from the north, those not diverted to the dam, will need to be considered. Run-off from the north as well as run-off from site development has the potential to be used in water harvesting design. Storm water that is not harvested or collected in inlets will exit the site at the southeast corner. Under fully developed conditions, the natural arroyo that exists today will remain an influential factor in the site design. Despite having discharge from the Upper SLO Dam conveyed underground, the arroyo will still carry some surface run-off from the site as well as overflow from the dam's emergency spillway. For this reason it is necessary to provide elevated crossings for pedestrian and vehicles. It is also important to avoid placing any building areas within this channel.



CONCEPTUAL DRAINAGE MASTER PLAN - ULTIMATE BUILDOUT

0 100 200 400
SCALE 1"=400'

N

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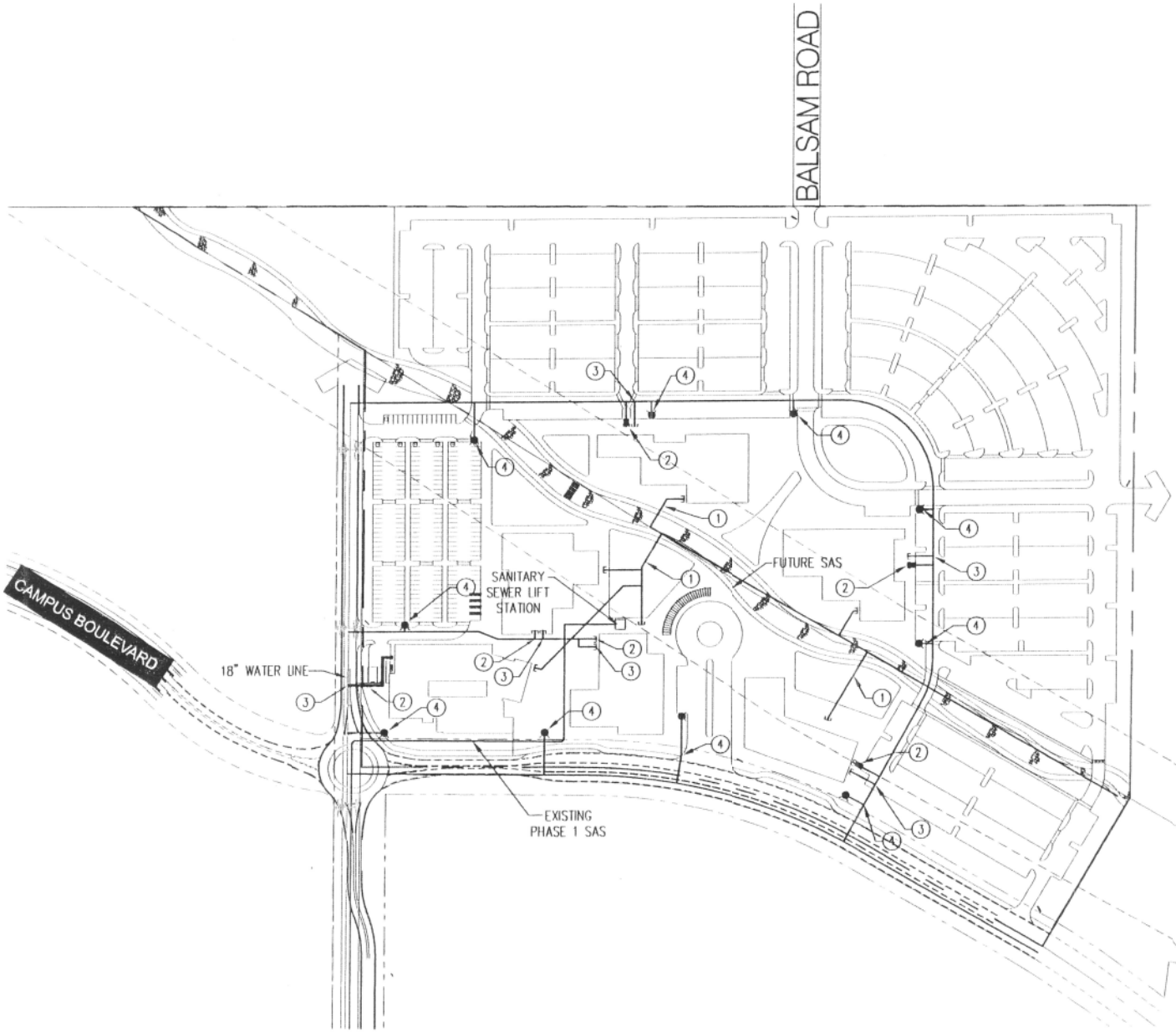
UTILITIES

Development of the CNM Campus will require construction of offsite utilities to bring sanitary sewer and water services to the site. There exists to the south, public utility infrastructure that has been constructed as part of the City Center development. Bringing these utilities to the site will require extending them from the south within the Center Boulevard roadway and public utility easement. Offsite utility infrastructure will need to be constructed prior to the Center Boulevard extension and will include a storm drain system to serve the roadway.

Offsite water service will consist of an 18" line that will connect to an existing loop that runs from King Boulevard to Center Boulevard. This line will run approximately 2700' to the north and end at the northern most extension of the roadway. Onsite water service will connect to this line as it runs along the western property boundary. Phase 1 will require a 2" domestic water service line and a fire line to serve the building sprinkler system and site fire hydrants. For full build-out, a water line will loop around the site providing domestic service, fire protection to each building, and site fire hydrants.

A gravity flow sanitary system for the development poses a challenge due to the grade difference between the site and necessary connection points. Development will require a lift station for Phase 1 and possibly for full build out depending on the progress of planned sanitary sewer infrastructure. The lift station in Phase 1 will be discretely located at a low elevation near the arroyo. Waste from the building will gravity flow to the lift station and then be pumped to a connection in Center Boulevard. Approximately 1600' of 4" force main will be needed before the topography changes enough to allow for gravity flow the remaining 1300' length of Center Boulevard to a connection just north of City Hall. Once the entire site is developed the lift station will be moved to a location further south on the property. All buildings on the campus will utilize one main line that essentially follows the bottom of the arroyo southeast to the lift station. The lift station will then convey the flow back up to the intersection of Campus Boulevard and Center Boulevard. as it did in Phase 1. In the future, it is likely that downstream development will be such that the site will be able to utilize gravity flow to an offsite connection further down the arroyo.



KEYED NOTES

1. 6" SANITARY SEWER FROM BUILDING TO L
2. FIRE LINE AND BACKFLOW PREVENTOR.
3. DOMESTIC SERVICE. (SIZE TO BE DETERMI
4. INSTALL 6" FIRE LINE AND HYDRANT.

NOTE: SANITARY SEWER LIFT STATION WILL ABANDONED ONCE THE PROPOSED GRAVITY LINE WITHIN TRIBUTARY "BAM" OF THE LA E WATERSHED IS CONSTRUCTED. WE ANTICIPA ONLY BUILDINGS 1 & 2 WILL CONNECT TO T STATION.

CONCEPTUAL UTILITY MASTER PLAN - ULTIMATE BUILDOUT

0 75 150 300
SCALE 1"=300'

N

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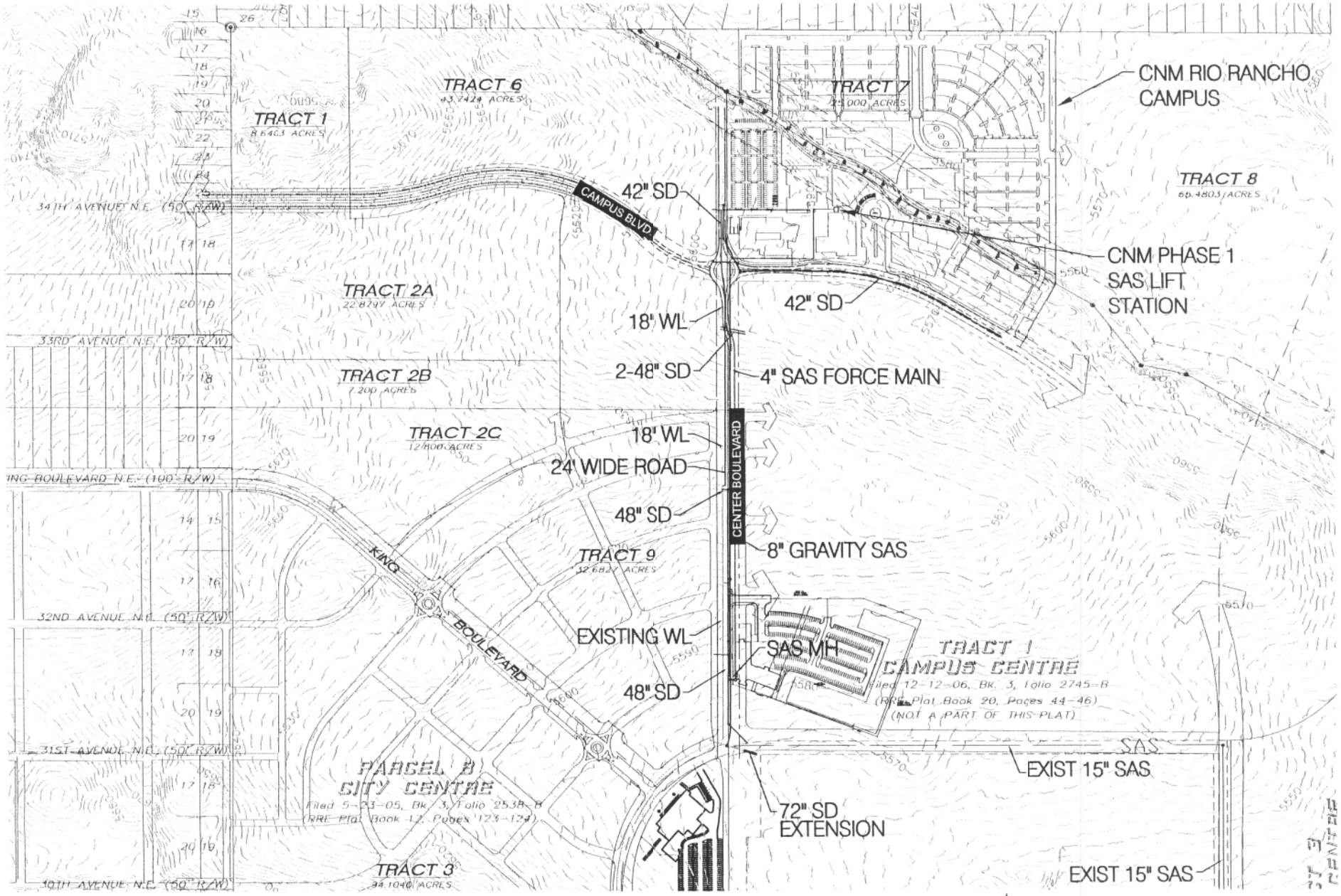

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ENGINEERING ▲ SPATIAL DATA ▲ ADVANCED TECHNOLOGIES

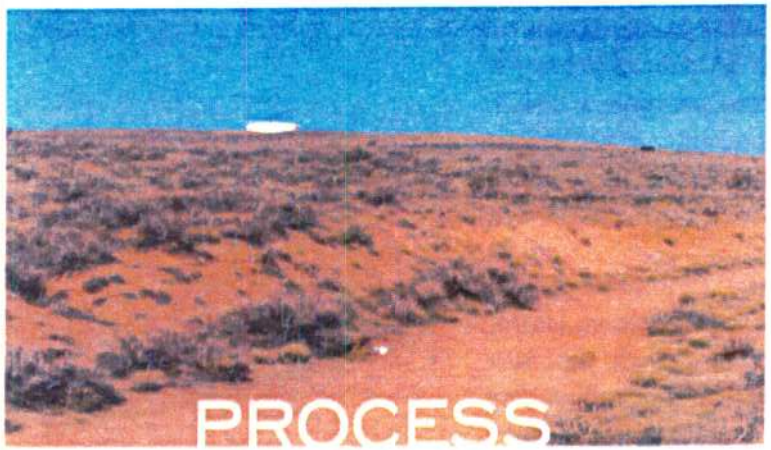
CONCEPTUAL UTILITY MASTER PLAN - OFFSITE

TRAFFIC SUMMARY

The CNM Campus of Rio Rancho will be located at the northeast corner of a future extension to Campus Boulevard, running west to east, and Center Boulevard, running south to north. Both of these roadways are proposed and integral to the surrounding development of Rio Rancho's City Center. It is assumed that once all phases of the project are complete there will also be vehicular access at the northern property boundary by way of Balsom Road.

Phase 1 traffic circulation will consist of site access from an extension of Center Boulevard north of the Campus Boulevard intersection. The roundabout intersection with Center Boulevard will include a back to back tangent curve in a 106' ROW. Center Street will require extension from the roadway looping around City Center. Under Phase 1, the width of Center Boulevard will be 26' plus curb and gutter. This portion of the roadway will be constructed in an existing 48' wide roadway easement along with 2' of additional easement provided by CNM for a total width of 50'. Ultimately, Center Boulevard will be expanded to have two separate 24' wide uni-directional pavement sections divided by an 80' wide landscaped median. After the intersection with Campus Boulevard, Center Boulevard will continue north with a 24' wide roadway along the western boundary of the site. North bound traffic will be able to turn right from the Center Boulevard extension into the site at two driveway locations.

An overall traffic study has not been performed for this project, and it is recommended that an analysis be conducted that addresses City Center, CNM, and the UNM development. A comprehensive traffic study will help to address the needs of the CNM campus within the greater context of development. As part of the Phase 1 development, we will perform a traffic impact analysis, the aim of which is to provide recommendations for transportation improvements as they are required for Phase 1.


PROCESS

PLANNING / DESIGN

The CNM Design Team created the Master Plan through an integrated planning and design process. The design team established a set of design principles prior to creating any conceptual plans in order to create guidelines that would resonate with CNM's Strategic Direction. The design principles guided two charrette discussions particularly in terms of sustainable practices and working cooperatively with the City of Rio Rancho and UNM.

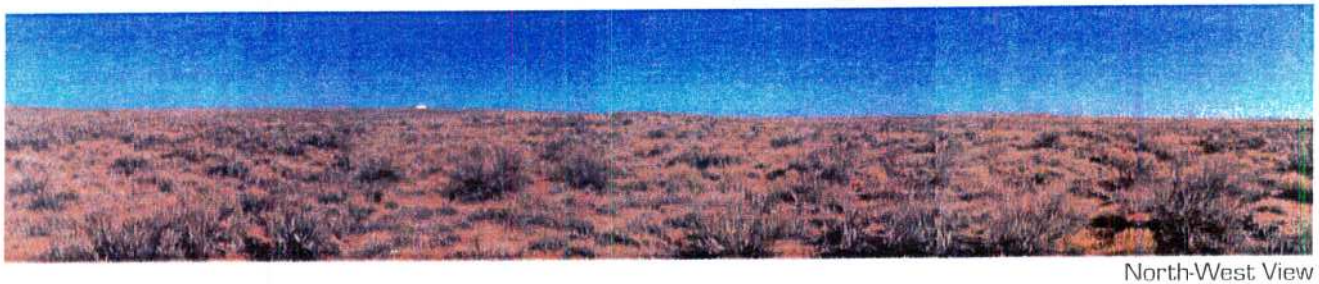
These charrettes created a forum for the CNM Design Team to explore design options for the CNM Rio Rancho Campus within the parameters of the design principles while also creating a SWOT analysis to outline the site's Strengths, Weaknesses, Opportunities and Threats. The SWOT analysis further defines the design concepts as it refines site considerations.

CNM invited representatives from UNM and the City of Rio Rancho to the second charrette in an effort to coordinate infrastructure, transportation and design elements in the City Center. Another SWOT analysis was conducted with this group to understand how CNM's site and campus development will impact these nearby properties.

Overall, the process was driven by CNM's design principles that focused on sustainability, connectivity, creating a unified village, and coordinating efforts with UNM and the City of Rio Rancho.

DESIGN PRINCIPLES

CNM and the design team established design principles before creating any design concepts for the Master Plan. These design principles are a reflection of CNM's Strategic Direction and vision for a Rio Rancho campus. (Refer to Design Principles on page 8 & 9)



North-West View

North-West View

North View

North-East View

SITE PHOTOS

CNM CHARRETTE I

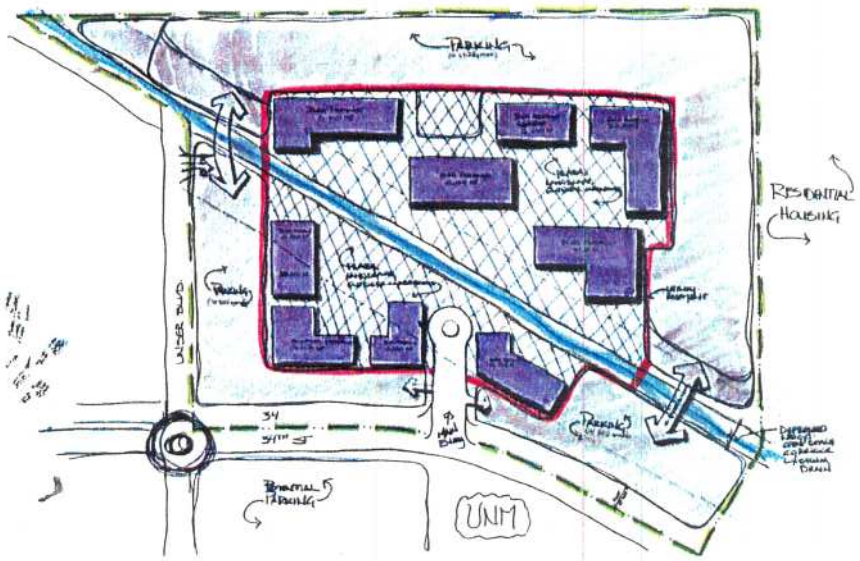
Based on the design principles, the CNM Design Team held two Charrettes to explore conceptual designs with the subject site.

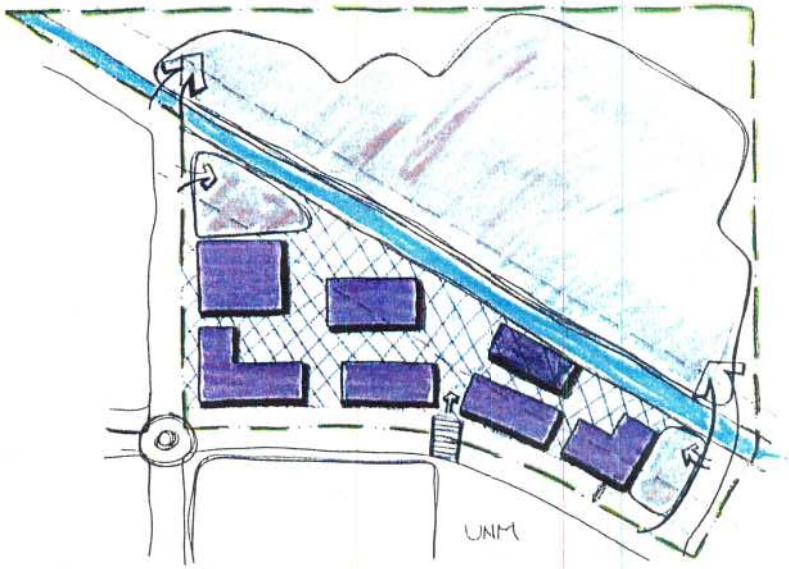
SITE CONCEPTS: The following are two site concepts that were created during the first design team charrette. The top concept focuses around the existing arroyo. Buildings and plazas face the arroyo, while parking is on the perimeter of the site. The second concept focuses on a creating an urban street front campus. This layout was a secondary concept due to the fact that it would take collaboration from adjacent land owners (UNM) to similarly create the same urban scenario on their property.

The CNM Design Team explored strategies to achieve the design principles that seek to reduce the potential heat island effect, conserve water, and incorporate an ecological infrastructure. The design team reviewed sustainable practices in a macro (site and master plan) level as well as a micro (building) level.

At this charrette, the Design Team identified several Leadership in Energy and Environmental Design (LEED) site specific elements. A critical component of the first charrette was a review of the LEED process, requirements, and checklist. In accordance with Governor Richardson's Executive Order 2006-001 (See Appendices, p. 92), the buildings shall achieve a minimum rating of LEED Silver. These include water harvesting for on-site stormwater, maximizing open space, and reducing light pollution. In addition, CNM is exploring possibilities for on-site renewable energy such as alternative energy credits, solar panels, and/or wind generators.

The following page goes into a detailed narrative describing the LEED categories that CNM will explore and refine during the design and development process. Ultimately the commissioning of the buildings does not occur until after the building is constructed and the systems performance can be verified.





SWOT PROCESS

These charrettes created a forum for the CNM Design Team to explore design options for the CNM Rio Rancho Campus within the parameters of the design principles while also creating a SWOT analysis to outline the site's Strengths, Weaknesses, Opportunities and Threats. The SWOT analysis further defines the design concepts as it refines site considerations.

S — STRENGTHS

Site located in Rio Rancho, near the new & old Rio Rancho High Schools

Large size 40 acres

Adjacent to UNM Campus

Determine how development moves forward

Start from scratch opportunity to:
- Set the tone
- All new building materials
- LEED/Sustainable

Demand for higher education in Rio Rancho

W — WEAKNESSES

1/2 Mile froma anything & several miles away from any neibhborhoods and services

As the first project in the area, the infrastructure costs will cost more than a typical project

No existing telecommunication infrastructure

Drainage for 2nd phase

Sewer outfall

O — OPPORTUNITIES

Potential to work with UNM & City of Rio Rancho on utilities

Parking & transportation sharing with UNM

Services can be provided on campus

Potential for Pro-Rata; Cost share on utilities

Dam provides for land reclamation

Partnerships for telecommunications & infrastructure

Showcase LEED & Sustainability

T — THREATS

Need to give up land for dam

34th Extension

Cost for telecommunications

Lag time for UNM

Phasing of drainage

Sewer

LEED - SILVER CERTIFICATION

The CNM Rio Rancho project will be pursuing LEED Silver level certification. To achieve this, the design team, owner and general contractor must all contribute during the process of design and construction. The entire team met to review the checklist and determine the sustainable goals for the project. The following is a list of the LEED categories and some of the strategies that will be implemented for the CNM Rio Rancho project.

SUSTAINABLE SITES

The project location offers opportunities to address sustainable site development strategies. One of these strategies is to maximize open space by providing a high ratio of open space to the development footprint. There are also opportunities for stormwater management. The design team will take careful consideration of stormwater management strategies for the site and promote both on site infiltration and removing pollutants from runoff. Additionally, stormwater from buildings, plaza/hardscape areas, and parking lots harvesting will also be considered for supplementing the landscape irrigation.

WATER EFFICIENCY

To maximize the water efficiency of the project, the design team will take advantage of native plantings that require low water use for the project landscaping and consider highly efficient irrigations systems. Rain water harvested from the site will also contribute to the landscaping irrigation, reducing the need for potable water. For the building, water efficient plumbing fixtures along with sensors for faucets will also help reduce water usage.

ENERGY & ATMOSPHERE

In order to maximize the energy efficiency of a building, it helps to locate the building appropriately on the site. The building will be positioned to take advantage of the path of the sun to provide natural daylighting and reduce the use of artificial lighting needs. Care will also be taken to reduce any direct solar gain and to control issues with glare to help lower cooling loads for the building. The design team will work to ensure that the most energy efficient mechanical systems are utilized to compliment the daylighting techniques to promote energy savings for the building.

MATERIALS & RESOURCES

Materials specified for the building will be selected based on their proximity to the project to reduce the environmental impact of transportation and promote the local economy. Materials with a high recycled content will also be specified. To reduce waste material from contributing to the landfill, the general contractor will be required to recycle construction waste during construction.

INDOOR ENVIRONMENTAL QUALITY

In addition to designing the building to maximize the use of natural daylighting, care will also be taken to provide views to the outdoors for building occupants. This approach of connecting the occupants with the outside creates a better, more productive and enjoyable indoor environment. Allowing occupants some control over their indoor environment is also considered a good practice. The design team will provide occupants with access to lighting controls and thermostats so they may adjust them to work for their needs. Task lighting and operable windows will also be considered. During construction, the general contractor will follow a construction IAQ

(indoor air quality) plan to ensure that mechanical systems and filters will not be contaminated. This practice prevents poor indoor air quality once the building is occupied. Along with the IAQ plan, low VOC paints, adhesives, and sealants will be specified for the project to maintain a high level of air quality within the building.

INNOVATION IN DESIGN

Any sustainable practice that does not fall into one of the above listed LEED categories can be implemented under the Innovation in Design category. These credits allow the team to come up with creative sustainable ideas that are more project specific. Some opportunities for these credits include conducting guided tours at the new facility or implementing a green housekeeping plan. As we get further into design, we can discuss the many options for achieving the Innovation in Design credits.

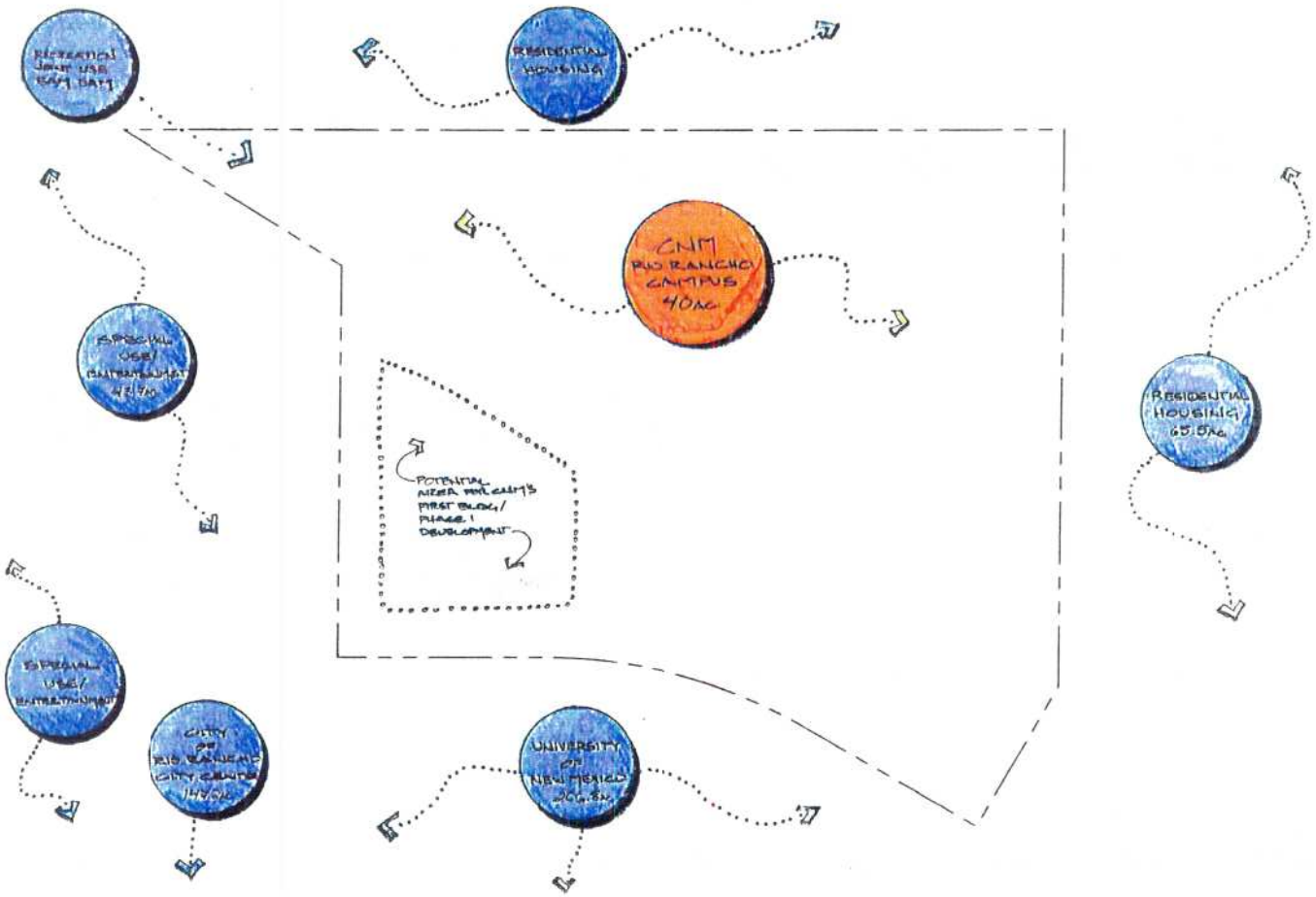
SITE ANALYSIS

Once a site was chosen by CNM, The Design Team conducted a site analysis to understand the constraints and opportunities available in order to optimize CNM's campus needs within the parameters of the design principles. A SWOT analysis was created by the team to outline the site's Strengths, Weaknesses, Opportunities and Threats (see Charrette One and Charrette Two sections). The SWOT analysis found the site's location to be both a strength and a weakness since this is within Rio Rancho's planned City Center however, little infrastructure or development has been constructed yet. This presents CNM with the opportunity to set an urban form and sustainable tone for the area. With entities such as the City of Rio Rancho, UNM and Lion's Gate Studios, there are opportunities for sharing services and infrastructure. CNM believes there is a huge potential to showcase LEED and sustainable elements on this site.

In addition to the SWOT analysis, the following graphic site analysis sketches were programmed to illustrate these design considerations:

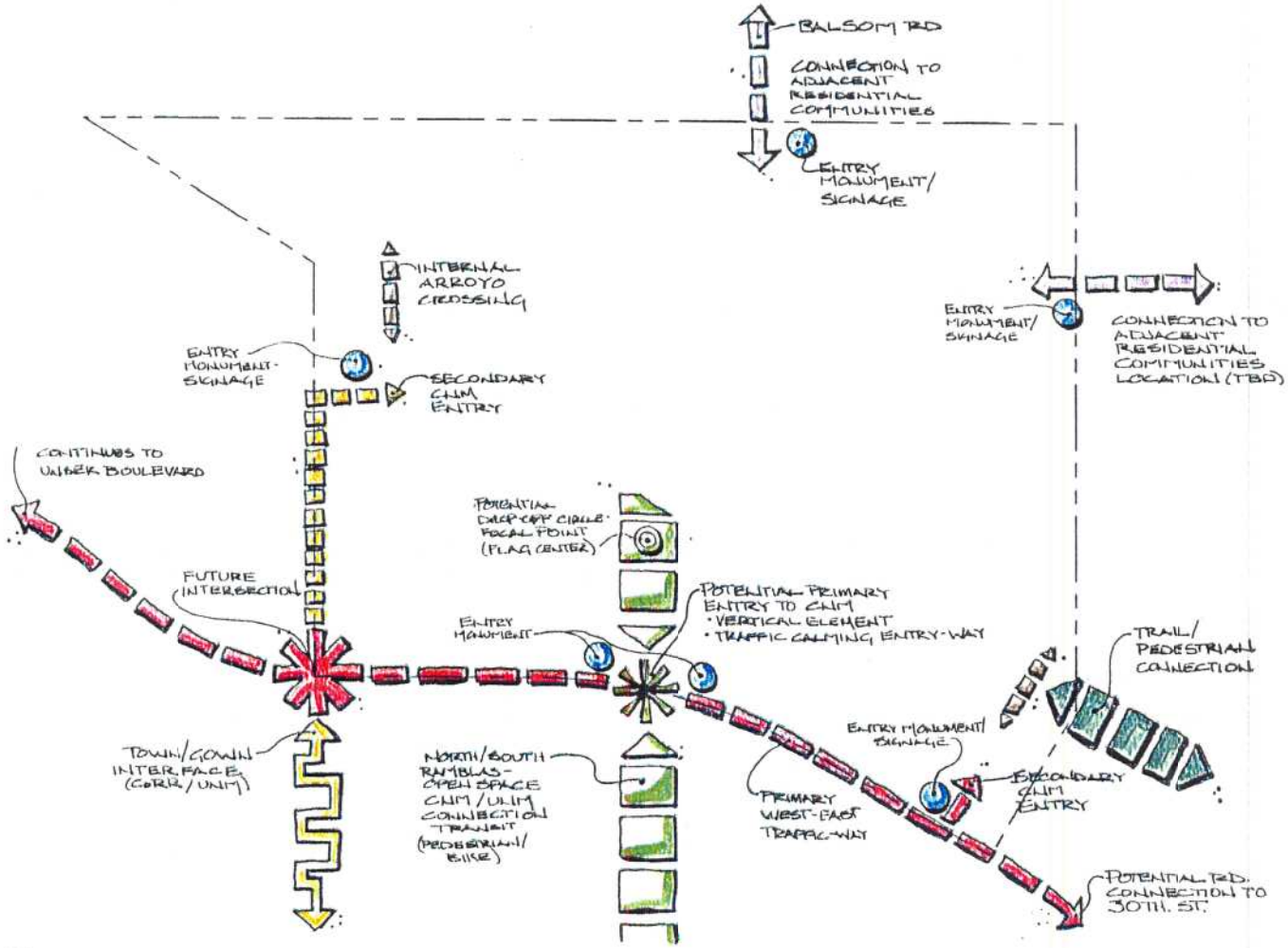
CONTEXT LAND USE

This sketch demonstrates the location of the CNM campus in relation to the surrounding land uses. CNM is surrounded by a range of land uses from residential to entertainment, UNM's Rio Rancho campus, and the City of Rio Rancho's City Center.



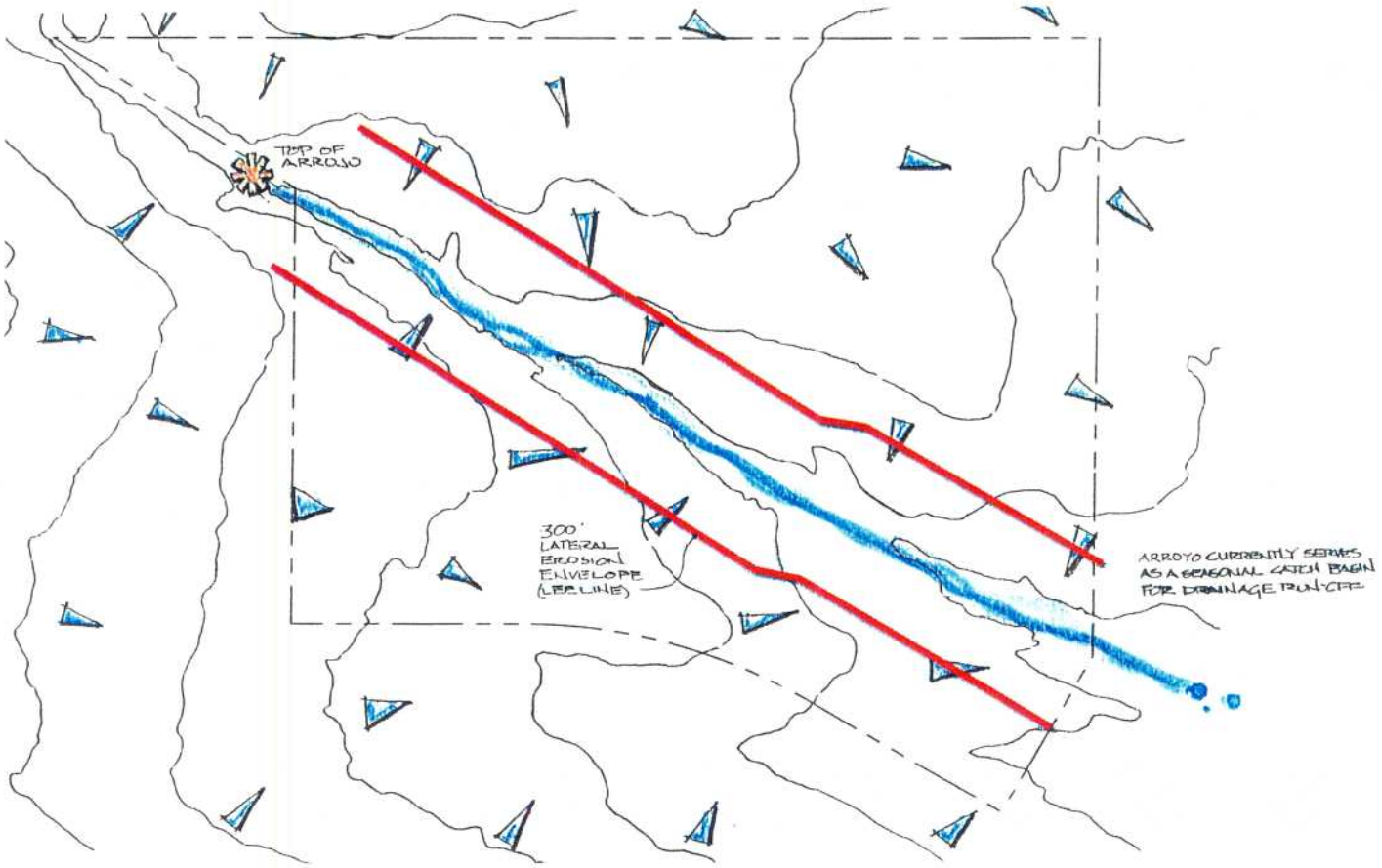
CIRCULATION

The circulation was determined by the City of Rio Rancho's future roadway extensions of Campus Boulevard, 30th Street (Broadmore), and Center Boulevard. It is important that there is a transit/bike/pedestrian connection between CNM and UNM to facilitate integrated programs. Based on these circulation patterns, CNM's entries, trail connections, and other crossings were determined.



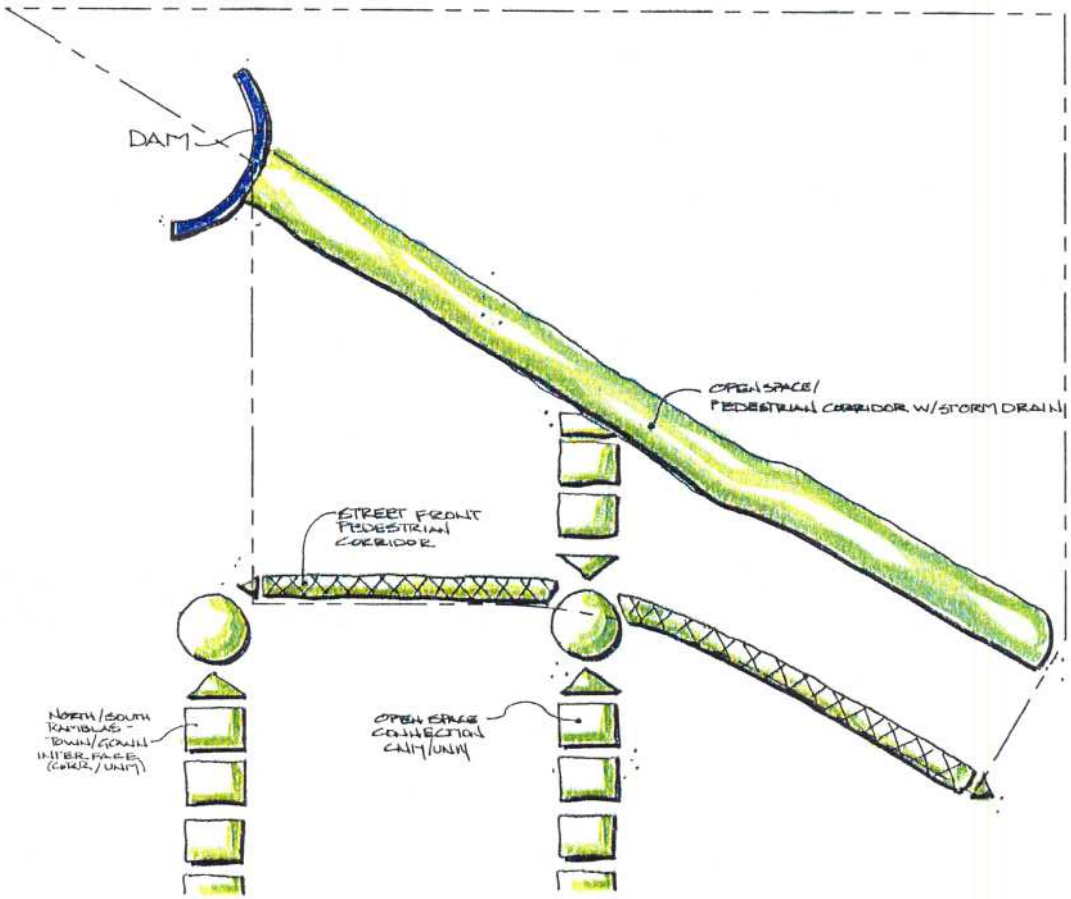
EXISTING DRAINAGE

This sketch illustrates the location of the BAM arroyo within the site and its existing 300' Lateral Erosion Envelope (LEE line). Existing drainage flow patters and contour lines are also illustrated on this sketch.



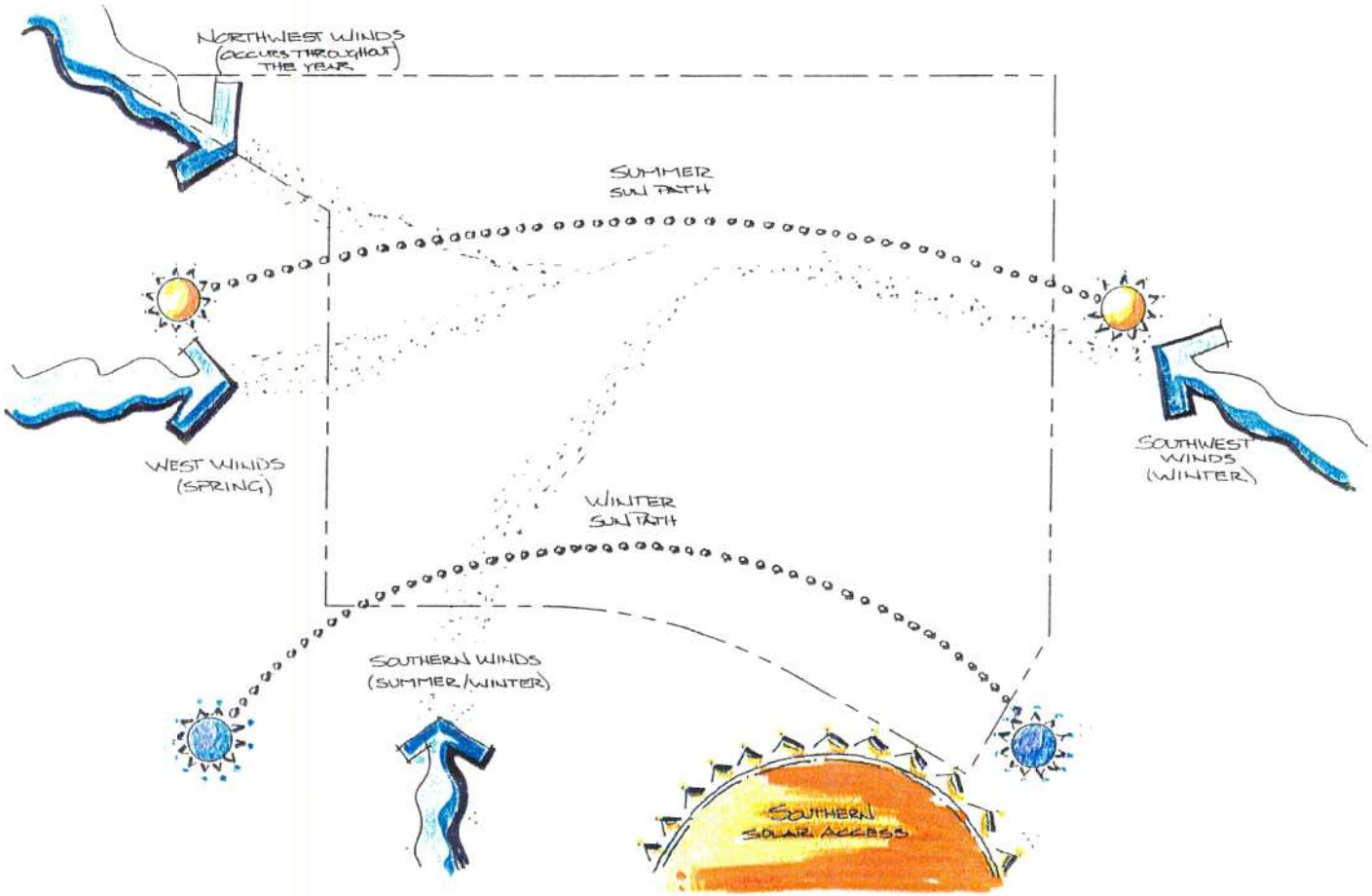
OPEN SPACE

This sketch conceptualizes open space corridors based on circulation patterns and the arroyo.



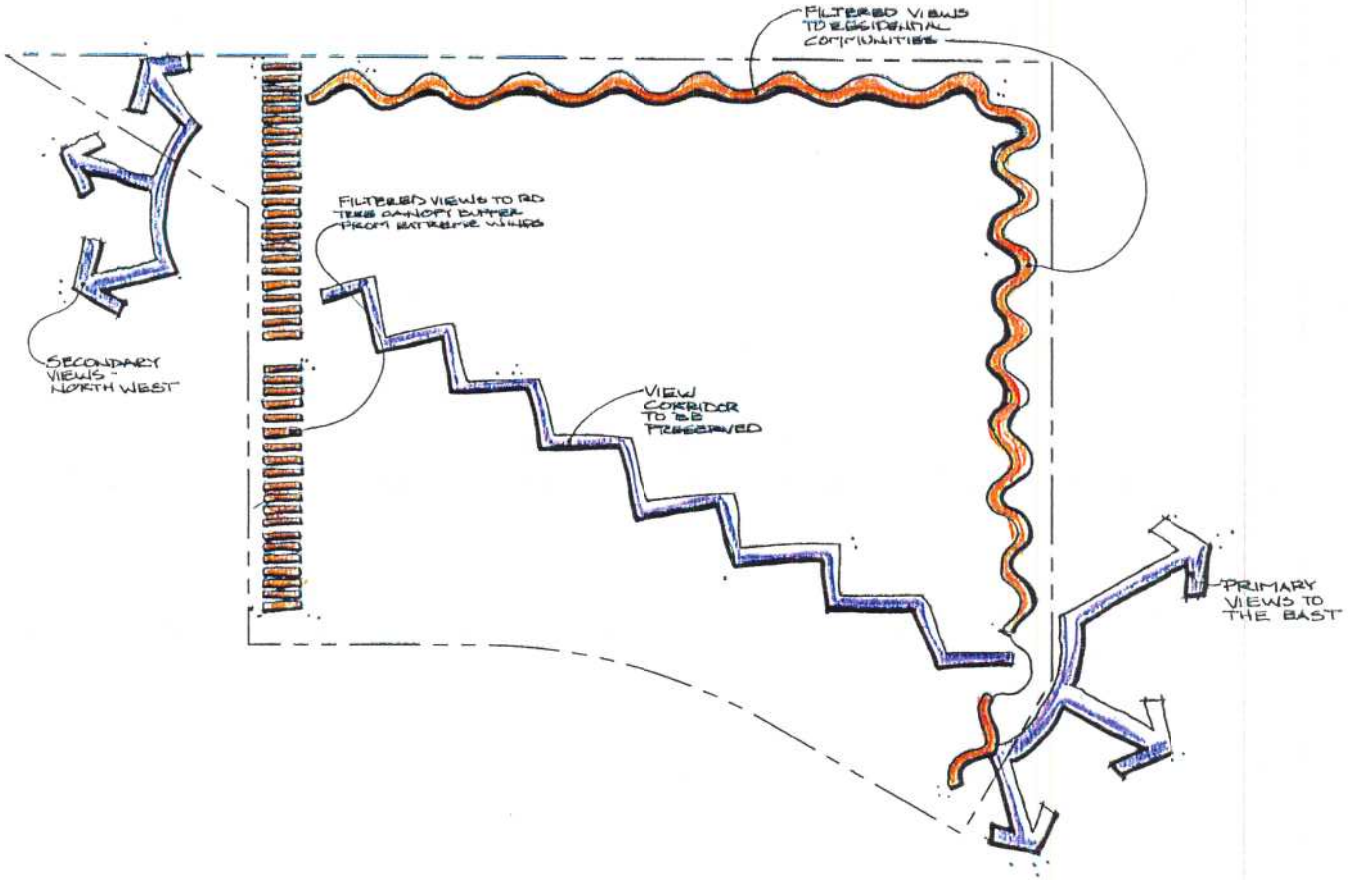
SUN & WIND

This sketch demonstrates how the yearly sun and wind patterns will affect this site. This information is critical when orientating buildings to maximize solar gain as well as determining proper locations for outdoor rooms on campus.



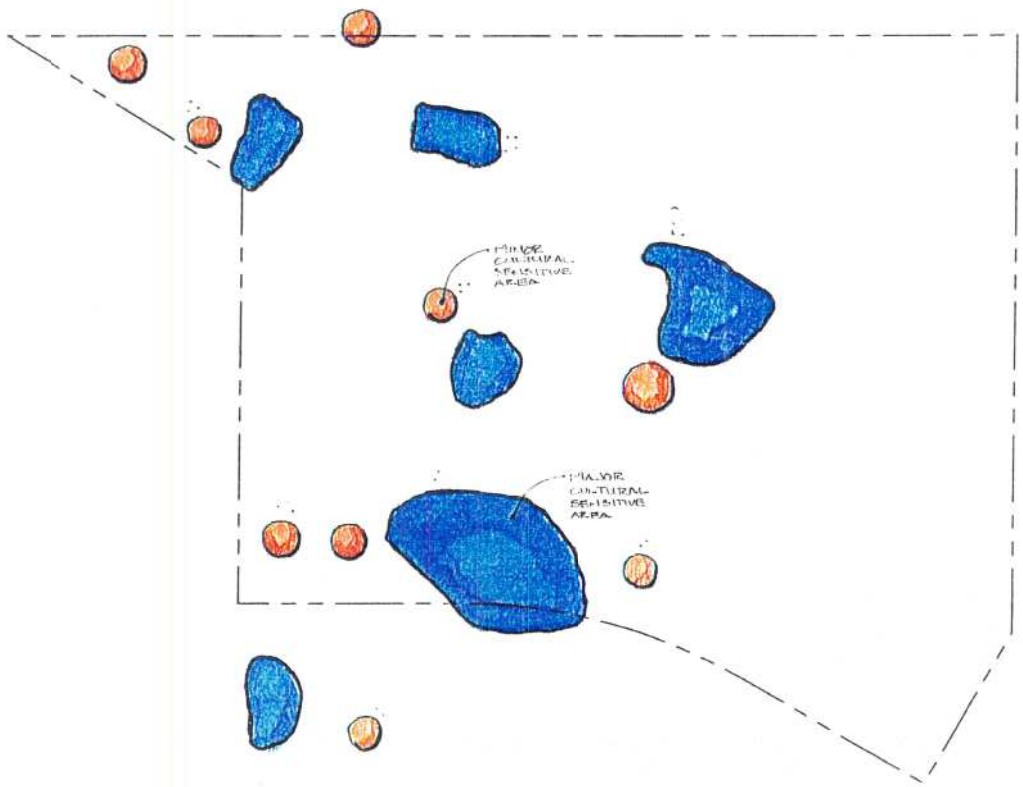
VIEWS & BUFFERS

This sketch illustrates where the views are located on this site and where a view corridor should be preserved. In addition, based on the wind and land use analysis, this sketch illustrates where buffers should be located to both protect the campus and protect any potential harmful effect on adjacent residential areas.



CULTURAL SURVEY

This sketch illustrates the high and low priority areas identified in a cultural resources survey of the 40 aces for the CNM Rio Rancho Campus Site. The high priority areas will be avoided wherever possible when determining building locations for the site plan. In the case where high priority areas can not be avoided, proper preservation or data collection procedures will be implemented.



CHARRETTE II

Participants:
CNM Design Team, City of Rio Rancho staff and Design Team, and the University of New Mexico Design Team

The CNM Design Team hosted a charrette with the City of Rio Rancho and UNM's Design Team in an effort to coordinate a site design that incorporates UNM's plans for their Rio Rancho campus as well as the City of Rio Rancho's plans for the City Center.

UNM is also beginning their master planning process for their Rio Rancho campus. UNM shares CNM's vision of a 2 + 2 concept of students attending CNM for 2 years then transferring to UNM for the remaining 2 years to complete their degree. This concept will require a high level of coordination as to how the two campuses physically relate to one another.

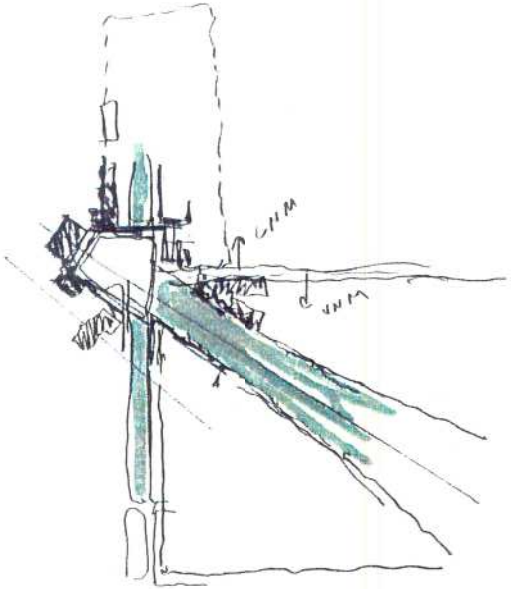
The City of Rio Rancho has guiding urban design principles for the City Center. The City would like development in the City Center area to work around existing infrastructure, manage stormwater on site, capitalize on views, and work within the topography of the site.

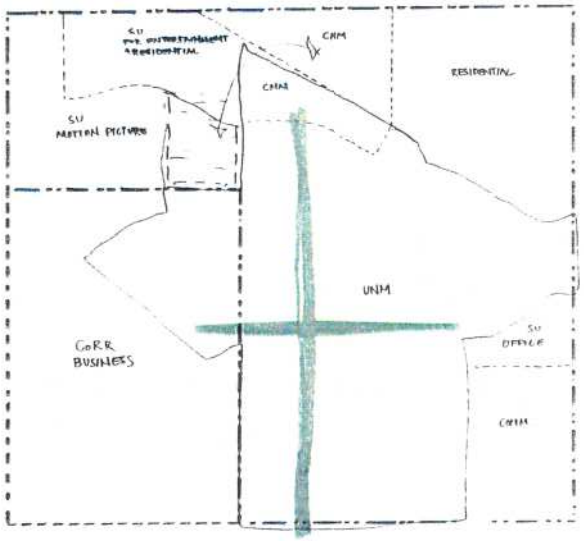
An additional SWOT analysis was created with UNM and the City of Rio Rancho to see if and how it would differ than the one created by the CNM design team. This SWOT is available in Appendix ??

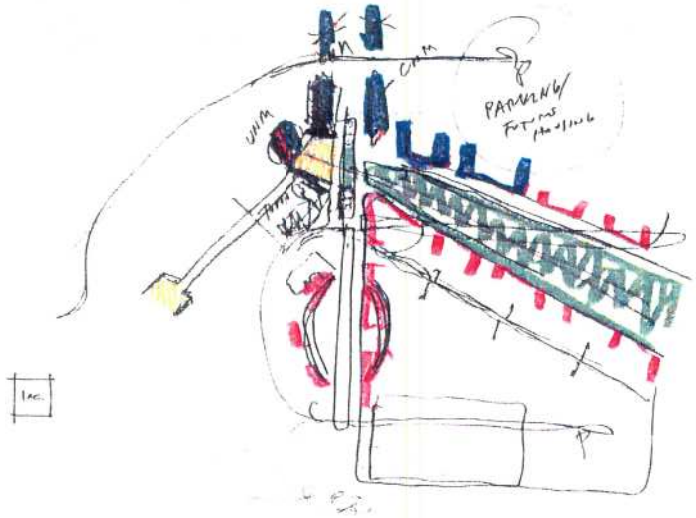
The SWOT analysis created in the second charrette differed from the one created by CNM, because it examined a larger development context. Strengths included sharing design principles, collaboration, locating two of the largest institutions (CNM and UNM) adjacent to one another, providing leadership, and that the other CNM's campuses are far enough away to not cause a conflict. Weaknesses included multiple agendas, limited resources for infrastructure, and relying on other surrounding entities for development success. Opportunities included sharing resources, collectively pursuing funding, more graduates with the 2+2 concept, and economic development through education. Threats include limited funding and competition for funding, there is a regional competition for services (SW Mesa and Mesa del Sol), and an existing undeveloped area.

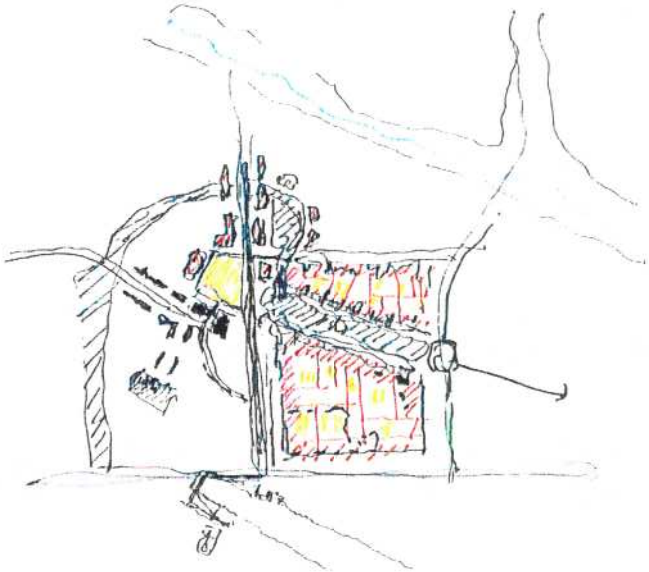
The Charrette resulted in an agreement to continue to work collaboratively to ensure the success of Rio Rancho's City Center through the following:

- Work cooperatively on master planning, circulation/access, and key elements (sustainability);
- CNM and UNM will meet to discuss programming coordination;
- CNM's guiding principles overlap with UNM and City Center principles; and
- Continue discussing larger issues such as transportation, sustainability, etc.









SKETCHES DEVELOPED DURING CHARRETTE

SWOT PROCESS

The following is the SWOT analysis from Charrette II. Representatives from CNM, UNM and City of Rio Rancho collaborated to come up with the following information.

May 7, 2008

S — STRENGTHS

Shared design principles

Blank slate

Collaboration
- all here

2 largest institutions in NM
- CNM
- UNM

Leadership

Location
- far enough apart from other CNM campuses

Concept as "Magnet"

Beauty
- location

CNM has recently done this
- West Side Campus

W — WEAKNESSES

CNM
- Disconnected

Multiple agendas

Limited resources for infrastructure

Need to sell the legislature
- competing for money

Assumptions developed quickly
- potential for mistakes

Reliant on CoRR and others for development success

O — OPPORTUNITIES

Shared resources
- Transportation
- Parking
- Library
- Utilities
- Student services

3 Groups
- same place in the process

Collective pursuit of funding

New way of delivering education

CNM → UNM 2+2
- more graduates

Programming

Health sciences

Graduates → economic development

Physical character

Knowledge as an industry
- economic development in itself

Willing to collaborate
- CNM, UNM, CofRR

City needs to use UNM/CNM as a showplace of sustainable development

Potential for federal funding

T — THREATS

Blank slate
- context

Pot of money
- limits

Competition for money

Need for speed
- get it done

Commercial at 30th Pd V

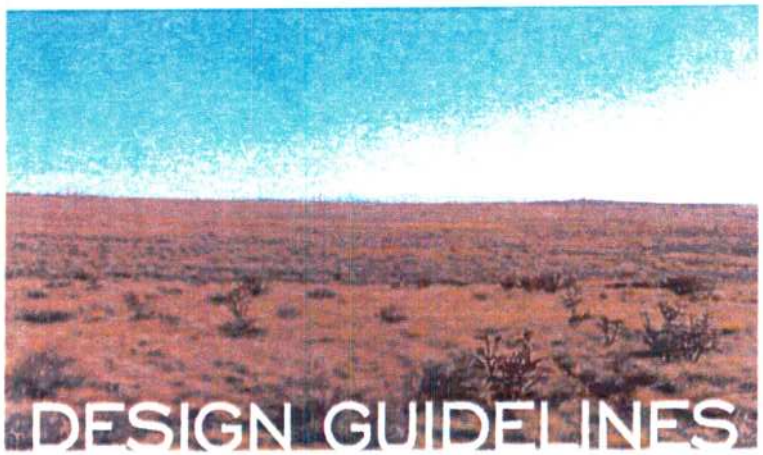
Existing culture
- capital cost more important than life cycle/long term costs

Regional competition for services
- Southwest mesa, Mesa del Sol, etc.

Brand competition

Arroyo

IMAGES FROM CHARRETTE II



DESIGN GUIDELINES

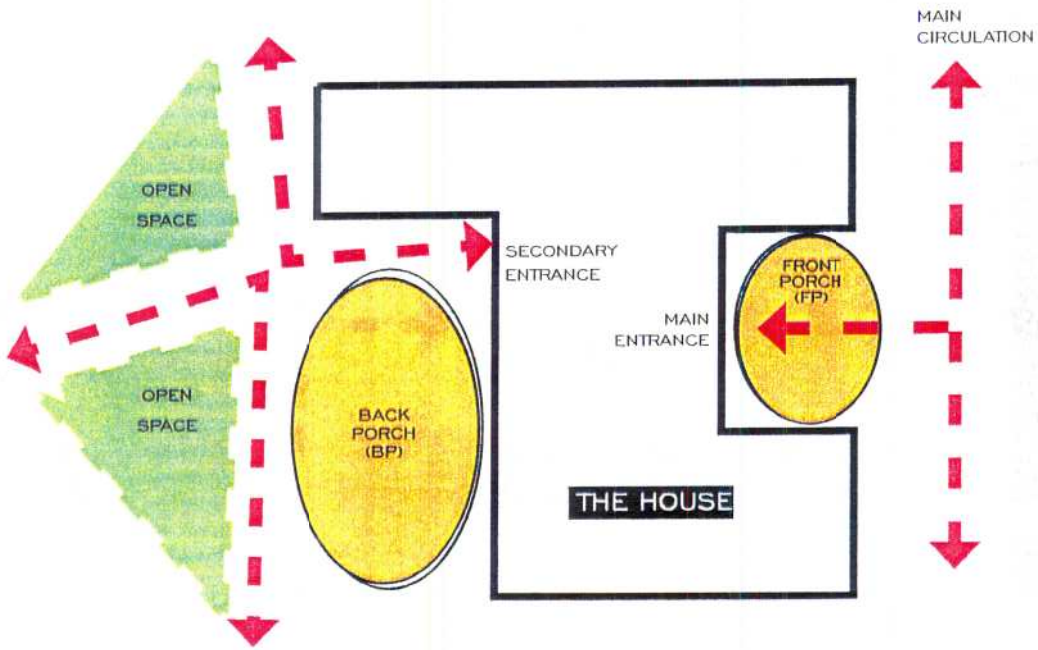
SUBMITTAL OF PLANS & ENFORCEMENT

Design guidelines provide CNM a framework to use when evaluating future campus development on this site. Design guidelines have been created for outdoor campus areas, street landscaping, site elements (parking, lighting, signage), architectural guidelines, water harvesting, and dust control. Student's needs and safety have been considered with each design decision. The following design guidelines are provided to ensure that the design principles are carried through the site development and building construction phases. The guidelines are supported by diagrams, images, and sketches that illustrate typical scenarios in the CNM Campus Master Plan.

CAMPUS OUTDOOR SPACES

The CNM Rio Rancho Campus Master Plan outdoor area are based upon the spaces that are found between the buildings. These outdoor spaces will be used for circulation, study, socializing, and aesthetic pleasure for the students, faculty, and visitors. The following guidelines address the everyday use of space between classrooms, student commons, and parking facilities.

Referencing popular literature for the design of urban open spaces, the CNM Campus Outdoor Spaces is based upon the "home base" concept The idea that students will spend a significant amount of time on the campus and away from their homes; their classrooms, cafeterias, and labs start to become a home away from their home. Based upon this need for comfort away from the home, the placing of spaces around campus buildings will translate the campus buildings as houses and the adjacent outdoor places as having similar elements to those of a "front porch" and "back porch". The spaces in between these porches are open space common areas that will serve as transitional spaces, entrances and "natural" environments



CONSIDERATIONS:

- front porch (fp)
- back porch (bp)
- transitional spaces
- entrances
- major plaza spaces (os)
- "natural" environments
- landscape plant palette
- water harvesting systems

(LEFT) DIAGRAM OF A TYPICAL "HOUSE" (BUILDING) ON CAMPUS AND HOW THE OUTDOOR SPACES ARE PROGRAMED

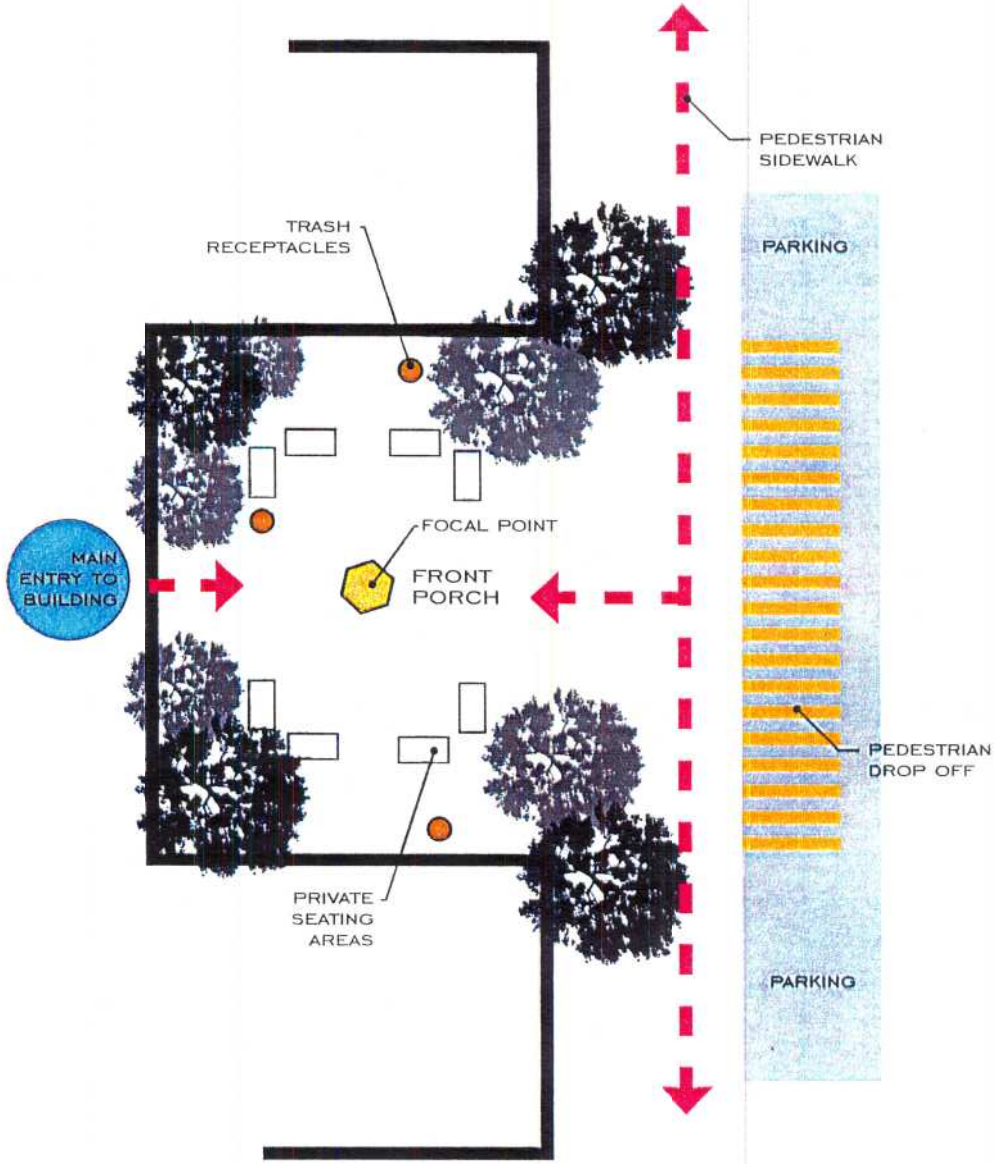
1. Cooper Marcus & Carolyn Francis, *People Places - Second Addition*, New York: John Wiley & Sons, Inc., 1998.

FRONT PORCH

The front porch of any building works as a transition from the campus - public space to the more private and intimate space of a building. It also serves as a social space for those who occupy that building; providing dining, conversation and study areas. It is critical that the main entrance to the building be highlighted by the porch and provide a strong sense of entry.

The following are guidelines for "front porch" design:

- provide casual seating, signage/directory, and socializing spaces;
- consider the micro-climates that are created through the entry space, utilize landscape materials that provide shade, accent the building entry, and direct traffic;
- seating should be provided that may be comfortably used by singles as well as group situations;
- provide trash receptacles;
- provide a focal point that sets the tone for the space and provides an element of interest to the porch (examples: art, water, specimen planting, etc.);
- provide adequate lighting to ensure security at night and way finding for pedestrians; and
- signage that communicates the functions of that building.

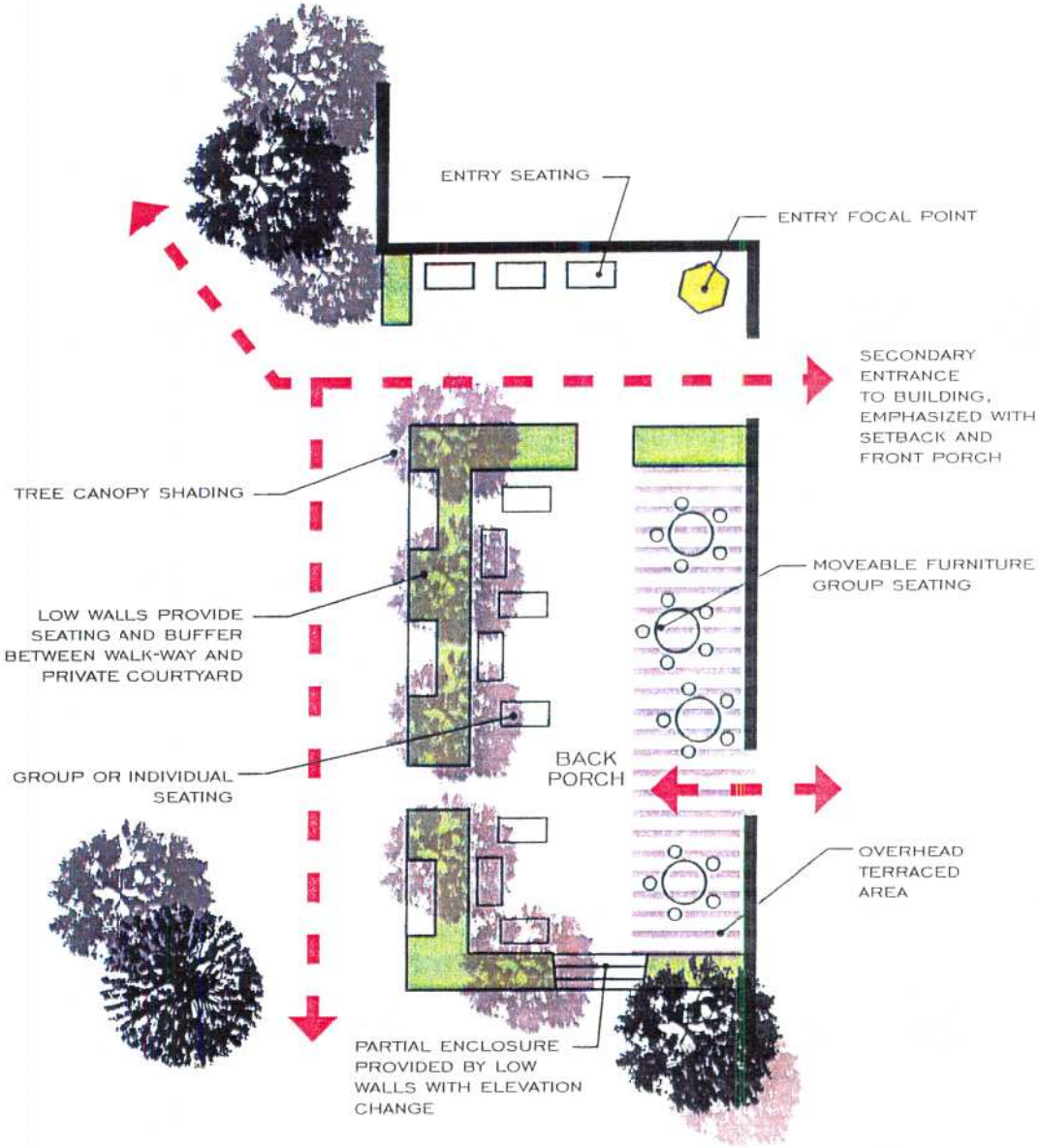


BACK PORCH

The back porches in the CNM Campus Master Plan will be oriented to the center of the campus; the pedestrian core. The backyard spaces are attached to the building and should be partially enclosed by the building providing the people who inhabit the space with a greater sense of territory than in the front yard. The back yard can also provide space for informal class use for students and faculty. Consideration of microclimates and function are key elements in the success of these spaces.

The following are guidelines for "back porch" design:

- the backyard should be easily accessible to the students and facility it serves in that building;
- consider the relationship of transition pedestrian zones and back porches when determining their location;
- arrange materials, landscape and seating to be inviting and welcoming to passer-by pedestrians;
- provide a variety of seating scenarios (shade - full sun) for lunch and dinners; and
- provide flexibility in seating to accommodate student needs, ie. outdoor classroom space

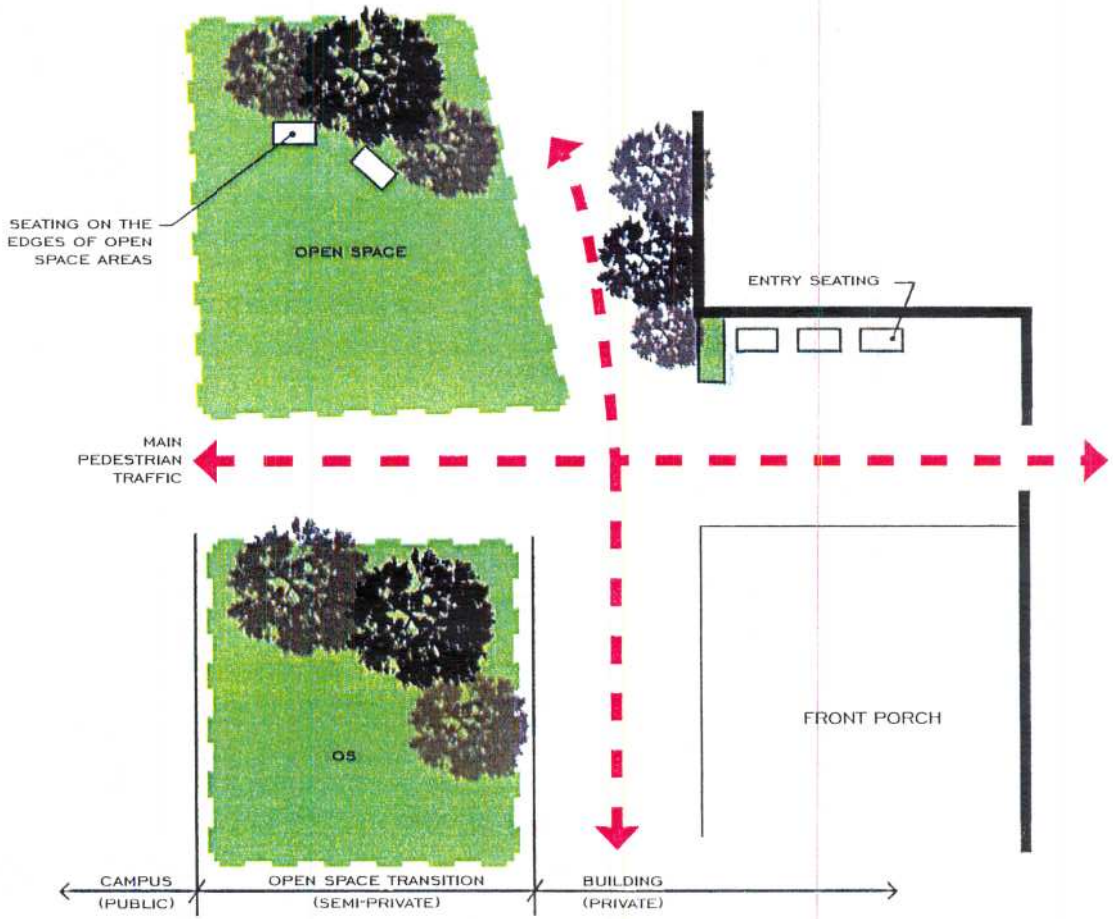


TRANSITION SPACES

Spaces that pedestrians encounter when moving from one building to another are known as transition spaces. These areas include walkways and open space corridors. CNM's site plan will be highly influenced by pedestrian circulation within the campus. Transition zones are interesting spaces filled with activity and movement throughout most of the day.

The following are guidelines for transitional pedestrian spaces:

- provide a variety of seating opportunities for a range of activities (i.e. people watching, quiet spaces, etc.;
- landscape buffering can provide filtered separation between open space areas;
- hardscape should provide interest through a variety of patterns, colors, and textures;
- provide kiosk's and signage within the areas these areas to aid in pedestrian way-finding and access to student information on campus; and
- provide adequate lighting and security in these high traffic spaces.

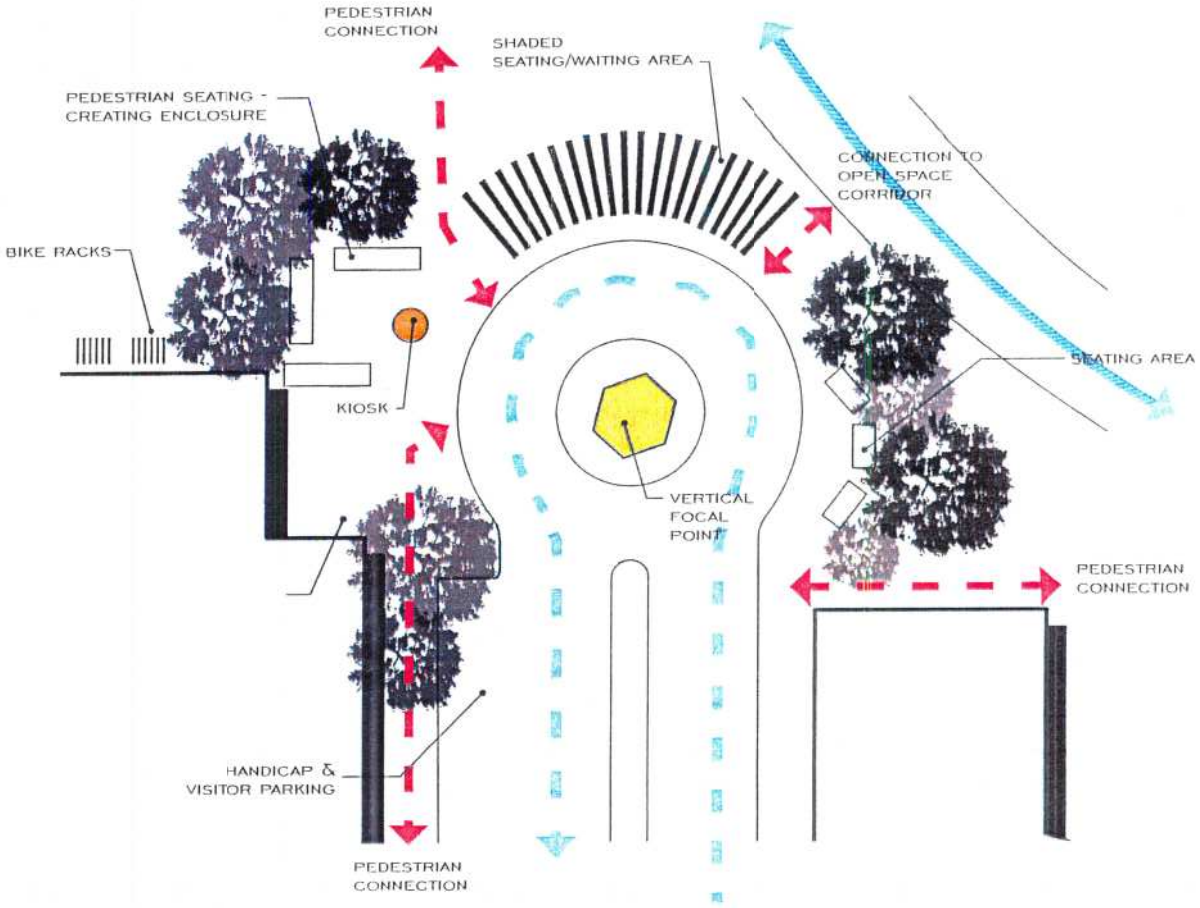


SITE ENTRANCES

Multiple entries around the CNM Campus provide access for vehicles, pedestrians, and transit. In the early phases of the CNM Campus development, the majority of the students will be entering the campus from the parking lot. These areas of arrival onto the campus need to provide pleasant subspaces for waiting, eating, casual studying, and picking up newspapers and other information provided to the students.

The following are guidelines for typical entrance design:

- located where the majority of students will enter on foot;
- designed to handle large flows of traffic;
- provide small subspaces of seating to accommodate groups and individuals;
- provide a clearly designed, well illuminated campus map for pedestrian way-finding; and
- provide adequate directional signs to all major buildings.

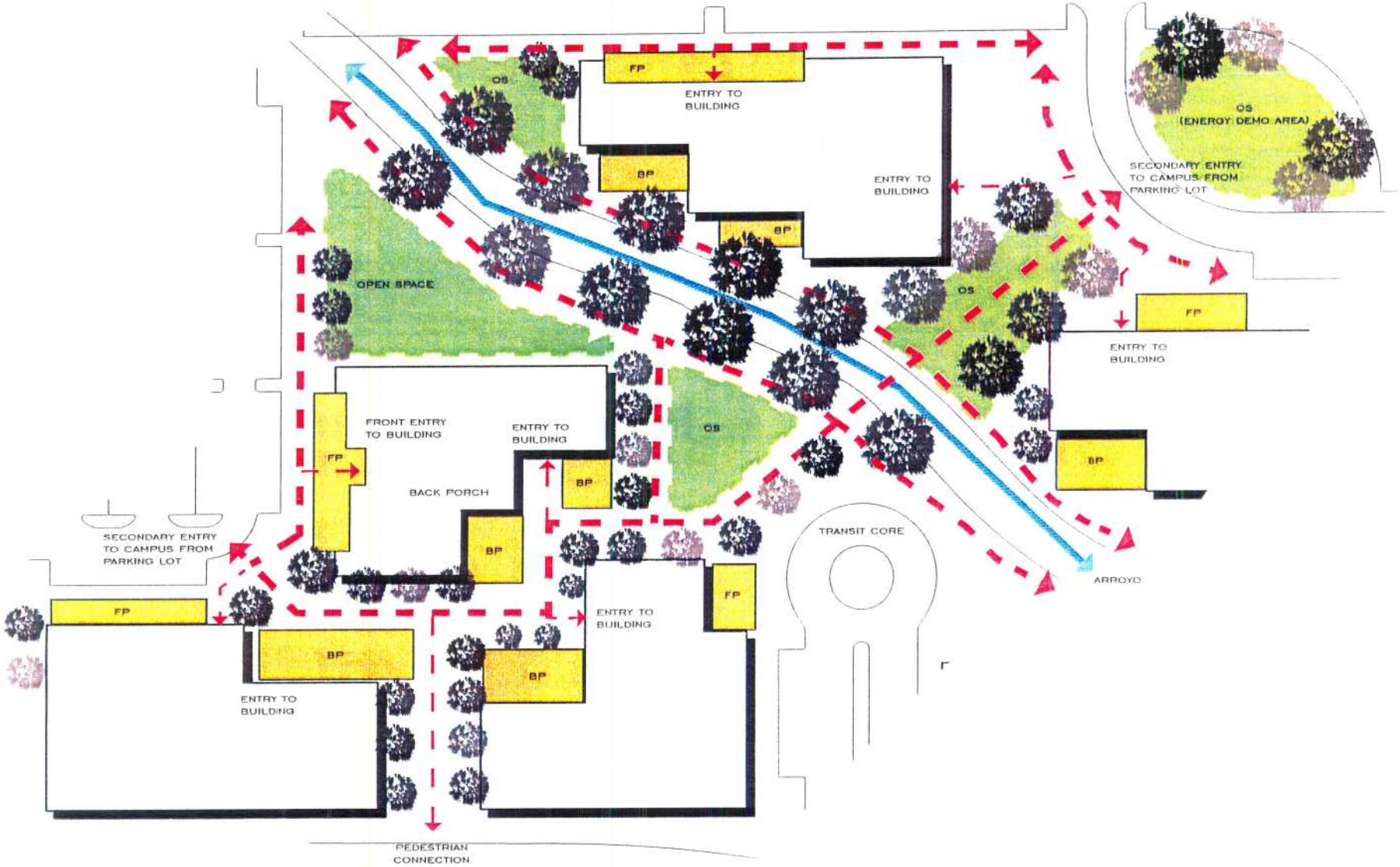


MAJOR PLAZA SPACE

The CNM Campus will have a variety of plaza spaces. These spaces are highly used providing areas where students/faculty/staff gather, bands can play, demonstrations/speeches can occur, graduation ceremonies can be celebrated, and informal activities can be enjoyed. The size of the plazas vary throughout the site, but are linked together through pedestrian walkways. The location of the plazas can provide destination points and transition corridor spaces for pedestrians.

The following are guidelines for plaza design:

- located on main pedestrian routes into or through the campus;
- located near buildings to promote a high degree of use throughout the day and evening (ie. student union, admin area, etc.);
- provide a variety of plaza sizes to host large group activities and more intimate activities;
- provide seating and anchor spots where people can study, eat, and spectate;
- incorporate (when appropriate) focal points and interesting features such as art, fountains, etc. these items make a space memorable and easily recognizable; and
- provide a balance of hardscape plaza areas and open turf fields for informal play and relaxation


FP
ENTRY TO BUILDING
OS
BP
ENTRY TO BUILDING
BP
OS (ENERGY DEMO AREA)
SECONDARY ENTRY TO CAMPUS FROM PARKING LOT
OPEN SPACE
OS
FP
ENTRY TO BUILDING
FRONT ENTRY TO BUILDING
ENTRY TO BUILDING
OS
FP
BP
BACK PORCH
BP
BP
TRANSIT CORE
SECONDARY ENTRY TO CAMPUS FROM PARKING LOT
ARROYO
FP
FP
ENTRY TO BUILDING
BP
BP
ENTRY TO BUILDING
PEDESTRIAN CONNECTION

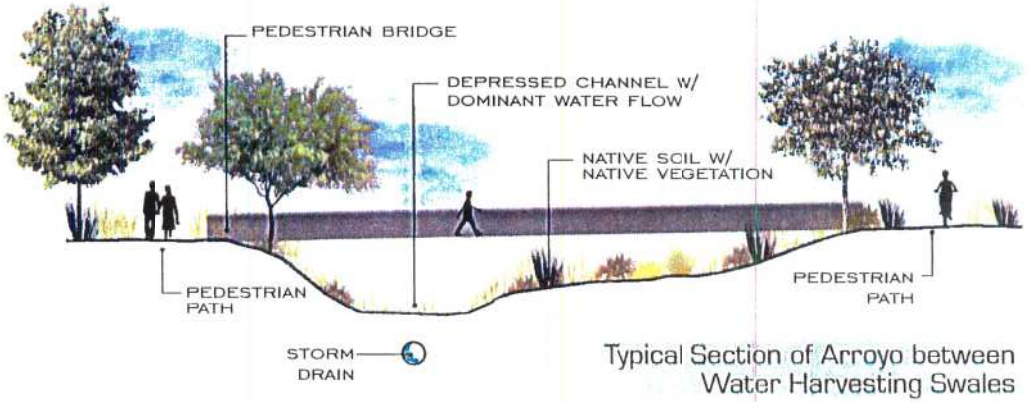
"NATURAL" ENVIRONMENTS

The existing arroyo is a unique element that runs throughout the center of the campus. While the ultimate arroyo corridor will be modified from its current "natural" condition, it will be considered natural since its design will include natural elements such as trees, shrubs, native grasses, wildlife, etc. It becomes the spine for passive recreation within the campus. Connecting to a larger watershed park corridor, the arroyo will become a linear open space and trail corridor. While a dam and underground pipe will control off-site water flows, the arroyo will be recreated to be a "naturalized" open space including surface drainage and water harvesting features. This arroyo contributes to the campus's balance between parking lots, building, and other built elements.

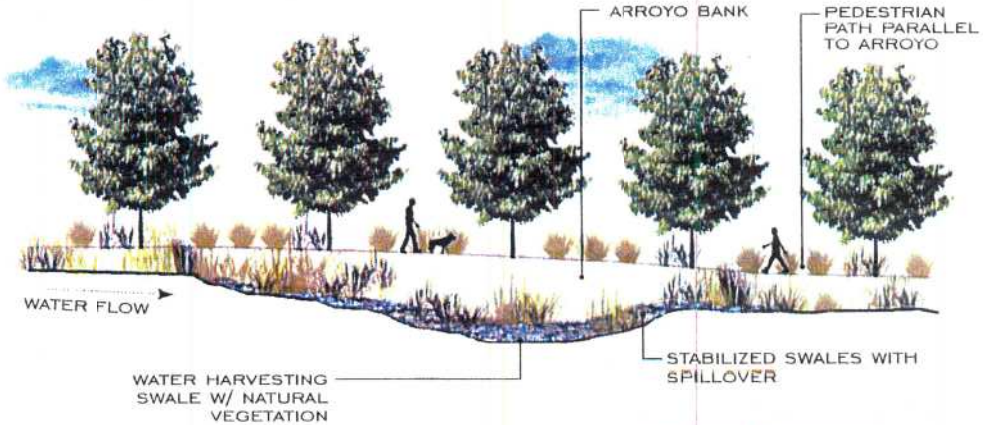
The following are guidelines for "natural environment" areas:

- highlight attractive natural features - such as pond's, arroyo's, grove of trees, etc. These areas should be protected from building or the visual encroachment of neighboring buildings;
- integrate trail systems, recreation areas, wildlife habitat, and linkages along these "natural environments";
- provide a boundary of trees along both sides of the arroyo to show an "edge" for pedestrians as well as provide shade;
- circulation routes and connection points should be planned to intersect or join within these open space environments; and
- ensure security for users through adequate lighting.

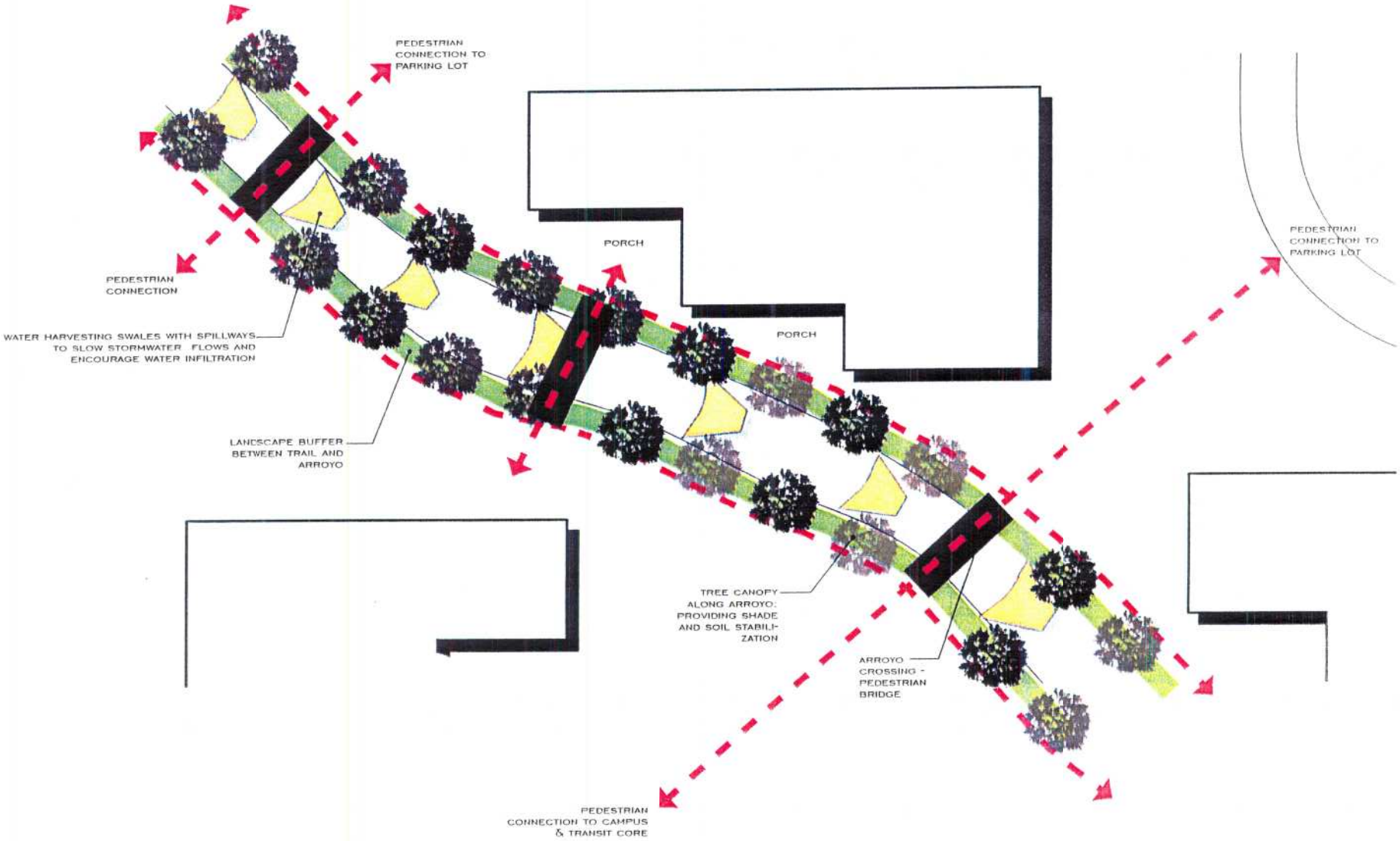
Typical Section of Arroyo through Water Harvesting Swale



Typical Section of Arroyo between Water Harvesting Swales

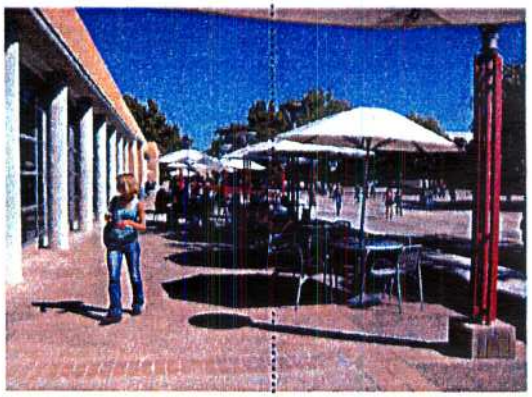


Longitudinal Section of Typical Water Harvesting Swale


PEDESTRIAN CONNECTION TO PARKING LOT
PEDESTRIAN CONNECTION
WATER HARVESTING SWALES WITH SPILLWAYS TO SLOW STORMWATER FLOWS AND ENCOURAGE WATER INFILTRATION
LANDSCAPE BUFFER BETWEEN TRAIL AND ARROYO
PORCH
PORCH
PEDESTRIAN CONNECTION TO PARKING LOT
TREE CANOPY ALONG ARROYO: PROVIDING SHADE AND SOIL STABILI-ZATION
ARROYO CROSSING - PEDESTRIAN BRIDGE
PEDESTRIAN CONNECTION TO CAMPUS & TRANSIT CORE

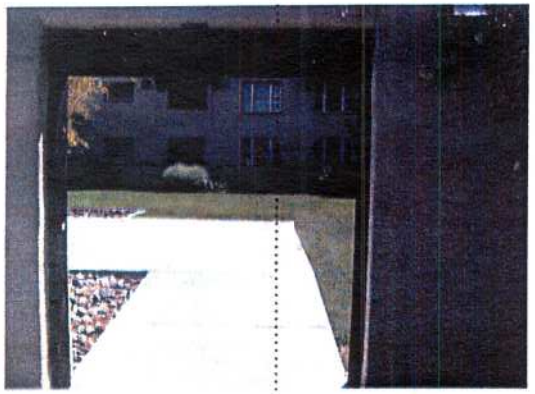
OUTDOOR SPACES - CAMPUS CHARACTER

Front Porch



Back Porch

Transitional Spaces



Entrances

Major Plaza
Spaces

Open Space
&
"Natural" Environments

PLANT PALETTE - PARKING LOT & PERIMETER BUFFERS

The suggested plant list for the CNM Rio Rancho Campus landscape is based upon two areas; parking lot/buffers and plaza space. The plant palette presented in this spread highlights species that will be particularly helpful in wind and dust protection, shading and water harvesting scenarios that will occur in the parking lot and perimeter buffers. The following list of plant types describes further the purpose and strategy behind the selected flora.

Trees

A variety of evergreen trees will need to be planted in the buffer areas called out in the site analysis exercise. These evergreen trees will provide visual screening for areas adjacent to residential housing as well as dust and wind protection from the harsh western winds on the mesa. All evergreen trees are to be maintained (pruned) as not to encroach onto sidewalks, over curbs etc. at mature growth. The deciduous parking lot trees are intended to provide ample shading and reduce the heat island effect in the parking lot.

Hillspire Juniper
Juniperus virginiana

Blue Atlas Cedar
Cedrus atlantica 'Glauca'

Austrian Pine
Pinus nigra

Limber Pine
Pinus flexilis

Southern Live Oak
Quercus virginiana

Honey Locust 'Shade-master'
Gleditsia triacanthos

Oriental Plane Tree
Platanus orientalis

Desert Willow
Chilopsis linearis
multi-trunk tree
to be trimmed up 6'

Common Hackberry
Celtis occidentalis

Shrubs & Groundcovers

These medium to low growing plants work to vegetate the ground surface; resulting in erosion control, dust mitigation and successful bio swale plant communities. A variety of color, texture and forms will add beauty to the landscape without the high cost of maintenance and irrigation; as all the plant materials require low to medium amounts of water until they are established.

Note: The Master Plan Plant Pallete is a suggested list that should be incorporated on every phase of the CNM campus development. It is to be noted that the Master Plan itself is conceptual and so are the plant materials suggested; allowing flexibility for adding or removing specific plant materials as needed based upon specific site plan design decisions. Also, not all the plant materials that are being suggested in the Master Plan will be included in each phase of the campus development, as specific plants in the Master Plan are recommended for arroyo, open space and other pedestrian public space.

Apache Plume
Fallugia paradoxa

Big Sage
Artemisia tridentata

Scotch Broom
Cytisus scoparius

English Lavender
Lavandula angustifolia

Bear Grass
Nolina texana

Autumn Joy Sedum
Sedum telephium 'autumn joy'

Winecups
Callirhoe involucrata

Moonshine Yarrow
Achillea taygetea

Purple Prickly Pear
Opuntia macrocentra

Santolina
Santolina virens

Guara
Guara lindheimeri

Three Leaf Sumac
Ruhus trilobata

Cherry Sage
Salvia greggii

Sotol
Daylirion wheeleri

Mexican Evening Primrose
Oenothera speciosa

Indian Paintbrush
Castilleja spp.

PLANT PALETTE - PORCHES, PLAZAS & OPEN SPACE

The following plant materials are suggested for areas near campus buildings and public open spaces. Ample shading, appropriate sizing and structural interest are just a few of the purposes that these plant material will fulfil. All the plant materials are drought tolerant once established and require minimum maintenance. The concept of the outdoor public spaces on campus is to create intimacy, function and aesthetics through plant selection and design. The arrojo will be vegetated with adaptable plant materials that will thrive on collected stormwater and maintain the integrity of arrojo through a natural planting design.

Trees

The CNM Rio Rancho Campus will include porch spaces that require smaller ornamental trees and shrubs with finer details for pedestrians to enjoy. The plazas and open space areas will require larger trees with wider canopies to provide shade for seating and lounging areas. Long pedestrian walkways will be bordered by alleys of trees, creating structure to these hardscape pathways. The arrojo will be punctuated by desert and grassland trees; who's roots will aid in stabilizing the arroyo walls and protect from erosion during heavy precipitation.

SENSATION BOX ELDER
ACER NEGUNDO 'SENSATION'

CATALPA
CATALPA SPECIOSA
MULTI-TRUNK TREE
TO BE TRIMMED UP 6'

BRADFORD PEAR
PYRUS CALLORYANA
'BRADFORD'

JAPANESE MAPLE
ACER PALMATUM

LANCELEAF COTTONWOOD
POPULUS ACUMINATA

NEW MEXICO OLIVE
FORESTIERA NEOMEXICANA
MULTI-TRUNK TREE
TO BE TRIMMED UP 6'

MEXICAN ELDER
SAMBUCUS MEXICANA

LITTLE LEAF LINDEN
TILIA CORDATA

Shrubs & Groundcovers

The small intimate porches and plazas spaces throughout campus will provide the opportunity for colorful, fragrant and textural planting designs. A combination of groundcovers, small/medium shrubs, trailing vines and desert accents will add interest to these outdoor people places and soften up paved pedestrian surfaces.

Note: The Master Plan Plant Pallete is a suggested list that should be incorporated on every phase of the CNM campus development. It is to be noted that the Master Plan itself is conceptual and so are the plant materials suggested; allowing flexibility for adding or removing specific plant materials as needed based upon specific site plan design decisions. Also, not all the plant materials that are being suggested in the Master Plan will be included in each phase of the campus development, as specific plants in the Master Plan are recommended for arroyo, open space and other pedestrian public space.

Crape Myrtle
Lagerstroemia indica

Parry's Century Plant
Agave parryi

Chamisa
Chrysothamnus nauseosus

Catmint
Nepeta mussini

Blue Avena Grass
Helictotrichon sempervirens

Flowering Almond
Prunus glandulosa

Hall's Honeysuckle
Lonicera japonica halliana

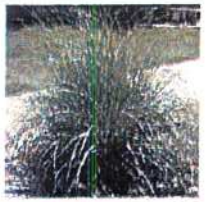
Rosemary
Rosmariunus officinalis

Alyssum
Alyssum montanum

Wisteria
Wisteria sinensis

Greek Yarrow
Achillea ageratifolia

Trailing Iceplant
Ruschia hamata



Deer Grass
Muhlenbergia rigens

Mondo Grass
Ophiopogon japonicus

Blue Fescue
Festuca ovina glauca

Park Blend Grass
Falcon Fescue
Pennfine Perennial Rye
Adelphi Bluegrass
(1:1:1)

WATER HARVESTING PLAN

The CNM Rio Rancho Campus site is located along a section of an existing drainage arroyo that catches stormwater runoff from surrounding areas within the region (see SCAFCA map, p. 25). Topography on the site drains all stormwater towards the arroyo, which is found at the center of the site. Although the drainage from off-site areas will be captured and collected at the dam and piped underground, it is critical that the on-site runoff be managed and harvested; reducing the amount of stormwater discharge. The goal of this plan is to intercept stormwater runoff from site surfaces (roofs, parking lots, landscape areas and hardscape surfaces), and recycle the water. The stormwater will be harvested (water flow/speeds reduced), retained and rerouted through the site. Several techniques of water harvesting (swales, microbasins, etc.) will be utilized on the CNM site; suitable to specific scenarios within the site. Water harvesting relieves the pressures of obtaining water from precious groundwater sources. Capturing and utilizing stormwater runoff also reduces erosion and the potential to transport stormwater pollutants.

Due to the high ratio of impervious areas on the site (building and pavement), harvesting stormwater will increase water availability for on-site landscape needs, reduce on-site flooding and erosion, reduce water needs from groundwater sources and provide critical nutrients to landscape materials. Through integrated strategies of water harvesting and site development, there is potential for dramatic savings. Water harvesting reduces the size of code-required detention/retention facilities, landscaping water bills and lowers energy needs by providing abundant tree canopies around structures on site. Also, if designed creatively, the water-harvesting areas can double as buffers and wind breaks within the site or from adjacent areas/land-uses.

STRATEGIES

1. Manage the runoff at the top of the watershed. By controlling small volumes of water at topography high points and throughout the watershed, there will be a dramatic reduction of stormwater at the bottom of the watershed (the arroyo).

2. Break down the watershed into manageable areas across the site. Determine watershed patterns based upon existing topography and proposed grading plans, then identify opportunities to create multiple small watersheds throughout the site.

3. Collect the water, slow down its flow rate and infiltrate it through the soil as quick as possible. Speeding watersheds can be quite erosive, causing damage to natural vegetation on and off-site. Create water harvesting structures with the intention of exposing stormwater to as much soil surface area as possible to increase infiltration into the soil; which is the least expensive area to store water. Stormwater will be retained in areas that support plant growth and do not endanger building foundations. Water harvesting areas within plaza areas will have a 10' setback from adjacent buildings.

4. Be prepared for overflow scenarios. All water harvesting structures need to be designed to allow overflow of stormwater into other locations that can continue to be utilized for onsite landscape. Some examples of overflow devices are tank overflow pipes (cisterns) and spillways (basins).

5. Mulch to reduce water evaporation from landscape materials. Organic and inorganic mulching strategies retain moisture in the soil and do not inhibit infiltration into the soil.

6. Utilize harvested water on-site through supplemental irrigation for on-site landscape. Rain water is much lower in salts and higher in nitrogen than groundwater; benefiting all landscape material.

7. Maintain water-harvesting system and sync irrigation system to utilize captured storm water. The water harvesting plan is only successful if structures are maintained and spillways are free from debris and litter. A weather controller needs to be installed with the irrigation; allowing the irrigation to automatically turn off when there is precipitation on site.

Microbasins & Swales

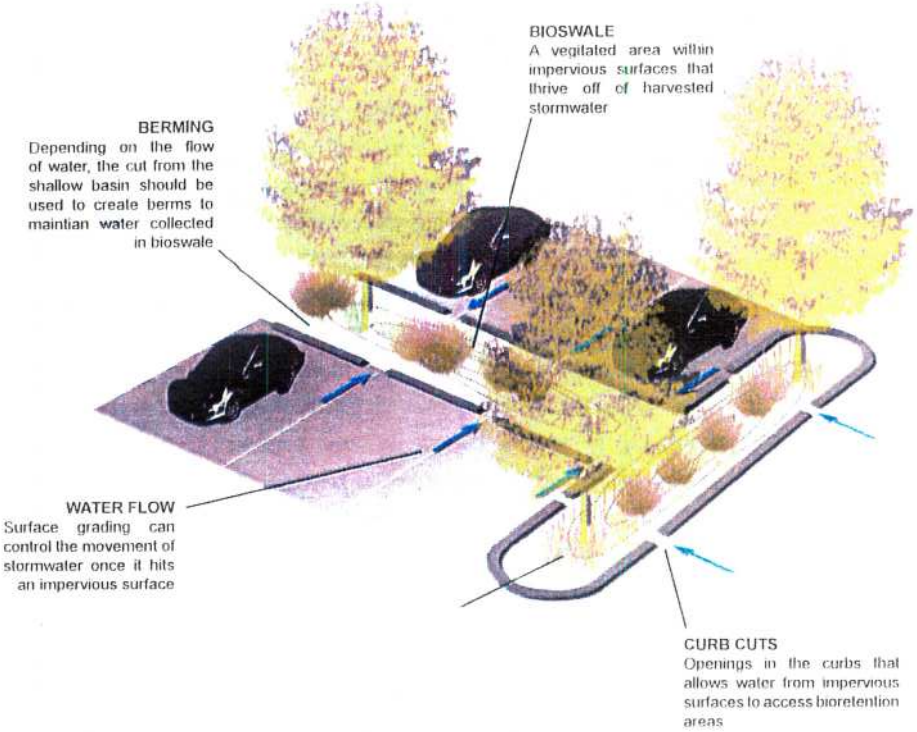
Collect stormwater in localized basins/swales served by small watersheds. Determine the appropriate siting, water volume and slope. Microbasins /swales work well on gently sloped or nearly flat land with low volumes of runoff water such as along sidewalks, landscape areas and parking islands. Swales and berms along contour lines (with overflow spillways) allow excess stormwater to flow downslope. Microbasins/swales can be a great solution in an area with concentrated runnoff if they are arranged in a series with spillways in between. Construction of the shallow basin shall be dug out with the cut creating a berm on the down-hill slope. Rip-rap (or wired covered cobble stone) can be used to maintain the stability of the berm as well as the spillways on the swales depending on eroding circumstances on the site. The upslope side of the microbasin should be open to catch storm water. The bottom of basin/swale can be flat to spread water evenly or can be somewhat concave to route water where desired. Plant materials need to be placed strategically to utilize stormwater runnoff. Placing vegetation around or at the bottom of the basin/swale will allow the retained water to be utilized most efficiently by the plant materials. Maintenance of the basins/swales is critical, especially after a heavy rainfall. Check basins/swales for breaks from overflow and add spillways to relieve basins. Water should not be retained for more than 12 hours to avoid mosquito problems.

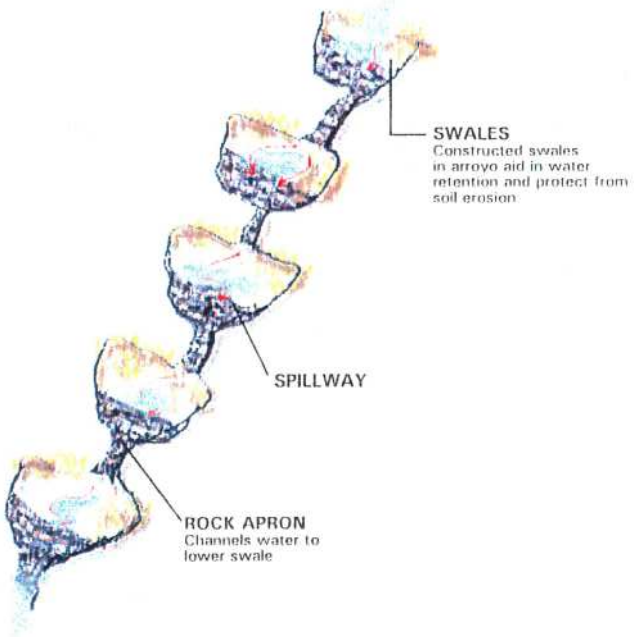
Techniques

- Lower soil level inside curbed areas, creating depressed microbasins
- Microbasins on contour w/ spillways
- Curb cuts - directing parking lot runoff toward microbasins
- Swales as Microbasins

On-Site Applications

- parking lot islands
- parking lot landscape areas
- landscape open space corridor (dry arroyo)





French Drains

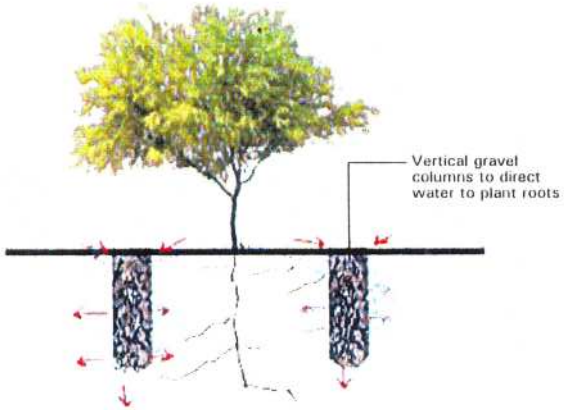
These rock filled trenches are designed to encourage rapid stormwater infiltration through the sides, ends and bottom of the trench where soil and water meet. French drains are usually used on areas with little debris or sediment in the water runoff, ie. roofs, parking lots, hardscape, etc. Cobble or rock mulch is a common material used to fill the drains; allowing infiltration and erosion reduction. The french drains channel water from impervious surfaces to landscape areas which can be at the terminus of the drain or along the sides of the channel. French drains are useful for intercepting water in areas where a level surface is needed. Construction of the drains entails digging a trench and filling with gravel or cobble to an even level with the level grade. French drains are not typically able to be placed in areas of vechicular traffic, but they are ideal for areas such as plazas and public landscape areas.

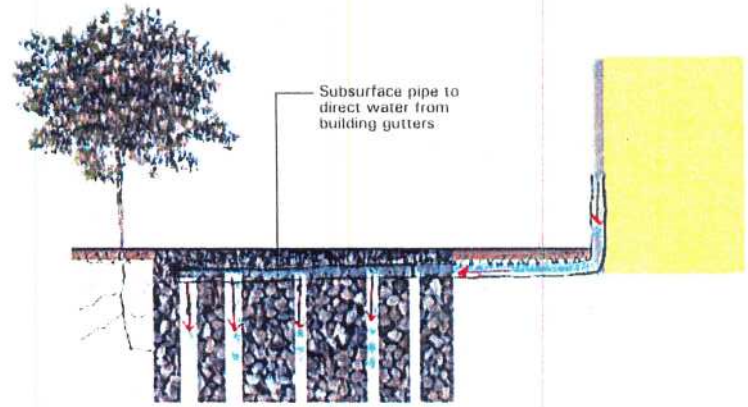
Techniques

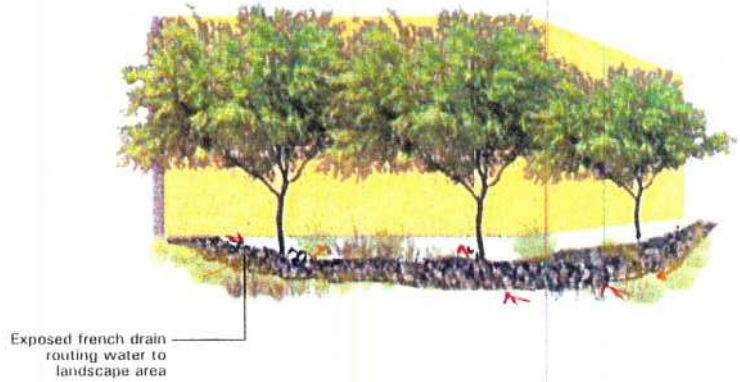
- Direct stormwater to a french drain using subsurface pipe (the pipe shall be 10' or greater from building foundation)
- Vertical gravel columns to direct water quickly to the roots of trees and other plant materials.
- Branch French Drains to different landscape planting areas

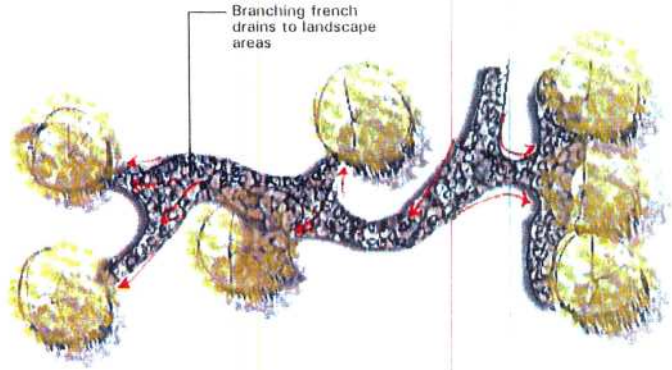
On-Site Applications

- plaza areas
- roofs









Cisterns

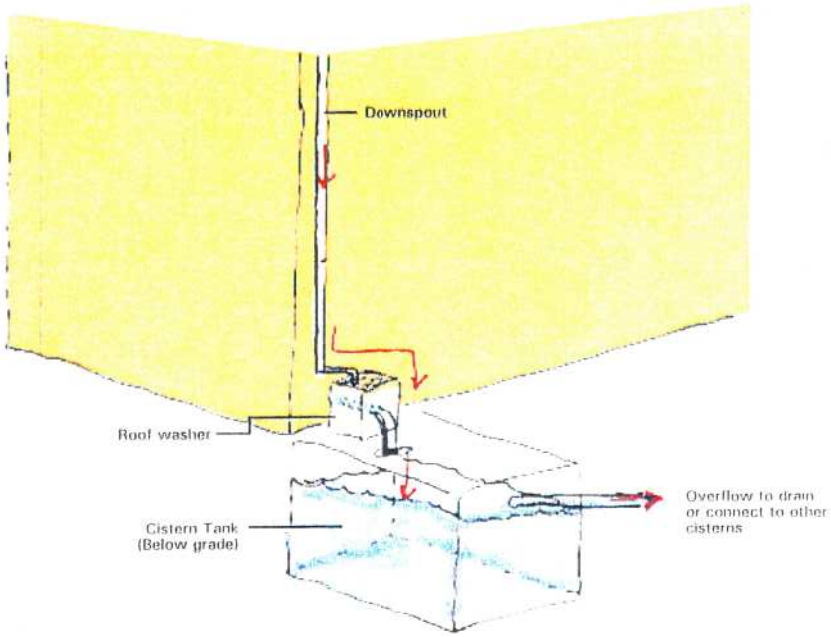
Cisterns, or watertanks, store rooftop runoff to be utilized at a later time. Appropriate tank volume shall be based upon roof area, rainfall, down-spout locations, available space, water uses and specific site conditions. Tanks shall be located 10' from buildings (to avoid damage to the building foundation in the case of a leak) and should be placed on a level surface. The higher on the site above-ground tanks are located, the more gravity-feed pressure will be available. Water can be distributed by gravity flow or by a booster pump via hoses, irrigation systems, channels or perforated pipes. In the case of landscaping around cisterns it is important to avoid invasive (rooting) planting materials.

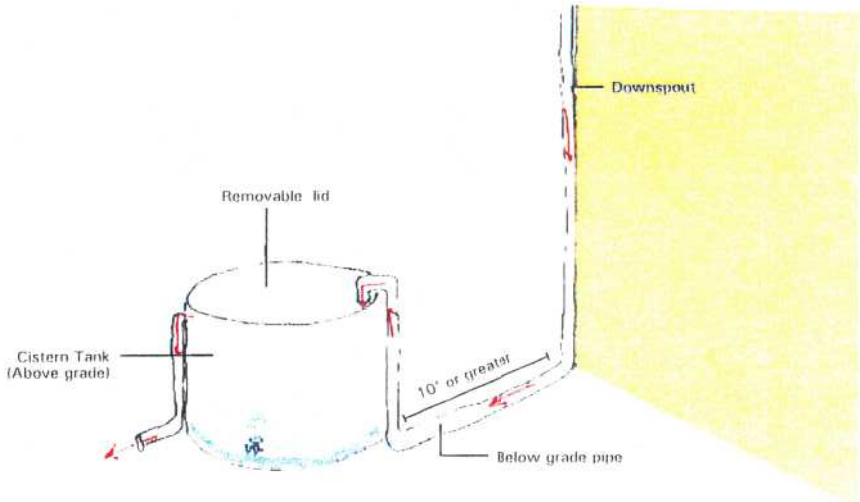
Techniques

- Tanks can be constructed individually or in a series with overflow tanks or connected at the bottom of each tank to maintain the same water level in all tanks

On-Site Applications

- runoff from building roofs



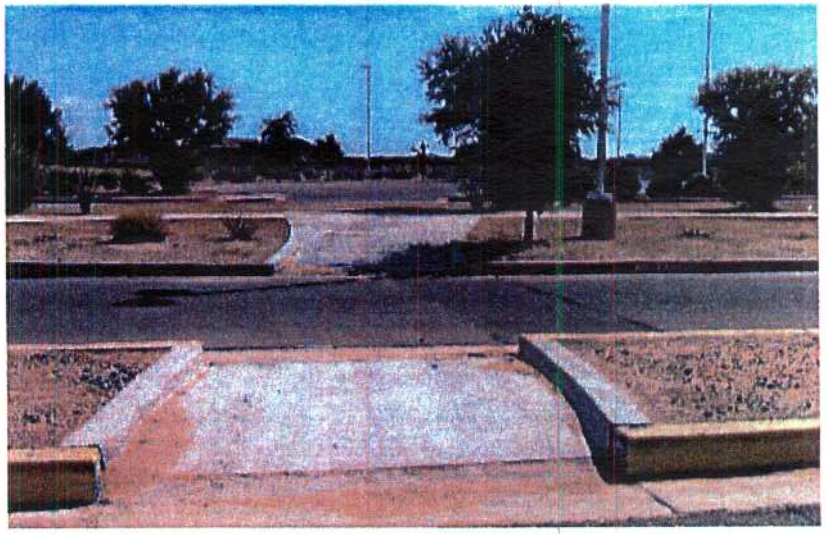


PARKING

One of CNM's Design Principles is to design easily accessible parking, have strong pedestrian connections throughout the campus, and provide for future transit shuttle access. It is important to separate pedestrian and automobile traffic to create a safe pedestrian environment.

CNM reduced the maximum number of parking spaces to 2,000 at ultimate build out after discussing the importance of an urban form and encouraging students to use alternative forms of transportation. The following CNM design guidelines will create a parking area that will provide accessibility for students, staff, and community members while also providing a sustainable site planning example of how to improve the parking lot environment and incorporate the area into the site's water harvesting strategies:

- The parking area will include landscaping and tree canopies to visually enhance the parking area, to create a pedestrian-friendly environment, and to minimize the heat island effect.
- 1 tree shall be planted for every 10 parking spaces.
- The perimeter areas of parking shall be planted with shade trees every 30 feet on-center. The western perimeter shall include 75% evergreen trees to act as a wind break.
- Separate pedestrian walkways shall be provided to get people from their cars to the building entrances and plazas in a safe and efficient manner.
- The parking area will also be used as a part of the water harvesting strategy through swales and basins. The parking area will be stepped terraced to accommodate parking as well as water harvesting.

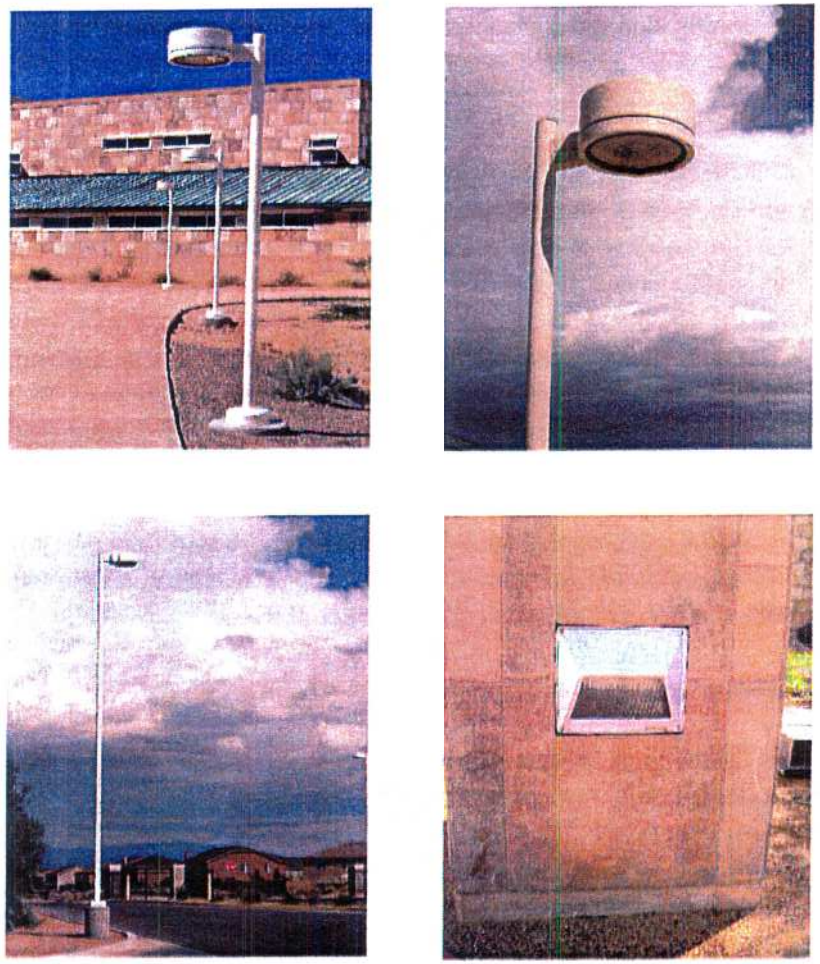


Examples of vegetative islands and pedestrian connection through parking lot

LIGHTING

CNM is a community college that provides many evening classes, as a result, safety and security are the primary design considerations for lighting, but they should also contribute to the overall character of the property:

- Lighting should not spill onto adjacent properties or provide undue glare to passing traffic.
- Light fixtures should provide adequate on-site safety and eliminate off-site light spillage. Parking lot lights shall be limited to a maximum of 30 feet in height, while building mounted and pedestrian scale lighting shall be limited to 12 feet in height.
- Streetlights shall be provided at entries and at intersections to provide for safe nighttime access in accordance with the City of Rio Rancho standards.
- Light fixtures should be provided in parking areas and pedestrian access areas to enhance safety of students, faculty, and staff.
- Exterior lighting fixtures should relate stylistically to the architecture of the adjacent buildings.
- All lighting shall be shielded in compliance with the New Mexico Night Sky Protection Act.



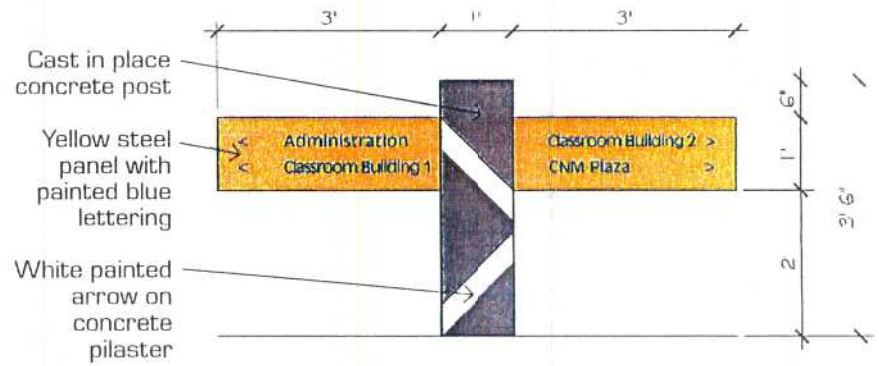
Examples of vehicle and pedestrian scale lighting fixtures

SIGNAGE

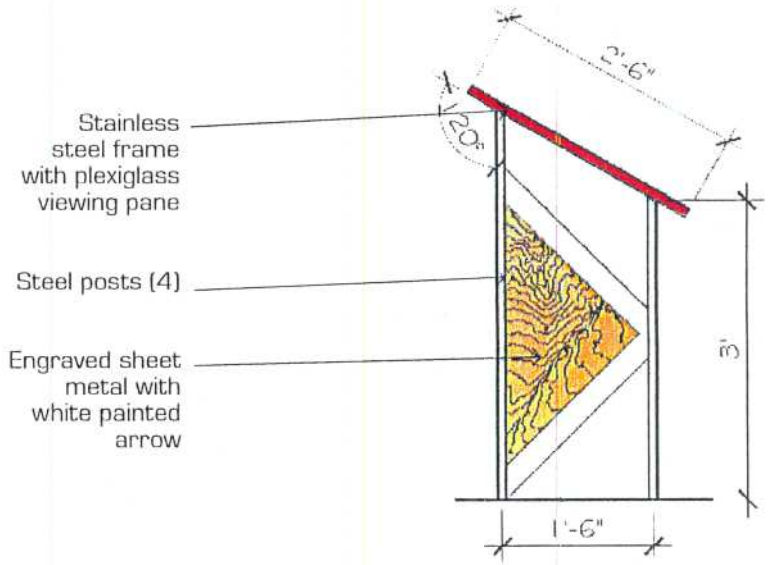
The following signage guidelines will help to establish a quality visual impact for CNM Rio Rancho campus as well as direct students and visitors:

- CNM will provide one main entry sign at the intersection of Center and Campus Boulevard, several secondary signs will be provided for the campus to help create a sense of place and establish a sense of identity for the area.
- The materials should be cohesive and relate to the building architecture, while still allowing for individual expression. The prototypical sign is subject to minor changes based on input and design decisions at the time of Site Plan approval.
- Environmental signage and wayfinding for pedestrians, vehicles and transit shall be designed at an appropriate scale and included as an integral component to all project phases.
- Off-premise signs are not permitted.
- No illuminated plastic panel signs, portable signs, or animated flashing signs are permitted.
- Spinners, pennants, ribbons, or streamers are not allowed except during a special holiday event.

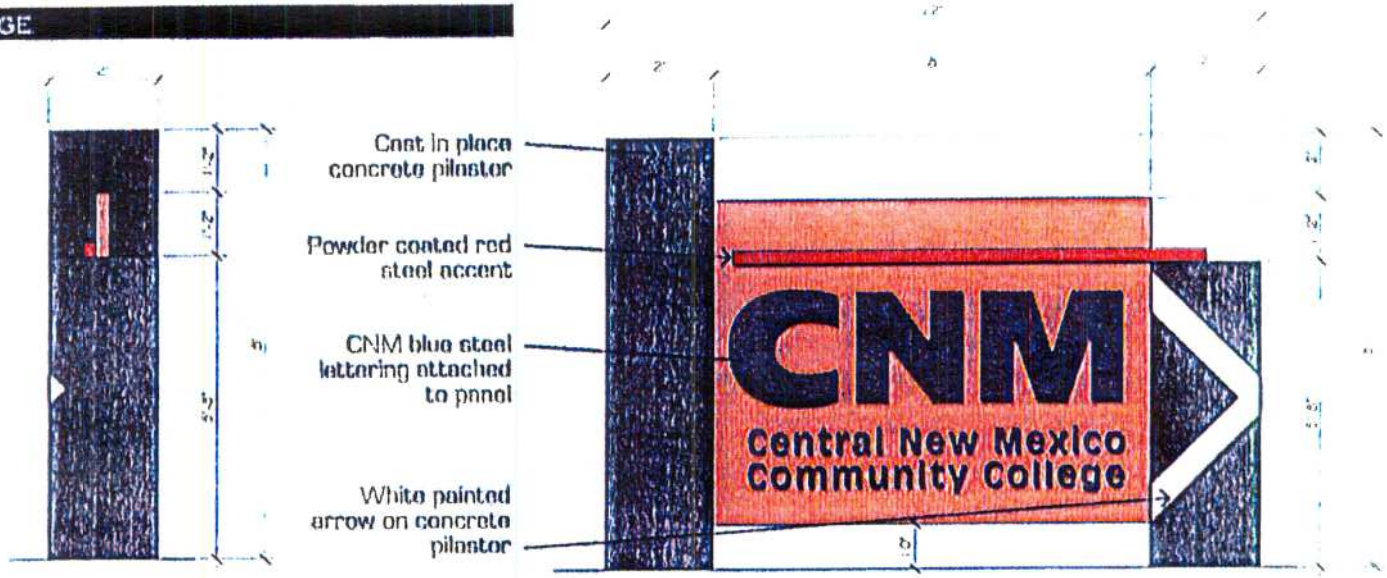
PEDESTRAIN SCALE WAY FINDING SIGNAGE



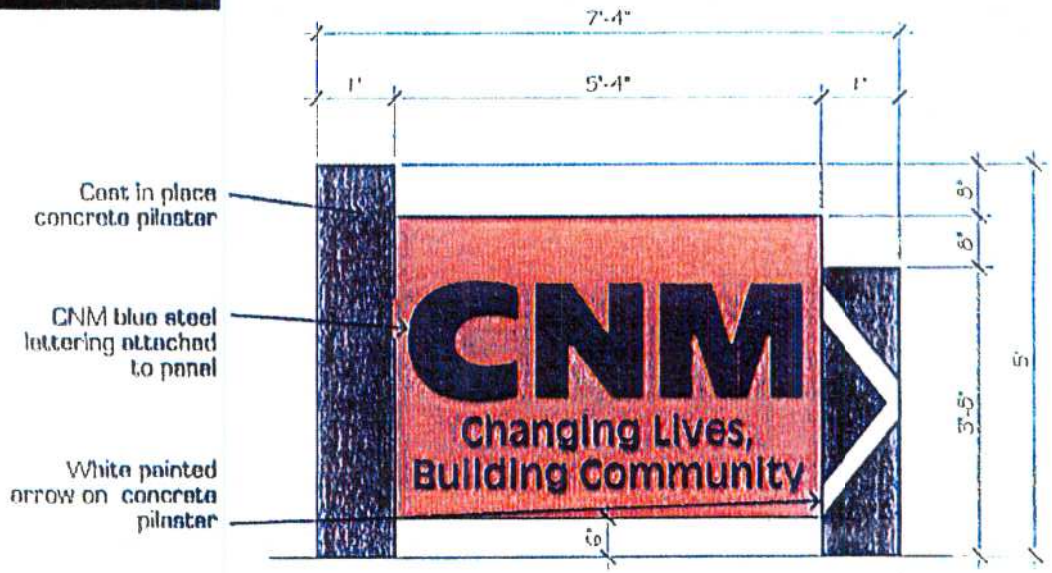
EDUCATIONAL SIGNAGE (I.E. ARROYO, ENERGY DEMO AREA, ETC.)



MAIN ENTRY SIGNAGE



SECONDARY ENTRY SIGNAGE



DUST CONTROL

Dust control is critical to the development of the CNM Rio Rancho campus since, currently, there is very little development in this area. The following guidelines lessen the amount of blowing dust from the western winds which will effect the site both during and after construction:

- Provide landscape buffers around the perimeter of the site.

- During site grading and construction, the site shall be watered at the end of each work day. A water truck shall provide wet suppression sufficient to prevent surface dust from blowing.

- A fabric fence surrounding the perimeter of the construction site should be installed to prevent excessive dust from leaving the area. The fabric fence should be maintained and only have openings wide enough to allow vehicles to exit or enter. The fence should be approximately 3 feet high with six inches anchored below the surface.

- After construction, all surface areas not covered by buildings, asphalt, concrete, or landscaping, should have surface treatment to prevent blowing dust. Surface treatment could include a properly maintained native or low water use grass, mulch materials, gravel, polymer, or other means of covering the ground.

- If native seed mixes are used to control the area, the owner is responsible for adequate water and maintenance until the plants are fully established.

- Ground covers and evergreen trees provide the best landscape dust control and site developers are encouraged to use them liberally.

Hardscape Surfaces
&
Aggregate Mulch

Fabric Construction
Fence

ARCHITECTURE

BUILDING DESIGN GUIDELINES

Phase I Building Organization

The phase one building is conceived to be a two-story building. The main entry and lobby would be located on the first level, with visible access from the street, parking, and student drop-off. The instructional spaces can be on both floors, possibly stacked for economy. All instructional spaces will be oriented to allow full day-lighting. The building is designed to have the opportunity to be oriented to maximize solar orientation for day-lighting of all interior spaces.

Future Phasing

Future phase buildings could be added every three to five years, until full build-out. This is anticipated to be five or six buildings, with a total area of 250,000 to 300,000 sf.

Sustainability

The site work, as well as the buildings, are planned to be designed to be to create a sustainable campus. The buildings will be LEED certified buildings. The LEED Anticipated Project Checklist estimates a Silver Certification.

Architectural Character

The Master Plan establishes the basis of the Architectural Character for materials, massing, and scale. Materials are to reflect and integrate the colors of the desert mesa of the site, respond to the intense sunlight, minimize required maintenance, and not overwhelm the primarily one and two story structures anticipated adjacent to the Campus.

The massing and materials selected for the Phase One building will be an expression of the functional components. The "Building Palette" will be developed to make a statement of the long-term commitment of CNM to the Rio Rancho community, with durable and low-maintenance materials.

The Architectural Character of the Campus buildings should not require "cookie cutter" solutions but should all be obvious variations on a central theme within an available palette of materials. Overall building configurations should evolve from inside out as an expression of form following function and not imposed from the outside in some attempt at forced conformity.

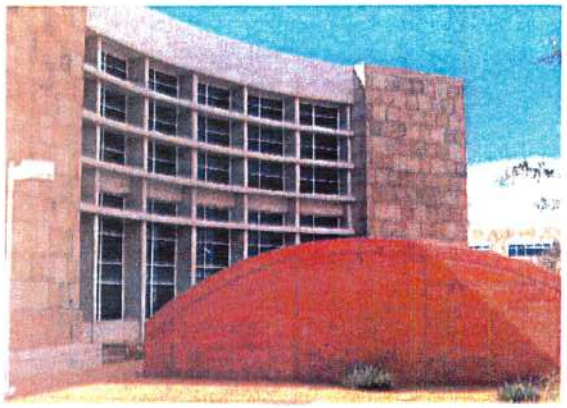
The Phase One building design element of open and naturally lit areas with exterior views at interior circulation nodal points is one element that has been identified as to be incorporated in the buildings. The use of deep set windows and external shading devices are other elements that should be included as common design features.

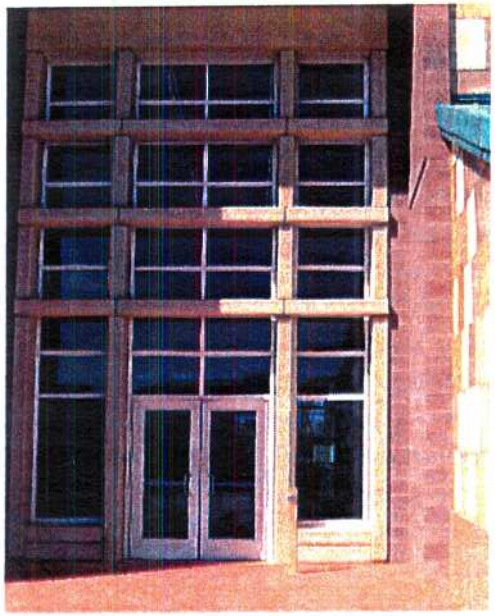
Accessible Design

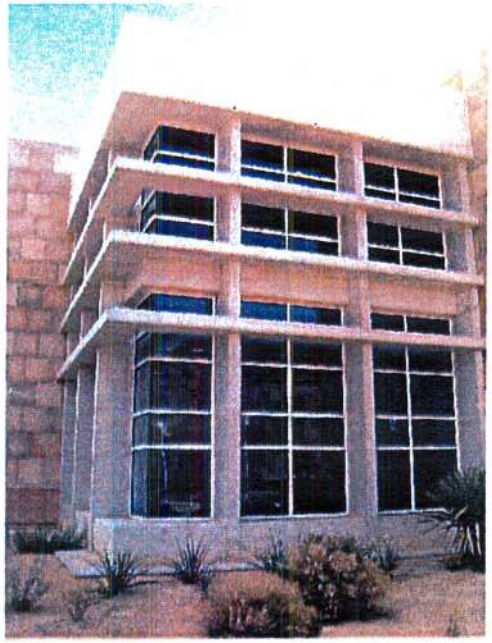
As part of the site and building design the avoidance of physical barriers to persons with physical limitations must be a basic design approach. When considered as part of the design from the beginning, the accommodation of these design features will blend smoothly into the overall design approach.

Building Codes

The Design and Construction Documents will need to incorporate the requirements of the various codes pertaining to this type of occupancy and construction type. The State Construction Industries Division will be the primary permitting agency. Applicable codes include the 2003 International Building Code (IBC), the New Mexico Building Code 1997, and as amended 2000, NFPA 101 Life Safety Codes 1997, 1997 UMC, and the current NEC.





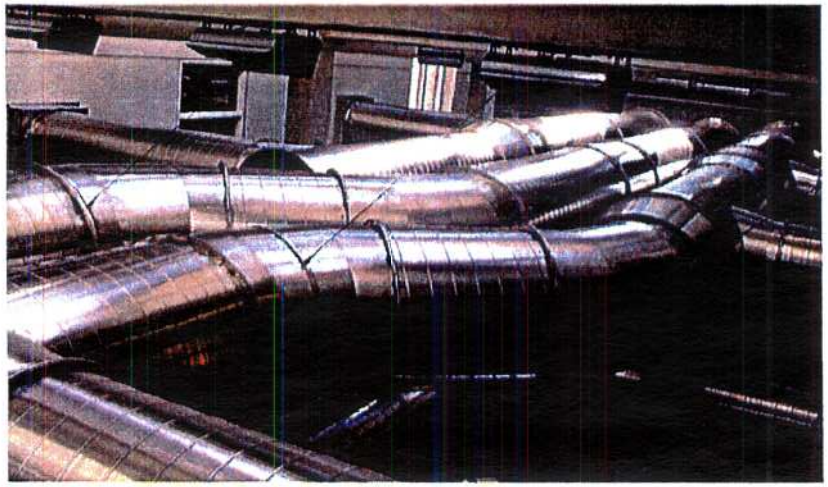


Images to the left reflect the architectural styles of CNM"S West Side Campus and UNM's new School of Architecture & Planning Building. Natural materials highlight these contemporary designs while still maintaining colors and textures of the region.

BUILDING SUPPORT SERVICES

Mechanical

Energy Conservation and Life Cycle cost considerations balanced against "front end" cost have led to the following design approach at the West Side Campus, which will be basis of design at this Campus. There will be Central Boiler and Chiller equipment for each building serving distributed Air Handling Units, in turn serving local control zones with Terminal Units. This approach should be utilized, with attention paid to making the equipment function properly. The design should pay particular attention to the return air pathways that are sometimes lacking, causing a significant amount of noise and doors that are difficult to open or close, affecting the performance of the system. Dedicated air conditioning equipment will need to be provided for areas with concentrations of heat producing equipment and/or other special requirements, such as computer network equipment spaces that need 24/7 cooling not suited for economizer cycles, nighttime shutdowns and winter time switchovers to heating only.

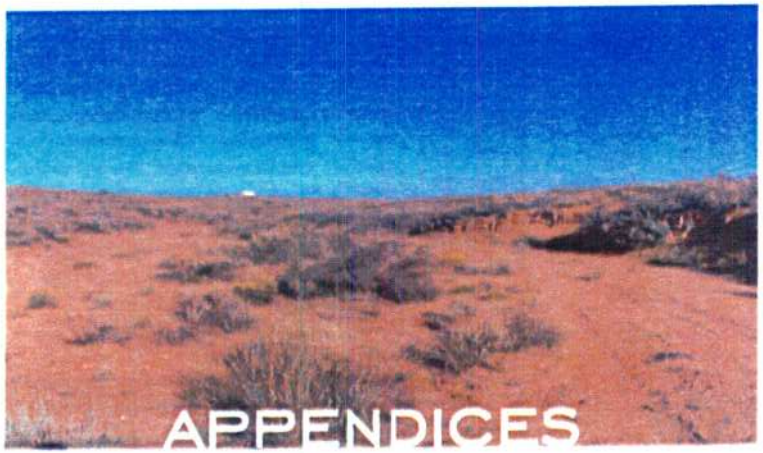


Electrical

In addition to compliance with all NEC requirements, the design of the electrical systems need to be sized and provided with adequate capacity to serve the currently anticipated loads plus some capacity for added future loads. Distribution of electrical services especially in Classrooms and Office Areas where change in use and layout can be anticipated need to be flexible enough to accommodate the change. Classrooms will be provided with two compartment wire mold raceways at the side walls for power and data needs. Office areas with Open Office furnishings will need a flexible system allowing for floor connections to the cubicles. "Walker" duct systems or raised floor systems are possibilities to address this need.

Information Technology

The design of site, building, and individual spaces needs to provide systems that can support the technologies of today and be adaptable and flexible enough to accommodate the technology of the future. This requires adequately sized support rooms and the means of distribution. Current trends are toward "wireless" data connection, but for the time being both "hard wired" and wireless systems must be accommodated.



APPENDICES

LEED-NC

LEED-NC Version 2.2 Anticipated Project Checklist

CNM Rio Rancho
Rio Rancho NM

Yes	?	No			
8	5	1	**Sustainable Sites**		**14 Points**
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
1			Credit 1	**Site Selection**	1
	1		Credit 2	**Development Density & Community Connectivity**	1
		1	Credit 3	**Brownfield Redevelopment**	1
	1		Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
	1		Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
1			Credit 4.3	**Alternative Transportation**, Low-Emitting and Fuel-Efficient Vehicles	1
	1		Credit 4.4	**Alternative Transportation**, Parking Capacity	1
1			Credit 5.1	**Site Development**, Protect of Restore Habitat	1
1			Credit 5.2	**Site Development**, Maximize Open Space	1
1			Credit 6.1	**Stormwater Design**, Quantity Control	1
1			Credit 6.2	**Stormwater Design**, Quality Control	1
	1		Credit 7.1	**Heat Island Effect**, Non-Roof	1
1			Credit 7.2	**Heat Island Effect**, Roof	1
1			Credit 8	**Light Pollution Reduction**	1

Yes	?	No			
2	3		**Water Efficiency**		**5 Points**
1			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
	1		Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
	1		Credit 2	**Innovative Wastewater Technologies**	1
1			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
	1		Credit 3.2	**Water Use Reduction**, 30% Reduction	1

Yes	?	No			
8		7	**Energy & Atmosphere**		**17 Points**
Y **			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
5		5	Credit 1	**Optimize Energy Performance**	1 to 10
	1	2	Credit 2.1	**On-Site Renewable Energy**	1 to 3
	1		Credit 3	**Enhanced Commissioning**	1
1			Credit 4	**Enhanced Refrigerant Management**	1
1			Credit 5	**Measurement & Verification**	1
1			Credit 6	**Green Power**	1

**Prereq 1- Add 1.5% to 5% to M & P Design and Const Cost

continued...

Yes	?	No			
3		5	**Materials & Resources**		**13 Points**
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
		1	Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
		1	Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1
		1	Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1
	1		Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
		1	Credit 3.1	**Materials Reuse**, 5%	1
		1	Credit 3.2	**Materials Reuse**, 10%	1
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regic	1
	1		Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regic	1
	1		Credit 6	**Rapidly Renewable Materials**	1
	1		Credit 7	**Certified Wood**	1

Yes	?	No			
10			**Indoor Environmental Quality**		**15 Points**
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke (ETS) Control**	Required
	1		Credit 1	**Outdoor Air Delivery Monitoring**	1
	1		Credit 2	**Increased Ventilation**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
	1		Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
	1		Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
1			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	**Controllability of Systems**, Lighting	1
1			Credit 6.2	**Controllability of Systems**, Thermal Comfort (Ventilation)	1
1			Credit 7.1	**Thermal Comfort**, Design	1
1			Credit 7.2	**Thermal Comfort**, Verification	1
1			Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
	1		Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No			
5			**Innovation & Design Process**		**5 Points**
1			Credit 1.1	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.2	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.3	**Innovation in Design**: Provide Specific Title	1
1			Credit 1.4	**Innovation in Design**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No			
36		13	**Project Totals (pre-certification estimates)**		**69 Points**

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

State of New Mexico
Office of the Governor

Bill Richardson
Governor

EXECUTIVE ORDER 2006-001

STATE OF NEW MEXICO ENERGY EFFICIENT GREEN BUILDING STANDARDS FOR STATE BUILDINGS

WHEREAS, the State of New Mexico is committed to improving the health of its employees and its citizens, increasing the production and use of clean energy sources, reducing waste, conserving water, and reducing greenhouse gas emissions, and desires to empower sustainable economic development;

WHEREAS, the Federal Government through programs fostered within many of its key agencies, numerous State governments as well as municipalities across the U.S. have adopted high performance green building principles through the incorporation of the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system into their building services;

WHEREAS, a recent study by the Lawrence Berkley National Laboratory completed the most definitive cost-benefit analysis of green buildings ever conducted and concluded that the financial benefits of green design are between $50 and $70 per square foot in a LEED building, more than 10 times the additional cost associated with building green. Additionally, the large positive impact on employee productivity and health gains suggests that green building has a cost-effective impact beyond just the utility bill savings;

WHEREAS, studies have indicated that student attendance and performance is higher in green school buildings;

WHEREAS, recognizing that a building's initial construction costs represents only 20-30 percent of the building's entire costs over its 30 to 40 year life, emphasis should be placed on the "life cycle costs" of a public building rather than solely on its initial capital costs; and

WHEREAS, the construction industry in the State of New Mexico represents a significant portion of our economy and a significant portion of the building industry is represented by small business and an increase in sustainable building practices will encourage and promote new and innovative small business development throughout the State.

NOW, THEREFORE, I, Bill Richardson, Governor of the State of New Mexico, declare that the state adopt specific standards to implement and facilitate the use of high performance energy efficient green building practices for all state-funded existing and new buildings throughout the State of New Mexico.

State Capitol • Room 400 • Santa Fe, New Mexico 87501 • 505-476-2200 • www.governor.state.nm.us